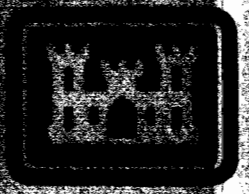
Intermediate
Remedial Design Phase Submittal



U.S. Army
Corps of Engineers

Operable Unit 1, Phase I Design
Claremont Polychemical Corp.
Superfund Site
Old Bethpage, New York

Contract DACW 41-90-D-0009
Delivery Order No. 0002

Volume 2 of 4

Prepared for:

Department of the Army
U.S. Army Engineer District
Kansas City Corps of Engineers
Kansas City, Missouri

February 12, 1993

SEC DONOHUE
Environment & Infrastructure

INTERMEDIATE DESIGN SUBMITTAL
CLAREMONT POLYCHEMICAL CORPORATION SUPERFUND SITE
OPERABLE UNIT 1
OLD BETHPAGE, NEW YORK

February 12, 1993

Prepared for:

U.S. ARMY CORPS OF ENGINEERS
KANSAS CITY DISTRICT
700 FEDERAL BUILDING
601 EAST 12TH STREET
KANSAS CITY, MISSOURI 64106

SEC Donohue Inc.
Environment & Infrastructure
4738 North 40th Street
Sheboygan, WI 53083

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10.0 EXTRACTION WELL DESIGN ANALYSIS

10.1 GENERAL DESCRIPTION

1. This chapter discusses the nature and extent of the contamination and the extraction well portion of the remediation project. The injection wells are discussed in Chapter 11.

2. Three extraction wells will be constructed on Bethpage State Park land south of the site. The extracted groundwater will be pumped to the water treatment building where contaminants will be removed and the treated water will be pumped to the injection wells.

3. The extraction wells will be constructed on land that is owned by others. Therefore, efforts have been made to minimize the structures and access requirements for the wells.

10.2 DESIGN CONCEPTS AND DEFINITION

1. Plume Characterization

Several VOCs and semivolatile organic compounds have been detected in groundwater samples collected during previous investigations (Nassau County Health Department, NCHD, 1980; Velzy Associates, 1984; CA Rich Consultants, 1986). Additionally, the results of the Remedial Investigation (RI) (Ebasco Services, Inc., 1990) indicated that site contaminants have migrated at least 2,100 feet to the southeast of the site and to a depth of at least 164 feet below ground surface. As reported in the Record of Decision (ROD), PCE has displayed the greatest spatial extent and highest groundwater concentrations of any contaminant found in site groundwater.

The maximum detected concentration occurs near the property's boundary and the concentration gradually attenuates to the southeast. Maximum detected levels of PCE (1,300 ppb), trans-,12-dichloroethene (830 ppb), trichloroethene (260 ppb), (100 ppb), ethlybenzene (160 ppb), acetone (540 ppb), benzene (60 ppb), 1,1-dichloroethane (17 ppb), methylene chloride (14 ppb), total xylenes (40 ppb), and vinyl chloride (7 ppb) were found which exceeded federal and/or New York State Maximum Contaminant Levels (MCLs). Maximum detected values were generally found in the shallow portion of the aquifer (0 to 45 feet).

Additional chemical characterization of the groundwater beneath the site was performed as part of the Pre-design Field Investigation (SEC Donohue, 1992) to verify the extent of the contaminant plume east of the site and to provide specific groundwater quality data for the design of the treatment system. PCE was reported in groundwater samples collected at WT-1, east of the CPC site, at an estimated

(below method detection limit) concentration of 0.3 ug/l. This confirms earlier estimates of a contaminated groundwater plume width of approximately 1,000 feet perpendicular to direction of groundwater flow at the site boundary.

Increases of PCE, TCE, and 1,2-dichloroethene concentrations reported in groundwater at the water table and in deeper intervals at downgradient wells indicate that the plume is migrating downward and downgradient (SEC Donohue, 1992). The downgradient and downward migration of the CPC contaminant plume will not affect the intent of implementing this phase of the groundwater treatment. However, the concentrated plume appears to be larger than previously reported based on higher concentration of PCE at the downgradient wells just south of the site boundary.

2. Remediation Scheme

Based on the ROD, the selected alternative of groundwater extraction at the site boundary, and subsequent injection of the treated groundwater has been evaluated and presented in this section.

Placement and pumping rates of two groundwater extraction wells required by the ROD were evaluated. The calculations of capture zone areas for groundwater extraction wells indicates that three wells extracting groundwater at 130 gpm will be required to conservatively capture the majority portion of the plume. This conclusion differs from the RI/FS (Ebasco Services, Inc., 1990) in that two wells extracting groundwater at 175 gpm were proposed to capture the same concentrated plume. For both design and RI/FS calculations, the plume is assumed to be approximately 1,000 feet in width perpendicular to the direction of groundwater flow. Differences between widths of the wells' capture zone in the predesign versus FS resulted because a different aquifer saturated thickness was used in each calculation as explained below.

Ebasco Services Incorporated (ESI) conducted the RI/FS and evaluated the well spacings, pumping rates, and capture zones of various extraction well configurations. Capture zone calculations are in Appendix D of the Draft Final Feasibility Study Report. Although not directly specified in the capture zone calculations, it was assumed that 300 feet was used in the evaluation because an average saturated aquifer thickness of 300 feet was used in the evaluation because an average saturated aquifer thickness of 300 feet was used for a contaminant transport model (also in Appendix D) completed by ESI for the CPC site. The actual average saturated thickness of the aquifer at the CPC site is approximately 650 to 700 feet (ESI, RI Report July 1990); however, ESI references Geraghty & Miller (G & M) groundwater model parameters as justification to use a smaller saturated thickness. The G & M summary is presented in Appendix H of the Draft Final Remedial Investigation Report for the CPC site (ESI, July 1990).

SEC Donohue has insufficient information to support using a saturated thickness less than the actual. Using a thickness of 700 feet results in a narrower capture zone because of the higher transmissivity. Capture plume calculations also assume the aquifer is homogeneous and isotropic and flow is horizontal. No consistent vertical gradients were measured at RI/FS well nests for the upper 100 feet of thickness, suggesting horizontal flow is a reasonable assumption. Groundwater would potentially be drawn from the entire depth of the aquifer even though extraction wells penetrate only the upper 25 percent of the aquifer.

Partial penetration of the extraction wells will cause a greater drawdown than predicted by the capture zone calculation. A comparison of uncorrected drawndown (> 1 foot) versus corrected drawdown for partial penetration was completed. Significant differences in drawdown (> 1 foot) were not observed at a distance greater than 50 feet from the pumping well. Because the width of the capture zone is approximately 200 feet, the impacts of partial penetration were not considered in well placement and pumping rates. The assumptions of isotropic conditions (when some anisotropy exists) and no significant difference in drawdown because of partial penetration, will result in the estimate of a conservative (narrower than may actually occur) estimate of capture width.

As a result of the capture zone re-evaluation, three extraction wells pumping at 130 gpm are proposed to capture the concentrated plume. The capture zone plot for the three extraction well scenario using a 680-foot saturated thickness and developed by the Pathlines and Travel-Times Model (Kinzelbach & Rausch, 1990) is presented in Figure 10- 1 . The terminus of the pathlines depicted in Figure 10- 1 represent plume control 3 years after the start of pumping. This extraction scenario will accommodate uncertainty in actual well performance and also provides more flexibility during scheduled shutdown of individual wells for repairs and maintenance. As a result of the increase in extracted groundwater, the treatment trains initially proposed for a total volume flow rate of 0.500 MGD will be designed for 0.562 MGD capacity.

3. Three extraction wells will be constructed at the locations shown on Drawing 02-CR-5. Each of the three wells will be designed to pump at a rate of 130 gpm to capture the concentrated plume. The well spacing is approximately 200 feet. The wells will be approximately 185 feet deep, and will be screened from approximately 90 feet to 185 feet below the ground surface. The static water level is approximately 90 feet below the ground surface. Detailed information regarding the design of each well is discussed later in this chapter.

   Each well will be screened from the static water level to the bottom of the well. The soil borings and other subsurface investigations indicate there is some variation in the gradation of the subsurface materials. The layers of fine material may restrict the

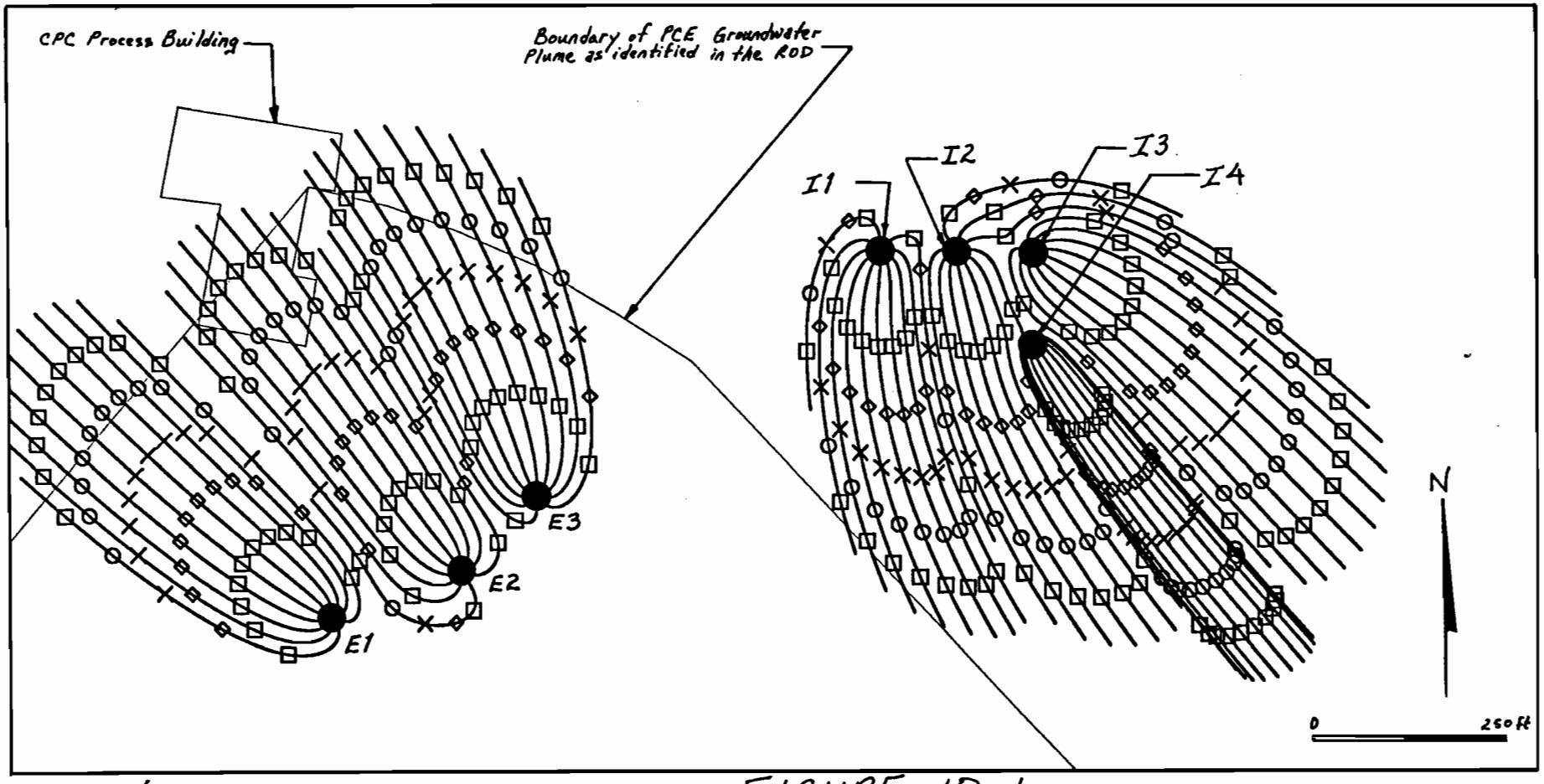


FIGURE 10-1
CPC Extraction/Injection System Simulation

LEGEND

E1 Extraction Well

I1 Injection Well

3.0 yrs.
2.5 yrs.
2.0 yrs.
1.5 yrs.
1.0 yrs.
0.5 yrs.
Pathline and Traveltime (in 0.5 yr increments)

vertical movement of contaminated groundwater to the well. The full depth screen will allow horizontal flow into the well.

4. Submersible pumps will be installed in each well to pump the water to the water to the water treatment building.

5. Separate water lines will be installed for each well. The water lines will enter the water water treatment building before discharging to the flow equalization basin. Inside the water treatment building, flow meters, sample taps and isolation valves will be installed on the piping. The valves can also be used to throttle the well pumps. Valve operation will be manual.

   Providing the three separate water lines eliminates the need for a structure at each wellhead. The plant operator will not need to access the extraction wells on a regular basis.

6. The well discharge will be below the ground and below frost level. A pitless unit will be installed on each well to allow easy access for pump removal, if necessary.

10.3 DETAILED DESCRIPTION OF DESIGN

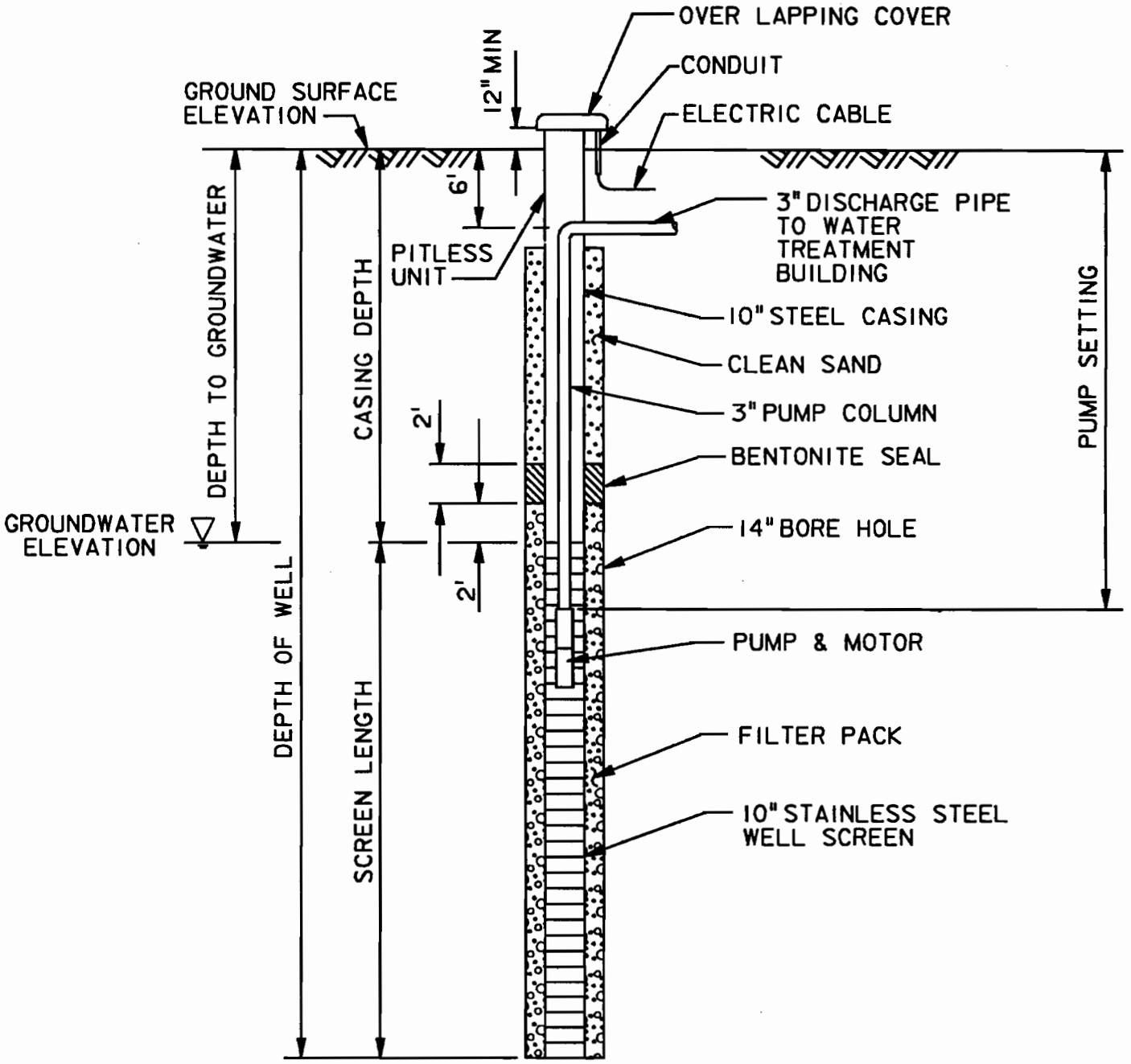
1. Well Casing

   A nominal 10 inch low carbon steel casing will be installed. The 10 inch casing will allow installation of a submersible well pump.
   Minimum wall thickness: 0.365 inches
   Depth: See Extraction Well Cross Section (Figure 10-2) and Table 10-1.

2. Well Screen and Filter Pack

   a. 10 inch stainless steel well screen will be installed from the water table to the depths shown on Table 10.
   b. Screen slot size: screen slot size will be determined during construction. The well driller will be required to obtain samples of the formation during drilling and have sieve analyses performed. The contractor will be required to submit the results and recommendations for slot sizes for approval by the Engineer.
   c. Filter pack: the contractor will also be required to provide recommendations on the filter pack material based on the results of the soil sampling and analysis.

3. Well Seal: 2 feet bentonite seal will be required approximately 2 feet above the well screen.



NOTE:
SEE EXTRACTION WELL TABLE FOR
APPROXIMATE ELEVATIONS & DIMENSIONS

FIGURE 10-2

EXTRACTION WELL CROSS SECTION

NTS

TABLE 10-1
EXTRACTION WELL DATA

	Extraction Wells					
	EX-1		EX-2		EX-3	
	MSL	FT	MSL	FT	MSL	FT
Ground Surface (estimated) Elev.	152		158		161	
Water Table Elev. (estimated)	66		66		66	
Depth to GW		86		92		95
Elev. Top of Screen	66		66		66	
Casing Depth		86		92		95
Elev. Bottom of Screen	-30		-30		-30	
Screen Length		96		96		96
Depth of Well		182		188		191

RR/CPC65RDN/AD3

4. Wellhead: The wellheads will be terminated with a pitless unit. The pitless unit will allow removal of the well pump for servicing. The pitless unit will include provisions for an air line for water level measurements in the well.

5. Well depths: See Figure 10-2 and Table 10-1.

6. Submersible pumps:

   The pumps will be constructed of stainless steel. Design conditions for each well pump are summarized on Table 10-2.

7. Submersible motors:

   See data summarized on Table 10-2.

8. Discharge column piping: 3 inch diameter carbon steel.

9. Controls:

   Controls for the well pumps will be located in the water treatment building. The well pumps will run continuously unless manually turned off or turned off due to an alarm condition. The well pumps will be turned off by the control system if the water level in the equalization tank exceeds a preset level, as discussed in Chapter 9.

   Water levels in the wells are not expected to drop substantially during pumping, therefore, water levels will not be monitored automatically.

10. An air line will be provided at each well to allow the operator to measure water levels in the wells. The operator will manually pump air into the line to obtain water level measurements.

11. Flow meter:

    3 inch propeller flow meters will be installed on each well pump discharge line inside the water treatment building. The flow rate at each meter will be monitored by the central controls system. The flow signal will also be used to verify pump run.

12. Piping to the water treatment building:

    3 inch PVC water lines will be constructed between the wells and the water treatment building. Isolation valves for the lines will be provided inside the building. No buried valves are required.

TABLE 10-2
EXTRACTION PUMP AND MOTOR DATA

Design Data	Extraction Pumps EX-1	Ex-2	EX-3
Water Elevation at Equalization Tank	160 Ft. MSL	160 Ft. MSL	160 Ft. MSL
Ground Elevation at Well	152 Ft. MSL	158 Ft. MSL	161 Ft. MSL
Static W.L. Elevation in Well	66 Ft. MSL	66 Ft. MSL	66 Ft. MSL
Drawdown	30 Ft.	30 Ft.	31 Ft.
Static Head	124 Ft.	124 Ft.	125 Ft.
Friction Losses	15 Ft.	15 Ft.	15 Ft.
Pump Design Conditions			
Total Dynamic Head	139 Ft.	139 Ft.	140 Ft.
Pumping Rate	130 gpm	130 gpm	130 gpm
Discharge Diameter	3 in.	3 in.	3 in.
Minimum Efficiency	75%	75%	75%
Maximum Pump Speed	1750 rpm	1750 rpm	1750 rpm
Pump Setting (Ground surface to top of pump bowls)	140 ft	150 ft	150 ft
Pump Motor			
Horsepower	10 hp	10 hp	10 hp
Rated Speed	1750 rpm	1750 rpm	1750 rpm

TABLE 10-2
EXTRACTION PUMP AND MOTOR DATA
(Continued)

Design Data	Extraction Pumps EX-1	Ex-2	EX-3
Minimum Efficiency	79%	79%	79%
Service Factor	1.15	1.15	1.15
Insulation Class	____	____	____
Voltage	460	460	460
Phase	3	3	3
Code Letter	____	____	____

10.4 REFERENCES

CA Rich Consultants, 1986. Hydrologic Investigation of the Former Claremont Polychemical Facility, Old Bethpage, New York.

Ebasco Services, Inc., 1990. Draft Remedial Investigation/Feasibility Study, Claremont Polychemical Facility, Old Bethpage, New York.

Kinzelbach, W., and R. Rausch, 1990. Pathlines and Travel Times Model "PAT," Documentation, IGWMC-BAS29, Version 1.0, International Groundwater Modeling Center, Holcomb Research Institute, Indianapolis, Indiana, USA, and TNO Institute of Applied Geoscience, Delft, the Netherlands.

Nassau County Health Department, 1980. Groundwater Sampling Results at the Claremont Polychemical Facility, Old Bethpage, New York.

SEC Donohue, 1992. Predesign Investigation and Design Services, Claremont Polychemical Corp., Old Bethpage, New York.

Velzy Associates, 1984. Engineering Investigations for the Claremont Polychemical Spill Site, Old Bethpage, New York.

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11.0 INJECTION WELL DESIGN ANALYSIS

11.1 GENERAL DESCRIPTION

1. This chapter discusses the injection well portion of the remediation project, including the treated water piping, injection wells, and controls.

2. Four injection wells will be constructed on the State University of New York (SUNY) property east of the CPC site. Therefore, efforts have been made to minimize the construction on the SUNY site and minimize access requirements for the injection wells.

3. The only visible parts on SUNY property will be the well casings and caps, exposed approximately 12 inches above ground. Piping will below ground.

11.2 DESIGN CONCEPTS AND DEFINITION

1. Placement and injection rates of the injection wells were evaluated with the aid of the Pathlines and Travel-Times (PAT) Model (Kinzelbach and Rausch, 1990). The configuration and injection rates of the injection wells were designed to reinject the required volume of remediated groundwater (as supplied by the groundwater extraction system), while minimizing impact to adjacent properties and avoiding reinjection into the capture zone of the extraction system. Accordingly, the injection zone evaluation indicates that four injection wells (I1, I2, I3, I4) will be necessary to accommodate the volume of extracted and treated groundwater. The injection wells will be located cross-gradient to groundwater flow beneath site, on SUNY property east of the site. A well spacing of approximately 100 feet coupled with the L-shaped configuration afford a more compact design in order to minimize impacts to adjacent properties. Injection rates of 100, 110, 130, and 50 gpm are proposed for wells I1, I2, I3, and I4 respectively.

   Additionally, in order to evaluate the temporal development of hydraulic heads in the injection and extraction wells (i.e. mounding and drawdown), the Aquifer Simulation Model (ASM) was applied (Kinzelbach and Rausch, 1991). Application of the model suggests that the spatial distribution of hydraulic head due to the effects of groundwater reinjection reflect maximum mounding of approximately 30 feet. Furthermore this mounded condition is restricted to a narrow radius (less than 50 feet) around each injection well. Considering the rather extensive vadose zone present beneath the reinjection site (nearly 100 feet thick), mounding of this magnitude should not inhibit reinjection as proposed.

   With four wells, the remediation program will be able to run continuously if one well is removed from service for maintenance.

2. Treated water will be pumped from the treated water storage tanks to the injection wells. Two treated water pumps will be installed inside the water treatment building. Design conditions for the pumps are discussed in Chapter 8.

3. Four separate water lines will be constructed from the water treatment building to the injection wells. Flow in each of the lines will be measured at the water treatment building. A manually operated valve will be provided on each line to isolate the injection well and throttle flow to the injection well.

   The water lines will be constructed approximately 6 feet deep and will enter the injection well below ground. There will be no structures constructed at the injection wells.

4. The injection wells will be approximately 120 feet deep. They will be screened from the static water level to a depth approximately 20 feet below the static water level. The screen slot size and filter pack design will be determined during construction. The contractor will be required to obtain and analyze formation samples during construction to properly design the screen and filter pack. The slot sizes and filter pack size will be maximized to reduce the potential for reduced performance due to biological fouling or mechanical plugging.

5. A pitless unit will be installed at each well to allow easy installation and removal of a drop pipe in the well. The drop pipe will extend from approximately 6 feet below the surface to a depth of approximately 110 feet, approximately 10 feet below the static water level. The drop pipe will be installed to dissipate the energy of the water falling into the well and minimize the opportunity of precipitates to form on the well screen.

6. Water will be pumped to the injection wells continuously unless the pumps are manually turned off or the pumps are turned off due to an alarm condition at the plant.

7. A probe will be installed in each well to signal high water alarm. The probe will be set to signal an alarm if the water level in the well is approximately 10 feet below the ground surface. Normally, the mounding at each well should be approximately 70 feet below the ground surface.

8. Routine access to the wells will not be required. All pumps, controls and valves for the injection wells are located in the water treatment building. Access to the wells will be required for maintenance of the injection wells, if there is a problem due to plugging of the well screen.

11.3 DETAILED DESCRIPTION OF DESIGN

1. Well Casing

   A nominal 8 inch low carbon steel casing will be installed. The 8 inch casing will allow installation of a submersible well pump.
   Minimum wall thickness: 0.322 inches
   Depth: See Injection Well Cross Section (Figure 11-1) and Table 11-1.

2. Well Screen and Filter Pack

   a. 8 inch stainless steel well screen will be installed from the water table to the depths shown on Table 11.
   b. Screen slot size: Screen slot size will be determined during construction. The well driller will be required to obtain samples of the formation during drilling and have sieve analyses performed. The contractor will be required to submit the results and recommendations for slot sizes for approval by the Engineer.
   c. Filter pack: The contractor will also be required to provide recommendations on the filter pack material based on the results of the soil sampling and analysis.
   d. The screen length shown on Table 11-1 is based on a screen slot size of 0.045 inches. If, during construction, it is determined that a smaller slot size is required, the screen length may need to be increased. Proposed flow rates to each well vary from 50 gpm to 130 gpm. To allow flexibility of operation, each well is designed for a flow rate of 130 gpm. Screen length includes a factor of safety of three to allow for plugging of the screen over time.

3. Well Seal: 2 feet bentonite seal will be required approximately 2 feet above the well screen.

4. Wellhead: The wellheads will be terminated with a pitless unit. The pitless unit will allow removal of the drop for servicing of the well, if necessary.

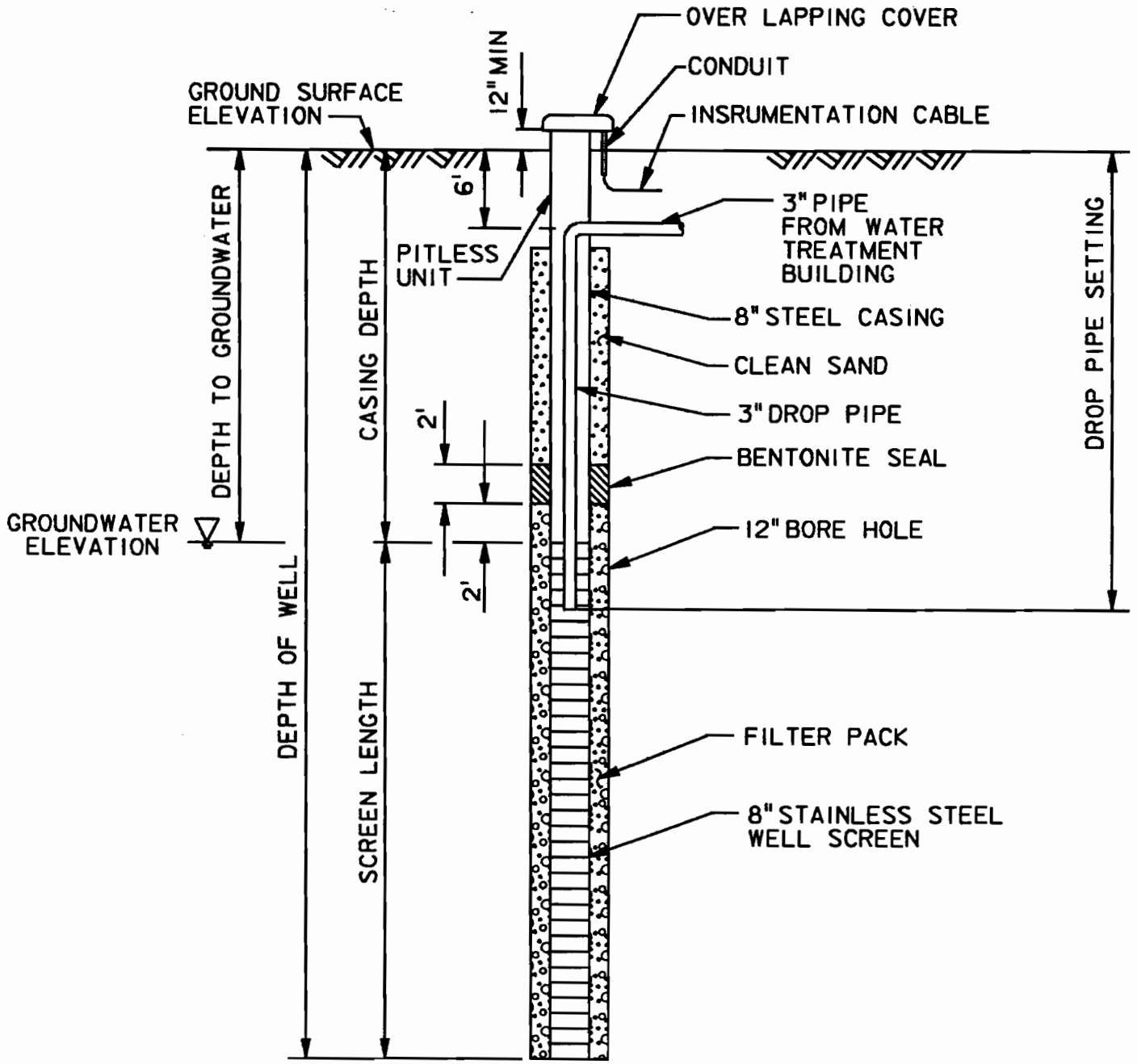
5. Well depths: See the Figure 11-1 and Table 11-1.

6. Injection pumps: See Chapter 8.

7. Drop pipe: 3 inch diameter carbon steel.

8. Controls:

   Controls for the injection pumps will be located in the water treatment building. The well pumps will run continuously unless manually turned off or turned off due to low water level in the treated water storage tanks.



NOTE:
SEE INJECTION WELL TABLE FOR
APPROXIMATE ELEVATIONS & DIMENSIONS

FIGURE II-1

INJECTION WELL CROSS SECTION

NTS

TABLE 11-1
INJECTION WELL DATA

	Injection Wells							
	IN-1		IN-2		IN-3		IN-4	
Well	MSL	FT	MSL	FT	MSL	FT	MSL	FT
Ground Surface (est.) Elev.	164		166		168		166	
Water Table Elev. (est.)	66		66		66		66	
Depth to GW		98		100		102		100
Elev. Top of Screen	66		66		66		66	
Casing Depth		98		100		102		100
Elev. Bottom of Screen	36		36		36		36	
Screen Length		30		30		30		30
Depth of Well		128		130		132		130
Drop Pipe								
Elev. Bottom of Drop Pipe	56		56		56		56	
Length of Drop Pipe Required		92		104		106		104

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Water levels in the wells are not expected to rise significantly during normal operations. However, if the well screens become plugged due to biological fouling or mechanical plugging, the water levels could rise significantly. A probe will be installed to signal an alarm condition if the water level in a well is less than or equal to 10 feet below the ground surface.

9. Water level measurements: A tap will be provided for installation of a probe to manually measure water levels in the wells.

10. Flow meter:

    3 inch propeller flow meters will be installed on each well pump discharge line inside the water treatment building. The flow rate at each meter will be monitored by the central controls system. The flow signal will also be used to verify pump run.

11. Piping from the water treatment building:

    Four-inch PVC water lines will be constructed between the wells and the water treatment building. Isolation valves for the lines will be provided inside the building. No buried valves are required.

11.4 REFERENCES

Kinzelbach, W., and R. Rausch, 1990. Pathlines and Travel Times Model "PAT," Documentation, IGWMC-BAS29, Version 1.0, International Groundwater Modeling Center, Holcomb Research Institute, Indianapolis, Indiana, USA, and TNO Institute of Applied Geoscience, Delft, the Netherlands.

Kinzelbach, W., and R. Rausch, 1991. Aquifer Simulation Model "ASM," Documentation, IGWMC-BAS27, Version 3.0, International Ground Water Modeling Center, Institute for Ground Water Research and Education, Colorado School of Mines, Golden, Colorado, USA, and TNO Institute of Applied Geoscience, Delft, the Netherlands.

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12.0 SOIL REMEDIATION DESIGN ANALYSIS

12.1 GENERAL PARAMETERS

This design analysis (DA) describes the Soil Remediation component of the selected remedial action (RA) for the CPC site. Soil Remediation consists of excavation of soil in the Spill Area, on-site treatment of excavated soil, and backfill of treated soil into the excavation. Figure 12-1 illustrates the general remedial design approach for the CPC RA.

The DA details functional and technical requirements, design objectives and provisions, calculations and coordination.

This section provides details of the scope and purpose of the Soil Remediation at the CPC site and summarizes applicable decision-making documents, waste characteristics and the proposed soil treatment system.

12.1.1 Scope and Objectives

The purpose of this DA is to provide the necessary data, evaluations and computations required to prepare the design drawings and specifications for the Soil Remediation.

12.1.2 Previous Decision-Making Documents

Previous decision-making documents that are pertinent to Soil Remediation are as follows:

Draft Final Remedial Investigation (RI) Report, Claremont Polychemical Site, Ebasco Services, Inc., 1990.

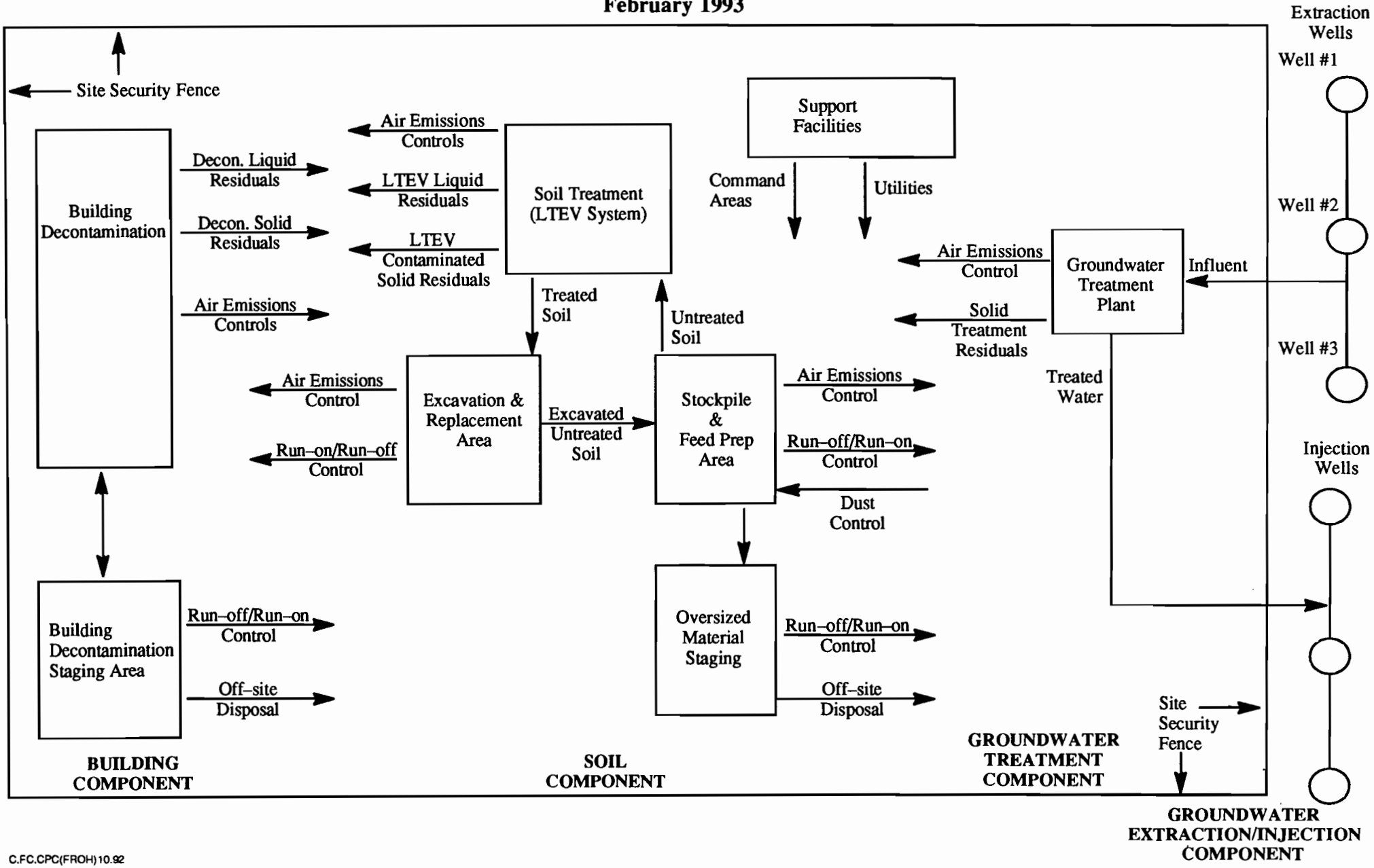
Record of Decision, (ROD) Claremont Polychemical Site, USEPA, 1990.

Draft Predesign Investigation (PI) Report, Claremont Polychemical Site, SEC Donohue, Inc., 1992.

Preliminary Remedial Design Submittal, Claremont Polychemical Site, Operable Unit 1, Phase I Design, SEC Donohue, Inc., 1992.

The source control operable unit ROD issued by the United States Environmental Protection Agency for the CPC site specifies the required Soil Remediation components of the CPC RA.

FIGURE 12-1
GENERAL DESIGN APPROACH
Design Analysis Report
Phase 1 Remedial Design
Operable Unit No. 1
Claremont Polychemical Corporation
Superfund Site
Old Bethpage, New York
February 1993



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The ROD concluded that substantial risk reduction will be achieved through the excavation and on-site treatment of Spill Area soil (see Drawing 03-CR-1). The ROD specifies that Spill Area soil will be excavated to a target cleanup depth of 2 feet and treated on-site by low-temperature enhanced volatilization (LTEV). The treated soil would then be used to backfill the excavated area.

The excavation criterion was later changed based on data collected during the PI and subsequent agency comments on the Draft PI Report and the Preliminary Remedial Design Submittal. An excavation target cleanup depth of 3 feet was selected for the majority of the Spill Area and an excavation target cleanup concentration was selected for one "hot spot" location.

12.1.3. Waste Characterization

Based on the results of the RI and PI, soil contamination at the CPC site is confined to the Spill Area located east of the Process Building (see Drawing 03-CR-1). RI and PI results both indicate that tetrachloroethene (PCE) is the principal contaminant in the Spill Area soil. Results of soil-to-groundwater leaching models indicate that PCE in the Spill Area soil may be contaminating the underlying aquifer. The basis for Soil Remediation is to minimize the impact of PCE on groundwater.

Several other VOCs (1,2-dichloroethene, trichloroethene, acetone, toluene, 2-butanone, xylenes and 4-methyl - 2-petanone) and some semivolatile organic compounds (polynuclear aromatic hydrocarbons, phthalates, benzoic acid, 2-chloronaphtahlene and pentachlorophenol) were detected in Spill Area soil boring samples. However, these compounds were not determined to be of concern based on the soil-to-groundwater leaching modeling. This data is presented in the ROD and the PI Report.

Metals (arsenic, cadmium, copper, lead, magnesium and selenium) exceeding typical background levels have also been detected in site soil. However, these compounds were not determined to be of concern based on the soil to groundwater leaching modeling. This data is also provided in the ROD.

PCE concentrations in spill area soil are summarized in Table 12-1 (boring locations are shown on Drawing 03-CR-1). The horizontal extent of the contamination is estimated to be approximately 31,000 square feet (see Drawing 03-CR-1). The extent is based on a soil target clean-up concentration of 200 ug/kg (refer to PI). Refer to Section 12.4 for calculations. Based on the data presented in Table 12-1, the vertical extent is generally limited to the upper 8 feet with the concentrations generally decreasing with depth. The highest concentration of PCE was detected at location SS10.

The soil in the Spill Area is generally silty and clayey sand with approximately 10 to 20 percent gravel. The natural moisture content of subsurface soil ranges from about 5 to 16 percent. The results of physical properties testing of Spill Area soil are summarized in Table 12-2. Selected RI boring logs are included in Appendix 12A.

TABLE 12-1

SUMMARY OF PCE CONCENTRATIONS IN SPILL AREA SOILS
Design Analysis Report
Phase 1 Remedial Design
Operable Unit 1
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York
February 1993

PCE CONCENTRATION IN SOIL (ug/kg)
(Depth Below Ground Surface in Feet)

Boring Number	2	4	8
SS1	38.6	48.6	--
SS2	38.0	54.9	--
SS3	1,220	46.5	--
SS4	641	10.1	--
SS5	48.2	22.4	--
SS6	2,100	4.5	--
SS7	2,100	9.28	--
SS8	443	1,860	--
SS9	907	108	--
SS10	864,000	6,900	7,440
SS11	1,010	16.1	--
SS12	24.9	10.7	--
SS13	13.2	7.21	--
SS14	67.4	86.2	--
SS15	10.5	4.77	--
SS16	67.2	35.6	--
SB14	0	4.0	--
SB15	0	--	210
SB18	3	--	--
SB19	100	33	150
SB20	0	--	26
SB21	36	--	110
SB22	35	--	--
SB23	0	--	0

Notes: SS and SB borings were performed in the RI and Predesign Investigation, respectively.
- = Samples not collected

TABLE 12-2

SUMMARY OF PHYSICAL PROPERTIES OF SPILL AREA SOIL
Design Analysis Report
Phase 1 Remedial Design
Operable Unit 1
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York
February, 1993

Physical Property	Depth Interval Tested Below Ground Surface (feet) 0 - 2	2 - 4	4 - 6	8 - 10
Grain Size:				
Gravel (%)	12 - 19	17 - 18	7	27
Sand (%)	71 - 75	78 - 79	79	42
Silt and Clay (%)	6 - 17	4	14	31
Moisture Content (%)	9 - 10	5 - 7	11	16
Liquid Limit (%)	17	--	--	18
Plastic Limit (%)	0	--	--	0
Plasticity Index (%)	17	--	--	18
Total Organic Carbon (TOC) (%)	0.24 - 1.03	0.06 - 0.32	0.08	0.04
Unified Soil Classification	SP - SM	SP	SM	SC

Notes: Data is summarized from RI Tables 3-2, 3-3, 3-4, (SB14 and SB20, borings located within spill area)
SP = poorly graded sand
SM = silty sand
SC = clayey sand
- = Samples not tested

The Spill Area soil does not appear to be listed or characteristic hazardous waste under the Resource Conservation and Recovery Act (RCRA). The ROD indicates that RCRA hazardous waste regulations are ARARs; however, no basis for this is provided in the ROD. The soil may be characterized hazardous by toxicity (fail TCLP test). To determine whether soil may fail TCLP, calculations were performed to estimate the approximate maximum concentrations expected from the TCLP leaching test. These calculations indicate that Spill Area soil should not fail TCLP for metals or for PCE. The calculations are presented in Appendix 12B.

Debris (wood, metal and concrete scrap) is piled and scattered over the surface of the spill area. Based on field observations during the RI and PI, subsurface debris is not anticipated during excavation; however, the Contractor will be required to make provisions for managing this material if it is encountered.

12.1.4 Low-Temperature Enhanced Volatilization (LTEV) System

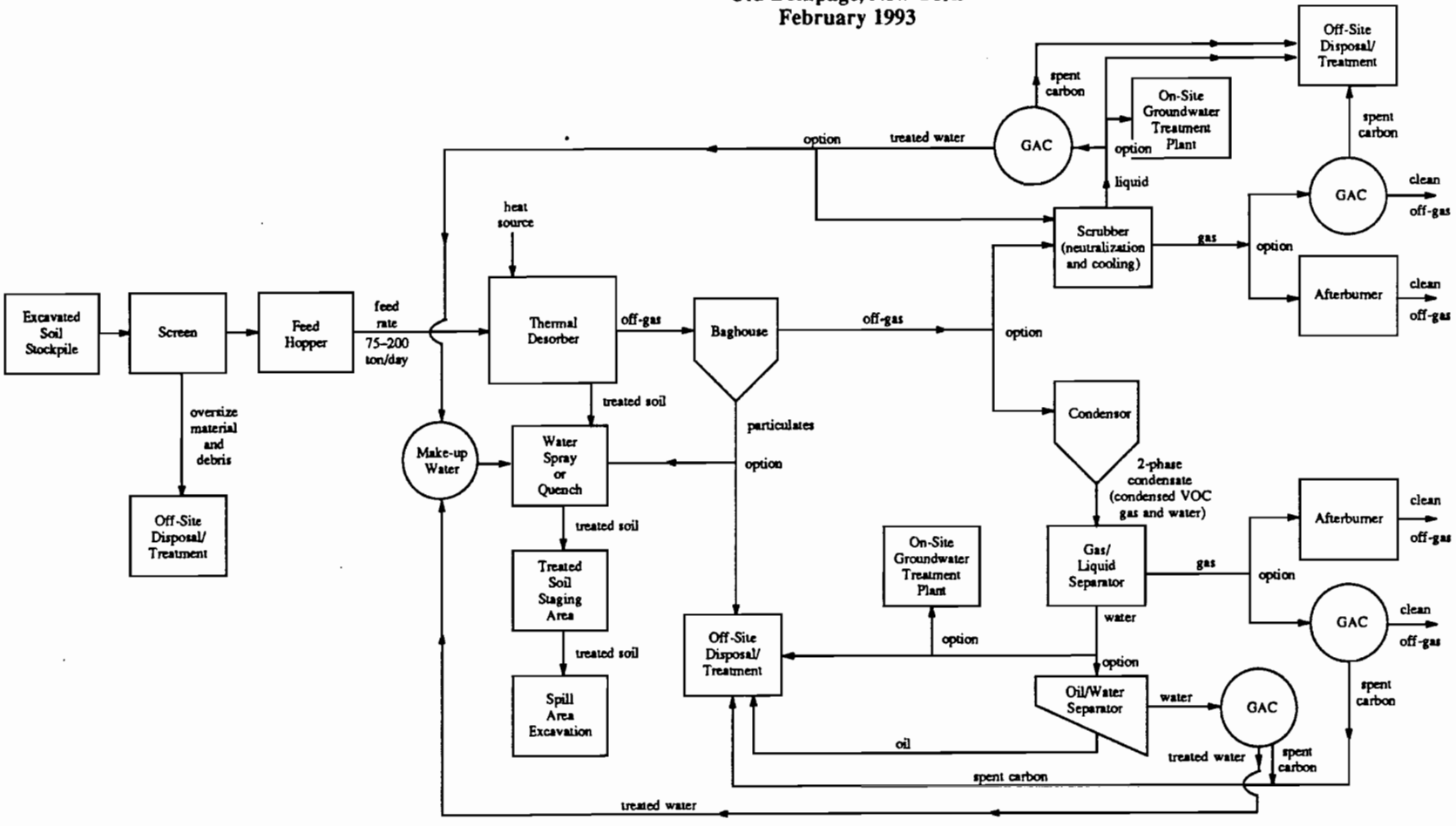
Contaminated soil will be excavated from the Spill Area and treated on-site in a mobile LTEV unit. A destruction and removal efficiency (DRE) of greater than 99 percent for VOCs in soil has been routinely achieved with LTTD treatment (de Percin, 1991). With the DRE of 99 percent, LTEV could achieve a treatment target level of 200 ug/kg based on the average concentration (estimated at approximately 18,500 ug/kg from Table 12-1) of PCE in Spill Area soil. This target level would not be achieved with a DRE of 99 percent based on the maximum concentration detected (864,000 ug/kg); however, soil from the area (Boring SS10) associated with this concentration appears to be isolated with respect to concentration and will be blended with adjacent soil to achieve a uniform feed concentration.

Based on vendor information, it estimated that the LTEV unit will process between 75 and 200 tons/day. This assumes the system will operate 10 hours/day with a downtime of 20 percent.

A schematic diagram for the soil treatment system is illustrated on Figure 12-2. This diagram shows several (not inclusive) potential configurations for the LTEV system. This diagram is used for illustrative purposes and should not be considered the design since the design is based on performance specifications.

Contaminated soil will be excavated and stockpiled. The stockpiled soil will then be loaded into a screen to remove oversize material and debris. Screened material will then be transported by a conveyor to a hopper that directly feeds the thermal desorber unit or the screen may be placed directly over the feed hopper. Based on the physical properties of Spill Area soil (see Section 12.1.3), material handling/LTEV unit feed problems are not anticipated.

FIGURE 12-2
SCHEMATIC DIAGRAM OF SOIL TREATMENT SYSTEM
Design Analysis Report
Phase 1 Remedial Design
Operable Unit No. 1
Claremont Polychemical Corporation
Superfund Site
Old Bethpage, New York
February 1993



NOTE:

This figure is meant to illustrate several potential (should not be considered inclusive) configurations of the LTTD unit. This is not a suggested design. The bid documents will allow for flexibility in the design since the design will be based on performance specifications.

GAC = Granular Activated Carbon

C.FC.CPC(FROH)10.92

The thermal desorber agitates and heats the contaminated soil vaporizing the moisture and VOCs, including PCE. There are several designs for this thermal desorber including an externally fired rotary dryer, a single (or set of) internally heated screw auger(s), a vertical mixed bed, and a series of externally heated distillation chambers (de Percin, 1991).

The treated soil that exits the desorber is generally sprayed or quenched with water to cool it and mitigate dusts. Quenched soil is then discharged into a stockpile or rolloff box for confirmation testing. Soil that has passed the cleanup objectives will be placed back in the excavation area. Appropriate engineering controls will be implemented to prevent recontamination of backfilled treated soil from contaminated soil which has not yet been excavated.

The desorber off-gases, which contain VOCs, particulates and possibly a small amount of acid gases, are conveyed to emissions collection and control equipment. Particulates are generally removed by a fabric filter (baghouse). The VOCs are then burned in an afterburner, collected on activated carbon, or recovered in condensation equipment. A scrubbing system may be used for neutralization and/or cooling of desorber off-gases (see Figure 12-2 for illustration of possible off-gas treatment configurations).

In addition to the treated soil, residuals from LTEV treatment may include oversize material and debris (from screening), baghouse particulates, condensed contaminants, water and spent carbon. Solid residuals will be disposed of/treated at an off-site licensed facility. However, baghouse particulates could be combined with treated soil prior to backfill. Liquid residuals will either be disposed or treated at an off-site licensed facility. However, the majority of the liquid residual volume may be recycled after treatment (possibly by liquid-phase activated carbon) as system makeup water for cooling of treated soil.

It is anticipated that extensive treatability studies would not be required for LTEV treatment of Spill Area soil because available vendors typically have experience treating soil with similar characteristics (physical and chemical). However, some degree of laboratory soil testing (characterization or bench-scale) may be desirable to refine operating conditions prior to system startup so that system components can be optimized and the most effective on-site performance can be achieved.

12.2 FUNCTIONAL AND TECHNICAL REQUIREMENTS

The functional and technical requirements for the Soil Remediation component of the RA are described below. The section details responsibilities, general requirements, spatial requirements, excavation and backfill criteria, and LTEV performance criteria.

12.2.1 Responsibilities

Responsibilities for the Soil Remediation Component are outlined below:

- The Contractor is required to assume full responsibility for labor, materials, and equipment employed during Soil Remediation and for completing the Soil Remediation work as specified in the Contract Documents and Drawings to the satisfaction of the Contracting Officer.

- The Contracting Officer will approve submittals and commencement/suspension of work activities and coordinate work activities as outlined in the Contract Documents.

12.2.2 General Requirements

The Contractor will perform the Soil Remediation work according to performance specifications which specify excavation, backfill, treatment, and LTEV system criteria.

Soil Remediation work will be performed in accordance with the Contractor's Health and Safety Plan. Contractor health and safety requirements are detailed in the attached Health and Safety Design Analysis.

Soil Remediation will comply with all applicable local, state, and federal regulatory requirements. Regulatory requirements are detailed in the Permitting and Regulations DA.

The Contractor will furnish, install, demonstrate and operate an on-site LTEV system.

Process residuals and waste materials generated by the Contractor during soil remediation will be disposed of by the Contractor.

12.2.3 Spatial Requirements

The soil remediation facilities layout illustrated in Drawing 03-CR-2 is suggested based on available vendor information (see Appendix 12D) and spatial limitations. The Contractor may modify the layout, with approval of the Contracting Officer, to better meet the needs of the Contractor's LTEV system. Refer to Section 12.4.2 for soil remediation facilities layout calculations.

12.2.4 Excavation and Backfill Criteria

12.2.4.1 Excavation Criteria

Target Cleanup Depth Area:

Most of the Spill Area excavation will require excavation to target cleanup depth of 3 feet below the existing ground surface. The Target Cleanup Depth Area (see Drawings 03-CR-1 and 03-CR-3) will be excavated to the elevations based on baseline surface elevations established during pre-excavation surveying. For these areas the excavation criteria will be 3 feet with tolerances of -zero (0) to +four (4) inches.

A stable slope will be maintained at the outer limits of the excavation. The excavation limit delineated on Drawing 03-CR-1 represents the extent of the excavation bottom.

Target Cleanup Concentration Area ("Hot Spot"):

The Target Cleanup Concentration Area ("hot spot") (see Drawings 03-CR-1 and 03-CR-3) will be excavated to a minimum 8-foot depth (-zero (0) to +four (4) inches) below the existing ground surface elevation to a PCE target cleanup concentration of 200 ug/kg as determined by verification sampling and testing as described in Section 12.3.8.

The Target Cleanup Concentration Area will be excavated to a maximum depth of 20 feet. This maximum depth is based on standard excavation equipment depth and digging radius limitations (Church 1981).

A stable sideslope configuration will be maintained in this area in accordance with the OSHA Construction Standards for Excavations (29 CFR Part 1926.650-.652, Subpart P).

If the Target Cleanup Concentration Area excavation requires a soil support system, the Contractor will be required to design and construct the support system. The design and construction methods will be approved by the Contracting Officer prior to implementation.

12.2.4.2 Backfill Criteria

Treated soil will be backfilled into the Spill Area excavation. Backfill placement and compaction will meet the criteria specified for structural backfill for the groundwater treatment building outlined in the Structural DA. This criteria may require that treated soil be modified by methods such as soil blending.

12.2.5. LTEV Performance Criteria

12.2.5.1 Treatment Criteria

The LTEV system will treat excavated soil from the Spill Area to a treatment target level for PCE of 200 ug/kg.

Off-gases generated by the LTEV system will be treated to meet all local, State, and Federal emissions requirements including, but not limited to, the following criteria:

Clean Air Act (CAA)

National Primary and Secondary Ambient Air Quality Standards (40 CFR 50).

New York Codes, Rules and Regulations, Title 6 (6 NYCRR)

General Prohibitions (6 NYCRR Part 211)

Processes and Exhaust and/or Ventilation Systems (6 NYCRR Part 212)

> Permit (Substantive Requirements): Process, Exhaust or Ventilation System Application for Permit to Construct or Certificate to Operate. Permit administered by Nassau County Department of Health, Bureau of Air Quality.

Air Quality Standards (6 NYCRR Part 256)

New York State Department of Environmental Conservation (NYSDEC) Guidance

Guidelines for the Control of Toxic Ambient Air Contaminants (Division of Air, Air Guide I)

The Contractor will be responsible for identifying and meeting all applicable air emissions standards and substantive permit requirements.

12.2.5.2 System Criteria

The following criteria will be met by the LTEV system:

- The LTEV system will be capable of treating a minimum of 4,500 cubic yards (see Appendix 12C) of excavated, contaminated soil at a rate that will maintain the required LTEV process rate, minimize material stockpiling and storage, and ensure that the project schedule will be met.

- The LTEV system will include an automatic waste feed cut-off system and associated alarms that will be triggered if operating conditions deviate from specified limits.

- The LTEV system will include an induced draft fan that maintains a negative pressure at all times throughout the system to minimize fugitive emission.

