DRAFT
FIELD SAMPLING PLAN
SOIL INVESTIGATION FOR
HISTORICAL STORMWATER PATHWAY- SOUTH
MONTROSE CHEMICAL SUPERFUND SITE
LOS ANGELES COUNTY, CALIFORNIA

EPA Contract No. 68-W-98-225
EPA Work Assignment No. 233-RICO-0926
CH2M HILL Project No. 336460.FI.01

Prepared for
U.S. Environmental Protection Agency
Region 9
75 Hawthorne Street
San Francisco, California 94105

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March 2006

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U.S. ENVIRONMENTAL PROTECTION AGENCY REGION 9

Plan Title:	Draft Field Sampling Plan, Soil Investigation For Historical Stormwater Pathway - South, Montrose Chemical Superfund Site, Los Angeles County, California
Site Name:	Montrose Chemical Superfund Site
Site Location:	20201 S. Normandie Avenue
City/State/Zip:	Torrance, California 90502
Site EPA ID#:	CAD 008242711
Anticipated Sampling Dates:	Starting June 2006
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A Request for Laboratory Sample Analysis and Data Evaluation Form (RLSA Form) and RSCC Form Instructions
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Acronyms

ASTM	American Society for Testing and Materials
bgs	below ground surface
BHC	benzene hexachloride (also called hexachlorocyclohexane)
°C	degrees Celsius
CCR	California Code of Regulations
CDWR	California Department of Water Resources
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
COC	chain-of-custody
DDD	4,4′-dichlorodiphenyldichloroethane
DDE	4,4′-dichlorodiphenyldichloroethylene
DDT	4,4′-dichlorodiphenyltrichloroethane
DOT	Department of Transportation
DQO	data quality objective
ECI	Ecology Control Industries
EPA	U.S. Environmental Protection Agency
FID	flame ionization detector
FS	feasibility study
FSP	Field Sampling Plan
ft	foot/feet
GPS	global positioning system
HSP	Health and Safety Plan
HHRA	human health risk assessment
HPLC	high-performance liquid chromatography

IDW	investigation-derived waste
LACFCD	Los Angeles County Flood Control District
MDL	method detection limit
MS/MSD	matrix spike/matrix spike duplicate
msl	mean sea level
NAD	North American Datum
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
PID	photoionization detector
PPE	personal protective equipment
ppm	parts per million
QA	quality assurance
QC	quality control
QAPP	Quality Assurance Project Plan
RAC	Response Action Contract
RFA	request for analysis
RI	Remedial Investigation
RLSA	request for laboratory sample analysis
RPM	Remedial Project Manager
RSCC	Regional Sample Control Center
RWQCB	Regional Water Quality Control Board
SPT	standard penetration test
STLC	Soluble Threshold Limit Concentration
SVE	soil vapor extraction
TCLP	Toxicity Characteristic Leaching Procedure
Total DDT	Sum of concentrations of DDT, DDE, and DDD
TPH	total petroleum hydrocarbons
TPH-d	total petroleum hydrocarbons – diesel fraction

TPH-g	total petroleum hydrocarbons – gasoline fraction
TPH-o	total petroleum hydrocarbons – oil fraction
TSDF	treatment, storage, or disposal facility
TTLC	Total Threshold Limit Concentration
UAO	Unilateral Administrative Order
USCS	Unified Soil Classification System
UTM	Universal Transverse Mercator
UST	Underground Storage Tank
VOC	volatile organic compound

1.0 Introduction

This Field Sampling Plan (FSP) has been prepared to support field and laboratory activities for an investigation of soils within the Historical Stormwater Pathway – South (Operable Unit 6) of the Montrose Chemical Superfund Site (Montrose), Los Angeles County, California. This FSP was developed in accordance with U.S. Environmental Protection Agency (EPA) Region 9 *Guidance for Preparation of a U.S. EPA Region IX Field Sampling Plan for EPA-Led Superfund Projects* (EPA, 1993) and the data quality objectives (DQOs), in the companion Draft Quality Assurance Project Plan (QAPP) (EPA, 2006a). The section headings are per EPA guidance documents. The FSP was prepared by CH2M HILL for EPA under EPA Contract No. 68-W-98-225, EPA Work Assignment No. 233-RICO-0926.

1.1 Problem Statement

In the spring of 2005, soil sampling was conducted at 20846 Normandie Avenue, in Los Angeles County, California, a commercial property occupied by Ecology Control Industries (ECI), as part of due diligence activities to prepare for sale of the property. That sampling found several chemical constituents present at elevated concentrations, including: 4,4′-dichlorodiphenyltrichloroethane (DDT), 4,4′-dichlorodiphenyl-dichloroethene (DDE), and 4,4′-dichlorodiphenyldichloroethane (DDD), as well as several other organochlorine pesticides including chlordane, petroleum hydrocarbons, and polychlorinated biphenyls (PCBs). The sum of DDT, DDE, and DDD concentrations (referred to collectively as total DDT) were detected in subsurface soil samples from the eastern and southeastern portions of the ECI Property at concentrations exceeding background and up to 325 parts per million (ppm).

EPA believes that the elevated concentrations of total DDT found on the ECI Property originated as contaminated storm water runoff from the former DDT manufacturing plant operated by the Montrose Chemical Corporation of California (Montrose), located at 20201 Normandie Avenue, in Los Angeles County, California. The ECI Property is located down stream from the former Montrose plant property, by way of the historical storm water drainage pathway, which crossed through what is now the eastern portion of ECI Property (including areas slightly east of the ECI Property). Elevated concentrations of total DDT detected in the 2005 sampling were from subsurface samples located along the eastern portion of ECI Property (EPA, 2005b). Additional background information is provided in Section 2.3 and the QAPP.

The area of investigation (Study Area) for this FSP includes portions of the ECI Property and seven residential properties to the east of the ECI Property. Figure 1 shows the former Montrose plant property, the Study Area, and a depiction of the historical storm water pathway in the area.

1.2 Purpose

The purpose of this investigation is to obtain additional analytical data adequate to characterize the vertical and lateral extent of Montrose-related soil contamination within the Study Area, and determine if further action is needed based on those findings. This FSP presents the data and soil sampling requirements to meet this purpose.

1.2.1 Investigation Needs and Objectives

While the data collected in 2005 to characterize the ECI Property (provided to EPA on behalf of ECI) identified the presence of total DDT-contaminated soils within its property boundaries, the data are not adequate to characterize the vertical and lateral extent of Montrose-related contaminants in the Study Area. Therefore, additional soil sampling is needed to provide adequate characterization of the Study Area. Data obtained from this soil sampling effort, in combination with existing data, are intended to characterize the presence, distribution, and concentrations of Montrose-related chemicals in Study Area soils and identify those soils, if any, requiring remedial action. It should be noted that EPA's investigation of historical activities related to the Montrose Property is ongoing. As such, additional sampling may be required to address the underlying needs and objectives presented in this FSP as new information is uncovered. The questions intended to be answered by this investigation are listed below. The basis and rationale for these questions are fully developed in the companion QAPP for this investigation (EPA, 2006a).

1. Characterize Nature and Extent of Soil Contamination: Are soils within the Study Area contaminated by Montrose-related chemicals at levels of concern, and if so, what is the vertical and lateral extent of that contamination?

2. Support a Human Health Risk Assessment (HHRA): What are human health risks from the soil concentrations of Montrose-related chemicals found within the Study Area?

3. Support a Removal Action, if Necessary: What is the extent of Montrose-related soil contamination requiring a removal action to be conducted, if any?

4. Support a Feasibility Study (FS), if necessary: Based on the nature and extent of Montrose-related contamination within the Study Area, what are the alternatives for soil remediation, if needed?

5. Support characterization of Investigation-Derived Waste (IDW): Do IDW soil concentrations meet the waste acceptance criteria for disposal at either a nonhazardous waste, or hazardous waste treatment, storage, or disposal facility (TSDF)? Does IDW water meet the acceptance criteria for disposal at an offsite TSDF?

2.0 Background

This section describes the Study Area's background including its location, physical descriptions of the surrounding area and the historical stormwater pathway, a summary of previous investigations and regulatory involvement, and a summary of existing environmental analytical data.

2.1 Study Area Location

The Study Area is located in Los Angeles County, California, and includes portions of eight properties located along the historical stormwater pathway that originated from the former Montrose plant property. The eight properties include ECI, a commercial property located at 20846 Normandie Avenue, and seven residential properties located directly east of the ECI Property along Torrance Boulevard, Raymond Avenue, and 209th Street.

2.2 Physical Description

This section provides a brief description of the regional geology and hydrogeology, the Historical Stormwater Pathway, including a description of the extent of historical stormwater pathway as it relates to the release of Montrose related contamination into the Study Area, the stormwater conveyance system (Project 685), and the ECI Property.

2.2.1 Geology and Hydrogeology

The Study Area is located within the West Coast Basin of the Torrance Plain. The Ballona Escarpment bounds the basin to the north, the Newport-Inglewood Uplift to the east, Palos Verdes Hills to the southwest, and the Pacific Ocean to the west. There are four major structural features within the Torrance Plain, in the vicinity of the Montrose Chemical Superfund Site and the Study Area: the Charnock Fault, the Palos Verdes Fault, the Torrance Anticline, and the Gardena Syncline (EPA, 1998; California Department of Water Resources [CDWR], 1961).

The stratigraphy of the West Coast Basin includes Quaternary-age continental and marine deposits and Tertiary-age marine sediments overlying a basement complex of igneous and metamorphic rocks. The geologic units of hydrogeologic interest are (in order from oldest to youngest) the Pico Formation; the San Pedro Formation; the Lakewood Formation; and older dune sand, alluvium, and active dune sand (EPA, 1998; CDWR, 1961).

Hydrogeologic units in the West Coast Basin include aquitards and aquifers of varying compositions and water-yielding properties. These units, in order from first water encountered to deeper units, include the Bellflower Aquitard, the Gage Aquifer, an unnamed aquitard, the Lynwood Aquifer, another unnamed aquitard, and the Silverado Aquifer. A detailed discussion of the regional geologic, hydrogeologic, and physiographic setting is presented in the 1998 Remedial Investigation (RI) Report for the Montrose Superfund Site (EPA, 1998).

There are three generalized, soil layers representing undisturbed sediments within the unsaturated zone in the area, described as follows:

- **Upper Layer – Playa Deposits:** This layer occurs from near the ground surface to approximately 25 feet below ground surface (bgs). According to grain-size analysis of soil samples collected in this layer, silt and clay comprise more than 65 percent of these soils.
- **Middle Layer – Palos Verdes Sands:** This layer occurs from approximately 25 to 45 feet bgs and consists primarily of fine-grained sands. According to grain-size analysis of soil samples collected in this layer, fine and medium grained sands comprise more than 70 percent of these soils.
- **Lower Layer – Upper Bellflower Aquitard:** This layer is found from approximately 45 to approximately 95 feet bgs and consists of multiple thin sand layers interbedded with layers of silts and clays. Grain-size analysis of soil samples collected in this layer ranged from more than 70 percent fine-grained sand to more than 60 percent silt. This soil layer varied from fine-grained sands to clays and silts with increasing depth.

The specific occurrence, depth, and thickness of these units in the vicinity of the ECI Property have not been well defined. The surface and near-surface sediments in and adjacent to the historical stormwater pathway of the Study Area are composed of unconsolidated sediments, reworked soil from grading operations, and undisturbed Playa Deposits. The first-encountered groundwater beneath the area is at approximately 65 to 70 feet bgs, in the Upper Bellflower Aquitard (EPA, 1998).

2.2.2 Historical Stormwater Pathway

The historical stormwater pathway originated as a drainage ditch on the southeast corner of the former Montrose plant property. From the Montrose property, the historical stormwater pathway existed as a series of unlined ditches and sloughs continuing ultimately to the swampy area where the Dominguez Channel was constructed. The historical stormwater pathway originated from the Montrose property as a drainage ditch on the west side of Normandie Avenue, crossed Normandie Avenue and entered an "unimproved channel" that continued along 204th Street and the west side of Kenwood Avenue, to Torrance Boulevard (also known as the Kenwood Ditch). After crossing under Torrance Boulevard, into the Study Area, it broadened into a slough or swale that extended eastward beyond the Study Area. Documents and aerial photographs from 1947 to 1982 indicate that the historical drainage pathway was continuous from the former Montrose plant property through the Study Area, and beyond in what is now the Torrance Lateral. Figure 1 shows the approximate course of the stormwater pathway.

To better determine the lateral extent of the historical stormwater drainage pathway within the Study Area, analysis of historical aerial photographs, topographic maps, grading plans and precipitation data were analyzed collectively (EPA, 2005a). The interpreted extent of the historical storm water pathway is shown in Figure 2.

To delineate the extent of historical stormwater flow pathways, two main types of information were extracted from the historical aerial photographs: areas of historical inundation, and areas of potential wetland/riparian vegetation. Areas of inundation are

directly representative of the extent of past stormwater flow events. Potential wetland/ riparian vegetation, because of its dependence on wet environments, are representative of areas subjected to frequent inundation and/or high groundwater levels. Delineation of historical inundation and potential wetland/riparian vegetation, when evaluated together, shows the approximate extent of historical stormwater flow. Precipitation data from 1932 to 2005 for Torrance, California, were also evaluated to determine if the flooding and apparent wet and dry conditions observed on the aerial photographs used for analysis occurred during periods where rainfall was average, below average, or above average. The extent of historical flood waters and wetland and riparian vegetation is illustrated in Figure 2. EPA is using this area to represent the interpreted extent of the historical stormwater pathway.

From this analysis, it appears the lateral extent of the historical stormwater pathway, within the Study Area, decreased during the period from 1928 to 1965. In 1953, housing development began east of the historical stormwater pathway, including those residential properties within the Study Area. During the late 1950s and 1960s, business practices on the eastern side of the ECI Property appear to have increased, possibly constricting the stormwater pathway between the eastern edge of the ECI Property and the western portion of what are now residential parcels along Raymond Avenue and 209th Street.

2.2.3 Project 685 Stormwater Conveyance System

During the late 1960s and early 1970s, the Los Angeles County Flood Control District (LACFCD) constructed a new underground stormwater conveyance system referred to as Project 685, or the Kenwood Avenue-Supplemental. Project 685, a concrete box culvert, replaced the historical stormwater drainage ditch from 204th Street, along Kenwood Avenue and through the Study Area, connecting to the newly constructed Torrance Lateral. The LACFCD maintains an easement for Project 685 within the properties it traverses, including the ECI Property (EPA, 2005b).

As-built construction drawings for the Project 685 segment through the Study Area (Los Angeles County Department of Public Works, 1969) indicate a pre-construction ground elevation of approximately 16 feet mean sea level (msl). This is believed to be the lowest elevation of the historical stormwater pathway within the Study Area. The Project 685 box drain (8 feet wide and 12.5 feet high) is shown on the as-built drawings as having an invert elevation (interior bottom of the drain) at approximately 11 feet msl. Thus, installation of Project 685 required excavation of existing soil. These drawings also show 1 foot of fill above the box drain, for a finished surface elevation of approximately 24.5 feet msl within the Study Area. Figure 3 shows a conceptual cross section of the historical stormwater pathway within the Study Area.

2.2.4 ECI Property

Prior to 1992, Akzo Coatings (Akzo) owned the land now occupied by ECI. In 1992, ECI's owner purchased approximately 4.7 acres of land from Akzo (identified as lot 2 in Figure 2). Several years later, an additional 2.7 acres of adjacent land was purchased from Akzo (identified as Lot 1 in Figure 2), and created ECI Property's current size of approximately 7.5 acres.

During its ownership, Akzo had numerous underground storage tanks (USTs) containing petroleum-based solvents along the southern boundary of Lot 2 (EPA, 1993). A release of toluene from one of the tanks required soil and groundwater investigations and the installation of a soil vapor extraction (SVE) system. The SVE system was installed around the time of property transfer to ECI, and included grading the southern area of the property prior to the installation of the SVE system, and covering the western portion of Lot 2 with concrete following installation. Akzo operated the SVE system for several years after the property had sold and was occupied by ECI. On July 22, 1996, the California Regional Water Quality Control Board (RWQCB) issued a closure letter confirming the completion of the UST remedial action.

In 1998, ECI graded and paved Lot 1, the northern portion of the full property (ECI, 2005). Pre-construction drawings of Lot 1 indicate surface elevations ranging from approximately 40 feet msl along its western boundary, to approximately 36 feet msl along its eastern boundary, with a low of 31 feet msl in the northeast corner along the LACFCD drainage easement and a high of over 50 feet msl where there was a large mound of soil generated from prior grading of the southern lot (EPA, 1993). Soil from the large mound and an earthen embankment along Torrance Boulevard were used to level the property (ECI, 2005). After grading, the surface of the ECI Property transitioned smoothly from approximately 40 feet msl at its western edge to approximately 36 feet msl along its eastern edge. Residential properties immediately east of the ECI Property have lower elevations of approximately 34 feet msl (EPA, 2005b). A conceptual cross section of the Historical Stormwater Pathway through the Study Area is shown in Figure 3.

2.3 Previous Investigations and Regulatory Involvement

2.3.1 Previous Montrose-related Investigations

In the early 1980s, EPA and the State of California conducted investigations that documented the release of DDT from the Montrose former plant property, via several pathways, including stormwater runoff. Recent investigations pertinent to the Study Area are summarized below.

Regional DDT Background Concentrations

From 1999 to 2002, as part of its ongoing investigation of the Montrose Chemical Superfund Site, EPA conducted an investigation and evaluation of soils within approximately 4 miles of the Montrose property. One outcome of this work was the determination of regional total DDT background concentrations in surface soil. Background surface soil concentrations were determined to average between 1 ppm and 3 ppm total DDT, and ranged up to 10 ppm total DDT (EPA, 2001c).

Kenwood Stormwater Drainage Pathway

EPA's investigations of soil in residential areas surrounding the former Montrose Plant Property discovered soils along the west side of Kenwood Avenue with DDT concentrations elevated above the regional background range. Sampling revealed soil concentrations of total DDT up to 6,700 ppm. These elevated total DDT soil concentrations along Kenwood Avenue were associated with the historical stormwater pathway, which, as an open, unlined earthen ditch, had conveyed stormwater runoff from the Montrose Property through

portions of residential properties along the west side of Kenwood Avenue, until the ditch was replaced with the Project 685 underground concrete box culvert.

In 2001 and 2002, EPA conducted a removal action (Kenwood Stormwater Drainage Pathway Removal Action) to remove DDT-contaminated soils along the historical stormwater pathway north of Torrance Boulevard, from Del Amo Alley to Torrance Boulevard (EPA, 2002). Removal of soil was recommended for properties having an average total DDT soil concentration exceeding 17 ppm (corresponding to a one-in-one-hundred-thousand [1×10^{-5}] cancer risk for a residential exposure scenario). Removal was ultimately conducted at 22 properties and in 2 alleys to remove soil having concentrations exceeding 10 ppm.

During removal activities, fragments which appeared to be from the depositional layer of the former ditch bottom, were found in three yards. Chemical analysis of these fragments indicated total DDT concentrations in excess of 100,000 ppm. With few exceptions, soils having a total DDT concentration greater than 10 ppm (the upper end of the background range of total DDT), were excavated down to an elevation of approximately 25 feet msl.

2.3.2 Previous Study Area Investigations

Soil sampling was performed at the ECI Property in the spring of 2005 as part of due diligence activities to prepare the property for sale. Sampling results from the 2005 investigation are described below.

One sample within the Study Area is reported in the 1998 *Final Remedial Investigation Report for the Montrose Superfund* Site (EPA, 1998). Figure 5.10 of that document presents total DDT for Neighborhood Soil Samples, and shows one sample (NS-5) located southwest of the intersection of Raymond Avenue and Torrance Boulevard. Sample NS-5 was collected by Brown and Caldwell in May of 1986, and contained total DDT at 10 ppm, at the upper end of the range of regional background values.

2.3.3 Regulatory Involvement

In early summer of 2005, EPA learned of the presence of DDT and the owner's excavation activities at the ECI Property. This work was initiated without direction or oversight from EPA. EPA requested that the owner immediately stop excavation and implement best management practices for erosion control and protective measures to minimize water and wind erosion (e.g., fugitive dust) from the excavated soil piles. EPA requested ECI to provide all information related to its soil sampling activities (i.e., locations, laboratory data sheets, etc.). That information is summarized in Section 2.4.

In November of 2005, EPA authorized a Removal Action to address the excavated soil and open excavations (EPA, 2005b). On December 15, 2005, EPA issued a Unilateral Administrative Order (UAO, Docket No. 09-2006-02a) to ECI, its property owner, and Montrose Chemical Corporation of California. The UAO requires the transport and disposal of the excavated soil at the ECI Property, and the backfilling and covering of the open excavations. The soil piles were transported to a permitted hazardous waste landfill in January 2006 by the respondents. Backfilling of the excavations remains to be completed under the UAO.

2.4 Summary of Existing Data

This section provides a summary of recent soil analytical data for the ECI Property. Results and conclusions from those analyses served as the basis for determining additional data needs presented in this FSP.

2.4.1 Available Soil Quality Data

In June 2005, EPA learned that an environmental site assessment and sampling had been performed at the ECI Property in preparation for its sale and residential development (EPA, 2005b). Between February 7 and June 9, 2005, over 200 soil samples were collected and analyzed. The soil sampling and analyses activities included:

- Soil and soil gas sample collection and analysis for 15 locations across the ECI Property (February 7 and 8, 2005).
- Soil sample collection using a 150- by 150-foot sampling grid, analyzed for pesticides, PCBs, total petroleum hydrocarbons (TPH)-gasoline (TPH-gas), TPH-diesel, and TPH-oil, volatile organic compounds (VOCs), and metals. The locations of the soil borings are shown in Figure 4. Note that not all grid nodes were sampled for all analytes (March 23, 2005).
- Collection and analysis of an additional 24 soil borings to further delineate areas along the eastern portion of the ECI Property where pesticides and polychlorinated biphenyls (PCBs) had been detected (April 12, and 13, 2005).
- Excavation of soils with elevated chemical concentrations (March 17, 2005; May 17, 18, 26, and 27, 2005; and June 2, 3, 8, and 9, 2005).