- The LTEV system will include a particulate removal unit capable of meeting local, State, and Federal air emissions requirements.

- The LTEV system will include a unit process capable of removing VOCs from the exhaust gas to meet local, State, and Federal air emissions requirements.

- The LTEV system will not use dampers to dilute the exhaust gas.

- The LTEV system will include a unit process capable of removing any HCL produced as a result of secondary combustion of exhaust gases if thermal oxidation of gases is used for emissions control.

- Continuous Emission Monitors (CEM) will be installed and operated in the exhaust stack of the LTEV system.

- LTEV conveyor systems will be covered and vented to meet local, state, and federal air emissions requirements.

The Contractor will be required to submit an LTEV System Plan which provides detailed specifications and drawings of LTEV system components.

12.3 DESIGN OBJECTIVES AND PROVISIONS

This section describes the design objectives and provisions for the Soil Remediation component of the RA. The section details the following:

- mobilization
- support facilities
- temporary access roads
- vegetation and surface debris management
- excavation
- pre-treatment stockpiling/staging

- verification sampling and testing
- backfilling
- stormwater runon/runoff management
- dust and volatile emissions monitoring
- dust and volatile emissions control during material handling
- pre-treatment processing
- oversized material management
- LTEV system performance testing
- LTEV treatment
- post-treatment staging
- post-treatment sampling and testing
- post-treatment stockpiling
- LTEV emissions control
- LTEV residuals management
- data management
- demobilization

12.3.1 General

The Contractor will submit a LTEV System Plan that details, at a minimum, LTEV equipment specifications and drawings, process flow diagrams, process and instrumentation diagrams, process capacity, operation controls, and air pollution control equipment specifications.

The site will be surveyed by the Contractor to establish control points, benchmarks and a project grid and to accurately locate facility areas, excavation and work areas.

12.3.2 Mobilization

The LTEV system mobilization will begin after approval by the Contracting Officer and when all utilities, services, and site preparations required by the LTEV system are complete.

The Contractor will submit a LTEV System Operations Plan that details mobilization and set up.

Mobilization will include, at a minimum, transporting all LTEV system equipment onto the site, setting up the LTEV system, and connecting all utilities, monitoring equipment and emission controls.

12.3.3 Support Facilities

Temporary site facilities will be required to support Soil Remediation activities. These support facilities will include, but are not limited to, the Contractor and Contracting Officer field offices, storage areas and storage sheds, workers' shelters and break facilities, personnel decontamination facilities, and equipment decontamination facilities.

The Contractor may provide and maintain an on-site laboratory for excavation verification, and for treated soil and treatment residual sample analysis.

The Contractor will provide fuel storage, sized as necessary, to provide a continuous fuel source for the LTEV system.

12.3.4 Temporary Access Roads

Access to the CPC site will be via the existing entrance from the west off Winding Road.

Existing site access roads will be utilized with some improvement. The Contractor will be responsible for upgrading existing access roads, as necessary, to accommodate excavation and treatment equipment. Additional haul roads will be required to transport material from the excavation to the pretreatment staging area and from the post-treatment staging to the excavation.

Access roads and other parking areas will be designed and maintained to be fully usable in all weather conditions.

12.3.5 Vegetation and Surface Debris Management

Vegetation and surface debris located within the Spill Area will be cleared prior to excavation and placed in an area designated by the Contracting Officer. Tree roots are considered contaminated and will not be removed during clearing within the Spill Area. Spill Area surface vegetation and debris are considered non-hazardous. Cleared material will be sorted. Soil and small-sized construction debris (less than 1 foot dimension) will be left on-site in an area designated by the Contracting Officer. This material will be used during site grading. Large debris and vegetation will be disposed off-site. Salvageable debris will be decontaminated and hauled to an approved recycling/salvage facility (see Building Decontamination DA). Non-salvageable debris will be transported by a licensed solid waste hauler to a licensed solid waste disposal facility.

The Contractor will be required to obtain letters of commitment from licensed haulers and facilities for approval of the Contracting Officer. The Contractor will also be required to submit a Debris Removal, Decontamination and Disposal Plan. The Contractor will be responsible for maintaining the material shipment records/manifests.

12.3.6 Excavation

The existing topography of the excavation area is not well-defined. Therefore, the existing topography will be surveyed after surface clearing to establish base (reference) grades which will be used for verification survey measurement purposes. The survey points will be

based on the specified verification survey/sample grid described in Section 12.3.8 and will be referenced to the site project grid (see Section 12.3.1).

The excavation boundaries as shown on the Construction Drawings will be surveyed and staked prior to excavation. Horizontal and vertical excavation control points will be staked. Elevation checks and cross-sections surveys will be used to control the excavation work.

Excavation will be performed to the elevations and dimensions necessary to meet the excavation criteria outlined in Section 12.2.4.1. The method of excavation will be consistent with soil types encountered. The excavation will be kept dry (stormwater will be controlled to prevent standing water) and in a stable condition at all times during the excavation.

A safety fence will be maintained around the perimeter of the excavation until backfill is complete.

The Contractor is required to submit excavation protocol in an Excavation/Backfilling Plan.

12.3.7 Pre-Treatment Stockpiling/Staging

The Pre-Treatment Stockpiling/Staging Area will be a lined, curbed concrete pad with a lined sump. It will be sized to accommodate oversized debris and a minimum of 3 days of LTEV treatment capacity.

Contaminated soil stockpiles will be covered at all times while in the staging area to minimize contaminant migration by precipitation infiltration and wind erosion until soil is treated in the LTEV system. The cover will be anchored and placed in such a manner to allow rainfall runoff. The Contractor will be required to include pre-treatment stockpiling/staging protocol in a LTEV System Operations Plan.

Any liquids collected in the sump will be considered hazardous and will be disposed of in an off-site approved, licensed, permitted facility. The liquids will be sampled and analyzed according to the disposal facility requirements. The Contractor will be required to submit a Spill and Discharge Plan that will include contingency measures for potential spills and discharges resulting from the handling of contaminated liquids.

12.3.8 Verification Surveying/Sampling and Testing

The excavation bottom will be sampled and tested to confirm that excavation target levels are met. Verification surveying/sampling and testing is discussed below for the Target Cleanup Concentration Area ("Hot Spot") and the Target Cleanup Depth Area. The Contractor will be required to submit a Verification Sampling Plan outlining an approach

to verification surveying/sampling and testing. A recommended approach is outlined below. The approach is based on engineering judgement.

Recommended Verification Survey/Sampling Procedure:

Target Cleanup Concentration Area ("Hot Spot"):

1. Confirm Minimum Excavation Depth. The minimum excavation depth of eight (8) feet will be confirmed prior to confirmation of the target cleanup concentration within the "hot spot" excavation. To confirm the minimum excavation depth:

   - one (1) depth measurement will be taken at the center of five evenly divided sections along the length of the excavation bottom. The sections will be approximately 19 feet by 20 feet given the excavation bottom dimension of 95 feet by 20 feet (see Appendix 12E).

   - one (1) depth measurement will be taken at each of the four (4) corners and at the center at both long edges of the excavation bottom.

   A minimum of 11 measurements will be taken (see Appendix 12E).

2. Confirm Target Cleanup Concentration. To confirm the target cleanup concentration within the "hot spot" excavation, a minimum of one (1) sample will be collected for laboratory analysis from 10 evenly divided sections along the length of the excavation bottom. The sections will be approximately 9.5 feet by 20 feet given the excavation bottom dimension of 95 feet by 20 feet. Each sample will be selected based on photoionization detector (PID) or flame ionization detector (FID) screening of backhoe bucket volumes removed from the center of each third (of width) of the divided sections. Screening will consist of:

   - placing a sample of the soil in a clean container leaving 25 percent of container empty at the top.

   - placing aluminum foil over sample container and allowing a minimum of 5 minutes for vapor in container to reach equilibrium.

   - measuring volatile organic vapors with FID/PID by penetrating aluminum foil cover and recording peak deflection on the FID/PID.

A sample will be retained from the bucket volume having the highest PID reading. If no readings are observed or all the PID/FID readings are the same, a sample will be collected from the middle third bucket volume. This procedure will be repeated at 6-inch depth intervals for those sections that do not meet the target cleanup concentration until the target cleanup concentration is met. A minimum of 10 samples (see Appendix 12E) will be collected and analyzed to verify that excavation criteria are met.

Target Cleanup Depth Area:

To confirm that the target depth is met, depth measurements will be taken on a 25-foot grid. A minimum of 50 measurements will be taken (see Appendix 12E).

The Contractor will be responsible for establishing the measurement/sample grids, taking the depth measurements, and sampling and testing. Sampling and testing will be performed according to the Contractor's aproved Chemical Data Acquisition Plan (CDAP). Some of the samples will be split for comparison analysis. The Contractor will be required to submit verification sampling procedures in a Verification Sampling Plan.

12.3.9 Backfilling

The Spill Area excavation will be backfilled following verification of cleanup target levels. Excavations will be backfilled with treated soil. It is anticipated, because the soil is predominantly sand, that LTEV treatment will not significantly effect the physical (geotechnical) character or volume of the soil. However, it is anticipated that some volume reduction will occur during treatment and additional material will be needed to meet the specified base grades for the groundwater treatment building (see Civil DA); therefore, some off-site borrow will be required for backfill.

The material will be required to meet the specified backfill criteria as outlined in the Structural DA and to the elevations specified in Drawing 02-CF-1.

The Contractor will be required to collect samples for geotechnical analysis from the treated soil stockpiles to verify that the soil meets the backfill criteria. Samples will be collected at a frequency of one sample per 500 cubic yards of stockpiled soil. Samples will be tested for grain size and compaction in accordance with specified ASTM procedures.

Treated soil from the Treated Soil Stockpile Area may be backfilled into the Spill Area excavation prior to the completion of excavation (following verification surveying/sampling). Excavation/backfill sequencing will be performed according to the Contractor's approved Excavation/Backfilling Plan. The plan will have provisions for the following:

- Minimum separation distance between contaminated soil and treated soil while in the excavation.

- Physical barriers that prevent cross-contamination via stormwater and/or wind.

12.3.10 Stormwater Runon/Runoff Management

Excavations will be kept dry at all times during soil remediation. All water standing in excavation will be promptly collected and disposed of off-site at an approved, licensed, permitted facility. The water will be sampled and analyzed according to the disposal facility requirements.

Grading and/or temporary berm/ditch construction will be performed as necessary during excavation to prevent stormwater runon/runoff. A plastic cover may also be utilized. The Contractor will be required to include procedures for stormwater runon/runoff management in an Excavation/Backfilling Plan.

The Contractor will be required to submit a Spill and Discharge Plan. The plan will include contingency measures for potential spills and discharges resulting from the handling of dewatering water.

12.3.11 Dust and Volatile Emissions Monitoring

Air dispersion modeling will be used to estimate the maximum ambient air concentrations resulting from stack and/or vent emissions and excavation activities to evaluate site action levels and to determine criteria for dust and vapor monitoring and control. The Contractor will be required to submit a Dust and Volatile Emissions Monitoring and Control Plan and conduct the air dispersion modeling. The plan will detail the collection of background data, modeling protocol, site action level evaluation, model implementation, model results summary and evaluation, and ambient air monitoring requirements.

The LTEV system will be monitored by a CEM system installed and operated in the stack. CEM protocol will be established based on applicable regulatory requirements, air modeling results, and results of LTEV system performance testing.

Dust and volatile emissions during material handling will be monitored using protocol established based on the air modeling results and the Contractor's Health and Safety Plan.

12.3.12 Dust and Volatile Emissions Control During Material Handling

The LTEV system feed and material handling systems will control fugitive emissions such that there are no visible dust or fugitive emissions.

Dust control will be used during surface debris clearing; contaminated soil excavation, handling, transport and staging; treated soil staging, handling, transport and backfilling; and final grading and site restoration. Dust control methods that may be used will include water sprays, dust suppressing chemicals and coarse aggregate. Volatile emissions control will be used during contaminated soil excavation, handling and staging. Methods that will be used for VOC control may include the minimization of open cut area and temporary cover with soil or vapor suppressing foam.

12.3.13 Pre-Treatment Processing

Excavated soils will be pretreated as necessary to facilitate treatment in the LTEV system. Screening equipment will be used to remove material which exceeds the size capacity of the system. Soil removed from the Target Cleanup Concentration Area will be blended with soil removed from the Target Cleanup Depth Area to provide a uniform feed concentration to the LTEVs (refer to Section 12.1.4).

12.3.14 Oversized Material Management

Excavated materials too large to be processed by the LTEV system (removed during pretreatment processing) will be staged in the Pretreatment Stockpiling/Staging Area. This material will be disposed off-site at an approved, licensed, permitted facility.

The Contractor will be required to obtain letters of commitment from licensed haulers and facilities for approval of the Contracting Officer. The Contractor will be responsible for maintaining the material shipment records/manifests.

As stated in Section 12.1.3, Waste Characterization, RI and PI field data do not indicate that subsurface oversized material will be encountered during excavation; however, the Contractor will be required to make provisions for managing this material.

12.3.15 LTEV System Performance Testing

Prior to the start of remediation work, the Contractor will be required to perform a performance test using soils excavated from an area designated on the Contract Drawings. LTEV system performance testing will take place after mobilization and startup is complete. Soil from the hot spot and soil having the least favorable process characteristics will be selected for the test. Pre-test samples will be collected and analyzed to verify "hot spot" concentrations, the number of samples will depend on the Contractor's testing protocol.

The performance test will be used to evaluate the LTEV system ability to meet the soil treatment criteria and the emissions requirements and establish range of operating conditions. At a minimum, these performance criteria will be demonstrated during the test:

- Treated soil residual PCE level less than 200 ug/kg.
- Minimum of two days of continuous treatment
- Air emissions below required limits
- Treated soil fulfills specified backfill criteria

The Contractor will be required to submit a Performance Testing Plan which outlines the number of pre-test samples and system operating parameters and conditions, and emissions sampling protocol that will be used during the test.

The results of performance test will be approved by the Contracting Officer before standard operating procedures are permitted.

If the results indicate the treatment or emissions criteria were not met consistently under steady-state conditions, the Contractor will submit revised operating protocols within three (3) days which demonstrate how the deficiencies will be corrected. This process will be repeated until the Contractor has demonstrated the ability to consistently meet the performance criteria. If the Contractor fails 3 performance tests, the Contractor will be declared in default of contract.

12.3.16 LTEV Treatment

Operating conditions used during the successful performance test will be the basis for establishing the acceptable range of operating requirements for the LTEV during standard operations. The Contractor will be required to submit a LTEV System Operations Plan that details the methods used to successfully operate the LTEV system.

The LTEV system will be operated with a system which can be used to automatically cut off waste feed when operating conditions deviate from limits established in the performance testing. The emergency waste feed cutoff system and associated alarms will be tested at least weekly to verify operability.

The LTEV system will be visually inspected at least daily for leaks, spills, fugitive emissions, and signs of tampering.

12.3.17 Post-Treatment Staging

Treated soil will be stored in the post-treatment staging area until analytical results indicate the soil meets the treatment criteria.

Treated soil discharge storage bins (rolloff boxes) will be covered at all times while in the staging area to minimize potential contaminant migration by precipitation infiltration and wind erosion until treated soil analytical results confirm treatment criteria have been met. The cover will be placed in such a manner to allow rainfall runoff.

Batches of treated soil will be segregated pending results of post-treatment analytical results.

12.3.18 Post-Treatment Sampling and Testing

One discrete, random sample will be collected every 24 hours from LTEV discharge storage bins. Samples will be tested for VOCs according to the methods outlined in the Contractor's approved Chemical Data Acquisition Plan (refer to the Chemical Data Quality Management DA).

The Contractor will retreat and re-analyze soils which do not meet the treatment criteria. Soil requiring retreatment will be segregated from treated soil. The quantity requiring retreatment will be reported and subtracted from the daily production rate when calculating treatment costs for the day.

12.3.19 Post-Treatment Stockpiling

Following verification of treatment criteria, treated soil will be transferred from the Post-Treatment Staging Area to the Post-Treatment Stockpile Area. Treated soil will remain in this area until it is backfilled into the Spill Area excavation. Treated soil stockpiles will be covered at all times while in the stockpile area to minimize surface water and precipitation infiltration and wind erosion.

12.3.20 LTEV Emissions Control

LTEV system emissions controls are detailed in Section 12.2.5.2, System Criteria.

12.3.21 LTEV Residuals Management

LTEV treatment residuals will be disposed of off-site in an approved, licensed, permitted facility. Treatment residuals from the LTEV include, but are not limited to:

- Condensed liquids.
- Process water from scrubber blowdown, filter presses, condensed evaporate.
- Sludge, including that from storage tanks, wastewater processes, condensate traps and reactors.
- Drums, containers, and any other waste material used in the operation of the LTEV system.
- Baghouse dust.
- Spent carbon filters or other filter material.

The Contractor will be responsible for removal, transportation, and off-site disposal of all LTEV treatment residuals system by-products including all waste liquids, solids, and materials generated by or associated with the system.

The Contractor will be required to obtain letters of commitment from licensed haulers and facilities for approval of the Contracting Officer. The Contractor will be required to submit a Residuals Management Plan. The Contractor will be responsible for maintaining the material shipment records/manifests.

The Contractor will be required to submit a Spill and Discharge Control Plan which will include contingency measures for potential spills and discharges resulting from the handling of treatment residuals.

12.3.22 Data Management

The Contractor will be responsible for all data recording, analysis and report generation associated with the Soil Remediation. The data recorded include all CEM parameters and manually recorded data and any laboratory sampling and analysis. Weekly Work Activity Summary Reports will be completed by the Contractor. Also, the Contractor is required to make field changes to the Drawings.

Weekly Work Activity Summary Reports will include, but will not be limited to, the following information:

- Field test records.
- Photographs.
- Reports of emergency response actions.
- Manifest documents and variance reports.
- Quantities of excavated soil.
- Quantities of treated soil.
- Quantities of treatment residuals.
- Chain-of-custody documents.
- Laboratory analytical results.
- Meteorological data.

- Daily inspection reports.
- Safety and accident incident reports.
- Spill incident reports.
- Air monitoring data.
- Daily construction quality reports.

Drawings to be included in each Weekly Work Activity Summary Report will include, but will not be limited to, the following:

- Field changes of dimension and detail.
- Details not on original drawings.

12.3.23 Demobilization

Demobilization will begin after all contaminated soil has been treated and backfilled to the required treatment and backfill criteria. Demobilization will include, at a minimum, disconnection of utilities and decontamination, disassembly, and removal of all equipment, materials handling equipment, structures, and concrete pads related to Soil Remediation. The demobilization will be considered complete when the Contractor and all Soil Remediation equipment leaves the site.

Decontaminated equipment and material will be recorded and logged by the Contractor's Health and Safety Officer prior to removal from the site.

The Contractor will a detail demobilization in the LTEV System Operations Plan. This plan will contain procedures for dismantling, decontaminating and removing equipment structures, temporary facilities and buildings and designated roads, cleaning of the site, inspection and administrative provisions. The plan will include provisions for off-site disposal of decontamination water, personal protective equipment, and excess construction materials.The plan will also contain a schedule which details the sequence of the demobilization.

Final grading will be completed in accordance with the Contract Drawings. No areas will be revegetated.

12.4 CALCULATIONS

This section describes the calculations performed for the Soil Remediation component of the RA. The calculations include excavation extent and volume and LTEV facilities area requirements.

12.4.1 Excavation Extent and Volume

The extent of Spill Area contamination is based on data collected during the RI and Predesign Investigation. The surface area is approximately 31,000 square feet (see Drawing 03-CR-1).

Based on the excavation criteria detailed in Section 12.2.3, the in-situ volume of Spill Area contaminated soil is approximately 3900 cubic yards. A vertical slope was assumed for the Target Cleanup Depth Area and a 1:1 slope (maximum allowable slope for excavations less than 20 feet deep according to 29 CFR Part 1926) was assumed for the Target Cleanup Concentration Area.

Detailed calculations and assumptions are provided in Appendix 12C.

12.4.2 Soil Remediation Facilities Layout

A suggested layout of Soil Remediation facilities is provided in Drawing 03-CR-2. This layout is based on the available knowledge of the site area and vendor information regarding system sizing and process rates. Layout limitations at the site are due to constraints imposed by existing site buildings, site topography, and property boundaries. Based on this data, the following areas are suggested for Soil Remediation facilities.

LTEV Treatment Area (including pre-treatment processing):	25,000 sf
Pre-Treatment Stockpile/Staging Area:	4,400 sf
Post-Treatment Staging Area:	6,800 sf
Post-Treatment Stockpile Area:	8,600 sf

Based on vendor information, these areas should be of sufficient size to accommodate available LTEV systems and the required pre- and post-treatment staging volumes.

The Contractor may modify the relative sizes of the Soil Remediation facilities, with the approval of the Contracting Officer, to meet the specific needs of the Contractor's equipment.

Detailed calculations and assumptions are provided in Appendix 12D.

12.5 COORDINATION

The coordination of Soil Remediation elements are described below. This section details agency coordination, regulations and permits, excavation/treatment/off-site disposal coordination, utilities, environmental protection, site security and signage, and trash disposal and sanitary discharge.

12.5.1 Agencies

Representatives of the NYSDEC and the U.S. EPA will have access to the work, whether in preparation or in progress. The Contractor will be required to provide the necessary facilities for access and inspection.

It is anticipated that State involvement with the soil remediation would include the regulation of the substantive requirements of the NYSDEC Division of Hazardous Substances Regulation Division of Water and Division of Air, as required. The State will also be involved in community relations during RD and RA activities.

12.5.2 Regulations and Permits

Permitting, inspections, test periods and other preliminary activities will be coordinated such that these efforts are completed prior to the commencement of scheduled Soil Remediation activities.

Regulations pertinent to the Soil Remediation were developed during the RI/FS phase and published in the ROD. A refined listing of these regulations, which includes local regulations and ordinances, has been developed as part of this submittal and is presented in Chapter 15. The list contains substantive requirements associated with Federal and State regulations, applicable guidance, and local requirements and states how the design will address requirements.

CERCLA and the NCP provide that on-site actions are exempt from administrative procurement of Federal, State, and local permits. However, compliance with substantive requirements is mandated. Permits or waivers are required for off-site actions.

The following is a summary of the pertinent, but noninclusive, regulations for on-site and off-site actions:

On-Site Actions:

- Soil excavation, stockpiling, preprocessing post-treatment handling and backfilling must comply with Federal, State, and local stormwater discharge, soil erosion and particulate/vapor emissions control and monitoring regulations. Also, if it is determined that the soil is a hazardous waste under RCRA, these actions must also comply with RCRA and NYSDEC regulations for owners/operators of permitted hazardous waste facilities, identification and listing of hazardous wastes and use and management of hazardous waste containers.

- LTEV treatment of contaminated soil must comply with Federal, State, and local air quality regulations. If soil is determined hazardous under RCRA, this action must also comply with RCRA and NYSDEC regulations for owners/operators of permitted hazardous waste facilities and preparedness and prevention.

Off-Site Actions:

- If treatment residuals are determined to be hazardous under RCRA, off-site disposal must comply with RCRA and New York State standards for generators and transporters of hazardous waste and disposal treatment facility permitting requirements.

Chapter 15 provides a detailed list of permits for off-site actions and substantive permit requirements for on-site actions for Soil Remediation. These permits are summarized below:

On-Site permit requirements that must be substantively met:

- State Pollution Discharge Elimination System (SPDES)
- Process, Exhaust or Ventilation System Permit (6 NYCRR 212)
- Town of Oyster Bay Building Permit (Excavation Affidavit)

Off-Site Permits:

- NYSDEC Waste Transport Permit must be obtained by the haulers transporting residuals/oversized material off-site.
- The TSDF receiving residuals/oversized material must have a NYSDEC TSDF Permit.

Fire protection and prevention requirements specified in the Health and Safety Plan as well as those which may be established by federal, state or local agencies will be followed during Soil Remediation.

12.5.3 Excavation/Treatment/Off-Site Disposal Coordination

Excavation, LTEV treatment and off-site disposal activities will be coordinated during the Soil Remediation to maintain the required LTEV treatment process rate, minimize material stockpiling and storage, and maintain the soil remediation schedule.

The Contractor will be responsible for maintaining soil remediation activity coordination and detail procedures to ensure coordination in the Excavation/Backfilling Plan.

The Contractor will be responsible for attaining project schedules even in the event of rain, lightning or other inclement weather events.

12.5.4 Utilities

Electric, water, and sewer utilities are available at the CPC site. However, electric and water services were disconnected after CPC operations ceased. The sanitary sewer remains connected.

No existing agreements for primary service are in place with the Plainfield Water District, Nassau County Public Works, Long Island Light, or New York New England Telephone Company.

The Contractor will be responsible for determining utility requirements and establishing service with the local utilities as necessary.

12.5.5 Environmental Protection

Soil Remediation activities will be performed in such a manner that disturbance to the surrounding area is minimized. Dust, noise, traffic, odor, erosion and sediment controls will be implemented to minimize environmental impacts.

Dust, noise, traffic, odor, erosion and sedimentation will be monitored and controlled in accordance with local and State regulations and ordinances. The Contractor will be responsible for determining and meeting these requirements.

12.5.6 Site Security and Signage

Security will be maintained by the Contractor during all Soil Remediation activities. Site access will be only through the main gate and the existing perimeter fence will be repaired or maintained as necessary. A 24-hour per day, 7 day a week security guard will monitor the front gate and support area. The security guard will control access, maintain a visitor log, an entry log, and provide periodic inspection of perimeter fencing.

A temporary project identification and information sign will be installed at the entrance to the site. "DO NOT ENTER" signs will be posted about every 500 feet along the perimeter fence.

12.5.7 Trash Disposal and Sanitary Discharge

Rubbish, debris and non-hazardous waste generated during on-site activities will be frequently disposed of off-site.

Temporary sanitary facilities will be provided at time of soil remediation mobilization. Sanitary waste will be collected and removed from the site on a regular schedule and disposed of properly.

The Contractor will be responsible for arranging trash disposal and sanitary services.

12.6 REFERENCES

Nielson, R.K., and Cosmos, M.G. (Weston Services, Inc.) (1988), Low Temperature Thermal Treatment (LT^3) of Volatile Organic Compounds from Soil: A Technology Demonstrated, presented at the 1988 Summer National Meeting of the American Institute of Chemical Engineers, Denver, Colorado.

Canonie Environmental Services Corporation, telephone conversations with Smith, S., May 13, and Trevedi, C., October 7, 1992.

Chemical Waste Management, Inc., telephone conversation with Swanstrom, C., May 1 and October 7, 1992.

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de Percin, P.R. (1991), Thermal Desorption Attainable Remediation Level, Superfund Technology Demonstration Division, Risk Reduction Engineering Laboratory, U.S. Environmental Protection Agency, Cincinnati, Ohio.

Ebasco Services, Inc. (July 1990), Draft Final Remedial Investigation Report.

Means Heavy Construction Cost Data, 1992.

Merritt, F.S. (1983), Standard Handbook for Civil Engineers, Third Edition.

USEPA (1991a), "The Superfund Innovative Technology Evaluation Program: Technology Profile Fourth Edition," EPA/540/5-91/008, OSWER.

USEPA (1991b), Innovative Treatment Technologies - Overview and Guide Information Sources, EPA/540/9-91/002, October 1991.

APPENDIX A

Ebasco Services, Inc. Log of Boring

Boring Number: SB-14
Location: E of process building; spill area
Project: CLAREMONT POLYCHEMICAL
Project Number: EPA 4236.373
Date Started: 3/14/89 Date Completed: 3/15/89
Field Geologist: Burns
Elevation: 135.8' GW Depth: 70.0'
Sampling Method: 2"O.D. SPLIT SPOON
Driller: WARREN GEORGE, INC.
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6"	Recover %	Profile	USCS Class	Material Description	Collection Time Date	Comments
	0							
CPS-SB 14-01	1	1 1	37.5		SM	Brown m-f SAND, some silt, trace fine gravel	1048 3/14/89	
	2	2						
CPS-SB 14-02	3	3 5	71			Yelbr m-f SAND, some silt, little m-f gravel	1055 3/14/89	
	4	4 5						
CPS-SB 14-03	5	4 4	75			Yelbr m-f SAND, some silt; moist	1103 3/14/89	
	6	5 5						
CPS-SB 14-04	7	6 11	71		SM/SC	Interlayered yelbr c-f SAND, some silt, little m-f angular gravel with a 3" layer of yelbr silt & clay	1112 3/14/89	
	8	21 21						
CPS-SB 14-05	9	20 21	75		SW	Yelbr c-f SAND, some m-f gravel, little silt	1120 3/14/89	
	10	22 17						
CPS-SB 14-06	11	12 20	83		SM ML	Top 10": yelbr m-f SAND, some silt, little m-f angular gravel; Bottom 10": yelbr SILT, little m-f gravel	1150 3/14/89	
	12	16 17						
CPS-SB 14-07	13	18 16	87.5			Interlayered yelbr & tan m-f SAND, some silt	1200 3/14/89	
	14	18 23						
CPS-SB 14-08	15	15 22	75		SM	Yelbr m-f SAND, some silt, little fine gravel	1208 3/14/89	
	16	19 23						
CPS-SB 14-09	17	15 19	100			Interlayered yelbr, gr & blk c-f SAND, some silt	1255 3/14/89	
	18	26 57						
CPS-SB 14-10	19	19 24	100		SM/SC	Interlayered yelbr, gr, or & blk m-f SAND, some silt with laminae of blk clay and silt	1306 3/14/89	
	20	36 34						
CPS-SB 14-11	21	15 20	100		SM	Interlayered yelbr, gr, tan & blk m-f SAND, some silt	1315 3/14/89	
	22	30 31						
CPS-SB 14-12	23	24 36	96			Interlayered yelbr, tan & gr m-f SAND, some silt with laminae of blk clay and silt	1330 3/14/89	
	24	86 96			SM/SC			
CPS-SB 14-13	25	18 35	87.5			Interlayered yelbr, gr & blk m-f SAND, some silt with laminae of yelbr clay & silt, some fine sand	1420 3/14/89	
	26	39 32						
CPS-SB 14-14	27	9 42	92		SM	Interlayered yelbr, gr & blk m-f SAND, some silt	1433 3/14/89	
	28	95 100/5"						

Notes: ----------

Ebasco Services, Inc. Log of Boring

Boring Number: SB-14
Location: E of process building; spill area
Project: CLAREMONT POLYCHEMICAL
Project Number: EPA 4236.373
Date Started: 3/14/89 Date Completed: 3/15/89
Field Geologist: Burns
Elevation: 135.8' GW Depth: 70.0'
Sampling Method: 2"O.D. SPLIT SPOON
Driller: WARREN GEORGE, INC.
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6"	Recover %	Profile	USCS Class	Material Description	Collection Time Date	Comments
	28							
CPS-SB 14-15	29	18 27 40	96			Yelbr c-f SAND, some silt	1450 3/14/89	
	30	55						
CPS-SB 14-16	31	27 27 30	83		SM	Yelbr m-f SAND, some silt	1500 3/14/89	
	32	27						
CPS-SB 14-17	33	23 18 26	100			Top 18": yelbr m-f SAND, some silt; Bottom 6": gr CLAY and SILT	1510 3/14/89	
	34	25			CL			
CPS-SB 14-18	35	1 7 13	100			Interlayered yelbr,br,gr & tan m-f SAND, some silt with laminae of silt and clay	1523 3/14/89	
	36	12			SM/SC			
CPS-SB 14-19	37	11 24 36	71			Interlayered yelbr,br & gr m-f SAND, little silt with laminae of silt and clay	1530 3/14/89	
	38	34						
CPS-SB 14-20	39	17 16 25	100		SM	Interlayered yelbr & gr m-f SAND, some silt	1542 3/14/89	
	40	22						
CPS-SB 14-21	41	10 23 28	62.5			Interlayered yelbr m-f SAND, some silt with laminae of gr silt and clay	1615 3/14/89	
	42	26			SM/SC			
CPS-SB 14-22	43	19 40 56	96			Interlayered yelbr m-f SAND, some silt with laminae of Ltgr clay and silt	1625 3/14/89	
	44	47						
CPS-SB 14-23	45	15 17 19	100			Interlayered gr & yelbr m-f SAND and SILT	1635 3/14/89	
	46	20			ML			
CPS-SB 14-24	47	47 57 100/5	75			Interlayered yelbr, red & tan SILT, little m-f sand with nodules of silt and clay; indurated	0855 3/15/89	Split-spoon driven with a 300 lb. hammer.
	48	14						
CPS-SB 14-25	49	20 28 30	79		SM	Top 4": interlayered yelbr & gr m-f SAND, some silt; Bottom 15": dense gr clay and silt	0904 3/15/89	same as above
	50	31						
CPS-SB 14-26	51	9 18 26	73		CL	Gr CLAY and SILT	0915 3/15/89	same as above
	52	58						
CPS-SB 14-27	53	67 73 100	75			Top 8": ltgr CLAY & SILT; Bottom 10": interlayered yelbr & gr m-f SAND, some silt	1003 3/15/89	same as above
	54	100			SM			
CPS-SB 14-28	55	21 39 33	100		SM/SC	Interlayered yelbr,gr & tan m-f SAND, some silt with laminae of blk clay and silt	1020 3/15/89	same as above
	56	58						

Notes: HNu readings are at background unless otherwise noted.

Ebasco Services, Inc. Log of Boring

Boring Number: SB-15
Location: E of process building; spill area
Project: CLAREMONT POLYCHEMICAL
Project Number: EPA 4236.373
Date Started: 3/16/89 Date Completed: 3/16/89
Field Geologist: Burns
Elevation: 134.4' GW Depth: 80.0'
Sampling Method: 2"O.D. SPLIT SPOON
Driller: WARREN GEORGE, INC.
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6"	Recover %	Pro-file	USCS Class	Material Description	Collection Time Date	Comments
	0							
CPS-SB 15-01	1	3 4 9	100		SW	Top 12": br c-f SAND, little silt, little m-f gravel; Bottom 12": yelbr m-f SAND, some silt	1135 3/16/89	0.1 ppm borehole 0.1 ppm cuttings 0.1 ppm sp spoon
	2	11						
CPS-SB 15-02	3	9 10 10	71			Yelbr c-f SAND, some silt, little f angular gravel	1145 3/16/89	4.6 ppm borehole 4.6 ppm cuttings 0.1 ppm sp spoon
	4	9						
CPS-SB 15-03	5	5 6	50		SM	Same As Above	1148 3/16/89	0.4 ppm borehole 4.6 ppm cuttings
	6	6 7						
CPS-SB 15-04	7	5 6	75			Yel br c-f SAND, some silt, trace f gravel	1153 3/16/89	0.6 ppm borehole 0.1 ppm cuttings 0.4 ppm sp spoon
	8	7 12						
CPS-SB 15-05	9	5 4	71		ML	Top 7": br SILT, some f sand; Bottom 10": br SILT,some clay, little f sand, trace f gravel	1200 3/16/89	0.6 ppm borehole 0.6 ppm cuttings 0.4 ppm sp spoon
	10	6 21						
	11							
	12							
	13							
	14							
	15							
CPS-SB 15-06	16	13 12	100		ML	Top 6": br SILT, some m-f sand; moist; Bottom 18": intermixed br &	1210 3/16/89	0.2 ppm borehole 0.1 ppm cuttings
	17	17 17			SM	gr m-f SAND,some silt,little gravel		0.1 ppm sp spoon
	18							
	19							
	20							
CPS-SB 15-07	21	14 28	100		SM/SC	Interlayered yelbr,tan & gr m-f SAND some silt with laminae of blk & yelbr silt and clay	1217 3/16/89	0.2 ppm borehole 0.1 ppm cuttings 0.1 ppm sp spoon
	22	27 32						
	23							
	24							
	25							
	26							
	27							
	28							

Notes: HNu readings are at background unless otherwise noted.

Ebasco Services, Inc. Log of Boring

Boring Number: SB-15
Location: E of process building; spill area
Project: CLAREMONT POLYCHEMICAL
Project Number: EPA 4236.373
Date Started: 3/16/89 Date Completed: 3/16/89
Field Geologist: Burns
Elevation: 134.4' GW Depth: 80.0'
Sampling Method: 2"O.D. SPLIT SPOON
Driller: WARREN GEORGE, INC.
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6"	Recover %	Pro-file	USCS Class	Material Description	Collection Time Date	Comments
	28							
	29							
	30							
CPS-SB 15-08	31	12 14 64	100		SM/SC	Interlayered gr,tan & yelbr m-f SAND, some silt with laminae of yelbr & blk silt & clay	1320 3/16/89	0.2 ppm borehole 0.2 ppm cuttings 0.4 ppm sp spoon
	32	68						
	33							
	34							
	35							
	36							
	37							
	38							
	39							
	40							
CPS-SB 15-09	41	13 12 13	100		SP ML	Top 13": yelbr m-f SAND,little silt; middle 5": br SILT, some m-f sand;	1330 3/16/89	0.1 ppm borehole 0.1 ppm cuttings 0.1 ppm sp spoon
	42	22			CL	Bottom 6": gr SILT & CLAY		
	43							
	44							
	45							
	46							
	47							
	48							
	49							
	50							
CPS-SB 15-10	51	10 16 17	100		SM	Interlayered gr,br & yelbr m-f SAND, some silt	1340 3/16/89	0.2 ppm borehole
	52	18						
	53							
	54							
	55							
	56							

Notes: HNu readings are at background unless otherwise noted.

Ebasco Services, Inc. Log of Boring

Boring Number: SB-15
Location: E of process building; spill area
Project: CLAREMONT POLYCHEMICAL
Project Number: EPA 4236.373
Date Started: 3/16/89 Date Completed: 3/16/89
Field Geologist: Burns
Elevation: 134.4' GW Depth: 80.0'
Sampling Method: 2"O.D. SPLIT SPOON
Driller: WARREN GEORGE, INC.
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6"	Recover %	Pro-file	USCS Class	Material Description	Collection Time Date	Comments
	56							
	57							
	58							
	59							
	60							
CPS-SB 15-11	61	27 23 25 40	100		SM ML	Interlayered yelbr,tan & gr m-f SAND, some silt; Bottom 2": gray SILT, some m-f sand	1355 3/16/89	1.2 ppm borehole
	62							
	63							
	64							
	65							
	66							
	67							
	68							
	69							
	70							
CPS-SB 15-12	71	31 32 34 37	79		SM/SC	Interlayered yelbr,gr & tan m-f SAND, some silt with laminae of gr clay and silt	1412 3/16/89	84.6 ppm borehole 0.2 ppm cuttings 1.0 ppm sp spoon
	72							
	73							
	74							
	75							
	76							
	77							
	78							
	79							
	80							
CPS-SB 15-13	81	34 43 48 36	96		SP	Interlayered yelbr & tan m-f SAND, little silt; saturated	1435 3/16/89	0.1 ppm borehole 0.1 ppm cuttings 1.0 ppm sp spoon
	82							
	83					Total Depth = 82 Feet		
	84							

Notes: HNu readings are at background unless otherwise noted.

Ebasco Services, Inc. Log of Boring

Boring Number: SB-16
Location: E of process building; spill area
Project: CLAREMONT POLYCHEMICAL
Project Number: EPA 4236.373
Date Started: 3/20/89 Date Completed: 3/20/89
Field Geologist: Burns
Elevation: 133.0' GW Depth: 75.0'
Sampling Method: 2"O.D. SPLIT SPOON
Driller: WARREN GEORGE, INC.
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6"	Recover %	Profile	USCS Class	Material Description	Collection Time Date	Comments
	0							
CPS-SB 16-01	1	5 10 13	54		SW	Top 5": br c-f SAND, some m-f gravel,little silt; Bottom 8": yelbr m-f SAND, some silt	0830 3/20/89	10+ ppm borehole 0.1 ppm cuttings 0.4 ppm sp spoon
	2	11						
CPS-SB 16-02	3	6 10 10	92		SM	Yelbr m-f SAND, some silt, trace fine gravel; moist	0840 3/20/89	0.2 ppm borehole 0.1 ppm cuttings 0.1 ppm sp spoon
	4	11						
CPS-SB 16-03	5	5 5 5	75		SW	Yelbr c-f SAND, little silt, little m-f gravel	0845 3/20/89	0.6 ppm borehole 0.1 ppm cuttings 0.1 ppm sp spoon
	6	6						
CPS-SB 16-04	7	6 6 9	75			Yelbr m-f SAND, some silt, trace fine gravel	0850 3/20/89	0.6 ppm borehole 0.2 ppm cuttings 0.4 ppm sp spoon
	8	10			SM			
CPS-SB 16-05	9	7 7 8	75			Top 14": yelbr m-f SAND, some silt; moist; Bottom 4": yelbr SILT, some clay, little m-f sand; moist	0855 3/20/89	0.2 ppm borehole 0.2 ppm cuttings 0.2 ppm sp spoon
	10	9			CL			
	11							
	12							
	13							
	14							
	15							
CPS-SB 16-06	16	10 13 19	71		CL	Top 10": interlayered gr & br SILT, some clay,little f. sand; Bottom 7": yelbr c-f SAND, some silt	0904 3/20/89	0.2 ppm borehole 0.2 ppm cuttings 0.2 ppm sp spoon
	17	22			SM			
	18							
	19							
	20							
CPS-SB 16-07	21	18 36 38	75		SM	Yelbr m-f SAND, some silt, little clay	0911 3/20/89	0.2 ppm borehole 0.2 ppm cuttings 0.4 ppm sp spoon
	22	31						
	23							
	24							
	25							
	26							
	27							
	28							

Notes: HNu readings are at background unless otherwise -noted.

Ebasco Services, Inc. Log of Boring

Boring Number: SB-16
Location: E of process building; spill area
Project: CLAREMONT POLYCHEMICAL
Project Number: EPA 4236.373
Date Started: 3/20/89 Date Completed: 3/20/89
Field Geologist: Burns
Elevation: 133.0' GW Depth: 75.0'
Sampling Method: 2"O.D. SPLIT SPOON
Driller: WARREN GEORGE, INC.
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6"	Recover %	Pro-file	USCS Class	Material Description	Collection Time Date	Comments
	56							
	57							
	58							
	59							
	60							
CPS-SB 16-11	61	41 100 100/2*	100		SM	Yelbr c-f SAND, some silt, little clay, little m-f sand; *sp spoon driven with a 300 lb hammer	1051 3/20/89	200 ppm borehole 10+ ppm cuttings 0.1 ppm sp spoon
	62							
	63							
	64							
	65							
	66							
	67							
	68							
	69							
	70							
CPS-SB 16-12	71	20 25 33	100		SM	Interlayered yelbr & gr c-f SAND, some silt; moist	1115 3/20/89	240 ppm borehole 0.1 ppm sp spoon
	72	31						
	73							
	74							
	75							
CPS-SB 16-13	76	41 43 39	100		SM	Convoluted laminae of gr,tan & yelbr m-f SAND, some silt; wet	1155 3/20/89	100+ ppm borehole 0.1 ppm cuttings 0.1 ppm sp spoon
	77	58						
	78							
	79					Total Depth= 77 Feet		
	80							
	81							
	82							
	83							
	84							

Notes: HNu readings are at background unless otherwise noted.

Sheet: 3 of 3

Ebasco Services, Inc. Log of Boring

Boring Number: S8-17

Location:

Project: CLAREMONT POLYCHEMICAL
Project Number: EPA 4236.373
Date Started: 3/21/89 Date Completed: 3/21/89
Field Geologist: Burns
Elevation: 133.0' GW Depth: 70-72'
Sampling Method: 2"O.D. SPLIT SPOON
Driller: WARREN GEORGE, INC.
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6"	Recover %	Profile	USCS Class	Material Description	Collection Time Date	Comments
	0							
CPS-S8		15			FILL	Top 1/2": dkbr m-f SAND,some silt;	0925 3/21/89	0.1 ppm borehole
17-01	1	9	75			middle 7" blk asphalt; Bot. 11 1/2":		
		8				yelbr c-f SAND,little silt & gravel		
	2	7						
CPS-S8		8			SW	Yelbr c-f SAND, little silt,	1003 3/21/89	
17-02	3	8	71			little m-f gravel		
		9						
	4	8						
CPS-S8		4				Yelbr m-f SAND, some silt,	1007 3/21/89	0.2 ppm borehole
17-03	5	6	75			trace fine gravel		0.1 ppm cuttings
		6			SM			
	6	7						
CPS-S8		6				Top 1":yelbr m-f SAND & SILT;mid.3":	1012 3/21/89	Sample is moist
17-04	7	6	79			yelbr SILT,little f sand;		
		10			ML	Bot. 15": yelbr m-f SAND & SILT		
	8	11			SM			
CPS-S8		4			ML	Top 8" br SILT, little f sand;	1022 3/21/89	Sample is moist
17-05	9	11	54					
		7			SW	Bottom 5":yelbr c-f SAND, some		
	10	17				m-f gravel, little silt		
	11							
	12							
	13							
	14							
	15							
CPS-S8		11				Yelbr m-f SAND, little silt with a	1030 3/21/89	
17-06	16	17	75		SP/CL	7" layer of interlayered gr & yelbr		
		20				SILT, some clay, little m-f sand		
	17	23						
	18							
	19							
	20							
CPS-S8		15				Interlayered yelbr & gr m-f	1037 3/21/89	0.3 ppm sp spoon
17-07	21	20	75		SM	SAND, some silt with laminae of		
		21				yelbr silt, some clay		
	22	28						
	23							
	24							
	25							
	26							
	27							
	28							

Notes: HNu readings are at background unless otherwise -noted.

Ebasco Services, Inc. Log of Boring

Boring Number: SB-17
Location: SE portion of site
Project: CLAREMONT POLYCHEMICAL
Project Number: EPA 4236.373
Date Started: 3/21/89 Date Completed: 3/21/89
Field Geologist: Burns
Elevation: 133.0' GW Depth: 70-72'
Sampling Method: 2"O.D. SPLIT SPOON
Driller: WARREN GEORGE, INC.
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6".	Recover %	Pro-file	USCS Class	Material Description	Collection Time Date	Comments
	28							
	29							
	30							
CPS-SB 17-08	31	11 12 24 39	92		SM	Interlayered gr,blk & yelbr m-f SAND,some silt with laminae of blk, or & yelbr SILT, some clay	1050 3/21/89	
	32							
	33							
	34							
	35							
	36							
	37							
	38							
	39							
	40							
CPS-SB 17-09	41	29 63 103 100/3	100		SM	Interlayered yelbr & gr m-f SAND, some silt	1110 3/21/89	
	42							
	43							
	44							
	45							
	46							
	47							
	48							
	49							
	50							
CPS-SB 17-10	51	26 54 100 100/4	75		SM	Interlayered tan,gr & yelbr m-f SAND, some silt	1125 3/21/89	
	52							
	53							
	54							
	55							
	56							

Notes: HNu readings are at background unless otherwise -noted

Ebasco Services, Inc. Log of Boring

Boring Number: SB-17
Location: SE portion of site
Project: CLAREMONT POLYCHEMICAL
Project Number: EPA 4236.373
Date Started: 3/21/89 Date Completed: 3/21/89
Field Geologist: Burns
Elevation: 133.0' GW Depth: 70-72'
Sampling Method: 2"O.D. SPLIT SPOON
Driller: WARREN GEORGE, INC.
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6"	Recover %	Profile	USCS Class	Material Description	Collection Time Date	Comments
	56							
	57							
	58							
	59							
	60							
CPS-SB 17-11	61	54 106 100/3	62.5		SM	Interlayered gr,tan & yelbr m-f SAND, some silt	1200 3/21/89	
	62							
	63							
	64							
	65							
	66							
	67							
	68							
	69							
	70							
CPS-SB 17-12	71	21 45 48	100		SM	Interlayered yelbr & gr m-f SAND, some silt; wet	1220 3/21/89	
	72	68						
	73							
	74							
	75							
CPS-SB 17-13	76	17 22 26	92		SM	Intermixed yelbr & gr m-f SAND, some silt; saturated	1320 3/21/89	0.1 ppm sp spoon
	77	30						
	78					Total Depth = 77 Feet		
	79							
	80							
	81							
	82							
	83							
	84							

Notes: HNu readings are at background unless otherwise noted

Sheet: 3 of 3

Ebasco Services, Inc. Log of Boring

Boring Number: S8-18
Location: North of spill area
Project: CLAREMONT POLYCHEMICAL
Project Number: EPA 4236.373
Date Started: 3/22/89 Date Completed: 3/22/89
Field Geologist: T.J. Wollen
Elevation: 133.3' GW Depth: 70-72'
Sampling Method: 2"O.D. SPLIT SPOON
Driller: WARREN GEORGE, INC.
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6"	Recover %	Pro-file	USCS Class	Material Description	Collection Time Date	Comments
	0							
CPS-SB 18-01	1	4 6 7	21		SP	8r m-f SAND, trace gravel	0855 3/22/89	
	2	10						
CPS-SB 18-02	3	8 15 9	25		SW	Lt.br-tan c-f SAND, little gravel	0902 3/22/89	
	4	10						
CPS-SB 18-03	5	10 10 12	62.5		SP	Lt.br-tan m-f SAND, trace gravel	0908 3/22/89	
	6	14						
CPS-SB 18-04	7	10 10 11	87.5		ML	Top 10": same as above;middle 7":v.f SAND,trace silt; moist to wet;	0915 3/22/89	
	8	12			SM	Bot.4": SILT, some sand; moist		
CPS-SB 18-05	9	13 19 23	33		SP	Lt.br c-m SAND and GRAVEL, trace silt	0925 3/22/89	
	10	19						
	11							
	12							
	13							
	14							
	15							
CPS-SB 18-06	16	10 16 20	92		SP	Laminated tan & br m-f SAND, some blk mica	0959 3/22/89	
	17	21						
	18							
	19							
	20							
CPS-SB 18-07	21	10 15 17	92		SP	Laminated offwh,tan & or m-f SAND trace silt; some blk mica	1010 3/22/89	
	22	23						
	23							
	24							
	25							
	26							
	27							
	28							

Notes: Hnu readings are at background unless otherwise noted.

Ebasco Services, Inc. Log of Boring

Boring Number: SB-18
Location: North of spill area
Project: CLAREMONT POLYCHEMICAL
Project Number: EPA 4236.373
Date Started: 3/22/89 Date Completed: 3/22/89
Field Geologist: T.J. Wollen
Elevation: 133.3' GW Depth: 70-72'
Sampling Method: 2"O.D. SPLIT SPOON
Driller: WARREN GEORGE, INC.
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6"	Recover %	Pro-file	USCS Class	Material Description	Collection Time Date	Comments
	28							
	29							
	30							
CPS-SB 18-08	31	23 41 56	96		SM	Laminated tan,or & offwh f SAND, some silt, little clay	1020 3/22/89	
	32	72						
	33							
	34							
	35							
	36							
	37							
	38							
	39							
	40							
CPS-SB 18-09	41	42 82 100/5	87.5		SP	Tan & offwh m-f SAND	1035 3/22/89	
	42							
	43							
	44							
	45							
	46							
	47							
	48							
	49							
	50							
CPS-SB 18-10	51	21 29 34	75		SP	Lt.tan m-f SAND	1040 3/22/89	
	52	32						
	53							
	54							
	55							
	56							

Notes: Hnu readings are at background unless otherwise noted.

Ebasco Services, Inc. Log of Boring

Boring Number: SB-18
Location: North of spill area
Project: CLAREMONT POLYCHEMICAL
Project Number: EPA 4236.373
Date Started: 3/22/89 Date Completed: 3/22/89
Field Geologist: T.J. Wollen
Elevation: 133.3' GW Depth: 70-72'
Sampling Method: 2"O.D. SPLIT SPOON
Driller: WARREN GEORGE, INC.
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6"	Recover %	Pro-file	USCS Class	Material Description	Collection Time Date	Comments
	56							
	57							
	58							
	59							
	60							
CPS-SB 18-11	61	32 85 100/6	75		SP SC SP	Top 10": br m-f SAND;middle 1":SAND, some clay, cohesive;bot. 7":tan & offwh m-f SAND, trace silt; moist	1120 3/22/89	
	62							
	63							
	64							
	65							
	66							
	67							
	68							
	69							
	70							
CPS-SB 18-12	71	29 63 100 100	100		SP	Top 10": br,tan & offwh m-f SAND;middle 3":lamin. blk micaeous SAND, some clay;bot. 10":br m-f SAND	1135 3/22/89	13-24" sand is wet and cohesive
	72							
	73							
	74					Total Depth = 72 Feet		
	75							
	76							
	77							
	78							
	79							
	80							
	81							
	82							
	83							
	84							

Notes: Hnu readings are at background unless otherwise noted.

Sheet: 3 of 3

Ebasco Services, Inc. Log of Boring

Boring Number: SB-19
Location: SE of spill area
Project: CLAREMONT POLYCHEMICAL
Project Number: EPA 4236.373
Date Started: 3/23/89 Date Completed: 3/24/89
Field Geologist: Van Pelt
Elevation: 134.7' GW Depth: 71.6'
Sampling Method: 2"O.D. SPLIT SPOON
Driller: WARREN GEORGE, INC.
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6"	Recover %	Profile	USCS Class	Material Description	Collection Time Date	Comments
	0							
CPS-SB 19-01	1	7 8 23	25		FILL SW SM	Top 1": asphalt;middle 3" c-f SAND, some gravel and silt; bot. 2":br-tan m-f SAND, some silt	0830 3/23/89	
	2	16						
CPS-SB 19-02	3	10 11 10	100		SP	Tan f SAND, some gravel	0840 3/23/89	
	4	12						
CPS-SB 19-03	5	2 2 2	100		SW	Br & tan c-f SAND, some gravel	0846 3/23/89	
	6	6						
CPS-SB 19-04	7	6 10 12	75		SP	Tan & br m-f SAND, some gravel	0850 3/23/89	
	8	9						
CPS-SB 19-05	9	6 5 7	58		CL	Top 4":br & tan m-f SAND,some gravel middle 9": dkbr CLAY, some silt; Bot. 1":tan & br c-f GRAVEL and SAND	0855 3/23/89	
	10	18			GW			
CPS-SB 19-06	11	15 31 34	58		GP	Br,tan & or f GRAVEL and c SAND	0902 3/23/89	
	12	32						
CPS-SB 19-07	13	45 14 28	75		GW	Top 10": br,tan & or GRAVEL and SAND middle 3": gr & br f SAND,some silt; Bot.5":br f. SAND,little silt & clay	0912 3/23/89	
	14	33						
CPS-SB 19-08	15	12 20 21	83		SM/SC	Laminated olv.gn,br,gr & or f SAND some silt and clay, little mica	0920 3/23/89	
	16	20						
CPS-SB 19-09	17	20 21 22	75			Laminated or,br,tan,gr & blk f SAND, little silt and mica	0926 3/23/89	
	18	33						
CPS-SB 19-10	19	12 16 13	75			Laminated or,tan,gr & blk f SAND little silt and mica	1005 3/23/89	
	20	16			SP			
CPS-SB 19-11	21	13 19 18	50			Top 8":or,br & tan m-f SAND;Bot. 4": laminated gr & blk c-m SAND, little mica	1012 3/23/89	
	22	18						
CPS-SB 19-12	23	30 28 35	58			Laminated gr,blk & br c-m SAND, some mica, little silt	1016 3/23/89	
	24	36						
CPS-SB 19-13	25	12 11 30	67		SM	Top 3":laminated gr & blk c-m SAND, little clay and mica;Bottom 13": or,br,tan c-m SAND,some silt	1025 3/23/89	
	26	24						
CPS-SB 19-14	27	25 54 76	67		SP	Laminated or,tan,br,gr & blk m-f SAND, little silt,clay and mica	1033 3/23/89	
	28	93						

Notes: Hnu readings are at background unless otherwise noted.

Ebasco Services, Inc. Log of Boring

Boring Number: SB-19
Location: SE of spill area
Project Number: EPA 4236.373
Field Geologist: Van Pelt
Sampling Method: 2"O.D. SPLIT SPOON
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Project: CLAREMONT POLYCHEMICAL
Date Started: 3/23/89 Date Completed: 3/24/89
Elevation: 134.7' GW Depth: 71.6'
Driller: WARREN GEORGE, INC.