Many of these soil samples were grab samples taken from within the walls of excavations along the eastern area of the ECI Property. The final excavation footprints and excavation sample locations are shown in Figure 5. The depth of sample collection ranged from just below the ground surface to approximately 15 feet bgs.

Soil analytical results presented in Tables 2-1 through 2-3, identified elevated concentrations of several chemicals. Chemically affected soils with contaminant concentrations exceeding federal or state regulatory limits or the regional background include:

- Total DDT – Detected at a maximum reported concentration of 325 ppm total DDT. Samples containing elevated DDT concentrations were collected from the eastern area of the ECI Property. Approximately 35 samples had soil total DDT concentrations above the upper end of the regional background range of 10 ppm.
- Chlordane – Detected at a maximum reported concentration of 3.5 ppm from soil collected along the easternmost portion of the property.
- PCBs – Detected along the southeast corner of the ECI Property at a maximum concentration of 23.1 ppm (sum of Aroclors 1254 and 1260).

Other chemical constituents detected in soil samples from the ECI Property include benzene hexachloride (BHC), a pesticide manufactured at the former Montrose plant (maximum

concentration of 0.019 ppm as beta-BHC), TPH-diesel, and TPH-oil (maximum concentration of 21,000 ppm).

A detailed statistical analysis of these data is presented in a technical memorandum (EPA, 2006b) and in the DQOs portion of the companion QAPP (EPA, 2006a). Results of that analysis found soil samples having total DDT exceeding 10 ppm occurred only at subsurface depths within the historical stormwater pathway. The interpreted extent of the historical stormwater pathway for the Study Area is shown in Figure 2 and is depicted by green cross-hatching in Figure 4. Soil samples from borings outside the historical stormwater pathway area do not contain total DDT concentrations in excess of the regional background range of 10 ppm.

2.4.2 Available Groundwater Quality Data

Groundwater quality data are available from investigations proximal to the Study Area (e.g. Montrose); however, these data are not related to the investigation of the Historical Stormwater Pathway.

2.4.3 Available Surface Water and Sediment Quality Data

Recent surface water and sediment quality data are available for the *Current* Stormwater Pathway within the Project 685 stormwater drainage system, but are not germane to the investigation of impacted soils from the Historical Stormwater Pathway. EPA is separately conducting RI/FS activities for the Current Stormwater Pathway, as part of the Montrose Chemical Superfund Site.

3.0 Figures

The following is a list of maps and figures included at the end of the text for this FSP, following tables.

- Figure 1. Location Map
- Figure 2. Interpreted Extent of Historical Stormwater Pathway
- Figure 3. Conceptual Diagram of Soil Across Former Stormwater Drainage Pathway
- Figure 4. Locations of Soil Borings
- Figure 5. ECI Excavation Areas and Sample Locations Collected by Haley & Aldrich (2005)
- Figure 6. Open Excavation Along Eastern Boundary of ECI Property
- Figure 7. Proposed Soil Boring Locations

4.0 Rationale for Sample Locations, Number of Samples, and Laboratory Analyses

This section provides the rationale for soil sample locations, the number of samples to be collected from each area, and the laboratory analyses required for each sample collected.

This field sampling program was designed to meet several needs, including:

- Characterization of soils within the historical stormwater drainage pathway versus areas outside the historical stormwater drainage pathway (to confirm delineation of that boundary)
- Characterization of residential property soils versus commercial property soils

Sampling design for each of those areas and property types were optimized in the DQO process (see companion QAPP).

Subsequently, the priorities for sampling implementation were identified and divided into two phases. Phase 1 characterizes the residential properties and the portion of the historical stormwater pathway along the LACFCD Project 685 easement. The findings of Phase 1 will then be evaluated (e.g., statistical variability) to determine if sampling was adequate to characterize the nature and extent of soil contamination. Based on the findings of the Phase 1 results analysis, the sampling design for Phase 2 (the remaining area of the historical stormwater pathway and its western boundary in the ECI Property) will be optimized prior to its implementation. The Phase 1 and Phase 2 sampling requirements are described below:

Phase 1 Soils Investigation

A. LACFCD easement and buffer, up to the eastern boundary of ECI Property

B. Residential properties within the Historical Stormwater Pathway east of the ECI Property

Phase 2 Soils Investigation

A. The remainder of the Historical Stormwater Pathway within the ECI Property (west of LACFCD easement buffer)

B. ECI Property West and Outside of the Historical Stormwater Pathway

Soil samples will be analyzed for pesticides/PCBs, as well as a limited number of geotechnical soil tests. Results from these analyses and tests will be used to support any remedial action alternatives, if necessary, and characterization for IDW disposal. The sampling locations presented in this section support the data needs and objectives identified in Section 1.3, and the DQOs presented in Appendix A of the companion QAPP (EPA, 2006a). The locations of the proposed soil borings are shown in Figure 7.

4.1 Rationale for Sample Locations and Number of Samples

The soil sample grid spacing, soil sample collection depths, and the number of collocated samples for each sampling area are described in this section.

For each of the sampling areas, a sampling grid was designed to meet statistical sampling requirements for spatial characterization, and include a proposed number of collocated samples, intended to support a statistical evaluation of the sufficiency of the grid spacing and smaller-scale variability (EPA, 2006a). A summary of the sampling program proposed for each sampling area is provided in Table 4-1, including the grid spacing, number of primary borings, number of collocated borings, boring depths, number of samples per boring, sampling depth intervals, number of QA/QC samples, and total sample count. The geographical coordinates for each of the boring locations are provided in Table 4-2.

The Phase 2 sampling program is presented; however, the analytical results of the Phase 1 soil sampling will be used to confirm or refine the Phase 2 sampling grid, if necessary, prior to its execution.

More detail on the design optimization and statistical methodology used can be found in the DQOs, Appendix A of the QAPP (EPA, 2006a).

4.1.1 Historical Stormwater Pathway

The available soil analytical data do not fully characterize the extent of Montrose-related soil contamination within the historical stormwater drainage pathway. The frequency of soil samples with concentrations of total DDT values exceeding the upper regional background soil concentration range of 10 ppm, in combination with the highly heterogeneous nature of Montrose related contamination, warrant a dense sample collection spacing interval.

The total depth of sampling for each phase and area of sampling within the Study Area is based on the estimated morphology of the historical stormwater flow path (depth and width), and soils potentially impacted by Montrose-related contaminants distributed through various activities (e.g., Project 685, residential property development). This is illustrated by the conceptual cross-section for the historical stormwater drainage pathway (Figure 3).

Phase 1A: LACFCD Easement and Buffer (up to the Eastern ECI Property Boundary)

Lateral Extent

The proposed sample collection pattern for Phase 1A follows the square grid with nodes on 30-foot centers (see Figure 7). In Figure 7, the Phase 1 area is indicated by the blue border and blue sampling location symbols. This primary grid pattern generates 30 sampling nodes, which will be supplemented with an additional six collocated samples in order to allow post-sampling evaluation of the sufficiency of the chosen grid spacing interval. The six collocated samples will be collected in association with the nodes indicated in Figure 7, along a random grid coordinate and at a random distance from the node (up to halfway to the next node)[Table 4-3].

Vertical Extent

The soil sample collection depth for Phase 1A, the area along the Project 685 storm drain, will extend from the ground surface to 20 feet bgs. The estimated depth of the historical stormwater drainage pathway is 16 feet msl (20 feet below the current ground surface). The Project 685 storm drain installation excavated soils to approximately 11 feet msl (25 feet below the current ground surface). Excavated soil may have been used to backfill around the newly installed storm drain. Inasmuch, any future repair or replacement of the Project 685 drain or installation of additional utilities along the Project 685 easement corridor, could expose workers to contaminated soil. Without chemical characterization of this soil, institutional controls may be warranted to prevent future exposure.

The soil sample depth collection intervals include the following depth increments: 0 to 6 inches, 6 to 24 inches, and subsequent 3-foot increments (e.g., 2 to 5 feet bgs, 5 to 8 feet bgs, etc.) down to 20 feet bgs, for a total of eight continuous sample intervals. The 0- to 6-inch and 6- to 24-inch sample depths are based on risk assessment data requirements. For the 3-foot depth intervals, the entire 3-foot soil core will be collected using a direct-push sampling rig and composited in the laboratory prior to chemical analysis.

This approach is intended to characterize and profile, within specific depth intervals, the presence of Montrose-related contamination in soil.

Analyses

Soil samples will be analyzed in a laboratory for pesticides/PCBs. Boring logs will be prepared in the field from continuous soil cores collected.

Phase 1B: Residential Properties within the Stormwater Pathway

Lateral Extent

Phase 1B soil sampling will characterize portions of seven contiguous properties within or at the eastern boundary of the historical stormwater pathway within the Study Area.

Based upon a photographic analysis of the historical stormwater pathway, portions of these residential properties appear to lie within or along the historical stormwater pathway; therefore, subsurface soils at these properties could contain Montrose-related contamination. If soil sampling results indicate such contamination within the Phase 1B sampling area, additional sampling of these properties may be required.

To adequately characterize each property and allow for an estimation of the residential exposure to Montrose-related soil contamination, if any, an increased sampling density via a reduction in grid spacing is necessary over that planned for Phase 1A, which is a 30-foot grid. Therefore, Phase 1B soil sampling will follow a square grid pattern with nodes on 20-foot centers to provide an adequate number of samples for property-specific risk evaluation of depth intervals used in estimating residential exposure.

Samples will be collected at 56 locations, as shown by the green sample location symbols in Figure 7. Collocated samples will be collected from four of the seven residential properties, within the extent of the historical stormwater pathway, to support the statistical evaluation of the sufficiency of the grid spacing.

Vertical Extent

The conceptual model for the historical stormwater pathway indicates that the bed of the drainage is sloped downward to the deepest point of the drainage pathway, a point that is believed to be within the ECI Property. Therefore, areas beneath the western banks of the pathway are believed to be at a lesser depth. A theoretical depth of 15 feet, modified for actual sampling depth intervals, is used. Thus, the sample collection depth intervals for Phase 1B will extend from the ground surface to 14 feet bgs. The soil sample collection depth intervals are: 0 to 6 inches, 6 to 24 inches, and then, 3-foot increments (e.g., 2 to 5 feet, 5 to 8 feet, etc.) down to 14 feet bgs, for a total of six sample intervals. Each 3-foot soil core sample will be composited in the laboratory prior to chemical analysis.

Analytes Measured

Phase 1B soil samples will be analyzed by the laboratory for pesticides and PCBs. Boring logs will be prepared from continuous soil cores collected in the field.

Phase 2A: ECI Property West of LACFCD Easement Buffer and within the Historical Stormwater Pathway

Lateral Extent

A square, primary sampling grid with nodes on 30-foot centers has been identified for the portion of the Study Area within the historical stormwater pathway. As described above, this primary grid results in 21 sample nodes, indicated by orange sampling location symbols in Figure 7. Four (4) to 7 collocated samples are proposed for this area; however, the locations will not be specified until soil data from the adjacent LACFCD Easement area (Phase 1A) have been analyzed.

Vertical Extent

The conceptual model for the historical stormwater pathway indicates that the bed of the drainage is sloped downward to the deepest point of the drainage pathway; a point that is believed to be within the ECI Property. Therefore, other areas of the pathway are believed to be at a lesser depth. A theoretical depth of 15 feet, modified for actual sampling depth intervals, is used. Sample depths will extend from the surface to 14 feet bgs. The sample depth intervals have been established to include the following increments: 0 to 6 inches, 6 to 24 inches, and 3-foot increments subsequently (2 to 5 feet, 5 to 8 feet, 8 to11 feet, and 11 to 14 feet bgs) for a total of six depth intervals.

Analytes Measured

Soil samples will be analyzed for pesticides/PCBs. Boring logs will be prepared from continuous cores collected in the field.

4.1.2 Phase 2B: ECI Property West and Outside of the Historical Stormwater Pathway

Lateral Extent

Currently, there are limited soil sampling data for areas west and outside of the Historical Stormwater Pathway; however, these data indicate comparatively low levels of Montrose –

related soil contamination. Phase 2B is intended to confirm the extent of Montrose-related soil contamination and delineation of the historical stormwater pathway. Therefore, a larger sample spacing was considered adequate.

The proposed sample spacing for Phase 2B sampling uses an extension of the 30-foot square grid pattern, with sampling only on alternate (60-foot centered) nodes, for a total of 26 sampling locations (see yellow sampling symbols in Figure 7). Sampling is limited to between one and two node distances from the estimated western limit of the Historical Stormwater Pathway, or in areas of known excavation at the ECI Property. (Information submitted to EPA on behalf of ECI indicated that excavation has occurred along the southern portion of the property both as part of the work conducted preparing the property for resale in 2005, and at a prior date to install stormwater collection system piping within the ECI Property.)

If soil sample analytical results from Phase 2B sampling exceed of the criteria presented in the DQOs, additional soil sampling may be required in a subsequent phase of field investigation.

Vertical Extent

The Phase 2B sampling area is presumed to be outside the extent of the historical stormwater pathway; therefore, a theoretical sampling depth of 10 feet, modified for actual sampling depth intervals, is used. Soil sample collection will extend from the ground surface according to the following depth intervals: 0 to 6 inches, 6 to 24 inches, and then at 3-foot increments (2 to 5 feet, 5 to 8 feet, and 8 to 11 feet) down to 11 feet bgs, for a total of five sample intervals.

Analytes Measured

All soil samples for Phase 2B will be analyzed for pesticides/PCBs. Boring logs will be prepared from continuous soil cores collected in the field.

4.1.3 Geotechnical Soil Tests

The following geotechnical soil tests will be performed to evaluate any necessary remedial alternatives for excavation and disposal:

- Atterberg Limits (American Society for Testing and Materials [ASTM] D-4318)
- Gradations w/Hydrometer (ASTM D-422)
- Moisture Content (ASTM D-2216)
- Density (ASTM D-2937)
- Direct Shear (ASTM D-3080)

Geotechnical samples will be collected from borings advanced adjacent to five of the soil boring locations, three from within the LACFCD Easement and Easement Buffer (P1-04, P1-11, and P1-19) and two from within residential properties (R-40 and R-26) (Figure 7). Other boring locations may be substituted in the field based on accessibility. Boring locations will be finalized in the field. The geotechnical samples will be taken at 5-foot depth intervals to a maximum depth of 20 feet bgs using a standard penetration test (SPT) California-modified ring sampler. The soil boring log will be evaluated to determine which

geotechnical samples to submit to the laboratory for analysis. Up to two geotechnical samples from each of the five proposed geotechnical borings will be sent to the laboratory for analysis of Atterberg Limits, Gradations w/Hydrometer, and Moisture Content. One sample from three of the proposed boring locations (P1-04, P1-09, and R-40, or other locations based on accessibility) will be analyzed for Density and Direct Shear. The samples for Direct Shear and Density will be collected with the SPT ring sampler using a mobile direct-push rig equipped with a percussion-drive attachment. If difficulty in the use of the SPT ring sampler is experienced due to equipment limitations or refusal, then a direct-push soil core in an acetate liner or loose soil sample in a glass jar could be submitted for analysis of Atterberg Limits, Gradations w/Hydrometer, and Moisture Content.

4.1.4 Sampling of IDW

IDW will consist of: soil from soil sampling, water from decontamination of field sampling and direct-push equipment, concrete or asphalt debris from surface cuts for the borings, and used personal protective equipment (PPE) (e.g., used gloves, Tyvek® suites, boot covers, etc.). IDW will be stored in 55-gallon drums, sealed, and properly labeled pending analytical results for disposal of the waste materials to an EPA-approved TSDF.

The following subsections describe the IDW that will be generated as part of this FSP, and the sampling procedures that will be used to characterize them for proper disposal.

IDW Soil

IDW soil cuttings will be generated during drilling and soil sample collection. Waste soil cuttings will be placed in Department of Transportation (DOT) 17H 55-gallon drums, sealed and properly labeled. A composite soil cutting sample will be collected from each drum and analyzed for the following chemical constituents (as required by receiving facilities):

- Pesticides/PCBs
- TPH-g
- TPH-d
- VOCs
- Metals: Total threshold limit concentration (TTLC)

The analyses for IDW soil are carried out on the leachate following the regulatory procedure for the toxic constituent list (Toxicity Characteristic Leaching Procedure [TCLP] per Federal regulation and Soluble Threshold Limit Concentration [STLC] per State Regulation); the list as well as the regulatory procedures and criteria are presented in the QAPP Tables A.1 and A.2.

While other chemical analyses may be requested by the receiving facilities, the full spectrum of chemical analyses that will be conducted through this FSP is presented in the QAPP.

IDW Water

IDW water will be generated during the decontamination of field sampling equipment. IDW water will be placed in DOT 17H 55-gallon drums, sealed, and properly labeled. One IDW water sample per drum will be collected and analyzed for the following chemical constituents:

- Pesticides/PCBs
- TPH-g
- TPH-d
- VOC
- Metals

The rationale for the chemical analyses listed above is based on review of regulatory levels, as described in the companion QAPP (EPA, 2006a), Tables A.1 and A.2, and the waste profiling requirements from local TSDFs. Additional or fewer chemical constituent chemical analyses may be requested by the receiving facilities; the full spectrum of analyses that can be requested has been covered in the QAPP.

IDW Concrete/Asphalt Debris and PPE

IDW concrete and asphalt debris generated from surface cuts for the soil borings will be drummed and disposed at an approved TSDF. Used PPE where Level D site safety protocols are required will be bagged and disposed of in industrial dumpsters as nonhazardous waste. Heavily soiled PPE, or PPE used at locations that require a higher level of personal protection than Level D, will be bagged and stored separately pending analytical results from the soil sampling from that location. If the analytical results indicate that IDW soil generated are hazardous, the heavily soiled PPE will be disposed of as hazardous waste. The analyses will be as for soil above.

4.2 Laboratory Analyses

Analysis of soil samples collected by EPA for pesticide analyses and geotechnical analyses will be performed at an offsite laboratory through the Contract Laboratory Program (CLP). If the samples are not analyzed by a CLP laboratory, then the alternative laboratory must meet the analytical and quality assurance/quality control (QA/QC) requirements specified in the QAPP, and pesticides/PCBs analyses will be conducted using SW 846 procedures (e.g., EPA Method 8081A). All method analytes (Target Analyte List, TCL), including the isomers of total DDT and BHC, will be analyzed and reported.

DDT results will be reported for both individual isomers (4,4'-DDE; 4,4'-DDD; 4,4'-DDT; 2,4'-DDE; 2,4'-DDD; and 2,4'-DDT) and total DDT. Analytical results for BHC will be reported for its alpha-BHC, beta-BHC, delta-BHC, and gamma-BHC isomers and total BHC (the sum of the concentrations of these isomers).

4.3 Number of Samples

The number of soil samples for each phase of this FSP is summarized in Table 4-1. A total of 792 soil samples will be collected in Phase 1, and between 351 and 384 soil samples will be collected in Phase 2 (depending on the number of collocated samples collected), for a total of between 1,143 and 1,176 soil samples. Soils samples will be analyzed for pesticides/PCBs. In addition, an estimated 31 equipment blanks will be collected and analyzed for pesticides/ PCBs. An estimated seven (7) IDW soil samples and 10 IDW water samples will be analyzed for VOCs, Title 22 metals, pesticides/PCBs, TPH-g, and TPH-d (Tables 5-2A

and 5-2B). An estimated 36 soil samples will be analyzed for geotechnical parameters (Table 5-2C).

5.0 Request for Analyses

This section provides a description of the soil sampling analytical program including the analyses and types of laboratories being used and the sample schedule.

5.1 Request for Analysis

This section presents the requests for analyses (RFAs) for the samples that will be collected during field activities. Table 5-1 presents the RFA for the soil boring samples and Table 5-2 presents the RFA for IDW soil samples (from soil cuttings) and water samples (from decontamination of equipment). Tables 5-1A and 5-1B summarize the analyses, test methods, preservatives, and sample container requirements for soil samples that will be collected during Phase 1 and Phase 2, respectively. This information is provided for the IDW soil and IDW water in Tables 5-2A and 5-2B, respectively. The laboratory is expected to meet the specified detection limits for the compounds shown in Table A-5 of the companion QAPP (EPA, 2006a). Table 5-3 presents the RFA for geotechnical samples.

The following requests will be made of the laboratory:

- All analyses will be performed using CLP (or equivalent) methods as described above.
- Samples submitted for DDT analysis will be analyzed for all isomers of DDT, including 4,4′-DDE; 4,4′-DDD; 4,4′-DDT; 2,4′-DDE; 2,4′-DDD; and 2,4′-DDT. The laboratory will report both the individual isomer concentrations and the sum of the isomers (total DDT).
- Samples submitted for BHC analysis will be analyzed for all isomers of BHC, including alpha-BHC, beta-BHC, delta-BHC, and gamma-BHC (Lindane). The laboratory will report both the individual isomer concentrations and the sum of the isomers (total BHC).
- Special handling will be requested for the BHC analysis to address the BHC isomers (alpha-, beta-, delta, and gamma-BHC) as described above.
- The laboratory will homogenize soil samples prior to analysis for pesticides. Because of the need to preserve sample integrity, this procedure will not be used for IDW soil VOC samples.
- For Phase 1B sampling, a turnaround time of 96-hours will be requested for laboratory results to expedite the assessment of the adequacy of the sampling density and to identify whether additional field sampling is required. The remaining sampling analysis (Phase 2 and IDW) will have standard CLP turnaround time requested.

5.2 Analytical Laboratories

For samples utilizing the EPA CLP, a specific laboratory is not identified in this FSP, but rather will be assigned consistent with the analytical requirement in the QAPP, and as described further below.

A request for laboratory sample analysis (RLSA) and data evaluation form (Appendix A) will be completed and submitted to the EPA Region 9 Regional Sample Control Center (RSCC) Coordinator four (4) weeks in advance of the sampling event, with copies going to the Remedial Project Manager (RPM) and the sampling team leader. The laboratory selection and management process will follow overall Response Action Contract (RAC) 9 guidance. Selection of laboratories will be based on past projects for the region and review of laboratory standard operating procedures, past audit reports, example sample data packages, copies of certifications, or method detection limit (MDL) studies requested during competitive selection of the laboratories (e.g., the request for proposal process). The RLSA to be submitted to EPA prior to each sampling event will include RFA tables similar to Tables 5-1 or 5-2 and will incorporate any modifications proposed from the plan outlined herein.