Sample ID	Depth (feet)	Blows per 6"	Recover %	Profile	USCS Class	Material Description	Collection Time Date	Comments
	28							
SB-15		25				Laminated or,br & tan f SAND	1045 3/23/89	
	29	42	67					
		45						
	30	51						
SB-16		18				Tan, or & wh f SAND,little mica	1120 3/23/89	
	31	36	75					
		34						
	32	37						
SB-17		33				Laminated or, tan & wh f SAND	1127 3/23/89	
	33	37						
		35	58					
	34	50			SP			
SB-18		20				Top 2": laminated gn,or & wh f SAND,little silt;Bottom 18": or,tan & wh f SAND	1135 3/23/89	
	35	20	83					
		32						
	36	42						
SB-19		39				Or,tan,wh & olv.gn f SAND, little silt and clay	1143 3/23/89	
	37	43	100					
		53						
	38	17						
SB-20		15			SM/SC	Top 2": laminated olv.gn,or & br f SAND,some silt & clay;Bottom 14": or, wh & gr m-f SAND,little silt	1150 3/23/89	
	39	23	67					
		17			SP			
	40	17						
SB-21		19				Or,br,olv.gn,wh & gr m-f SAND, some silt and clay	1200 3/23/89	
	41	29	100		SM/SC			
		28						
	42	31						
SB-22		20				Laminated olv.gn,br,tan & or m-f SAND, some silt,little clay	1207 3/23/89	
	43	28	100					
		60						
	44	42						
SB-23		25				Laminated br,redbr & tan f SAND, some silt	1335 3/23/89	
	45	37	83					
		51						
	46	63			SM			
SB-24		60				Laminated br,redbr,or & tan f SAND, some silt	1345 3/23/89	
	47	88	50					
		100/6						
	48							
SB-25		25				Laminated br,tan,or & gr f SAND, some silt, little clay	1355 3/23/89	
	49	22	100					
		23						
	50	27						
SB-26		15				Laminated or,gr,tan & br m-f SAND, some silt and clay	1405 3/23/89	
	51	27	67		SM/SC			
		36						
	52	27						
SB-27		35				Redbr,or,tan & gr m-f SAND, some silt, little FE concretion	1412 3/23/89	
	53	35	100		SM			
		48						
	54	38						
SB-28		12			SM/SC	Top 4": gr,br,tan & or m-f SAND some silt and clay;Bottom 14":or,br & redbr m-f SAND,some FE concretion	1424 3/23/89	
	55	16	75					
		14			SP			
	56	10						

Notes: Hnu readings are at background unless otherwise noted.

Ebasco Services, Inc. Log of Boring

Boring Number: SB-19
Location: SE of spill area
Project: CLAREMONT POLYCHEMICAL
Project Number: EPA 4236.373
Date Started: 3/23/89 Date Completed: 3/24/89
Field Geologist: Van Pelt
Elevation: 134.7' GW Depth: 71.6'
Sampling Method: 2"O.D. SPLIT SPOON
Driller: WARREN GEORGE, INC.
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6"	Recover %	Pro-file	USCS Class	Material Description	Collection Time Date	Comments
	56							
CPS-SB 19-29	57	30 24 30	75		SP	Top 16":rdbr,or & br m-f SAND,little FE conc. and silt;Bot. 2": or,br & blk m-f SAND,some silt,little clay	1457 3/23/89	
	58	24						
CPS-SB 19-30	59	31 28 49	83		SM	Or,br,rdbr,tan & wh c-f SAND, some silt,little clay	1515 3/23/89	
	60	72						
CPS-SB 19-31	61	51 67 60	75			Tan,gr & br m-f SAND,little silt and mica	1532 3/23/89	
	62	55						
CPS-SB 19-32	63	36 42 63	75			Tan,gr & br m-f SAND, little silt and mica	1542 3/23/89	
	64	45						
CPS-SB 19-33	65	20 29 43	67		SP	Tan,br & gr m-f SAND,little silt and mica	1535 3/23/89	
	66	52						
CPS-SB 19-34	67	36 45 60	67			Gr,tan & br f SAND, little silt	1603 3/23/89	
	68	70						
CPS-SB 19-35	69	40 41 39	83			Tan & gr m-f SAND,trace silt	1617 3/23/89	
	70	43						
CPS-SB 19-36	71	17 19 20	75			Tan & br m-f SAND,some silt and mica; Bottom 4": saturated	0821 3/24/89	
	72	27			SM			
CPS-SB 19-37	73	25 39 48	75			Tan,br & gr m-f SAND, some silt and mica; saturated	0830 3/24/89	
	74	42						
	75					Total Depth = 72 Feet		
	76							
	77							
	78							
	79							
	80							
	81							
	82							
	83							
	84							

Notes: Hnu readings are at background unless otherwise noted.

Ebasco Services, Inc. Log of Boring

Boring Number: SB-20
Location: SE portion of site
Project: CLAREMONT POLYCHEMICAL
Project Number: EPA 4236.373
Date Started: 3/27/89 Date Completed: 3/27/89
Field Geologist: Burns
Elevation: 134.7' GW Depth: 71.6'
Sampling Method: 2"O.D. SPLIT SPOON
Driller: WARREN GEORGE, INC.
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6"	Recover %	Profile	USCS Class	Material Description	Collection Time Date	Comments
	0							
CPS-SB 20-01	1	4 7 16	58		SM	Yelbr & br c-f SAND, some silt, little m-f gravel; moist	1010 3/27/89	0.4 ppm borehole 0.1 ppm sp spoon
	2	24						
CPS-SB 20-02	3	9 12 12	54			Yelbr m-f SAND, little silt, trace m-f gravel	1015 3/27/89	6.6 ppm borehole 0.3 ppm cuttings
	4	13			SP			
CPS-SB 20-03	5	6 8 8	54			Yelbr m-f SAND, little silt, trace fine gravel	1023 3/27/89	0.8 ppm borehole 0.3 ppm cuttings
	6	9						
CPS-SB 20-04	7	6 9 10	67			Yelbr m-f SAND, some silt	1028 3/27/89	1.8 ppm borehole
	8	13			SM			
CPS-SB 20-05	9	4 10 10	67			Interlayered yelbr m-f SAND, some silt	1033 3/27/89	0.1 ppm borehole 0.1 ppm cuttings
	10	10						
20-05 Geotech	11	3 11 30	71		ML SW	Top 10":(moist) br SILT, some clay, little m-f sand; Bottom 7":yelbr c-f SAND, some m-f gravel, little silt	1041 3/27/89	0.1 ppm borehole 0.1 ppm cuttings
	12	47						
	13							
	14							
	15							
CPS-SB 20-06	16	15 24 24	100			Interlayered blk,gr,br & rdbr m-f SAND, some silt	1058 3/27/89	110 ppm borehole 17.6 ppm cuttings 0.1 ppm sp spoon
	17	31						
20-06 Geotech	18	20 20 28	100			Same As Above	1103 3/27/89	0.4 ppm borehole 21.6 ppm cuttings 0.1 ppm sp spoon
	19	45						
	20				SM			
CPS-SB 20-07	21	12 16 22	96			Interlayered yelbr,gr & tan m-f SAND, some silt	1110 3/27/89	17.6 ppm borehole 49.6 ppm cuttings 0.2 ppm sp spoon
	22	27						
20-07 Geotech	23	14 15 23	58			Tan m-f SAND, some silt	1125 3/27/89	0.6 ppm borehole 17.6 ppm cuttings 0.2 ppm sp spoon
	24	30						
	25							
	26							
	27							
	28							

Notes: Hnu readings are at background unless otherwise noted.

Ebasco Services, Inc. Log of Boring

Boring Number: SB-20
Location: SE portion of site
Project Number: EPA 4236.373
Field Geologist: Burns
Sampling Method: 2"O.D. SPLIT SPOON
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Project: CLAREMONT POLYCHEMICAL
Date Started: 3/27/89 Date Completed: 3/27/89
Elevation: 134.7' GW Depth: 71.6'
Driller: WARREN GEORGE, INC.

Sample ID	Depth (feet)	Blows per 6"	Recover %	Profile	USCS Class	Material Description	Collection Time Date	Comments
	28							
	29							
	30							
CPS-SB		36				Yelbr m-f SAND, some silt, indurated	1140 3/27/89	200 ppm borehole
20-08	31	70	67					17.6 ppm cuttings
		100/4						
	32				SM			
20-08		18				Tan m-f SAND, some silt, indurated	1158 3/27/89	120 ppm borehole
Geotech	33	30	67					10+ ppm cuttings
		32						0.2 ppm sp spoon
	34	28						
	35							
	36							
	37							
	38							
	39							
	40							
CPS-SB		26				Interlayered yelbr,gr,blk & tan	1208 3/27/89	120 ppm borehole
20-09	41	76	100		SM	m-f SAND, some silt		10+ ppm cuttings
		80						
	42	95						
20-09		59				Interlayered yelbr & tan m-f SAND,	1315 3/27/89	180 ppm borehole
Geotech	43	59	96		SP	little silt		
		82						
	44	69						
	45							
	46							
	47							
	48							
	49							
	50							
CPS-SB		26				Interlayered gr,yelbr & tan m-f	1320 3/27/89	180 ppm borehole
20-10	51	33	100		SM	SAND, some silt		
		34						
	52	20						
20-10		10				Interlayered br & gr SILT and	1340 3/27/89	180 ppm borehole
Geotech	53	32	75		CL	CLAY, little c-f sand		1.4 ppm sp spoon
		27						
	54	31						
	55							
	56							

Notes: Hnu readings are at background unless otherwise noted.

Ebasco Services, Inc. Log of Boring

Boring Number: SB-20
Location: SE portion of site
Project: CLAREMONT POLYCHEMICAL
Project Number: EPA 4236.373
Date Started: 3/27/89 Date Completed: 3/27/89
Field Geologist: Burns
Elevation: 134.7' GW Depth: 71.6'
Sampling Method: 2"O.D. SPLIT SPOON
Driller: WARREN GEORGE, INC.
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6"	Recover %	Pro-file	USCS Class	Material Description	Collection Time Date	Comments
	56							
	57							
	58							
	59							
	60							
CPS-SB 20-11	61	56 64 100/5	67		CL SP	Top 15": blk CLAY, some silt; Bottom 3":yelbr m-f SAND,little silt	1355 3/27/89	250 ppm borehole
	62							
	63							
	64							
	65							
	66							
	67							
	68							
	69							
	70							
CPS-SB 20-12	71	15 27 37	100			Interlayered yelbr,tan & gr m-f SAND, some silt; wet	1425 3/27/89	280 ppm borehole
	72	48			SM			
20-12 Geotech	73	45 43 53	100			Same As Above	1439 3/27/89	280 ppm borehole 0.2 ppm sp spoon
	74	53						
	75					Total Depth = 74 Feet		
	76							
	77							
	78							
	79							
	80							
	81							
	82							
	83							
	84							

Notes: Hnu readings are at background unless otherwise noted.

Sheet: 3 of 3

Ebasco Services, Inc. Log of Boring

Boring Number: SB-21

Project: CLAREMONT POLYCHEMICAL
Location: SW of spill area
Date Started: 3/28/89 Date Completed: 3/28/89
Project Number: EPA 4236.373
Elevation: 135.1' GW Depth: 72-74'
Field Geologist: Burns
Driller: WARREN GEORGE, INC.
Sampling Method: 2"O.D. SPLIT SPOON
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6"	Recover %	Pro-file	USCS Class	Material Description	Collection Time Date	Comments
	0							
CPS-SB		5			SM	Top 14":br m-f SAND,some silt,little	1005 3/28/89	
21-01	1	13	83			m-f gravel;Bot.6":yelbr c-f SAND,		
		15				little m-f gravel and silt		
	2	18			SW			
CPS-SB		12				Yelbr c-f SAND,little silt,trace	1010 3/28/89	1.2 ppm borehole
21-02	3	14	75			f gravel		0.6 ppm cuttings
		12						0.4 ppm sp spoon
	4	12						
CPS-SB		4				Yelbr m-f SAND, some silt,little	1015 3/28/89	35.4 ppm borehole
21-03	5	4	92			m-f gravel		15.4 ppm cuttings
		5						0.2 ppm sp spoon
	6	4						
CPS-SB		4				Yelbr m-f SAND,some silt, trace	1020 3/28/89	6 ppm borehole
21-04	7	8	96		SM	f gravel		10+ ppm cuttings
		8						0.8 ppm sp spoon
	8	12						
CPS-SB		5				Top 6":yelbr m-f SAND, some silt;	1030 3/28/89	280 ppm borehole
21-05	9	10	100					19.4 ppm cuttings
		10			ML	Bot.18":br SILT,some clay & m-f sand		0.2 ppm sp spoon
	10	11				wet		
21-05		25				Yelbr c-f SAND, some f gravel,	1035 3/28/89	660 ppm borehole
Geotech	11	45	83		SW	little silt		10+ ppm cuttings
		55						0.2 ppm sp spoon
	12	60						
	13							
	14							
	15							
CPS-SB		17				Interlayered yelbr,tan & gr m-f	1045 3/28/89	660 ppm borehole
21-06	16	20	100			SAND, some silt		10+ ppm cuttings
		20						0.2 ppm sp spoon
	17	20						
21-06		20				Interlayered yelbr,blk & gr m-f SAND	1048 3/28/89	660 ppm borehole
Geotech	18	26	100			some silt		10+ ppm cuttings
		22			SM			0.2 ppm sp spoon
	19	26						
CPS-SB		7				Interlayered yelbr & tan m-f SAND,	1100 3/28/89	340 ppm borehole
21-07	20	22	88			some silt		10+ ppm cuttings
		20						
	21	25						
21-07						Top 18": same as above;	1110 3/28/89	340 ppm borehole
Geotech	22		88					10+ ppm cuttings
						Bot.3": laminated gr,blk & tan m-f		
	23					SAND, some silt, little clay		
	24							
	25							
	26							
	27							
	28							

Notes: At approx. 6" below surface, plastic liner observed.
-Hnu readings are at background unless otherwise noted.

Ebasco Services, Inc. Log of Boring

Boring Number: SB-21
Location: SW of spill area
Project: CLAREMONT POLYCHEMICAL
Project Number: EPA 4236.373
Date Started: 3/28/89 Date Completed: 3/28/89
Field Geologist: Burns
Elevation: 135.1' GW Depth: 72-74'
Sampling Method: 2"O.D. SPLIT SPOON
Driller: WARREN GEORGE, INC.
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6"	Recover %	Pro-file	USCS Class	Material Description	Collection Time Date	Comments
	28							
	29							
	30							
CPS-SB 21-08	31	16 23 19 24	96		SM	Interlayered yelbr,gr & tan m-f SAND, some silt	1130 3/28/89	340 ppm borehole 10+ ppm cuttings 0.2 ppm sp spoon
CPS-SB 21-08 Geotech	33	32 37 40 37	100			Interlayered yelbr,gr & tan m-f SAND, some silt	1135 3/28/89	340 ppm borehole 10+ ppm cuttings 0.2 ppm sp spoon
	35							
	36							
	37							
	38							
	39							
	40							
CPS-SB 21-09	41	48 110 100/5	71		SM	Interlayered yelbr, gr & tan m-f SAND, some silt	1230 3/28/89	340 ppm borehole 10+ ppm cuttings
CPS-SB 21-09 Geotech	43	24 53 82 89	100			Same As Above	1245 3/28/89	340 ppm borehole 10+ ppm cuttings
	45							
	46							
	47							
	48							
	49							
	50							
CPS-SB 21-10	51	16 44 70 100	75		SM	Interlayered tan & gr m-f SAND, some silt	1335 3/28/89	300 ppm borehole 10+ ppm cuttings 0.2 ppm sp spoon
CPS-SB 21-10 Geotech	53	40 36 35 31	100			Interlayered tan & gr m-f SAND, some silt	1345 3/28/89	300 ppm borehole 10+ ppm cuttings 0.2 ppm sp spoon
	55							
	56							

Notes: Hnu readings are at background unless otherwise noted.

Ebasco Services, Inc. Log of Boring

Boring Number: SB-21
Location: SW of spill area
Project: CLAREMONT POLYCHEMICAL
Project Number: EPA 4236.373
Date Started: 3/28/89 Date Completed: 3/28/89
Field Geologist: Burns
Elevation: 135.1' GW Depth: 72-74'
Sampling Method: 2"O.D. SPLIT SPOON
Driller: WARREN GEORGE, INC.
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6"	Recover %	Pro-file	USCS Class	Material Description	Collection Time Date	Comments
	56							
	57							
	58							
	59							
	60							
CPS-SB 21-11	61	35 100/4	42		ML	Top 3": gr SILT, some silt;	1355 3/28/89	180 ppm borehole 10+ ppm cuttings
	62					Bot.7": laminated gr & tan m-f SAND, some silt		
CPS-SB 21-11 Geotech	63	45 99 100/5	71		SM	Interlayered gr,tan & yelbr m-f SAND some silt	1405 3/28/89	180 ppm borehole 10+ ppm cuttings
	64							
	65							
	66							
	67							
	68							
	69							
	70							
CPS-SB 21-12	71	36 70 100/5	71		SM	Interlayered yelbr & gr m-f SAND, some silt	1430 3/28/89	100+ ppm borehole 10+ ppm cuttings
	72							
CPS-SB 21-12 Geotech	73	39 100/4	42			Same As Above	1443 3/28/89	100+ ppm borehole 10+ ppm cuttings 0.2 ppm sp spoon
	74							
	75							
	76							
	77							
	78							
	79							
	80							
CPS-SB 21-13	81	23 39 37	100		SP	Yelbr m-f SAND, little silt	1500 3/28/89	460 ppm borehole 10+ ppm cuttings
	82	57						
CPS-SB 21-13 Geotech	83	21 20 22	100		SM	Gr m-f SAND, some silt; wet	1510 3/28/89	400 ppm borehole 10+ ppm cuttings
	84	20						

Notes: Hnu readings are at background unless otherwise noted.
-Boring ends at 84 Feet.

Ebasco Services, Inc. Log of Boring

Boring Number: SB-22
Location: NW of spill area
Project: CLAREMONT POLYCHEMICAL
Project Number: EPA 4236.373
Date Started: 3/30/89 Date Completed: 3/30/89
Field Geologist: Burns
Elevation: 133.6' GW Depth: ~75'
Sampling Method: 2"O.D. SPLIT SPOON
Driller: WARREN GEORGE, INC.
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6"	Recover %	Profile	USCS Class	Material Description	Collection Time Date	Comments
	0							
CPS-SB 22-01	1	4 11 16	50		SW	Br c-f SAND, some m-f gravel, little silt	1100 3/30/89	
	2	16						
CPS-SB 22-02	3	11 12 8	75		SM	Br m-f SAND, some silt, little m-f gravel	1105 3/30/89	
	4	9						
CPS-SB 22-03	5	2 3 4	4.5		GP	Br coarse GRAVEL	1112 3/30/89	
	6	4						
CPS-SB 22-04	7	4 14 29	67		ML	Top 7":yelbr SILT, some clay and m-f sand;	1115 3/30/89	
	8	32			SW	Bottom 9":yelbr c-f SAND, some m-f gravel, little silt		
CPS-SB 22-05	9	10 18 27	58		SW	Yelbr c-f SAND, some m-f gravel, little silt	1120 3/30/89	10+ ppm borenole
	10	30						
	11							
	12							
	13							
	14							
	15							
CPS-SB 22-06	16	12 14 16	100		SM	Interlayered yelbr,br & gr m-f SAND,some silt,little clay and mica	1128 3/30/89	10+ ppm borehole
	17	20						
	18							
	19							
	20							
CPS-SB 22-07	21	9 9 11	100		SM	Interlayered gr,tan & yelbr m-f SAND,some silt, little clay	1135 3/30/89	10+ ppm borehole 0.2 ppm sp spoon
	22	13						
	23							
	24							
	25							
	26							
	27							
	28							

Notes: Hnu readings are at background unless otherwise noted.

Ebasco Services, Inc. Log of Boring

Boring Number: SB-22
Location: NW of spill area
Project Number: EPA 4236.373
Field Geologist: Burns
Sampling Method: 2"O.D. SPLIT SPOON
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Project: CLAREMONT POLYCHEMICAL
Date Started: 3/30/89 Date Completed: 3/30/89
Elevation: 133.6' GW Depth: -75'
Driller: WARREN GEORGE, INC.

Sample ID	Depth (feet)	Blows per 6"	Recover %	Pro-file	USCS Class	Material Description	Collection Time Date	Comments
	28							
	29							
	30							
CPS-SB 22-08	31	46 100/3	100		SM	Interlayered yelbr,gr & br m-f SAND, some silt	1143 3/30/89	100/3 corresponds to 300lb hammer 10+ ppm borehole
	32							
	33							
	34							
	35							
	36							
	37							
	38							
	39							
	40							
CPS-SB 22-09	41	8 13 24	100		SM	Top 14":yelbr m-f SAND, some silt;	1200 3/30/89	10+ ppm borehole 4 ppm cuttings
	42	20			CL	Bottom 10": laminated gr & yelbr SILT and CLAY		
	43							
	44							
	45							
	46							
	47							
	48							
	49							
	50							
CPS-SB 22-10	51	12 27 42	87.5		SM	Interlayered yelbr,gr & tan m-f SAND some silt, little clay	1210 3/30/89	10+ ppm borehole 4 ppm cuttings
	52	100/4						
	53							
	54							
	55							
	56							

Notes: Hnu readings are at background unless otherwise noted.

Ebasco Services, Inc. Log of Boring

Boring Number: SB-22
Location: NW of spill area
Project: CLAREMONT POLYCHEMICAL
Project Number: EPA 4236.373
Date Started: 3/30/89 Date Completed: 3/30/89
Field Geologist: Burns
Elevation: 133.6' GW Depth: ~75'
Sampling Method: 2"O.D. SPLIT SPOON
Driller: WARREN GEORGE, INC.
Drilling Method: 6-1/4"I.D. HOLLOW STEM AUGER

Sample ID	Depth (feet)	Blows per 6"	Recover %	Profile	USCS Class	Material Description	Collection Time Date	Comments
	56							
	57							
	58							
	59							
	60							
CPS-SB 22-11	61	13 17 17 13	100		SM	Interlayered gr & yelbr m-f SAND, some silt, little clay	1225 3/30/89	10+ ppm borehole 40 ppm cuttings
	62							
	63							
	64							
	65							
	66							
	67							
	68							
	69							
	70							
CPS-SB 22-12	71	22 54 61 64	100		ML SP	Top 6": interlayered br & gr SILT some clay, little f sand; Bot. 18":yelbr m-f SAND, little silt moist	1240 3/30/89	10+ ppm borehole 20 ppm cuttings
	72							
	73							
	74							
	75							
CPS-SB 22-13	76	34 21 23 26	100		SP	Yelbr m-f SAND, little silt; saturated	1255 3/30/89	10 ppm borehole 10+ ppm cuttings 0.2 ppm sp spoon
	77							
CPS-SB 22-14	78	18 12 17 17	100			Same As Above	1305 3/30/89	10 ppm borehole 10+ ppm cuttings 0.2 ppm sp spoon
	79							
	80					Total Depth = 79 Feet		
	81							
	82							
	83							
	84							

Notes: Hnu readings are at background unless otherwise noted.

Sheet: 3 of 3

APPENDIX B

MEMORANDUM

DATE: October 12, 1992

TO: Claremont Polychemical Site Files

FROM: Sarah Levin

CC: Dave Froh

SUBJECT: RCRA Waste Evaluation for Toxicity - CPC Spill Area Soil

Calculations were performed using soil analytical data to determine the maximum TCLP leachate concentrations expected from a spill area soil. This calculation accounts only for the dilution factor (20) inherent in TCLP testing. Therefore this calculation assumes that the total mass of contaminant will leach from the soil sample and the resulting concentration represents the maximum possible concentration from TCLP analysis.

Based on these calculations, the spill area soil should not fail TCLP for metals. According to 40 CFR 260.10 and 40 CFR 261.23(a), a representative sample used to characterize a hazardous waste must "exhibit the average properties of the universe or whole (e.g. waste pile, lagoon, groundwater)." Therefore, since only one sample exceeded the TCLP limit for that one sample (SA10) does not indicate the waste is characteristically hazardous. Based on the other samples, the spill area soil should not fail TCLP for PCE. The data and results of the calculations are attached.

SL/jb

RP/CPC35RDN/AC3

SPILL AREA BORINGS
CLAREMONT POLYCHEMICAL CORPORATION SUPERFUND SITE
OLD BETHPAGE, NEW YORK

	TCLP Leachate Maximum Allowable Levels (mg/l)	Extrapolated Maximum TCLP Leachate Levels* (mg/l)
Arsenic	5.0	1.75
Barium	100.0	3.66
Cadmium	1.0	0.70
Chromium	5.0	2.28
Lead	5.0	4.54
Mercury	0.2	0.006
Selenium	5.0	0.12
Silver	0.7	0.18

* Extrapolated Maximum TCLP Leachate Level = $\frac{\text{Soil result (mg/kg)}}{20} \frac{\text{(kg)}}{1}$

RP/CDC35RDN/AA7

CONTAMINATION RANGES OF METALS IN SUBSURFACE SOIL BORINGS AND THEIR COMPARISON TO TYPICAL REGIONAL BACKGROUND LEVELS

Element	Concentration Range in Typical Background Soil (ppm)*	Concentration Range in Subsurface Soil (ppm)										
		0-2 Feet	2-4 Feet	5-10 Feet	10-15 Feet	15-20 Feet	20-30 Feet	30-40 Feet	40-50 Feet	50-65 Feet	Unsaturated Soil >65 Feet	Saturated Soil >65 Feet
Al	10000-300000	1190-14300	552-13900	735-15800	546-964	437-970	386-702	226-4230	103-1170	335-1920	275-740	201-1330
Sb	<1-500(1)	ND-5.3	ND-4.7	--	--	--	ND-4.9	ND-7.6	--	--	--	ND-5.3
As	5-15(1)	1.4-9.8	1.0-13.2	1.6-7.9	1.9-4.5	1.1-12.5	1.6-3.1	2.1-35	0.78-5.0	1.1-9.6	1.1-6.7	1.0-13.2
Ba	100-3500	6.4-73.3	2.8-46.3	4.8-48.5	3.9-6.0	2.4-24.3	4.1-11.8	2.3-13.7	ND-7.7	2.7-19.3	ND-5.8	ND-15.2
Be	<1-7(1)	ND-1	ND-1.1	0.17-1.6	--	0.11-0.93	--	ND-0.92	ND-0.11	0.28-0.41	0.12	--
Cd	0.01-7	ND-14.1	ND-4.6	ND-3.3	--	ND-0.88	--	ND-0.73	--	--	ND-6.2	ND-2.0
Ca	100-400000	59.6-32000	27.2-64100	121-405	83.9	64.2-168	57.1-225	ND-307	21.9-148	54.6-257	53.9-172	25.1-1070
Cr	10-80(1)	ND-19.8	ND-37.4	ND-17.5	2.5-4.6	ND-10.2	2.6-3.5	ND-45.7	ND-9.7	ND-8.0	ND-20.9	ND-1.9
Co	<3-70(1)	ND-6.1	ND-7.6	ND-12.2	--	--	ND-1.6	ND-1.3	ND-1.8	ND-1.9	--	ND-1.7
Cu	2-100	6.3-122	ND-98.3	4.0-51.3	4.7	ND-37.9	1.9-5.8	ND-40.4	2.4-5.1	ND-13.5	3.8-11.1	2.8-152
Fe	7000-550000	2250-15300	1280-33100	1590-23300	2390-5560	370-13400	983-3410	1380-61600	536-5880	1090-6840	1330-9700	1200-7070
Pb	3-30(1)	2.4-90.8	0.38-28.6	1.8-7.2	2.9-3.3	1.6-4.4	1.6-3.5	1.2-5.9	1.1-2.6	2.8-7.7	1.5-6.0	1.2-5.8
Mg	600-6000	150-18000	46.3-29100	35.6-2180	ND-44.9	ND-34.3	ND-57.9	ND-156	ND-56.8	ND-365	ND-54.2	ND-108
Mn	100-4000	22-192	7.5-200	12-591	45.7-67.6	1.8-40.4	5.4-21	2.0-28.8	1.4-28.8	7.5-45.9	7.9-25.8	3.1-18.6
Hg	0.2-0.6(1)	ND-0.12	--	--	--	--	--	--	--	--	--	--
Ni	4-30(1)	ND-17.5	ND-18.6	ND-10.8	--	--	--	--		ND-2.9	--	ND-2.5
K	400-30000	61.4-1250	ND-987	115-1320	ND-122	ND-103	ND-86.2	42.7-185	ND-139	ND-323	ND-111	ND-233
Se	0.1-2.0	ND-1.4	ND-2.3	ND-1.9	ND-0.76	ND-0.53	ND-0.61	ND-0.73	ND-0.57	ND-0.68	ND-0.79	ND-0.64
Ag	0.1-5.0	--	--	ND-3.6	--	--	ND-0.58	--	--	--	--	ND-0.65
Na	750-7500	ND-306	ND-143	ND-65.6	--	ND-1670	--	--	--	--	--	--
V	20-500	3.8-26.2	2.0-23.9	3.5-37.2	3.3-6.0	4.4-9.1	ND-6.8	ND-105	1.5-12.7	3.5-15.3	ND-23.3	2.7-10.9
Zn	10-300	7.1-200	ND-47.2	4.90-43.5	2.9-3.2	ND-3.1	--	ND-11.6	--	ND-3.1	ND-3.4	ND-31.1

(*) - Dragun, J., 1988.
(1) - Connor, J.J. and H.T. Shacklette, 1975.

RP/CPC35RDN/AC5

SOIL BORINGS SPILL AREA
CLAREMONT POLYCHEMICAL CORPORATION SUPERFUND SITE
OLD BETHPAGE, NEW YORK

Sample	Concentration (mg/l) PCE	TCE	Vinyl Chloride
TCLP Leachate Maximum Allowable Level	0.7	0.5	0.2
CP-SS-92-SA01-01*	0.0019J	<0.0001	<0.0006
SA01-02	0.0024	<0.0001	<0.0006
SA02-01	0.0019	<0.0001	<0.0005
SA02-02	0.0027	<0.0001	<0.0005
SA03-01	0.0610	<0.0011	<0.0055
SA03-02	0.0023	<0.0001	<0.0005
SA04-01	0.0321	<0.0010	<0.0055
SA04-02	0.0005	<0.0001	<0.0005
SA05-01	0.0003	<0.0001	<0.0006
XX05-01	0.0024	<0.0001	<0.0006
SA05-02	0.0011	<0.0001	<0.0006
XX05-02	0.0003	<0.0001	<0.0005
SA06-01	0.105	0.0002	<0.0005
SA06-02	<0.0002	<0.0001	<0.0006
SA07-01	0.105	<0.0010	<0.0050
SA07-02	0.0005	<0.0001	<0.0005
SA08-01	0.0222	<0.0011	<0.0055
SA08-02	0.0930	<0.0011	<0.0055
SA09-01	0.0454	<0.0006	<0.0028
SA09-02	0.0054	<0.0001	<0.0005
SA10-01	43.2	<0.049	<0.26
SA10-02	0.345J	0.0171J	<0.0027J
SA10-04	0.372	<0.0055	<0.0280
SA10-05	0.0002	<0.0001	<0.0006
SA11-01	0.0104, 0.0003	<0.0001	<0.0005
XX11-01	0.0505	<0.0010	<0.0055
SA11-02	0.0008	<0.0001	<0.0005
CP-22-92-XX11-02	<0.0002	<0.0001	<0.0005
SA12-01	0.0012	<0.0001	<0.0006
SA12-02	0.0005	<0.0001	<0.0006
SA12-03	0.0018	<0.0001	<0.0006
SA13-01	0.0007	<0.0001	<0.0005
SA13-02	0.0004	<0.0001	<0.0006
SA14-01	0.0034, 0.0008	<0.0001	<0.0005
SA14-02	0.0043	<0.0001	<0.0005
SA15-01	0.0005	<0.0001	<0.0006

SOIL BORINGS SPILL AREA
CLAREMONT POLYCHEMICAL CORPORATION SUPERFUND SITE
OLD BETHPAGE, NEW YORK
(Continued)

	Concentration (mg/l)		
Sample	PCE	TCE	Vinyl Chloride
SA15-02	0.0002	<0.0001	<0.0006
SA16-01	0.0034, 0.0023	<0.0001	<0.0006
SA16-02	0.0018	<0.0001	<0.0005

* Extrapolated Maximum TCLP Leachate Level = $\frac{\text{Soil result (ug/kg)}}{20\ (1{,}000\ \text{ug/mg})}\ \frac{\text{(kg)}}{1}$

Note: No maximum allowable TCLP leachate level available for 1,2-dichloroethene (total).

RP/CDC35RDN/AA7

VOLATILE ORGANIC ANALYSIS RESULTS
SPILL AREA BOREHOLES
CLAREMONT POLYCHEMICAL CORPORATION
Old Bethpage, New York
July, 1992

		Concentration(ug/kg):			
Sample Location	Depth	PCE	TCE	Vinyl Chloride	1,2-Dichloro ethene(total)
CP-SS-92-SA01-01	1.5-2'	38.6J	<2.0	<11	<1.7
CP-SS-92-SA01-02	3.5-4'	48.5	<2.0	<11	<1.7
CP-SS-92-SA02-01	1.5-2'	38.0	<2.0	<10	<1.7
CP-SS-92-SA02-02	3.5-4'	54.9	<2.0	<10	<1.6
CP-SS-92-SA03-01	1.5-2'	1220	<21	<110	<17
CP-SS-92-SA03-02	3.5-4'	46.5	<2.0	<10	<1.6
CP-SS-92-SA04-01	1.5-2'	641	<20	<110	<17
CP-SS-92-SA04-02	3.5-4'	10.1	<2.0	<10	<1.7
CP-SS-92-SA05-01	1.5-2'	6.08	<2.1	<11	<1.8
CP-SS-92-XX05-01	1.5-2'	48.2	<2.1	<11	<1.8
CP-SS-92-SA05-02	3.5-4'	22.4	<2.0	<11	<1.7
CP-SS-92-XX05-02	3.5-4'	5.05	<2.0	<10	<1.7
CP-SS-92-SA06-01	1.5-2'	2100	3.09	<10	<1.6
CP-SS-92-SA06-02	3.5-4'	<4.5	<2.1	<11	<1.7
CP-SS-92-SA07-01	1.5-2'	2100	<20	<100	<16
CP-SS-92-SA07-02	3.5-4'	9.28	<2.0	<10	<1.7
CP-SS-92-SA08-01	1.5-2'	443	<22	<110	<18
CP-SS-92-SA08-02	3.5-4'	1860	<21	<110	<18
CP-SS-92-SA09-01	1.5-2'	907	<11	<56	<8.9
CP-SS-92-SA09-02	3.5-4'	108	<2.0	<10	<1.7
CP-SS-92-SA10-01	1.5-2'	864000	<980	<5200	<820
CP-SS-92-SA10-02	3.5-4'	6900J	341J	<53J	1450J
CP-SS-92-SA10-04	7.5-8'	7440	<110	<560	<89
CP-SS-92-SA10-05	11.5-12'	4.59	<2.0	<11	<1.7

VOLATILE ORGANIC ANALYSIS RESULTS
SPILL AREA BOREHOLES
CLAREMONT POLYCHEMICAL CORPORATION
Old Bethpage, New York
July, 1992
(continued)

		Concentration(ug/kg):			
Sample Location	Depth	PCE	TCE	Vinyl Chloride	1,2-Dichloro ethene(total)
CP-SS-92-SA11-01	1.5-2'	207, 6.90	<2.0	<10	<1.6
CP-SS-92-XX11-01	1.5-2'	1010	<20	<110	<17
CP-SS-92-SA11-02	3.5-4'	16.1	<1.9	<10	<1.6
CP-SS-92-XX11-02	3.5-4'	<4.2	<1.9	<10	<1.6
CP-SS-92-SA12-01	1.5-2'	24.9	<2.0	<11	<1.7
CP-SS-92-SA12-02	3.5-4'	10.7	<2.3	<12	<1.9
CP-SS-92-SA12-03	5.5-6'	35.2	<2.0	<11	<1.7
CP-SS-92-SA13-01	1.5-2'	13.2	<2.0	<10	<1.7
CP-SS-92-SA13-02	3.5-4'	7.21	<2.0	<11	<1.7
CP-SS-92-SA14-01	1.5-2'	67.4,16.3	<1.9	<10	<1.6
CP-SS-92-SA14-02	3.5-4'	86.2	<2.0	<10	<1.6
CP-SS-92-SA15-01	1.5-2'	10.5	<2.0	<11	<1.7
CP-SS-92-SA15-02	1.5-2'	4.77	<2.0	<11	<1.7
CP-SS-92-SA16-01	1.5-2'	67.2,46.0	<2.0	<11	<1.7
CP-SS-92-SA16-02	3.5-4'	35.6	<2.0	<10	<1.7

PCE = Tetrachloroethylene
TCE = Trichloroethylene

J = Reported value is estimated.

RP/CDC35RDN/AA7

APPENDIX C

SEC DONOHUE
Environment & Infrastructure

CALCULATION SHEET

PAGE 1 OF 2

PROJECT NO. 18422.313

CLIENT USACE-KC

SUBJECT Soil Excavation Volume

PROJECT CPC-Remedial Design

Prepared By SEL Date 2/1/93

Reviewed By G. Connor Date 2/1/93

Approved By _____ Date _____

By planimeter, the following areas were obtained: (see Drawing 03-CR-1)

Outside Excavation Area = $19.4\ in^2 (\frac{40ft}{in})^2 = 31040\ ft^2 \simeq 31000\ ft^2$

Inside rectangle (8' assumed excavation depth) = $1.20\ in^2 (40ft/in)^2 = 1920\ ft^2 \simeq 1900\ ft^2$

Outside rectangle (1:1 slope from 3' to 8') = $2.0\ in^2 (40ft/in)^2 = 3200\ ft^2$

Outside Rect − Inside retangle = $1300\ ft^2$

Excavation volume:

Assuming entire area is excavated to a depth of 3 feet,

$31000\ ft^2 \times 3\ ft = 93,000\ ft^3$

Assuming inside rectangle is excavated an additional 5 feet,

$1900\ ft^2 \times 5\ ft = 9500\ ft^3$

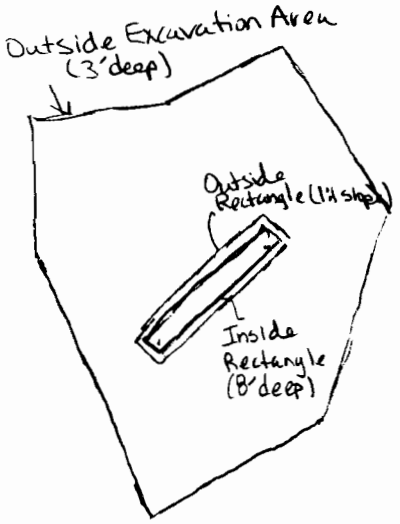
Assuming outside rectangle is excavated an additional average of 2.5ft,

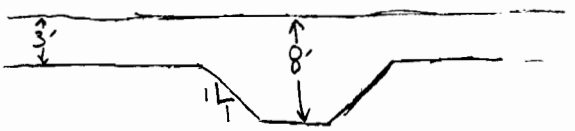
$1300\ ft^2 (2.5\ ft) = 3250\ ft^3$

Total excavation volume (minimum) = $93000\ ft^3 + 9500\ ft^3 + 3250\ ft^3 = 105750\ ft^3$

$\simeq 105800\ ft^3$ or

3900 cy





(Not to scale)

SEC DONOHUE
Environment & Infrastructure

CALCULATION SHEET

PROJECT NO. _____

CLIENT _____ SUBJECT _____ Prepared By _____ Date _____

PROJECT _____ Reviewed By _____ Date _____

_____ Approved By _____ Date _____

Entire Exavation area $-in^2$

$19.4\ in^2 \left(\frac{40\ ft}{in}\right)^2 = 31040 \sim 31{,}000\ ft^2$

Inside $1.20\ in^2 \left(\frac{40\ ft}{in}\right)^2 = 1920\ ft^2$

Outside rectangle $2{,}0\left(\frac{40ft}{in}\right)^2 = 3200\ ft^2$

APPENDIX 12D

SEC DONOHUE
Environment & Infrastructure

CALCULATION SHEET

PAGE 1 OF 3

PROJECT NO. 18422.313

CLIENT USACE - KC | SUBJECT SOIL REMEDIATION | Prepared By GJ | Date 2/3/93

PROJECT CPC 6590 DESIGN SUBMITTAL | FACILITIES AREA CALCULATIONS | Reviewed By G. CONNOR | Date 2/4/93

Approved By _____ | Date _____

LTEV TREATMENT AREA

Includes LTEV system components, pretreatment screening equipment, air emission controls and monitoring equipment, soil conveyance, preparation and loading equipment and fuel and other required tanks.

Required Area Based on Vendor Contacts

LTEV system:

5,625 ft^2 (75 ft x 75 ft) - WSI, LT^3 Unit (Weston Srvs, Inc, 1988)

14,400 ft^2 (120 ft x 120 ft) - CWM, X^3Trax Unit (Chem Waste Mgmt, 1992)

22,500 ft^2 (150 ft x 150 ft) - Canonie, LTTA® Unit (Canonie, 1992)

Soil Screening:

600 ft^2 (20 ft x 30 ft) - Powerscreen, Power Grid Unit

Total Required Area ~ 23,100 sf

Area Available - See Drawing 03-CR-2

280 ft x 90 ft = 25,000 ft^2

Therefore, the available area should be sufficient if width is not a problem (i.e. areas given by vendors can be redimensioned)

EXCAVATED SOIL STAGING AREA

Stockpiling 3 days of LTEV system feed

Processing Rate from Vendors: 10 - 50 ton/hr depending on soil conditions, 20-30% downtime

Required Area

Assume: 24 hr/day processing (conservative, probably 10 hr/day)
20 ton/hr processing rate and 20% downtime
average stockpile height of 5 feet

$3 \text{ days} \times 20 \frac{\text{ton}}{\text{hr}} \times 0.80 \times \frac{1 \text{ cy}}{1.6 \text{ ton}} \times 24 \frac{\text{hr}}{\text{day}} = 720 \text{ cy}$

$\frac{720 \text{ cy}}{5 \text{ ft}} \times 27 \frac{\text{cf}}{\text{cy}} = 3888 \text{ sf}$ SAY 4,000 sf

Area Designated on Drawing 03-CR-2

$\frac{1}{2}(80 \text{ ft} \times 110 \text{ ft}) = 4400 \text{ sf}$

Therefore, allotted area should be sufficient

TREATED SOIL STAGING AREA

Staging 3 days of processed soil

Required Area:

Assume: storage in 20 cy roll-off boxes (6 ft x 20 ft)

$3 \text{ days} \times 20 \frac{\text{ton}}{\text{hr}} \times 0.80 \times \frac{1 \text{ cy}}{1.6 \text{ ton}} \times 24 \frac{\text{hr}}{\text{day}} = 720 \text{ cy}$

$720 \text{ cy} \times \frac{6 \text{ ft} \times 20 \text{ ft}}{20 \text{ cy}} \times 1.5 \text{ (space b/t boxes)} = 6480 \text{ sf}$

SAY 6,500 sf

Area Designated on Drawing 03-CR-2

$90 \text{ ft} \times 75 \text{ ft} = 6,750 \text{ sf}$

Therefore, allotted area should be sufficient

SEC DONOHUE
Environment & Infrastructure

CALCULATION SHEET

PROJECT NO. 18422.313

CLIENT USACE - KC
PROJECT CPC 65% DESIGN SUBMITTAL

SUBJECT SOIL REMEDIATION FACILITIES AREA CALCULATIONS

Prepared By GJ Date 2/10/93
Reviewed By G. CONNOR Date 2/10/93
Approved By _____ Date _____

TREATED SOIL STOCKPILING AREA

Following verification of treatment criteria, treated soil will be moved from the Post-Treatment Staging Area to the Treated Soil Stockpile Area where it will remain until it is backfilled. The area required for the Treated Soil Stockpiling Area will be based on the excavation/backfill sequencing provided for in the Contractor's approved Excavation/Backfilling Plan. The required area is estimated below:

Required Area:

Assume: Max. stockpile volume = $\frac{3}{4}$ (Total Volume - Staging Area Volume)

Average stockpile height = 10 feet

$$\frac{3}{4} \times \frac{(4500\,cy - 720\,cy)}{10\,ft} \times \frac{27\,ft^3}{cy} = 7{,}654\,sf \text{ say } 8{,}000\,sf$$

Area Designated on Drawing 03-CR-2

$$40ft \times 50ft + 80ft \times 50ft + \tfrac{1}{2}(80ft \times 65ft) = 8{,}600\,sf$$

Therefore, allotted area assumed to be sufficient

APPENDIX D

SEC DONOHUE
Environment & Infrastructure

CALCULATION SHEET

PROJECT NO. 18422.313

CLIENT USACE - KC

SUBJECT EXCAVATION CONFIRMATION

Prepared By GJ Date 2/2/93

PROJECT CPC - 65% DESIGN

Reviewed By G. CONNOR Date 2/2/93

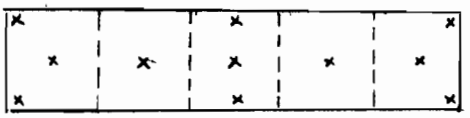
Approved By _____ Date _____

~~TARGET~~ CLEANUP CONCENTRATION AREA (HOT SPOT)

HOT SPOT BOTTOM DIMENSION : 20 FT x 95 FT (1900 SF)

1. Confirm Minimum Excavation Depth of 8 feet

Assume minimum of one (1) depth measurement at the center of five evenly divided sections of the excavation bottom and one (1) depth measurement at each of the four corners and at the center on both edges

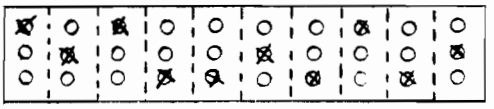


$\frac{95 \text{ ft}}{5 \text{ sections}}$ = 19 ft/section

Minimum of 11 measurements

2. Confirm Target Cleanup Concentration (TCC)

Assume minimum of one (1) sample will be collected for laboratory analysis from 10 evenly divided sections of the excavation bottom. Each sample will be selected based on PID screening of backhoe bucket volumes removed from the center of each third of the divided sections. A sample will be collected from the bucket volume having the highest PID reading. If no reading is observed, a sample will be collected from the middle third bucket volume. Minimum of 10 samples



$\frac{95 \text{ ft}}{10 \text{ sections}}$ = 9.5 ft/section

This procedure will be repeated at 6-inch depth intervals for those sections that do not meet the target cleanup

concentration until the target cleanup concentration is met.

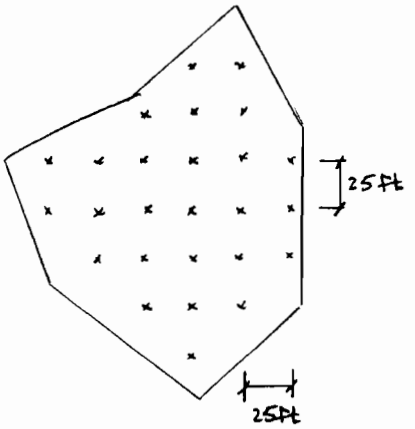
TARGET CLEANUP DEPTH AREA

Assume depth measurements will be taken on a 25-foot grid within the target cleanup depth area.

Area ~ Total Spill Area - Hot Spot Area
~ 31,000sf - 1,900sf
~ 29,100sf

Minimum # of samples ≈ $\frac{\text{Area}}{(25\text{ft})^2} = \frac{29{,}100\text{sf}}{(25\text{ft})^2} = 46.56$

SAY 50 measurements



Note: This recommended verification survey/sampling approach is based on engineering judgement considering relevant EPA guidance.

13.0 BUILDING DECONTAMINATION DESIGN ANALYSIS

13.1 BUILDING MATERIALS AND CONTENT DECONTAMINATION

13.1.1 General Parameters

13.1.1.1 Scope and Objectives

The objective of the building decontamination is to remove all hazardous substances from the building, to minimize potential risk to human health and the environment, and to allow unrestricted future use of the building. The building is in a state of disrepair but will remain. The materials inside the building shall be decontaminated and disposed of where applicable. Other portions of the building require decontamination and remain a part of the building.

The scope of the building decontamination is as follows:

- Decontaminate the dust collectors on the roof and the dust on the floor of the building below the dust collectors.
- Remove the trash and debris in the building and dispose of according to regulations. Identify the chemical constituents and impacts to the environment.
- Identify salvageable material within the building. Decontaminate the material or stage the material prior to decontamination.
- Remove the asbestos containing material (ACM) from the piping and other appurtenances.
- Drain the condensers. Identify the constitutents of the condensers and dispose of the liquid in accordance with all applicable regulations.
- Decontaminate the building for unrestricted use. The decontamination should include ceiling, piping, walls, attached appurtenances, floor, sumps, and drains.

13.1.1.2 Previous Decision Making Documents

Previous investigations have been performed at the facility which were associated with the soils and are not applicable. Applicable studies for the building decontamination include the following:

1986- The first notification regarding initiation of cleanup was issued to the New York State Clearing House.

1987- The second notice to the New York State Clearing House was issued. The site was ranked No. 614 on the National Priorities List in November.

1988- Ebasco began the RI/FS process for the U.S. EPA.

1990- Ebasco completed the RI/FS.

1990- The Record of Decision was signed.

1992- SEC Donohue Inc. Performed a predesign investigation to gather information for the remedial design.

13.1.1.3 Building Characterization

The building and contents to be decontaminated is a concrete two-story rectangular building (Drawing 03-CR-4) that is approximately 30 feet tall and has a footprint of approximately 45,000 square feet. The building consists of approximately 15 rooms. Drawing 03-CR-4 shows the layout and the name of the rooms which may indicate the former use of the room and potential contaminants.

13.1.1.4 Decontamination

The contents of, on, and in the building and the building itself must be decontaminated to remove all hazardous substances to minimize potential risk to human health and the environment and to allow unrestricted future use of the building. This procedure will be the responsibility of the contractor. The mechanism to ensure that the chosen contractor(s) meets those goals is by a performance specification whereby the contractor will be responsible for the means/methods of the decontamination but performance requirements will be established in the specification for the contractor to meet. Therefore, the contractor and the regulatory agencies will have a mechanism to determine when the decontamination is satisfactorily complete.

13.1.1.5 Off-Site Transportation and Disposal of Residuals

Residuals may include liquid, solids, or sludges. Residuals will be managed by the contractor and it will be the responsibility of the contractor to transport and dispose of the residuals in accordance with all applicable regulations. Trash and debris is not considered to be residuals, but because of the potential hazardous nature of this material, the contractor must identify the hazardous constituents in the trash and debris, determine the requirements for handling/disposing of the material, and adhere to all applicable regulations for transportation and disposal.

Refer to specification No. 01060, Regulatory Requirements, and specification No. 13900, Off-Site Transportation and Disposal for additional requirements.

13.1.2 Functional and Technical Requirements

13.1.2.1 Responsibilities

The Contractor is responsible for all activities associated with the decontamination of the building. Other activities include the collection and salvage of salvageable material outside the building. The contractor shall be responsible for all planning and procedures for completing the project within budget, schedule, and regulatory/project requirements to decontaminate the building to allow unrestricted future use of the building.

The contractor shall meet contract and specification requirements for submittals,

13.1.2.2 General Requirements

General requirements for the contractor for the building decontamination encompass activities from award to completion of the contract.

General requirements include:

- Preparing, submitting, and receiving approval of submittals before work begins.
- Coordinating with other contractors before initiating work.
- Obtaining permits and addressing regulatory requirements.
- Conducting work to meet the schedule and minimize cost.
- Conducting work to prevent impacts to the environment and health and environment of on-site and off-site personnel.
- Establishing procedures to address health and safety concerns.
- Establishing a staging area and coordinating activities to minimize space and maximize area usage.
- Establishing procedures to address the work such that activities are performed to minimize rework.
- Completing any other applicable requirements.

13.1.2.3 Spatial Requirements

Spatial requirements for conducting activities associated with the decontamination of the building are limited to the building area unless authorization is received from the Contracting Officer and other contractors on-site. A staging area has been preliminarily identified and is shown on Drawing 03-CR-4.

The staging area that was preliminarily located is on the west side of the building near the area known as the Mix Room. An area of approximately 140 feet by 140 feet was estimated to be sufficient area. The area is to be used for staging equipment and facilities for the building decontamination and for staging material to be transported/disposed of off-site.

13.1.2.4 Decontamination Criteria

Building decontamination criteria will vary for the different portions of the project.

The asbestos removal portion of the project will be evaluated by verifying that the asbestos-containing material (ACM) has been removed.

The contractor will provide supporting documentation by disposal records and air samples that the identified ACM was removed.

Dust collectors will be evaluated by reviewing documentation from the contractor including disposal records and wipe samples. The documentation will address the dust collectors and the piles of material below the dust collectors in the building. The predesign report by SEC Donohue identified lead, chromium, cadmium, and barium concentrations as high as 1 percent in the dust.

Trash and debris inside the building which cannot be or which may not be cost effective to decontaminate will require characterization to meet the disposal facility requirements. Constant communication will be required between the Contractor, the Contracting Officer, and the disposal facility as part of the coordination and verification to meet permit/ disposal/testing requirements. Records documenting type and quantity of trash and debris inside the building,records documenting testing requirements, and records documenting disposal quantities will be reviewed.

Ultimate verification and/or documentation will be determined before building decontamination is performed, and also after the building decontamination is completed.

Salvageable material from inside the building will be decontaminated inside the building before staging outside.This will minimize the spread of potential contaminants to outside of the building and potentially impacting the environment. Wipe samples will be required to verify the equipment was decontaminated. Laboratory documentation shall be provided to the Contracting Officer and the recycling facility before the material is transported off-site. Additional verification may include the review of documentation of the volume of water used to decontaminate the material.

Salvageable material outside the building is considered to be noncontaminated and therefore will not require documentation by the Contracting Officer. However, the recycling facility may require documentation of wipe samples and laboratory analysis to show the materials have not been contaminated.

The building shall be decontaminated in a way to minimize rework and the potential spread of contaminants. One method may be to begin at the roof and progress to the appurtenances above the building floor. Decontamination efforts will move to the walls and progress to appurtenances near ground surface, and finish with the floor. The action levels or goals for the building decontamination using approximately 135 square inches per wipe (per U.S. EPA letter) are as follows:

Arsenic	0.0024 ug/135 sq. in. wiped/sample
Cadmium	0.03 ug/135 sq. in. wiped/sample
Beryllium	0.014 ug/135 sq. in. wiped/sample
Nickel	0.11 ug/135 sq. in. wiped/sample
Barium	0.24 ug/135 sq. in. wiped/sample
Manganese	0.72 ug/135 sq. in. wiped/sample
Iron	20.9 ug/135 sq. in. wiped/sample
Copper	23.8 ug/135 sq. in. wiped/sample

13.1.2.5 Disposal Criteria

Disposal criteria are not specified to allow for contractors to bid the work and use the approved, permitted, and licensed TSDF of their choice.

The Contractor must determine the disposal options and adhere to the disposal requirements of the chosen/approved facility. The Contractor shall submit a list of disposal facilities and the facility's requirements for approval from the Contracting Officer before sampling is performed to meet the disposal facility requirements. All federal, state, and local regulations shall be adhered to. See specification No. 01060, Regulatory Requirements, and specification No. 13900, Off-Site Transportation and Disposal.

13.1.3 Design Objectives and Provisions

13.1.3.1 General

The design objectives for the building decontamination specification are to provide a guide to the contractor for the requirements necessary to removing hazardous substances from the building to minimize potential risk to human health and the environment and to allow unrestricted future use of the building. The methods of decontamination are the responsibility of the Contractor to minimize cost, schedule, and risk and in the process meet all contract and regulatory requirements.

13.1.3.2 Sampling and Analysis

Because the treatment scheme is not yet established, the frequency and constituents for analysis cannot be determined. The treatment scheme will help dictate the residuals and therefore the disposal requirements. Certain portions of the decontamination will require specific sampling as dictated by the regulations such as asbestos. Air samples will be

required both during and at completion of the removal process. Dust collector decontamination is suspected to produce hazardous waste based on laboratory chemical analysis presented in the predesign report produced by SEC Donohue in October 1992. The approved, licensed, permitted disposal facility will have specific requirements which will be determined upon selection of the disposal facility.

The building decontamination process will encompass various aspects of work including the dust collectors. The main decontamination activities will be of the building proper including the roof, walls, floors, and attached equipment. This will be done after the porous debris and trash are removed. The attached equipment includes former process tanks which must be emptied. The decontamination process is anticipated to be performed using high pressure hot water although the final decision will be made by the Contractor with final approval by the Contracting Officer.

Residuals from the building will include contaminated porous material, decontaminated salvageable material, and cleaning residuals anticipated to be both solid and liquid.

All the material for disposal and salvage will require sampling to identify contaminants for disposal or to verify a decontaminated piece of equipment.

The building will also require confirmation sampling before approval is received from the Contracting Officer that the building is adequately decontaminated.

13.1.3.3 Decontamination Structure

The order of decontamination will be decided by the contractor with final approval from the Contracting Officer based upon the decontamination procedures chosen by the Contractor. The anticipated order of the process is as follows:

1. Asbestos removal
2. Dust collector cleaning
3. Porous debris removal
4. Decontamination of salvageable equipment and staging
5. Building decontamination
6. Residual disposal (an ongoing process)
7. Sampling and analysis (an ongoing process)
8. Demobilization

13.1.3.4 Decontamination of Contaminated Building Contents

As discussed previously, a variety of materials inside the building need to be removed/ decontaminated. Asbestos will be removed. Dust collectors will be decontaminated and the dust from the building floor will be removed. The porous trash and debris inside the

building will also be removed for disposal, and the salvageable equipment inside the building will require decontamination before staging and recycling.

The building itself will be decontaminated as will the fixed appurtenances such as the condensor tanks, process piping, and laboratory benches. Decontamination will begin from the top down. The process condensor tanks are anticipated to be cleaned first, then the building is anticipated to be next working from the roof down through the higher appurtenances, then the walls and the lower appurtenances, and then the floor and the sumps.

13.1.3.5 Confirmation Sampling

Confirmation sampling will be performed at various points in the process. The asbestos removal requires air sampling during and at the completion of the work. Confirmation sampling will be required to confirm complete removal. A second sampling may be performed at the completion of the building decontamination but asbestos is not anticipated to be an analyte at that time.

The dust from the dust collectors will require laboratory chemical analysis before disposal to meet the disposal facility's requirements. Additionally, the recycling facility is likely to require a confirmation sample before the dust collectors are recycled.

The trash and debris will not require confirmation sampling because it will be disposed of off-site. The disposal facility, however, will require some type of laboratory chemical analysis before disposal is permitted.

Confirmation sampling will be required for the salvageable material that is decontaminated. The Contracting Officer will require laboratory chemical analysis and the recycling facility is also likely to require some type of analysis.

When the building is decontaminated, confirmation sampling will be required and performed to document that the building and the stationary remaining appurtenances are cleaned to allow for unrestricted future use.

13.1.3.6 Segregation of Hazardous and Non-hazardous Materials

Material identification and the hazardous/nonhazardous nature has been preliminarily identified either directly or indirectly by the inherent nature of the material such as asbestos. The material must be disposed of as hazardous or must be decontaminated. Upon decontamination, the contractor will recycle the material or the decontaminated material (building and fixed appurtenances) will remain.

It is the Contractor's responsibility to identify and segregate the materials for disposal. The Contractor shall develop a flow diagram identifying work flow, material staging, residual disposal, and schedule.

13.1.4 Calculations

13.1.4.1 Quantity of Debris to be Decontaminated

The quantity of asbestos was identified in the Remedial Investigation and Feasibility Study (RI/FS) by Ebasco Services Inc. The quantity was confirmed and actually increased as established in the Draft Predesign Investigation Report, October 1992, prepared by SEC Donohue. The quantities are as follows:

2,600 Lineal feet of pipe wrap
155 Cubic feet of tank coating
200 Square feet of spray-on asbestos coating

The material is in various rooms and is the responsibility of the Contractor to verify what is included in the specification. Additional material may have been missed during the investigations and the Contractor is responsible for ensuring that all asbestos is removed from the building.

The quantity of dust in and below the dust collectors was estimated by SEC Donohue in the October 1992 Draft Predesign Investigation Report. SEC Donohue estimated approximately 10 cubic feet of dust and six 6-inch by 6-foot dust bags. Although one of the dust collectors was reported to be empty, the Contractor is responsible for decontaminating all three dust collectors.

The porous debris and trash inside the building was estimated to be approximately 10 cubic yards of material. Although the volumes were estimated using photographs and information obtained during interview with persons on-site, the volumes may differ from actual by as much as 50 percent. This discrepancy is due to two factors. The first factor is that this is only an ESTIMATE and the photographs obtained during a site visit only show a limited field of vision. The second reason is that the volume is an in-place volume and does not, and cannot account for bulking or bridging during disposal.

13.1.4.2 Surface Area of Building to be Decontaminated

The building itself must be decontaminated with the permanent attached appurtenances. The estimate of square feet to be decontaminated was calculated in the attached calculation sheets. The calculations are approximately as follows:

43,400 sq. ft.	floor
43,300 sq. ft.	ceiling
31,200 sq. ft.	interior perimeter walls
43,600 sq. ft.	interior walls
161,600 sq. ft.	ESTIMATED surface area

Based on an estimate from a contractor during the 35% design, the contractor estimated 15,000 gallons of decontamination fluid for a building with a footprint of 45,000 square feet. The estimated volume of decontamination fluid which will require disposal is 50,000 gallons. This is based on the ratio of surface area to the volume of residual fluid as being 1:3 as estimated by the Contractor.

Additional fluid may be generated due to the permanent fixed appurtenances which require decontamination such as the condensor tanks.

ADDITIONAL DESIGN INVESTIGATION WILL BE REQUIRED
TO DETERMINE VOLUME OF RESIDUAL FLUID
FOR THE BUILDING DECONTAMINATION ACTIVITIES.

13.1.5 Coordination

13.1.5.1 Agencies

The contractor is responsible for coordinating with all agencies involved or pertinent to the work activities. This includes federal, state, and local agencies. The contractor is responsible for identifying key personnel with those agencies involved and keeping them appraised of all ongoing site activities.

13.1.5.2 Regulations and Permits

Regulations, licenses, and permits are the responsibility of the contractor. Some of the applicable regulations, licenses, and permits are identified in the specification. Others are mentioned in specification No. 01060, Regulatory Requirements. The lists may not be all inclusive and the Contractor is responsible for all applicable requirements.

13.1.5.3 Off-site Transportation and Disposal

Hazardous and nonhazardous materials will be transported and disposed of off-site. Many of the requirements and volumes for these actions are unknown because the Contractor's means and methods have not been identified. The identification of the specific requirements of the disposal facilities will be the responsibility of the Contractor once decontamination methods have been selected and approved. The materials for decontamination have been preliminarily identified although they are only ESTIMATES. Therefore, the Contractor is responsible for identifying all applicable requirements and submitting copies of the appropriate documentation to the Contracting Officer before proceeding with the work.

13.1.5.4 Utilities

Utilities are available ONLY to the site perimeter. The Contractor is responsible for contacting appropriate utility companies for required services. Additional information may be available from the civil engineering utility drawings.

13.1.5.5 Environmental Protection

The Contractor is responsible for minimizing the exposure of all on-site and off-site personnel. The Contractor is responsible for using means and methods to prevent releases of hazardous substances to the environment. Because the contractor will specify the decontamination methods, the Contractor will be responsible for ensuring the work is performed such that there is no impact or potential impact to public health and the environment.

13.1.5.6 Disposal of Decontamination Residuals

The Contractor will provide a plan of operation which will include a list of potential disposal facilities. The Contractor must receive approval from the Contracting Officer before using any facility. The Contractor must then meet the disposal facility requirements and provide documentation of such to the Contracting Officer before using the facilities. The Contractor may coordinate activities with other contractors as needed but must at all times meet all applicable requirements for transportation and disposal.

13.2 REMOVAL AND DISPOSAL OF ASBESTOS-CONTAMINATED MATERIAL

This Section of the DA Report describes the removal and disposal of asbestos-contaminated material (ACM) which will be performed as part of building decontamination activities during the remediation of the Operable Unit I of the CPC Site. This DA details the general parameters, functional and technical requirements, design objectives and provisions, calculations, and coordination with other contractors and outside agencies necessary for ACM removal and disposal.

13.2.1 General Parameters

Details of the scope and objectives, previous decision-making documents, waste characterization, removal actions, off-site transportation and disposal, as they pertain to ACM, are provided below. Technical provisions are identified in specification No. 13850 and are governed by state, local, and federal regulations. Specific applicable regulations include 29 CFR 1910, 29 CFR 1926.58, and 40 CFR 61 subparts A and M and applicable New York State regulations.

13.2.1.1 Scope and Objectives

The scope and objectives of the ACM removal and disposal component of the RA are governed by regulations and industry practice. The primary objective of this component of the RA is to remove the ACM and associated health and environmental hazardous associated with ACM and, in association with other decontamination procedures, allow unrestricted future use of the building.

13.2.1.2 Previous Decision-Making Documents

The Source Control Operable Unit Record of Decision for Operable Unit 1 at the CPC Site (USEPA, 1990) specifies the ACM in the Process Building must be properly removed and disposed of off-site.

13.2.1.3 Waste Characterization

Some of the tanks and pipes in the Process Building have insulation that contains ACM. This material is estimated to include 2,600 lineal feet of pipe wrap, approximately 155 cubic feet of tank coating, and approximately 200 square feet of additional spray-on asbestos (Ebasco, 1990, and SEC Donohue, 1992).

13.2.1.4 Removal Action

Removal of ACM will be performed according to regulations and procedures which are identified in detail in specification No. 13850. The Contractor will be responsible for complying with these and other applicable regulations and procedures.

13.2.1.5 Off-Site Transportation and Disposal

Collected ACM will be placed in sealed, appropriately labelled containers and disposed of at an EPA-approved or state-approved disposal facility permitted to accept ACM. Off-site transportation will comply with federal, state, and local regulations.

13.2.2 Functional and Technical Requirements

This section presents some of the functional and technical requirements for the removal and disposal of ACM.

13.2.2.1 Responsibilities

- Owner - Comply with the Section 01155 Health, Safety, and Emergency Requirements.
- Contractor - prepare, implement, and adhere to the Asbestos Hazard Abatement Plan and other required submittals as identified in Specification 13850. Comply with the Section 01155 Health, Safety, and Emergency Requirements.
- Contracting Officer - approve required submittals and commencement suspension of work activities and coordinate work activities as specified in the contract documents.

13.2.2.2 General Requirements

All ACM removal and disposal work will be in accordance with the Asbestos Hazard Abatement Plan. The Asbestos Hazard Abatement Plan will describe, in detail, the safety precautions and work procedures to be used in the ACM removal and disposal. The plan will include, but not be limited to, precise personal protective equipment to be used, the location of asbestos control areas, buffer zones, showers, storage areas, change rooms, removal method, sequencing of removal, disposal plan, type of wetting agent and asbestos sealer to be used, if any, locations of local exhaust equipment, planned air monitoring strategies, and a detailed description of the pollution control method to be used. The plan will also include emergency response plans.

13.2.2.3 Spatial Requirements

The building covers approximately 43,400 square feet and the ACM is in various rooms within the building.

13.2.2.4 Removal Criteria

After the ACM removal is complete, the airborne asbestos concentration must be less than 0.01 fibers per cubic centimeter (or at background levels, whichever is greater) within the work area before the asbestos work control area can be removed.

Furthermore, before final air sampling, the asbestos control and work area will be free of visual accumulations of dirt, dust, or debris.

Final verification sampling may be necessary to confirm complete removal from pipes and tanks.

13.2.2.5 Disposal Criteria

ACM will be sealed in fiberproof, waterproof, non-returnable, properly labelled, containers for disposal. The ACM will be disposed at a EPA-approved or state-approved landfill off government property. Hauling and disposal will comply with 40 CFR 61, Subpart M, state, regional, and local standards.

13.2.3 Design Objectives and Procedures

This section describes the tasks, procedures, and objectives of the ACM removal and disposal component of the building decontamination.

13.2.3.1 General

The contractor will prepare and submit an Asbestos Hazard Abatement Plan describing specific procedures and precautions to be followed during ACM removal and disposal. The plan must be approved by the Contracting Officer before work can begin.

13.2.3.2 Sampling and Analysis

Air sampling for asbestos fibers will be conducted in accordance with regulations. The analyses must be performed by a laboratory certified by the American Industrial Hygiene Association Proficiency Analytical Testing Program. If analysis to determine asbestos content in bulk materials is required, the laboratory will be accredited by the National Institute of Standards and Testing under the National Voluntary Laboratory Accreditation Program for bulk asbestos analysis.

13.2.3.3 Removal Area Preparation

ACM removal will be performed in accordance with appropriate regulations. Electrical service will be disconnected in areas where wet removal is performed. Temporary electrical service will be provided prior to the use of any water.

Asbestos control areas will be marked with warning signs and labels. Areas adjacent to asbestos control areas will be protected from damage and contamination.

The type of asbestos control areas to be used will be determined by the contractor.

13.2.3.4 Asbestos Removal

Asbestos will be wetted during removal and handling activities to reduce airborne fiber emissions. ACM will be sealed in plastic bags or other appropriate containers immediately after removal. After ACM is removed, items with asbestos fibers remaining on the surface will be coated with a lockdown encapsulant and removed. Prior to final cleanup, all removal areas will be visually inspected.

13.2.3.5 Staging

Removed ACM and asbestos contaminated water, scrap, debris, containers, equipment, and clothing sealed in containers will be temporarily stored in asbestos waste drums or skids until final removal.

13.2.3.6 Air Sampling

Air sampling will be performed prior to, during, and after ACM removal. One day prior to the masking and sealing operations at each removal site, air will be sampled to determine the baseline. Background airborne concentrations will be established by sampling similar but uncontaminated portions of the building.

Air sampling will be performed at locations and frequencies appropriate to the type of work area chosen by the contractor. If airborne asbestos fiber action levels are exceeded, the contractor will stop work, take measures to reduce the concentrations, and contact the Contracting Officer.

After ACM removal is complete in a work area, air sampling will be performed before the work area can be removed. If asbestos fiber counts from these samples exceed 0.01 fibers per cubic centimeter (or background), the contractor will reclean and resample the work area.

13.2.3.7 Transportation and Disposal

Transportation and disposal will comply with federal, state, and local regulations. The ACM and other asbestos contaminated waste will be disposed at an EPA-approved or state-approved asbestos landfill off government property.

13.2.4 Calculations

The following quantities of ACM were estimated in the Draft Predesign Investigation Report (SEC Donohue, October 1992):

609	lineal feet of pipe wrap
130	cubic feet of tank coating

The following additional estimated quantities of ACM were obtained from the Draft Final RI/FS (Ebasco Services Inc., 1990).

2,000	lineal feet of pipe wrap
24	cubic feet of tank coating

Therefore, the total estimated amount of ACM is:

2,600	lineal feet of pipe wrap
154	cubic feet of tank coating
200	square feet of spray-on asbestos

13.2.5 Coordination

This section describes coordination of ACM removal and disposal activities with outside agencies and subcontractors.

13.2.5.1 Agencies

The Asbestos Hazard Abatement Plan will be approved by the NYDEC and USEPA before work begins. The Contracting Officer, USEPA, NYSDEC, and the local air pollution control agency will be notified in writing 10 working days prior to the start of asbestos work. The local fire department will be notified 3 days prior to removing any fire-proofing material from the building.

13.2.5.2 Regulations and Permits

The Contractor will be responsible for obtaining necessary permits and licenses in conjunction with asbestos removal, hauling, and disposal.

In addition to the requirements of specification Nos. 13850 and 01060, the contractor will comply with applicable laws, ordinances, criteria, rules, and regulations of federal, state, and local authorities regarding ACM removal, storage, transportation, and disposal.

13.2.5.3 Transportation

Transportation of asbestos waste will comply with applicable rules and regulations. Coordination with government agencies and other contractors will be initiated and maintained by the contractor to ensure the ACM is transported properly.

13.2.5.4 Off-Site Disposal

Off-site disposal will require coordination with government agencies and the receiving landfill. The contractor will submit written evidence to the Contracting Officer that the landfill is approved for asbestos disposal by the USEPA, state, and local agencies. The contractor will also certify the quantity of asbestos materials delivered to the landfill within 3 days of delivery.

13.2.5.5 Utilities

Electric, water, and sewer utilities are available to the CPC site; however, electric and water services were disconnected after CPC operations ceased. Sanitary sewer was not disconnected but is the responsibility of the Contractor to verify operation.

No existing agreements for primary service are in place with the Plainfield Water District, Nassau County Public Works, Long Island Light, or New York New England Telephone Company.

The Contractor will be responsible for determining utility requirements and establishing service with the local utilities for any utilities needed for site work activities.

The Contractor will also be responsible for disconnecting electrical service in asbestos work areas where wet removal is performed.

13.2.5.6 Environmental Protection

ACM removal and disposal activities will be performed in such a manner that disturbance to the surrounding area is minimized. Airborne emissions, noise, and traffic controls will be implemented in accordance with rules and regulations, in order to minimize potential environmental impacts.

13.2.5.7 Disposal of Site-Generated Wastes

Any debris, equipment, water, or clothing which may produce airborne asbestos fibers will be disposed of as ACM.

Other rubbish, debris, and non-hazardous waste generated during on-site activities, will be disposed of off-site. Temporary sanitary facilities will be provided during RA activities. Sanitary waste will be collected and removed from the CPC site on a regular schedule and disposed of properly. The contractor will be responsible for arranging trash disposal and sanitary services.

13.3 SALVAGEABLE MATERIAL REMOVAL

13.3.1 General Parameters

13.3.1.1 Scope and Objectives

The purpose of this section is to describe procedures for the removal of salvageable material from the Claremont Polychemical Site. This material includes surface debris found outside the building which is considered to be uncontaminated, and equipment from inside the building which has been decontaminated. Material will be decontaminated in accordance with Section 13.1, Building Materials and Content Decontamination. Salvageable material includes scrap metals, wood and rubber which may be resold as scrap or for recycling. Material outside the building, except for the two aboveground storage tanks and any debris excavated with contaminated soil, is assumed to be nonhazardous. Salvageable building contents will be decontaminated prior to salvage. Salvage is to be performed to minimize the amount of wastes generated, and to reclaim the most material possible.

13.3.1.2 Previous Decision-Making Documents

Pertinent documents for remedial actions to take place at the Claremont Polychemical Site are as follows:

- Draft Final Remedial Investigation Report, Claremont Polychemical Site, Ebasco Services, Inc., 1990.
- Record of Decision, Claremont Polychemical Site, USEPA, 1990.

- Draft Predesign Investigation Report, Claremont Polychemical Site, SEC Donohue Inc., 1992.

- Thirty-five Percent Preliminary Design Submittal, Claremont Polychemical Site, SEC Donohue Inc., 1992.

These documents contain information about the nature and extent of contamination, media affected, and description of remedial actions to occur at the site.

13.3.1.3 Debris Characteristics

As listed in the 35 Percent Preliminary Design Submittal, there are approximately 20 cubic yards of salvageable material to be removed from the building and decontaminated. This material includes various shop equipment, tanks and a boiler. Approximately 70 tons of material is outside the building, which can be sold as scrap. Two aboveground tanks outside are to be emptied and decontaminated before resale as scrap.

13.3.1.4 Decontamination

Decontamination of hazardous materials from inside the building and the two aboveground tanks outside will meet regulations as described in Section 13.1, Building Materials and Content Decontamination.

13.3.1.5 Staging

Material in the building will be decontaminated and staged in the staging area outside the building. This area will consist of a covered container for smaller material, and an area where large pieces of equipment (such as truckbeds and cranes) can be stored.

13.3.1.6 Off-Site Transportation and Disposition

Salvageable materials will be hauled to a commercial recycling/salvage facility. The contractor will submit to the Contract Officer bills of lading for transportation, written notice of acceptance of the material by the recycling/salvage facility, and plans for transportation of the material to the facility.

13.3.2 Functional and Technical Requirements

13.3.2.1 Responsibilities

The Contractor is responsible for proper decontamination of hazardous material, transportation, and final disposition of the material at the recycling/salvage facility. The Contractor is also responsible for determining which debris is salvageable, an which should

be disposed of as hazardous or nonhazardous waste. The Contracting Officer is responsible for obtaining a hazardous waste generator identification for off-site hazardous waste/materials disposal. Contractor is responsible for securing proper transport and disposal of the decontamination fluids and other residuals.

13.3.2.2 General Requirements

General requirements for this task include the storage of debris in the appropriate staging area, decontamination, and transporting decontaminated and other nonhazardous material to a commercial recycling/salvage facility.

13.3.2.3 Spatial Requirements

Spatial requirements for this activity will be approximately 50 feet by 50 feet of the staging area. Decontamination of salvageable materials will take place inside the building. The 50 feet by 50 feet area will be used for staging of salvageable material for its final disposition. This area will be readily accessible by truck for transportation to the recycling/salvage facility.

13.3.2.4 Decontamination Criteria

Decontamination criteria for salvageable materials are the same as for building materials. These are described in Section 13.1.

13.3.2.5 Transportation Criteria

Transportation of salvageable material will take place on approved general truck routes. Material will be transported in rolloff boxes, or on flatbed trucks.

13.3.2.6 Disposition Criteria

Salvageable material will be taken to a commercial recycling/salvage facility. Truckloads will be weighed upon leaving the site, and upon arrival at the salvage facility. The Contractor will be responsible for reconciling any discrepancies in the weight records. Title to the materials will transfer to the operator of the recycling/salvage facility.

13.3.3 Design Objectives and Criteria

13.3.3.1. General

The general design objective for this task is to locate the staging area such that transfer of materials will be facilitated. Staging area will be close to roads and driveways, for easy truck access.

13.3.3.2 Sampling and Analysis

Confirmation sampling to assess the efficacy of decontamination will be performed in accordance with the contract and regulations as identified in Section 13750, and the data will be managed as outlined in Chapter 14, Chemical Data Quality Management.

13.3.3.3 Decontamination

Contaminated debris which is nonporous, and judged to be salvageable, will be decontaminated inside the building. Decontamination will be performed to render debris nonhazardous, so that it may be resold for recycling or salvage. Decontamination will take place as described in Section 13.1 of the Design Analysis Report.

13.3.3.4 Confirmation Sampling

After decontamination, debris will be sampled to check the effectiveness of decontamination. Sampling and analysis will proceed as described in Chapter 14.

13.3.3.5 Staging

After material has been decontaminated (if appropriate) it is to be staged for salvage. Smaller salvageable items will be placed in rolloff boxes. Oversized debris (such as construction equipment) will be staged on the ground adjacent to the rolloff boxes. Porous contaminated material from the building will be staged separately in closed containers (rolloff boxes).

13.3.4 Calculations

Calculations of the quantity of material to be salvaged is attached.

13.3.5 Coordination

13.3.5.1 Agencies

Coordination will be required with the appropriate regulatory agencies (USEPA, NYDEC, USDOT, NYDOT) before materials can be shipped off-site.

13.3.5.2 Permits

Licensed haulers and recycling/salvage facilities will be used for transport and disposition of salvageable materials.

13.3.5.3 Transportation

Licensed haulers will be contracted to transport salvageable materials off-site.

13.3.5.4 Off-Site Recycling/Salvage Facilities

Licensed facilities will be contracted for recycling/salvage of material from the site.

13.3.5.5 Disposal of Decontamination Residuals

Residuals (wash water, protective clothing) will be disposed of in accordance with all applicable regulations.

RP/CPC65RDN/AA8

APPENDIX A

SEC DONOHUE
Environment & Infrastructure

CALCULATION SHEET

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PROJECT NO. 18422.312

CLIENT USACE SUBJECT DECON METHODS Prepared By DWG Date 1-26-93

PROJECT CPC 65% Reviewed By _____ Date _____

_____ Approved By _____ Date _____

Asbestos Abatement
Absorption (Liquid only)
Demolition
Dismantling
Dusting/Vacuuming/Wiping (particulates & solids)
Encapsulation
Grit blasting
Hydroblasting/water washing
Painting/Coating/SEALANT
Scarification (concrete only)
RadKleen
Solvent washing
Steam Cleaning
Vapor-phase solvent extraction
Acid etching
Bleaching
Flaming
Drilling & Spalling (concrete only)
~~Sealant~~
Microbial Degredation
Photochemical Degredation

CHOOSE:

Least costly
Technically feasible
Reduce contamination to predetermined levels
LONG TERM MONITORING?

DETAILED SITE DECON PLAN
H&S REQMNTS
MONITORING (PERSONNEL, ATMOSPHERE, CLEAN-UP EFFECTIVENESS)

SEC DONOHUE
Environment & Infrastructure

CALCULATION SHEET

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PROJECT NO. 18422

CLIENT USACE SUBJECT DECON Prepared By DWG Date 1-26-93

PROJECT CPC 659o Reviewed By _____ Date _____

_____ Approved By _____ Date _____

DECON PLAN

SPECS
METHOD
PROCEDURES
QA/QC
EQUIPMENT
SUPPORT FACILITIES
AERIAL EXTENT
RESIDUALS
RESIDUAL TRTMNT/DISPOSAL
CODES & REGS
EQUIP/PERSONNEL DECON
SAMPLING/ANALYTICAL RQMNTS
H & S
SCHEDULE
DOCUMENTATION
PRODUCTS
STAGING AREA
HOUSEKEEPING

SEC DONOHUE
Environment & Infrastructure

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PROJECT NO. 18422

CLIENT USACE SUBJECT BLDG DECON Prepared By DWG Date 1-26-93

PROJECT CPC 65% Reviewed By _____ Date _____

_____ Approved By _____ Date _____

ASBESTOS ABATEMENT

A Removal
B Encapsulation
C Enclosure
D Maintenance & Monitoring

A. Permanent
Costly
Time consuming
Sealing of porous material after removal ? – sometimes

ISOLATE WORK AREA
VENTILATION

B. Periodic Reinspection
Repair – reencapsulation

C. Periodic Reinspection
Repair
Controlled Access – Maint/Renovation
Eventual Removal

D. Nonfriable only
Periodic Reinspection
Removal before sale/demo

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Environment & Infrastructure

CALCULATION SHEET

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PROJECT NO. 18422

CLIENT USACE SUBJECT BLDG. DECON Prepared By DWG Date 1-26-93

PROJECT CRC - 6570 Reviewed By _____ Date _____

_____ Approved By _____ Date _____

BUILDING DECON

ABSORPTION —

- WATER ONLY (LIQUIDS)
- GROSS CONTAMINATION ONLY
- ADDITIONAL CLEANING USUALLY RQ'D
  - CLAY, FILLER, SOIL, SAWDUST
- HAZ WASTE DISPOSAL

DEMOLITION —

- COMPLETE REMOVAL
- GENERATES LARGE QUANTITY OF CONTAM. DEBRIS
- EXPOSURE TO AIRBORNE CONTAMINANTS
- TYPICALLY PRETREAT FOR DUST REMOVAL

DISMANTLING —

- ONLY CONTAM PORTION REMOVED (PROCESS EQUIP)
- DISRUPTION TO STRUCTURE/PROCESS
- LARGE QUANTITIES OF CONTAM DEBRIS
- ADDITIONAL DECON BEFORE DISPOSAL/SALVAGE

DUSTING/VACUUMING/WIPING —

- SMALLER VOLUMES OF WASTE USING COMMON CLEANING TECHNIQUES
- EASY DISPOSAL
- PARTICULATES & SOLIDS ONLY
- MAY SPREAD CONTAM (WIPING, DUST MOVEMENT)

ENCAPSULATION / ENCLOSURE —

- LESS / NO CONTAMINANT DISPOSAL
- MAY RENDER STRUCTURE INACCESSIBLE / INOPERABLE
- PHYSICAL BARRIERS (BARRIER OR ENCLOSURE)

GRITBLASTING —

- REMOVE MANY SURFACE CONTAMINANTS
- LARGE QUANTITIES OF DUST / DEBRIS)
- SLOW
- SURFACE CONTAMINANTS ONLY

HYDROBLASTING / WATERBLASTING —

- OFF-THE-SHELF EQUIPMENT
- HOT OR COLD H_2O W/ VARIED PRESSURE
- ABRASIVES, SOLVENTS, SURFACTANTS
- NOT EFFECTIVE FOR PENETRATED CONTAMINANTS
- LG. QUANTITY OF RESIDUALS - TREAT / DISPOSE
- COLLECTION / CONTAINMENT PROCEDURES

PAINTING / COATING + SEALANT —

- READILY AVAILABLE INEXPENSIVE EQUIPMENT
- REDUCES LEVEL OF EXPOSURE TO OCCUPANTS
- DOES NOT CREATE HAZ WASTE UNLESS REMOVING OLD / EXISTING
- PHYSICALLY HOLDS / STABILIZES CONTAMINANTS FOR EASIER HANDLING
- LABOR INTENSIVE OPERATION
- LIFETIME MONITORING / ADDITIONAL COATING
- BINDING TO "HOST" MAY LEAD TO HAZ. BLDG MTL

CLIENT USACE SUBJECT BLDG DECON Prepared By DWG Date 1-26-93
PROJECT CRC - 6570 Reviewed By _____ Date _____
Approved By _____ Date _____

SCARIFICATION —
- DEEPER PENETRATION ~ 2.5 CM
- COST
- RESURFACE TREATED SURFACE
- LG. QUANTITY OF RESIDUALS (DEBRIS/H_2O)
- CONCRETE ONLY
- OPEN UNIMPEDED AREAS ONLY

RADKLEEN (FLUOROCARBON EXTRACTION OF CONTAMINANTS)
- FREON 113 —
- SECONDARY TRTMNT FOR FREON RQED
- CHEMICALLY ACTIVE METALS MAY PRESENT PROBLEMS

SOLVENT WASHING —
- REQUIRES PROPER SOLVENT FOR CONTAMINANT
- MAY PRODUCE FURTHER IMPREGNATION
- RESIDUAL SOLVENT MAY REQUIRE DECON

STEAM CLEANING —
- SIMPLE W/ AVAILABLE EQUIP
- THERMAL DECOMPOSITION OR HYDROLYSIS
- SURFACE ONLY
- LABOR INTENSIVE
- LG VOL. CONTAM RESIDUALS

VAPOR-PHASE SOLVENT EXTRACTION — (INTO ENTIRE BLDG)
- REQUIRES APPROPRIATE SOLVENT
- POTENTIALLY LONG TREATMENT TIME (DIFFUSION)
- RESIDUES MAY PENETRATE DEEPER BEFORE DIFFUSING OUTWARD

ACID ETCHING -
- CONTAMINANTS DECOMPOSITION (CORROSION)
- LG. VOL. ACID / CONTAM RESIDUAL (NEUTRALIZATION & DISPOSAL)
- LABOR INTENSIVE
- HAZARDOUS

BLEACHING -
- GOOD ON METAL SURFACES
- CONCENTRATION/COMPOSITION IS A CONCERN
- CORROSION

FLAMING - (THERMAL DECOMPOSITION)
- COMPLETE & RAPID DESTRUCTION UPON CONTACT
- SURFACE ONLY
- HIGH FUEL COST
- PRIMARILY EXPLOSIVES AND LOW LEVEL RADIATION
- CHAR REMOVAL FROM WALLS

DRILLING & SPALLING (5cm SURFACE REMOVAL)
- DEEPER PENETRATION
- LG. SCALE APPLICATION
- TREATED SURFACE REQUIRES RESURFACING
- CONCRETE ONLY
- CONTAM DEBRIS / H_2O
- TIME CONSUMING & SLOW

MICROBIAL DEGREDATION
- TARGET SPECIFIC
- DULPMNT FOR SURFACES
- UNKNOWN DEGREDATION PRODUCTS
- UNTESTED FOR BLDG DECON
- MUST BE KEPT WET

SEC DONOHUE
Environment & Infrastructure

CALCULATION SHEET

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PROJECT NO. 18422

CLIENT USACE SUBJECT BLDG - DETON

Prepared By DWG Date 1-26-93

PROJECT CPC - 65% Reviewed By _____ Date _____

Approved By _____ Date _____

PHOTOCHEMICAL DEGREDATION -

SUNLIGHT OR U.V. LIGHT

PRIMARILY SURFACE (NO DEPTH)

EXPOSURE HAZARDS

HIGH COST

SEC DONOHUE
Environment & Infrastructure

CALCULATION SHEET

PAGE 01 OF 02

PROJECT NO. 18422

CLIENT USACE SUBJECT BLDG CONST.

PROJECT CPC-65% Prepared By DWG Date 1-26-93

Reviewed By _____ Date _____

Approved By _____ Date _____

PHOTO INTERP:
(INTERIOR WALL CONSTRUCTION)

OUTER PERIMETER WALLS
POURED (TILT-UP)
SOME PAINTED

INTERIOR:
MAINTENANCE — BLOCK
UPSTAIRS OFFICE - SHEET ROCK
DURAGOLD ROOM - POURED
PIGMENT ROOM - POURED
INK ROOM - POURED
STABILIZER ROOM - POURED AND BLOCK

BLOCK ELSEWHERE IN BUILDING - PHOTOS DO NOT I. D. ROOM

PREDESIGN INVESTIGATION REPORT p 3-1
Masonry bearing walls
Concrete " "
Concrete tilt-up panels ...
ROOF IS METAL DECK ON STEEL JOIST OR WIDE FLANGE BEAMS

SEC DONOHUE
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CALCULATION SHEET

PROJECT NO. 18422

CLIENT USACE SUBJECT BLDG. CONST Prepared By DWG Date 1-26-93

PROJECT CR-657b Reviewed By _____ Date _____

_____ Approved By _____ Date _____

Receiving Room:
Trash (Debris) and Pallets

Mix Room:
Plastic

Shipping Warehouse:
Oil
No concrete near well

Stabilizer Shipping:
ACM, Bagged ACM

Shipping Offices:
Debris, ACM on floor & Pipes

Restroom / Shower / Lunchroom
Ceiling Tile, Glass

Second Floor Offices:
Debris (sheet rock, paper)

Laboratory: (upstairs)
sludge, debris

Maintenance:
Debris, salvageable material, ACM, Tanks

Ink Room:
Dust

Durogold Room:
Chemicals, ACM

STABILIZER ROOM:
Chemicals

Production Room:
Floor Contamination

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CALCULATION SHEET

PAGE 1 OF 3

PROJECT NO. _____

CLIENT USACE-KC SUBJECT PROCESS BUILDING SURFACE AREA CALCULATIONS

PROJECT CPC -65% Prepared By S&L Date 2/3/93

Reviewed By _____ Date _____

Approved By _____ Date _____

1. Outside Dimensions of Building:

(See attached figure)

Segment	Length (ft)
① to ②	83
② - ③	168
③ - ④	
④ - ⑤	148
⑤ - ⑥	75
⑥ - ⑦	93
⑦ - ⑧	80
⑧ - ⑨	9
⑨ - ⑩	164
⑩ - ⑪	46
⑪ - ⑫	35
⑫ - ⑬	103
⑬ - ①	35
	1039 ft ≃ 1040 ft

2. Footprint of Building

(See attached Figure)

Area	Includes (pts on figure)	Dimensions	Surface Area (SF)
A	①, ②, ③, ④	83' x 168'	13944
B	⑤, ⑬	65' x 134'	8710
C	⑥, ⑦, ⑧	93' x 80'	7440
D	⑨	85' x 129'	10695
E	⑩, ⑪	46' x 35'	1610
			42399

Total Building footprint ≃ 43400 SF

3. SURFACE AREA OF ROOF

Assume same as building footprint (43400 sf)

4. SURFACE AREA OF WALLS • Assume building is 30 ft high

A. Outside walls

Surface area = outside dimension x height

= 1040 x 30 = 31200 sf

B. Inside Walls

(see attached figure)

Wall	length (ft)	Wall	length
a	40	s	11
b	110	t	25
c	233	u	50
d	143	v	6
e	35	w	17
f	35	x	10
g	35	y	25
h	35	z	85
i	25	aa	25
j	25	ab	31
k	20	ac	61
l	12	ad	33
m	12	ae	10
n	45	af	9
o	130	ag	9
p	47	ah	23
q	11	ai	12
r	8	aj	12

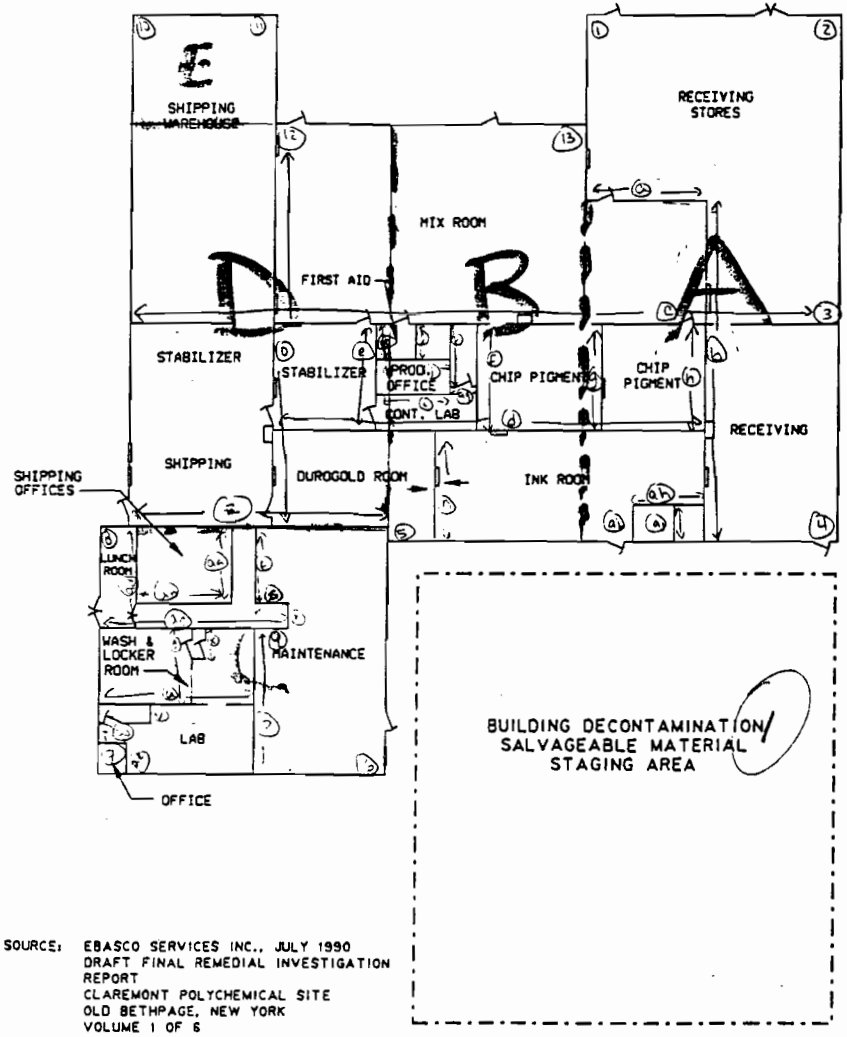
Total inside wall length = 1455 ft

Total inside wall surface area = 1455' × 30' = 43650 sf

≃ 43600 sf

5. TOTAL SURFACE AREA TO BE DECONTAMINATED

43400sf	Floor
43400 sf	Roof
31200 sf	Outside walls
43600 sf	Inside walls
161,600 sf	



SOURCE: EBASCO SERVICES INC., JULY 1990
DRAFT FINAL REMEDIAL INVESTIGATION
REPORT
CLAREMONT POLYCHEMICAL SITE
OLD BETHPAGE, NEW YORK
VOLUME 1 OF 6

N

SCALE 0' 20' 40' 80'

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FEB 1993 FIGURE ----- PROJECT 18422

65% DESIGN SUBMITTAL
PHASE 1 REMEDIAL DESIGN PLANS
CLAREMONT POLYCHEMICAL CORPORATION
OLD BETHPAGE, NEW YORK

SEC DONOHUE Environment & Infrastructure

CALCULATION SHEET

PAGE 01 OF 01

PROJECT NO. 18422

CLIENT USACE SUBJECT Dust Collector Prepared By DWG Date 2-4-93

PROJECT CPC - 65% Reviewed By _____ Date _____

Approved By _____ Date _____

DRAFT PREDESIGN INVESTIGATION REPORT
OCTOBER 12, 1992
SEC DONOHUE INC.

SECTION 3.3 DUST COLLECTOR

+ BAGS

#1
- FINE GOLD COLORED FLAKE
  1/4" TO 1/2" THICK
  6' LONG X 3' WIDE
  3/8" ≅ .03 ft
  ∴ 6' X 3' X .03' ⇒ ~ 0.56 ft³
- FLOOR BELOW HOPPER 2' DIAM PILE
  ASSUME 1 FOOT HIGH PILE
  USING 2πr (1 FOOT) ⇒ 2π(1)(1) ⇒ 6.3 ft³
  #1 TOTAL = 6.84 CUBIC FT

#2 SILVER DUST
NONE IN HOPPER
ON FLOOR — 3' DIAM 1/4" to 1/2" THICK
VOLUME: 2π(1.5) 0.03 ft ⇒ 0.28 CUBIC FT
#2 TOTAL = 0.28 CUBIC FT

#3 NOTHING — BIRD DEBRIS

∴ TOTAL = 7.12 CUBIC FEET+
PLUS 6 6" X 6' DUST BAGS

* ASSUME 40% LOW ⇒ ~ 10 CUBIC FEET
+ 6 6" X 6' BAGS

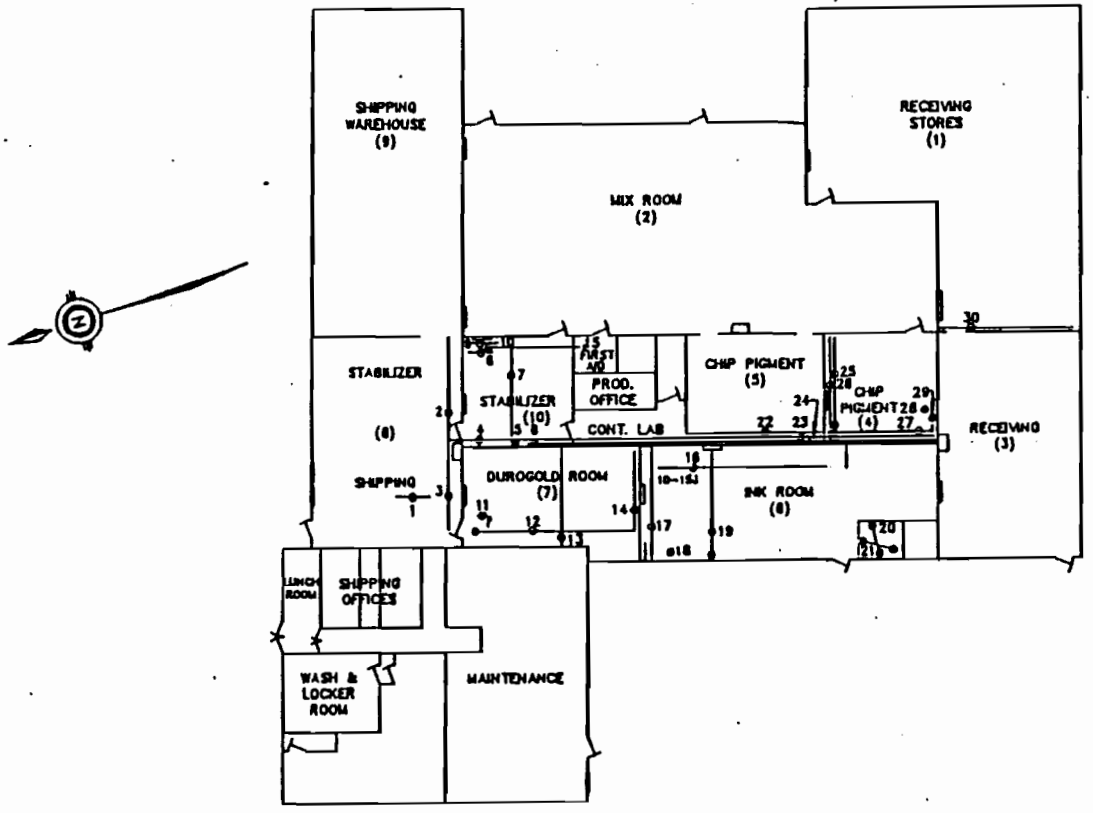
DEBRIS IN & AROUND BUILDING AT CPC

INDOOR

SALVAGEABLE	NOT SALVAGEABLE
Boiler: approx 6' diam 10' long	
Tanks: 2 × 2,500 gal	approx 10 cy gypsum (sweetheck ceiling tile, paper, etc.
5000 gal	
2 × 1000 gal	
approx 15 cy assorted shop equipment* (compressor, drill press, etc.)	* asbestos around pipes
approx 20 skylights	tanks
approx 12 cy pipes, ductwork, electrical	
3 dust collectors (~15' × 5' × 5') with ducts and blowers (on roof)	

OUTDOOR

SALVAGEABLE	NOT SALVAGEABLE
approx. 150 tires	approx 30 old/rusty drums
Tanks: 4 × 5000 gal	approx 20 broken pallets
2 × 500 gal	approx. 1000 cy concrete rubble
1000 gal	
2 transformers (1 possibly active?)	shed
abandoned heavy equipment (2 trucks, 2 front end loaders, ~8 crane/bucket/plow attachments)	pumphouse
truck trailer	approx. 230 drums and
approx 10 pallets	3 rolloff boxes from RI
well pump, switchbox	
approx. 15 truck wheel rims	
telephone pole	
basketball hoop	
pile of iron piping & girders, approx 10' × 5' × 50'	



EXPLANATION

- o HORIZONTAL PIPE
- • VERTICAL PIPE
- X CEILING TILE SAMPLE
- * ANALYZED VIA CLP. ALL OTHER SAMPLES IN STORAGE

LOCATION	APPROX. PIPE DIA. (IN)	APPROX. PIPE LENGTH (FT)	SAMPLE NO.
1 *	2.5	5	CPS-PI-06-03
2	8	35	CPS-PI-06-02
3	4	35	CPS-PI-06-04
4 *	3	155	CPS-PI-10-05
5	2.5	4	CPS-PI-10-06
6	3	135	CPS-PI-10-07
7 *	4	40	CPS-PI-10-08
8 *	2	18	CPS-PI-10-09
9 *	2.5	45	CPS-PI-10-10
10	2	25	CPS-PI-10-11
11	4	FRAGMENT	CPS-PI-07-29
12 *	12	55	CPS-PI-07-31
13 *	5	30	CPS-PI-07-30
14	2	25	CPS-PI-07-32
15 *	NA	200 SQ. FT.	CPS-PI-CT-1
16 *	3	25	CPS-PI-06-28
17	2.5	35	CPS-PI-06-23
18	5	5	CPS-PI-06-24
19 *	2	35	CPS-PI-06-25
20 *	4	30	CPS-PI-06-26
21	4	30	CPS-PI-06-27
22 * *	2.5	45	CPS-PI-05-13 & 130
23	3	155	CPS-PI-05-14
24 *	3	135	CPS-PI-05-15
25 *	2	55(a)	CPS-PI-04-16
26	2	35	CPS-PI-04-17
27	2	40	CPS-PI-04-20
28	2	15	CPS-PI-04-18
29 *	1	10	CPS-PI-04-19
30 *	8	45	CPS-PI-01-01

(a) INCLUDES 20' VERTICAL SECTION

40 0 40

SCALE IN FEET

REV	DATE	BY	CH	APPROVED	REV	DATE	BY	CH	APPROVED

EBASCO SERVICES INCORPORATED

DEPT 940 OR DSW

DATE ____ CH ____

SCALE AS NOTED

APPROVED

U.S. ENVIRONMENTAL PROTECTION AGENCY

CLAREMONT POLYCHEMICAL SITE

LOCATIONS OF INSULATION SAMPLING IN THE PROCESS BUILDING

EPA 4236.373

FIGURE 2-10 00

CL-10A.SVG 11X17

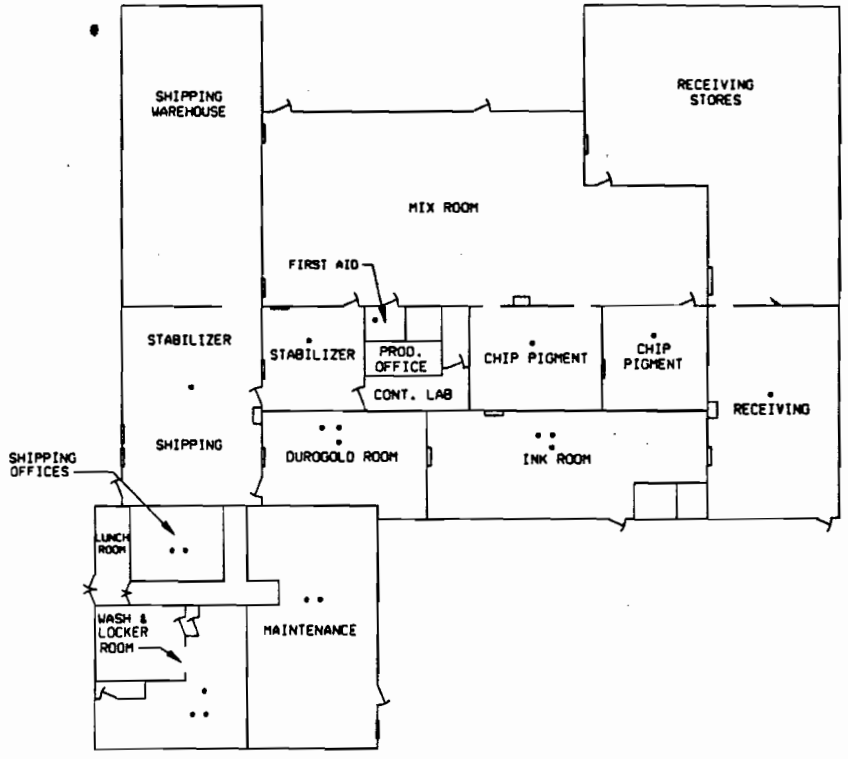
TABLE 3-2

ADDITIONAL PIPE AND TANK INSULATION MEASUREMENT

PREDESIGN INVESTIGATION
CLAREMONT POLYCHEMICAL CORPORATION SUPERFUND SITE
OLD BETHPAGE, NEW YORK
October 1992

Location By Room	Approximate Pipe Diameter (inches)	Approximate Pipe Length (feet)
Maintenance	8	65
Maintenance	8	34
Maintenance	4	32
Maintenance	3	4
Maintenance	4	18
Maintenance	4	12
Maintenance	4	47
Maintenance	4	30
Maintenance	4	30
Maintenance	4	48
Maintenance	(2) 500-gal tanks (8 ft x 4 ft)	1-1/2" wrap
Wash & Locker	2	104
Wash & Locker	4	4
Shipping	1	1
Shipping	1	4
Durogold Room	2	20
Ink Room	1	6
Ink Room	2	105
Ink Room	2	35
Ink Room	3	10

See Figure 3-1 for room location in processing building.



LEGEND

- • ROOMS IN WHICH PIPE INSULATION WAS IDENTIFIED DURING RI
- •• ROOMS IN WHICH ADDITIONAL PIPE INSULATION WAS IDENTIFIED DURING PFI

N

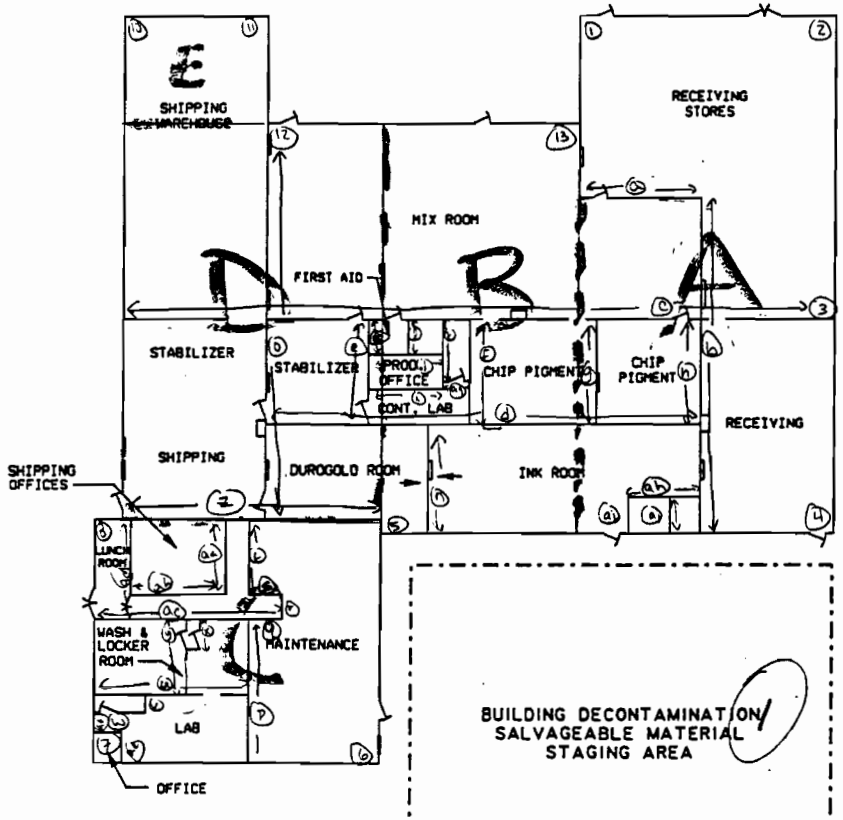
SCALE 0' 20' 40' 80'

SECDONOHUE Environment & Infrastructure

OCT 1992 PROJECT 18422

FIGURE 3-1
PIPE INSULATION INSPECTION
PREDESIGN INVESTIGATION
CLAREMONT POLYCHEMICAL CORPORATION
OLD BETHPAGE, NEW YORK

VA<7::QS2:[103031]BUILDING31.WMA,BUILDING31



SOURCE: EBASCO SERVICES INC., JULY 1990
DRAFT FINAL REMEDIAL INVESTIGATION REPORT
CLAREMONT POLYCHEMICAL SITE
OLD BETHPAGE, NEW YORK
VOLUME 1 OF 6

N

SCALE 0' 20' 40' 80'

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FEB 1993 FIGURE ----- PROJECT 15422

85% DESIGN SUBMITTAL
PHASE 1 REMEDIAL DESIGN PLANS
CLAREMONT POLYCHEMICAL CORPORATION
OLD BETHPAGE, NEW YORK

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CALCULATION SHEET

PROJECT NO. 18422

CLIENT USACE
PROJECT CPC Intermediate Design

SUBJECT QUANTITIES OF MATERIALS FOR SALVAGE/OFF-SITE DISPOSAL

Prepared By DN Date 2/1/93
Reviewed By _____ Date _____
Approved By _____ Date _____

ESTIMATION OF QUANTITIES OF MATERIALS TO BE TRANSPORTED OFF-SITE FOR DISPOSAL/SALVAGE

REFERENCES: PREDESIGN INVESTIGATION REPORT
PHOTOGRAPHS FROM PREDESIGN ACTIVITIES

1. HAZARDOUS MATERIALS - ASSUME ALL MATERIAL FROM INSIDE BUILDING HAZARDOUS

   A. DECONTAMINATION NOT APPROPRIATE
   - DOES NOT INCLUDE ASBESTOS MATERIAL.

   - APPROXIMATELY 10 CY OF MISCELLANEOUS TRASH AND DEBRIS. POROUS MATERIALS SUCH AS SHEETROCK, CEILING TILES, PAPER, WOOD AND CARDBOARD.

   B. OBJECTS WHICH MAY BE DECONTAMINATED AND SALVAGED
   - BOILER: Approx 6 DIAM., 10' LONG
   - TANKS: 2 × 1000 GAL
     2 × 2500 GAL
     5000 GAL
   - APPROX. 1 CY ASSORTED SHOP EQUIPMENT (COMPRESSORS, DRILL PRESS, ETC.)
   - APPROX. 20 SKYLIGHTS
   - APPROX. 12 CY PIPING & DUCTWORK
   - 3 DUST COLLECTORS WITH ANCILLARY EQUIPMENT (DUCTS, BLOWERS) COLLECTORS APPROXIMATELY 15' × 5' × 5'

C. ABOVE-GROUND TANKS

- CONTENTS ~ 750 GAL, TO BE RECYCLED IF NOT HAZARDOUS. (DIESEL, WASTE OIL)
- TWO ABOVE-GROUND TANKS TO BE DECONTAMINATED AND SALVAGED.

2. NON-HAZARDOUS MATERIALS

A. SALVAGEABLE MATERIALS

- TRUCK TRAILER, 2 TRUCKS, 2 F.E. LOADERS
- APPROX. 8 CRANE/BUCKET/PLOW ATTACHMENTS FOR F.E. LOADERS
- APPROX. 150 TIRES
- APPROX. 15 TRUCK WHEEL RIMS
- APPROX 10 PALLETS
- 2 TRANSFORMERS (FLUID SAMPLED, NON-PCB)
- MISCELLANEOUS PIPING, GIRDERS

B. NON-SALVAGEABLE MATERIALS

- APPROX 30 BROKEN/RUSTY DRUMS
- APPROX 20 BROKEN PALLETS
- APPROX 1000 C.Y SOIL, CONCRETE, RUBBLE (TO BE GRADED TO SOIL SURFACE)

3. TOTALS

A. HAZARDOUS MATERIAL TO BE DISPOSED
- APPROX 10 C.Y

B. HAZARDOUS MATERIAL TO BE DECONTAMINATED/SALVAGED
- APPROX 3 C.Y SKYLIGHTS/SHOP EQUIPMENT
- 2 ABOVE GROUND TANKS
- 6 TANKS/BOILER

SEC DONOHUE
Environment & Infrastructure

CALCULATION SHEET

PROJECT NO. 18422

CLIENT USACE
SUBJECT QUANTITIES OF MATERIALS FOR SALVAGE/OFF-SITE DISPOSAL
PROJECT CPC Intermediate Design
Prepared By DH Date 2/1/93
Reviewed By _____ Date _____
Approved By _____ Date _____

HAZARDOUS MATERIALS TO BE DECONTAMINATED (CONT.)

— 3 DUST COLLECTORS

C. NONHAZARDOUS SALVAGEABLE MATERIAL

— APPROXIMATELY 70 TONS

D. NON-HAZARDOUS SOLID WASTE

- APPROXIMATELY 10 CY

14.0 CHEMICAL DATA QUALITY MANAGEMENT

14.1 GENERAL

This chapter of the design analysis report summarizes the information and assumptions used to develop the Chemical Data Quality Management Program (CDQMP) Specification for the selected remedial action (RA) at the CPC site. This design analysis details functional and technical requirements, provisions, calculations, and coordination with site operations and outside agencies.

The following two sections describe the objectives of the CDQMP and the sampling and analyses associated with the design components.