5.3 Sampling Schedule

The field sampling program will be conducted in two phases, with the first phase anticipated to begin in June 2006. The duration of sampling is estimated to be approximately 6 weeks. Results from Phase 1 with rapid turn-around time (96 hours) for analysis will be used to evaluate the adequacy of the proposed Phase 2 sampling design and to determine if additional sampling associated with Phase 1 is necessary. Phase 2 sampling is anticipated to begin later in the summer of 2006.

6.0 Field Methods and Procedures

This section provides the methods and procedures for the following field activities related to the collection, packing, and shipping of the samples including:

- Sample Locations
- Drilling and Sample Collection
- Investigation Derived Waste
- Sample Management Procedures and Documentation
- Sample Documentation
- Quality Control Samples

6.1 Sample Locations

Soil boring locations will be identified in the field and laid out with high resolution Global Positioning System (GPS) according to the coordinates identified in Table 4-2; however, the final boring locations will be contingent on a site walk and clearance of underground utilities, debris, and other obstructions.

All boring locations will be cleared for underground utilities by notifying appropriate services such as Underground Service Alert. A geophysical utility clearance will be obtained in selected areas if there is a potential for buried pipelines, debris, or other subsurface obstructions. In locations where utilities may be present, the borings may be hand-augured to 5 feet prior to utilizing the direct-push rig.

After the borings have been completed, a certified land surveyor will survey the locations of sample borings, and transpose them onto a georeferenced aerial image. Coordinates for each boring location will be identified and provided by the surveyor in Universal Transverse Mercator (UTM), Zone 11, North American Datum (NAD) 1983 coordinate system. Soil sampling locations and ground elevations (in feet above msl) will be surveyed to the nearest 0.05 foot. The surveyed control information for data collection points will be recorded and displayed in a table. The survey results table will give the easting (X) and northing (Y) coordinates in UTM, Zone 11, NAD 1983 coordinate system and the ground surface elevation.

6.2 Drilling and Sample Collection

6.2.1 General Drilling Requirements

General drilling requirements include:

- Clearing boring locations for underground utilities as described above in Section 6.1.
- Steam cleaning downhole tools and equipment (using potable water) before advancing the boring. All decontamination rinsate will be containerized within 55-gallon drums. Potable water will be used, which will be provided by the drilling subcontractor.

- Proper handling and containerizing of IDW wastes.
- Maintaining a record of field activities in a field notebook.
- Restoring the sampling area to its original condition.

Soil samples will be collected using a direct-push drill rig or hand auger.

When using a direct-push drill rig to collect soil samples, if the drill point encounters refusal, due to a subsurface obstruction such as concrete debris or buried footings, additional drilling attempts will be made by "stepping out" the drill rig from the target location. However, in order to maintain the sample grid integrity, the maximum step-out distance will be limited to half the distance to the next target location (i.e., a maximum 15-foot step-out for the 30-foot sample grid in Phase 1A and a maximum 10-foot step out for the 20-foot sample grid in Phase 1B).

Drilling will continue until either the borehole is advanced and samples are collected, or refusal has been met three consecutive times. If the direct-push rig is unable to reach the specified sample depth, alternative rigs may be required.

6.2.2 Soil Logs

Soils cores will be collected and logged by an experienced geologist or engineer under the direction of a California Professional Geologist or Professional Civil Engineer. The log will include lithologic descriptions along with notations on drilling activities and conditions encountered during drilling. The soil core will be described (logged) using the Unified Soil Classification System (USCS) in accordance with ASTM D 2488-84. The format and order for soil core descriptions will be as follows:

1. USCS soil name with appropriate modifiers
2. USCS soil group symbol
3. Color (using Munsell color chart book) at moist conditions, including mottling
4. Field moisture content (dry, moist, or wet)
5. Relative density or consistency
6. Percentage estimates of fines, sand, and gravel
7. Soil tests performed (if necessary)
8. Angularity, mineralogy, degree of weathering , or other descriptors

Additionally, soil cores will be photographed when a notable field observation is made (e.g., soil staining or crystals, if present).

6.2.3 Direct-Push Sampling

A direct-push sampler will be used to collect soil cores and soil samples. The core barrel of the direct push sampler will contain a 3- foot-long acetate sample sleeve in which to collect soil cores. The core barrel of the sampler will be pushed in 3-foot intervals. At each interval, a soil sample will be collected. The core barrel and drill rig extensions will be removed from the borehole and decontaminated before the next sample is collected.

The 3- foot-long acetate sleeve will be cut into sections using a hand saw for the 6-inch and 18- to 24-inch soil samples. Teflon squares will be placed over the ends of the acetate sleeve sections and capped with plastic caps.

For the 3-foot soil core samples, depending on the laboratory's preference, the soil from the entire sleeve will be placed in a jar, or split as needed for QA samples. Each sample will then be sealed for chain of custody, placed in a resealable plastic bag, and immediately placed in a cooler with ice for shipment to a certified laboratory for analysis. The laboratory will be instructed to homogenize the sample prior to selecting a portion for analysis.

Geotechnical samples for Direct Shear and Moisture Content/Density will be collected with the SPT ring sampler using the mobile direct-push rig equipped with a percussion drive attachment. If difficulty in the use of the SPT ring sampler is experienced due to equipment limitations or refusal, then a direct-push soil core in an acetate liner or loose sample in a jar may be submitted for analysis of Atterberg Limits and Gradations w/Hydrometer.

6.2.4 Other Sampling Methods

Other sampling methods may be required when a sampling location is not accessible to a direct-push sampling rig. For example, a slide hammer may be used to collect samples.

A slide hammer is used to drive a single, 2-inch-diameter by 6-inch-long stainless steel sleeve into the soil matrix. The sampler is driven 6 inches into the bottom of the boring, or until refusal is encountered. The sampler then is retrieved, and sample recovery is estimated from the volume of soil in the stainless steel sleeve.

If the soil volume recovered appears sufficient, the sleeve ends will be sealed with Teflon tape and plastic caps, labeled, sealed with custody seals, placed in a resealable plastic bag, and immediately placed in a cooler with ice for shipment to a certified laboratory for analysis. The certified laboratory will be instructed to homogenize the soil sample prior to selecting a portion for analysis. However, if the volume of soil sample recovered is determined to be insufficient for chemical analysis, then collected soil cuttings from the depth interval of interest will be collected in a sample jar and used for analysis.

6.2.5 Boring Abandonment

After sample collection, each boring will be backfilled with neat cement grout or bentonite-cement grout. The grout mixture will be tremmied from the bottom to the top each borehole's annular space in one continuous operation. In sample locations overlain by asphalt or concrete, the top of each borehole will be capped to match the existing grade material (e.g., concrete or black-dyed concrete for asphalt surfaces), at the preference of the property owner or his representative.

6.2.6 Field Screening

Soil samples will be field screened for VOCs using a flame ionization detector (FID) as well as a photoionization detector (PID). Field instruments will be calibrated daily for field screening in accordance with the manufacturer's instructions (either hexane or isobutylene).

For field screening, a soil sample will be placed and sealed in a resealable plastic bag before being disaggregated. After the disaggregated soil sample is allowed to volatilize for

approximately 5 to 10 minutes in the bag, the bag will be pierced with one of the instrument probes, and the concentration of VOCs in the plastic bag's headspace will be measured and recorded on the boring log.

6.2.7 Equipment Decontamination

Before and after drilling activities, drilling equipment, such as direct-push rods and hand augers will be decontaminated by steam-cleaning and allowed to air dry. Field sampling equipment such as the split-spoon samplers and stainless steel sleeves that directly or indirectly may contact samples will be decontaminated in a designated decontamination area. Field sampling equipment will be decontaminated before and after each use using the following procedures:

- Place equipment into a plastic tub or 5-gallon bucket
- Scrub and wash equipment with a solution of potable water and Alconox, or an equivalent laboratory-grade detergent (nonphosphate)
- Rinse with tap water
- Rinse with trace-element-grade 0.1 N nitric acid solution; rinse off trace-element-grade 0.1 N nitric acid solution with laboratory-supplied Type II reagent-grade water (for IDW soils and water samples only)
- Rinse with pesticide-grade methanol (pesticide-free) solvent
- Rinse with high-performance liquid chromatography (HPLC), organic-free reagent water
- Air-dry equipment on a clean surface of Teflon, stainless steel, or oil-free aluminum

Cleaned equipment will be stored in a clean area. Potentially contaminated equipment will be restricted to the decontamination area until it is cleaned. Rinse water and decontamination fluids will be transferred from cleaning containers to labeled 55-gallon drums, sealed, labeled, and placed in temporary storage prior to proper disposal.

An area will also be set up adjacent to the decontamination area for PPE decontamination. Black plastic garbage bags will be used to dispose of used Tyveks®, gloves, and other PPE.

6.3 Investigation-Derived Waste

IDW will consist of soil cuttings, PPE, decontamination water, and trash.

IDW will be disposed of at an appropriate state or federally approved waste disposal facility. Hazardous waste will be disposed of at a Class 1 waste disposal facility within 90 days of collection. Representative waste samples will be collected for chemical analysis and waste profiling as soon as practicable. Samples will be analyzed in accordance with the requirements of the disposal facility and state and federal regulations. Waste materials, such as soil cuttings, concrete/asphalt cores, and debris will be placed and stored in DOT 17H 55-gallon steel drums. Waste water from decontamination activities will also be placed and stored in DOT-rated 55-gallon steel drums. Each drum will be clearly marked to

indicate the date of collection, its waste contents, and other generator information. Prior to offsite disposal, the drums will be labeled with appropriate DOT identification and classification information.

Used PPE and other disposable equipment used at locations where Level D site safety protocols are required will be bagged and characterized as nonhazardous and disposed in industrial dumpsters. Heavily soiled PPE or PPE used at locations requiring a higher level of personal protection than Level D will be bagged and stored separately pending analytical results from the soil sampling. If the analytical results indicate that wastes generated at the Site were hazardous, the heavily soiled PPE will be characterized and disposed as hazardous waste.

6.4 Sample Management Procedures and Documentation

The following section discusses various sample management procedures that will be followed during the performance of field activities. Included in these subsections are procedures for sample packaging and transportation, sample labeling, and sample documentation. Additional procedures are included in Appendix B.

6.4.1 Sample Numbering and Labeling

The sample number will consist of the boring location number followed by a hyphen and the depth of the top of the sample interval in feet bgs. For example, a sample collected at 5 to 8 feet bgs in Boring R01 would have the sample number R01-5. CLP sample IDs will be used on the samples submitted to CLP laboratories.

The following information will be written on each sample container label with a permanent marker and covered with clear plastic tape:

- Sample number
- Type of analysis required
- Date and time of sample collection

6.4.2 Sample Packaging and Shipment

The following procedures will be used to prepare the sample coolers for shipment:

1. Remove any old labels on the outside of the cooler.
2. Seal all drain plugs with tape (inside and outside).
3. Place a cushioning layer of bubble wrap on the inside bottom of the cooler.
4. Line the cooler with a large plastic bag to contain leaks.
5. Double-bag all ice in resealable plastic bags and seal.

The following procedures will be used to pack the samples into coolers:

- Place the chain-of-custody (COC) form in a resealable bag, seal it, and tape it to the underside of the cooler lid.
- Package all glass sample containers in bubble wrap, secured with clear mailing tape.
- Place custody seals over the cooler's lid seam.

- Sealed samples will be placed in individual resealable bags labeled with the sample number.
- Place samples in an upright position in the cooler.
- Pack any remaining cooler void spaces with double-bagged ice.

The cooler will be taped shut with strapping tape, and two custody seals will be taped across the cooler lid, one in the front and one in the back. The samples then will be shipped or hand-delivered to the CLP analytical laboratory.

Sample coolers s will be packaged for shipment and dispatched to the appropriate laboratory for analysis. A separate COC record will accompany each shipping container. Samples will be shipped by an overnight commercial courier service. Saturday deliveries to the laboratory must be cleared with laboratory personnel in advance to ensure that sample COC and holding times are not compromised.

6.5 Sample Documentation

Throughout the project, sample documentation records will be maintained for a variety of activities and QC requirements including daily records, weekly records, photographs, completion reports, and COC forms. This section describes the various methods that will be used by the project team to document the results of the soil sampling effort.

6.5.1 Daily Records

Bound and numbered field logbooks will be used to record sampling information. Information in the logbooks will include the following information:

- Name and title of the recorder
- Date and time of entry record
- Weather conditions
- Names of Field Personnel involved; with the field activities
- Photographic log, if appropriate
- Description of sampling location
- Sample description (e.g., soil sample, its location, date and time of collection, the chemicals or parameters to be analyzed or tested, and its sample identification number)
- Locations of duplicate and QC samples
- Names of visitors, their associations, and purpose of visit

Any deviations from the FSP Daily field records will be completed, signed, and dated by the recorder. All records will be written using waterproof ink. Any corrections will be made by crossing out the error with a single horizontal line, initialing the correction, and entering the correct information. Crossed-out information shall be readable.

6.5.2 Weekly Records

The weekly summary report (record) will describe the progress of sampling activities and any changes in field activities that may have occurred.

6.5.3 Photographs

Photographs will be taken to document the sampling effort and work conditions. Photographs of locations near a given sampling area may be taken in order to orient the viewer to its location. The photographs may also be used to provide backup documentation of procedures and/or unusual subsurface conditions encountered. The frame number (and roll number where applicable) corresponding to the sample location will be recorded in the field logbook. The camera used will be equipped with a device to record the date and time on the photograph. Photographs will be taken at all locations where entry into a residential property is required. Photographs will be taken to document pre- and post-work conditions.

6.5.4 Completion Report

The completion report will document the significant events of the sampling effort and will include, by reference, any other relevant reports and inspections.

6.5.5 Chain-of-Custody Forms

COC procedures will be used to maintain and document environmental sample collection and transfer.

The COC forms will be filled out and distributed as per the instructions for sample shipping and documentation in Appendix B.

6.6 Quality Control Samples

A field QC program, conforming to procedures outlined in the QAPP, will be implemented to help maintain the required level of confidence in the field data and to provide cross-checks on the laboratory performing the analyses. QC samples, such as trip blanks, duplicates, and matrix spikes will be collected routinely. QC samples will be collected for each analyte. Field QC sampling will follow EPA protocols and include the collection of the following:

- Duplicate samples for pesticides/PCBs, VOCs, and metals
- Equipment rinsate samples using Type II reagent water
- Daily trip blanks for VOCs (per Section 6.6.3)
- Matrix spike/matrix spike duplicate (MS/MSD) samples

QC samples are described in detail in the following sections.

6.6.1 Duplicate Samples

A field duplicate sample is a second sample collected at the same location as the target sample. Duplicate samples are collected simultaneously or in immediate succession, using identical recovery techniques, and treated in an identical manner during storage,

transportation, and analysis. The sample containers are assigned identification numbers in the field such that they cannot be identified (blind duplicate) as duplicate samples by laboratory personnel performing the analysis. Specific locations are designated for collection of field duplicate samples prior to the beginning of sample collection.

Duplicate samples will be collected to assess the reproducibility of field sampling methods and the repeatability of laboratory analysis. Duplicate samples will be collected at an approximate frequency of 10 percent for all parameters analyzed for the original sample.

For duplicate pesticide/PCB soil samples, soil will be mixed in a stainless steel bowl or disposable cardboard bucket in the field. The homogenized soil will be divided into two equal portions and each portion will be placed in a separate glass jar. One portion will be used as the target sample and the other portion will be used as the duplicate sample. If insufficient sample volume exists, additional sample will be collected in a successive push or hand-augered sample and added before mixing.

6.6.2 Equipment Rinsate Samples

Daily equipment rinsate samples will be collected on the sampling equipment used in soil sampling to assess the effectiveness of equipment decontamination procedures and to evaluate the potential for cross-contamination between sample locations. Equipment rinsate blank samples will be collected using Type II reagent-grade water. A daily sample will be collected from the last batch of equipment decontamination rinsate. The sample will be analyzed for all laboratory analyses requested for the soil samples collected at that location.

6.6.3 Trip Blanks

Trip blank samples will be prepared by the laboratory and submitted on field days involving VOC sample collection.

6.6.4 Laboratory Quality Control Samples

Laboratory QC samples (i.e., MS/MSDs) will be collected in accordance with SW 846 sampling protocols. One MS/MSD sample will be designated for every 20 field samples or for each 14-day sampling period, whichever is the more frequent. A triple volume of soil will be needed when MS/MSD samples are required. The first soil volume is for the target sample; the soil second volume for the MS analysis; and the third volume for the MSD duplicate analysis.

Collection of MS/MSDs must be coordinated with the laboratory. The sample will be identified and denoted as an MS or MSD on the sample container and the COC record.

6.6.5 Temperature Blanks

Temperature blanks will be included with each sample shipment to the laboratory. A temperature blank is a small plastic container filled in the field with deionized water and handled like an environmental sample. The temperature blank provides a means of verifying that samples received have been maintained at the proper temperature (4 degrees Celsius [°C] or less) following collection and transport to the laboratory.

7.0 Health and Safety

A site-specific Health and Safety Plan (HSP) has been prepared for field activities associated with the soil investigation of the Study Area (Appendix C). The HSP identifies the potential hazards that may be encountered during performance of the subsurface investigation. The HSP is consistent with current Federal and State Occupational Safety and Health Administration (OSHA) requirements for hazardous waste operations (29 Code of Federal Regulations [CFR] 1910.120 [e] and [f] and California Code of Regulations [CCR] Title 8, Section 5192). All field personnel will be required to read and sign the HSP prior to beginning work at the site. A brief meeting will be held at the start of each workday to remind field personnel of the potential hazards and other health and safety issues associated with the sampling program. A written record of the daily safety meeting will be kept, and a copy of the HSP will be maintained at the site during field activities.

All drilling and soil sampling activities will be conducted in modified Level D PPE in accordance with the site-specific HSP. No significant dust generation or elevated VOC concentrations in the breathing zone are anticipated during drilling activities using the direct-push sampling method; however, water may be used to suppress dust generation during hand-auger drilling. An MIE pdm-3 MiniRam meter will be used to monitor dust and particulate levels throughout the work area during drilling and soil sampling activities. Similarly, VOC concentrations in the breathing zone will be monitored using a PID and FID.

Sampling and monitoring equipment will be calibrated at the start of each work day. All field air monitoring readings will be recorded in a field logbook and included in the soil investigation report. To prevent any dermal contact with contaminated soil all field personnel involved with drilling and soil sampling are required to wear modified Level D PPE including, at a minimum, nitrile inner sampling gloves and a Tyvek® suit.

8.0 References

California Department of Water Resources (CDWR). *Planned Utilization of the Ground Water Basins for the Coastal Plain of Los Angeles County,* Appendix A, Ground Water Geology. Bulletin No. 104. 1961

Ecology Control Industries (ECI). 2005. Response to June 14 and 24, 2005, EPA 104E Letters Requesting Additional Site Investigation Information for Ecology Control Industries Property, 20846 Normandie Avenue, Torrance California. Prepared by Haley & Aldrich, Inc. for Ecology Control Industries. July.

Los Angeles County Department of Public Works (LACDPW). 1969. As-built construction drawings for Project 685. Los Angeles County Flood Control District Project No. 685 Kenwood Avenue (Supplemental) Drawing Numbers 428-D4.44 to 428-D4.52 and 428-RW3.1

U.S. Environmental Protection Agency (EPA). 1988. Office of Emergency Response and Remedial Response. *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, Interim Final.* EPA/540/G-89/004, OSWER Directive 9355.3-01. October.

_____. 1993. *Preliminary Assessment Report, Akzo Coatings, Inc., EPA ID No. CAD085941789.* January 12.

_____. 1998. *Final Remedial Investigation Report for the Montrose Superfund Site, Los Angeles, California*. Originally prepared by Montrose Chemical Corporation of California and revised by U.S. EPA, Region 9. May 18.

_____. 2001a. *Action Memorandum: Request for Removal Action for Kenwood Drainage Pathway, Montrose Chemical Superfund Site (CAD008242711), Los Angeles County, California.* June 8.

_____. 2001b. *CERCLA Removal Action Memorandum for the Kenwood Water Drainage Pathway*. October 12.

_____. 2002. Completion Report, Removal Action, Kenwood Storm Water Drainage Pathway, Montrose Chemical Superfund Site, Los Angeles, California. Prepared by Project Resources Inc. (5 volumes). July.

_____. 2005a. Technical Memorandum: Analysis of the Extent off the Historical Stormwater Pathway South of Torrance Boulevard, Montrose Chemical Superfund Site, Los Angeles County, California. Prepared for EPA by CH2M HILL. October 17.

_____. 2005b. Memorandum: Request for Time Critical Removal Action for Soil Piles and Excavations at 20846 Normandie Avenue, Historical Stormwater Pathway – South (OU6), Montrose Chemical Superfund Site, Los Angeles County, California, Site ID Number: 0926. November 2.

_____. 2005c. Unilateral Administrative Order for the Performance of a Removal Action, U.S. EPA Region 9 CERCLA Docket No. 9-2006-02-A. Issued to Ecology Control Industries, Mr. Ronald Flury and Montrose Chemical Corp. of California, Respondents. December 15.

_____. 2006a. Draft *Quality Assurance Project Plan – Soil Investigation for Historical Stormwater Pathway – South, Montrose Chemical Superfund Site, Los Angeles County, California*. Prepared by CH2M HILL. March.

_____. 2006b. *Technical Memorandum: Sampling Rationale – Soil Investigation for Historical Stormwater Pathway – South, Montrose Chemical Superfund Site, Los Angeles County, California*. Prepared by CH2M HILL. March.