14.1.1 Objectives

The purpose of the Chemical Data Quality Management Program Specification is to provide guidelines and requirements for producing data quality that is legally and scientifically defensible. Sample locations, frequency, parameters, handling, Quality Assurance/Quality Control (QA/QC) and documentation must provide the information necessary to confirm that remediation goals have been met or to make disposal decisions that meet Federal, State, local, and facility requirements.

14.1.2 Design Component Sampling and Analyses

The design analysis for the soil remediation is included in Chapter 12 of the Design Analysis Report. Sampling and analysis associated with the soil remediation includes:

- Confirmation sampling in the spill area hotspot following excavation.
- Sampling of Low Temperature Enhanced Volatilization (LTEV) System Performance Test residuals.
- Post-treatment confirmation sampling of soil.
- Sampling of oversized material prior to off-site disposal.
- Sampling of the LTEV lining residuals prior to off-site disposal.
- Sampling of the LTEV liquid residuals prior to off-site disposal.
- Air emissions monitoring of LTEV, excavation, and stockpile/preparation area.
- Sampling of decontamination solutions prior to disposal.

The design analysis for the building decontamination is included in Chapter 13 of the Design Analysis Report. Sampling and analysis associated with the building decontamination includes:

- Air emissions monitoring during and after decontamination.
- Equipment and building decontamination residuals prior to disposal.
- Tank contents in order to determine disposal requirements.
- Confirmation monitoring of above-ground tanks following decontamination.
- Confirmation monitoring of decontaminated building and equipment.

The design analysis for the groundwater treatment is included as a part of Chapter 8 of the Design Analysis Report. Sampling and analysis associated with the groundwater treatment system includes:

- Monitoring of treatment influent quality following extraction and treatment effluent quality before reinjection.
- Process monitoring of treatment system.

Figure 14-1 shows sampling events for each of the components in the design approach. Additional details regarding sampling under each of the previous components and their role in the overall scheme of the remediation components can be found in the referenced chapters.

14.2 FUNCTIONAL AND TECHNICAL REQUIREMENTS

The following seven sections provide the functional and technical requirements for the Chemical Data Quality component of the remedial action. They include discussions of the criteria used to evaluate the data quality and those responsible for seeing that the data quality criteria are met.

14.2.1 General Requirements

Sampling and analysis will be conducted in accordance with the Chemical Data Acquisition Plan (CDAP) and the Health and Safety Plan (HSP).

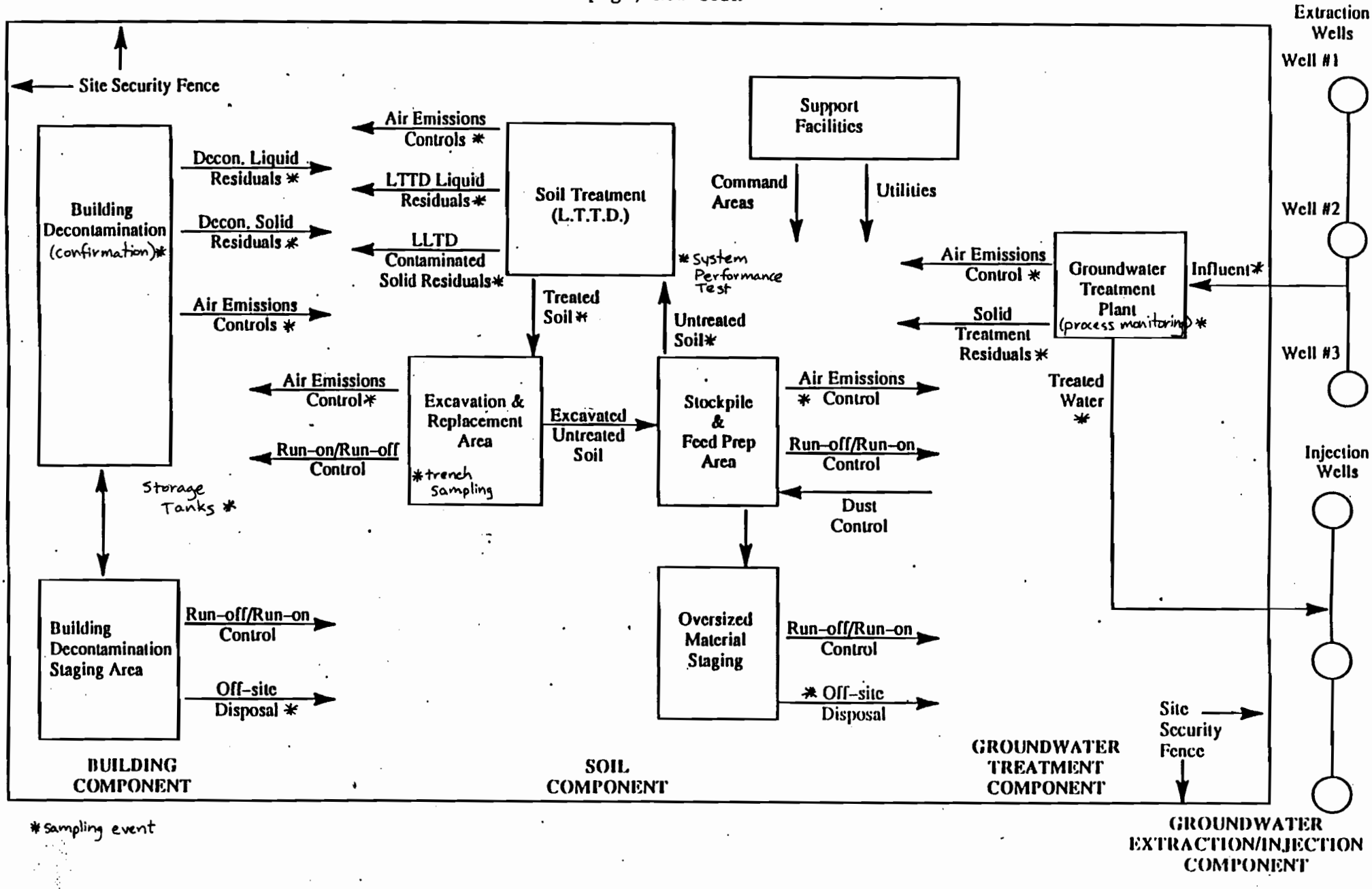
All excess sample and sampling waste materials generated during sampling and analysis will be disposed of by the Contractor.

14.2.2 Chemical Data Acquisition Plan

The Contractor will prepare a Chemical Data Acquisition Plan which identifies criteria and procedures for sampling, sample handling, analysis, quality control, and documentation procedures used to obtain data that meet the data quality objectives. As a part of the CDAP, the Contractor will identify the people responsible for seeing that the CDAP is

FIGURE 14-1

DESIGN APPROACH SAMPLING EVENTS
Claremont Polychemical Corporation
Old Bethpage, New York



* sampling event

followed. The Contractor will identify any subcontractor used to perform work associated with the CDAP and the subcontractor's qualifications for doing so.

The procedures required by the CDAP will comply with US Army Corps of Engineers (USACE), US Environmental Protection Agency (USEPA), and New York State Department of Environmental Control (NYDEC) (collectively called the Agencies) requirements and guidance. Prior to conducting the procedures described in the CDAP, the Contractor will submit the CDAP to the Agencies for approval.

14.2.3 Sampling Criteria

Sample locations, frequencies, and parameters will be determined based on the objectives of the particular sample type. Confirmation samples will be selected to show that the remediation has met the goals identified in the Record of Decision (ROD). Samples taken prior to off-site disposal will be used to show that materials will meet the requirements of the off-site facility, as well as Federal, State, and local regulations. Air emissions samples will be taken to ensure that ambient air conditions meet regulations and to monitor the health and safety of site workers and the surrounding community. The groundwater treatment system influent and effluent samples will be taken to determine the effectiveness of the system and to show that the treated groundwater meets cleanup criteria prior to reinjection. Process monitoring of the groundwater treatment system will be used to tune the system to meet continued optimum conditions.

Where possible, the chapters referenced above covering the soil remediation, building decontamination, and groundwater treatment identify the locations, frequencies and parameters required to meet the sampling criteria. Where sampling details are dependent on the Contractor schedule and resources, the Contractor is required to select locations, frequencies and parameters required to meet the sampling criteria.

14.2.4 Field QA/QC Criteria

The Contractor shall be responsible for collecting and analyzing field duplicate samples at a frequency of 1 per group of 10 or fewer samples for each sample matrix. Field duplicate results will be used to assess the overall precision of the field sampling program and sampling procedures. The relative percent difference (RPD) between a sample and its field duplicate should fall within +/-30%. The calculation for RPD is shown in the Calculations section.

14.2.5 Laboratory Qualification Criteria

The Contractor will complete the "Evaluation of Commercial Laboratory" form for any laboratories selected to perform the sample analysis and submit it to the Agencies for approval.

14.2.6 Sample Analysis Criteria

All samples analyzed by the approved laboratories will be handled according to custody procedures described in the CDAP and analyzed according to analytical methods approved by the Agencies. Laboratory standard operating procedures (SOPs) including instrument calibration and maintenance procedures will be included as an attachment to the CDAP. The Contractor will include a table of detection limits that the laboratory is required to meet as a part of the CDAP.

14.2.7 Laboratory QA/QC Criteria

Method blanks, laboratory replicates, matrix spikes, matrix spike duplicates, surrogates, and laboratory control samples will be used to assess the validity of the laboratory data. Laboratory data will be validated by the Contractor using Laboratory Data Validation Functional Guidelines for Evaluating Organic and Inorganic Analyses, USEPA, 1988. Each of the laboratory QC samples are discussed below.

Method blanks, used to indicate the level of laboratory background contamination, will be conducted at a frequency of 1 per group of 20 or fewer samples analyzed for each sample matrix. Results for samples associated with method blanks that exceed the method quantitation limit will be qualified to indicate that the result may be higher than indicated.

Laboratory replicates, used to determine the precision of the analytical method, will be conducted at a frequency of 1 per group of 20 or fewer samples analyzed for each sample matrix. Laboratory replicates that exceed the relative percent difference (RPD) specified by the Contractor in the CDAP and approved by the Agencies indicate that the precision is affected by the method, matrix, or analytical equipment and results for samples associated with those laboratory replicates will be qualified. The calculation of RPD is shown in the calculations section.

Matrix spikes (MSs), used to evaluate the effect of the sample matrix on the accuracy of the analytical methods, will be conducted at a frequency of 1 per group of 20 or fewer samples analyzed for each sample matrix. Matrix spikes that do not fall within the recovery range specified by the Contractor in the CDAP and approved by the Agencies indicate that the accuracy is affected by the matrix and results for samples associated with those MSs will be qualified. The calculation of percent recovery is shown in the calculations section.

Matrix spike duplicates (MSDs), used to evaluate the effect of the sample matrix on the accuracy and precision of the analytical methods, will be conducted at a frequency of 1 per group of 20 or fewer samples analyzed for each sample matrix. Matrix spike duplicates that do not fall within the RPD and recovery range specified by the Contractor in the CDAP

and approved by the Agencies indicate that the accuracy and/or precision is affected by the matrix and results associated with those MSDs will be qualified. The calculation of percent recovery is shown in the calculations section.

Surrogates are organic compounds that are added to every blank, sample, MS/MSD, and standard analyzed for organics, and are not expected to be detected in environmental media. Surrogates are brominated, fluorinated, deuterated, or isotopically labelled compounds used to evaluate analytical accuracy by measuring percent recovery. Results for samples associated with surrogates that do not fall within the recovery range specified by the Contractor in the CDAP will be qualified. The calculation of percent recovery is shown in the calculations section.

Laboratory control samples, used to evaluate the accuracy of the analytical methods, are conducted quarterly. Results for samples associated with laboratory control samples that do not fall within the sample-specific concentration range indicate that the accuracy is affected by the analytical method or equipment. The laboratory must meet the acceptable criteria on the laboratory control samples in order to do the analytical work.

14.3 PROVISIONS

The following four sections describe the provisions for the Data Quality Management component of the remedial action. This section details sample and equipment storage facilities, sampling equipment decontamination, sample documentation, and data management.

14.3.1 Sampling Equipment Storage Facilities

Temporary site facilities will be required for storage of field sampling equipment, sample containers and shipping containers, and sample storage freezers. Facilities will also be required for sample preparation and sample equipment decontamination.

Facilities should be "clean" enough to prevent contamination of samples and sampling equipment.

The Contractor may provide and maintain an on-site laboratory for on-site sample analysis.

14.3.2 Sampling Equipment Decontamination

Sampling equipment will be decontaminated as described in the Field Sampling Plan of the CDAP to assure no cross-contamination occurs. All residuals resulting from decontamination will be disposed according to Federal, State and local regulations. Where necessary, samples of decontamination residuals will be collected and analyzed to verify that the requirements for facilities receiving the residuals are met.

14.3.3 Sample Documentation

The Contractor will complete all necessary documentation pertaining to sampling and analysis as described in the CDAP to show that the resulting data meets the data quality objectives.

14.3.4 Data Management

The Contractor shall develop in the CDAP responsibilities and procedures for seeing that data is validated and sent to the USACE Contracting Officer, and that copies are generated and kept in an organized project file.

14.4 CALCULATIONS

The following three sections discuss the calculations that are used to determine the data quality.

14.4.1 Precision

Precision refers to the reproducibility of measurements of the same characteristics, usually under a given set of conditions. Precision will be assessed through the analysis of field duplicate samples, matrix spike/matrix spike duplicate samples, and laboratory replicates. A measure of the agreement in two reported sample results is obtained for each analyte. Precision is expressed in terms of relative percent difference (RPD) and is calculated using the following equation:

$$RPD = \frac{|C1-C2|}{1/2(C1+C2)} * 100$$

where:

C1 = concentration of analyte in the first analysis.
C2 = concentration of analyte in the duplicate.

14.4.2 Accuracy

Accuracy is the degree of agreement of a measurement to the true value. The accuracy of a measurement system is impacted by errors introduced through the sampling process, field contamination, preservation, handling, sample matrix, sample preparation, analytical techniques and analytical equipment. Accuracy will be assessed through the analysis of samples spiked with a known quantity of the constituents of interest and will provide information on positive and negative bias. The difference in the concentration levels of the constituents of interest between the spiked and unspiked samples should equal the spike quantity added.

Results of spiked samples surrogate spikes, and reference standards will be expressed as percent recovery (%R) and is calculated using the following equation:

$$\%R = \frac{\text{Measured Spiked Value - Unspiked Value}}{\text{Known Spike Value}} * 100$$

14.4.3 Completeness

Completeness is a measure of the amount of valid data obtained from a measurement system compared to the total number of data obtained. The Contractor shall specify in the CDAP a target percent completeness value for labs performing the analyses as well as any corrective action to be carried out if the target is not met. Completeness is calculated using the following equation:

$$\text{Completeness} = \frac{\text{number of valid data}}{\text{number of samples analyzed}} * 100$$

14.5 COORDINATION

The following four sections describe the coordination required between the Contractor, Engineer, Agencies, Owner, and any off-site facilities involved in activities associated with sample collection and data management.

14.5.1 Agencies

The USACE, USEPA, and NYSDEC shall approve the procedures detailed in the CDAP prior to any sampling and analysis.

The Agencies may conduct field audits of the sampling activities or audits of the analytical laboratory to see that procedures described in the CDAP are followed. The Contractor shall facilitate site access and health and safety issues associated with the audits.

14.5.2 Laboratories

The Contractor shall coordinate with the laboratory and the Agencies to arrange audits of the analytical laboratory required by the Agencies.

The Contractor shall direct and document the flow of samples and analytical data in and out of the laboratory. The Contractor shall see that the Agencies and Engineers receive the results of sample analysis for review and use in decision making.

14.5.3 Utilities

The Contractor shall coordinate with the Owner and the Engineer to facilitate any utility requirements for sample collection. This shall include, but not be limited to, water for decontamination or on-site laboratory (if utilized) and electricity for support facilities or on-site laboratory (if utilized).

14.5.4 Off-Site Disposal

The Contractor shall coordinate with off-site facilities for the disposal of excess sample and sampling waste.

RP/CPC65RND/AA9

15.0 PERMITTING AND REGULATIONS DESIGN ANALYSIS

15.1 GENERAL

15.1.1 Scope

In this chapter of the Design Analysis Report, pertinent Federal, State, and local permits and regulations associated with source control remedial actions at the CPC site are evaluated. Pertinent permit and regulation requirements and the methods to achieve the requirements are identified for support facilities/general site management, groundwater treatment system, groundwater extraction system, excavation and treatment of contaminated soil, and building decontamination components of the CPC remedial design. Available permit applications are also included. This information is summarized in Tables 15-1 through 15-5. Section 15.4 discusses unresolved/key issues.

15.1.2 Purpose

The purpose of this chapter of the Design Analysis Report is to provide USACE with information regarding pertinent permits and regulations related to the CPC remedial design (RD) and present the evaluations required to prepare the specifications. The specifications indicate that the Contractor will be responsible for determining the applicability of, and complying with, all permits and regulations. Qualifiers and clarifications of the specifications are discussed in this chapter.

Tables 15-1 through 15-5 list regulations, permits and guidance for the CPC remedial action. Regulations and permits may apply to preconstruction, construction/implementation, and long-term monitoring at the CPC site. Guidance (non-enforceable) is included in the tables as recommended information for the Contractor to be aware of (guidance may clarify the regulations for the benefit of Contractors).

The tables differ from those in the Preliminary Remedial Design Submittal (SEC Donohue, 1992) in that: 1) the far right column now indicates the party responsible for compliance; and 2) that there are a few regulations added since the Preliminary Remedial Design Submittal. These changes are discussed below.

15.1.3 Permits

The remedial design (RD) for the CPC Superfund Site is under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments Reauthorization Act (SARA). As provided by CERCLA, actions conducted entirely on-site are exempted from the administrative requirements (recordkeeping and reporting, administrative reviews, processing delays, and fees) of

TABLE 15-1

SUPPORT FACILITIES/GENERAL SITE MANAGEMENT
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Remedial Design
Operable Unit 1
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
FEDERAL:		
OSHA - Occupational Safety and Health Standards (29 CFR 1910 and 1926)	General - ° Specifies safety equipment and procedures to be followed during site remediation.	Design requires Contractor to provide a site-specific health and safety plan addressing these issues.
OSHA - Record Keeping, Reporting, and Related Regulations (29 CFR 1904)	General - ° Outlines the record keeping and reporting requirements for an employee under OSHA.	Design requires Contractor to provide a site-specific health and safety plan addressing these issues.
RCRA - Tank Systems - (40 CFR 264 Subpart J)	Tanks Containing Hazardous Waste - ° General requirements for construction, operation, and maintenance of tanks.	Design requires Contra
STATE:		
New York State Tank System Regulations (6 NYCRR 373-2.10)	Tanks Containing Hazardous Waste - ° Provides standards for storage tanks.	Design requires Contractor to comply.
LOCAL:		
Nassau County Department of Health, Bureau of Land Resources Management Requirements	General - ° Copies of RI, FS, ROD and Preliminary Remedial Design Submittal are needed for general purposes (i.e. to provide answers to public inquiries).	Copies of plans are available upon request.

TABLE 15-1

SUPPORT FACILITIES/GENERAL SITE MANAGEMENT
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Remedial Design
Operable Unit 1
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York
(continued)

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
Town of Oyster Bay Building Permit	Support Facilities - ° Substantive requirements of a building permit is required for any new structures on the site. ° Submit signed application with 2 sets of plans and 2 topographic surveys. ° Processing time is up to eight weeks.	Design requires Contractor to comply.

TABLE 15-2

GROUNDWATER TREATMENT SYSTEM
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
FEDERAL:		
Clean Water Act - Stormwater (40 CFR 122)	Stormwater Control - ° Stormwater discharges must be monitored for suspected pollutants and parameters specified in the regulation. ° NPDES permit for stormwater.	Design requires Contractor to comply. USACE may be required to sign permit for Contractor.
SDWA Maximum Contaminant Levels (MCLs) (40 CFR 141)	Treated Effluent - ° Provides standards for 30 toxic compounds, including the 14 compounds adopted as RCRA MCLs, for public drinking systems.	USACE's mechanism for ensuring compliance is _____.
SDWA MCL Goals (40 CFR 141)	Treated Effluent - ° EPA has promulgated 9 contaminants and has proposed 40 others for the public water system. The MCLGs are health goals and are set at levels that would result in no known or anticipated adverse health effects with an adequate margin of safety.	USACE's mechanism for ensuring compliance is _____.
National Ambient Air Quality Standards (NAAQS) (40 CFR 50)	Air Stripper - ° These standards provide acceptable limits for particulate matter, sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone, and lead that must not be exceeded in ambient air.	Design requires Contractor to comply.
OSHA - General Industry Standards (29 CFR 1910)	Monitoring During Treatment - ° These regulate the 8-hour time weighted average concentration for worker exposure to various organic compounds. Training requirements for workers at hazardous waste operations are specified in 29 CFR 1910.120.	Design requires Contractor to comply.

TABLE 15-2

GROUNDWATER TREATMENT SYSTEM
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York
(Continued)

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
OSHA - Occupational Safety and Health Standards (29 CFR 1910 and 1926)	General - ° Specifies safety equipment and procedures to be followed during site remediation.	Design requires Contractor to provide a site-specific health and safety plan to address these issues.
OSHA - Record Keeping, Reporting, and Related Regulations (29 CFR 1904)	General - ° Outlines the record keeping and reporting requirements for an employee under OSHA.	Design requires Contractor to provide a site-specific health and safety plan to address these issues.
RCRA - Identification and Listing of Hazardous Waste (40 CFR 261)	Off-Site Residuals Disposal - ° Requires a determination of whether a waste is listed or not. ° Requires a determination of whether a waste is characteristically hazardous or not.	Agency review will decide the need for a determination of listing. Design requires Contractor to comply.
RCRA - Standards for Generators of Hazardous Waste (40 CFR 262)	Off-Site Residuals Disposal - ° General generator requirements outline manifest recordkeeping, and transporting requirements.	Design requires Contractor to comply.
RCRA - Standards for Transporters (40 CFR 236)	Off-Site Residuals Disposal - ° General transportation requirements.	Design requires Contractor to comply.
RCRA - Standards for Owners/Operators of Permitted Hazardous Waste Facilities (40 CFR 264)	General - ° General facility requirements outline general waste analysis, security measures, inspections, and training requirements.	Design requires Contractor to comply.
RCRA - Preparedness and Prevention (40 CFR 264.30 - 264.31)	Air Stripping - ° This regulation outlines requirements for safety equipment and spill control	Design requires Contractor to comply.
RCRA Land Disposal Restrictions (LDR) (40 CFR 268) (if residuals are hazardous)	Off-Site Residuals Disposal - ° RCRA land disposal restrictions detail the requirements for the treatment and land disposal of hazardous wastes.	Design requires Contractor to comply.

TABLE 15-2

GROUNDWATER TREATMENT SYSTEM
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York
(Continued)

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
RCRA - Use and Management of Containers (40 CFR 264 Subparts I)	Off-Site Residuals (Temporary On-Site Storage) - ° General requirements regarding the use and management of containers.	Design requires Contractor to comply.
RCRA - Tank Systems - (40 CFR 264 Subpart J)	Treatment System Tanks - ° General requirements for construction operation and maintenance of tanks.	Design requires Contractor to comply.
SDWA - Sole Source Aquifer Regulations (42 U.S.C. 300h)	Establishes requirements for protection of sole source aquifers. Sole source aquifers supply 50% or more of the drinking water to an area without the availability of a reasonable alternative source.	Design requires Contractor to comply.
STATE:		
Groundwater Quality, Regulations (6 NYCRR 703.5)	Treated Effluent - ° Standards for groundwater. Certain contaminant levels are specified.	USACE's mechanism for ensuring compliance is _____.
Ambient Water Quality Standards and Guidance Technical and Operations Guidance Series (TOGS) 1.1.1, April 1, 1987	Treated Effluent - ° Standards for groundwater and surface water.	Design recommends that Contractor comply with guidance.
NYS Air Guide I 7/86 Guidance	Air Stripper - ° Guidance regarding toxic air emissions.	Design recommends that Contractor comply with guidance.
NYS Ambient Air Quality Standards and Control Apparatus Permit Requirements (6 NYCRR 212)	Air Stripper - ° Guidance regarding air emissions and permit compliance standards.	See local regulations.
New York Ambient Air Quality Standards (6 NYCRR 257)	Air Stripper - ° Same as Federal NAAQS.	Design requires Contractor to comply.

TABLE 15-2

GROUNDWATER TREATMENT SYSTEM
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York
(Continued)

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
NYSDOH Drinking Water Standards (10 NYCRR 5)	Treated Effluent - ° Standards for drinking water. Certain contaminant levels are specified as MCLs.	USACE's mechanism for ensuring compliance is _____.
New York Solid Waste Management Facility Requirements (6 NYCRR Part 360)	Off-Site Nonhazardous Residuals Disposal - ° Outlines general waste facility requirements for nonhazardous waste.	Design requires Contractor to comply.
New York Hazardous Waste Manifest System Rules (6 NYCRR 372)	Off-Site Residuals Disposal - ° Outlines NY State manifest requirements.	Design requires Contractor to comply. USACE may be required to sign manifests for Contractor.
Solid and Hazardous Waste Substances and Hauling Permits (6 NYCRR Part 364 and 370)	Off-Site Hazardous Waste Transportation and Disposal - ° Hazardous waste transporters must be permitted under the State "364 Permit" program. ° Hazardous waste or non-hazardous industrial waste must be classified.	Design requires Contractor to comply. USACE may be required to sign manifests for Contractor.
New York Identification and Listing of Hazardous Waste Requirements (6 NYCRR Part 371)	Off-Site Residuals Disposal ° Regulation not reviewed, but likely parallels Federal regulation pertaining to same subject.	Design requires Contractor to comply.
New York Hazardous Waste Treatment, Storage, and Disposal Facility Permitting Requirements (6 NYCRR 370 and 373)	Off-Site Residuals Disposal - ° Outlines general waste facility and waste analysis requirements, security measures, and inspection and training requirements.	Design requires Contractor to comply. USACE may be required to sign manifests for Contractor.
New York Land Disposal Restrictions (6 NYCRR Part 376)	Off-Site Residuals Disposal - ° Regulation not reviewed, but likely parallels Federal regulation pertaining to same subject.	Design requires Contractor to comply.

TABLE 15-2

GROUNDWATER TREATMENT SYSTEM
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York
(Continued)

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
New York State Pollution Discharge Elimination System Requirements (SPDES) (6 NYCRR 750)	Stormwater Control - ° Requirements for the Best Available Technology (BAT) to control toxic and nonconventional pollutants; use of Best Conventional Technology (BCT) for conventional pollutants, Technology - based limitations may be determined on a case-by-case basis. Also outlines monitoring requirements.	Design requires Contractor to comply. USACE may be required to sign permit for Contractor.
New York Groundwater Reinjection Guidance; New York TOGs 2.1.2 April 1987	Injection Guidance - ° Provides standards for reinjection of treated groundwater. Groundwaters are to be treated to drinking water standards prior to reinjection.	Design recommends that Contractor comply with guidance.
New York Groundwater Quality Standards (6 NYCRR 703.5)	Reinjection of Groundwater - ° Provides quality standards for groundwater. Certain contaminant levels are specified.	USACE's mechanism to ensure compliance is _____.
New York State Tank System Regulations (6 NYCRR 373-2.10)	Treatment System Tanks - ° Provides standards for storage tanks.	Design requires Contractor to comply.
New York State Guidelines for Soil Erosion and Sediment Control	General - ° Provides guidelines for soil erosion and sediment control and describes various techniques for achieving compliance.	Design recommends that Contractor comply with guidance.
New York State General Prohibition Fugitive Air Emissions (6 NYCRR 211)	Air Stripping - ° Restricts the emission of air contaminants associated with particulate matter, fumes, mist, and smoke as well as other visible emissions.	Design requires Contractor to comply.

TABLE 15-2

GROUNDWATER TREATMENT SYSTEM
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York
(Continued)

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
LOCAL:		
Nassau County Department of Health, Bureau of Land Resources Management Requirements	General - ° Copies of RI, FS, ROD, and Preliminary Remedial Design Submittal are needed for general purposes (i.e. to provide answers to public inquiries).	Copies of plans are available upon request.
Nassau County Department of Health, Bureau of Air Quality Requirements	Air Stripper Emissions - ° Provide substantive information required in permit (e.g. site description, data summaries, maps, process description, specific contaminants anticipated to be emitted into the atmosphere, etc.) specified on Form 7619-3 "Process, Exhaust and/or Ventilation Application (AIR-100)". Processing time from Form 7619-3 submittal to permit is 2-3 weeks. Fee is $200 per source. Copies of Form 7619-3 from: NYSDEC 50 Wolf Road, Rm. 136 Albany, NY 12233 (518) 457-2044 Send completed Form 7619-3 to: Nassau County Department of Health 240 Old County Road Meniola, NY 11501 *NOTE: Form 7619-3 must be reviewed and stamped by a NY-licensed Professional Engineer.	Design requires Contractor to comply.

TABLE 15-3

GROUNDWATER EXTRACTION SYSTEM
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Remedial Design
Operable Unit 1
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
FEDERAL:		
Clean Water Act - Stormwater (40 CFR 122)	Stormwater Control - ° Stormwater discharges must be monitored for suspected pollutants and parameters specified in the regulation. ° NPDES permit for stormwater.	Design requires Contractor to comply. USACE may be required to sign permit for Contractor.
OSHA - General Industry Standards (29 CFR 1910)	Monitoring During Well Installation - ° These regulate the 8-hour time weighted average concentration for worker exposure to various organic compounds. Training requirements for workers at hazardous waste operations are specified in 29 CFR 1910.120.	Design requires Contractor to comply.
OSHA - Occupational Safety and Health Standards (29 CFR 1910 and 1926)	General - ° Specifies safety equipment and procedures to be followed during site remediation.	Design requires Contractor to provide a site-specific health and safety plan addressing these issues.
OSHA - Record Keeping, Reporting, and Related Regulations (29 CFR 1904)	General - ° Outlines the record keeping and reporting requirements for an employee under OSHA.	Design requires Contractor to provide a site-specific health and safety plan addressing these issues.

TABLE 15-3

GROUNDWATER EXTRACTION SYSTEM
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Remedial Design
Operable Unit 1
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York
(continued)

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
USEPA Underground Injection Well (UIC) Program Requirements for Class 5 Injection Wells (40 CFR 144-147)	Injection of Treated Groundwater - ° EPA Region 2 will review estimated or actual effluent data 3 months prior to well installation. If effluent will meet drinking water standards for contaminants treated, they may waive permit. Send to: UIC Section, USEPA Rm. 845 26 Federal Plaza New York, NY 10278	Requires USACE to send a letter to this address describing injection operations to obtain a waiver.
STATE:		
NYSDEC Requirements for Well Installation and Well Discharge	General - ° NYSDEC requires information to ensure wells are constructed according to State specifications using their procedures.	Design requires Contractor to comply.
	° NYSDEC State Pollutant Discharge Elimination System (SPDES) requirements must be met by injection wells and their discharge.	Design requires Contractor to comply.
New York Groundwater Reinjection Guidance; New York TOGs 2.1.2 April 1987	Injection Guidance - ° Groundwaters are to be treated to drinking water standards prior to reinjection.	Design recommends that Contractor comply with guidance.

TABLE 15-3

GROUNDWATER EXTRACTION SYSTEM
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Remedial Design
Operable Unit 1
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York
(continued)

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
New York State Guidelines for Soil Erosion and Sediment Control	General - ° Provides guidelines for soil erosion and sediment control and describes various techniques for achieving compliance.	Design recommends that Contractor comply with guidance.
New York State Pollution Discharge Elimination System Requirements (SPDES) (6 NYCRR 750)	Stormwater Control - ° Requirements for the Best Available Technology (BAT) to control toxic and nonconventional pollutants; use of Best Conventional Technology (BCT) for conventional pollutants, Technology - based limitations may be determined on a case-by-case basis. Also outlines monitoring requirements.	Design requires Contractor to comply. USACE may be required to sign permit for Contractor.
LOCAL:		
Nassau County Department of Health, Bureau of Land Resources Management Requirements	General - ° Copies of RI, FS, ROD, and Preliminary Remedial Design Submittal are needed for general purposes (i.e. to provide answers to public inquiries).	Copies of plans are available upon request.

TABLE 15-4

EXCAVATION AND TREATMENT OF CONTAMINATED SOIL
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Remedial Design
Operable Unit 1
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
FEDERAL:		
Clean Water Act - Stormwater (40 CFR 122)	Stormwater Control - ° Stormwater discharges must be monitored for suspected pollutants and parameters specified in the regulation. ° NPDES permit for stormwater.	Design requires Contractor to comply. USACE may be required to sign permit for Contractor.
Clean Air Act - National Ambient Air Quality Standards (NAAQS) (40 CFR 50)	Thermal Treatment - ° These standards provide acceptable limits for particulate matter, sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone, and lead that must not be exceeded in ambient air.	Design requires Contractor to comply.
OSHA - General Industry Standards (29 CFR 1910)	Monitoring During Excavation and Thermal Treatment - ° These regulate the 8-hour time weighted average concentration for worker exposure to various organic compounds. Training requirements for workers at hazardous waste operations are specified in 29 CFR 1910.120.	Design requires Contractor to comply.
OSHA - Occupational Safety and Health Standards (29 CFR 1910 and 1926)	General - ° Specifies safety equipment and procedures to be followed during site remediation.	Design requires Contractor to provide a site-specific health and safety plan addressing these issues.
OSHA - Record Keeping, Reporting, and Related Regulations (29 CFR 1904)	General - ° Outlines the record keeping and reporting requirements for an employee under OSHA.	Design requires Contractor to provide a site-specific health and safety plan addressing these issues.

TABLE 15-4

EXCAVATION AND TREATMENT OF CONTAMINATED SOIL
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Remedial Design
Operable Unit 1
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York
(continued)

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
RCRA - Identification and Listing of Hazardous Waste (40 CFR 261)	General - ° Requires a determination of whether a waste is listed or not.	Agency review will identify determination of listing.
	° Requires a determination of whether a waste is characteristically hazardous or not.	Design requires Contractor to comply.
RCRA - Standards for Generators of Hazardous Waste (40 CFR 262)	Off-Site Disposal of Residuals - ° General generator requirements outline manifest record keeping and transporting requirements.	Design requires Contractor to comply.
RCRA - Standards for Transporters (40 CFR 263)	Off-Site Residuals Disposal - ° General transportation requirements.	See State requirements.
RCRA - Standards for Owners/Operators of Permitted Hazardous Waste Facilities (40 CFR 264)	General - ° General facility requirements outline general waste analysis, security measures, inspections, and training requirements.	Design requires Contractor to comply.
RCRA - Preparedness and Prevention (40 CFR 264.30 - 264.31)	Thermal Treatment - ° Outlines the requirements for safety equipment and spill control	Design requires Contractor to comply.
Land Disposal Restrictions (40 CFR 268)	On-Site Disposal of Thermally Treated Soil - ° Must not be RCRA hazardous at time of redisposition.	Design requires Contractor to comply.

TABLE 15-4

EXCAVATION AND TREATMENT OF CONTAMINATED SOIL
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Remedial Design
Operable Unit 1
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York
(continued)

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
	Off-Site Disposal of Debris and Liquids -	Design requires Contractor to comply.
RCRA - Use and Management of Containers (40 CFR 264 Subparts I)	Thermal Treatment (Temporary Storage of Treated Soil) - ° General requirements regarding the use and management of containers for temporary storage of treated soil. ° Specifies type, condition, and management.	Design requires Contractor to comply.
RCRA - Tank Systems - (40 CFR 264 Subpart J)	Thermal Treatment Residuals - ° General requirements for operation and maintenance of tanks used for thermal treatment liquid residuals. ° Specifies type, condition, and management	Design requires Contractor to comply.
STATE:		
NYS Air Guide I 7/86 Guidance	Thermal Treatment - ° Guidance regarding toxic air emissions.	Design recommends that Contractor comply with guidance.
NYS Ambient Air Quality Standards and Control Apparatus Permit Requirements (6 NYCRR 212)	Thermal Treatment - ° Guidance regarding air emissions and permit compliance standards.	See local requirements.
New York Ambient Air Quality Standards (6 NYCRR 257)	Thermal Treatment - ° Same as Federal NAAQs.	Design requires Contractor to comply.

TABLE 15-4

EXCAVATION AND TREATMENT OF CONTAMINATED SOIL
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Remedial Design
Operable Unit 1
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York
(continued)

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
New York Solid Waste Management Facility Requirements (6 NYCRR Part 360)	Off-Site Nonhazardous Residuals Disposal - ° Outlines general waste facility requirements for nonhazardous waste.	Design requires Contractor to comply.
New York Hazardous Waste Manifest System Rules (6 NYCRR 372)	Off-Site Hazardous Residuals Disposal - ° Outlines NY State manifest requirements.	Design requires Contractor to comply. USACE may be required to sign manifests for Contractor.
Solid and Hazardous Waste Substances and Hauling Permits (6 NYCRR Part 364 and 370)	Off-Site Hazardous Waste Transportation and Disposal - ° Hazardous waste transporters must be permitted under the State "364 Permit" program. ° Hazardous waste or non-hazardous industrial waste must be classified.	Design requires Contractor to comply. USACE may be required to sign permit for Contractor.
New York Identification and Listing of Hazardous Waste Requirements (6 NYCRR Part 371)	Off-Site Residuals Disposal ° Regulation not reviewed, but likely parallels Federal regulation pertaining to same subject.	Design requires Contractor to comply.
New York Hazardous Waste Treatment, Storage, and Disposal Facility Permitting Requirements (6 NYCRR 370 and 373)	Off-Site Hazardous Residuals Disposal - ° Outlines general waste facility and waste analysis requirements, security measures, and inspection and training requirements.	Design requires Contractor to comply.
New York Land Disposal Restrictions (6 NYCRR Part 376)	Off-Site Residuals Disposal ° Regulation not reviewed, but likely parallels Federal regulation pertaining to same subject.	Design requires Contractor to comply.

TABLE 15-4

EXCAVATION AND TREATMENT OF CONTAMINATED SOIL
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Remedial Design
Operable Unit 1
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York
(continued)

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
New York State Pollution Discharge Elimination System Requirements (SPDES) (6 NYCRR 750)	Stormwater Control - ° Requirements for the Best Available Technology (BAT) to control toxic and nonconventional pollutants; use of Best Conventional Technology (BCT) for conventional pollutants, Technology - based limitations may be determined on a case-by-case basis. Also outlines monitoring requirements.	Design requires Contractor to comply. USACE may be required to sign permit for Contractor.
New York State Guidelines for Soil Erosion and Sediment Control	General - ° Provides guidelines for soil erosion and sediment control and describes various techniques for achieving compliance.	Design recommends that Contractor comply with guidance.
New York State General Prohibition (6 NYCRR 211)	Evacuation, Materials Handing, Thermal Treatment - ° This regulation restricts the emission of air contaminants associated with particulate matter, fumes, mist, and smoke as well as other visible emissions.	Design requires Contractor to comply.
LOCAL:		
Nassau County Department of Health, Bureau of Land Resources Management Requirements	General - ° Copies of RI, FS, ROD, and Preliminary Remedial Design Submittal are needed for general purposes (i.e. to provide answers to public inquiries).	Copies of plans are available upon request.
Town of Oyster Bay Building Dept. Excavation Permit		Design requires Contractor to comply.
	Excavation, Material Handling, and Sitework - ° Substantive requirements of excavation, fencing, and other related permits must be met.	Design requires Contractor to comply.

TABLE 15-4

EXCAVATION AND TREATMENT OF CONTAMINATED SOIL
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Remedial Design
Operable Unit 1
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York
(continued)

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
Nassau County Department of Health, Bureau of Air Quality Requirements	Thermal Treatment Emissions - ° Provide substantive information required in permit (e.g. site description, data summaries, maps, process description, specific contaminants anticipated to be emitted into the atmosphere, etc.) specified on Form 7619-3 "Process, Exhaust and/or Ventilation Application (AIR-100)" Processing time from Form 7619-3 submittal to permit is 2-3 weeks. Fee is $200 per source. Copies of Form 7619-3 from: NYSDEC 50 Wolf Road, Rm. 136 Albany, NY 12233 (518) 457-2044 Send completed Form 7619-3 to: Nassau County Department of Health 240 Old County Road Meniola, NY 11501 *NOTE: Form 7619-3 must be reviewed and stamped by a NY-licensed Professional Engineer.	Design requires Contractor to comply.

TABLE 15-5

BUILDING DECONTAMINATION
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Remedial Design
Operable Unit 1
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
FEDERAL:		
Clean Water Act - Stormwater (40 CFR 122)	Stormwater Control - ° Stormwater discharges must be monitored for suspected pollutants and parameters specified in the regulation. ° NPDES permit for stormwater.	Design requires Contractor to comply. USACE may be required to sign permit for Contractor.
OSHA - Occupational Safety and Health Standards for General Industry (29 CFR 1910)	Monitoring During Building Decontamination (Including Asbestos Abatement) - ° Provides general industry standards and regulates the 8-hour time weighted average concentration for worker exposure to various organic compounds. Training requirements for workers at hazardous waste operations are specified in 29 CFR 1910.1201. Asbestos is addressed in 29 CFR 1910.1001.	Design requires Contractor to comply.
OSHA - Occupational Safety and Health Standards for the Construction Industry (29 CFR 1910 and 1926)	General - ° Provides general construction standards and specifies safety equipment and procedures to be followed during site remediation. Asbestos is addressed in 29 CFR 1926.58.	Design requires Contractor to provide a site-specific health and safety plan addressing these issues.
OSHA - Record Keeping, Reporting, and Related Regulations (29 CFR 1904)	General - ° Outlines the record keeping and reporting requirements for an employee under OSHA.	Design requires Contractor to provide a site-specific health and safety plan addressing these issues.

TABLE 15-5

BUILDING DECONTAMINATION
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Remedial Design
Operable Unit 1
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York
(continued)

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
RCRA - Identification and Listing of Hazardous Waste (40 CFR 261)	General - ° Requires a determination of whether a waste is listed or not.	Agency review will identify determination of listing.
	° Requires a determination of whether a waste is characteristically hazardous or not.	Design requires Contractor to comply.
RCRA - Standards for Generators of Hazardous Waste (40 CFR 262)	Off-Site Residuals Disposal - ° General generator requirements outline manifest record keeping and transporting requirements.	Design requires Contractor to comply.
RCRA - Standards for Transporters (40 CFR 263)	Off-Site Residuals Disposal - ° General transportation requirements.	See State requirements.
RCRA - Standards for Owners/Operators of Permitted Hazardous Waste Facilities (40 CFR 264)	General - ° General facility requirements outline general waste analysis, security measures, inspections, and training requirements.	Design requires Contractor to comply.
Safe Drinking Water Act - Underground Injection Control (UIC) (40 CFR 144-147)	Building Floor Drain to Leach Field - ° EPA Closure Plan Guidelines for Class V wells require pipe end point to be located, flush test with EPA or Nassau County DOH Inspector present to be performed and contaminated soil at pipe end to be removed. Plan review period estimated at 4 weeks, then EPA issues a letter of approval. 10 days prior to start of work, EPA must receive written notification, send to: UIC Section, USEPA Rm 845, 26 Federal Plaza New York, NY 10278	USACE may be required to perform flush test and describe floor drain cleanout approach to EPA.

TABLE 15-5

BUILDING DECONTAMINATION
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Remedial Design
Operable Unit 1
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York
(continued)

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
RCRA Land Disposal Restrictions (LDR) (40 CFR 268)	Off-Site Residuals Disposal - ° RCRA land disposal restrictions detail the requirements for the treatment and land disposal of hazardous wastes.	Design requires Contractor to comply.
RCRA - Use and Management of Containers (40 CFR Subparts I)	General - ° General requirements regarding the use and management of containers.	Design requires Contractor to comply.
Clean Air Act - National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50)	Building Decontamination, Dust Collection, and Dust Removal - ° Ambient air concentrations of specific air pollutants cannot be exceeded during decon and removal activities.	
Clean Air Act - National Emissions Standards for Hazardous Air Pollutants (NESHAPS) (40 CFR Part 61)	Asbestos Removal - ° These requirements address asbestos abatement management.	Design requires Contractor to comply.
STATE:		
NYS Air Guide I 7/86	Asbestos Abatement - ° Guidance regarding toxic air emissions.	Design recommends that Contractor comply with guidance.
New York Solid Waste Management Facility Requirements (6 NYCRR Part 360)	Off-Site Nonhazardous Residuals Disposal - ° Outlines general waste facility requirements for nonhazardous waste.	Design requires Contractor to comply.

TABLE 15-5

BUILDING DECONTAMINATION
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Remedial Design
Operable Unit 1
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York
(continued)

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
New York Hazardous Waste Manifest System Rules (6 NYCRR 372)	Off-Site Residuals Disposal - ° Outlines NY State manifest requirements.	Design requires Contractor to comply. USACE may be required to sign manifests for Contractor.
New York Identification and Listing of Hazardous Waste Requirements (6 NYCRR Part 371)	Off-Site Residuals Disposal ° Regulation not reviewed, but likely parallels Federal regulation pertaining to same subject.	Design requires Contractor to comply.
Solid and Hazardous Waste Substances and Hauling Permits (6 NYCRR Part 364 and 370)	Off-Site Hazardous Waste Transportation and Disposal - ° Hazardous waste transporters must be permitted under the State "364 Permit" program.	Design requires Contractor to comply.
	° Hazardous waste or non-hazardous industrial waste must be classified.	Design requires Contractor to comply.
New York Hazardous Waste Treatment, Storage, and Disposal Facility Permitting Requirements (6 NYCRR 370 and 373)	Off-Site Residuals Disposal - ° Outlines general waste facility and waste analysis requirements, security measures, and inspection and training requirements.	Design requires Contractor to comply.
New York Land Disposal Restrictions (6 NYCRR Part 376)	Off-Site Residuals Disposal ° Regulation not reviewed, but likely parallels Federal regulation pertaining to same subject.	Design requires Contractor to comply.
New York State Pollution Discharge Elimination System Requirements (SPDES) (6 NYCRR 75)	Stormwater Control - ° Requirements for the Best Available Technology (BAT) to control toxic and nonconventional pollutants; use of Best Conventional Technology (BCT) for conventional pollutants, Technology - based limitations may be determined on a case-by-case basis. Also outlines monitoring requirements.	Design requires Contractor to comply.

TABLE 15-5

BUILDING DECONTAMINATION
ENVIRONMENTAL AND GENERAL CONSTRUCTION REQUIREMENTS
Remedial Design
Operable Unit 1
Claremont Polychemical Corporation Superfund Site
Old Bethpage, New York
(continued)

Regulations, Applicable Rules, and Guidance	Substantive Requirements	Responsibilities
New York Regulations on Asbestos Safety Programs - Dept. of Labor/Code Rule 56	Asbestos Abatement - ° Regulates asbestos safety programs.	Design requires Contractor to comply.
LOCAL:		
Nassau County Department of Health, Bureau of Land Resources Management Requirements	General - ° Copies of RI, FS, ROD and Preliminary Remedial Design Submittal are needed for general purposes (i.e. to provide answers to public inquiries).	Copies of plans are available upon upon request.
Town of Oyster Bay Building Dept. Excavation Permit	Above-ground Storage Tank (AST) Removals, Dust Removal - ° Required for any excavation activities (soil removal, foundation work) ° Submit signed application indicating that all buried utilities have been located. ° Application processing time is up to 3 weeks.	Design requires Contractor to comply.
Town of Oyster Bay Demolition Permit	Building Demolition - ° Substantive requirements of a demolition Permit is required to demolish or remove any structural components from building ° Submit signed application with 2 sets of plans and 2 topographic surveys. ° Processing time is up to 3 weeks.	Design requires Contractor to comply.

permits. However, the substantive requirements (information required by permits) must be met (EPA 1988). For off-site actions, administrative requirements must be met or a waiver from the issuing agency must be obtained. In the following sections, substantive requirements for on-site actions and permits for off-site actions with respect to CPC RD components are identified. This section also discusses permit application requirements and agency contacts. Available permit application forms are included in Appendix 15A.

15.1.3.1 Support Facilities/General Site Management

Table 15-1 lists regulations and permits for support facilities/general site management.

Substantive Requirements of Permits for On-site Actions:

Town of Oyster Bay Permits. Support facilities construction may be required to comply with the substantive requirements of various Town of Oyster Bay Permits, including excavation, building, demolition, and fencing permits. Instructions for filing building permits with the Town of Oyster Bay are included in Appendix 15A. Permit applications and information can be obtained from:

Town of Oyster Bay
Department of Planning and Development
Division of Building
Town Hall
Oyster Bay, NY 11771
(516) 922-0419

Permits for Off-site Actions:

No off-site actions were identified for support facilities/general site management.

15.1.3.2 Groundwater Treatment System

Table 15-2 lists regulations and permits for the groundwater treatment system. management.

Substantive Requirements of Permits for On-site Actions:

Town of Oyster Bay Building Permit. Construction of the on-site groundwater treatment system will be required to comply with the substantive requirements of the Town of Oyster Bay Building Permit as discussed in Section 15.1.3.1.

Federal or State Pollutant Discharge Elimination System (NPDES or SPDES) Permit for Stormwater. Groundwater treatment system construction and operation must comply with the substantive requirements of a stormwater control permit, the regulating authority for which will be determined prior to the next submittal. Substantive requirements include, but are not limited to: facility name and address; site map showing features and drainage; hydrologic evaluations; description of management practices and control measures; and storm outfall test data (indicating required parameter analytical results) (EPA 1991). Because it is uncertain which regulating authority will be the one issuing stormwater permit requirements, no permit application is provided in Appendix 15A.

State Pollutant Discharge Elimination System (SPDES) Permit for Effluent Discharge. Based on conversations with NYSDEC Region 1, groundwater injection permitting is under the authority of EPA Region I, as discussed in Section 15.1.3.3.

NYSDEC Process, Exhaust or Ventilation System Permit (6 NYCRR 212). Air emissions from the groundwater treatment facility must comply with the substantive requirements of this permit. Permit requirements include an Application for Permit to Construct and Certificate to Operate. The instructions for the application require, but are not limited to: characterization of contaminant toxicity and emission rate; consideration of nearness to residences and sensitive environmental receptors; characterization of emission dispersion characteristics and evaluation of impacts. The instructions also address whether the source is a "major facility", and specifies testing and emissions monitoring requirements.

Permit requirements include, but are not limited to: site plans; equipment details showing sampling ports; flow diagrams showing emission points; an air quality impact evaluation report. The air quality impact evaluation report appears to entail effort similar to an EPA risk assessment.

The Certificate to Operate is issued upon approval of the satisfactory operation of the constructed emissions source, as determined by the reviewing agency. The permit is administered by the Nassau County Department of Health, Bureau of Air Quality. A permit application is included in Appendix 15A. Additional permit information can be obtained from:

Nassau County Health Department
240 Old Country Road
Mineola, NY 11501
(516) 535-3314

Pertinent Permits for Off-site Actions:

NYSDEC Waste Transporter Permit (6 NYCRR Part 364). A NYSDEC Waste Transporter Permit must be obtained by haulers transporting groundwater treatment residuals from the CPC site. Permit requirements include source, vehicle and waste information and treatment, storage or disposal facility (TSDF) information and statement of acceptance. A permit application is included in Appendix 15A. A list of permitted (pursuant to 6 NYCRR Part 364) hazardous/industrial waste transporters is also provided in Appendix 15A. Permit information can be obtained from:

New York State Department of Environmental Conservation
Division of Solid and Hazardous Waste
50 Wolf Road
Albany, New York 12233-0001

15.1.3.3 Groundwater Extraction System

Table 15-3 lists regulations and permits for the groundwater extraction system.

Substantive Requirements of Permits for On-site Actions:

On-site actions associated with the groundwater extraction system (i.e., installation of connecting piping from the groundwater treatment system to the wells) are included in Section 15.1.3.2.

Pertinent Permits for Off-site Actions:

USEPA Underground Injection Control Permit (EPA Form 7620-6). A USEPA UIC Permit or a waiver from EPA Region II must be obtained for the groundwater extraction system. Based on conversations with EPA Region II, a letter stating that this is a Superfund cleanup and that the injected effluent will meet drinking water standards will probably suffice as information needed for a waiver (EPA 1992). If a permit is required, a 30-day public comment period and 3-month minimum review should be assumed (EPA 1992). Permit application requirements include, but are not limited to geologic data, formation testing procedures, construction procedures and details, operating data (injection volumes, pressures, and fluid character), contingency plans, monitoring protocol, well abandonment. A permit application is included in Appendix 15A. Permit information can be obtained from:

U.S. Environmental Protection Agency
Region II
USEPA Underground Injection Control Section, Room 845
26 Federal Plaza
New York, NY 10278

NYSDEC Remediation Well Permit. A NYSDEC Remediation Well Permit must be obtained for the groundwater extraction system. Based on conversations with NYSDEC Region I, a letter (as discussed for USEPA's UIC Permit) may suffice to waive this permit (EPA, 1992). However, USACE may need to provide permit application information (if requested), including, but not limited to: site plan; contaminant source and extent; location of monitor wells; hydrogeologic data; adjacent public and private wells; backup data for determination of screened interval; and impact on other water-bearing formations and on nearby public and private wells. A permit application is included in Appendix 15A. Permit information can be obtained from:

New York State Department of Environmental Conservation
Division of Regulatory Affairs, Room 219
Building 40, SUNY
Stony Brook, NY 11790-2356

or

New York State Department of Environmental Conservation
Division of Water
Building 40, SUNY
Stony Brook, NY 11790-2356

15.1.3.4 Excavation and Treatment of Contaminated Soil

Table 15-4 lists regulations and permits for excavation and treatment of contaminated soil.

Substantive Requirements of Permits for On-site Actions:

Town of Oyster Bay Building Permit. Excavation and treatment of contaminated soil must comply with the substantive requirements of the Town of Oyster Bay Building Permit (Affidavit of Excavation and Permit to Build and Install). Permit application requirements include, but are not limited to: detailed description of location of property; property survey; locations of underground utilities; and scaled excavation drawings.

NYSDEC Process, Exhaust or Ventilation System Permit. Excavation, material handling and LTEV system operation must comply with the substantive requirements of this permit. Section 15.1.3.2 discusses details of this permit.

State Pollutant Discharge Elimination System (SPDES) Permit for Stormwater. Excavation, material staging, and low temperature enhanced volatilization system (LTEVS) operation must comply with the substantive requirements of this permit. See Section 15.1.3.2.

Pertinent Permits for Off-site Actions:

NYSDEC Waste Transporter Permit. Haulers transporting LTEVS residuals or oversized material from LTEVS preprocessing must obtain this permit. See Section 15.1.3.2.

15.1.3.5 Building Decontamination

Table 15-5 lists regulations and permits for building decontamination.

Substantive Requirements of Permits for On-site Actions:

Town of Oyster Bay Building Permit. Building demolition and tank excavation must comply with the substantive requirements of the Town of Oyster Bay Building (Building Demolition Application and Affidavit of Excavation). See Section 15.1.3.2.

State Pollutant Discharge Elimination System (SPDES) Permit for Stormwater. Building decontamination activities must comply with the substantive requirements of this permit. See Section 15.1.3.2.

USEPA UIC Permit. Building decontamination must comply with the substantive requirements of this permit. The UIC Permit requires information on floor drain pipe endpoint and flush testing. See Section 15.1.3.3.

Pertinent Permits for Off-site Actions:

NYSDEC Waste Transporter Permit. Haulers transporting asbestos, building debris and decontamination fluids must obtain this permit. See Section 15.1.3.2. Appendix 15A also lists asbestos haulers.

15.1.4 Regulations

15.1.4.1 Support Facilities/General Site Management

Table 15-1 lists regulations that are believed to be applicable for support facilities and general site management. At present, it is uncertain whether any hazardous waste will be generated as a result of site work. Regulations pertaining to tanks that contain hazardous waste remain in Table 15-1 because of the possibility that Contractors may use hazardous materials and generate hazardous waste in their operations.

The Nassau County Department of Health, Bureau of Land Resources Management requested that copies of the RI/FS ROD and Preliminary Remedial Design Submittal be provided to them. USACE may wish to provide copies of these plans, but it has been assumed in Table 15-1 that since these plans (except the Preliminary Remedial Design submittal) are public documents, they are available upon request.

It is uncertain whether buildings permits from the Town of Oyster Bay will be required for Contractor's trailers, decontamination facility construction, general site preparation, clearing and grubbing, etc. Therefore, these regulations have been left in due to their potential relevance.

15.1.4.2 Groundwater Treatment System

Table 15-2 lists regulations that are believed to be applicable for the groundwater treatment system. Stormwater Control NPDES or SPDES Permits may be required and USACE may need to coordinated with the Contractor to determine responsibilities.

Federal and State drinking water standards are listed in Table 15-2 because they are the treatment levels for groundwater treatment system effluent. However, it is unclear how USACE will ensure compliance with these limits, since the responsibility of operating the groundwater treatment system will likely be transferred to Nassau County.

Table 15-2 lists several general requirements that the Contractor must comply with, including Federal and State requirements for hazardous wastes. The Contractor will determine whether any wastes or residues that are disposed of off-site are hazardous and will ensure that they are correctly manifested. However, USACE may be required to be involved in manifesting of hazardous wastes.

RCRA regulations were not modified, but State regulations for solid waste management were added because it was felt that Contractors should be responsible for managing solid as well as hazardous waste in accordance with applicable regulations. A State regulation covering manifests for hazardous waste was added. The State regulation covering land disposal restrictions was also added. Additionally, a regulation for State air quality standards that parallel the Federal NAAQS standards was added.

The Contractor will have to determine whether a Federal or State stormwater permit (stormwater would discharge off-site) will be required and will have to coordinate with USACE to determine responsibilities. It is also possible that if there is no discharge of stormwater during construction activities a permit would not be required.

USACE should be aware that a New York-licensed Professional Engineer must review and stamp the application for an air permit that would be sent to NYSDEC as discussed in Section 15.1.3.2. While EPA may consider this an administrative requirement (to be waived under CERCLA), NYSDEC Region I appears to consider it a substantive requirement, based on conversations with NYSDEC Region I (NYSDEC, 1992).

15.1.4.3 Groundwater Extraction System

Table 15-3 presents regulations that are believed to be applicable for the groundwater extraction system. Several of the same issues that were mentioned with respect to the groundwater treatment system also apply to the groundwater extraction system. The differences between the two are mentioned below.

EPA Region II may require USACE to send a letter to the address noted on Table 15-3 stating that effluent will meet drinking water standards for contaminants treated. As mentioned in Table 15-3, this may result in EPA waiving the permit (which may otherwise be required since this is an off-site activity). NYSDEC may waive the permit for well installation for groundwater extraction and re-injection systems, as discussed in Section 15.1.3.3.

The stormwater control regulations were deleted upon reconsidering that the potential impacts to stormwater from well installation wold be negligible. The State guidelines for erosion and sediment control were left in, but may be similarly unsuitable for well installation.

15.1.4.4 Excavation and Treatment of Contaminated Soil

Table 15-4 lists regulations and their requirements as they apply to excavation and treatment of contaminated soil. Several of the issues addressed in Table 15-4 were discussed previously and, hence, only the differences will be discussed here.

The Contractor will be required to monitor for Clean air Act NAAQS contaminants listed in Table 15-4. However, this does not mean that a trial burn will be required.

Contractor will be required to comply with Federal and State regulations covering the use and management of containers if stored on-site in hazardous waste containers.

RCRA regulations were not modified, but State regulations for solid waste management were added because it was felt that Contractors should be responsible for managing solid as well as hazardous waste in accordance with applicable regulations.

The State regulation covering land disposal restrictions was also added.

Additionally, a regulation for State air quality standards that parallel the Federal NAAQS standards was added.

A State regulation covering manifests for hazardous waste was added.

New York State's Air Guide is referenced as guidance and is considered important for the Contractor to review and implement because it summarizes practices accepted by the State in implementing their air regulations.

The Contractor will be required to comply with New York State air regulations which includes providing information required by a permit, as discussed in Section 15.1.3.2.

15.1.4.5 Building Decontamination

Table 15-5 lists regulations and their requirements as they apply to building decontamination. Several issues have been mentioned above; only the differences are discussed below.

The floor drains inside the building may be considered Class 5 wells, based on conversations with EPA Region II (EPA, 1992). USACE may be required to perform a flush test and describe the floor drain cleanout approach to EPA. Administrative requirements such as review time and specific procedures will not apply because this is an on-site activity.

The Contractor will be required to comply with State and Federal asbestos regulations.

RCRA regulations were not modified, but State regulations for solid waste management were added because it was felt that Contractors should be responsible for managing solid as well as hazardous waste in accordance with applicable regulations.

The State regulation covering land disposal restrictions was also added.

Additionally, a regulation for State air quality standards that parallel the Federal NAAQS standards was added.

A State regulation covering manifests for hazardous waste was added.

15.5 UNRESOLVED/KEY ISSUES

Based on current site data, building debris, dust, and groundwater treatment system sludge may be characteristic hazardous wastes due to excess concentrations of metals. Preliminary indications are that soil would not be a characteristic hazardous waste, but they are not conclusive. Therefore, regulations pertaining to characteristic wastes are included as indicated in the tables.

It is assumed, based on the Record of Decision (ROD), that soil is not a listed waste because it is to be treated and backfilled on-site. However, if EPA agrees with the State comment that site soil is a listed hazardous waste, hazardous waste regulations will apply. Therefore, land disposal restrictions and other regulations pertaining to listed waste are included.

Due to the potential hazardous waste classifications, USACE assumes the responsibility as a "generator" of hazardous waste. The generator must classify the waste, sign manifests, and be responsible for the proper handling, treatment, and disposal of the hazardous waste in question.

As discussed in Section 15.1.3.1, permit applications need to be obtained from the Town of Oyster Bay. These will be obtained before the next submittal.

USACE should be aware that NYSDEC's air permit (discussed in Section 15.1.3.2) requires much information that is not currently available, and appears to entail significant effort to complete.

To address treated effluent injection, USACE will need to provide information listed in Section 15.1.3.3 in a letter to EPA and NYSDEC. This letter should suffice to obtain waivers from permits noted.

At this time, it has not been determined whether there are any State regulations for handling special waste (nonhazardous industrial waste). This will be determined before the next submittal.

Some regulations added to Tables 15-1 through 15-5 were not reviewed for content, as noted in the table, but were assumed to parallel Federal regulations covering the same topics. These will be reviewed before the next submittal.

It has not been determined whether to use Federal or State regulations exclusively, because changes in either are applicable and may not be identical. It has been assumed that permits will be enacted at the local and/or State level based on various conversations with local and State authorities. In the case of effluent injection, the State deferred to EPA Region I (NYSDEC, 1992). Prior to the next submittal, the authority for stormwater control will be determined.

Copies of plans (discussed in Section 15.1.4.3) were requested by the Nassau County Department of Health, Bureau of Land Resources Management.

As discussed in Section 15.1.4.2, it is unclear how USACE will ensure that groundwater treatment limits are met, as the specifications require.

As discussed in Section 15.1.4.2, USACE should be aware that NYSDEC considers the review and stamp of a New York-licensed Professional Engineer to be a substantive requirement of their air permit.

As discussed in Section 15.1.4.5, USACE may be required to perform a floor drain flush test and coordinate with EPA during building decontamination.

15.6 REFERENCES

EPA 1992. Conversations with U.S. EPA Region II. October 1992.

EPA 1991. U.S. Environmental Protection Agency, Office of Wastewater Enforcement and Compliance. Guidance Manual for the Preparation of NPDES Permit Applications for Storm Water Discharges Associated with Industrial Activity. April 1991.

EPA 1989. U.S. Environmental Protection Agency, Office of Emergency and Remedial Response. CERCLA Compliance with Other Laws Manual: Part II. Clean Air Act and Other Environmental Statues and State Requirements. August 1989.

EPA 1988. U.S. Environmental Protection Agency, Office of Emergency and Remedial Response. CERLCA Compliance with Other Laws Manual: Interim Final. August 1988.

NYSDEC 1992a. New York State Department of Environmental Conservation, Division of Water. Technical & Operational Guidance Series. September 1992.

NYSDEC 1992b. Conversations with NYSDEC Region I.

NYSDEC 1991a. New York State Department of Environmental Conservation. DRAFT Cleanup Policy and Guidelines Volume I. October 1991.

NYSDEC 1991b. New York State Department of Environmental Conservation. DRAFT Cleanup Policy and Guidelines Volume II - Appendix. October 1991.

NYSDEC 1990a. New York State Department of Environmental Conservation, Division of Hazardous Substances Regulation. 6 NYCRR Part 364 Waste Transporter Permits, Effective January 10, 1985 with Revisions Through 1/12/90. January 1990.

NYSDEC 1990b. New York State Department of Environmental Conservation. New York State List of Applicable, Relevant and Appropriate Requirements (ARARs). August 1990.

SEC Donohue 1992. Preliminary Remedial Design Submittal, Operable Unit I, Phase I Design, Claremont Polychemical Corp. Superfund Sites, Old Bethpage, New York. October 12, 1992.

RP/CPC65RDN/AD8

APPENDIX A

Town of Oyster Bay
Department of Planning and Development
Division of Building
Town Hall

(516)922-8060
FAX(516)922-0419

INSTRUCTIONS FOR FILING BUILDING PERMITS

All Applications and forms must be completely filled out, typed or printed legibly, no empty spaces, signed and notarized as indicated.

Listed below are various types of applications with a list of numbers of items that are required for each application. Please refer to the reverse side of this instruction sheet for the numbered items. "R" is for Residential and "C" is for Commercial or Industrial.

GENERAL RULES:

(5) If work is being done by a homeowner or a contractor that is self employed and does not hire any employees.
(6) If a contractor hires employees.
(7) "R" If a homeowner hires a contractor.

NEW BUILDINGS "R" & "C" (1), (3),(6), (8), (9), (10), (12)

(14) If building site is adjacent to a Town road.
(15) If building site is adjacent to a County road.
(16) If building site is adjacent to a State road.
(19) If building site is in a ground water protection area with less than 40,000 square fee of property.
(20) If building has more than 10,000 square feet of floor area.

ADDITIONS AND ALTERATIONS "R" & "C" (1), (10), (13,

(6) & (7) If homeowner hires a contractor.
(3) If any plumbing fixtures are being installed, or relocated.
(8) If addition or alteration effects front yard setback.
(9) If any excavation or digging is being done.
(11) If cost of addition or alteration does not exceed $10,000 as computed by Means Cost Indicator by the Division of Building.
(12) If the cost of addition exceeds $10,000 as computed by the Means Cost Indicator by the Division of Building.
(15) If the building site is adjacent to a County road.
(16) If the building site is adjacnet to a State road.
(19) If site is in a groundwater protection area with less than 40,000 square feet of property.
(20) If new addition or alteration has more than 10,000 square feet of floor area.

FENCE PERMITS (4), (10), (13)

(6) & (7) If homeowner hires a contractor.
(9) If any digging is done.

DEMOLITION OF BUILDING (4), (6), (7), (10), (13), (18), (21), (25)

PLUMBING APPLICATION (3), (10), (28)

SWIMMING POOL APPLICATION (10), (13), (26)

(6) & (7) If homeowner hires a contractor
(9) If in ground swimming pool.
(11) If above ground swimming pool.
(12) If in ground swimming pool.
(27) If any overhead wires are near swimming pool.

BULKHEADS AND DOCKS (4), (9), (10), (11), (13), (22), (23)

(6) & (7) If homeowner hires a contractor

RETAINING WALLS (4), (9), (10), (11), (13), (29)

SIGN APPLICATION (2), (6), (10), (13), (30)

THE ABOVE ARE GENERAL RULES AND ARE ONLY INTENDED AS A GUIDE. ADDITIONAL INFORMATION MAY BE REQUIRED.

(1) Application for Permit to Build or Install

(2) Application for the Erection and or Maintenance of a Display Sign.

(3) Plumbing Permit Application

(4) Application for Demolition or Construction Other than Building.

(5) Two Self Employment Workers Compensation Forms.

(6) Workers Compensation Certificate with Town of Oyster Bay as Certificate Holder.

(7) Nassau County Home Improvement License Number must be printed on application, with expiration date.

(8) Affidavit of Average Setback.

(9) Affidavit of Excavation.

(10) **Non-refundable** application fee of $25.00. Checks to be made out to the Town of Oyster Bay.

(11) Two sets of Building Plans showing footings, foundation walls, all headers, girders, floor joists, wall framing, ceiling joists, along with a plan view, cross sectional and elevations of proposed or existing project.

(12) Two sets of building plans with the inked seal and signature of a licensed professional engineer or architect.

(13) Two copies of a survey of existing site and buildings. Must draw or show location, size and setback of new addition or alteration.

(14) Eight original copies of survey as per Town of Oyster Bay Individual Building Site Plan Rules and Regulations.

(15) Thirteen original copies of survey as per Town of Oyster Bay Individual Building Site Plan Rules and Regulations.

(16) A work permit or letter of approval from N.Y.S. Dept. of Transportation.

(17) Two sets of Fire Sprinkler plans approve by I.S.O. or Nassau Country Fire Marshall.

(18) Letters from Long Island Lighting Company and local Water District acknowledging demolition will be done.

(19) Nassau County Board of Health approval for the Ground Water Protection Area.

(20) Preliminary Affidavit of Certification.

(21) Approval of Nassau County Sewer Division.

(22) Approval of the U.S. Corp. of Army Engineers.

(23) Approval of the N.Y.S. Department of Environmental Conservation.

(24) Approval of the Nassau County Fire Marshall.

(25) Approval of the Nassau County Board of Health.

(26) Application to Install a Swimming Pool.

(27) Letter from Long Island Lighting Company approving wires over or within 10' of swimming pool and in conformance with the National Electric Safety Code.

(28) Must submit a copy of the tax bill or any document that confirms the correct section, block and lot of the property.

(29) Two sets of plans with Iinked Seal and Signature of a Licensed Professional Architect or Engineer, if wall is over 4' in height.

(30) Drawing with Dimensions of Sign.

County Tax Map Section..... Block ..... Lot ..... Land Zoned.....

Do Not Write In Here
Application No.

THIS APPLICATION IS MADE FOR THE FOLLOWING ITEMS

Building or Structure ☐ Plumbing ☐ Heating ☐ Sanitary Disposal ☐

TOWN OF OYSTER BAY
DEPARTMENT OF PLANNING & DEVELOPMENT
DIVISION OF BUILDING
Town Hall
Oyster Bay, New York 11771

new
not alt

APPLICATION FOR PERMIT TO BUILD OR INSTALL

BUILDING - STRUCTURE - PLUMBING - HEATING - SANITARY DISPOSAL

ANY APPLICATION NOT TYPEWRITTEN OR PRINTED IN INK WILL BE REJECTED

Name Street Address Post Office Phone No.

Owner or Lessee.....

General Contractor.....

Plumbing Contractor.....

Heating Contractor.....

Sanitary Disposal.....

Engineer Architect.....

Application is made for a permit to do the work shown or indicated in this or plans attached.

Located on..... side of.....street at a point.....feet.....of

..... Street.....Unincorporated area of the Town of Oyster Bay, N. Y.

(nearest intersection) (Post Office)

To be used and occupied as (check use) Residence ☐ No. of Families (Give No.) Commercial ☐ Factory ☐

Attached Private Garage ☐ Detached Private Garage ☐ Public Garage ☐ (Other, describe) ☐

New Construction ☐ Addition ☐ Alteration ☐ ☐ Roof Pitch 12 inches

Structure

Overall Width.....feet. Depth.....feet. No. Stories..... Basement ☐ Height feet

Front Yard .....Feet Rear Yard .....Feet Side Yard .....Feet Side Yard .....Feet Corner Front Yard.....Feet

Plot Area .....Sq. Ft. Plot Width At Street .....Feet Plot Width At Bldg. Line.....Feet Depth of Plot .....Feet

Existing Bldg. Area ..... Sq. Ft. ..... % Plot Area Existing Bldg. Used For .....No. Stories.....

Proposed Bldg. Area ..... Sq. Ft. ..... % Plot Area Proposed Bldg. To Be Used For .....No. Stories.....

WORKERS COMPENSATION INSURANCE

Pursuant to Section 57, of the Workers Compensation Law a Certificate of Insurance on the standard form subscribed by an insurance company authorized by the Superintendent of Insurance to issue workers' compensation policies must be filed with this application covering all operations in connection therewith.

HAVE ONE AFFIDAVIT NOTARIZED

AFFIDAVIT OF APPLICANT

STATE OF NEW YORK } ss.:
COUNTY OF NASSAU }

being duly sworn,

deposes and says: That he resides at _____

in the State of _____ and that he is authorized by the Owner to make application for a permit to perform said work in the foregoing application and accompanying plans, and all the statements contained therein are true to deponent's own knowledge.

Address _____

Phone _____

(Sign here) _____

(APPLICANT)

Sworn to before me this _____ day of _____ , 19 ___

AFFIDAVIT OF PROPERTY OWNER

STATE OF NEW YORK } ss.:
COUNTY OF NASSAU }

being duly sworn,

deposes and says: That he resides at

in the of

in the State of , that he is the owner in fee of all that certain lot, piece or parcel of land shown on the diagram above, situate, lying and being within the unincorporated area of the Town of Oyster Bay, that the work proposed to be done upon the said premises, will be done in accordance with the approved application and accompanying plans, and he hereby authorizes

(NAME OF APPLICANT)

to make application for a permit to perform said work in the foregoing application and accompanying plans, and all the statements herein contained are true to deponent's own knowledge.

(Sign here)

(OWNER)

Sworn to before me this day of _____ , 19 ___

NOTARY PUBLIC

PLUMBING

Plumber's License No.....

GIVE NUMBER & LOCATION

FIXTURES IN	Bsmt	1st	2nd	3rd
WATER CLOSETS				
LAUNDRY TUBS				
KITCHEN SINKS				
LAVATORIES				
BATH TUBS				
SHOWERS				
URINALS				
SLOP SINKS				
REFRIGERATOR				
AIR COND'N.				
DISH WASHER				

List Number sf Fixtures to left and show diagram on plans. Application is for a permit to do plumbing as follows.

Total No. of Fixtures.....Floor Drains — Yes ☐ No ☐ No. of.....

Inside Roof Leaders - Yes ☐ No ☐ Water Cooled Air Conditioner - Yes ☐ No ☐ No. of Units .....

Water Cooled Refrigerators - Yes ☐ No ☐ Number of Units ..... Water Service New ☐ Size.....

Water Service Renewal ☐ Size.....Sewer Connection - New ☐ Renewal ☐

Fire Protection Sprinklers - Yes ☐ No. ☐ Size of Main .....inches.

All of the above work conforming with effective ordinances.

HEATING & COOLING

Application is for a permit to install the following heating equipment to be used to heat space, area, processing, domestic hot water including fuel oil storage tanks.

New ☐ Conversion ☐ Replacement ☐ Installation to be — Oil ☐ Gas ☐ Coal Only Tank ☐

Area etc. Heating — Yes ☐ No ☐ Fuel? ..... Domestic Hot Water — Yes ☐ No ☐ Fuel?..... Indirect — Yes ☐ No ☐

Type of Heating — Steam ☐ Hot Water ☐ Warm Air ☐ Combined with Air Cooling — Yes ☐ No ☐ Separate Air Conditioning — Yes ☐ No ☐

If conversion former fuel was?.....Will Installation be in New Furnace — Yes ☐ No ☐

Will Fusible Fire Valve be installed? Yes ☐ No ☐ Will H. W. Storage tank be provided with Safety Relief Valve? Yes ☐ No ☐

If this application is for Tank installation only is burner installed? Yes ☐ No ☐ Tank Replacement? Yes ☐ No ☐

Inside tank capacity .....Gallons Metal of Tank..... Gauge New ☐ Replacement ☐

Outside tank capacity .....Gallons Metal of Tank..... Gauge New ☐ Replacement ☐

All of the above work conforming with effective ordinances.

SANITARY DISPOSAL AND STORM WATER DRAINAGE

Application is for a permit to construct sanitary or storm water disposal units, as shown below and in attached special application.

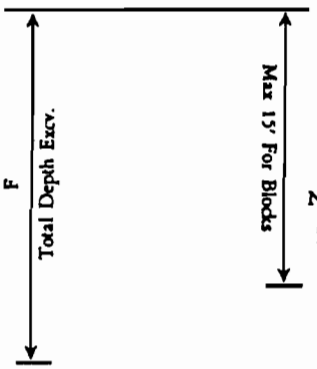
Residence ☐ No. of Bedrooms?..... Commercial ☐ Factory ☐ Sanitary ☐ Storm Water ☐

Cesspool ☐ No. of Units..... Block ☐ Precast ☐ No. Blocks Below Inlet..... No. of Precast Sections .....

Septic Tank ☐ Block ☐ Precast ☐ 4500 p.s.i. cast in place R. C. ☐ Capacity .....Gallons

Leaching Pool ☐ Number of Units ..... Block ☐ Precast ☐ No Blocks Below Inlet ..... No. of Precast Sections .....

Tile Field ☐ Area of Bed?.....S.F. Length of Tile Lines .....L.F.



NOTE—BEFORE STARTING CONSTRUCTION APPROVED COPY OF APPLICATION MUST BE ON THE JOB SITE — EXCAVATION MUST BE INSPECTED.

Name of Mfg. of Blocks or Precast Units to be given below

Name .....

TWO (2) SETS OF DESIGN DATA AND PLANS TO BE SUBMITTED

Give Total Depth of Excavation.....Ft.

"F" Total Depth of excavation deeper than 15 feet.*

Note * Requires PRECAST UNITS TO BE USED. IF SET ON BACKFILL SUCH BACKFILL MUST BE CLEAN GRAVEL OR STONE LARGER THAN ¾" — MAX. 5" BANK RUN NOT ALLOWED — All work involving the backfilling of excavations must be certified in the form of an affidavit by a licensed Engineer that the work was done in conformity with this section.

NOTE — WITH BLOCK CONSTRUCTION MAXIMUM DEPTH IS 15 FEET — NOTE

DEPARTMENT OF PLANNING AND DEVELOPMENT
TOWN OF OYSTER BAY

BUILDING DIVISION
TOWN HALL
OYSTER BAY, NEW YORK 11771-1592
(516)922-8060/FAX(516)922-0419

PLUMBING PERMIT APPLICATION

Name *Street Address* *Post Office* *Telephone*

Owner/Lessee: _____

General Contractor: _____

Plumbing Contractor: _____

Parcel Information: Section: ____Block: ____Lot(s): _____ Zone: _____

Located on the _____ side of _____ street at a point _____ feet _____ of

_____ street_____ Town of Oyster Bay, N.Y. (Unincorperated Area)
(nearest intersection) (Post Office)

Type of Building: _____ Total Fee Paid: _____

Floor	*B*	*1st*	*2nd*	*3rd*	*4th*
Location of Fixtures					
Water Closets					
Laundry Tubs					
Kitchen Sink					
Lavatories					
Bath Tubs					
Urinals					
Slop Sinks					
Showers					
Indirect Wastes					
Dish Washers					
Others					

Number of fixtures: _____

Number of existing fixtures: _____

Building Permit Number: _____

Floor	*B*	*1st*	*2nd*	*3rd*	*4th*
Others					

Draw Schematic Diagram Below / Must Indicate Type of Piping Used
(Do Not Use Reverse Side)

No Lead Solder for Potable Water Lines

It shall be unlawful to extend or alter any existing plumbing or install any new plumbing or drainage work until a permit has been duly issued and then only in conformance with the provisions of the Construction Code of the State of New York. All copper piping for potable water shall be installed with solder having a composition of lead limited to .20 percent in conformance with 9 NYCRR Part 905 and the Town of Oyster Bay Plumbing Code Section 20-5.

License Number: _____
Name (Print): _____
Business Address: _____

_____

Sworn to before me this day of 19

_____
Notary Public

Acknowledged: _____
Master Plumber (*Signature*)

APPLICATION #_____
(For office use only)

As applicant, please circle one (mail) or (hold for pickup) all correspondence, permits, documents, etc. to:

NAME_____

STREET_____

COMMUNITY, STATE, ZIP_____

_____

TELEPHONE NO._____

_____
SIGNATURE

NOTE: PERMITS AND PLANS WILL BE RELEASED TO THE PROPERTY OWNER UPON WRITTEN REQUEST.

The fee for the permit you seek has been calculated:

$	Total Permit Fee
25.00	Paid on Application
$	BALANCE DUE

Permit will not be issued until BALANCE DUE is received payable to "Town of Oyster Bay"

NO WORK MAY BEGIN UNTIL PERMIT IS *POSTED* ON THE JOB SITE.

Section	Block	(Lowest)Lot	Application

Department of Planning and Development
Town of Oyster Bay
Town Hall
Oyster Bay, New York 11771-1592

Name and full address of person to be notified. To be completed by the applicant.

14-16-4 (2/87)—Text 12

PROJECT I.D. NUMBER

617.21

Appendix C

State Environmental Quality Review

SEQR

SHORT ENVIRONMENTAL ASSESSMENT FORM

For UNLISTED ACTIONS Only

PART I—PROJECT INFORMATION (To be completed by Applicant or Project sponsor)

1. APPLICANT /SPONSOR

2. PROJECT NAME

3. PROJECT LOCATION:
Municipality County

4. PRECISE LOCATION (Street address and road intersections, prominent landmarks, etc., or provide map)

5. IS PROPOSED ACTION:
☐ New ☐ Expansion ☐ Modification/alteration

6. DESCRIBE PROJECT BRIEFLY:

7. AMOUNT OF LAND AFFECTED:
Initially _____ acres Ultimately _____ acres

8. WILL PROPOSED ACTION COMPLY WITH EXISTING ZONING OR OTHER EXISTING LAND USE RESTRICTIONS?
☐ Yes ☐ No If No, describe briefly

9. WHAT IS PRESENT LAND USE IN VICINITY OF PROJECT?
☐ Residential ☐ Industrial ☐ Commercial ☐ Agriculture ☐ Park/Forest/Open space ☐ Other
Describe:

10. DOES ACTION INVOLVE A PERMIT APPROVAL, OR FUNDING, NOW OR ULTIMATELY FROM ANY OTHER GOVERNMENTAL AGENCY (FEDERAL, STATE OR LOCAL)?
☐ Yes ☐ No If yes, list agency(s) and permit/approvals

11. DOES ANY ASPECT OF THE ACTION HAVE A CURRENTLY VALID PERMIT OR APPROVAL?
☐ Yes ☐ No If yes, list agency name and permit/approval

12. AS A RESULT OF PROPOSED ACTION WILL EXISTING PERMIT/APPROVAL REQUIRE MODIFICATION?
☐ Yes ☐ No

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor name: _____ Date: _____

Signature: _____

If the action is in the Coastal Area, and you are a state agency, complete the Coastal Assessment Form before proceeding with this assessment

OVER

PART II—ENVIRONMENTAL ASSESSMENT (To be completed by Agency)

A. DOES ACTION EXCEED ANY TYPE I THRESHOLD IN 6 NYCRR, PART 617.12? If yes, coordinate the review process and use the FULL EAF.
☐ Yes ☐ No

B. WILL ACTION RECEIVE COORDINATED REVIEW AS PROVIDED FOR UNLISTED ACTIONS IN 6 NYCRR, PART 617.6? If No, a negative declaration may be superseded by another involved agency.
☐ Yes ☐ No

C. COULD ACTION RESULT IN **ANY** ADVERSE EFFECTS ASSOCIATED WITH THE FOLLOWING: (Answers may be handwritten, if legible)

C1. Existing air quality, surface or groundwater quality or quantity, noise levels, existing traffic patterns, solid waste production or disposal, potential for erosion, drainage or flooding problems? Explain briefly:

C2. Aesthetic, agricultural, archaeological, historic, or other natural or cultural resources; or community or neighborhood character? Explain briefly:

C3. Vegetation or fauna, fish, shellfish or wildlife species, significant habitats, or threatened or endangered species? Explain briefly:

C4. A community's existing plans or goals as officially adopted, or a change in use or intensity of use of land or other natural resources? Explain briefly.

C5. Growth, subsequent development, or related activities likely to be induced by the proposed action? Explain briefly.

C6. Long term, short term, cumulative, or other effects not identified in C1-C5? Explain briefly.

C7. Other impacts (including changes in use of either quantity or type of energy)? Explain briefly.

D. IS THERE, OR IS THERE LIKELY TO BE, CONTROVERSY RELATED TO POTENTIAL ADVERSE ENVIRONMENTAL IMPACTS?
☐ Yes ☐ No If Yes, explain briefly

PART III—DETERMINATION OF SIGNIFICANCE (To be completed by Agency)

INSTRUCTIONS: For each adverse effect identified above, determine whether it is substantial, large, important or otherwise significant. Each effect should be assessed in connection with its (a) setting (i.e. urban or rural); (b) probability of occurring; (c) duration; (d) irreversibility; (e) geographic scope; and (f) magnitude. If necessary, add attachments or reference supporting materials. Ensure that explanations contain sufficient detail to show that all relevant adverse impacts have been identified and adequately addressed.

☐ Check this box if you have identified one or more potentially large or significant adverse impacts which **MAY** occur. Then proceed directly to the FULL EAF and/or prepare a positive declaration.

☐ Check this box if you have determined, based on the information and analysis above and any supporting documentation, that the proposed action **WILL NOT** result in any significant adverse environmental impacts **AND** provide on attachments as necessary, the reasons supporting this determination:

Name of Lead Agency

Print or Type Name of Responsible Officer in Lead Agency

Title of Responsible Officer

Signature of Responsible Officer in Lead Agency

Signature of Preparer (If different from responsible officer)

Date

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

UNIFORM PROCEDURES APPLICATION FEE SCHEDULE

Type of Permit	Activities for Which a Permit Is Necessary (See footnote for major/minor project explanation)	Fee
Stream Disturbance	To change, modify or otherwise disturb the course, bed or banks of protected streams	
	Major projects	$25
	Minor projects	$10
Dam Construction or Repair	To construct, reconstruct or repair any artifical obstruction, temporary or permanent, in or across a natural stream or watercourse, that will impound more than one million gallons, will be more than ten feet above the stream bead, or will have an upstream drainage area greater than one square mile.	
	Construction:	
	Class "A" Hazard	$50
	Class "B" Hazard	$100
	Class "C" Hazard	$300
	Reconstruction or major repair (activities involving structural integrity):	
	Class'A" Hazard	$25
	Class "B" or "C" Hazard	$50
	Minor projects	$10
Dredging and Filling of Navigable Waters	Any excavation or placing of fill in the navigable waters of the State or their adjacent, contiguous wetlands.	
	Major projects	$50
	Minor projects	$10
Water Quality Certification	Any activity that affects the quality of federally navigable waters and requires a Federal permit or license.	No fee
Water Supply Long Island Well	The acquisition, conservation, development, use or distribution of water for potable purposes by, or proposed by, any person or public corporation; or Any groundwater withdrawal in excess of 45 gallons per minute on Long Island.	
	Major projects	$50
	Minor projects	$10
	Well driller annual (July 1-June 30) registration fee	$10
Transportation of Water by Vessel	Transporting more than 10,000 gallons of water from any freshwater lake, brook, river, stream, or creek in this state except ballast taken for normal activity of vessels.	No fee
State Pollutant Discharge Elimination System (SPDES)	Any proposed or existing discharge of sewage, industrial wastes, ballast, or other wastes to either surface waters or groundwaters, except an individual discharge to groundwaters of less than 1,000 gallons per day (gpd) of sewage effluent without the admixture of industrial or other wastes.	
	For the discharge of 1,000 gpd or less	$10
	For discharge of 1,001 to 10,000 gpd containing industrial waste	$100
	For discharge of 10,001 to 100,000 gpd containing industrial waste	$200
	For discharge of more than 100,000 gpd containing industrial waste	$300
	For municipal sewage discharge of 1,001 to 10,000 gpd	$75
	For municipal discharge of 10,001 to 100,000 gpd	$150
	For municipal discharge of more than 100,000 gpd	$250
	For non-industrial, non-municipal discharge of 1,001 to 10,000 gpd	$50
	For non-industrial. non-municipal discharge of 10,001 to 100,000 gpd	$75
	For non-industrial, non-municipal discharge of more than 100,000 gpd	$100
	For ballast discharge from vessels	No fee
Air Contamination	To construct, modify, or operate any stationary source of air pollution (incinerators, process exhaust or ventilation systems).	
	Permit to construct a major source	$500/source
	Permit to construct a minor source	$50/source
	Initial certificate to operate	No fee
	Renewal of certificate to operate	$10/source/year
	Exception: No fee is charged for open burning permits issued under the authority of Article 19 and 6 NYCRR 215.	
Freshwater Wetlands	Draining, dredging, excavating, filling, erecting any structure or roads, placing of other obstructions, polluting or any activity that impairs natural functions in a wetland or its adjacent area.	
	Major projects	$50
	Minor projects	$10

Type of Permit	Activities for Which a Permit Is Necessary (See footnote for major/minor project explanation)	Fee
Tidal Wetlands	Draining, dredging, excavating, erecting any structure or roads, placing of other obstructions, polluting or any activity that impairs natural functions in a wetland or its adjacent area. Major projects Minor projects	 $50 $10
Mining	Mining of 1,000 tons or more of minerals for commercial sale or off-site construction use within 12 successive calendar months. (Excavation or grading for on-site farming or construction is not considered mining.) **Original Fee / Renewal Fee** 1-year permit: $100 / $ 50 3-year permit: $200 / $100 Amendments and Transfers: $ 50 / —	
Solid Waste Management Facilities	Construction or operation of solid waste facilities beyond the initial collection of wastes, including those facilities used for storage, transfer, processing and disposal of solid waste. Sanitary Landfill Application Fees: • construction (including initial permit to operate) by municipalities serving a population of 3,500 or greater and by private individuals, organizations or corporations—$400 • operation of a municipality serving a population of 3,500-10,000—$150 for original application; $50 for renewal • operation by a municipality serving a population over 10,000—$300 for original application; $100 for renewal • operation by a private individual, organization or corporation of a facility that **does not** receive any industrial or commercial wastes serving a population of more than 10,000—$300 for original application; $100 for renewal serving a population of 1,000-10,000—$150 for original application; $50 for renewal serving a population of less than 1,000—$75 for original application; $25 for renewal • operation by a private individual, organization or corporation of a facility that **does** receive industrial commercial wastes: original application—$300; renewal—$100	
Waste Transporter	Collection and transportation of industrial/commercial and certain other wastes including sewage, septage, waste oil, etc. Waste Collection Permit Application Fees: For first collection vehicle—$25 For each additional vehicle—$5; but not to exceed $300 for any one applicant	
Hazardous Waste Management Facilities	The construction and operation of facilities which treat, store or dispose of hazardous waste, including hazardous waste incinerators, energy recovery units, land treatment demonstrations and facilities proposing to utilize innovative and experimental hazardous waste treatment technology.	No fee
Floodplain Managenent	Any development in flood hazard areas. For further information and a fee schedule (as found in 6 NYCRR 500.16), contact the regional office of Regulatory Affairs.	
Wild, Scenic and Recreational Rivers System	Certain land uses or development in the river area of, or watershed above a designated wild, scenic or recreational river.	No fee
Coastal Erosion Management	Major project fees are $50, with the following exceptions: • construction or modification of erosion protection structures greater than 100 linear feet • appeal of erosion hazard area designation Minor project fees are $25	 $100 $50

Minor Project-Major Project Explanation

Under Uniform Procedures a minor project is one that, by its nature and with respect to its location, will not have a significant effect on the environment. A major project is one that is not specifically defined as minor.

To determine whether a project is major or minor, refer to the specific permit program in Section 621.4 of Uniform Procedures.

Building 40—SUNY, Stony Brook, New York 11790-2356

Thomas C. Jorling
Commissioner

Supplemental Data Required with Application for Remediation Well Permit

A. A brief narrative overview of existing site conditions, remediation alternatives, and the design basis for the selected remedial plan. Include a description of the nature and extent of contamination, its source (if know), investigative and remedial measures taken to date, and the rationale which led to development of the proposed remedial plan. If DEC's Spill Response Section has been involved in site investigation, cleanup and/or development of remedial plans, the nature and extent of such involvement should be described here.

B. Source of Contamination

1. _____ spill or leak; spill number _____.
2. _____ industrial wastewater; SPDES # _____.
3. _____ other; specify _____.
4. _____ unknown.

C. Proposed well and treatment system

1. number of wells; _____.
2. for each well:

   diameter; _____; _____; _____; _____.
   depth; _____; _____; _____; _____.
   capacity; _____; _____; _____; _____.
   screened interval _____; _____; _____; _____.
   location, to be shown on site plan.
3. estimated daily pumpage; _____(gallons).
4. projected duration of pumping; _____(months or yrs.)
5. proposed method of treatment; _____.
6. preliminary plans and specifications for proposed well(s) and treatment system.

D. Proposed point of discharge (to be shown on site plan).

1. _____surface water; specify _____.
2. _____recharge basin; owned by _____.
3. _____storm drain; owned by _____.
   ultimate discharge point _____.
4. _____diffusion well; depth _____.
5. _____ other; specify: _____.

E. Site Plan

1. location of existing tanks or spill (if applicable)
2. contamination source and extent
3. location of monitor wells

New York State Department of Environmental Conservation
Building 40—SUNY, Stony Brook, New York 11790-2356

Thomas C. Jorling
Commissioner

Remediation Well Permit Application Requirements

Applicability: A Long Island Well Permit is required when the total pumping capacity of all wells on the property is in excess of 45 gpm. This includes temporary or permanent wells in the counties of Kings, Queens, Nassau or Suffolk.

Additional Requirements: The well driller is required to file preliminary and completion reports for all pumping wells, irrespective of the pumping capacity. Preliminary reports must be filed prior to the initiation of work.

Contents of Complete Well Application:

1. Joint Application for Permit; form 95-19-3(8/89) - 7e
2. Short Evnironmental Assessment Form
3. $50 application fee Replacement well $10.00
4. Authorization letter if applicant is not owner of facility.
5. Supplemental Data Required with Application for Remediation Well Permit (attached).

Submittals:

Well Permit Applications are to be submitted in triplicate to:

New York State Dept. of Environmental Conservation
Division of Regulatory Affairs, Room 219
Building 40, SUNY
Stony Brook, NY 11790-2356

Preliminary and Completion Reports are to be submitted to:

New York State Dept. of Environmental Conservation
Division of Water
Building 40, SUNY
Stony Brook, NY 11790-2356

4. direction of groundwater flow; groundwater contours
5. proposed pumping well location(s)
6. proposed discharge location
7. Known public and private wells on site and on adjacent properties.
8. map Key; including scale, compass rose, legend

F. Environmental and Hydrogeologic setting and impacts.

1. aquifer determination and characteristics of proposed screened interval.
2. results of aquifer pump testing, potentiometric monitoring, etc. (if available).
3. direction of groundwater flow in aquifer to be pumped (include basis for determination).
4. results of aquifer quality testing (USEPA Method 624, and organics listed in 6NYCRR Part 703.6 Schedule I, item 1 through 24).
5. anticipated well yield and water quality; basis for projections.
6. drillers logs for on-site wells
7. projected cone of depression
8. projected zone of capture
9. impacts on other water-bearing formations, surface water bodies, and salt water interface due to withdrawal(s) and/or discharge.
10. impacts on on-site and nearby public and private wells, due to withdrawal(s) and/or discharge.

95-19-3 (8/89)—7e

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

JOINT APPLICATION FOR PERMIT

DEC APPLICATION NUMBER

U.S.ARMY CORPS OF ENGINEERS APPLICATION NO.

Please read **ALL** instructions on back before completing this application. Please **type** or **print** clearly in **ink**. Attach additional information as needed.

STATE

- ☐ **ARTICLE 9, TITLE 1, ARTICLE 43** 6NYCRR 646 (LAKE GEORGE RECREATION ZONE)
- ☐ **ARTICLE 15, TITLE 3** (AQUATIC PESTICIDES CONTROL) ☐ 6NYCRR 327 (AQUATIC VEGETATION) ☐ 6NYCRR 328 (FISH) ☐ 6NYCRR 329(INSECTS)
- ☐ **ARTICLE 15, TITLE 5** 6NYCRR 608 (PROTECTION OF WATERS)
  - ☐ For the construction, reconstruction, or repair of a DAM or other impoundment structure.
  - ☐ For the disturbance of a STREAM BED OR BANKS or excavation in or fill of NAVIGABLE WATERS. ☐ 401 WATER QUALITY CERTIFICATION
- ☐ **ARTICLE 15, TITLE 15** ☐ 6NYCRR 601 (WATER SUPPLY) ☐ 6NYCRR 602 (LONG ISLAND WELL)
- ☐ **ARTICLE 15, TITLE 27** 6NYCRR 666 (WILD, SCENIC AND RECREATIONAL RIVERS)
- ☐ **ARTICLE 24** 6NYCRR 662, 663 (FRESHWATER WETLANDS)
- ☐ **ARTICLE 25** 6NYCRR 661 (TIDAL WETLANDS) ☐ **ARTICLE 34** 6NYCRR 505 (COASTAL EROSION)

FED

- ☐ **SECTION 10** (RIVER AND HARBOR ACT OF 1899) for structures and work in navigable waters of the U.S. ☐ COASTAL CONSISTENCY CERTIFICATION.
- ☐ **SECTION 404** (CLEAN WATER ACT OF 1977) for disposal of dredged or fill material in waters of the U.S.
- ☐ **SECTION 103** (MARINE PROTECTION, RESEARCH AND SANCTUARIES ACT) for the transportation of dredged materials for dumping into ocean waters.

1. LIST PREVIOUS PERMIT/APPLICATION NUMBERS AND DATES (If any)

2. APPLICANT IS A/AN ☐ Owner ☐ Operator ☐ Lessee ☐ Municipality/Governmental Agency (Check as many as apply)

3. NAME OF APPLICANT (Use Full Name)

MAILING ADDRESS | TELEPHONE (Where can be reached during day) ( )

POST OFFICE | STATE | ZIP CODE

4. NAME OF ☐ Owner ☐ Agent/Contact Person (Check one)

MAILING ADDRESS | TELEPHONE (Where can be reached during day) ( )

POST OFFICE | STATE | ZIP CODE

5. PROJECT/FACILITY LOCATION (Mark location on map, see Number 1a on reverse side)

County | Town or city | Village

STREET ADDRESS (If different from applicant)

POST OFFICE | STATE | ZIP CODE

6. NAME OF STREAM OR BODY OF WATER

7. HAS WORK BEGUN ON PROJECT? ☐ Yes ☐ No — If YES, attach explanation on starting work without permit, include dates. Show work on map and/or drawings.

8. WILL PROJECT UTILIZE STATE LAND? ☐ Yes ☐ No

9. PROPOSED USE: ☐ Private ☐ Public ☐ Commercial

10. PROPOSED STARTING DATE:

11. APPROXIMATE COMPLETION DATE:

12. FEE OF (NYS Permit Only) $ _____ Enclosed

13. PROJECT DESCRIPTION: (e.g. quantity and type of material to be excavated, dredged or used for fill or rip rap, location of disposal sites; type of structure to be installed; height of dam; size of impoundent; capacities of proposed water sources; extent of distribution system; etc.)

14. WILL THIS PROJECT REQUIRE ADDITIONAL FEDERAL, STATE AND/OR LOCAL PERMITS? ☐ Yes ☐ No If yes, please list:

15. CERTIFICATION:

I hereby affirm that under penality of perjury that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

Further, the applicant accepts full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said project. In addition, Federal Law, 18 U.S.C. Section 1001 provides for a fine of not more than $10,000 or imprisonment for not more than five years, or both, where an applicant knowingly and willfully falsifies, conceals, or covers up a material fact; or knowingly makes or uses a false, fictitous or fraudulent statement.

☐ I hereby authorize the agent named in Number 4. above to submit this application on my behalf.

DATE _____ SIGNATURE _____ TITLE _____

PLEASE READ ALL INSTRUCTIONS ON REVERSE SIDE

GENERAL INSTRUCTIONS

INCOMPLETE OR INACCURATE INFORMATION MAY DELAY PROCESSING AND A FINAL DECISION ON YOUR APPLICATION!

1. Please prepare and submit:
   A. Three signed copies of this application. Use typewriter or print clearly in black ink.
   B. Three copies of a USGS map or equivalent showing the project location.
   C. Three copies of a sketch plan drawn to scale or engineering drawings showing location and extent of work (see sample drawings) as well as view directions of the photographs required in 1D.
   D. Three copies of three representative color photographs of the project area and surroundings with time and date taken indicated on them.
2. Applications by counties, cities, towns and villages shall be signed by the chief executive officer thereof or the head of the department or agency undertaking the project.
3. The applicant may be required to publish a "Notice of Application" as provided by the Regional Permit Administrator.
4. If other than owner makes application, written consent of the owner to use the property/facility must accompany application.
5. If a public hearing is necessary, the applicant may be required to furnish the names and addresses of all adjacent landowners and all known claimants to water rights.
6. The applicant is responsible for obtaining any other required federal, state or local permits.
7. Be sure to enclose proper application fee, note accordingly in item 12 on the reverse side; consult UPA fee schedule with Regional Office.

OTHER REQUIREMENTS

8. If project is an unlisted action pursuant to the State Environmental Quality Review Act regulations-Part 617, a completed Part 1 of a Short Environmental Assessment Form must be submitted with the application.
9. If project is a Type I action pursuant to the State Environmental Quality Review Act regulations-Part 617, a completed Part 1 of a Long Environmental Assessment Form must be submitted with the application.
10. If project is classified as major pursuant to the Uniform Procedures Act regulations-Part 621, a completed Part 1 of a Structural-Archaeological Assessment Form must be submitted with the application.
11. If project lies within the Coastal Zone, a completed Coastal Assessment Form must be submitted with the application.

SPECIAL REQUIREMENTS FOR SPECIFIC PERMIT APPLICATIONS

12. Applications for the construction, reconstruction or repair of a DAM or other IMPOUNDMENT STRUCTURE must be accompanied by Supplement D-1.
13. Applications for WATER SUPPLY or LONG ISLAND WELL permits must be accompanied by Supplement W-1.
14. Applications for a permit to apply a CHEMICAL TO CONTROL OR ELIMINATE AQUATIC VEGETATION, FISH OR INSECTS must be accompanied by Supplement A-1, A-2, or A-3, respectively.
15. Applications for a WILD, SCENIC OR RECREATIONAL RIVERS SYSTEM Permit must be accompanied by Supplement WSR-1.
16. Applications for a federal permit for filling or ocean dumping under SECTIONS 404 or 103, must include Supplement E-1 and require a mandatory discussion of practicable alternatives to the project. Particular justification should be given as to why the alternatives are not suitable. In addition, provide names, addresses and telephone numbers of adjacent property owners.

Contact the Regional Permit Administrator, Division of Regulatory Affairs, at the appropriate office of the Department, as given below, for assistance regarding any of the above requirements. Consult other available application instruction materials.

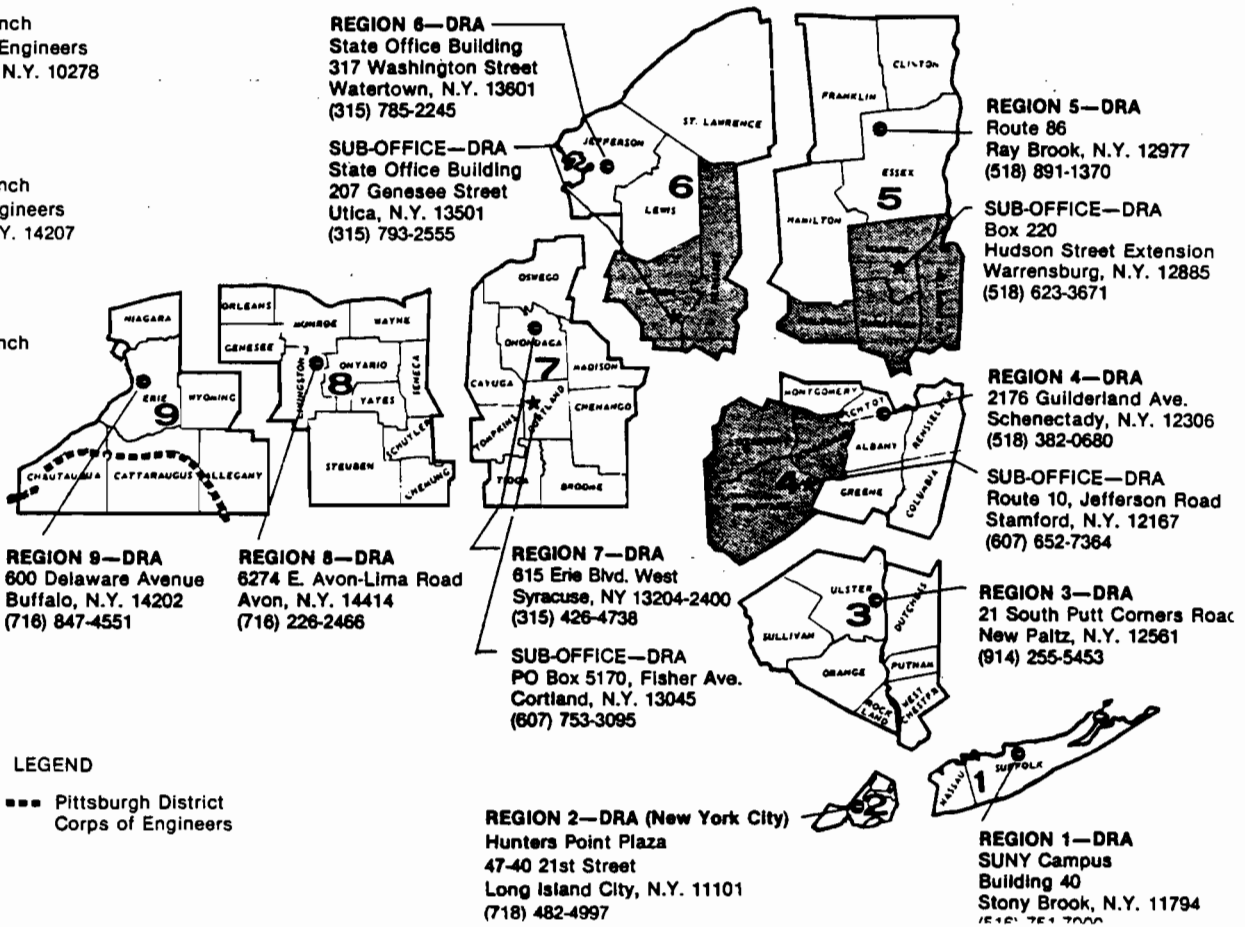
United States Army Corps of Engineers

Department of the Army
ATTN: Chief, Regulatory Branch
New York District, Corps of Engineers
26 Federal Plaza, New York, N.Y. 10278
Telephone (212) 264-0184
DEC Regions 1, 2, 3, 4, 5

Department of the Army
ATTN: Chief, Regulatory Branch
Buffalo District, Corps of Engineers
1776 Niagara St., Buffalo, N.Y. 14207
Telephone (716) 876-5454
DEC Regions 6, 7, 8, 9

Department of the Army
ATTN: Chief, Regulatory Branch
Pittsburgh District,
Corps of Engineers
William S. Moorehead
Federal Building
1000 Liberty Ave.,
Pittsburgh, PA. 15222
Telephone: (412) 644-6872
Portions of Allegany,
Cattaraugus and
Chautauqua Counties

Department of Environmental Conservation Regional Offices
Division of Regulatory Affairs



REGION 6—DRA
State Office Building
317 Washington Street
Watertown, N.Y. 13601
(315) 785-2245

SUB-OFFICE—DRA
State Office Building
207 Genesee Street
Utica, N.Y. 13501
(315) 793-2555

REGION 5—DRA
Route 86
Ray Brook, N.Y. 12977
(518) 891-1370

SUB-OFFICE—DRA
Box 220
Hudson Street Extension
Warrensburg, N.Y. 12885
(518) 623-3671

REGION 4—DRA
2176 Guilderland Ave.
Schenectady, N.Y. 12306
(518) 382-0680

SUB-OFFICE—DRA
Route 10, Jefferson Road
Stamford, N.Y. 12167
(607) 652-7364

REGION 9—DRA
600 Delaware Avenue
Buffalo, N.Y. 14202
(716) 847-4551

REGION 8—DRA
6274 E. Avon-Lima Road
Avon, N.Y. 14414
(716) 226-2466

REGION 7—DRA
615 Erie Blvd. West
Syracuse, NY 13204-2400
(315) 426-4738

SUB-OFFICE—DRA
PO Box 5170, Fisher Ave.
Cortland, N.Y. 13045
(607) 753-3095

REGION 3—DRA
21 South Putt Corners Road
New Paltz, N.Y. 12561
(914) 255-5453

LEGEND

▪▪▪ Pittsburgh District
Corps of Engineers

REGION 2—DRA (New York City)
Hunters Point Plaza
47-40 21st Street
Long Island City, N.Y. 11101
(718) 482-4997

REGION 1—DRA
SUNY Campus
Building 40
Stony Brook, N.Y. 11794
(516) 751-7900

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

COPIES
WHITE - ORIGINAL
GREEN - DIVISION OF AIR
WHITE - REGIONAL OFFICE
PINK - FIELD REP
YELLOW - APPLICANT

OP | LOCATION | FACILITY | EMISSION POINT | I

A ADD
C CHANGE
D DELETE

READ INSTRUCTIONS CONTAINED IN FORM 76-11-12 BEFORE ANSWERING ANY QUESTION

PROCESS, EXHAUST OR VENTILATION SYSTEM

APPLICATION FOR PERMIT TO CONSTRUCT OR CERTIFICATE TO OPERATE

SECTION A

1 NAME OF OWNER/FIRM			9 NAME OF AUTHORIZED AGENT		10 TELEPHONE	19 FACILITY NAME (IF DIFFERENT FROM OWNER/FIRM)		
2 NUMBER AND STREET ADDRESS			11 NUMBER AND STREET ADDRESS			20 FACILITY LOCATION (NUMBER AND STREET ADDRESS)		
3 CITY - TOWN - VILLAGE	4 STATE	5 ZIP	12 CITY - TOWN - VILLAGE	13 STATE	14 ZIP	21 CITY - TOWN - VILLAGE		22 ZIP
6 OWNER CLASSIFICATION E ☐ STATE H ☐ HOSPITAL A ☐ COMMERCIAL C ☐ UTILITY F ☐ MUNICIPAL I ☐ RESIDENTIAL B ☐ INDUSTRIAL D ☐ FEDERAL G ☐ EDUC INST J ☐ OTHER			15 NAME OF P.E. OR ARCHITECT PREPARING APPLICATION	16 N.Y.S. P.E. OR ARCHITECT LICENSE NO.	17 TELEPHONE	23 BUILDING NAME OR NUMBER	24 FLOOR NAME OR NUMBER	
7 NAME & TITLE OF OWNERS REPRESENTATIVE		8 TELEPHONE	18 SIGNATURE OF OWNERS REPRESENTATIVE OR AGENT WHEN APPLYING FOR A PERMIT TO CONSTRUCT			25 START UP DATE MO / YR	26 DRAWING NUMBERS OF PLANS SUBMITTED	
						27 PERMIT TO CONSTRUCT A ☐ NEW SOURCE B ☐ MODIFICATION	28 CERTIFICATE TO OPERATE A ☐ NEW SOURCE C ☐ EXISTING SOURCE B ☐ MODIFICATION	

SEC. B

29 EMISSION POINT ID.	30 GROUND ELEVATION (FT)	31 HEIGHT ABOVE STRUCTURES (FT)	32 STACK HEIGHT (FT)	33 INSIDE DIMENSIONS (IN)	34 EXIT TEMP (°F)	35 EXIT VELOCITY (FT/SEC)	36 EXIT FLOW RATE (ACFM)

37 SOURCE CODE	38 HRS/DAY	39 DAYS/YR	40 % OPERATION BY SEASON Winter	Spring	Summer	Fall

SEC. C

41. DESCRIBE PROCESS OR UNIT

1.	2.
3.	4.
5.	6.
7.	8.

SEC. D

EMISSION CONTROL EQUIPMENT I.D.	CONTROL TYPE	MANUFACTURER'S NAME AND MODEL NUMBER	DISPOSAL METHOD	DATE INSTALLED MONTH / YEAR	USEFUL LIFE
42	43	44	45	46 /	47
48	49	50	51	52 /	53

SECTION E

CALCULATIONS

SECTION F

CONTAMINANT NAME	CONTAMINANT CAS NUMBER	INPUT OR PRODUCTION	UNIT	ENV RATING	EMISSIONS ACTUAL	EMISSIONS UNIT	EMISSIONS HOW DET	EMISSIONS PERMISSIBLE	% CONTROL EFFIC'CY	HOURLY EMISSIONS (LBS/HR) ERP	HOURLY EMISSIONS (LBS/HR) ACTUAL	ANNUAL EMISSIONS (LBS/YR) ACTUAL	ANNUAL EMISSIONS (LBS/YR) 10^x	ANNUAL EMISSIONS (LBS/YR) PERMISSIBLE
54	55	56	57	58	59	60	61	62	63	64	65	66	67	68
69	70	71	72	73	74	75	76	77	78	79	80	81	82	83
84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
99	100	101	102	103	104	105	106	107	108	109	110	111	112	113
114	115	116	117	118	119	120	121	122	123	124	125	126	127	128
129	130	131	132	133	134	135	136	137	138	139	140	141	142	143

SEC. G

SOLID FUEL TYPE	SOLID FUEL TONS/YR	SOLID FUEL % S	OIL TYPE	OIL THOUSANDS OF GALLONS/YR	OIL % S	GAS TYPE	GAS THOUSANDS OF CF/YR	GAS BTU/CF
144	145	146	147	148	149	150	151	152

APPLICABLE RULE	APPLICABLE RULE
153	154

Upon completion of construction sign the statement listed below and forward to the appropriate field representative

THE PROCESS, EXHAUST OR VENTILATION SYSTEM HAS BEEN CONSTRUCTED AND WILL BE OPERATED IN ACCORDANCE WITH STATED SPECIFICATIONS AND IN CONFORMANCE WITH ALL PROVISIONS OF EXISTING REGULATIONS.