Tables

Table 2-1. Summary of Detected Pesticides/PCBs and TPH in Soil Samples
ECI Property, 20846 Normandie Avenue, Torrance, CA

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Boring ID	Sample Number	Sample Date	Depth (feet)	Total DDT	4,4'-DDD	4,4'-DDE	4,4'-DDT	Chlordane	cis-Chlordane	gamma-Chlordane	Dieldrin	Alpha-BHC	Beta-BHC	Delta-BHC	Gamma-BHC	Aroclor 1254	Aroclor 1260	TPH-Gas	TPH-Diesel	TPH-Oil
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
UNK	DUP-01-060205	06/02/05	NA	3.0	1.4	1.2	0.4	0.0085 U	--	0.001 U	0.002 U	0.001 U	0.001 U	0.001 U	0.001 U	0.072	0.043			
EX-SB03-BE1-02	EX-SB03-BE1-02	03/17/05	2	0.0	0.0065	0.0036	0.0077	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.028	0.081			
EX-SB03-BE2-02	EX-SB03-BE2-02	03/17/05	2	0.0	0.01	0.014	0.024	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.024	0.057			
EX-SB03-BEA-04	EX-SB03-BEA-04	05/17/05	4	0.1	0.0051	0.0089	0.091	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.01 J	0.044			
EX-SB03-BTH-05	EX-SB03-BTH-05	05/27/05	5	0.0	0.0081	0.0032	0.0053	0.005 U	0.001	0.0013	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.009 J			
EX-SB03-BTCC-06	EX-SB03-BTCC-06	06/09/05	6	0.0	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB03-BTJ-05	EX-SB03-BTJ-05	06/02/05	5	0.0	0.0005 U	0.0005 U	0.0008 J	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.016 U	0.016 U			
EX-SB03-BW1-02	EX-SB03-BW1-02	03/17/05	2	0.0	0.0064	0.0095	0.017	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.018	0.005 U			
EX-SB03-BW2-02	EX-SB03-BW2-02	03/17/05	2	0.0	0.0055	0.0055	0.0083	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.023	0.03			
EX-SB03-SE-01	EX-SB03-SE-01	03/17/05	1	0.1	0.01 U	0.01 U	0.059	0.1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.25	1.3			
EX-SB03-SEF-03	EX-SB03-SEF-03	05/27/05	3	0.0	0.0066	0.0032	0.0093	0.015	0.0006 J	0.0019	0.001 J	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.031			
EX-SB03-SN-01	EX-SB03-SN-01	03/17/05	1	0.3	0.054	0.05	0.21	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.031	0.075			
EX-SB03-SNB-03	EX-SB03-SNB-03	05/17/05	3	0.0	0.011	0.0044	0.0005 U	0.026	0.0034	0.0033	0.0066	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB03-SNBB-03	EX-SB03-SNBB-03	06/09/05	3	0.0	0.0033	0.002 J	0.014	0.007 J	0.0005 U	0.0005 U	0.0005 J	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.01 J			
EX-SB03-SNC-03	EX-SB03-SNC-03	05/17/05	3	0.0	0.006	0.0046	0.006	0.005 U	0.0005 U	0.0005 U	0.001 J	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.019	0.037			
EX-SB03-SNE-03	EX-SB03-SNE-03	05/27/05	3	0.0	0.0094	0.0051	0.014	0.015	0.0014	0.0018	0.002 J	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.052			
EX-SB03-SNR-05	EX-SB03-SNR-05	06/02/05	5	0.0	0.01	0.01	0.023	0.016	0.0015	0.0017	0.0023	0.001 U	0.001 U	0.001 U	0.001 U	0.031	0.083			
EX-SB03-SS-01	EX-SB03-SS-01	03/17/05	1	0.0	0.0082	0.0043	0.022	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.017	0.005 U			
EX-SB03-SW-01	EX-SB03-SW-01	03/17/05	1	0.0	0.014	0.0095	0.021	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.046	0.005 U			
EX-SB03-SWAA-03	EX-SB03-SWAA-03	06/09/05	3	0.0	0.0029	0.001 J	0.02	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.007 J			
EX-SB03-SWG-03	EX-SB03-SWG-03	05/27/05	3	0.0	0.0044	0.0074	0.0066	0.012	0.0013	0.0017	0.0045	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.029			
EX-SB03-SWI-03	EX-SB03-SWI-03	06/02/05	3	0.0	0.0066	0.0028	0.0054	0.005 U	0.001 J	0.0007 J	0.0005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.026	0.057			
EX-SB05-BN-12	EX-SB05-BN-12	03/17/05	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 U	33	66
EX-SB05-BS-12	EX-SB05-BS-12	03/17/05	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 U	60	150
EX-SB05-BTAA-15	EX-SB05-BTAA-15	06/03/05	15	9.1	3.5	0.36	5.2	0.5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.005 U	0.022			
EX-SB05-BTBB-15	EX-SB05-BTBB-15	06/03/05	15	9.2	3.3	0.78	5.1	0.5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.005 U	0.029			
EX-SB05-BTFF-09	EX-SB05-BTFF-09	06/03/05	9	5.4	1.4	0.42	3.6	0.5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.021	0.017			
EX-SB05-BTI-07	EX-SB05-BTI-07	05/18/05	7	0.0	0.026	0.005 J	0.011	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.005 U			
EX-SB05-BTII-09	EX-SB05-BTII-09	06/08/05	9	0.8	0.55	0.086	0.15	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0023	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB05-BTJ-12	EX-SB05-BTJ-12	05/18/05	12	17.7	10	0.9	6.8	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.063			
EX-SB05-BTN-09	EX-SB05-BTN-09	05/26/05	9	0.3	0.21	0.025	0.049	0.025 U	0.0025 U	0.0005 U	0.0005 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.005 U			
EX-SB05-BTO-09	EX-SB05-BTO-09	05/26/05	9	1.2	0.44	0.11	0.63	0.1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U			
EX-SB05-BTS-12	EX-SB05-BTS-12	03/17/05	12	33.3	19	1.3	13	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.11	0.071			
EX-SB05-BTW-07	EX-SB05-BTW-07	06/02/05	7	3.5	1.6	0.3	1.6	0.5 U	0.05 U	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	0.022	0.01J			
EX-SB05-BTX-07	EX-SB05-BTX-07	06/02/05	7	0.0	0.0084	0.001 J	0.011	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.016 U	0.016 U			
EX-SB05-SE-05	EX-SB05-SE-05	03/17/05	5	325.1	12	3.1	310	0.005 U	0.0005 U	0.0005 U	0.012	0.0005 U	0.0023	0.0005 U	0.0005 U	0.005 U	0.005 U	1 U	18	37
EX-SB05-SE-10	EX-SB05-SE-10	03/17/05	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 U	160	440
EX-SB05-SECC-05	EX-SB05-SECC-05	06/03/05	5	10.5	0.97	0.87	8.7	0.5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U			
EX-SB05-SED-05	EX-SB05-SED-05	05/18/05	5	11.5	0.92	1.1	9.5	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB05-SEE-05	EX-SB05-SEE-05	05/18/05	5	13.7	3.3	1.6	8.8	0.005 U	0.0005 U	0.0005 U	0.003	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.045	0.005 U			
EX-SB05-SEHH-05	EX-SB05-SEHH-05	06/08/05	5	69.0	13	2 J	54	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.005 U			
EX-SB05-SEL-05	EX-SB05-SEL-05	05/26/05	5	6.5	0.62	0.7	5.2	0.5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.063	0.032			
EX-SB05-SER-05	EX-SB05-SER-05	05/26/05	5	1.7	0.19	0.32	1.2	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.041	0.029			
EX-SB05-SEV-05	EX-SB05-SEV-05	06/02/05	5	3.4	0.85	0.26	2.3	0.5 U	0.05 U	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	0.01J	0.01J			
EX-SB05-SN-05	EX-SB05-SN-05	03/17/05	5	1.1	0.33	0.21	0.6	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.033	1 U	180	610
EX-SB05-SN-10	EX-SB05-SN-10	03/17/05	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 U	74	200
EX-SB05-SNDD-05	EX-SB05-SNDD-05	06/03/05	5	50.9	4.8	2.1	44	0.5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.005 U	0.005 U			
EX-SB05-SNF-05	EX-SB05-SNF-05	05/18/05	5	2.6	0.79	0.35	1.5	0.005 U	0.0005 U	0.0005 U	0.0021	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.042	0.023			
EX-SB05-SNG-05	EX-SB05-SNG-05	05/18/05	5	9.2	2.2	0.58	6.4	0.005 U	0.0005 U	0.0005 U	0.002J	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.033	0.021			
EX-SB05-SNGG-05	EX-SB05-SNGG-05	06/08/05	5	6.3	1	0.35	4.9	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.005 U	0.005 U	0.005 U	0.098	0.033			
EX-SB05-SNK-05	EX-SB05-SNK-05	05/26/05	5	10.3	1.8	1.4	7.1	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.005 U	0.005 U			
EX-SB05-SS-05	EX-SB05-SS-05	03/17/05	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 U	10 U	15
EX-SB05-SS-10	EX-SB05-SS-10	03/17/05	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 U	110	270
EX-SB05-SSA-05	EX-SB05-SSA-05	05/18/05	5	1.9	0.91	0.16	0.83	0.005 U	0.0005 U	0.0005 U	0.0046	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.13	0.024			
EX-SB05-SSB-05	EX-SB05-SSB-05	05/18/05	5	1.1	0.27	0.18	0.67	0.005 U	0.0005 U	0.0005 U	0.002 J	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.01 J			
EX-SB05-SSC-05	EX-SB05-SSC-05	05/18/05	5	10.0	2.8	1.2	6	0.005 U	0.0005 U	0.0005 U	0.0032	0.0011	0.0009 J	0.0005 U	0.0005 U	0.005 U	0.034			

Table 2-1. Summary of Detected Pesticides/PCBs and TPH in Soil Samples
ECI Property, 20846 Normandie Avenue, Torrance, CA

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Boring ID	Sample Number	Sample Date	Depth (feet)	Total DDT	4,4'-DDD	4,4'-DDE	4,4'-DDT	Chlordane	cis-Chlordane	gamma-Chlordane	Dieldrin	Alpha-BHC	Beta-BHC	Delta-BHC	Gamma-BHC	Aroclor 1254	Aroclor 1260	TPH-Gas	TPH-Diesel	TPH-Oil
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EX-SB05-SSM-05	EX-SB05-SSM-05	05/26/05	5	9.5	1.1	0.63	7.8	1 U	0.01 U	0.01 U	0.01 U	0.1 U	0.1 U	0.1 U	0.1 U	0.005 U	0.029			
EX-SB05-SSQ-05	EX-SB05-SSQ-05	05/26/05	5	0.9	0.43	0.11	0.31	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB05-SSU-05	EX-SB05-SSU-05	06/02/05	5	0.8	0.25	0.15	0.36	0.1 U	0.01 U	0.01 U	0.01 U	0.02 U	0.02 U	0.02 U	0.02 U	0.051	0.017			
EX-SB05-SW-05	EX-SB05-SW-05	03/17/05	5	3.3	1.3	0.34	1.7	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.038	1 U	170	480
EX-SB05-SW-10	EX-SB05-SW-10	03/17/05	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 U	97	230
EX-SB05-SWEE-05	EX-SB05-SWEE-05	06/03/05	5	53.9	6.1	1.8	46	0.5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.005 U	0.005 U			
EX-SB05-SWFF-05	EX-SB05-SWFF-05	06/08/05	5	0.5	0.2	0.13	0.15	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.037	0.018			
EX-SB05-SWH-05	EX-SB05-SWH-05	05/18/05	5	1.7	0.56	0.26	0.91	0.005 U	0.0005 U	0.0005 U	0.002J	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.038	0.02			
EX-SB05-SWP-05	EX-SB05-SWP-05	05/26/05	5	1.4	0.86	0.11	0.43	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB05-SWT-05	EX-SB05-SWT-05	06/02/05	5	4.0	0.26	0.49	3.2	0.5 U	0.05 U	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	0.005 U	0.026			
EX-SB09-BE-035	EX-SB09-BE-035	03/17/05	3.5	10.8	0.82	0.73	9.2	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB09-BTE-05	EX-SB09-BTE-05	05/18/05	5	0.3	0.077	0.047	0.14	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB09-BTF-05	EX-SB09-BTF-05	05/18/05	5	2.4	0.45	0.34	1.6	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.01 J			
EX-SB09-BTI-05	EX-SB09-BTI-05	05/26/05	5	0.0	0.0026	0.0025	0.011	0.0091	0.001 J	0.0016	0.002 J	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB09-BTO-05	EX-SB09-BTO-05	06/02/05	5	0.1	0.099	0.006	0.015	0.016	0.0028	0.003	0.0033	0.001 U	0.001 U	0.001 U	0.001 U	0.005 U	0.007 J			
EX-SB09-BTT-06	EX-SB09-BTT-06	06/09/05	6	3.1	1	0.19	1.9	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U			
EX-SB09-BW-035	EX-SB09-BW-035	03/17/05	3.5	0.9	0.07	0.04	0.74	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB09-SE-02	EX-SB09-SE-02	03/17/05	2	2.3	0.39	0.61	1.3	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.076	0.034			
EX-SB09-SEC-03	EX-SB09-SEC-03	05/18/05	3	2.4	0.5	0.73	1.2	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.081	0.046			
EX-SB09-SED-03	EX-SB09-SED-03	05/18/05	3	18.1	2.6	2.5	13	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.073	0.042			
EX-SB09-SEG-03	EX-SB09-SEG-03	05/26/05	3	6.9	1	0.63	5.3	0.5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.005 U	0.005 U			
EX-SB09-SEH-03	EX-SB09-SEH-03	05/26/05	2	12.3	1.9	1.3	9.1	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.005 U	0.055			
EX-SB09-SEL-03	EX-SB09-SEL-03	06/02/05	3	2.4	0.94	0.75	0.69	0.5 U	0.05 U	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	0.045	0.024			
EX-SB09-SEP-03	EX-SB09-SEP-03	06/03/05	3	5.7	2.4	2.3	1	0.5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.095	0.054			
EX-SB09-SER-03	EX-SB09-SER-03	06/09/05	3	2.7	0.64	0.28	1.8	0.005 U	0.0027	0.0005 U	0.0024	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.02	0.022			
EX-SB09-SN-02	EX-SB09-SN-02	03/17/05	2	5.9	0.91	1.2	3.8	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.08	0.042			
EX-SB09-SNA-03	EX-SB09-SNA-03	05/18/05	3	0.7	0.075	0.22	0.43	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.008 J			
EX-SB09-SNB-03	EX-SB09-SNB-03	05/18/05	3	2.9	0.66	0.73	1.5	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.019			
EX-SB09-SNJ-03	EX-SB09-SNJ-03	05/26/05	3	8.2	1.4	1.1	5.7	0.5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.075	0.026			
EX-SB09-SNQ-03	EX-SB09-SNQ-03	06/09/05	3	1.4	0.66	0.44	0.31	0.05 U	0.006 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.042	0.025			
EX-SB09-SS-02	EX-SB09-SS-02	03/17/05	2	0.2	0.055	0.065	0.067	0.096	0.009	0.018	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB09-SSK-03	EX-SB09-SSK-03	05/26/05	3	8.4	1.8	0.78	5.8	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.005 U	0.005 U			
EX-SB09-SSM-03	EX-SB09-SSM-03	06/02/05	3	2.3	0.63	0.27	1.4	0.5 U	0.05 U	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	0.027	0.017			
EX-SB09-SSS-03	EX-SB09-SSS-03	06/09/05	3	2.0	0.65	0.32	1	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.031	0.023			
EX-SB09-SW-02	EX-SB09-SW-02	03/17/05	2	0.0	0.001 J	0.0006 J	0.0027	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB09-SWN-03	EX-SB09-SWN-03	06/02/05	3	1.2	0.62	0.2 J	0.37	0.5 U	0.05 U	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	0.023	0.019			
EX-SB20-BE-09	EX-SB20-BE-09	05/17/05	9	4.2	2.7	0.8	0.68	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.005 U			
EX-SB20-BTCC-11	EX-SB20-BTCC-11	06/08/05	11	17.9	12	1.5	4.4	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.001 J	0.018	0.0041	0.0005 U	0.005 U	0.005 U			
EX-SB20-BTCC-12	EX-SB20-BTCC-12	06/09/05	12	21.4	8.5	3.2	9.7	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.019	0.0025 U	0.0062	0.005 U	0.005 U			
EX-SB20-BTGG-11	EX-SB20-BTGG-11	06/09/05	11	21.8	16	1	4.8	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.085	0.056			
EX-SB20-BTI-11	EX-SB20-BTI-11	05/26/05	11	2.4	1.3	0.65	0.4	0.25 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.005 U	0.005 U			
EX-SB20-BTJ-11	EX-SB20-BTJ-11	05/26/05	11	4.8	2.6	1	1.2	0.5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.005 U	0.005 U			
EX-SB20-BTU-11	EX-SB20-BTU-11	06/03/05	11	0.1	0.067	0.015	0.057	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.007 J			
EX-SB20-SE-01	EX-SB20-SE-01	05/18/05	1	-	--	--	--	--	--	--	--	--	--	--	--	0.033	0.025			
EX-SB20-SE-03	EX-SB20-SE-03	05/17/05	3	7.2	0.53	2.1	4.6	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB20-SE-07	EX-SB20-SE-07	05/17/05	7	32.4	4.1	4.3	24	0.005 U	0.0005 U	0.0005 U	0.015	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB20-SEAA-03	EX-SB20-SEAA-03	06/09/05	3	4.5	0.98	0.88	2.6	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	6.1	1.8			
EX-SB20-SEB-07	EX-SB20-SEB-07	05/26/05	7	0.0	0.0021	0.0079	0.028	0.061	0.015	0.017	0.0032	0.0005 U	0.0005	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB20-SEQ-03	EX-SB20-SEQ-03	06/02/05	3	0.1	0.015	0.028	0.058	0.12	0.029	0.028	0.004	0.001 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U			
EX-SB20-SES-07	EX-SB20-SES-07	06/03/05	7	1.3	0.2 J	0.26	0.88	0.5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.005 U	0.007 J			
EX-SB20-SN-01	EX-SB20-SN-01	05/18/05	1	-	--	--	--	--	--	--	--	--	--	--	--	0.005 U	0.025			
EX-SB20-SN-03	EX-SB20-SN-03	05/17/05	3	1.4	0.11	0.15	1.1	0.1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U			
EX-SB20-SN-07	EX-SB20-SN-07	05/17/05	7	3.4	0.26	0.099	3	0.35	0.031	0.05	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U			
EX-SB20-SNA-07	EX-SB20-SNA-07	05/26/05	7	24.7	1.3	2.4	21	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB20-SNBB-07	EX-SB20-SNBB-07	06/08/05	7	0.0	0.001 J	0.0058	0.013	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB20-SNDD-03	EX-SB20-SNDD-03	06/09/05	3	0.4	0.1	0.087	0.17	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.017	0.005 U			

Table 2-1. Summary of Detected Pesticides/PCBs and TPH in Soil Samples
ECI Property, 20846 Normandie Avenue, Torrance, CA

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Boring ID	Sample Number	Sample Date	Depth (feet)	Total DDT	4,4'-DDD	4,4'-DDE	4,4'-DDT	Chlordane	cis-Chlordane	gamma-Chlordane	Dieldrin	Alpha-BHC	Beta-BHC	Delta-BHC	Gamma-BHC	Aroclor 1254	Aroclor 1260	TPH-Gas	TPH-Diesel	TPH-Oil
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EX-SB20-SNR-03	EX-SB20-SNR-03	06/02/05	3	7.1	1.1	1.2	4.8	0.5 U	0.05 U	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	0.005 U	0.021			
EX-SB20-SNR-07	EX-SB20-SNR-07	06/03/05	7	1.1	0.2 J	0.23	0.65	0.5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.044	0.02			
EX-SB20-SS-01	EX-SB20-SS-01	05/18/05	1	-	--	--	--	--	--	--	--	--	--	--	--	0.025	0.032			
EX-SB20-SS-03	EX-SB20-SS-03	05/17/05	3	21.3	3.4	1.9	16	0.005 U	0.0005 U	0.0005 U	0.0096	0.0005 U	0.0025	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB20-SS-07	EX-SB20-SS-07	05/17/05	7	23.7	8.4	2.3	13	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB20-SSC-03	EX-SB20-SSC-03	05/26/05	3	11.7	1.1	3.3	7.3	1.2 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.005 U	0.005 U			
EX-SB20-SSD-07	EX-SB20-SSD-07	05/26/05	7	2.6	0.21	0.2	2.2	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB20-SSE-03	EX-SB20-SSE-03	05/26/05	3	0.8	0.2	0.12	0.49	0.12 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.043	0.023			
EX-SB20-SSF-07	EX-SB20-SSF-07	05/25/05	7	1.5	0.39	0.16	0.95	0.25 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025	0.005 U			
EX-SB20-SSFF-03	EX-SB20-SSFF-03	06/09/05	3	1.0	0.53	0.14	0.34	0.05 U	0.005 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.055	0.035			
EX-SB20-SSM-03	EX-SB20-SSM-03	06/02/05	3	0.1	0.02	0.012	0.057	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.005 U	0.009 J			
EX-SB20-SSO-03	EX-SB20-SSO-03	06/02/05	3	12.9	1.2	1.9	9.8	0.5 U	0.05 U	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	0.005 U	0.005 U			
EX-SB20-SW-01	EX-SB20-SW-01	05/18/05	1	-	--	--	--	--	--	--	--	--	--	--	--	0.005 U	0.028			
EX-SB20-SW-03	EX-SB20-SW-03	05/17/05	3	7.0	0.87	1.4	4.7	0.005 U	0.0005 U	0.0005 U	0.0009J	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB20-SW-07	EX-SB20-SW-07	05/17/05	7	0.3	0.096	0.044	0.13	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB20-SWAA-07	EX-SB20-SWAA-07	06/08/05	7	27.7	2.8	0.88	24	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0069	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB20-SWBB-03	EX-SB20-SWBB-03	06/09/05	3	12.3	4	1.8	6.5	0.025 U	0.0025 U	0.0025 U	0.006 J	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.005 U			
EX-SB20-SWEE-03	EX-SB20-SWEE-03	06/09/05	3	1.7	0.31	0.32	1.1	0.096	0.011	0.021	0.008 J	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.005 U			
EX-SB20-SWG-03	EX-SB20-SWG-03	05/26/05	3	36.6	6.2	2.4	28 E	2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.005 U	0.005 U			
EX-SB20-SWH-07	EX-SB20-SWH-07	05/26/05	7	0.4	0.11	0.021	0.25	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.01 J			
EX-SB20-SWL-03	EX-SB20-SWL-03	06/02/05	3	6.4	0.92	1.4	4.1	0.5 U	0.05 U	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	0.005 U	0.024 U			
EX-SB20-SWN-03	EX-SB20-SWN-03	06/02/05	3	10.4	0.96	1.7	7.7	0.5 U	0.05 U	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	0.005 U	0.005 U			
EX-SB20-SWP-07	EX-SB20-SWP-07	06/03/05	7	10.6	2.4	1.3	6.9	0.5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.005 U	0.026			
EX-SB20-SWT-03	EX-SB20-SWT-03	06/02/05	3	7.1	1.1	1.2	4.8													
EX-SB32-BT-12	EX-SB32-BT-12	05/18/05	12	0.5	0.041	0.072	0.37	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.026			
EX-SB32-BTC-10	EX-SB32-BTC-10	06/02/05	10	7.1	0.24	0.49	6.4	0.11	0.022	0.028	0.014	0.001 U	0.001 U	0.001 U	0.001 U	0.045	0.079			
EX-SB32-BTH-12	EX-SB32-BTH-12	06/09/05	12	10.3	0.51	0.84	8.9	0.025 U	0.0025 U	0.0025 U	0.004 J	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.087	0.038			
EX-SB32-NA-09	EX-SB32-NA-09	06/02/05	9	3.6	0.2	0.87	2.5	0.2	0.04	0.044	0.0025 U	0.005 U	0.005 U	0.005 U	0.005 U	0.031	0.054			
EX-SB32-SE-09	EX-SB32-SE-09	05/18/05	9	4.8	0.46	1.8	2.5	3.5	0.49	0.46	0.08J	0.025 U	0.025 U	0.025 U	0.025 U	0.005 U	0.005 U			
EX-SB32-SEB-09	EX-SB32-SEB-09	06/02/05	9	3.2	0.17	2.5	0.57	0.43	0.053	0.048	0.18	0.005 U	0.005 U	0.005 U	0.005 U	0.052	0.005 U			
EX-SB32-SEF-09	EX-SB32-SEF-09	06/09/05	9	0.8	0.036	0.31	0.5	0.2	0.038	0.043	0.024	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.068	0.046			
EX-SB32-SN-09	EX-SB32-SN-09	05/18/05	9	0.8	0.087	0.47	0.26	0.17	0.02	0.021	0.02 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.062			
EX-SB32-SNE-09	EX-SB32-SNE-09	06/09/05	9	1.1	0.062	0.69	0.33	0.2	0.036	0.037	0.1	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.029	0.06			
EX-SB32-SS-09	EX-SB32-SS-09	05/18/05	9	0.1	0.01	0.1	0.037	0.03 J	0.003 J	0.0086	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.018			
EX-SB32-SSD-09	EX-SB32-SSD-09	06/02/05	9	0.6	0.01 J	0.42	0.13	0.05 U	0.005 U	0.005 U	0.065	0.01 U	0.01 U	0.01 U	0.01 U	0.005 U	0.018			
EX-SB32-SSG-09	EX-SB32-SSG-09	06/09/05	9	0.6	0.023	0.52	0.078	0.011	0.0025	0.0024	0.026	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.021			
EX-SB32-SW-09	EX-SB32-SW-09	05/18/05	9	0.2	0.025	0.13	0.046	0.025 U	0.0025 U	0.0025 U	0.004 J	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.009 J			
EX-SB35-BTI-09	EX-SB35-BTI-09	05/17/05	9	1.7	0.15	0.21	1.3	0.1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U			
EX-SB35-BTM-09	EX-SB35-BTM-09	05/26/05	9	2.9	1.8	0.37	0.72	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB35-BTO-09	EX-SB35-BTO-09	06/03/05	9	7.5	1.8	1.5	4.2	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.11	0.067			
EX-SB35-BTV-12	EX-SB35-BTV-12	06/09/05	12	11.4	8.9	0.58	1.9	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.059	0.096			
EX-SB35-SEG-03	EX-SB35-SEG-03	05/17/05	3	0.7	0.034	0.11	0.52	0.043	0.0099	0.01	0.0029	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB35-SEH-07	EX-SB35-SEH-07	05/17/05	7	0.6	0.032	0.093	0.5	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.005 U			
EX-SB35-SEL-07	EX-SB35-SEL-07	05/26/05	7	4.0	0.2	0.5	3.3	0.005 U	0.0005 U	0.0005 U	0.02	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB35-SEQ-07	EX-SB35-SEQ-07	06/03/05	7	0.4	0.17	0.044	0.16	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.01 J	0.01 J			
EX-SB35-SNE-03	EX-SB35-SNE-03	05/17/05	3	2.3	0.19	0.56	1.5	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB35-SNF-07	EX-SB35-SNF-07	05/17/05	7	0.7	0.033	0.095	0.62	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB35-SNN-07	EX-SB35-SNN-07	06/03/05	7	4.1	1.6	0.16	2.3	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.034	0.024			
EX-SB35-SNS-07	EX-SB35-SNS-07	06/09/05	7	0.2	0.13	0.014	0.066	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.007 J			
EX-SB35-SSC-03	EX-SB35-SSC-03	05/17/05	3	2.5	0.19	0.44	1.9	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB35-SSD-07	EX-SB35-SSD-07	05/17/05	7	9.2	0.83	0.79	7.6	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB35-SSK-07	EX-SB35-SSK-07	05/26/05	7	7.8	0.57	0.9	6.3	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			
EX-SB35-SSP-07	EX-SB35-SSP-07	06/03/05	7	2.5	1.4	0.17	0.92	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.02	0.02 J			
EX-SB35-SSU-07	EX-SB35-SSU-07	06/09/05	7	2.0	1.2	0.32	0.47	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.022			
EX-SB35-SWA-03	EX-SB35-SWA-03	05/17/05	3	7.8	0.63	1.2	6	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.005 U			
EX-SB35-SWB-07	EX-SB35-SWB-07	05/17/05	7	5.6	1	1.2	3.4	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U			

Table 2-1. Summary of Detected Pesticides/PCBs and TPH in Soil Samples
ECI Property, 20846 Normandie Avenue, Torrance, CA

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Boring ID	Sample Number	Sample Date	Depth (feet)	Total DDT	4,4'-DDD	4,4'-DDE	4,4'-DDT	Chlordane	cis-Chlordane	gamma-Chlordane	Dieldrin	Alpha-BHC	Beta-BHC	Delta-BHC	Gamma-BHC	Aroclor 1254	Aroclor 1260	TPH-Gas	TPH-Diesel	TPH-Oil
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EX-SB35-SWJ-07	EX-SB35-SWJ-07	05/26/05	7	5.6	0.73	1	3.9	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.081	0.039			
EX-SB35-SWR-07	EX-SB35-SWR-07	06/03/05	7	9.2	1	1.7	6.5	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.16	0.092			
EX-SB35-SWT-07	EX-SB35-SWT-07	06/09/05	7	0.9	0.28	0.11	0.48	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U			
SB-01	SB-01-020805-05	02/08/05	4-5	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	300	1000
SB-01	SB-01-020805-10	02/08/05	9-10	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	5 J	7 J
SB-02	SB-02-020805-05	02/08/05	4-5	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	6 J	4 J
SB-02	SB-02-020805-10	02/08/05	9-10	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	10 J	4 J
SB-03	SB-03-020805-01	02/08/05	0-1	0.0	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	2.4	0.31	--	--	--
SB-03	SB-03-020805-03	02/08/05	2-3	0.0	0.002 J	0.0005 U	0.001 J	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-03	SB-03-020805-05	02/08/05	4-5	0.0	0.0022	0.0007 J	0.0028	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	--	--	0.37 U	300	980
SB-03	SB-03-020805-10	02/08/05	9-10	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	9 J	6 J
SB-03	SB03A-041205-01	04/12/05	0-1	0.1	0.004	0.019	0.044	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.021	0.01 J	--	--	--
SB-03	SB03A-041205-03	04/12/05	2-3	0.1	0.021	0.022	0.055	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.022	0.01 J	--	--	--
SB-03	SB03B-041205-01	04/12/05	0-1	0.1	0.02 U	0.02 U	0.02 U	0.2 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.01 U	0.01 U	--	--	--
SB-03	SB03B-041205-03	04/12/05	2-3	0.0	0.0005 U	0.0005 U	0.002 J	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-04	SB-04-020805-05	02/08/05	4-5	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	170	380
SB-04	SB-04-020805-10	02/08/05	9-10	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	64	150
SB-05	DUP-02-020805	02/08/05	4-5	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	970	3600
SB-05	SB-05-020805-05	02/08/05	4-5	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	11	17
SB-05	SB-05-020805-10	02/08/05	9-10	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	7900	21000
SB-05	SB-05-020805-15	02/08/05	14-15	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	31	79
SB-06	SB-06-020805-05	02/08/05	4-5	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	5 J	6 J
SB-06	SB-06-020805-10	02/08/05	9-10	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	8 J	4 J
SB-07	SB-07-020805-05	02/08/05	4-5	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	9 J	7 J
SB-07	SB-07-020805-10	02/08/05	9-10	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	9 J	5 J
SB-08	SB-08-020805-05	02/08/05	4-5	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	11	16
SB-08	SB-08-020805-10	02/08/05	9-10	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	7 J	5 J
SB-09	SB-09-020805-01	02/08/05	0-1	0.0	0.0005 U	0.032	0.0031	0.005 U	0.011	0.015	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.029	0.005 U	--	--	--
SB-09	SB-09-020805-03	02/08/05	2-3	1.3	0.39	0.49	0.42	0.045	0.0039	0.0036	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-09	SB-09-020805-05	02/08/05	4-5	0.0	0.0005 U	0.0005 U	0.0005 J	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	--	--	0.37 U	12	28
SB-09	DUP-01-020805	02/08/05	9-10	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	9 J	10
SB-09	SB-09-020805-10	02/08/05	9-10	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	9 J	14
SB-09	SB09A-041205-03	04/12/05	2-3	0.5	0.29	0.13	0.084	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.018	--	--	--
SB-09	SB09A-041205-05	04/12/05	4-5	0.0	0.001 J	0.0071	0.0032	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.008 J	--	--	--
SB-09	SB09B-041205-03	04/12/05	2-3	0.0	0.002 J	0.0062	0.0031	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-09	SB09B-041205-05	04/12/05	4-5	1.9	0.42	0.32	1.2	0.026	0.005 U	0.005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-09	SB09C-041205-03	04/12/05	2-3	10.1	2	1.1	7	0.005 U	0.005 U	0.005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-09	SB09C-041205-05	04/12/05	4-5	0.4	0.18	0.057	0.18	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.005 U	--	--	--
SB-10	SB-10-020805-01	02/08/05	0-1	0.0	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-10	SB-10-020805-05	02/08/05	4-5	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	6 J	6 J
SB-10	SB-10-020805-10	02/08/05	9-10	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	5 J	7 J
SB-11	SB-11-020805-05	02/08/05	4-5	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	550	1500
SB-11	SB-11-020805-10	02/08/05	9-10	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	9 J	4 J
SB-12	SB-12-020805-01	02/08/05	0-1	0.0	0.0005 U	0.001 J	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.029	0.009 J	--	--	--
SB-12	SB-12-020805-03	02/08/05	2-3	0.0	0.0044	0.039	0.0034	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-12	SB-12-020805-05	02/08/05	4-5	0.0	0.01	0.0055	0.002 J	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0008 J	--	--	0.37 U	30	36
SB-12	SB-12-020805-10	02/08/05	9-10	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	9 J	4 J
SB-13	SB-13-020805-05	02/08/05	4-5	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	140	310
SB-13	SB-13-020805-10	02/08/05	9-10	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	40	96
SB-14	SB-14-020805-05	02/08/05	4-5	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	120	280
SB-14	DUP-03-020805	02/08/05	9-10	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	34	46
SB-14	SB-14-020805-10	02/08/05	9-10	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	190	420
SB-15	SB-15-020805-05	02/08/05	4-5	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	7 J	4 J
SB-15	SB-15-020805-10	02/08/05	9-10	-	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37 U	6 J	4 J
SB-16	SB-16-032305-01	03/23/05	0-1	0.0	0.002 J	0.03	0.014	0.01	0.0005 U	0.0016	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.024	0.01 J	--	--	--
SB-16	SB-16-032305-03	03/23/05	2-3	0.1	0.027	0.025	0.016	0.005 U	0.0005 U	0.0005 U	0.0005 U	-	-	-	-	0.018	0.018	--	--	--

Table 2-1. Summary of Detected Pesticides/PCBs and TPH in Soil Samples
ECI Property, 20846 Normandie Avenue, Torrance, CA

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Boring ID	Sample Number	Sample Date	Depth (feet)	Total DDT	4,4'-DDD	4,4'-DDE	4,4'-DDT	Chlordane	cis-Chlordane	gamma-Chlordane	Dieldrin	Alpha-BHC	Beta-BHC	Delta-BHC	Gamma-BHC	Aroclor 1254	Aroclor 1260	TPH-Gas	TPH-Diesel	TPH-Oil
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SB-16	SB-16-032305-05	03/23/05	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 U	41	75.9
SB-17	SB-17-032305-01	03/23/05	0-1	0.0	0.0005 U	0.0005 U	0.001 J	0.005 U	0.0008 J	0.001	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-17	SB-17-032305-03	03/23/05	2-3	0.0	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-18	SB-18-032305-01	03/23/05	0-1	0.2	0.0095	0.039	0.11	0.013	0.0007 J	0.0019	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.01 J	0.01 J	--	--	--
SB-18	SB-18-032305-03	03/23/05	2-3	0.0	0.001 J	0.016	0.0075	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-18	SB18A-041205-01	04/12/05	0-1	0.1	0.02 U	0.02 U	0.02 U	0.2 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.01 U	0.01 U	--	--	--
SB-18	SB18A-041205-03	04/12/05	2-3	0.0	0.002 J	0.018	0.0033	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-18	SB18B-041205-01	04/12/05	0-1	0.1	0.03 J	0.02 J	0.01 J	0.1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.005 U	0.02	--	--	--
SB-18	SB18B-041205-03	04/12/05	2-3	0.0	0.002 J	0.0073	0.01	0.023	0.0044	0.0046	0.013	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.01 J	--	--	--
SB-18	SB18C-041205-01	04/12/05	0-1	0.1	0.023	0.01 J	0.047	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.025	--	--	--
SB-18	SB18C-041205-03	04/12/05	2-3	0.0	0.001 J	0.0074	0.012	0.005 U	0.0005 U	0.0006 J	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-18	SB18C-041205-05	04/12/05	4-5	0.0	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-19	SB-19-032305-01	03/23/05	0-1	0.1	0.021	0.015	0.092	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.01 J	--	--	--
SB-19	SB-19-032305-03	03/23/05	2-3	5.7	0.31	0.87	4.5	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.005 U	--	--	--
SB-19	SB-19-032305-05	03/23/05	4-5	0.0	0.012	0.0025 U	0.003 J	0.025 U	0.004 J	0.0025 U	0.009 J	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.005 U	--	--	--
SB-19	SB-19-032305-07	03/23/05	6-7	0.0	0.007 J	0.005 U	0.005 U	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.008 J	--	--	--
SB-19	SB19A-041205-03	04/12/05	2-3	0.1	0.005 J	0.029	0.11	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.019	0.02	--	--	--
SB-19	SB19A-041205-05	04/12/05	4-5	0.3	0.035	0.059	0.23	0.05 U	0.009 J	0.01 J	0.008 J	0.005 U	0.005 U	0.005 U	0.005 U	0.025	0.01 J	--	--	--
SB-19	SB19A-041205-07	04/12/05	6-7	0.0	0.002 J	0.0052	0.029	0.018	0.0026	0.0033	0.0093	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.007 J	--	--	--
SB-19	SB19B-041205-03	04/12/05	2-3	2.6	0.1 J	0.1 J	2.4	0.5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.005 U	0.005 U	--	--	--
SB-19	SB19B-041205-05	04/12/05	4-5	0.2	0.01	0.016	0.18	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.018	--	--	--
SB-19	SB19B-041205-07	04/12/05	6-7	0.0	0.01 J	0.01 U	0.01 U	0.1 U	0.01 U	0.01 U	0.01 J	0.01 U	0.01 U	0.01 U	0.01 U	0.005 U	0.01 J	--	--	--
SB-19	SB19C-041205-03	04/12/05	2-3	0.7	0.02 J	0.22	0.42	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	--	--	--
SB-19	SB19C-041205-05	04/12/05	4-5	0.9	0.056	0.33	0.52	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.037	0.027	--	--	--
SB-19	SB19C-041205-07	04/12/05	6-7	0.1	0.0088	0.01	0.056	0.016	0.0019	0.0026	0.001 J	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.037	--	--	--
SB-20	SB-20-032305-01	03/23/05	0-1	0.2	0.022	0.063	0.16	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.22	0.07	--	--	--
SB-20	SB-20-032305-03	03/23/05	2-3	6.4	0.68	0.64	5.1	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0025	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-20	SB-20-032305-07	03/23/05	6-7	0.4	0.054	0.055	0.34	0.005 U	0.0009 J	0.0031	0.0005 J	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-20	SB-20-032305-10	03/23/05	9-10	0.0	0.019	0.008 J	0.009 J	0.025 U	0.003 J	0.003 J	0.0025 J	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.005 U	--	--	--
SB-20	SB20A-041305-03	04/13/05	2-3	22.5	0.73	1.8	20	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-20	SB20A-041305-07	04/13/05	6-7	15.7	4.9	1.7	9.1	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.003 J	0.0025 U	0.0025 U	0.005 U	0.005 U	--	--	--
SB-20	SB20A-041305-10	04/13/05	9-10	0.4	0.21	0.036	0.14	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	--	--	--
SB-20	SB20B-041305-03	04/13/05	2-3	52.7	4	8.7	40	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.01	0.0025 U	0.0025 U	0.005 U	0.005 U	--	--	--
SB-20	SB20B-041305-07	04/13/05	6-7	0.3	0.024	0.028	0.2	0.005 U	0.0005 U	0.002	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-20	SB20B-041305-10	04/13/05	9-10	0.0	0.002 J	0.0006 J	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-20	SB20C-041305-03	04/13/05	2-3	0.3	0.03 J	0.04 J	0.2	0.1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.005 U	0.01 J	--	--	--
SB-20	SB20C-041305-07	04/13/05	6-7	0.1	0.0055	0.011	0.049	0.005 U	0.0005 U	0.0009 J	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 J	--	--	--
SB-21	SB-21-032305-01	03/23/05	0-1	0.0	0.0005 U	0.004	0.001 J	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-21	SB-21-032305-03	03/23/05	2-3	0.0	0.001 J	0.0065	0.002 J	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-22	SB-22-032305-01	03/23/05	0-1	0.1	0.015	0.065	0.0041	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.01 J	0.008 J	--	--	--
SB-22	SB-22-032305-03	03/23/05	2-3	0.1	0.0074	0.058	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.006 J	0.005 U	--	--	--
SB-23	SB-23-032305-01	03/23/05	0-1	0.3	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.01 U	0.01 U	--	--	--
SB-23	SB-23-032305-03	03/23/05	2-3	0.0	0.001 U	0.001 U	0.001 U	0.01 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.01 U	0.01 U	--	--	--
SB-24	SB-24-032505-01	03/23/05	0-1	0.0	0.0092	0.012	0.028	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.01 J	0.005 U	--	--	--
SB-24	SB-24-032505-03	03/23/05	2-3	0.0	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-25	SB-25-032305-01	03/23/05	0-1	0.0	0.0062	0.019	0.02	0.041	0.0033	0.0044	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.019	0.018	--	--	--
SB-25	SB-25-032305-03	03/23/05	2-3	0.0	0.007 J	0.021	0.02 J	0.1	0.017	0.014	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.01 J	--	--	--
SB-26	SB-26-032305-01	03/23/05	0-1	0.0	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-26	SB-26-032305-03	03/23/05	2-3	0.0	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-27	SB-27-032305-01	03/23/05	0-1	0.0	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-27	SB-27-032305-03	03/23/05	2-3	0.0	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-27	SB-27-032305-05	03/23/05	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 U	3.8	--
SB-28	SB-28-032305-01	03/23/05	0-1	0.5	0.095	0.17	0.25	0.025 U	0.0025 U	0.0052	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.028	0.019	--	--	--
SB-28	SB-28-032305-03	03/23/05	2-3	0.6	0.063	0.23	0.33	0.03	0.0019	0.0031	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.034	0.023	--	--	--
SB-28	SB-28-032305-05	03/23/05	4-5	0.2	0.03	0.096	0.032	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-28	SB-28-032305-07	03/23/05	6-7	0.1	0.02 U	0.02 U	0.02 U	0.2 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.01 U	0.01 U	--	--	--

Table 2-1. Summary of Detected Pesticides/PCBs and TPH in Soil Samples
ECI Property, 20846 Normandie Avenue, Torrance, CA

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Boring ID	Sample Number	Sample Date	Depth (feet)	Total DDT	4,4'-DDD	4,4'-DDE	4,4'-DDT	Chlordane	cis-Chlordane	gamma-Chlordane	Dieldrin	Alpha-BHC	Beta-BHC	Delta-BHC	Gamma-BHC	Aroclor 1254	Aroclor 1260	TPH-Gas	TPH-Diesel	TPH-Oil
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SB-28	SB28A-041305-03	04/13/05	2-3	0.2	0.033	0.04	0.08	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.026	--	--	--
SB-28	SB28A-041305-05	04/13/05	4-5	0.0	0.0009 J	0.009	0.002 J	0.005 U	0.0005 U	0.0012	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-28	DUP04-041305-00	04/13/05	2-3	1.1	0.062	0.22	0.78	0.04 J	0.0082	0.0072	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.021	--	--	--
SB-28	SB28B-041305-03	04/13/05	2-3	0.2	0.012	0.028	0.15	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.01 J	--	--	--
SB-28	SB28B-041305-05	04/13/05	4-5	0.6	0.067	0.2	0.33	0.04 J	0.004 J	0.0079	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.016	--	--	--
SB-28	SB28B-041305-07	04/13/05	6-7	0.4	0.1	0.22	0.066	0.005 U	0.0005 U	0.0005 U	0.0044	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.022	--	--	--
SB-28	SB28B-041305-10	04/13/05	9-10	0.6	0.051	0.48	0.037	0.005 U	0.0005 U	0.0005 U	0.011	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.022	0.028	--	--	--
SB-28	DUP02-041305-00	04/13/05	2-3	0.1	0.023	0.037	0.079	0.025 U	0.0025 U	0.0064	0.009 J	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.021	--	--	--
SB-28	SB28C-041305-03	04/13/05	2-3	0.7	0.043	0.21	0.43	0.04 J	0.004 J	0.0051	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.018	--	--	--
SB-28	SB28C-041305-05	04/13/05	4-5	2.9	0.84	0.95	1.1	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.022	--	--	--
SB-28	SB28C-041305-07	04/13/05	6-7	0.9	0.4	0.34	0.13	0.12 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.005 U	0.01 J	--	--	--
SB-28	SB28C-041305-10	04/13/05	9-10	2.5	1.1	0.86	0.5	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-29	SB-29-041305-03	04/13/05	2-3	0.3	0.038	0.057	0.16	0.03 J	0.0058	0.004 J	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.024	--	--	--
SB-29	SB-29-041305-07	04/13/05	6-7	0.3	0.093	0.07	0.11	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.008 J	--	--	--
SB-29	SB-29-041305-10	04/13/05	9-10	0.3	0.15	0.1	0.063	0.025 U	0.0025 U	0.0051	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.006 J	--	--	--
SB-30	SB-30-041305-03	04/13/05	2-3	0.0	0.0006 J	0.0008 J	0.002 J	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-30	DUP01-041305-00	04/13/05	4-5	0.1	0.024	0.049	0.014	0.044	0.004 J	0.0081	0.006 J	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.01 J	--	--	--
SB-30	SB-30-041305-07	04/13/05	4-5	0.1	0.035	0.019	0.009 J	0.025 U	0.0025 U	0.003 J	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.01 J	--	--	--
SB-30	SB-30-041305-10	04/13/05	9-10	0.1	0.13	0.011	0.0025 U	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.005 U	--	--	--
SB-31	SB-31-041305-03	04/13/05	2-3	3.6	0.14	0.71	2.7	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.005 U	--	--	--
SB-31	SB-31-041305-05	04/13/05	4-5	0.4	0.059	0.12	0.19	0.025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.01 J	--	--	--
SB-31	SB-31-041305-07	04/13/05	6-7	0.0	0.0005 U	0.004	0.0073	0.006 J	0.0011	0.0013	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.007 J	--	--	--
SB-32	SB-32-041205-03	04/12/05	2-3	1.2	0.27	0.38	0.54	0.1 U	0.01 J	0.022	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	--	--	--
SB-32	SB-32-041205-07	04/12/05	6-7	2.1	0.25	0.45 E	1.4 E	0.025 U	0.0025 U	0.0025 U	0.01	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.005 U	--	--	--
SB-32	SB-32-041205-10	04/12/05	9-10	9.1	1.3	1.2	6.6	0.025 U	0.003 J	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.005 U	0.005 U	--	--	--
SB-33	SB-33-041205-03	04/12/05	2-3	0.1	0.004	0.042	0.019	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-33	SB-33-041205-07	04/12/05	6-7	0.0	0.0062	0.0078	0.012	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 J	--	--	--
SB-34	SB-34-041205-03	04/12/05	2-3	0.0	0.0035	0.0041	0.022	0.005 U	0.0007 J	0.0025	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.01 J	--	--	--
SB-34	SB-34-041205-07	04/12/05	6-7	0.0	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--
SB-35	SB-35-041205-03	04/12/05	2-3	12.6	0.62	2.3	9.7	1.2 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.005 U	0.005 U	--	--	--
SB-35	SB-35-041205-07	04/12/05	6-7	7.9	5.8	0.71	1.4	0.25 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	22	1.1	--	--	--
SB-35	SB-35-041205-10	04/12/05	9-10	0.3	0.170	0.037	0.057	0.005 U	0.001 U	0.001 U	0.001 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.005 U	--	--	--

Notes:
mg/kg = milligrams per kilogram
Only results with total DDT > 1.0 mg/kg were tabulated
NA = not available
Only 4,4' isomers were analyzed for DDE, DDT and DDD.
-- = not analyzed
Data Source: ECI, 2005.
Hard copy of data not included in CD received from EPA.
J = Concentration is estimated because it falls between the method detection limit and the laboratory reporting limit.
U = Concentration is non-detect at the laboratory reporting limit.
E = Concentration exceeds the upper level of the calibration range.
TPH = Total petroleum hydrocarbons
BHC = benzene hexachloride
DDE = 4,4'-dichlorodiphenyldichloroethene
DDT = 4,4'-dichlorodiphenyltrichloroethane
DDD = 4,4'-dichlorodiphenyldichloroethane

Table 2-2
Metals In Soil Samples
ECI Property
20846 Normandie, Torrance, CA

Boring ID		**SB-03**	**SB-09**	**SB-10**	**SB-12**	**SB-16**	**SB-27**						
Sample ID		SB-03-020805-01	SB-09-020805-01	SB-10-020805-01	SB-12-020805-01	SB-16-032305-01	SB-27-032305-01						
Depth (ft)	reporting	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1						
Sample Date	limit	2/8/2005	2/8/2005	2/8/2005	2/8/2005	3/23/2005	3/23/2005						
								EPA PRGs		CA specific EPA PRGs		DTSC Soil Screening \	
								Industrial	Residential	Industrial	Residential	Industrial	Residential
Antimony	1.2	ND	ND	ND	ND	ND	ND	410	31	NA	NA	380	30
Arsenic	0.48	ND	ND	ND	ND	**1.3**	ND	1.6	0.39	0.25	0.062	0.24	0.07
Barium		120	63	57	190	140	190	67000	5400	NA	NA	63000	5200
Beryllium	0.45	ND	ND	ND	ND	ND	ND	1900	150	NA	NA	1700	150
Cadmium	0.52	ND	ND	ND	ND	ND	ND	450	37	NA	NA	7.5	1.7
Chromium		18	9.4	14	18	19	24	100000	100000	NA	NA	NA	NA
Cobalt		6.9	4.7	8.8	17	8.1	12	1900	900	NA	NA	3200	660
Copper		22	8.3	25	13	19	22	41000	3100	NA	NA	38000	3000
Lead		23	8.7	3.7	6.5	11	6.3	800	400	NA	150	3500	150
Mercury		0.12	0.08 J	0.02 J	0.04 J	0.03 J	0.01 J	310	23	NA	NA	180	18
Molybdenum	0.46	1.6	1.8	1.1	0.9 J	ND	ND	5100	390	NA	NA	4800	380
Nickel		13	11	9.3	13	14	17	NA	NA	NA	NA	16000	1600
Selenium	0.82	ND	ND	ND	ND	1.5	1.9	5100	390	NA	NA	4800	380
Silver	0.45	ND	ND	ND	ND	ND	ND	5100	390	NA	NA	4800	380
Thallium	0.92	ND	ND	ND	ND	ND	ND	67	5.2	NA	NA	63	5
Vanadium		31	22	27	58	34	51	100	78	NA	NA	6700	530
Zinc		69	26	29	34	51	61	100000	23000	NA	NA	100000	23000

Notes
All concentrations are in mg/kg
ND = Not detected
Bold values indicate exceeds the PRG

Table 2-3
VOCs in Soil Samples
ECI Property
20846 Normandie, CA

Boring ID		**SB-01**	**SB-02**	**SB-03**	**SB-04**	**SB-05**	**SB-06**	**SB-07**	**SB-08**	**SB-09**	**SB-10**
Sample ID		SB-01-020805-10	SB-02-020805-10	SB-03-020805-10	SB-04-020805-10	SB-05-020805-10	SB-06-020805-10	SB-07-020805-10	SB-08-020805-10	DUP-01-020805	SB-10-020805-10
Depth (ft)	Detection	9 to 10	9 to 10	9 to 10	9 to 10	9 to 10	9 to 10	9 to 10	9 to 10	9 to 10	9 to 10
Sample Date	Limit	2/8/2005	2/8/2005	2/8/2005	2/8/2005	2/8/2005	2/8/2005	2/8/2005	2/8/2005	2/8/2005	2/8/2005
Ethylbenzene	1.8	ND	82	ND	ND	ND	ND	ND	ND	ND	ND
Methylbenzene	2.1	ND	5 J	ND	ND	ND	ND	ND	ND	ND	ND
O-Xylene	2.1	ND	97	ND	ND	ND	ND	ND	ND	ND	ND
P/M -Xylene	4.9	ND	160	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes		NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Note
All concentrations are in mg/kg
Only detected VOCs are shown
ND = Not detected
NR = Not reported
Bold values indicate exceeds the PRG

Table 2-3
VOCs in Soil Samples
ECI Property
20846 Normandie, CA

Boring ID		**SB-11**	**SB-11**	**SB-12**	**SB-13**	**SB-14**	**SB-15**				
Sample ID		SB-11-020805-10	SB-11-020805-15	SB-12-020805-10	SB-13-020805-10	SB-14-020805-10	SB-15-020805-10	**EPA Region 9**		**DTSC Soil**	
Depth (ft)	Detection	9 to 10	14 to 15	9 to 10	9 to 10	9 to 10	9 to 10	**PRGs**		**Screening Values**	
Sample Date	Limit	2/8/2005	2/8/2005	2/8/2005	2/8/2005	2/8/2005	2/8/2005	Industrial	Residential	Industrial	Residential
Ethylbenzene	1.8	ND	ND	ND	ND	ND	ND	400	400	NA	NA
Methylbenzene	2.1	ND	ND	ND	ND	ND	ND	520	520	NA	NA
O-Xylene	2.1	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
P/M -Xylene	4.9	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
Xylenes		NR	NR	NR	NR	NR	NR	420	270	NA	NA
Tetrachloroethene	1.7	**5.5**	ND	ND	ND	ND	ND	1.3	0.48	NA	NA

Note
All concentrations are in mg/kg
Only detected VOCs are shown
ND = Not detected
NR = Not reported
Bold values indicate exceeds the PRG

Table 4-1 Summary of Soil Sampling Program

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY – SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

	Phase 1		Phase 2	
	Phase 1A	**Phase 1B**	**Phase 2A**	**Phase 2B**
Area	**LACFCD Easement and Easement Buffer (up to Eastern ECI Property Boundary)**	**Residential Property within Historical Stormwater Pathway**	**ECI Property West of LACFCD Easement Buffer and within Historical Stormwater Pathway**	**ECI Property Outside of Historical Stormwater Pathway**
Total Sampling Depth of Borings	20 ft bgs	14 ft bgs	14 ft bgs	11 ft bgs
No. of Samples per Boring	8	6	6	5
Sampling Depth Intervals	0-6 in, 6-24 in, 2-5 ft, 5-8 ft, 8-11 ft, 11-14 ft, 14-17 ft, and 17-20 ft	0-6 in, 6-24 in, 2-5 ft, 5-8 ft, 8-11 ft, and 11-14 ft	0-6 in, 6-24 in, 2-5 ft, 5-8 ft, 8-11 ft, and 11-14 ft	0-6 in, 6-24 in, 2-5 ft, 5-8 ft, 8-11 ft
Grid Spacing	30 ft	20 ft	30 ft	60 ft
No. of Primary Grid Locations	30	56	22	25
No. of Collocated Borings	6	4	4 – 7	4 - 7
Total No. of Sampling Locations	36	60	26 - 29	29 - 32
Total No. of Environmental Samples	288	360	156 - 174	145 - 160
QA/QC Samples [1]				
Duplicate Samples	48	24	12	10
MS/MSD	34	38	18	10
Subtotal Sample Count	370	422	186 - 204	165 - 180
Investigation Total No. of Soil Samples				1,143 – 1,176

[1] QA/QC samples include 1 duplicate for each 10 samples (10 percent) and 1 matrix spike/matrix spike duplicate (MS/MSD) for each 20 samples. Each MS/MSD consists of two samples, thus MS/MSD samples account for 10 percent of samples. In addition, an estimated 21 equipment blanks will be collected during Phase 1 and an estimated 10 equipment blanks will be collected during Phase 2.

Table 4-2. Soil Sampling Boring Location Coordinates - Phases 1 and 2

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Collocated Boring (Yor N)	Boring ID	Phase	Location	Description	Easting	Northing	Total Depth
Phase 1 Field Investigation							
N	P1-01	Phase 1	ECI Property	Within LACFCD Easement Buffer	380011.077	3745235.825	20 ft
Y	P1-02	Phase 1	ECI Property	Within LACFCD Easement Buffer	380006.358	3745243.657	20 ft
N	P1-03	Phase 1	ECI Property	Within LACFCD Easement Buffer	380001.639	3745251.49	20 ft
N	P1-04	Phase 1	ECI Property	Within LACFCD Easement Buffer	380004.752	3745264.041	20 ft
Y	P1-05	Phase 1	ECI Property	Within LACFCD Easement Buffer	380012.585	3745268.76	20 ft
Y	P1-06	Phase 1	ECI Property	Within LACFCD Easement Buffer	380003.147	3745284.425	20 ft
N	P1-07	Phase 1	ECI Property	Within LACFCD Easement Buffer	380010.979	3745289.144	20 ft
N	P1-08	Phase 1	ECI Property	Within LACFCD Easement Buffer	380007.833	3745298.066	20 ft
N	P1-09	Phase 1	ECI Property	Within LACFCD Easement Buffer	380014.093	3745301.695	20 ft
Y	P1-10	Phase 1	ECI Property	Within LACFCD Easement Buffer	380009.374	3745309.528	20 ft
N	P1-11	Phase 1	ECI Property	Within LACFCD Easement Buffer	380017.206	3745314.247	20 ft
N	P1-12	Phase 1	ECI Property	Within LACFCD Easement Buffer	380004.655	3745317.36	20 ft
N	P1-13	Phase 1	ECI Property	Within LACFCD Easement Buffer	380012.487	3745322.079	20 ft
N	P1-14	Phase 1	ECI Property	Within LACFCD Easement Buffer	380007.768	3745329.911	20 ft
N	P1-15	Phase 1	ECI Property	Within LACFCD Easement Buffer	380015.6	3745334.63	20 ft
N	P1-16	Phase 1	ECI Property	Within LACFCD Easement Buffer	380003.049	3745337.744	20 ft
Y	P1-17	Phase 1	ECI Property	Within LACFCD Easement Buffer	380010.881	3745342.463	20 ft
N	P1-18	Phase 1	ECI Property	Within LACFCD Easement Buffer	380018.199	3745346.871	20 ft
N	P1-19	Phase 1	ECI Property	Within LACFCD Easement Buffer	380006.162	3745350.295	20 ft
N	P1-20	Phase 1	ECI Property	Within LACFCD Easement Buffer	380013.995	3745355.014	20 ft
N	P1-21	Phase 1	ECI Property	Within LACFCD Easement Buffer	380001.443	3745358.127	20 ft
N	P1-22	Phase 1	ECI Property	Within LACFCD Easement Buffer	380009.276	3745362.846	20 ft
N	P1-23	Phase 1	ECI Property	Within LACFCD Easement Buffer	380017.108	3745367.565	20 ft
N	P1-24	Phase 1	ECI Property	Within LACFCD Easement Buffer	379996.724	3745365.96	20 ft
Y	P1-25	Phase 1	ECI Property	Within LACFCD Easement Buffer	380004.557	3745370.679	20 ft
N	P1-26	Phase 1	ECI Property	Within LACFCD Easement Buffer	380012.389	3745375.398	20 ft
N	P1-27	Phase 1	ECI Property	Within LACFCD Easement Buffer	380018.682	3745379.19	20 ft
N	P1-28	Phase 1	ECI Property	Within LACFCD Easement Buffer	379992.005	3745373.792	20 ft
N	P1-29	Phase 1	ECI Property	Within LACFCD Easement Buffer	379999.838	3745378.511	20 ft
N	P1-30	Phase 1	ECI Property	Within LACFCD Easement Buffer	379988.767	3745379.167	20 ft
N	R-01	Phase 1	Residential	Within Historical Stormwater Pathway	380041.468	3745243.791	14 ft
N	R-02	Phase 1	Residential	Within Historical Stormwater Pathway	380046.684	3745246.947	14 ft
N	R-03	Phase 1	Residential	Within Historical Stormwater Pathway	380051.904	3745250.098	14 ft
N	R-04	Phase 1	Residential	Within Historical Stormwater Pathway	380038.312	3745249.007	14 ft
N	R-05	Phase 1	Residential	Within Historical Stormwater Pathway	380043.531	3745252.167	14 ft
N	R-06	Phase 1	Residential	Within Historical Stormwater Pathway	380048.747	3745255.314	14 ft
N	R-07	Phase 1	Residential	Within Historical Stormwater Pathway	380035.157	3745254.223	14 ft
N	R-08	Phase 1	Residential	Within Historical Stormwater Pathway	380040.372	3745257.378	14 ft
N	R-09	Phase 1	Residential	Within Historical Stormwater Pathway	380045.668	3745260.405	14 ft
N	R-10	Phase 1	Residential	Within Historical Stormwater Pathway	380026.786	3745256.286	14 ft
N	R-11	Phase 1	Residential	Within Historical Stormwater Pathway	380032.001	3745259.438	14 ft
N	R-12	Phase 1	Residential	Within Historical Stormwater Pathway	380037.217	3745262.594	14 ft
N	R-13	Phase 1	Residential	Within Historical Stormwater Pathway	380028.845	3745264.654	14 ft
N	R-14	Phase 1	Residential	Within Historical Stormwater Pathway	380034.061	3745267.806	14 ft
N	R-15	Phase 1	Residential	Within Historical Stormwater Pathway	380020.474	3745266.714	14 ft
N	R-16	Phase 1	Residential	Within Historical Stormwater Pathway	380025.689	3745269.865	14 ft
N	R-17	Phase 1	Residential	Within Historical Stormwater Pathway	380030.905	3745273.022	14 ft
N	R-18	Phase 1	Residential	Within Historical Stormwater Pathway	380036.121	3745276.181	14 ft
N	R-19	Phase 1	Residential	Within Historical Stormwater Pathway	380017.318	3745271.929	14 ft
N	R-20	Phase 1	Residential	Within Historical Stormwater Pathway	380022.533	3745275.085	14 ft
N	R-21	Phase 1	Residential	Within Historical Stormwater Pathway	380027.749	3745278.241	14 ft
N	R-22	Phase 1	Residential	Within Historical Stormwater Pathway	380032.964	3745281.394	14 ft
N	R-23	Phase 1	Residential	Within Historical Stormwater Pathway	380019.378	3745280.301	14 ft
N	R-24	Phase 1	Residential	Within Historical Stormwater Pathway	380024.593	3745283.457	14 ft
N	R-25	Phase 1	Residential	Within Historical Stormwater Pathway	380029.808	3745286.61	14 ft
N	R-26	Phase 1	Residential	Within Historical Stormwater Pathway	380021.438	3745288.672	14 ft
Y	R-27	Phase 1	Residential	Within Historical Stormwater Pathway	380026.651	3745291.826	14 ft
N	R-28	Phase 1	Residential	Within Historical Stormwater Pathway	380031.035	3745296.359	14 ft
N	R-29	Phase 1	Residential	Within Historical Stormwater Pathway	380018.282	3745293.888	14 ft
N	R-30	Phase 1	Residential	Within Historical Stormwater Pathway	380024.582	3745295.243	14 ft

Table 4-2. Soil Sampling Boring Location Coordinates - Phases 1 and 2

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Collocated Boring (Yor N)	Boring ID	Phase	Location	Description	Easting	Northing	Total Depth
Phase 1 Field Investigation (continued)							
N	R-31	Phase 1	Residential	Within Historical Stormwater Pathway	380028.711	3745300.199	14 ft
N	R-32	Phase 1	Residential	Within Historical Stormwater Pathway	380019.722	3745301.883	14 ft
N	R-33	Phase 1	Residential	Within Historical Stormwater Pathway	380025.554	3745305.415	14 ft
N	R-34	Phase 1	Residential	Within Historical Stormwater Pathway	380030.443	3745308.908	14 ft
Y	R-35	Phase 1	Residential	Within Historical Stormwater Pathway	380022.401	3745310.631	14 ft
N	R-36	Phase 1	Residential	Within Historical Stormwater Pathway	380027.617	3745313.787	14 ft
N	R-37	Phase 1	Residential	Within Historical Stormwater Pathway	380019.246	3745315.846	14 ft
N	R-38	Phase 1	Residential	Within Historical Stormwater Pathway	380024.461	3745319.002	14 ft
N	R-39	Phase 1	Residential	Within Historical Stormwater Pathway	380029.677	3745322.158	14 ft
N	R-40	Phase 1	Residential	Within Historical Stormwater Pathway	380021.31	3745324.22	14 ft
Y	R-41	Phase 1	Residential	Within Historical Stormwater Pathway	380026.521	3745327.374	14 ft
N	R-42	Phase 1	Residential	Within Historical Stormwater Pathway	380031.732	3745330.533	14 ft
N	R-43	Phase 1	Residential	Within Historical Stormwater Pathway	380018.153	3745329.436	14 ft
N	R-44	Phase 1	Residential	Within Historical Stormwater Pathway	380028.586	3745335.749	14 ft
N	R-45	Phase 1	Residential	Within Historical Stormwater Pathway	380020.213	3745337.808	14 ft
N	R-46	Phase 1	Residential	Within Historical Stormwater Pathway	380025.054	3745340.734	14 ft
N	R-47	Phase 1	Residential	Within Historical Stormwater Pathway	380030.645	3745344.121	14 ft
Y	R-48	Phase 1	Residential	Within Historical Stormwater Pathway	380022.272	3745346.181	14 ft
N	R-49	Phase 1	Residential	Within Historical Stormwater Pathway	380027.488	3745349.328	14 ft
N	R-50	Phase 1	Residential	Within Historical Stormwater Pathway	380019.116	3745351.397	14 ft
N	R-51	Phase 1	Residential	Within Historical Stormwater Pathway	380024.072	3745354.977	14 ft
N	R-52	Phase 1	Residential	Within Historical Stormwater Pathway	380021.173	3745359.764	14 ft
N	R-53	Phase 1	Residential	Within Historical Stormwater Pathway	380018.018	3745364.979	14 ft
N	R-54	Phase 1	Residential	Within Historical Stormwater Pathway	380023.233	3745368.135	14 ft
N	R-55	Phase 1	Residential	Within Historical Stormwater Pathway	380020.078	3745373.351	14 ft
N	R-56	Phase 1	Residential	Within Historical Stormwater Pathway	380025.293	3745376.507	14 ft
Phase 2 Field Investigation							
N	P2-01	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379992.299	3745213.836	11 ft
N	P2-02	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	380007.964	3745223.274	11 ft
N	P2-03	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379951.532	3745210.624	11 ft
N	P2-04	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379967.196	3745220.062	11 ft
N	P2-05	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379982.861	3745229.5	11 ft
N	P2-06	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379998.526	3745238.938	11 ft
N	P2-07	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379942.094	3745226.289	11 ft
N	P2-08	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379957.758	3745235.727	11 ft
N	P2-09	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379973.423	3745245.165	11 ft
N	P2-10	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379989.088	3745254.603	11 ft
N	P2-11	Phase 2	ECI Property	Within Historical Stormwater Pathway	379996.92	3745259.322	14 ft
N	P2-12	Phase 2	ECI Property	Within Historical Stormwater Pathway	380000.033	3745271.874	14 ft
N	P2-13	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379948.32	3745251.392	11 ft
N	P2-14	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379963.985	3745260.83	11 ft
N	P2-15	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379979.65	3745270.268	11 ft
N	P2-16	Phase 2	ECI Property	Within Historical Stormwater Pathway	379995.314	3745279.706	14 ft
N	P2-17	Phase 2	ECI Property	Within Historical Stormwater Pathway	379990.595	3745287.538	14 ft
N	P2-18	Phase 2	ECI Property	Within Historical Stormwater Pathway	379998.428	3745292.257	14 ft
N	P2-19	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379954.547	3745276.495	11 ft
N	P2-20	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379970.212	3745285.933	11 ft
N	P2-21	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379985.876	3745295.371	11 ft
N	P2-22	Phase 2	ECI Property	Within Historical Stormwater Pathway	380001.541	3745304.809	14 ft
N	P2-23	Phase 2	ECI Property	Within Historical Stormwater Pathway	379988.99	3745307.922	14 ft
N	P2-24	Phase 2	ECI Property	Within Historical Stormwater Pathway	379996.822	3745312.641	14 ft
N	P2-25	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379960.774	3745301.597	11 ft
N	P2-26	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379976.438	3745311.035	11 ft
N	P2-27	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379992.103	3745320.473	11 ft
N	P2-28	Phase 2	ECI Property	Within Historical Stormwater Pathway	379999.936	3745325.192	14 ft
N	P2-29	Phase 2	ECI Property	Within Historical Stormwater Pathway	379995.217	3745333.025	14 ft
N	P2-30	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379967	3745326.7	11 ft
N	P2-31	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379982.665	3745336.138	11 ft
N	P2-32	Phase 2	ECI Property	Within Historical Stormwater Pathway	379990.498	3745340.857	14 ft
N	P2-33	Phase 2	ECI Property	Within Historical Stormwater Pathway	379998.33	3745345.576	14 ft
N	P2-34	Phase 2	ECI Property	Within Historical Stormwater Pathway	379985.779	3745348.689	14 ft

Table 4-2. Soil Sampling Boring Location Coordinates - Phases 1 and 2

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Collocated Boring (Yor N)	Boring ID	Phase	Location	Description	Easting	Northing	Total Depth
Phase 2 Field Investigation (continued)							
N	P2-35	Phase 2	ECI Property	Within Historical Stormwater Pathway	379993.611	3745353.408	14 ft
N	P2-36	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379957.562	3745342.365	11 ft
N	P2-37	Phase 2	ECI Property	Within Historical Stormwater Pathway	379973.227	3745351.803	14 ft
N	P2-38	Phase 2	ECI Property	Within Historical Stormwater Pathway	379981.06	3745356.522	14 ft
N	P2-39	Phase 2	ECI Property	Within Historical Stormwater Pathway	379988.892	3745361.241	14 ft
N	P2-40	Phase 2	ECI Property	Within Historical Stormwater Pathway	379976.341	3745364.354	14 ft
N	P2-41	Phase 2	ECI Property	Within Historical Stormwater Pathway	379984.173	3745369.073	14 ft
N	P2-42	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379948.0634	3745358.091	11 ft
N	P2-43	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379963.789	3745367.467	11 ft
N	P2-44	Phase 2	ECI Property	Within Historical Stormwater Pathway	379971.622	3745372.186	14 ft
N	P2-45	Phase 2	ECI Property	Within Historical Stormwater Pathway	379979.454	3745376.905	14 ft
N	P2-46	Phase 2	ECI Property	Within Historical Stormwater Pathway	379967.426	3745379.15	14 ft
N	P2-47	Phase 2	ECI Property	Outside of Historical Stormwater Pathway	379956.863	3745378.467	11 ft

Notes:
Y = Yes
N= No
Table 4-3 presents the locations of the collocated borings.

Table 4-3. Soil Sampling Collocated Boring Locations - Phases 1 and 2

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Collocated Boring ID	Phase	Location	Description	Colocated Distance from Primary Boring (ft)	Direction Counter Clockwise from North (degrees)	Depth
Phase 1 Field Investigation						
P1-02C	Phase 1	ECI Property	Within LACFCD Easement Buffer	6	262	20 ft
P1-05C	Phase 1	ECI Property	Within LACFCD Easement Buffer	10	276	20 ft
P1-06C	Phase 1	ECI Property	Within LACFCD Easement Buffer	6	204	20 ft
P1-10C	Phase 1	ECI Property	Within LACFCD Easement Buffer	3	165	20 ft
P1-17C	Phase 1	ECI Property	Within LACFCD Easement Buffer	11	296	20 ft
P1-25C	Phase 1	ECI Property	Within LACFCD Easement Buffer	8	365	20 ft
RC-27	Phase 1	Residential	Within Historical Stormwater Pathway	5	303	14 ft
RC-35	Phase 1	Residential	Within Historical Stormwater Pathway	1	27	14 ft
RC-41	Phase 1	Residential	Within Historical Stormwater Pathway	3	141	14 ft
RC-48	Phase 1	Residential	Within Historical Stormwater Pathway	10	95	14 ft
Phase 2 Field Investigation						
Between 4 to 7 Borings	Phase 2	ECI Property	West of LCAFCD Easement Buffer and within Historical Stormwater Pathway	To be detemined	To be detemined	14 ft
Between 4 to 7 Borings	Phase 2	ECI Property	Outside Historical Stormwater Pathway	To be detemined	To be detemined	11 ft

Note:
The rationale for collocated grid spacing is provided in Appendix A, Data Quality Objectives, Step 7. *Quality Assurance Project Plan* (EPA, 2006b) .

Table 5-1A. Request for Analyses - Phase 1 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					**CLP**	**CLP**	**CLP**	**CLP**
Specific Analyses Requested					**Pesticides/PCBs**	**Pesticides/PCBs**	**Pesticides/PCBs**	**Pesticides/PCBs**
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	**Sample Depth**	**Sample ID**	**Sample Type**	**Sample Date**	**1 x 8 -oz. glass jar**	**1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar**	**1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar**	**2-1 L amber bottles**
Residential Area							]	
R01-0	0' - 0.5'		Soil		X			
R01-0.5	0.5' - 2'		Soil			X		
R01-2	2' - 5'		Soil				X	
R01-5	5' - 8'		Soil				X	
R01-8	8' - 11'		Soil				X	
R01-11	11' - 14'		Soil				X	
R02-0	0' - 0.5'		Soil		X			
R02-0.5	0.5' - 2'		Soil			X		
R02-2	2' - 5'		Soil				X	
R02-5	5' - 8'		Soil				X	
R02-8	8' - 11'		Soil				X	
R02-11	11' - 14'		Soil				X	
R03-0	0' - 0.5'		Soil		X			
R03-0.5	0.5' - 2'		Soil			X		
R03-2	2' - 5'		Soil				X	
R03-5	5' - 8'		Soil				X	
R03-8	8' - 11'		Soil				X	
R03-11	11' - 14'		Soil				X	
R04-0	0' - 0.5'		Soil		X			
R04-0.5	0.5' - 2'		Soil			x MS/MSD		
R04-2	2' - 5'		Soil				X	
R04-5	5' - 8'		Soil				X	
R04-8	8' - 11'		Soil				X	
R04-11	11' - 14'		Soil				X	
R05-0	0' - 0.5'		Soil		X			
R05-0.5	0.5' - 2'		Soil			X		
R05-2	2' - 5'		Soil				X	
R05-5	5' - 8'		Soil				X	
R05-8	8' - 11'		Soil				X	
R05-11	11' - 14'		Soil				X	
R06-0	0' - 0.5'		Soil		X			
R06-0.5	0.5' - 2'		Soil			X		
R06-2	2' - 5'		Soil				X	
R06-5	5' - 8'		Soil				X	
R06-8	8' - 11'		Soil				X	
R06-11	11' - 14'		Soil				X	
R07-0	0' - 0.5'		Soil		X			
R07-0.5	0.5' - 2'		Soil			X		
R07-2	2' - 5'		Soil				X	
R07-5	5' - 8'		Soil				x MS/MSD	
R07-8	8' - 11'		Soil				X	
R07-11	11' - 14'		Soil				X	
R08-0	0' - 0.5'		Soil		X			
R08-0.5	0.5' - 2'		Soil			X		

Table 5-1A. Request for Analyses - Phase 1 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					CLP	CLP	CLP	CLP
Specific Analyses Requested					Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	Sample Depth	Sample ID	Sample Type	Sample Date	1 x 8 -oz. glass jar	1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar	1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar	2-1 L amber bottles
R08-2	2' - 5'		Soil				X	
R08-5	5' - 8'		Soil				X	
R08-8	8' - 11'		Soil				X	
R08-11	11' - 14'		Soil				X	
R09-0	0' - 0.5'		Soil		X			
R09-0.5	0.5' - 2'		Soil			X		
R09-2	2' - 5'		Soil				X	
R09-5	5' - 8'		Soil				X	
R09-8	8' - 11'		Soil				X	
R09-11	11' - 14'		Soil				X	
R10-0	0' - 0.5'		Soil		X			
R10-0.5	0.5' - 2'		Soil			X		
R10-2	2' - 5'		Soil				X	
R10-5	5' - 8'		Soil				X	
R10-8	8' - 11'		Soil				X	
R10-11	11' - 14'		Soil				x MS/MSD	
R11-0	0' - 0.5'		Soil		X			
R11-0.5	0.5' - 2'		Soil			X		
R11-2	2' - 5'		Soil				X	
R11-5	5' - 8'		Soil				X	
R11-8	8' - 11'		Soil				X	
R11-11	11' - 14'		Soil				X	
R12-0	0' - 0.5'		Soil		X			
R12-0.5	0.5' - 2'		Soil			X		
R12-2	2' - 5'		Soil				X	
R12-5	5' - 8'		Soil				X	
R12-8	8' - 11'		Soil				X	
R12-11	11' - 14'		Soil				X	
R13-0	0' - 0.5'		Soil		X			
R13-0.5	0.5' - 2'		Soil			X		
R13-2	2' - 5'		Soil				X	
R13-5	5' - 8'		Soil				X	
R13-8	8' - 11'		Soil				X	
R13-11	11' - 14'		Soil				X	
R14-0	0' - 0.5'		Soil		X			
R14-0.5	0.5' - 2'		Soil			x MS/MSD		
R14-2	2' - 5'		Soil				X	
R14-5	5' - 8'		Soil				X	
R14-8	8' - 11'		Soil				X	
R14-11	11' - 14'		Soil				X	
R15-0	0' - 0.5'		Soil		X			
R15-0.5	0.5' - 2'		Soil			X		
R15-2	2' - 5'		Soil				X	
R15-5	5' - 8'		Soil				X	

Table 5-1A. Request for Analyses - Phase 1 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					CLP	CLP	CLP	CLP
Specific Analyses Requested					Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	Sample Depth	Sample ID	Sample Type	Sample Date	1 x 8 -oz. glass jar	1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar	1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar	2-1 L amber bottles
R15-8	8' - 11'		Soil				X	
R15-11	11' - 14'		Soil				X	
R16-0	0' - 0.5'		Soil		X			
R16-0.5	0.5' - 2'		Soil			X		
R16-2	2' - 5'		Soil				X	
R16-5	5' - 8'		Soil				X	
R16-8	8' - 11'		Soil				X	
R16-11	11' - 14'		Soil				X	
R17-0	0' - 0.5'		Soil		X			
R17-0.5	0.5' - 2'		Soil			X		
R17-2	2' - 5'		Soil				X	
R17-5	5' - 8'		Soil				x MS/MSD	
R17-8	8' - 11'		Soil				X	
R17-11	11' - 14'		Soil				X	
R18-0	0' - 0.5'		Soil		X			
R18-0.5	0.5' - 2'		Soil			X		
R18-2	2' - 5'		Soil				X	
R18-5	5' - 8'		Soil				X	
R18-8	8' - 11'		Soil				X	
R18-11	11' - 14'		Soil				X	
R19-0	0' - 0.5'		Soil		X			
R19-0.5	0.5' - 2'		Soil			X		
R19-2	2' - 5'		Soil				X	
R19-5	5' - 8'		Soil				X	
R19-8	8' - 11'		Soil				X	
R19-11	11' - 14'		Soil				X	
R20-0	0' - 0.5'		Soil		X			
R20-0.5	0.5' - 2'		Soil			X		
R20-2	2' - 5'		Soil				X	
R20-5	5' - 8'		Soil				X	
R20-8	8' - 11'		Soil				X	
R20-11	11' - 14'		Soil				x MS/MSD	
R21-0	0' - 0.5'		Soil		X			
R21-0.5	0.5' - 2'		Soil			X		
R21-2	2' - 5'		Soil				X	
R21-5	5' - 8'		Soil				X	
R21-8	8' - 11'		Soil				X	
R21-11	11' - 14'		Soil				X	
R22-0	0' - 0.5'		Soil		X			
R22-0.5	0.5' - 2'		Soil			X		
R22-2	2' - 5'		Soil				X	
R22-5	5' - 8'		Soil				X	
R22-8	8' - 11'		Soil				X	
R22-11	11' - 14'		Soil				X	

Table 5-1A. Request for Analyses - Phase 1 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					CLP	CLP	CLP	CLP
Specific Analyses Requested					Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	Sample Depth	Sample ID	Sample Type	Sample Date	1 x 8 -oz. glass jar	1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar	1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar	2-1 L amber bottles
R23-0	0' - 0.5'		Soil		X			
R23-0.5	0.5' - 2'		Soil			X		
R23-2	2' - 5'		Soil				X	
R23-5	5' - 8'		Soil				X	
R23-8	8' - 11'		Soil				X	
R23-11	11' - 14'		Soil				X	
R24-0	0' - 0.5'		Soil		X			
R24-0.5	0.5' - 2'		Soil			x MS/MSD		
R24-2	2' - 5'		Soil				X	
R24-5	5' - 8'		Soil				X	
R24-8	8' - 11'		Soil				X	
R24-11	11' - 14'		Soil				X	
R25-0	0' - 0.5'		Soil		X			
R25-0.5	0.5' - 2'		Soil			X		
R25-2	2' - 5'		Soil				X	
R25-5	5' - 8'		Soil				X	
R25-8	8' - 11'		Soil				X	
R25-11	11' - 14'		Soil				X	
R26-0	0' - 0.5'		Soil		X			
R26-0.5	0.5' - 2'		Soil			X		
R26-2	2' - 5'		Soil				X	
R26-5	5' - 8'		Soil				X	
R26-8	8' - 11'		Soil				X	
R26-11	11' - 14'		Soil				X	
R27-0	0' - 0.5'		Soil		X			
R27-0.5	0.5' - 2'		Soil			X		
R27-2	2' - 5'		Soil				X	
R27-5	5' - 8'		Soil				x MS/MSD	
R27-8	8' - 11'		Soil				X	
R27-11	11' - 14'		Soil				X	
RC27-0	0' - 0.5'		Soil		X			
RC27-0.5	0.5' - 2'		Soil			X		
RC27-2	2' - 5'		Soil				X	
RC27-5	5' - 8'		Soil				X	
RC27-8	8' - 11'		Soil				X	
RC27-11	11' - 14'		Soil				X	
RD27-0	0' - 0.5'		Soil		X			
RD27-0.5	0.5' - 2'		Soil			X		
RD27-2	2' - 5'		Soil				X	
RD27-5	5' - 8'		Soil				X	
RD27-8	8' - 11'		Soil				X	
RD27-11	11' - 14'		Soil				X	
R28-0	0' - 0.5'		Soil		X			
R28-0.5	0.5' - 2'		Soil			X		

Table 5-1A. Request for Analyses - Phase 1 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					CLP	CLP	CLP	CLP
Specific Analyses Requested					Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	Sample Depth	Sample ID	Sample Type	Sample Date	1 x 8 -oz. glass jar	1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar	1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar	2-1 L amber bottles
R28-2	2' - 5'		Soil				X	
R28-5	5' - 8'		Soil				X	
R28-8	8' - 11'		Soil				X	
R28-11	11' - 14'		Soil				x MS/MSD	
R29-0	0' - 0.5'		Soil		X			
R29-0.5	0.5' - 2'		Soil			X		
R29-2	2' - 5'		Soil				X	
R29-5	5' - 8'		Soil				X	
R29-8	8' - 11'		Soil				X	
R29-11	11' - 14'		Soil				X	
R30-0	0' - 0.5'		Soil		X			
R30-0.5	0.5' - 2'		Soil			X		
R30-2	2' - 5'		Soil				X	
R30-5	5' - 8'		Soil				X	
R30-8	8' - 11'		Soil				X	
R30-11	11' - 14'		Soil				X	
R31-0	0' - 0.5'		Soil		X			
R31-0.5	0.5' - 2'		Soil			X		
R31-2	2' - 5'		Soil				X	
R31-5	5' - 8'		Soil				X	
R31-8	8' - 11'		Soil				X	
R31-11	11' - 14'		Soil				X	
R32-0	0' - 0.5'		Soil		X			
R32-0.5	0.5' - 2'		Soil			x MS/MSD		
R32-2	2' - 5'		Soil				X	
R32-5	5' - 8'		Soil				X	
R32-8	8' - 11'		Soil				X	
R32-11	11' - 14'		Soil				X	
R33-0	0' - 0.5'		Soil		X			
R33-0.5	0.5' - 2'		Soil			X		
R33-2	2' - 5'		Soil				X	
R33-5	5' - 8'		Soil				X	
R33-8	8' - 11'		Soil				X	
R33-11	11' - 14'		Soil				X	
R34-0	0' - 0.5'		Soil		X			
R34-0.5	0.5' - 2'		Soil			X		
R34-2	2' - 5'		Soil				X	
R34-5	5' - 8'		Soil				X	
R34-8	8' - 11'		Soil				X	
R34-11	11' - 14'		Soil				X	
R35-0	0' - 0.5'		Soil		X			
R35-0.5	0.5' - 2'		Soil			X		
R35-2	2' - 5'		Soil				X	
R35-5	5' - 8'		Soil				x MS/MSD	

Table 5-1A. Request for Analyses - Phase 1 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					CLP	CLP	CLP	CLP
Specific Analyses Requested					Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	Sample Depth	Sample ID	Sample Type	Sample Date	1 x 8 -oz. glass jar	1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar	1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar	2-1 L amber bottles
R35-8	8' - 11'		Soil				X	
R35-11	11' - 14'		Soil				X	
RC35-0	0' - 0.5'		Soil		X			
RC35-0.5	0.5' - 2'		Soil			X		
RC35-2	2' - 5'		Soil				X	
RC35-5	5' - 8'		Soil				X	
RC35-8	8' - 11'		Soil				X	
RC35-11	11' - 14'		Soil				X	
RD35-0	0' - 0.5'		Soil		X			
RD35-0.5	0.5' - 2'		Soil			X		
RD35-2	2' - 5'		Soil				X	
RD35-5	5' - 8'		Soil				X	
RD35-8	8' - 11'		Soil				X	
RD35-11	11' - 14'		Soil				X	
R36-0	0' - 0.5'		Soil		X			
R36-0.5	0.5' - 2'		Soil			X		
R36-2	2' - 5'		Soil				X	
R36-5	5' - 8'		Soil				X	
R36-8	8' - 11'		Soil				x MS/MSD	
R36-11	11' - 14'		Soil				X	
R37-0	0' - 0.5'		Soil		X			
R37-0.5	0.5' - 2'		Soil			X		
R37-2	2' - 5'		Soil				X	
R37-5	5' - 8'		Soil				X	
R37-8	8' - 11'		Soil				X	
R37-11	11' - 14'		Soil				X	
R38-0	0' - 0.5'		Soil		X			
R38-0.5	0.5' - 2'		Soil			X		
R38-2	2' - 5'		Soil				X	
R38-5	5' - 8'		Soil				X	
R38-8	8' - 11'		Soil				X	
R38-11	11' - 14'		Soil				X	
R39-0	0' - 0.5'		Soil		X			
R39-0.5	0.5' - 2'		Soil			X		
R39-2	2' - 5'		Soil				X	
R39-5	5' - 8'		Soil				X	
R39-8	8' - 11'		Soil				X	
R39-11	11' - 14'		Soil				x MS/MSD	
R40-0	0' - 0.5'		Soil		X			
R40-0.5	0.5' - 2'		Soil			X		
R40-2	2' - 5'		Soil				X	
R40-5	5' - 8'		Soil				X	
R40-8	8' - 11'		Soil				X	
R40-11	11' - 14'		Soil				X	

Table 5-1A. Request for Analyses - Phase 1 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					CLP	CLP	CLP	CLP
Specific Analyses Requested					Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	Sample Depth	Sample ID	Sample Type	Sample Date	1 x 8 -oz. glass jar	1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar	1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar	2-1 L amber bottles
R43-0	0' - 0.5'		Soil		X			
R43-0.5	0.5' - 2'		Soil			X		
R43-2	2' - 5'		Soil				X	
R43-5	5' - 8'		Soil				X	
R43-8	8' - 11'		Soil				X	
R43-11	11' - 14'		Soil				X	
R41-0	0' - 0.5'		Soil		X			
R41-0.5	0.5' - 2'		Soil			X		
R41-2	2' - 5'		Soil				X	
R41-5	5' - 8'		Soil				X	
R41-8	8' - 11'		Soil				X	
R41-11	11' - 14'		Soil				X	
RC41-0	0' - 0.5'		Soil		x MS/MSD			
RC41-0.5	0.5' - 2'		Soil			X		
RC41-2	2' - 5'		Soil				X	
RC41-5	5' - 8'		Soil				X	
RC41-8	8' - 11'		Soil				X	
RC41-11	11' - 14'		Soil				X	
RD41-0	0' - 0.5'		Soil		X			
RD41-0.5	0.5' - 2'		Soil			X		
RD41-2	2' - 5'		Soil				X	
RD41-5	5' - 8'		Soil				X	
RD41-8	8' - 11'		Soil				X	
RD41-11	11' - 14'		Soil				X	
R42-0	0' - 0.5'		Soil		X			
R42-0.5	0.5' - 2'		Soil			X		
R42-2	2' - 5'		Soil				X	
R42-5	5' - 8'		Soil				X	
R42-8	8' - 11'		Soil				X	
R42-11	11' - 14'		Soil				X	
R44-0	0' - 0.5'		Soil		X			
R44-0.5	0.5' - 2'		Soil			X		
R44-2	2' - 5'		Soil				x MS/MSD	
R44-5	5' - 8'		Soil				X	
R44-8	8' - 11'		Soil				X	
R44-11	11' - 14'		Soil				X	
R45-0	0' - 0.5'		Soil		X			
R45-0.5	0.5' - 2'		Soil			X		
R45-2	2' - 5'		Soil				X	
R45-5	5' - 8'		Soil				X	
R45-8	8' - 11'		Soil				X	
R45-11	11' - 14'		Soil				X	
R46-0	0' - 0.5'		Soil		X			
R46-0.5	0.5' - 2'		Soil			X		

Table 5-1A. Request for Analyses - Phase 1 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					CLP	CLP	CLP	CLP
Specific Analyses Requested					Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	Sample Depth	Sample ID	Sample Type	Sample Date	1 x 8 -oz. glass jar	1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar	1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar	2-1 L amber bottles
R46-2	2' - 5'		Soil				X	
R46-5	5' - 8'		Soil				X	
R46-8	8' - 11'		Soil				X	
R46-11	11' - 14'		Soil				X	
R48-0	0' - 0.5'		Soil		X			
R48-0.5	0.5' - 2'		Soil			X		
R48-2	2' - 5'		Soil				X	
R48-5	5' - 8'		Soil				X	
R48-8	8' - 11'		Soil				x MS/MSD	
R48-11	11' - 14'		Soil				X	
RC48-0	0' - 0.5'		Soil		X			
RC48-0.5	0.5' - 2'		Soil			X		
RC48-2	2' - 5'		Soil				X	
RC48-5	5' - 8'		Soil				X	
RC48-8	8' - 11'		Soil				X	
RC48-11	11' - 14'		Soil				X	
RD48-0	0' - 0.5'		Soil		X			
RD48-0.5	0.5' - 2'		Soil			X		
RD48-2	2' - 5'		Soil				X	
RD48-5	5' - 8'		Soil				X	
RD48-8	8' - 11'		Soil				X	
RD48-11	11' - 14'		Soil				X	
R47-0	0' - 0.5'		Soil		X			
R47-0.5	0.5' - 2'		Soil			X		
R47-2	2' - 5'		Soil				X	
R47-5	5' - 8'		Soil				X	
R47-8	8' - 11'		Soil				X	
R47-11	11' - 14'		Soil				X	
R49-0	0' - 0.5'		Soil		x MS/MSD			
R49-0.5	0.5' - 2'		Soil			X		
R49-2	2' - 5'		Soil				X	
R49-5	5' - 8'		Soil				X	
R49-8	8' - 11'		Soil				X	
R49-11	11' - 14'		Soil				X	
R50-0	0' - 0.5'		Soil		X			
R50-0.5	0.5' - 2'		Soil			X		
R50-2	2' - 5'		Soil				X	
R50-5	5' - 8'		Soil				X	
R50-8	8' - 11'		Soil				X	
R50-11	11' - 14'		Soil				X	
R51-0	0' - 0.5'		Soil		X			
R51-0.5	0.5' - 2'		Soil			X		
R51-2	2' - 5'		Soil				X	
R51-5	5' - 8'		Soil				X	

Table 5-1A. Request for Analyses - Phase 1 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					CLP	CLP	CLP	CLP
Specific Analyses Requested					Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	**Sample Depth**	**Sample ID**	**Sample Type**	**Sample Date**	**1 x 8 -oz. glass jar**	**1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar**	**1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar**	**2-1 L amber bottles**
R51-8	8' - 11'		Soil				X	
R51-11	11' - 14'		Soil				X	
R52-0	0' - 0.5'		Soil		X			
R52-0.5	0.5' - 2'		Soil			X		
R52-2	2' - 5'		Soil				x MS/MSD	
R52-5	5' - 8'		Soil				X	
R52-8	8' - 11'		Soil				X	
R52-11	11' - 14'		Soil				X	
R53-0	0' - 0.5'		Soil		X			
R53-0.5	0.5' - 2'		Soil			X		
R53-2	2' - 5'		Soil				X	
R53-5	5' - 8'		Soil				X	
R53-8	8' - 11'		Soil				X	
R53-11	11' - 14'		Soil				X	
R54-0	0' - 0.5'		Soil		X			
R54-0.5	0.5' - 2'		Soil			X		
R54-2	2' - 5'		Soil				X	
R54-5	5' - 8'		Soil				X	
R54-8	8' - 11'		Soil				X	
R54-11	11' - 14'		Soil				X	
R55-0	0' - 0.5'		Soil		X			
R55-0.5	0.5' - 2'		Soil			X		
R55-2	2' - 5'		Soil				X	
R55-5	5' - 8'		Soil				X	
R55-8	8' - 11'		Soil				x MS/MSD	
R55-11	11' - 14'		Soil				X	
R56-0	0' - 0.5'		Soil		X			
R56-0.5	0.5' - 2'		Soil			X		
R56-2	2' - 5'		Soil				X	
R56-5	5' - 8'		Soil				X	
R56-8	8' - 11'		Soil				X	
R56-11	11' - 14'		Soil				X	
ECI Property								
P1-01-0	0' - 0.5'		Soil		X			
P1-01-0.5	0.5' - 2'		Soil			X		
P1-01-2	2' - 5'		Soil				X	
P1-01-5	5' - 8'		Soil				X	
P1-01-8	8' - 11'		Soil				X	
P1-01-11	11' - 14'		Soil				X	
P1-01-14	14' - 17'		Soil				X	
P1-01-17	17' - 20'		Soil				X	
P1-02-0	0' - 0.5'		Soil		X			
P1-02-0.5	0.5' - 2'		Soil			X		
P1-02-2	2' - 5'		Soil				X	

Table 5-1A. Request for Analyses - Phase 1 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					CLP	CLP	CLP	CLP
Specific Analyses Requested					Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	**Sample Depth**	**Sample ID**	**Sample Type**	**Sample Date**	**1 x 8 -oz. glass jar**	**1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar**	**1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar**	**2-1 L amber bottles**
P1-02-5	5' - 8'		Soil				X	
P1-02-8	8' - 11'		Soil				x MS/MSD	
P1-02-11	11' - 14'		Soil				X	
P1-02-14	14' - 17'		Soil				X	
P1-02-17	17' - 20'		Soil				X	
P1-02C-0	0' - 0.5'		Soil		X			
P1-02C-0.5	0.5' - 2'		Soil			X		
P1-02C-2	2' - 5'		Soil				X	
P1-02C-5	5' - 8'		Soil				X	
P1-02C-8	8' - 11'		Soil				X	
P1-02C-11	11' - 14'		Soil				X	
P1-02C-14	14' - 17'		Soil				X	
P1-02C-17	17' - 20'		Soil				X	
P1-02D-0	0' - 0.5'		Soil		X			
P1-02D-0.5	0.5' - 2'		Soil			X		
P1-02D-2	2' - 5'		Soil				X	
P1-02D-5	5' - 8'		Soil				X	
P1-02D-8	8' - 11'		Soil				X	
P1-02D-11	11' - 14'		Soil				X	
P1-02D-14	14' - 17'		Soil				X	
P1-02D-17	17' - 20'		Soil				X	
P1-03-0	0' - 0.5'		Soil		x MS/MSD			
P1-03-0.5	0.5' - 2'		Soil			X		
P1-03-2	2' - 5'		Soil				X	
P1-03-5	5' - 8'		Soil				X	
P1-03-8	8' - 11'		Soil				X	
P1-03-11	11' - 14'		Soil				X	
P1-03-14	14' - 17'		Soil				X	
P1-03-17	17' - 20'		Soil				X	
P1-04-0	0' - 0.5'		Soil		X			
P1-04-0.5	0.5' - 2'		Soil			X		
P1-04-2	2' - 5'		Soil				X	
P1-04-5	5' - 8'		Soil				X	
P1-04-8	8' - 11'		Soil				X	
P1-04-11	11' - 14'		Soil				X	
P1-04-14	14' - 17'		Soil				X	
P1-04-17	17' - 20'		Soil				X	
P1-05-0	0' - 0.5'		Soil		X			
P1-05-0.5	0.5' - 2'		Soil			X		
P1-05-2	2' - 5'		Soil				X	
P1-05-5	5' - 8'		Soil				X	
P1-05-8	8' - 11'		Soil				x MS/MSD	
P1-05-11	11' - 14'		Soil				X	
P1-05-14	14' - 17'		Soil				X	

Table 5-1A. Request for Analyses - Phase 1 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					CLP	CLP	CLP	CLP
Specific Analyses Requested					Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	**Sample Depth**	**Sample ID**	**Sample Type**	**Sample Date**	**1 x 8 -oz. glass jar**	**1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar**	**1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar**	**2-1 L amber bottles**
P1-05-17	17' - 20'		Soil				X	
P1-05C-0	0' - 0.5'		Soil		X			
P1-05C-0.5	0.5' - 2'		Soil			X		
P1-05C-2	2' - 5'		Soil				X	
P1-05C-5	5' - 8'		Soil				X	
P1-05C-8	8' - 11'		Soil				X	
P1-05C-11	11' - 14'		Soil				X	
P1-05C-14	14' - 17'		Soil				X	
P1-05C-17	17' - 20'		Soil				X	
P1-05D-0	0' - 0.5'		Soil		X			
P1-05D-0.5	0.5' - 2'		Soil			X		
P1-05D-2	2' - 5'		Soil				X	
P1-05D-5	5' - 8'		Soil				X	
P1-05D-8	8' - 11'		Soil				X	
P1-05D-11	11' - 14'		Soil				X	
P1-05D-14	14' - 17'		Soil				X	
P1-05D-17	17' - 20'		Soil				X	
P1-07-0	0' - 0.5'		Soil		x MS/MSD			
P1-07-0.5	0.5' - 2'		Soil			X		
P1-07-2	2' - 5'		Soil				X	
P1-07-5	5' - 8'		Soil				X	
P1-07-8	8' - 11'		Soil				X	
P1-07-11	11' - 14'		Soil				X	
P1-07-14	14' - 17'		Soil				X	
P1-07-17	17' - 20'		Soil				X	
P1-06-0	0' - 0.5'		Soil		X			
P1-06-0.5	0.5' - 2'		Soil			X		
P1-06-2	2' - 5'		Soil				X	
P1-06-5	5' - 8'		Soil				X	
P1-06-8	8' - 11'		Soil				X	
P1-06-11	11' - 14'		Soil				X	
P1-06-14	14' - 17'		Soil				X	
P1-06-17	17' - 20'		Soil				X	
P1-06C-0	0' - 0.5'		Soil		X			
P1-06C-0.5	0.5' - 2'		Soil			X		
P1-06C-2	2' - 5'		Soil				X	
P1-06C-5	5' - 8'		Soil				X	
P1-06C-8	8' - 11'		Soil				x MS/MSD	
P1-06C-11	11' - 14'		Soil				X	
P1-06C-14	14' - 17'		Soil				X	
P1-06C-17	17' - 20'		Soil				X	
P1-06D-0	0' - 0.5'		Soil		X			
P1-06D-0.5	0.5' - 2'		Soil			X		
P1-06D-2	2' - 5'		Soil				X	

Table 5-1A. Request for Analyses - Phase 1 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					CLP	CLP	CLP	CLP
Specific Analyses Requested					Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	Sample Depth	Sample ID	Sample Type	Sample Date	1 x 8 -oz. glass jar	1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar	1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar	2-1 L amber bottles
P1-06D-5	5' - 8'		Soil				X	
P1-06D-8	8' - 11'		Soil				X	
P1-06D-11	11' - 14'		Soil				X	
P1-06D-14	14' - 17'		Soil				X	
P1-06D-17	17' - 20'		Soil				X	
P1-08-0	0' - 0.5'		Soil		X			
P1-08-0.5	0.5' - 2'		Soil			X		
P1-08-2	2' - 5'		Soil				X	
P1-08-5	5' - 8'		Soil				X	
P1-08-8	8' - 11'		Soil				X	
P1-08-11	11' - 14'		Soil				X	
P1-08-14	14' - 17'		Soil				X	
P1-08-17	17' - 20'		Soil				X	
P1-09-0	0' - 0.5'		Soil		x MS/MSD			
P1-09-0.5	0.5' - 2'		Soil			X		
P1-09-2	2' - 5'		Soil				X	
P1-09-5	5' - 8'		Soil				X	
P1-09-8	8' - 11'		Soil				X	
P1-09-11	11' - 14'		Soil				X	
P1-09-14	14' - 17'		Soil				X	
P1-09-17	17' - 20'		Soil				X	
P1-10-0	0' - 0.5'		Soil		X			
P1-10-0.5	0.5' - 2'		Soil			X		
P1-10-2	2' - 5'		Soil				X	
P1-10-5	5' - 8'		Soil				X	
P1-10-8	8' - 11'		Soil				X	
P1-10-11	11' - 14'		Soil				X	
P1-10-14	14' - 17'		Soil				X	
P1-10-17	17' - 20'		Soil				X	
P1-10C-0	0' - 0.5'		Soil		X			
P1-10C-0.5	0.5' - 2'		Soil			X		
P1-10C-2	2' - 5'		Soil				X	
P1-10C-5	5' - 8'		Soil				X	
P1-10C-8	8' - 11'		Soil				x MS/MSD	
P1-10C-11	11' - 14'		Soil				X	
P1-10C-14	14' - 17'		Soil				X	
P1-10C-17	17' - 20'		Soil				X	
P1-10D-0	0' - 0.5'		Soil		X			
P1-10D-0.5	0.5' - 2'		Soil			X		
P1-10D-2	2' - 5'		Soil				X	
P1-10D-5	5' - 8'		Soil				X	
P1-10D-8	8' - 11'		Soil				X	
P1-10D-11	11' - 14'		Soil				X	
P1-10D-14	14' - 17'		Soil				X	

Table 5-1A. Request for Analyses - Phase 1 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					CLP	CLP	CLP	CLP
Specific Analyses Requested					Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	Sample Depth	Sample ID	Sample Type	Sample Date	1 x 8 -oz. glass jar	1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar	1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar	2-1 L amber bottles
P1-10D-17	17' - 20'		Soil				X	
P1-11-0	0' - 0.5'		Soil		X			
P1-11-0.5	0.5' - 2'		Soil			X		
P1-11-2	2' - 5'		Soil				X	
P1-11-5	5' - 8'		Soil				X	
P1-11-8	8' - 11'		Soil				X	
P1-11-11	11' - 14'		Soil				X	
P1-11-14	14' - 17'		Soil				X	
P1-11-17	17' - 20'		Soil				X	
P1-12-0	0' - 0.5'		Soil		x MS/MSD			
P1-12-0.5	0.5' - 2'		Soil			X		
P1-12-2	2' - 5'		Soil				X	
P1-12-5	5' - 8'		Soil				X	
P1-12-8	8' - 11'		Soil				X	
P1-12-11	11' - 14'		Soil				X	
P1-12-14	14' - 17'		Soil				X	
P1-12-17	17' - 20'		Soil				X	
P1-13-0	0' - 0.5'		Soil		X			
P1-13-0.5	0.5' - 2'		Soil			X		
P1-13-2	2' - 5'		Soil				X	
P1-13-5	5' - 8'		Soil				X	
P1-13-8	8' - 11'		Soil				X	
P1-13-11	11' - 14'		Soil				X	
P1-13-14	14' - 17'		Soil				X	
P1-13-17	17' - 20'		Soil				X	
P1-14-0	0' - 0.5'		Soil		X			
P1-14-0.5	0.5' - 2'		Soil			X		
P1-14-2	2' - 5'		Soil				X	
P1-14-5	5' - 8'		Soil				X	
P1-14-8	8' - 11'		Soil				x MS/MSD	
P1-14-11	11' - 14'		Soil				X	
P1-14-14	14' - 17'		Soil				X	
P1-14-17	17' - 20'		Soil				X	
P1-15-0	0' - 0.5'		Soil		X			
P1-15-0.5	0.5' - 2'		Soil			X		
P1-15-2	2' - 5'		Soil				X	
P1-15-5	5' - 8'		Soil				X	
P1-15-8	8' - 11'		Soil				X	
P1-15-11	11' - 14'		Soil				X	
P1-15-14	14' - 17'		Soil				X	
P1-15-17	17' - 20'		Soil				X	
P1-16-0	0' - 0.5'		Soil		X			
P1-16-0.5	0.5' - 2'		Soil			X		
P1-16-2	2' - 5'		Soil				X	

Table 5-1A. Request for Analyses - Phase 1 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					CLP	CLP	CLP	CLP
Specific Analyses Requested					Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	Sample Depth	Sample ID	Sample Type	Sample Date	1 x 8 -oz. glass jar	1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar	1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar	2-1 L amber bottles
P1-16-5	5' - 8'		Soil				X	
P1-16-8	8' - 11'		Soil				X	
P1-16-11	11' - 14'		Soil				X	
P1-16-14	14' - 17'		Soil				X	
P1-16-17	17' - 20'		Soil				X	
P1-18-0	0' - 0.5'		Soil		x MS/MSD			
P1-18-0.5	0.5' - 2'		Soil			X		
P1-18-2	2' - 5'		Soil				X	
P1-18-5	5' - 8'		Soil				X	
P1-18-8	8' - 11'		Soil				X	
P1-18-11	11' - 14'		Soil				X	
P1-18-14	14' - 17'		Soil				X	
P1-18-17	17' - 20'		Soil				X	
P1-17-0	0' - 0.5'		Soil		X			
P1-17-0.5	0.5' - 2'		Soil			X		
P1-17-2	2' - 5'		Soil				X	
P1-17-5	5' - 8'		Soil				X	
P1-17-8	8' - 11'		Soil				X	
P1-17-11	11' - 14'		Soil				X	
P1-17-14	14' - 17'		Soil				X	
P1-17-17	17' - 20'		Soil				X	
P1-17C-0	0' - 0.5'		Soil		X			
P1-17C-0.5	0.5' - 2'		Soil			X		
P1-17C-2	2' - 5'		Soil				X	
P1-17C-5	5' - 8'		Soil				X	
P1-17C-8	8' - 11'		Soil				x MS/MSD	
P1-17C-11	11' - 14'		Soil				X	
P1-17C-14	14' - 17'		Soil				X	
P1-17C-17	17' - 20'		Soil				X	
P1-17D-0	0' - 0.5'		Soil		X			
P1-17D-0.5	0.5' - 2'		Soil			X		
P1-17D-2	2' - 5'		Soil				X	
P1-17D-5	5' - 8'		Soil				X	
P1-17D-8	8' - 11'		Soil				X	
P1-17D-11	11' - 14'		Soil				X	
P1-17D-14	14' - 17'		Soil				X	
P1-17D-17	17' - 20'		Soil				X	
P1-19-0	0' - 0.5'		Soil		X			
P1-19-0.5	0.5' - 2'		Soil			X		
P1-19-2	2' - 5'		Soil				X	
P1-19-5	5' - 8'		Soil				X	
P1-19-8	8' - 11'		Soil				X	
P1-19-11	11' - 14'		Soil				X	
P1-19-14	14' - 17'		Soil				X	

Table 5-1A. Request for Analyses - Phase 1 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					CLP	CLP	CLP	CLP
Specific Analyses Requested					Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	**Sample Depth**	**Sample ID**	**Sample Type**	**Sample Date**	**1 x 8 -oz. glass jar**	**1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar**	**1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar**	**2-1 L amber bottles**
P1-19-17	17' - 20'		Soil				X	
P1-20-0	0' - 0.5'		Soil		x MS/MSD			
P1-20-0.5	0.5' - 2'		Soil			X		
P1-20-2	2' - 5'		Soil				X	
P1-20-5	5' - 8'		Soil				X	
P1-20-8	8' - 11'		Soil				X	
P1-20-11	11' - 14'		Soil				X	
P1-20-14	14' - 17'		Soil				X	
P1-20-17	17' - 20'		Soil				X	
P1-21-0	0' - 0.5'		Soil		X			
P1-21-0.5	0.5' - 2'		Soil			X		
P1-21-2	2' - 5'		Soil				X	
P1-21-5	5' - 8'		Soil				X	
P1-