155 SIGNATURE OF AUTHORIZED REPRESENTATIVE OR AGENT | DATE

AGENCY USE ONLY

156 LOCATION CODE	157 FACILITY ID NO	158 U T M (E)	159 U T M (N)	160 SIC NUMBER	161 DATE APPL RECEIVED / /	162 DATE APPL REVIEWED / /	163 REVIEWED BY

PERMIT TO CONSTRUCT

164 DATE ISSUED / /	165 EXPIRATION DATE / /	166 SIGNATURE OF APPROVAL	167 FEE

168
1. DEVIATION FROM APPROVED APPLICATION SHALL VOID THIS PERMIT
2. THIS IS NOT A CERTIFICATE TO OPERATE
3. TESTS AND/OR ADDITIONAL EMISSION CONTROL EQUIPMENT MAY BE REQUIRED PRIOR TO THE ISSUANCE OF A CERTIFICATE TO OPERATE

RECOMMENDED ACTION RE: C.O.

169 DATE ISSUED / /	170 EXPIRATION DATE / /	171 SIGNATURE OF APPROVAL	172 FEE

173
1. ☐ INSPECTED BY _____ DATE _____
2. ☐ INSPECTION DISCLOSED DIFFERENCES AS BUILT VS PERMIT, CHANGES INDICATED ON FORM
3. ☐ ISSUE CERTIFICATE TO OPERATE FOR SOURCE AS BUILT
4. ☐ APPLICATION FOR C.O. DENIED _____ DATE _____ INITIALED

174 SPECIAL CONDITIONS:

1	2
3	4
5	6
7	8

INSTRUCTIONS FOR THE PREPARATION AND SUBMISSION OF
AN APPLICATION FOR A PERMIT TO CONSTRUCT OR A CERTIFICATE TO OPERATE

PROCESSES, EXHAUST AND/OR VENTILATION SYSTEMS

A. GENERAL

In accordance with the rules of the New York State Department of Environmental Conservation, the owner of an air contamination source (process and exhaust and/or ventilation systems) must have a Certificate to Operate, which is valid for a period up to three years. To continue operating, the source owner must renew his Certificate to Operate on or prior to the Certificate's expiration date. If a source is new or a modification is planned, the owner must secure a Permit to Construct before construction can proceed. After completion of construction, the source owner must apply for and obtain a Certificate to Operate to commence operation. An existing process that is relocated from one facility to another is considered a new source and requires submission of an application for a Permit to Construct before construction can proceed.

A modification under Section 201.2 of 6 NYCRR 201 (Permits and Certificates) means any physical change or change in the method of operation of a process which (a) increases the hourly emission rate, emission concentration or emission opacity of any air contaminant or (b) involves the installation or alteration of any air cleaning installation, air cleaning device or control equipment or (c) involves conversion of fuel used in any process to a fuel with a higher ash content than the fuel used prior to the change. Routine maintenance, repair and replacement of original equipment or parts thereof are not considered physical changes. An increase or decrease in the hours of operation is not considered a change in the method of operation if the total emissions do not cause air pollution or contravention of any applicable ambient air quality standard and the cumulative permissible emission resulting from any increase in the hours of operation is equal to or less than the applicability emission limits for prevention of significant deterioration or source growth in nonattainment areas.

The following are not considered modifications:

1. Alteration of stacks including manifolding existing stacks to a new common stack.

2. Relocation of a temporary (mobile) asphalt concrete plant.

3. Installation of a stack gas conditioning system to improve the particulate collection efficiency of an existing electrostatic precipitator.

However, the source owner must apply for and obtain an amended Certificate to Operate for the affected emission source when the alteration or relocation is completed. Where a process, exhaust and/or ventilation system is located in a nonattainment area of the State for particulates or sulfur dioxide, the source owner must submit an acceptable air quality impact evaluation report prior to the alteration of a stack See Section J-5 (page 12) of these instructions.

Completed application forms 76-19-3 and 76-19-4 must be submitted with 3 sets of plans to the appropriate FIELD REPRESENTATIVE (air pollution control program) for the county where the source is located (See form 70-00-1 for the list of addresses). The application must be signed by the owner or his authorized agent. The signature of the agent, to be acceptable, must be accompained by a letter of authorization.

Tax relief to encourage construction of air pollution control equipment is available. To be eligible, the equipment must remove, reduce or render less noxious air contaminants emitted from an air contamination source and be in conformance with the New York State emission requirements (See form 76-11-16, Tax Relief for Air Pollution Control Facilities).

To comply with the State Education Law an application for a Permit to Construct for a new source or modification, including stack test reports and other supportive engineering reports, must be prepared under the direct supervision of and bear the seal of a professional engineer licensed in the State of New York. Certification by a professional engineer will not be required for sources which have been altered resulting only in a change in process weight or emission rate potential and sources for which repairs of existing emission control equipment are replacements "in kind."

B. APPLICATION REVIEW AND PERMIT FEES

All applications received by the Department must be processed within a time period specified by 6 NYCRR 621 (Uniform Procedures). Additionally, the Department must determine whether or not the application is for a minor project. All processes, exhaust and/or ventilation systems are considered minor except:

1. Process, exhaust and ventilation systems with particulate emissions in excess of 100 pounds per hour.

2. Process, exhaust and ventilation systems which emit SO_2 at a rate exceeding ten pounds per hour.

3. Recovery boilers and lime kilns in chemical pulp mills.

4. Kilns and clinker coolers in portland cement plants.

5. Blast furnaces, sintering processes, basic oxygen furnaces, cupolas, scarfing and cutting processes, lime kilns, continuous galvanizing mills and transfer of molten metal from blast furnaces to other furnaces in iron and steel plants.

6. Reduction cells and anode baking processes in primary aluminum ore reduction plants.

7. Absorber exit stacks and sulfuric acid concentrators in sulfuric acid plants.

8. Catalyst regenerators and desulfurization processes in petroleum refineries.

9. Kilns and coolers in lime plants.

10. Charging, pushing and quenching processes and waste heat stacks and desulfurization systems in by-product coke manufacturing plants.

11. Construction of new or expansion of existing storage facilities designed for or capable or storing one million or more gallons or liquid natural gas, liquid petroleum gas or other liquid fuels.

12. Sulfur recovery plants.

13. Fuel conversion plants.

14. Process, exhaust and ventilation systems emitting air contaminants assigned an environmental rating of "A" under Part 212 (6 NYCRR 212) and whose total emission rate of such "A" contaminants exceeds one pound per hour.

15. Process, exhaust and ventilating systems from which the total emission rate of all air contaminants exceeds 50 tons per day.

16. Process, exhaust and ventilating systems subject to hearing requirements under federal regulations which implement the federal Clean Air Act.

For non-minor projects a determination will be made whether the proposed project may or will not have a significant effect on the environment and whether a draft environmental impact statement is warranted. The Department may also require the applicant to provide reasonable public notice of the application and opportunity for public comment.

The fee for a Permit to Construct for a non-minor process source is $100. The fee for recertification of a non-minor process source is $30 for a three year certificate, $20 for a two year certificate and $10 for a one year certificate.

Applications for a permit or certificate must be accompanied by a check or money order made payable to the "Department of Environmental Conservation." Payment in cash will not be accepted. There is no fee for all other permits and certificates.

C. APPLICABLE EMISSION STANDARDS

A Permit to Construct may not be issued unless the source owner or his authorized agent can show that the proposed new process and exhaust and/or ventilation system or modification will comply with applicable emission standards. Such verification can consist of stack tests performed on pilot or similar full scale installations or reliable material balance calculations which estimate the emissions expected from the new source or modification.

The State emission rules and the federal emission rules, where also applicable for specific air contaminants from specific process units, are listed below by industry type. For processes and exhaust and/or ventilation systems, concerning which there are no applicable specific state or federal emission standards, the emission standard or degree of emission control required under Part 212 is based on an environmental rating assigned to <u>each</u> air contaminant emitted from <u>each</u> source (See Section D, Environmental Rating).

1. Ferrous Jobbing Foundries

See Part 213, Contaminant Emissions from Ferrous Jobbing Foundries, for particulate emission standards applicable to cupolas and open hearth furnaces.

See Part 212, Process, Exhaust an/or Ventilation Systems, for requirements and emission standards applicable to (a) other air contaminants from these sources and (b) particulates as well as other contaminants from any other emission source in a ferrous jobbing foundry. For such foundries emission control is based on environmental ratings of (a) "D" for carbon monoxide emissions from the cupola or open hearth furnace, (b) "B" for particulate emissions from other emission sources and (c) "C" for odorous volatile organic compounds from core or mold baking ovens.

2. By-Product Coke Oven Batteries

See Part 214, By-Product Coke Oven Batteries, for particulate emissions standards, opacity and other visible emission limitations, sulfur compound emissions (measured as hydrogen sulfide) and oven door maintenance and work plan requirements applicable to by-product coke oven batteries.

See Part 212, Processes and Exhaust and/or Ventilation Systems, for emission standards applicable to gaseous emissions other than sulfur compounds from by-product coke oven batteries.

3. Portland Cement Plants

See Part 220, Portland Cement Plants, for (a) particulate emission standards and other requirements applicable to any kiln or clinker cooler and (b) opacity standards applicable to any emission source of a portland cement plant.

See Part 212, Processes and Exhaust and/or Ventilation Systems, for particulate emission standards applicable to emission sources other than a kiln or cooler and for requirements and emission standards applicable to other air contaminants from any emission source in a portland cement plant. For emission sources other than a kiln or cooler, emission control is usually based on an environmental rating of "B" for particulate emissions.

4. Petroleum Refineries

See Part 223, Petroleum Refineries, for emission standards for particulates, opacity, carbon monoxide, sulfur compound (measured as hydrogen sulfide) and volatile organic compounds. Emission sources regulated include (a) fluid catalytic cracking unit catalyst regeneration, (b) fluid catalytic cracking unit incinerator-waste heat boilers and (c) fuel gas combustion devices in a petroleum refinery.

5. Sulfuric and Nitric Acid Plants

See Part 224, Sulfuric and Nitric Acid Plants, for nitrogen oxides, sulfur dioxide, sulfuric acid mist and opacity emission standards applicable to any emission source in a sulfuric and/or nitric acid plant for which source an application for a Permit to Construct is received subsequent to March 15, 1973.

See Part 212, Processes and Exhaust and/or Ventilation Systems, for emission standards applicable to any emission source in a sulfuric acid and/or nitric acid plant for which source an application for a Permit to Construct is received on or prior to March 15, 1973.

6. Gasoline Storage and Transfer

See Part 229, Gasoline Storage and Transfer, for equipment specifications and requirements for the control of gasoline vapor emissions resulting from (a) the storage of gasoline in fixed roof tanks, (b) the transfer of gasoline at bulk plants and loading terminals and (c) the transfer of gasoline into underground storage tanks at gasoline filling stationary located in the New York City Metropolitan Area.

See also 40 CFR 60, Subpart K, for equipment specifications and other requirements applicable statewide for the control of gasoline vapor emissions from storage vessels for which an application for a Permit to Construct is received subsequent to June 11, 1973.

7. Surface Coating Processes

See Part 228, Surface Coating Processes, for volatile organic compound (VOC) emission standards and other requirements for specific coating lines (new and existing) at any facility in

a. the New York City Metropolitan Area or

b. a nonattainment area for ozone, other than the New York City Metropolitan Area, where the annual potential emissions of VOC from the facility is equal to or exceeds 100 tons per year.

New processes involving a coating line of the type specified in Table 1 of Part 228, at a facility located in an attainment area for ozone and for which an application for a Permit to Construct is received on or subsequent to August 23, 1979, are also regulated under Part 228.

See Part 205, Photochemically Reactive Solvents and Organic Solvents From Certain Processes - New York City Metropolitan Area, for VOC emission standards and equipment requirements for coating lines at any facility located in the New York City Metropolitan Area which are not of the type specified in Table 1 of Part 228.

See also Part 212, Processes and Exhaust and/or Ventilation Systems, for VOC emission standards for surface coating processes at a facility involving coating lines not of the type specified in Table 1 of Part 228, which are neither located in the New York City Metropolitan Area nor in any other nonattainment area for ozone. For emission sources with an emission rate potential less than 100 tons per year no control is generally required since such VOC emissions are usually assigned an environmental rating of "D." For sources whose emission rate potential is equal to or exceeds 100 tons per year the emissions may be assigned a "B" or "C" rating depending on the location of the source. Particulate emission control is usually based on an environmental rating of "B" for particulate emissions.

8. Asphalt Concrete (Black Top) Plants

See Part 60, Chapter 1, Title 40, Code of Federal Regulatins (CFR), Subpart I, for particulate emission standards applicable to any emission source in an asphalt concrete plant for which source an application for a Permit to Construct is received subsequent to June 11, 1973. See also Part 61, Title 40, CFR, Subpart B, regarding visible emission standard applicable to all asphalt concrete plants using commercial asbestos.

See Part 212, Processes and Exhaust and/or Ventilation Systems, for emission standards applicable to any emission source in an asphalt concrete plant for which source an application for a Permit to Construct is received on or prior to June 11, 1973. For most such emission sources, emission control is based on process weight with an environmental rating of "B" for particulate emissions.

An existing asphalt plant relocated from one area of the State to a new location within the State will not be considered a new source or modification if such plant was in compliance with Part 212 at the former location. Asphalt plants relocated from out of state to New York State will also not be considered a new source or modification if the other State's particulate emission standards are as restrictive as the emission standards of 6 NYCRR 212 applicable to existing sources and if the owner provides sufficient information to insure that the plant was operating in compliance with the other state's rules; i.e., possession of a valid permit or certificate equivalent to the Certificate to Operate. For relocations meeting the above criteria, notification of the FIELD REPRESENTATIVE (Air Pollution Control Program) for the County where the plant is to be located, prior to relocation, and filing of a new application for a Certificate to Operate is required.

9. Secondary Lead Smelters

See Part 60, Chapter 1, Title 40, Code of Federal Regulations, Subpart L, for particulate emission standards applicable to pot furnaces of more than 550 lbs/hr charging capacity, cupolas, blast furnaces and reverberatory furnaces for which an application for a Permit to Construct is received subsequent to June 11, 1973.

See Part 212, Processes and Exhaust and/or Ventilation Systems, for requirements and emission standards applicable to the above emission sources for which a Permit to Construct is received on or prior to June 11, 1973 and any other emission source in a secondary lead smelter. Emission control is usually based on an environmental rating of "A" for emissions of lead or its compounds.

10. Secondary Brass and Bronze Ingot Production Plants

See Part 60, Chapter 1, Title 40, Code of Federal Regulations, Subpart M for particulate emission standards applicable to any reverberatory or electric furnace of 2200 lbs/hr or greater production capacity and any blast furnace or cupola of 550 lbs/hr or greater production capacity for which an application for a Permit to Construct is received subsequent to June 11, 1973.

See Part 212, Processes and Exhaust and/or Ventilation Systems, for requirements and emission sources for which a Permit to Construct is received on or prior to June 11, 1973 and any other emission source in a secondary brass and bronze ingot production plant. Emission control is based on environmental ratings of "A" for emissions of lead or lead compounds and "B" for emissions of zinc and tin or their compounds.

11. Iron and Steel Plants

See Part 216, Iron and/or Steel Processes, for particulate and opacity emission standards for any confined iron and/or steel process including blast furnaces, basic oxygen furnaces and electric arc furnaces. Unconfined iron and/or steel processes require the application of best available control technology to reduce emissions.

See also Part 212, Processes and Exhaust and/or Ventilation Systems, for emission standards applicable to gaseous air contaminants. An equivalent opacity may be applied to the emissions from a confined iron and/or steel process when it can be demonstrated that best available control technology is being utilized and that there is compliance with applicable emission standards.

12. Sewage Treatment Plants

See Part 60, Chapter 1, Title 40, Code of Federal Regulations, Subpart O, for particulate and opacity emission standards applicable to any furnace used for burning sludge produced by any municipal sewage treatment plant for which a Permit to Construct is issued subsequent to June 11, 1973. See Part 61, Chapter 1, Title 40, CFR, Subpart E (Section 61.52), for mercury emission standards applicable to any furnace or drier used for burning or drying sludge.

See also Part 212, Process and Exhaust and/or Ventilation Systems, applicable to such furnaces for which an application for a Permit to Construct is received on or prior to June 11, 1973 and any other emission source in a sewage treatment plant. Emission control for such sources is usually based on an environmental rating of "B" for particulate emissions and "A" for mercury emissions.

13. Plants Manufacturing Products Containg Asbestos or Asbestos Material and Spraying of Asbestos

See Part 221, Asbestos-Containing Surface Coating Material, for prohibition of spraying of asbestos or asbestos materials.

See Part 61, Chapter 1, Title 40, Code of Federal Regulations, Subpart B, for opacity standards and air cleaning requirements applicable to any emission source involving the manufacture of products containing asbestos. This includes, but is not limited to, the manufacture of fireproofing and insulating material, floor tile, paints, coatings and adhesives.

14. Plants Processing Beryllium Ore, Beryllium, Beryllium Oxides, Beryllium Alloys or Beryllium Containing Waste and Machine Shops Processing Beryllium, Beryllium Oxides or any Beryllium Alloy Containing More than 5% Beryllium by Weight

See Part 61, Chapter 1, Title 40, Code of Federal Regulations, Subpart C, for emission standards applicable to any emission source involving (a) the processing of beryllium ore, beryllium, beryllium oxides and alloys of beryllium and the burning or rubbish containing beryllium and (b) the machining of beryllium, beryllium oxides or any alloy containing more than 5% beryllium by weight. This includes, but is not limited to, ceramic plants, foundries and propellant plants.

15. Mercury Ore Processing Plants and Plants Using Mercury Chlor-Alkali Cells to Produce Chlorine Gas and Alkali Metal Hydroxides

See Part 61, Chapter 1, Title 40, Code of Federal Regulations, Subpart E, for emission standards applicable to any emission source involving the processing of mercury ore to recover mercury and mercury chloralkali cells which produce chlorine and alkali metal hydroxide.

16. Primary Aluminum Plants

See Part 60, Chapter 1, Title 40, Code of Federal Regulations, Subpart S, for fluoride and opacity standards applicable to potroom groups and anode bake plants for which an application for a Permit to Construct was received subsequent to October 23, 1974.

See Part 212, Process and Exhaust and/or Ventilation Systems, for emission standards applicable to any emission source in a primary aluminum plant for which an application for a Permit to Construct is received on or prior to October 23, 1974. Emission control is based on an environmental rating of "B"for emissions of fluorides.

17. Phosphate Fertilizer Plants Including Wet Process, Superphosphate, Diammonium Phosphate, Triple Superphosphate, Granular Triple Superphosphate Storage Facilities

See Part 60, Chapter 1, Title 40, Code of Federal Regulations, Subparts T, U, V, W and X for fluoride emission standards applicable to reactors, filters, evaporators, hotwells, acid sumps, cooling tanks, granulators, dryers, coolers, screens, mills, mixers, curing belts (dens) and cookers for which an application for a Permit to Construct is received subsequent to October 22, 1974.

See Part 212, Process and Exhaust and/or Ventilation Systems, for emission standards from phosphate fertilizer plant sources for which an application for a Permit to Construct is received on or prior to October 22, 1974. Emission control is based on an environmental rating of "B"for emissions of fluorides.

18. Ferroalloy Production Facilities

See Part 60, Chapter 1, Title 40, Code of Federal Regulations, Subpart Z, for carbon monoxide and particulate emission standards applicable to (a) electric submerged arc furnaces which produce silicon metal, ferrosilicon, calcium silicon, silicomanganese zirconium, ferrochrome silicon silvery iron, high-carbon ferrochrome, charge chrome standard ferromanganese, silicomanganese, ferromanganese silicon, or calcium carbide and (b) dust handling equipment for which an application for a Permit to Construct is received subsequent to October 21, 1974.

See Part 212, Process and Exhaust and/or Ventilation Systems, for emission standards applicable to any emission source in a ferroalloy production plant for which an application for a Permit to Construct is received on or prior to October 21, 1974. Particulate emission control is usually based on an environmental rating of "B".

19. Vinyl, Polyvinyl and Ethylene Dichloride Plants

See Part 61, Chapter 1, 40 CFR, Subpart F, for vinyl chloride emission standards applicable to all emission sources at (a) plants producing ethylene dichloride by reaction of O_2 and HCl with C_2H_2, (b) vinyl chloride manufacturing plants and (c) polyvinyl manufacturing plants. Sources include reactors, strippers, mixers, scales, holding containers, etc.

D. ENVIRONMENTAL RATING

Part 212, Processes and Exhaust and/or Ventilation Systems, requires the determination of an "environmental rating" as an initial step in the review of any application for a Permit to Construct or Certificate to Operate. The basis for the rating(s) is the potential environmental effects of air contaminant emissions on the source surroundings and include health, economic and aesthetic effects.

The factors considered in determining the environmental rating are:

a. toxic and other properties as well as emission rate potential of each air contaminant;

b. location of the source with respect to residences or other sensitive environmental receptors, including a consideration of the area's anticipated growth;

c. emission dispersion characteristics at or near the source, taking into account the physical location of the source relative to surrounding buildings and terrain; and

d. the projected maximum cumulative impact taking into account emissions from all sources in the facility under review as well as the pre-existing ambient concentration of the air contaminant under review.

"A" Rated Sources

a. Sources which emit any air contaminant(s) of relative high toxicity independent of emission rate potential.

b. Sources which emit any air contaminant(s) of low or moderate toxicity and which reasonably would be expected to result in serious adverse effects on receptors.

"B" Rated Sources

a. Sources which emit any air contaminant of low or moderate toxicity and which are located in an area of high or moderate population density where any state or national ambient air quality standard for air contaminants being emitted is likely to be contravened and due to a multiplicity of sources emitting such air contaminants in the area, an overall reduction in such air contaminant emissions is required to achieve compliance with ambient air quality standards.

b. Sources emitting air contaminants in an area of high or moderate population density whose emission rate potential is of such magnitude and whose emission dispersion characteristics are such that any ambient air quality level known to cause air pollution, such as soiling and or human sensory irritation, is likely to be exceeded.

c. New sources or modifications located in an area of high population density (other than the New York City Metropolitan Area) which emit volatile organic compounds (relatively low toxic properties) with an emission rate potential equal to or exceeding 100 tons per year.

"C" Rated Sources

a. Sources which emit any air contaminant(s) of low or moderate toxicity whose emission rate potential is of such magnitude and whose emission dispersion characteristics are such that any ambient air quality level known to cause air pollution, such as soiling and/or human sensory irritation, for any air contaminant being emitted is likely to be exceeded.

b. New sources or modifications located in an area of moderate or low population density which emit volatile organic compounds (relatively low toxic properties) with an emission rate potential equal to or exceeding 100 tons per year.

"D" Rated Sources

Sources which emit any air contaminate(s) of relatively low or moderate toxicity whose emission rate potential is of such small magnitude and where the emission dispersion characteristics are sufficiently favorable not to cause contravention of any established state or national ambient air quality standard or is unlikely to result in any ambient air quality level known to cause air pollution, such as soiling and human sensory irritation, to be exceeded.

E. APPLICATION OF PART 212 EMISSION STANDARDS

Where Part 212, Processes and Exhaust and/or Ventilation Systems, applies to an emission source, the emission standard or control requirements for each contaminant is based on (a) the environmental rating and (b) the physical state of the contaminant (e.g., particulate or gas).

1. Process Weight

For the following processes which emit solid particulate contaminants rated "B" or "C," the permissible emission rates are based on process weight:

a. stone driers (asphalt concrete plants)
b. expanded aggregate kilns (lightweight aggregate plants)
c. continuous process material dryers emitting solid particulates and water only.
d. brass and bronze melting furnaces
e. ferroalloy production furnaces

f. lime kilns
g. glass production furnaces
h. graphitizing and silicon carbide furnaces
i. gypsum driers
j. primary aluminum reduction furnaces

2. Particulate Concentration in Emission

For all other processes which emit solid particulate contaminants rated "B" or "C," the permissible emission rate is based on a particulate concentration in the emission not to exceed (a) 0.15 grains/DSCF of exhaust gas corrected for dilution air for those sources for which an application for a Permit to Construct was received on or prior to July 1, 1973 or (b) 0.050 grains/DSCF of exhaust gas corrected for dilution air for those sources for which an application for a Permit to Construct was received subsequent to July 1, 1973.

3. Emission Rate Potential

For processes which emit (a) solid particulates rated "A" or "D," or (b) gases other than volatile organic compounds, or (c) volatile organic compounds rated "A" or (d) liquid particulates, the permissible emission rate (degree of emission control required) is based on the emission rate potential or each rated air contaminant.

For processes which emit volatile organic compounds rated "B," "C" or "D," the permissible emission rate for total volatile organic compounds is based on the total emission rate potential of all similarly rated volatile organic compounds.

4. Water Spray Dust Control Systems

Particulate emissions from crushing, screening and material transfer processes which do not have stacks but which can be controlled by water sprays will be rated "D." Emissions shall not cause air pollution.

F. MAJOR FACILITIES (NEW EMISSION SOURCES AND MODIFICATIONS)

New processes, exhaust and ventilation systems or modifications of such sources are considered "major facilities" subject to prevention of significant deterioration (PSD) requirements and/or emission offsets if the cumulative permissible emissions at a facility exceed the applicability emission limits of 6 NYCRR 231. No person shall initiate construction of source at a major facility until the provisions of 6 NYCRR 231 (Major Facilities) have been met and a Permit to Construct has been issued.

New processes, exhaust and/or ventilation systems or modifications which meet the above criteria and which are located in an attainment area must meet the PSD provisions of 6 NYCRR 231 before a Permit to Construct will be issued. These provisions require:

1. Best Available Control Technology (BACT) for any new process, exhaust and/or ventilation system or modification for which the permissible emission rate exceeds the applicability emission limits of 6 NYCRR 231. BACT is determined on a case-by case basis.

2. An air quality impact evaluation report demonstrating that emissions from the major facility will not cause ambient air concentrations to exceed the allocated PSD increment for the specified air contaminant. The PSD increments are specified in Table 1 of Part 231; increment allocation will be made in accordance with procedures established by the Commissioner.

3. A report on the effects of the major facility on soil, visibility and vegetation when the facility is located within 62 miles (100 kilometers) of a federally designated Class I area.

4. Ambient air monitoring. An analysis of ambient air monitoring data for applicable air contaminants is required. Where appropriate, existing monitoring data may be used, otherwise, monitoring data must be collected by the source owner. Source owners should consult with the air pollution control program FIELD REPRESENTATIVE.

New processes, exhaust and/or ventilation systems or modifications of such sources, subject to the provisions of 6 NYCRR 231 and located in a nonattainment area or significantly impacting on a nonattainment area, must satisfy the emission offset provisions of 6 NYCRR 231 before a Permit to Construct will be issued. These provisions require:

1. Lowest Achievable Emission Rate (LAER) for any new source or modification for which the permissible emission rate exceeds the applicability emission limits of 6 NYCRR 231. LAER is determined on a case-by-case basis.

2. A reduction of the same air contaminant on more than a one-for-one basis from existing emission sources must be secured to provide a net air quality benefit for any new major facility.

3. An air quality impact evaluation report demonstrating that emissions from the major facility will not impact significantly on the nonattainment area for the specified contaminant (significant impacts are defined in Table 2 of Part 231) considering the effects of the major facility and any emission trade-offs secured.

4. All major facilities of the source owner located in the State to be in compliance with applicable rules or to be meeting steps of a compliance schedule contained in an administrative order or court decree.

Only major facilities emitting particulates, sulfur dioxide, nitrogen oxides, carbon monoxide and/or volatile organic compounds are subject to the PSD and/or emission offset provisions of 6 NYCRR 231.

G. PROCESS FUEL SULFUR LIMITATIONS

Where fuel is used in a process, the source owner must show that he has a firm commitment from a fuel supplier that sufficient quantities of fuel conforming with fuel sulfur limitations will be available for the process. See 6 NYCRR 225 for fuel sulfur limitations.

A Certificate to Operate may not be issued until it is shown that fuel used in any process meets applicable fuel sulfur limitations. Where coal or oil is used, the sulfur content of the fuel must be determined by fuel sampling and analysis conducted by the fuel supplier or source owner or his authorized agent. See form 76-11-11, Sampling and Reporting Sulfur Content of Coal and form 76-11-10, Sampling and Reporting Sulfur Content of Fuel Oil.

An exception to the fuel sulfur limitations may be granted (except where not permitted under federal requirements) if the source owner or fuel supplier can demonstrate that there is an insufficient supply of conforming fuel. To apply for such an exception the source owner must submit an application in a form prescribed by the Department. As a prerequisite to the granting of such an exception, the insufficiency of the supply of conforming fuel must be certified by the Commissioner of the State Energy Office. An exception shall be of limited duration and may include other conditions specified by the Commissioner of Environmental Conservation.

An exception to the fuel sulfur limitations may also be granted (except where not permitted under federal requirements) where a source owner desires to demonstrate the performance of experimental equipment and/or a process for removal of sulfur compounds from stack emissions. Such exception may only be granted for a source located in an attainment area for sulfur dioxide. An exception for "experiments" will be terminated prior to the specified expiration date if the emissions from the process result in the contravention of any applicable ambient air quality standard for sulfur dioxide.

Upon written application, a source owner may be issued an exception under a Commissioner's order permitting the use of fuels with a sulfur content higher than otherwise mandated by 6 NYCRR 225 if he can demonstrate that emissions of sulfur dioxide from such process fuels would not exceed those resulting from the use of conforming fuel. Such an exception may be issued where

1. Fuel is used as a process constituent

2. An acceptable emission control system for removal of sulfur dioxide is installed

3. Sulfur in the fuel is retained in the ash

4. The sulfur dioxide reacts with and is retained in the product or process constituents.

Exceptions to the fuel sulfur limitations may also be granted (except where not permitted under federal requirements) for reasons other than an insufficient supply of conforming fuel or experiments (See 6 NYCRR 225 for other exception requirements). Should a source owner desire an extension of any exception (except experiments) he must apply for such an extension not less than 60 days prior to the expiration of the exception or at such time specified in the exception.

H. STACK TESTING REQUIREMENTS

Part 202, Emission Testing, Sampling and Analytical Determinations, requires a source owner, upon the request of the Commissioner of Environmental Conservation, to perform an acceptable stack test and to submit an acceptable stack test report demonstrating compliance with applicable emission standards. The source owner will operate processes during stack testing in a manner specified by the Commissioner. Acceptable emission test methods are those contained in Appendix A of 40 CFR 60 and Appendix B of 40 CFR 61 for those air contaminants and/or parameters for which they are expressly applicable.

Upon completion of construction of the new process, exhaust and/or ventilation system or modification, and as a prerequisite to issuance of the initial Certificate to Operate (in the case of a new source) or any subsequent Certificate to Operate (in the case of a modification), the source owner or his authorized agent may be required to submit stack test reports acceptable to the Commissioner for all stacks and other emission points from processes, exhaust and/or ventilation systems. Stack tests are required as a condition for issuance of the initial Certificate to Operate

1. For a significant source (e.g., particulate emissions in excess of 100 pounds per hour) emitting any air contaminant rated "B" or "C,"

2. For any source with an emission rate potential of 1.0 pounds per hour or more of any "A" rated air contaminant having human carcinogenic properties,

3. For any source with an emission rate potential of 1.0 pounds per hour or more of any "A" rated air contaminant having high inhalation toxicity where control has been applied because the maximum ambient concentration, projected through an air quality impact evaluation based on the emission rate potential, exceeds the ambient air quality level expected to cause air pollution,

4. For sources which are required to comply with Part 60 or Part 61, Chapter 1, Title 40, Code of Federal Regulations, or

5. Where an inspection reveals that the process and/or emission control equipment is not operating properly.

Except where otherwise mandated under federal rules, stack tests ususally will not be required for the following:

1. Sources emitting particulate matter considered to be of moderate or low toxicity (e.g., "B" or "C" environmental rating) and which are equipped with a fabric filter gas cleaning system (baghouse, dust arrestor) provided the system is operated without visible leakage to the air and the fabric bags are properly positioned and maintained.

2. Electric induction furnaces used for melting ferrous metals in foundries.

3. Gas or oil fired reverberatory furnaces for melting ferrous metals in foundries except where the melt cycle includes oxygen lancing.

4. Electrically heated and thermostatically controlled metal melting furnaces (pots) where the estimated emission rate potential is less than 1 pounds per hour.

5. Sources at asphalt concrete plants emitting particulates (e.g., "B" or "C" environmental rating) and which are equipped with an exhaust system including a high energy venturi scrubber provided:

a. a pressure differential of 20 inches water gauge or more is maintained across the venturi throat, as indicated by a permantenly installed pressure gauge,

b. the scrubbing liquid to exhaust gas ratio is not less than 10 gallons of water per 1000 DSCF of exhaust gas and

c. the emission exhibits an average opacity less than 20 percent except for uncombined water.

Where stack tests are required, a Certificate to Operate will not be issued until such stack tests conducted by the source owner or his authorized agent show that the processes exhaust and/or ventilation system complies with applicable emission standards. As a prerequisite to the issuance of a Certificate to Operate for an existing installation, the source owner or his authorized agent may be required to submit an acceptable stack test report showing compliance with applicable emission standards where there has been no prior verification of compliance through stack tests. Although prior stack tests may have shown compliance, retesting may also be required as a prerequisite to the reissuance of a Certificate to Operate to show continued compliance if there is reason to believe that there has been an increase in emissions caused by a retrogression in operation of the installation since the prior stack tests.

Stack tests on continuous steady-state process at maximum operating rate, when possible, and tests for different contaminants may be run concurrently. Sampling strategy for cyclical operations will depend on the process and emission control desired but generally should be designed so that samples are withdrawn during one or more complete cycles. Both average and peak emission rates must be determined. Maximum emission for each contaminant may occur at different times or steps in the process. Normally, each contaminant will need to be measured during its own emission peak.

Emission control equipment, which may have varying efficiency within the operating range, shall be tested with operating variables held in the range of normal operation expected to give minimum overall collection efficiency, e.g., scrubber solution concentration and temperature. Screening tests may also be required to determine conditions for compliance test or tests.

If a source owner can demonstrate through acceptable stack tests that a process is in compliance with all applicable mass particulate emission standards and that the process and any associated emission control equipment is being operated and maintained in a manner acceptable to the FIELD REPRESENTATIVE, an equivalent opacity standard exceeding the applicable opacity standard may be applied. In such cases, the source owner shall not allow the opacity of emissions to exceed the equivalent opacity. An equivalent opacity standard shall only apply to processes which meet all applicable mass emission standards at the time the Certificate to Operate is issued. To be eligible for any equivalent opacity standard best available Control Technology (BACT) must be used to control the particulate emissions.

I. EMISSION AND OPERATION MONITORING REQUIREMENTS

Monitoring of emissions and/or operations for new sources, modifications and various existing sources is required under State and Federal rules. Performance specifications and specification test procedures for continuous emission monitoring are included in Appendix B of 40 CFR 60. These are:

1. Opacity - Performance Specification 1
2. Sulfur dioxide and oxides of nitrogen - Performance Specification 2
3. Oxygen and carbon dioxide - Performance Specification 3

The performance testing requirements are outlined in 40 CFR 60.8 and in Performance Specifications 1,2 and 3. Alternate continuous emission monitoring systems that do not meet the spectral response requirements in Performance Specification 1 but adequately demonstrate a definite and consistent relationship between their measurements and the opacity measurements of a system complying with the requirements in Performance Specification 1 may be approved by the Commissioner as equivalent. An alternate continuous emissions monitoring system that requires corrections for stack moisture conditions (e.g., an instrument measuring sulfur dioxide emissions on a wet basis could be used with an instrument measuring oxygen concentration on a dry basis if acceptable methods of measuring stack moisture conditions are used to allow accurate adjustments of the measured sulfur dioxide concentration to dry basis) may be approved by the Commissioner as equivalent.

All measurements - including continuous emission monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and other required information - shall be recorded and maintained in a permanent form suitable for inspection. The file shall be retained for at least three years following the date of such measurements, maintenance, reports and records.

A source owner required to install a continuous emission monitoring system shall, for each calendar quarter, submit a written report to the FIELD REPRESENTATIVE of excess emissions and the nature and the cause of the excess emissions, if known. All quarterly reports shall be post-marked by the 30th day following the end of each quarter. Additional details are available in 6 NYCRR and 40 CFR 60 referenced in Table 1 (pg. 11), which includes monitoring requirements applicable to various source categories.

J. APPLICATION CONTENT

APPLICATIONS MUST BE TYPEWRITTEN OR PRINTED
AND MUST INCLUDE EACH OF THE FOLLOWING IN TRIPLICATE:

1. Completed form 76-19-3 and, if required, the appropriate number of form 76-19-4. Each non-identical unit or process requires a form 76-19-4 to be completed; for example, if four non-identical units vent to one emission point, four separate forms are required. Form 76-19-3 is a summary of all information on the units or processes venting to each emission point, and one set of form 76-19-3 must accompany all of the forms being submitted. If a single unit vents to one emission point, only complete form 76-19-3. Retain the yellow copy for future reference.

2. Plot plan, to scale, which includes:

a. north orientation and property lines of the facility where installation is located.

b. elevation above mean sea level and the height above ground level of all emision points (e.g., stacks or other points which emit contaminants to the outdoor atmosphere).

c. location of all existing and proposed emission points, including stationary combustion installations and incinerators. Distinguish between existing and proposed emission points and assign an identification number not exceeding 5 digits to each emisison point. Designate each unit by a letter of the alphabet.

d. shortest straight line distance from each numbered stack to (1) the property line of the facility where the installation is located and (2) the nearest building at or beyond the property line. Describe the normal use of such buildings; e.g., residence, retail store, etc.

e. direction of prevailing winds and other pertinent meteorological or topographical factors that would affect dispersion of air contaminants.

f. identification of significant land marks, such as highway intersections, roads, lakes and rivers in the vicinity of the facility.

3. Description of each process connected to an emission point including flow diagrams and emission points by identification numbers assigned on the plot plan.

TABLE 1

EMISSION AND OPERATION MONITORING REQUIREMENTS

Source Category	Rule Reference[1]	Emissions From	Emission Standard: Opacity	Emission Standard: Contaminant[2]	Monitoring Requirements
1. Portland Cement Plants	6NYCRR220.7 40CFR60.63 >8/17/71[3]	Kiln Clinker Cooler	20% (Max)	None	Continuous emission monitoring for opacity. Record daily production and kiln feed rates. See 6NYCRR 200.7 for maintenance of records.
2. Petroleum Refineries	6NYCRR223.8 40CFR60.105 >6/11/73	Catalytic Cracker	30%(Av) (3 min. except.)	0.05%CO[4]	Continuous emission monitoring for opacity and CO.
		Fuel Gas Combustion	None	0.1gr H_2S[5] / dscf	Continuous emission monitoring for H_2S or equivalent SO_2. Report excess emissions (average of six continuous one-hour periods).
		Waste Heat Boiler	None	None	Record daily rate of combustion of fuel and hours of operation.
		Claus Sulfur Recovery Unit	None	0.25%(SO_2)[4] 0.03%(RSC) 0.001%(H_2S)	With incineration. Without incineration.
3. Sulfuric and Nitric Acid Plants	6NYCRR224.4 40CFR60.73 40CFR60.84 >8/17/71	All Process Sources	10%(Max)	3.0 lbs / Ton SO_2	Continuous emission monitoring for opacity and SO_2 at sulfuric acid plants.
				4.0 lbs / Ton NO_x	Continuous emission monitoring for opacity and NO_x at nitric acid plants
					For both plants record production rate & hours of operation daily. Report excess emissions (avg. of three continuous one-hour periods).
4. Sewage Treatment Plants	40CFR60.153 >6/11/73	Sludge Incinerator	20%(Av)	None	Record daily weight or volume of sludge charged to incinerator.
5. Primary Aluminum Reduction Plants	40CFR60.194 >10/23/74	Potroom Group, Soderberg, Prebake	10%(Av)	None	Record daily weight of aluminum & anodes produced, daily raw material feed rates, and cell and potline voltages.
		Anode Bake	20%(Av)	None	
6. Phosphate Fertilizer Industry	40CFR60.203 40CFR60.213 40CFR60.223 40CFR60.233 >12/22/74	All Process Sources (e.g. reactors filters, hot wells, evaporators)	None	None	Record daily weight of phosphorous bearing feed & equivalent P_2O_5 feed; continuous measurement & recording of pressure drop across scrubber.
7. Ferroalloy Production Facilities	40CFR60.264 40CFR60.265 >10/21/74	Electric Arc Furnace	15%(Av)	20%CO[4]	Continuous emission monitoring for opacity. See 40CFR60.264(b) for reporting excess emissions. Record daily product produced, weight & description of furnace charges, time & duration of tapping period, furnace power input, capture system volumetric flow rate & exhaust fan performance characteristics. See 40CFR 60.265 for detailed process monitoring requirements.
		Dust Handling Equipment	10%(Av)	None	
8. Iron and Steel Processes	6NYCRR216.4 40CFR60.273 >6/11/73	Electric Arc Furnaces			Continuous emission monitoring for opacity (fume control device & air cleaning device for dust handling equipment). Record daily the time & duration of each charge & tap; exhaust flow rate and pressure data. See 6NYCRR216.4 for detailed process monitoring requirements.
		a. Fume Control Device	3%(Av)	None	
		b. Shop Hood	0%(Av) except 20% charging 40% tapping	None	
		Dust Handling Equipment	10%(Av)	None	
9. Gasoline Storage and Transfer[6]	6NYCRR229	Gasoline Vapor Recovery Systems	None	None	Process (operation) monitoring required to demonstrate good working order & good operations. Operational parameters to be monitored & recorded depends on system used. a. Compression-Refrigeration-Absorption System(CRA): Absorber temperature and/or pressure. b. Compression-Refrigeration-Condensation System(CRC): Condenser temperature and/or pressure. c. Refrigeration System(RF): Stored brine solution temperature. d. Lean Oil Absorption System (LOA): Lean oil flow rate to absorber columns. e. Flame Oxidation System (FO): Exit gas temperature from combustor.

(1) Rule references pertain to Chapter III, Title 6, New York State Official Compilation of Codes, Rules and Regulations (NYCRR); and Chapter I, Title 40, United States Code of Federal Regulations (CFR). Numbers following abbreviations refer to specific sections of rules.

(2) Emission standards are indicated only for those contaminants for which continuous emission monitoring is required.

(3) Rule applies to new sources or modifications to existing sources for which an application for a Permit to Construct was received subsequent to the date(s) shown.

(4) Percent by volume.

(5) Sulfur compound expressed as H_2S.

(6) Process (operation) monitoring required for new and existing sources.

4. Plan and elevation drawings which show:

a. design, dimensions and arangement of all process units, air cleaning devices and stack sampling ports.

b. details and arrangements of related equipment which affect the performance of the installation.

5. An acceptable air quality impact evaluation report for:

a. new processes, exhaust and/or ventilation systems with cumulative permissible emissions at a facility exceeding the applicable emission limits of 6 NYCRR 231.

b. any process, exhaust and/or ventilation system emitting an air contaminant possessing high inhalation toxicity properties.

Applications for sources other than the above may be required to include an acceptable air quality impact evaluation report if it appears likely that the emissions will cause air pollution or contravention of any applicable ambient air quality standard. The report shall include a diffusion analysis for each air contaminant emitted and shall provide:

a. quantitative estimates of air contaminant concentrations resulting from emissions from the proposed new source or modification,

b. quantitative estimates of total air contaminant concentrations resulting from the emissions compared with existing concentration levels in the vicinity of the emission source,

c. quantitative comparison of values determined with existing concentrations and all applicable ambient air quality standards or levels expected to cause air pollution and

d. where necessary to comply with 6 NYCRR 231

i. a determination of the impact of the source on the prevention of significant deterioration increments (Table 1 of Part 231) or on the significant impacts for nonattainment areas (Table 2 of Part 231),

ii. an analysis of ambient air monitoring data for applicable air contaminants and

iii. an evaluation of the emission sources' effects on visibility, soil and vegetation when the source is located within 62 miles (100 kilometers) of a federally designated Class I area.

The methods of evaluation shall be in accordance with established mathematical procedures and principles of atmospheric transport and diffusion and shall be based on valid meteorological and air quality data for the area.

K. SPECIFIC INSTRUCTIONS FOR COMPLETING FORMS 76-19-3 and 76-19-4

COMPLETE ALL APPLICABLE QUESTIONS. ALL APPLICATIONS MUST BE TYPED OR PRINTED WITH A BALL-POINT PEN (PREFERABLY TYPED). SEND COMPLETED APPLICATIONS TO THE APPROPRIATE FIELD REPRESENTATIVE.

When there is insufficient space on either form 76-19-3 or form 76-19-4 to provide information on all equipment or emissions, additional 76-19-3 or 76-19-4 forms should be used. When this is done, the second and subsequent 76-19-3 forms must contain the name and address of the firm (questions 1, 2, 3, 4 & 5) and the emission point identification number (question 29) or the emission point identification number (question 175) and process description (question 181) from form 76-19-4.

In addition, the word CONTINUATION must be printed at the top of the form.

Instructions for Completing Form 76-19-3

SECTION A

Question Number and Name		Specific Instructions
1.	Name of Owner/Firm	Name of owner of source for which application is being prepared. For corporations, include division or subsidiary name, if any.
2-5.	Number and Street Address, etc.	Mailing address of the owner or firm.
6.	Owner Classification	Check all classifications that apply.
7.	Name & Title of Owner's Representative	Employee of firm to be contacted regarding air pollution control at this facility and who is authorized by owner to act on his behalf.
8.	Telephone	Telephone number of owner's representative.
9-14.	Name of Authorized Agent, etc.	(Leave questions 9-14 blank if there is no authorized agent.) Name, telephone number and mailing address of consultant, contractor, vendor or other person authorized by owner to act as agent in filing application. A letter of authorization must be attached.
15-17.	Name of P.E. or Architect Preparing Plans, etc.	Name, license number and telephone number of P.E. or Architect preparing application, if applicable.
18.	Signature of Owner's Representative or Authorized Agent	Signature of representative or authorized agent must be affixed before application will be processed for a Permit to Construct
19-22.	Facility Name, etc.	Name and address of facility where process is located. Leave blank if same as owner/firm.
23-24.	Building Name or Number and Floor Name or Number	Building and floor name or number of actual physical location of process unit.
25.	Start-up Date	If application is for a Permit to Construct, specify month and year construction is expected to be completed. If application is for a Certificate to Operate for an existing source, specify month and year operation began.
26.	Drawing Numbers of Plans Submitted	Specify the drawing numbers of the plans submitted with this application.
27.	Permit to Construct	If applying for a Permit to Construct, check whether new source or modification; leave blank if applying for a Certificate to Operate.
28.	Certificate to Operate	If applying for a Certificate to Operate, check whether new source, modification or existing source; leave blank if applying for a Permit to Construct.

SECTION B

29.	Emission Point I.D. No.	Specify the number or letter assigned to the emission point through which the contaminants are emitted from the processes/units. Each stack within a facility must be as signed a different number or letter not to exceed five digits. The stacks must also be numbered on the plot plans and/or drawings submitted. See Figure 1.

30.	Ground Elevation	Elevation above mean sea level at the base of the stack to the nearest foot (e.g., 120 rather than 119.6). This information is available from USGS topography maps.
31.	Height Above Structures	Height of the stack above the building or structure to the nearest foot (e.g., 39 rather than 38.7). If top of stack is below the building height, it should be expressed as a negative number.
32.	Stack Height	Height of the stack measured from ground level to top of stack to the nearest foot (e.g., 62 rather than 62.3).
33.	Inside Dimensions	Inside diameter at the exit of stack expressed in inches to the nearest inch. For stacks of rectangular cross-section specify inside length and width in inches to the nearest inch (e.g., 40 x 20).
34.	Exit Temperature	Stack gas exit temperature (^{o}F).
35.	Exit Velocity	Stack gas exit velocity (ft/sec).
36.	Exit Flow Rate	Stack gas exit flow rate in cubic feet per minute at actual conditions.

If more than one non-identical process or unit vents to the emission point specified in Section B, complete the appropriate number of form 76-19-4 (one for each non-identical process or unit). Should this be the case, leave questions 37-41 blank.

37.	Source Code	Leave blank.
38.	Hours/Day	Number of hrs/day this source is or will be in operation.
39.	Days/Year	Number of days/yr this source is or will be in operation.
40.	% Operation By Season	Indicate the percentage of time this process is or will be in operation by season. Total of four percentages listed must equal 100. Winter: January - March, Spring: April - June, etc.

SECTION C

41.	Describe Process or Unit	Briefly describe the type of process or unit venting to the emission point specified in Section B.

SECTION D

Complete Section D only if a single process or unit is vented to the emission point (stack) or if the emissions from all units vented to this emission point are directed to the same emission control equipment. Complete form 76-19-4 for each process (unit) and leave this SECTION blank if emissions from each process (unit) are directed to separate emission control equipment.

42.	Emission Control Equipment I.D. No.	Number assigned to each emission control device being reported. Each emission control device connected to the same stack must be assigned a different number not to exceed two digits. Control equipment must be numbered on the plot plans and/or drawings submitted. See Figure 1.
43.	Control Type	Enter the code to designate the type of emission control equipment used.

02 - Settling chamber
03 - Louver collector
04 - Baffle chamber
06 - Centrifugal (dry)
07 - Centrifugal (wet)
08 - Fabric collector
09 - Electrostatic precipitator
10 - Thermal afterburner
11 - Spray tower
12 - Impingement plate scrubber
13 - Venturi scrubber
14 - Demister
15 - Packed tower
16 - Ejector condenser
17 - Activated bed adsorber

18 - Silica gel adsorber
19 - Catalytic unit
20 - Vapor condenser
21 - Control for VOC storage and transfer
23 - Absolute filter
98 - Other
99 - None

44. Manufacturer's Name and Model Number — Specify name of manufacturer and model number of the control equipment specified in previous question.

45. Disposal Method — Specify method of disposal of collected contaminants by entering code:

1 - Landfill - on-site
2 - Land fill - off-site
3 - Recycled in the process
4 - Recycled on-site
6 - Sold
7 - Public sewer
8 - Private sewer
9 - Other, explain in process description

46. Date Installed — Actual or expected date of installation of control equipment (month and year).

47. Useful Life — Expected years of useful life of emission control equipment.

48-53. If additional emission control equipment is used, complete these questions. Refer to instructions for questions 42-47.

SECTION E

Show calculations used to determine input or production rate, emission rate potential, actual emissions and annual emissions. Where appropriate, include pressure, temperature, % moisture by weight and gas flow rate. Calculations must be legible. If additional space is necessary, use additional paper and submit an original and three copies.

SECTION F

If more than one process or unit vents to the emission point specified in Section B, complete the apprropriate number of form 76-19-4 (one for each non-identical process or unit,) before completing this section. This section is used to summarize the total air contaminants emitted through the emission point specified in Section B.

54. Contaminant Name — Specify the air contaminant emitted by complete name. List other contaminants under questions 69, 84, 99, etc., including sulfur dioxide derived from combustion of fuel used in the process. Do not abbreviate or use chemical formulas.

55. CAS Number — Specify the contaminant Chemical Abstract Series Number.

56. Input or Production — Enter input or production rate in units which are specified in the applicable regulation (e.g., 40 CFR 60 Subparts D through HH for Federal Regulations and 6 NYCRR Parts 200 through 259 for State Regulations). Do not insert the Federal Subpart letter or the State Part number.

40 CFR 60 Subpart O - Lbs/hr of sludge charged

Subpart S - Tons/hr of aluminum or aluminum equivalent produced per hour

Subpart Z - Megawatts of furnace power input

Subpart BB - Lbs/hr of black liquor solids entering recovery furnace

Subpart HH - Tons/hr of limestone feed per hour

Part 212 and 213 - Process weights in lbs/hr for the following processes (For Part 212, if the process is not listed, process weight does not apply, and the question should be left blank):

A - Stone driers (asphalt concrete plants)
B - Expanded aggregate kilns (lightweight aggregate plants)
C - Continuous process material dryers emitting solid particulates and water only
D - Brass and bronze melting furnaces
E - Ferroalloy production furnaces
F - Lime kilns
G - Glass production furnaces
H - Graphitizing and silicon carbide furnaces
I - Gypsum driers
J - Primary aluminum reduction furnaces

Part 214 - Tons/day of coal charged into oven
Part 220 - Tons/hr of kiln feed
Part 223 - Lbs/hr of regenerator coke burn-off or million Btu/hr heat input of incinerator waste heat boiler fuel
Part 224 - Ton/hr of acid produced
Part 228 - Gallons/hr or gallons/day of coating applied
Part 229 - Gallons of storage capacity or gallons/day or gallons/yr of throughput

57. Unit

Enter the appropriate code number indicating the units in which the input (production rate or capacity) presented in previous question is expressed:

1 - lbs/hr
13 - tons/hr

30 - gallons
31 - gallons/hr
32 - gallons/day
33 - gallons/yr

60 - megawatts (MW)
61 - Btu x 10^6/hr

58. Environmental Rating

Leave blank (See Sections D and E, pages 5 - 7) of instructions regarding applicablity of 6 NYCRR 212 for how the environmental rating is determined). No environmental rating is assigned for sulfur dioxide emissions originating solely from sulfur contained in fuel used in a process.

59. Actual Emissions

If application is for a Permit to Construct, enter the anticipated emissions in units prescribed below, by Part number, based on stack tests performed on pilot or similar full scale installations or reliable material balance. If application is for a Certificate to Operate, specify actual emissions in units prescribed below, by Part number based on accepted stack test(s) of this installation.

Part 205 - lbs/hr or lbs/day
212 - lb/hr or grains/DSCF
213 - lbs/hr
214 - grains/DSCF or lbs/ton
216 - grains/DSCF
220 - lbs/ton, lb/hr or grains/DSCF
223 - grains/DSCF, lbs/1000(input), lbs, grains/100 DSCF, lbs/10^6Btu or % (vol)
228 - lbs/gal

The actual emissions will be compared to permissible emissions; therefore, it must be verifiable.

60. Unit

Enter the code to indicate the units in which the actual emissions in the previous question are presented:

1 - lbs/hr
2 - lbs/hr x10^{-3}
3 - lbs/hr x10^{-6}
4 - lbs/day

5 - lbs/1000 lbs (input)
6 - (lbs/1000 lbs) x 10^{-3} (input)

9 - lbs/gallon
10 - lbs/ton
11 - lbs/million Btu
12 - lbs/mw-hr
13 - tons/hr
14 - lbs/100 lbs input (refuse charged)

20 - grains/DSCF
21 - grains/100 DSCF

30 - gallons
31 - gallons/hr
32 - gallons/day
33 - gallons/year

40 - micro curies/ml
41 - 10^{-3} micro curies/ml
42 - 10^{-6} micro curies/ml
43 - 10^{-9} micro curies/ml(pico curies/ml)
44 - 10^{-12} micro curies/ml
45 - 10^{-15} micro curies/ml
46 - 10^{-18} micro curies/ml
47 - 10^{-21} micro curies/ml

50 - % vol
51 - ppm (vol)
52 - ppb (vol)

90 - % control
92 - % opacity

94 - Trace
98 - Not applicable

61. How Determined — Use code to designate how the actual emissions are determined.

1 - Stack test of emissions from this process or unit
2 - Stack test of emissions from identical process or unit
3 - Stack test of emissions from geometrically similar process or unit
4 - Manufacturer's guarantee
5 - Published emission factors
6 - Material balance calculations
7 - Continuous stack monitoring
9 - Other

62. Permissible Emissions — Leave blank.

63. % Control Efficiency — Enter actual efficiency of emission control equipment specified in Section D for each contaminant.

64. Emission Rate Potential (ERP) — Enter the emission rate potential in lbs/hr (See NYCRR 200.1(s) for definition). If conversion of units is required from units specified in the applicable rule which are other than pounds per hour, show calculations in Section E.

65. Actual Hourly Emissions — Enter the actual hourly emission in lbs/hr based on normal daily operation of the process.

66. Actual Annual Emissions — Enter the actual annual emissions in lbs/yr. For radioactive air contaminants enter curies/yr.

67. 10^{x} — For very large or very small annual emissions utilize the exponent of 10 to specify the correct magnitude. Enter the exponent (x) and indicate whether plus (+) or minus (-). If exponent is not needed, enter zero.

68. Permissible Annual Emissions — Leave blank.

69-83. For other air contaminants emitted, complete these questions in accordance with instructions for questions 54-68.

84-98. " " " " " " "

99-113. " " " " " " "

114-128. " " " " " " "

129-143. " " " " " " "

SECTION G

Summarize the total amount(s) and type(s) of fuel used in <u>all the processes or units</u> where the products of combustion are vented to the same emission point specified in Section B.

144. **Solid Fuel Type** — Specify the code for the type of solid fuel burned:

- 01 - Anthractie coal
- 04 - Bituminous coal
- 08 - Sub-bituminous coal
- 12 - Lignite
- 19 - Coal (other)
- 29 - Coke
- 80 - Wood
- 84 - Refuse derived fuel (RDF)
- 86 - Refuse
- 99 - Other

145. **Solid Fuel (Tons/Yr)** — Average quantity of solid fuel burned in all processes described in this application (tons/yr).

146. **Solid Fuel (%S)** — Percent (%) sulfur content by weight.

147. **Oil Type** — Enter the code for the type of oil burned:

- 31 - #1
- 32 - #2
- 34 - #4
- 35 - #5
- 36 - #6
- 40 - Diesel
- 49 - Oil (other)
- 92 - Liquid waste
- 96 - Sludge
- 99 - Other

148. **Oil (Thousands of Gal/Yr)** — Average quantity of oil burned in all processes and emission control equipment described in this application (thousands of gal/yr).

149. **Oil (%S)** — Percent (%) sulfur content by weight.

150. **Gas Type** — Enter the code for type of gas burned:

- 52 - Natural gas
- 56 - Blast furnace gas
- 58 - Coke oven gas
- 60 - Manufactured gas
- 62 - Producer gas
- 64 - Refinery gas
- 68 - Sewage gas
- 72 - L.P. gas
- 79 - Gas (other)
- 94 - Gaseous waste
- 99 - Other

151. **Gas (Thousands of Ft^3/Yr)** — Quantity of gas burned in all processes and emission control equipment described in this application (thousands of ft^3/yr).

152. **Gas (Btu/Ft^3)** — Heating value of gas (Btu/ft^3).

153-154.	Applicable Rule	Leave blank.
155.	Signature of Authorized Representative or Agent and Date	Signature of owner's representative or authorized agent must be affixed when applying for a Certificate to Operate, or the application will not be processed. Leave blank when applying for a Permit to Construct. Enter date at time of signature.

Instructions for Completing Form 76-19-4

COMPLETE FORM 76-19-4 ONLY IF MORE THAN ONE PROCESS OR UNIT VENTS TO THE SAME EMISSION POINT. COMPLETE A FORM 76-19-4 FOR EACH PROCESS. WRITE THE NUMBER OF 76-19-4 FORMS USED (e.g., 8 FORMS 76-19-4) IN SECTION E OF FORM 76-19-3.

SECTION H

175.	Emission Point I.D.	Enter the emission point I.D. from question 29 of form 76-19-3.
176.	Unit I.D.	Number consecutively when more than one 76-19-4 form is required.
177.	Source Code	Leave blank.
178.	Hrs/Day	Number of hrs/day this unit is or will be in operation.
179.	Days/Year	Number of days/yr this unit is or will be operation.
180.	% Operation By Season	Indicate this percentage of time the process is or will be in operation by season. Total of four percentages listed must equal 100. Winter: January - March, Spring: April - June, etc.
181.	Describe Process/Unit	Describe process of unit emitting contaminants through the emission point specified in question 175. One form 76-19-4 must be completed for each non-identical process or unit venting to the emission point.

SECTION J

Complete this Section only if the emissions from each process (unit) are directed to separate emission control equipment.

182.	Emission Control Equipment I.D. No.	Number assigned to each emission control device being reported. Each emission control device connected to the same stack must be assigned a different number not to exceed two digits. Control equipment must be numbered on the plot plans and/or drawings submitted (See Figure 1).
183.	Control Type	Enter the code to designate the type of emission control equipment used:

02 - Settling chamber
03 - Louver collector
04 - Baffle chamber
06 - Centrifugal (dry)
07 - Centrifugal (wet)
08 - Fabric collector
09 - Electrostatic precipitator
10 - Thermal afterburner
11 - Spray tower
12 - Impingement plate scrubber
13 - Venturi scrubber
14 - Demister
15 - Packed tower
16 - Ejector condenser
17 - Activated bed adsorber
18 - Silica gel adsorber
19 - Catalytic unit
20 - Vapor condenser
21 - Control for VOC storage and transfer
22 - Filter
23 - Absolute filter
98 - Other
99 - None

184. Manufacturer's Name and Model Number — Specify the manufacturer and model number of the emission control type specified in the previous question.

185. Disposal Method — Specify method of disposal of collected contaminants by entering code:

1 - Landfill - on-site
2 - Land fill - off-site
3 - Recycled in the process
4 - Recycled on-site
6 - Sold
7 - Public sewer
8 - Private sewer
9 - Other, explain in process description

186. Date Installed — Actual or expected date of installation of control equipment (month and year).

187. Useful Life — Expected years of useful life of emission control equipment.

88-193. If additional emission control equipment is used, complete these questions. Refer to instructions for questions 182-187.

SECTION K

Show calculations used to determine input or production input, emission rate potential and actual emissions and annual emissions. Where appropriate, include, pressure, temperature, % moisture (by weight) and gas flow rate. Calculations must be legible. If additional space is necessary, use additional paper and submit original and three copies.

SECTION L

194. Contaminant Name — Specify the air contaminants emitted by complete name. List other contaminants under questions 206, 218, 230, etc., including sulfur dioxide derived from combustion of fuel used in process. Do not abbreviate or use chemical formual.

195. Contaminant CAS Number — Specify the contaminant Chemical Abstract Series Number.

196. Input or Production — Enter input or production rate in units which are specified in the applicable regulations (e.g., 40 CFR 60 Subparts D through HH for Federal Regulations and 6 NYCRR parts 200 through 259 for State Regulatins). Do not insert the Federal Subpart letter or the State Part number.

40 CFR 60 Subpart O - Lbs/hr of sludge charged
Subpart S - Tons/hr of aluminum or aluminum equivalent produced per hour
Subpart Z - Megawatts of furnace power input
Subpart BB - Lbs/hr of black liquor solids entering recovery furnace
Subpart HH - Tons/hr of limestone feed per hour

Part 212 and 213 - Process weights in lbs/hr for the following processes (For Part 212, if the process is not listed, process weight does not apply, and the question should be left blank):

A - Stone driers (asphalt concrete plants)
B - Expanded aggregate kilns (lightweight aggregate plants)
C - Continuous process material dryers emitting solid particulates and water only
D - Brass and bronze melting furnaces
E - Ferroalloy production furnaces
F - Lime kilns
G - Glass production furnaces
H - Graphitizing and silicon carbide furnaces
I - Gypsum driers
J - Primary aluminum reduction furnaces

Part 214 - Tons/day of coal charged into oven

Part 220 - Tons/hr of kiln feed

Part 223 - Lbs/hr of regenerator coke burn-off or million Btu/hr heat input of incinerator waste heat boiler fuel
Part 224 - Ton/hr of acid produced

Part 228 - Gallons/hr or gallons/day of coating applied

Part 229 - Gallons of storage capacity or gallons/day or gallons/yr of throughput

197. Unit

Enter the appropriate code number indicating the units in which the input (production rate or capacity) presented in previous question was expressed:

1 - lbs/hr
13 - tons/hr

30 - gallons
31 - gallons/hr
32 - gallons/day
33 - gallons/year

60 - megawatts (MW)
61 - Btu x 10^6/hr

198. Actual Emissions

If application is for a Permit to Construct, enter the anticipated emissions in units prescribed below, by Part number, based on stack tests performed on pilot or similar full scale installations, or reliable material balance. If application is for a Certificate to Operate, specify actual emissions in units prescribed below by Part number based on accepted stack test(s) of this installation.

Part 205 - lbs/hr or lbs/day
212 - lb/hr or grains/DSCF
213 - lbs/hr
214 - grains/DSCF or lbs/ton
216 - grains/DSCF
220 - lbs/ton, lb/hr or grains/DSCF
223 - grains/DSCF, lbs/1000(input), lbs, grains/100 DSCF, lbs/10^6Btu or % (vol)
228 - lbs/gal
229 - gallons of storage capacity or gallons/day or gallons/yr of throughput

The actual emissions will be compared with permissible emissions; therefore, it must be verifiable.

199. Unit

Enter the code to indicate the units in which the actual emissions in the previous question are presented:

1 - lbs/hr
2 - lbs/hr x10^{-3}
3 - lbs/hr x10^{-6}
4 - lbs/day

5 - lbs/1000 lbs (input)$_3$
6 - (lbs/1000 lbs) x 10^{-3} (input)

9 - lbs/gallon
10 - lbs/ton
11 - lbs/million Btu
12 - lbs/mw-hr
13 - tons/hr
14 - lbs/100 lbs input (refuse charged)

20 - grains/DSCF
21 - grains/100 DSCF

30 - gallons
31 - gallons/hr
32 - gallons/day
33 - gallons/year

40 - micro curies/ml
41 - 10^{-3} micro curies/ml
42 - 10^{-6} micro curies/ml

43 - 10^{-9} micro curies/ml (pico curies/ml)
44 - 10^{-12} micro curies/ml
45 - 10^{-15} micro curies/ml
46 - 10^{-18} micro curies/ml
47 - 10^{-21} micro curies/ml

50 - % vol
51 - ppm (vol)
52 - ppb (vol)

90 - % control
92 - % opacity

94 - Trace
98 - Not applicable

200. How Determined — Use code to designate how the actual emissions are determined.

1 - Stack test of emissions from this process or unit
2 - Stack test of emissions from identical process or unit
3 - Stack test of emissions from geometrically similar process or unit
4 - Manufacturer's guarantee
5 - Published emission factors
6 - Material balance calculations
7 - Continuous stack monitoring
9 - Other

201. % Control Efficiency — Enter actual efficiency of emission control equipment specified in Section D for each contaminant.

202. Emission Rate Potential (ERP) (lbs/hr) — Enter the emission rate potential in lbs/hr (See NYCRR 200.1(s) for definition). If conversion of units is required from units specified in the applicable rule which are other than pounds per hour, show calculations in Section K.

203. Actual Hourly Emissions (lbs/hr) — Enter the actual hourly emission in lbs/hr based on normal daily operation of the process.

204. Actual Annual Emissions — Enter the actual annual emissions in lbs/hr. For radioactive air contaminants enter curies/yr.

205. 10^{x} — For very large or very small annual emissions utilize the exponent of 10 to specify the correct magnitude. Enter the exponent (x) and indicate whether plus (+) or minus (-). If exponent is not needed, enter zero.

06-217. For other air contaminants emitted, complete these questions in accordance with instructions for questions 54-68.

218-229. " " " " " " "

30-241. " " " " " " "

242-253. " " " " " " "

54-265. " " " " " " "

SYSTEM
FOR ASSIGNING IDENTIFICATION NUMBERS AND LETTERS

I. STACKS - ASSIGN A DIFFERENT NUMBER TO EACH STACK WITHIN A PLANT, USING NO MORE THAN A THREE DIGIT NUMBER.

II. PROCESSES/UNITS ASSIGN A DIFFERENT LETTER TO EACH PROCESS OR UNIT VENTING TO A COMMON STACK.

III CONTROL EQUIPMENT - ASSIGN A DIFFERENT NUMBER TO EACH PIECE OF CONTROL EQUIPMENT VENTING TO A COMMON STACK, USING NO MORE THAN A TWO DIGIT NUMBER.

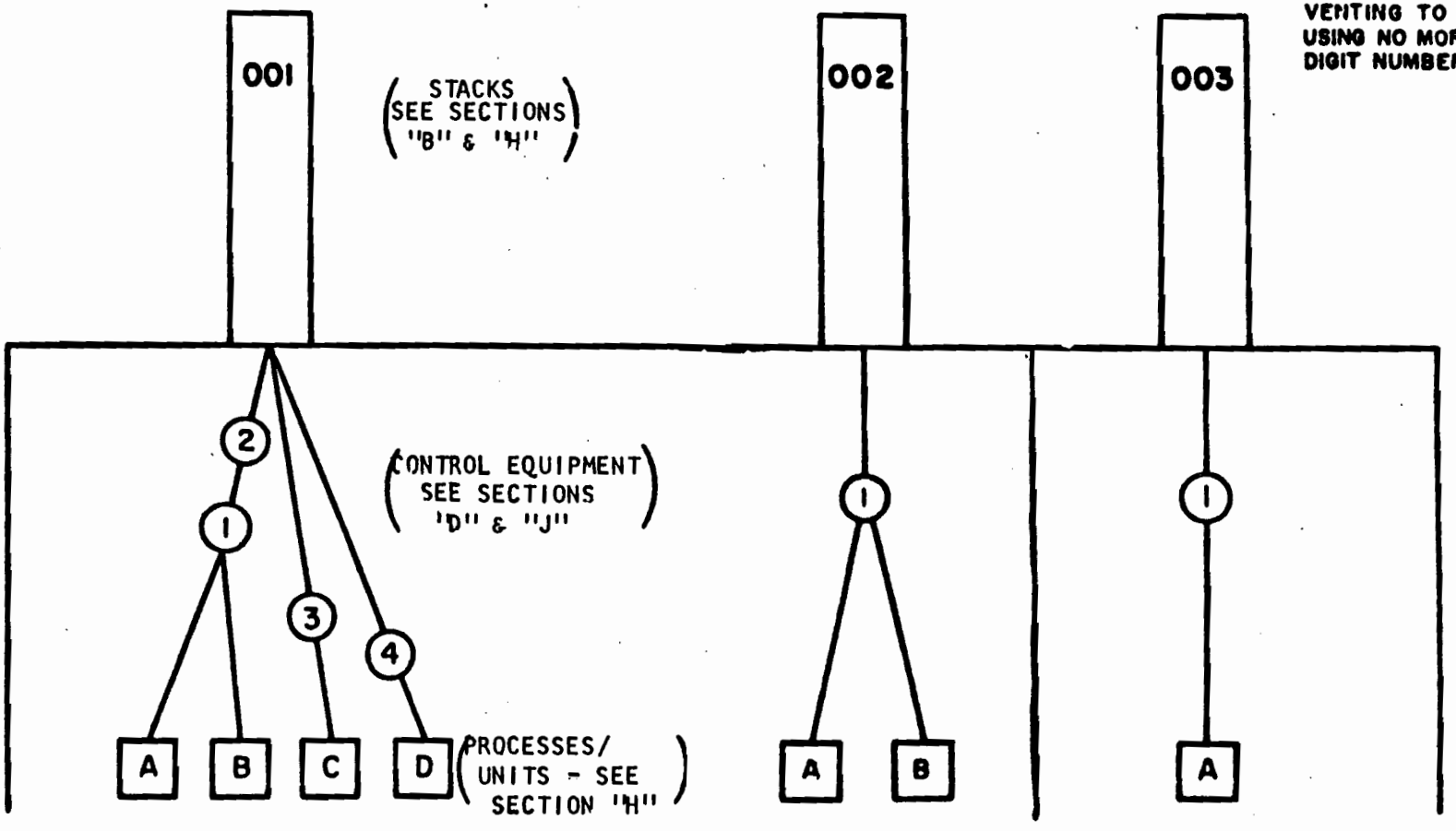


FIGURE 1

ENCLOSURE 1 CLASS - V INJECTION WELL TYPES

Part 144.3 of 40 CFR defines a well as "any bored, drilled or driven shaft, or a dug hole whose depth is greater than its largest surface dimension." If you are unsure of your well type enter it as a 5X27 (Other Well). Well type/purpose and injected fluids must be specified.

WELL CODE	NAME OF WELL TYPE AND DESCRIPTION
	DRAINAGE WELLS (a.k.a. DRY WELLS)
5F1	Agricultural Drainage Wells - receive irrigation tailwaters, other field drainage, animal yard, feedlot, or dairy run-off, etc.
5D2	Storm Water Drainage Wells - receive storm water run-off from paved areas, including parking lots, streets, residential subdivisions, building roofs, highways, etc.
5D3	Improved Sinkholes - are sinkholes that have been altered in any way for the purpose of modifying or preserving the sinkholes's capacity to accept fluids, or are sinkholes that receive flow altered by man. Altered flow is defined as any redirection of water that would either alter the path, volume, and/or nature of fluid entering the sinkhole and may thereby further bore or drill the sinkhole.
5D4	Industrial Drainage Wells - are wells located in industrial areas which receive primarily storm water run-off but are susceptible to spills, leaks, or other chemical discharges.
5G30	Special Drainage Wells - receive drainage fluids from other than direct precipitation (e.g., wells used for pump control valve discharges, landslide control, swimming pool drainage, municipal-construction dewatering).
	GEOTHERMAL REINJECTION WELLS
5A5	Electric Power Reinjection Wells - reinject geothermal fluids used to generate electric power - deep wells.
5A6	Direct Heat Reinjection Wells - reinject geothermal fluids used to provide heat for large buildings or developments - deep wells.
5A7	Heat Pump/Air Conditioning Return Flow Wells - reinject ground water used to heat or cool a building in a heat pump system - shallow wells.

CLASS V INJECTION WELL TYPES (cont.)

5A8 Ground Water Aquaculture Return Flow Wells - reinject groundwater or geothermal fluids used to support aquaculture. Non-geothermal aquaculture disposal wells are also included in this category (e.g., marine aquariums in Hawaii use relatively cool sea water).

MINERAL AND FOSSIL FUEL RECOVERY RELATED WELLS

5X13 Mining, Sand, or Other Backfill Wells - used to inject a mixture of water and sand, mill tailings and other solids into mined out portions of subsurface mines whether what is injected is a radioactive waste or not. Also includes special wells used to control mine fires and acid mine drainage wells.

5X14 Solution Mining Wells - used for in-situ solution mining in conventional mines, such as stopes leaching.

5X15 In-situ Fossil Fuel Recovery Wells - used for in-situ recovery of coal, lignite, oil shale, and tar sands.

5X16 Spent-Brine Return Flow Wells - used to reinject spent brine into the same formation from which it was withdrawn after extraction of halogens or their salts.

INDUSTRIAL/COMMERCIAL/UTILITY DISPOSAL WELLS

5A19 Cooling Water Return Flow Wells - used to inject water which was used in cooling process, both open and closed loop processes.

5W20 Industrial Process Water and Waste Disposal Wells - used to dispose of a wide variety of wastes and wastewaters from industrial, commercial, or utility processes. Industries include refineries, chemical plants, smelters, pharmaceutical plants, laundromats and dry cleaners, tanneries, laboratories (e.g., petroleum storage facilities, storage waste stream of laboratory drainage, fireside water, and boiler blowdown), car wash (mixed waste stream of detergent, oil and grease, and paved area washdown), electroplating industries (spent solvent wastes), etc.. Septic systems or cesspools receiving any wastes other than sanitary wastes (e.g., floor drains, laboratory sinks, etc.) qualify as 5W20 wells regardless of number of people served.

5X28 Automobile Service Station Disposal Wells - repair bay drains connected to a disposal well.

CLASS V INJECTION WELL TYPES (cont.)

RECHARGE WELLS

5R21 Aquifer Recharge Wells - used to recharge depleted aquifers and may inject fluids from a variety of sources such as lakes, streams, domestic wastewater treatment plants, other aquifers, etc.

5B22 Saline Water Intrusion Barrier Wells - used to inject water into fresh water aquifers to prevent intrusion of salt water into fresh water aquifers.

5S23 Subsidence Control Wells - used to inject fluids into a non-oil or gas producing zone to reduce or eliminate subsidence associated with overdraft of fresh water and not used for the purpose of oil or natural gas production.

5N24 Radioactive Waste Disposal Wells- all radioactive waste disposal wells other than Class IV wells.

5X25 Experimental Technology Wells - well used in experimental or unproven technologies such as pilot scale in-situ solution mining wells in previously unmined areas.

5X26 Aquifer Remediation Related Wells - wells used to prevent, control, or remedy aquifer pollution, including but not limited to Superfund sites.

5X29 Abandoned drinking water wells used for disposal waste.

5X27 Other Wells - any other unspecified Class V wells. Well type/purpose and injected fluids must be specified.

OIL FIELD PRODUCTION WASTE DISPOSAL WELLS

5X17 Air Scrubber Waste Disposal Wells - inject wastes from air scrubbers used to remove sulfur from crude oil which is burned in steam generation for thermal oil recovery projects. (If injection is used directly for enhanced recovery and not just disposal, it is a Class II well.)

5X18 Water Softener Regeneration Brine Disposal Wells - inject regeneration wastes from water softeners which are used to improve the quality of brines used for enhanced recovery. (If injection is used directly for enhanced recovery and not just disposal, it is a Class II well.)

CLASS V INJECTION WELL TYPES (cont.)

DOMESTIC WASTEWATER DISPOSAL WELLS

5W9 Untreated Sewage Waste Disposal Wells - receive raw sewage wastes from pumping trucks or other vehicles which collect such wastes from single or multiple sources. (No treatment).

5W10* Cesspools - including multiple dwelling, community, or regional cesspools, or other devices that receive wastes and which must have an open bottom and sometimes have perforated sides. Must serve greater than 20 persons per day (as an approximation, a capacity of at least 1500 gpd) if receiving solely sanitary wastes. (Settling of solids).

5W11* Septic systems (undifferentiated disposal method) - used to inject the waste or effluent from a multiple dwelling business septic tank. Must serve greater than 20 persons per day (as an approximation, a capacity of at least 1500 gpd) if receiving solely sanitary wastes. (Primary Treatment). See 5W20.

5W31* Septic Systems (Well Disposal Method) - examples of wells include actual wells, seepage pits, Cavitettes, etc. The largest surface dimension is less than or equal to the depth dimension. Must serve greater than 20 persons per day (as an approximation, a capacity of at least a 1500 gpd) if receiving solely sanitary wastes. (Less treatment per square area than 5W32). See 5W20.

5W32* Septic Systems (Drainfield Disposal Method) - examples of drainfields include drain or tile fields, and trenches. Must serve more than 20 persons per day (as an approximation, a capacity of at least 1500 gpd) if receiving solely sanitary wastes. (More treatment per square area than 5W31).

5W12 Domestic Wastewater Treatment Plant Effluent Disposal Wells - dispose of treated sewage or domestic effluent from small package plants up to large municipal treatment plants. (Secondary or further treatment).

* Cesspools and septic systems that receive fluids commingled with sanitary waste should be classified according to the additional waste stream regardless of the number of people served. For example, systems which receive both sanitary waste and heat pump effluent should be classified as 5A7. Systems that receive both sanitary waste and industrial waste should be classified as 5W20.

Form Approved. OMB No. 2040-0042. Expires 9-30-86

Form 4 UIC

EPA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

UNDERGROUND INJECTION CONTROL PERMIT APPLICATION

(Collected under the authority of the Safe Drinking Water Act, Sections 1421, 1422, 40 CFR 144)

I. EPA ID NUMBER

		T/A	C
U			

READ ATTACHED INSTRUCTIONS BEFORE STARTING

FOR OFFICIAL USE ONLY

Application approved mo	day	year	Date Received mo	day	year	Permit/Well Number	Comments

II. FACILITY NAME AND ADDRESS

Facility Name

Street Address

City | State | ZIP Code

III. OWNER/OPERATOR AND ADDRESS

Owner/Operator Name

Street Address

City | State | ZIP Code

IV. OWNERSHIP STATUS *(Mark 'x')*

☐ A. Federal ☐ B. State ☐ C. Private

☐ D. Public ☐ E. Other *(Explain)*

V. SIC CODES

VI. WELL STATUS *(Mark 'x')*

☐ A. Operating — Date Started mo / day / year

☐ B. Modification/Conversion ☐ C. Proposed

VII. TYPE OF PERMIT REQUESTED *(Mark 'x' and specify if required)*

☐ A. Individual ☐ B. Area

Number of Existing wells	Number of Proposed wells	Name(s) of field(s) or project(s)

VIII. CLASS AND TYPE OF WELL *(see reverse)*

A. Class(es) *(enter code(s))*	B. Type(s) *(enter code(s))*	C. If class is "other" or type is code 'x,' explain	D. Number of wells per type (if area permit)

IX. LOCATION OF WELL(S) OR APPROXIMATE CENTER OF FIELD OR PROJECT

C	A. Latitude			B. Longitude			Township and Range							
I	Deg	Min	Sec	Deg	Min	Sec	Twsp	Range	Sec	¼ Sec	Feet from	Line	Feet from	Line

X. INDIAN LANDS *(Mark 'x')*

☐ Yes ☐ No

XI. ATTACHMENTS

(Complete the following questions on a separate sheet(s) and number accordingly; see instructions)

FOR CLASSES I, II, III (and other classes) complete and submit on separate sheet(s) Attachments A — U (pp 2-6) as appropriate. Attach maps where required. List attachments by letter which are applicable and are included with your application:

XII. CERTIFICATION

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

A. Name and Title *(Type or Print)*	B. Phone No. *(Area Code and No.)*
C. Signature	D. Date Signed

INSTRUCTIONS — Form 4 — Underground Injection Control (UIC) Permit Application

Form 4 must be completed by all owners or operators of Class I, II, and III injection wells and others who may be directed to apply for a UIC permit by the Director.

I. EPA I.D. NUMBER — Fill in your EPA Identification Number. If you do not have a number, leave blank.

II. FACILITY NAME AND ADDRESS — Name of well, well field or company and address.

III. OWNER/OPERATOR NAME AND ADDRESS — Name and address of owner/operator of well or well field.

IV. OWNERSHIP STATUS — Mark the appropriate box to indicate the type of ownership.

V. SIC CODES — List at least one and no more than four Standard Industrial Classification (SIC) Codes that best describe the nature of the business in order of priority.

VI. WELL STATUS — Mark Box A if the well(s) were operating as injection wells on the effective date of the UIC Program for the State. Mark Box B if the well(s) existed on the effective date of the UIC Program for the State but were not utilized for injection. Box C should be marked if the application is for an underground injection project not constructed or not completed by the effective date of the UIC Program for the State.

VII. TYPE OF PERMIT — Mark "Individual" or "Area" to indicate the type of permit desired. Note that area permits are at the discretion of the Director and that wells covered by an area permit must be at one site, under the control of one person and do not inject hazardous waste. If an area permit is requested the number of wells to be included in the permit must be specified and the wells described and identified by location. If the area has a commonly used name, such as the "Jay Field," submit the name in the space provided. In the case of a project or field which crosses State lines, it may be possible to consider an area permit if EPA has jurisdiction in both States. Each such case will be considered individually, if the owner/operator elects to seek an area permit.

VIII. CLASS AND TYPE OF WELL — Enter in these two positions the Class and type of injection well for which a permit is requested. Use the most pertinent code selected from the list on the reverse side of Form 4. When selecting type X please explain in the space provided.

IX. LOCATION OF WELL — Enter the latitude and longitude of the existing or proposed well expressed in degrees, minutes, and seconds or the location by township, and range, and section, as required by 40 CFR 146. If an area permit is being requested, give the latitude and longitude of the approximate center of the area.

X. INDIAN LANDS — Place an "X" in the box if any part of the facility is located on Indian lands.

XI. ATTACHMENTS — Note that information requirements vary depending on the injection well class and status. Attachments for Class I, II, and III are described on pages 4 and 5 of this document and listed by Class on page 2. Place EPA ID number in the upper right hand corner of each page.

XII. CERTIFICATION — All permit applications (except Class II) must be signed by a responsible corporate officer for a corporation, by a general partner for a partnership, by the proprietor of a sole proprietorship, and by a principal executive or ranking elected official for a public agency. For Class II, the person described above should sign, or a representative duly authorized in writing.

H. **OPERATING DATA** — Submit the following proposed operating data for each well (including all those to be covered by area permits):(1) average and maximum daily rate and volume of the fluids to be injected; (2) average and maximum injection pressure; (3) nature of annulus fluid; (4) for Class I wells, source and analysis of the chemical, physical, radiological and biological characteristics, including density and corrosiveness, of injection fluids; (5) for Class II wells, source and analysis of the physical and chemical characteristics of the injection fluid; (6) for Class III wells, a qualitative analysis and ranges in concentrations of all constituents of injected fluids. If the information is proprietary, maximum concentrations only may be submitted, but all records must be retained.

I. **FORMATION TESTING PROGRAM** — Describe the proposed formation testing program. For Class I wells the program must be designed to obtain data on fluid pressure, temperature, fracture pressure, other physical, chemical, and radiological characteristics of the injection matrix and physical and chemical characteristics of the formation fluids.

For Class II wells the testing program must be designed to obtain data on fluid pressure, estimated fracture pressure, physical and chemical characteristics of the injection zone. (Does not apply to existing Class II wells or projects.)

For Class III wells the program must be designed to obtain data on fluid pressure, fracture pressure, and physical and chemical characteristics of the formation fluids if the formation is naturally water bearing. Only fracture pressure is required if the formation is not water bearing. (Does not apply to existing Class III wells or projects.)

J. **STIMULATION PROGRAM** — Outline any proposed stimulation program.

K. **INJECTION PROCEDURES** — Describe the proposed injection procedures including pump, surge, tank, etc.

L. **CONSTRUCTION PROCEDURES** — Discuss the construction procedures (according to §146.12 for Class I, §146.22 for Class II, and §146.32 for Class III) to be utilized. This should include details of the casing and cementing program, logging procedures, deviation checks, and the drilling, testing and coring programs, and proposed annulus fluid. (Request and submission of justifying data must be made to use an alternative to a packer for Class I.)

M. **CONSTRUCTION DETAILS** — Submit schematic or other appropriate drawings of the surface and subsurface construction details of the well.

N. **CHANGES IN INJECTED FLUID** — Discuss expected changes in pressure, native fluid displacement, and direction of movement of injected fluid. (Class III wells only.)

O. **PLANS FOR WELL FAILURES** — Outline contingency plans (proposed plans, if any, for Class II) to cope with all shut-ins or well failures, so as to prevent migration of fluids into any USDW.

P. **MONITORING PROGRAM** — Discuss the planned monitoring program. This should be thorough, including maps showing the number and location of monitoring wells as appropriate and a discussion of monitoring devices, sampling frequency, and parameters measured. If a manifold monitoring program is utilized, pursuant to §146.23(b)(5), describe the program and compare it to individual well monitoring.

Q. **PLUGGING AND ABANDONMENT PLAN** — Submit a plan for plugging and abandonment of the well including: (1) describe the type, number, and placement (including the elevation of the top and bottom) of plugs to be used; (2) describe the type, grade, and quantity of cement to be used; and (3) describe the method to be used to place plugs, including the method used to place the well in a state of static equilibrium prior to placement of the plugs. Also for a Class III well that underlies or is in an exempted aquifer, demonstrate adequate protection of USDWs. Submit this information on EPA Form 7520-14, Plugging and Abandonment Plan.

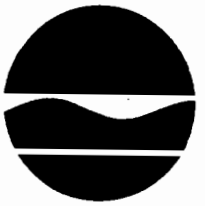
R. **NECESSARY RESOURCES** — Submit evidence such as a surety bond or financial statement to verify that the resources necessary to close, plug or abandon the well are available.

S. **AQUIFER EXEMPTIONS** — If an aquifer exemption is requested, submit data necessary to demonstrate that the aquifer meets the following criteria: (1) does not serve as a source of drinking water; (2) cannot now and will not in the future serve as a source of drinking water; and (3) the TDS content of the ground water is more than 3,000 and less than 10,000 mg/l and is not reasonably expected to supply a public water system. Data to demonstrate that the aquifer is expected to be mineral or hydrocarbon producing, such as general description of the mining zone, analysis of the amenability of the mining zone to the proposed method, and time table for proposed development must also be included. For additional information on aquifer exemptions, see 40 CFR 144.7 and 146.04.

T. **EXISTING EPA PERMITS** — List program and permit number of any existing EPA permits, for example, NPDES, PSD, RCRA, etc.

U. **DESCRIPTION OF BUSINESS** — Give a brief description of the nature of the business.

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



Thomas C. Jorling
Commissioner

INSTRUCTIONS FOR OBTAINING A WASTE TRANSPORTER PERMIT

(6 NYCRR Part 364)

In accordance with Article 27, Titles 3 and 15, of the New York State Environmental Conservation Law, persons transporting industrial, commercial and certain other wastes in New York State are required to possess a New York State Department of Environmental Conservation Waste Transport Permit.

1. Parts A, B, C - All applicants are required to complete Parts A, B and C. Instructions are located on the back of these forms.

2. Parts D, E - All applicants who intend to transport hazardous or regulated medical waste must also complete Parts D and E.

   Renewal Parts D and E - If Part D, the Applicant Questionnaire, and Part E, the Personal Questionnaire, have previously been submitted, and no changes in the facts contained therein have since taken place, then it is necessary to complete only the renewal certification forms for Parts D and E. (Parts A, B and C must still be submitted.)

3. Fees - In accordance with the Uniform Procedures Act (UPA), a fee of $25 for the first vehicle plus $5 for each additional vehicle must be submitted with all new or renewal applications. The UPA fee for adding a vehicle to an existing permit is $5. The maximum yearly UPA fee is $300. Checks made payable to the New York State Department of Environmental Conservation should be sent to:

   New York State Department of Environmental Conservation
   Division of Hazardous Substances Regulation
   50 Wolf Road, Room 205
   Albany, NY 12233-7250

NOTE: All permitted transporters will be assessed an annual Environmental Regulatory Program Fee of $500 for the first vehicle plus $200 for each additional vehicle. For those who transport septage and/or wastewater treatment plant sludge exclusively, the fee is one-half of the above. If you are a transporter with a New York State address, do not submit this fee with your application; you will be billed for this after you have been issued a permit. If you are a transporter with an out-of state address, please submit separate checks for each fee with your application. (The U.P.A. fee identified above and the regulatory fee of $500 for the first vehicle plus $200 for each additional vehicle.) Adjustments, if necessary, will be made during the permit period.

This fee is based on the number of vehicles permitted, and cannot be reduced by either deleting vehicles or by not using the permitted vehicles during the permit year.

4. Insurance - Transporters of hazardous or regulated med waste must supply evidence of insurance in the follo amounts:

   a) $5,000,000 for the transport of hazardous wa requiring a Hazardous Waste Manifest.

   b) $1,000,000 for the transport of hazardous waste requiring a Hazardous Waste Manifest.

   c) $100,000 for the transport of regulated medical was

   Such insurance must remain in effect for the entire pe period. For more details, refer to 6 NYCRR Part 364, Sect 364.5.

5. Wastes to Publicly Owned Treatment Works (P.O.T.W.'s Applications listing wastes going to P.O.T.W.'s must pro the following additional information:

   a) Location of introduction of waste into the P.O.T (manhole, influence pipe, etc.);

   b) Calculations showing the P.O.T.W. is capable of hand increase in BOD and solids and maintaining compli with SPDES limits;

   c) Statement from the P.O.T.W. that compliance with SP will be maintained;

   d) Description of how the P.O.T.W. will handle additic sludge production, and capacity of on-site equipment

   e) Statement from the P.O.T.W. of the maximum da allowable volume of waste to be received and the vol allocated to each hauler;

   f) Statement from the P.O.T.W. of the waste will con with municipal sewer ordinance.

   g) Statement by the P.O.T.W. that the introduction of wa is not upstream of a combined sewer overflow or by-p location.

6. Completeness - Make sure that each of the application forms completed and that you return one original and one copy each Parts A, B and C, and one original of Parts D and E.

7. Application Process Time - You should allow 60 days for processing of new applications and 30 days for renewals modifications. Permittees are advised to take into account th permit expiration date and the 30 days required for process when submitting their renewal application.

8. Further Information - Contact the Waste Transporter Section (518) 457-3254.

(Rev. Aug. 12, 1992)

47-19-9 (1/90)—28a

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS SUBSTANCES REGULATION

WASTE TRANSPORTER PERMIT APPLICATION—6 NYCRR Part 364

PART A—Applicant Information

1. APPLICANT BUSINESS NAME

2. NYSDEC PERMIT NUMBER ☐☐ — ☐☐☐

3. MAILING ADDRESS
STREET

CITY | STATE | ZIP CODE

COUNTY

4. EPA ID NUMBER

5. CONTACT PERSON

6. PHONE NUMBER ( ) —

7. CHECK
☐ New Application ☐ Renewal ☐ Proof of Insurance Attached ☐ Permit Fee Attached $

WASTE TRANSPORTER PERMIT APPLICATION—6 NYCRR Part 364

PART B—Vehicle Information

1. APPLICANT BUSINESS NAME (for Modifications only)

2. NYSDEC PERMIT NUMBER (For Modifications only) ☐☐ — ☐☐☐

3. VEHICLE FEE ATTACHED (for modification only) $

4. TOTAL NUMBER OF VEHICLES

5. LOCATION WHERE VEHICLES ARE GARAGED:
STREET

CITY | STATE | ZIP CODE

6. License Number	7. State	8. Capacity	9. Units	10. Make	11. Type	12. Delete	13. Add

14. I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

SIGNATURE | PRINTED OR TYPED NAME

TITLE | DATE

INSTRUCTION SHEET

(Print or Type All Information)

PART A—APPLICANT INFORMATION

This part must be completed by all applicants for a permit to transport wastes pursuant to 6NYCRR Part 364 and submitted to the New York State Department of Environmental Conservation, Division of Hazardous Substances Regulation, Room 205, 50 Wolf Road, Albany, New York 12233-7253. **Do not complete Part A for modification requests.**

SECTION 1. **Applicant Business Name**—Provide the name under which you are applying for a permit.

SECTION 2. **N.Y.S. D.E.C. Permit Number**—If new application, leave blank.

SECTION 3. **Mailing Address**—Provide complete mailing address and county.

SECTION 4. **E.P.A. ID Number**—If you do not have a 12-digit E.P.A. transporter identification number, leave section blank.

SECTION 5. **Contact Person**—Provide name of person who should be contacted regarding this application.

SECTION 6. **Phone Number**—Provide phone number of contact person.

SECTION 7. **Check**—Indicate if application is for a new permit or a renewal; also indicate if proof of insurance is attached. Indicate if Permit Fee is attached and the amount. Compute at the rate of $25.00 for the first vehicle plus $5.00 for each additional vehicle. Maximum Permit Fee is $300.00 per year.

PART B—VEHICLE INFORMATION

This part must be completed by all applicants for a permit to transport wastes pursuant to 6NYCRR Part 364 and submitted to the New York State Department of Environmental Conservation, Division of Hazardous Substances Regulation, Room 205, 50 Wolf Road, Albany, New York 12233-7253. This part is also to be utilized by the permittee for the addition or deletion of vehicle to an existing permit. **Do not complete Part A for modification requests.**

SECTION 1. **Applicant Business Name**—Provide the name under which you are permitted. Complete for modifications only.

SECTION 2. **N.Y.S. D.E.C. Permit Number**—Complete for modifications only.

SECTION 3. **Vehicle Fee Attached**—Complete for modifications only:
Indicate amount of vehicle fee attached. Compute at the rate of $5.00 per vehicle. Maximum Permit Fee is $300.00 per year.

SECTION 4. **Total Number of Vehicles**—Indicate the total number of vehicles for which permits are required.

SECTION 5. **Location Where Vehicles Are Garaged**—Use a separate sheet for each location where vehicles are garaged. Complete sections 6 thru 13 only for vehicles garaged at the location indicated. A post office box number is not an acceptable address.

SECTION 6. **License Number**—Provide license number for each vehicle. Note: a vehicle is defined as the structural unit that contains the waste, such as a trailer, tank, etc.

SECTION 7. **State**—State of vehicle registration.

SECTION 8. **Capacity**—Indicate the capacity of the vehicle in gallons, cubic yards, pounds or tons.

SECTION 9. **Units**—The Units are indicated as follows: 01 = gallons; 02 = cubic yards; 03 = pounds; 04 = tons.

SECTION 10. **Make**—Make of vehicle; Heil, Fruehauf, Trail, Mack, Ford, etc.

SECTION 11. **Type**—Type of vehicle; Van, Tank, Dump, Flat bed, Roll-off, etc.

SECTION 12. **Delete**—Indicate if vehicle is to be deleted from Permit. NOTE: Vehicles deleted while permit is in effect, will not result in a reduction of the regulatory fee.

SECTION 13. **Add**—Indicate if vehicle is to be added to Permit.

SECTION 14. **Affirmation Clause**—The transporter must type or legibly print his name, title and date. The form should then be signed and mailed to the New York State Department of Environmental Conservation.

47-19-10 (1/90)—28c

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS SUNSTANCES REGULATION

WASTE TRANSPORTER PERMIT APPLICATION—6NYCRR Part 364

PART C—Waste Information

1. APPLICANT BUSINESS NAME

2. NYSDEC PERMIT NUMBER ☐☐ — ☐☐☐

3. TREATMENT, STORAGE, OR DISPOSAL FACILITY (TSDF) INFORMATION ☐ Delete ☐ Add

EPA ID Number

NYSDEC Facility ID Number

NAME

STREET

CITY | COUNTY | STATE | ZIP CODE

CONTACT PERSON | PHONE NUMBER ( )

WASTE INFORMATION 4. Waste Description	5. Waste Code	6. Form	7. Handling Method	8. Delete	9. Add

10. COMMENTS

11. STATEMENT OF OWNER OR OPERATOR OF TREATMENT,STORAGE OR DISPOSAL FACILITY

Permission is hereby granted to the above named applicant to deliver waste stated in this application to the T.S.D.F. listed above, subject to the Rules and Regulations of the Department of Environmental Conservation

SIGNATURE | PRINTED OR TYPED NAME

TITLE | DATE

INSTRUCTION SHEET

(Print or Type All Information)

PART C—WASTE INFORMATION

This part must be completed by all applicants for a permit to transport wastes pursuant to 6 NYCRR Part 364 and submitted to the New York State Department of Environmental Conservation, Division of Hazardous Substances Regulation, Room 205, 50 Wolf Road, Albany, New York 12233-7253. This part is also to be utilized by the permittee for the addition or deletion of Treatment, Storage, or Disposal Facilities, or when adding or deleting types of wastes to an existing permit. **Do not complete Part A for modification requests.**

SECTION 1. **Applicant Business Name**—Provide the name under which you are applying for a permit.

SECTION 2. **N.Y.S. D.E.C. Permit Number**—If new application, leave blank.

SECTION 3. **Treatment, Storage or Disposal Facility (TSDF) Information**—All information requested in this section pertains to the TSDF and may have to be provided to you by that facility. If the facility does not have the E.P.A. or N.Y.S. ID numbers, leave the space blank. A separate Part C form must be used for each TSDF utilized.

SECTION 4. **Waste Description**—Briefly describe each waste that will be transported to the TSDF listed under Section No. 3. For hazardous waste use either the EPA or the DOT description. For non-hazardous waste use the NYSDEC Non-Hazardous Waste Type Code List, (attached). The waste description must be repeated for each handling method used. Use additional sheets if necessary.

SECTION 5. **Waste Code**—(a) for hazardous wastes, enter the EPA Hazardous Waste Type Code, identified in **40 CFR Part 261 and 6NYCRR Part 371.**

(b) for non-hazardous wastes, enter the code obtained from the NYSDEC Non-Hazardous Waste Type Code List, (attached).

SECTION 6. **Form**—Indicate the "Form" as follows: 01 = liquid; 02 = solid; 03 = gas; 04 = sludge

SECTION 7. **Handling Method**—Enter the code obtained from the NYSDEC Handling Method Code List, (attached).

SECTION 8. **Delete**—Indicate if waste is to be deleted from Permit.

SECTION 9. **Add**—Indicate if waste is to be added to Permit.

SECTION 10. **Comments**—Attach additional sheets if necessary.

SECTION 11. **Statement of Owner or Operator of TSDF**—The owner or operator of the TSDF must type or legibly print his name, title and date. The form should then be signed and mailed to the New York State Department of Environmental Conservation.

47-19-11 (5/90)—28c

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION HAZARDOUS SUBSTANCES REGULATION

WASTE TRANSPORTER PERMIT APPLICATION—6 NYCRR Part 364

PART D—Applicant Questionnaire

NYSDEC PERMIT NUMBER
(If Presently Permitted)
☐☐ — ☐☐☐

All Questions must be answered. Please print or type. If more space is needed, attach additional sheets. At the top of additional sheets write the applicant business name, and "Part D".

THE APPLICANT HEREBY APPLIES FOR A PERMIT TO TRANSPORT HAZARDOUS AND/OR REGULATED MEDICAL WASTE.

1. APPLICANT BUSINESS NAME		2. TELEPHONE NUMBER ( )
3. MAILING ADDRESS		
CITY	STATE	ZIP CODE
4. TRADE NAME OR OTHER NAMES UNDER WHICH APPLICANT WILL DO BUSINESS		
5. STREET ADDRESS IF DIFFERENT THAN MAILING ADDRESS		
CITY	STATE	ZIP CODE
6. PHYSICAL LOCATION OF BUSINESS: BETWEEN WHAT STREETS OR AVENUES; IF OUTSIDE CITY LIMITS AND NOT KNOWN BY A HOUSE NUMBER, SPECIFY LOCATION IN RELATION TO NEAREST INTERSECTING ROADS OR HIGHWAYS.		
7. CONTACT PERSON		7a. TELEPHONE NUMBER ( )

TO BE FILLED OUT BY ALL APPLICANTS:

8a. Has the applicant (whether an individual business, partnership or corporation) ever applied for any permit pursuant to the Environmental Conservation Law or the environmental laws of any other government agency, foreign or domestic?

☐ Yes ☐ No If YES, answer 8b.

8b. Has any license/permit ever been revoked, cancelled, suspended or otherwise involuntarily terminated, or has any other penalty been imposed in connection thereof?

☐ Yes ☐ No If YES, answer 8c.

8c. Complete the following information for each permit referred to in 8b.

Type of Permit:

Name of Permittee:

Address of Permittee:

Permit Number:

Disposition: (i.e., was permit issued or denied)

Date of Disposition:

9a. Has the applicant (whether an individual business, partnership or corporation) ever been determined in an administrative, civil or criminal proceeding to have violated any provision of the Environmental Conservation Law (ECL), any related order or determination of the Commissioner, any regulation promulgated pursuant to the ECL, the condition of any permit issued thereunder, or any similar statute, regulation, order or permit condition of the federal or other state government or Canada?

☐ Yes ☐ No If yes, state crime(s) or offense(s) and date(s) for each occurrence:

9b. Has the applicant (either as an individual or as one of the partners) ever been an officer, director or large stockholder (owner of 25% or more stock) of a corporation which—during the time such person was an officer, director or large stockholder—was determined in an administative, civil or criminal proceeding to have violated any provision of the Environmental Conservation Law (ECL), any related order or determination of the Commissioner, any regulation promulgated pursuant to the ECL, the condition of any permit issued thereunder, or any similar statute, regulation, order or permit condition of the federal or other state government or Canada?

☐ Yes ☐ No If yes, state crime(s) or offense(s) and date(s) for each occurrence:

10a. Has the applicant (whether an individual business, partnership or corporation) ever been convicted of a criminal offense under the laws of any state or of the United States or of Canada which involves fraud, bribery, perjury, theft, or an offense against public administration as that term is used in Article 195 of the Penal Law?

☐ Yes ☐ No If yes, state crime(s) or offense(s) and date(s) for each occurrence:

10b. Has the applicant (either as an individual or as one of the partners) ever been an officer, director or large stockholder (owner of 25% or more stock) of a corporation which—during the time such person was an officer, director or large stockholder—ever been convicted of a criminal offense under the laws of any state or of the United States or of Canada which involves fraud, bribery, perjury, theft, or an offense against public administration as that term is used in Article 195 of the Penal Law?

☐ Yes ☐ No If yes, state crime(s) or offense(s) and date(s) for each occurrence:

SECTIONS 11 AND 16 need only be completed as follows:

1. For those companies in which the transportation of wastes represents a substantial business activity (greater than 10 percent of its total business), Sections 11 and 16 must be completed by all officers and individuals.
2. For those companies in which the transportation of wastes is **not** a substantial business activity, only those persons who are involved in the policy and management aspects of hazardous waste must complete Sections 11 and 16.

TO BE FILLED IN ONLY BY INDIVIDUAL OR PARTNERSHIP APPLICANTS:

11. NAME OF APPLICANT (If Partnership, Name Each Partner)	HOME ADDRESS	DATE OF BIRTH

TO BE FILLED ONLY BY CORPORATION APPLICANTS (Refer to instruction letter before completing):

12. SPECIFY UNDER WHAT LAW APPLICANT WAS ORGANIZED	12a. STATE	12b. DATE OF ORGANIZATION

13. IF APPLICANT IS AN OUT-OF-STATE CORPORATION, HAS A CERTIFICATE OF AUTHORITY BEEN OBTAINED TO DO BUSINESS IN NEW YORK STATE? ☐ Yes ☐ No	13a. DATE OF CERTIFICATION

14. ADDRESS OF PRINCIPAL PLACE OF BUSINESS

15. STATE AUTHORIZED NUMBER OF SHARES OF CAPITAL STOCK OF APPLICANT

Common Stock: Preferred Stock:

16a. ENTER THE NAMES AND OTHER REQUESTED INFORMATION OF ALL MEMBERS OF THE BOARD OF DIRECTORS AS OF THE DATE OF FILLING OF THIS APPLICATION.

Name of Director	Home Address	Date of Birth

16b. ENTER THE NAMES AND OTHER REQUESTED INFORMATION OF ALL OFFICERS AS OF THE DATE OF FILING OF THIS APPLICATION

Name of Officer	Home Address	Title of Officer	Date of birth

16c. ENTER THE NAMES AND OTHER REQUESTED INFORMATION OF ALL HIGH MANAGERIAL AGENTS, AS DEFINED IN SECTION 20.20 OF THE PENAL LAW

Name	Home Address	Title	Date of Birth

16d. ENTER THE NAMES AND OTHER REQUESTED INFORMATION FOR THE OWNERS OF 25% OR MORE OF COMMON OR PREFERRED STOCK AS OF THE DATE OF FILING OF THIS APPLICATION.

Name of Stockholder	Home Address	Number of Shares of Stock		Date Acquired
		Common	Preferred	

16e. ENTER THE NAME(S) AND ADDRESS(ES) OF OTHER PERSON(S) OR ORGANIZATION(S) HAVING SUBSTANTIAL INTEREST IN THE CORPORATION.

Name	Address

17. LIST AND DESIGNATE THE RELATIONSHIP OF ALL PARENT CORPORATIONS, INCLUDING ULTIMATE PARENT CORPORATIONS, AND ALL SUBSIDIARY CORPORATIONS OF THE ULTIMATE PARENT CORPORATIONS AND THEIR PRINCIPAL PLACE OF BUSINESS:

Name of Corporation	Principal Place of Business	IRS Tax ID Number	Relationship to Applicant

NOTE: All persons listed in Sections 11 and 16 must complete Part E, Personal Questionnaire.

18. CERTIFICATION

Applicant understands that any change in any of the facts reported herein and in all other papers filed in support of this application which occurs between the signing of the application and the issuance of the permit must be reported to the New York State Department of Environmental Conservation, Division of Hazardous Substances Regulation, Room 205, 50 Wolf Road, Albany, New York 12233-7250 in writing by certified or registered mail within 48 hours. Any change of facts occurring after the issuance of the permit must be reported within 10 days. The failure to comply with the foregoing is grounds for the revocation, cancellation or suspension of the PERMIT. The applicant hereby agrees that all papers filed in support of this application and any related application filed under the Environmental Conservation Law (ECL) by any person having any interest, direct or indirect, either in the business to be licensed, or in any related license or PERMIT, shall be deemed and made a part hereof and considered by the Department of Environmental Conservation in acting upon this application.

18a. **TO BE SIGNED AND DATED BY INDIVIDUAL APPLICANT AND EACH MEMBER OF PARTNERSHIP:**

The undersigned, each for himself, certifies that he is the applicant above named; that he knows the contents of the above application and the statements contained therein and the same are true of his own knowledge. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law and will subject any permit issued hereunder to revocation.

_____ _____

SIGNATURE OF APPLICANT OR OF EACH PARTNER — DATE

_____ _____

SIGNATURE OF APPLICANT OR OF EACH PARTNER — DATE

_____ _____

SIGNATURE OF APPLICANT OR OF EACH PARTNER — DATE

_____ _____

SIGNATURE OF APPLICANT OR OF EACH PARTNER — DATE

18b. **TO BE SIGNED AND DATED BY CORPORATION**

_____, certifies that he is _____ of the

(NAME OF AUTHORIZED OFFICER) (TITLE)

above named applicant corporation; that he knows the contents of the above application and the statements and answers therein; that the same are true of his own knowledge; that he has been authorized, by order of the Board of Directors of said applicant corporation to make the statements and answers in this application in behalf of said applicant corporation with the same force and effect as if said corporation made such statements and answers itself. False statements made herein are punishable as a Class A Misdemeanor pursuant to Section 210.45 of the Penal Law and will subject any permit issued hereunder to revocation.

_____ _____

SIGNATURE OF AUTHORIZED OFFICER — DATE

47-19-12 (5/90)—26c

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS SUBSTANCES REGULATION

WASTE TRANSPORTER PERMIT APPLICATION—6 NYCRR Part 364

PART E—Personal Questionnaire

NYSDEC PERMIT NUMBER
(If Presently Permitted)

☐☐ — ☐☐☐

This form is required to be filed by each person whose name is listed in Sections 11 and 16 of Part D, Applicant Questionnaire

All Questions must be answered. Please print or type. If more space is needed, use back page or attach additional sheets. At the top of additional sheets write the applicant business name, "Part E", and your name.

APPLICANT BUSINESS NAME:

The undersigned, appearing as a principal in the above designated application, submits the following information and understands that said representations will be relied upon by the New York State Department of Environmental Conservation in acting on such application and further understands that false statements or misrepresentations shall constitute sufficient cause for the disapproval of the application and/or revocation, cancellation or non-renewal of any permit which may be issued or affected as a result of such application.

1. NAME (Last, First, MI)	2. SOCIAL SECURITY NUMBER	3. PHONE NUMBER (include area code) ( )
4. HOME ADDRESS (Street, City, State and Zip Code)		

5. DATE OF BIRTH	5a. COLOR OF EYES	5b. WEIGHT	5c. COLOR OF HAIR	5d. HEIGHT

6. NATURE OF INTEREST (check all that apply)

- ☐ Individual Applicant
- ☐ Partner
- ☐ Corporation—Member of Board of Directors
- ☐ Corporation—Officer
- ☐ Corporation—High Managerial Agent
- ☐ Corporation—Large Stockholder
- ☐ Corporation—Substantial Interest

7. ARE YOU RELATED TO ANY PERSON WHO IS SUBMITTING ANY OTHER PART OF THIS APPLICATION?

☐ Yes ☐ No If yes, fill in the following:

Name	Relationship

8. LIST ALL BUSINESSES, PARTNERSHIPS OR CORPORATIONS OF WHICH YOU ARE PRESENTLY AN OWNER, PARTNER, DIRECTOR OR OTHER HIGH MANAGERIAL AGENT:

Business Name	Address	Position Held

9. OCCUPATION RECORD (Past 10 Years)

Dates (month/year) From	To	Occupation, Business or Corporation & Address	Position Held

10. WILL YOU TAKE AN ACTIVE PART IN THE OPERATION OF THE BUSINESS SOUGHT TO BE LICENSED?

☐ Yes ☐ No If yes, explain nature of activity:

11. HAVE YOU EVER BEEN KNOWN BY ANY OTHER NAMES (INCLUDING MAIDEN NAME , IF ANY)?

☐ Yes ☐ No If yes, state each such name:

12. HAVE YOU, OR ANY BUSINESS, PARTNERSHIP, CORPORATION IN WHICH YOU WERE A PRINCIPAL EVER FILED A PETITION IN BANKRUPTCY, OR BEEN ADJUDGED A BANKRUPT, OR MADE AN ASSIGNMENT FOR THE BENEFIT OF CREDITORS?

☐ Yes ☐ No If yes, give details:

13. HAVE YOU EVER BEEN CONVICTED (INCLUDING PLEAS OF GUILTY) OF ANY CRIME OR OFFENSE OF ANY KIND EXCEPT TRAFFIC INFRACTIONS?

☐ Yes ☐ No If yes, give the following:

Date of Conviction	Crime or Offense Involved	Disposition

14. ARE THERE ANY ARRESTS, INDICTMENTS OR SUMMONSES (EXCEPT FOR TRAFFIC INFRACTIONS) PENDING AGAINST YOU?

☐ Yes ☐ No If yes, state below:

Date	Alleged Crime or Offense	Action (Arrest, Indictment or Summons)

15. HAVE YOU EVER APPLIED ANYWHERE FOR A LICENSE OR PERMIT TO TRANSPORT REGULATED WASTE MATERIAL AS AN INDIVIDUAL BUSINESS, PARTNERSHIP OR CORPORATION IN WHICH YOU WERE A PRINCIPAL?

☐ Yes ☐ No If yes, answer question 15a.

15a. HAS SUCH LICENSE OR PERMIT EVER BEEN REVOKED, CANCELLED OR OTHERWISE INVOLUNTARILY TERMINATED?

☐ Yes ☐ No If yes, state below:

Name	Address of Business Premises	Date of Filing	Action Taken

16. HAVE YOU EVER BEEN FOUND IN A CIVIL PROCEEDING TO HAVE COMMITTED A NEGLIGENT OR INTENTIONAL ACT RELATED TO HANDLING, STORING, TREATING, DISPOSING OR TRANSPORTING OF HAZARDOUS WASTE IN THIS STATE OR ANY OTHER STATE?

☐ Yes ☐ No If yes, state below:

Date Filed	Disposition

17. CERTIFICATION

I hereby certify that all statements herein made by me are true to my own knowledge, and if any representations therein are changed prior to the receipt of the permit, I shall so notify the Department of Environmental Conservation, Division of Hazardous Substances Regulation, Room 205, 50 Wolf Road, Albany, New York 12233-7250.

False statements made herein are punishable as a Class A Misdemeanor pursuant to Section 210.45 of the Penal Law, and will subject any permit issued hereunder to revocation.

DATE SIGNATURE

FOR ADDITIONAL INFORMATION: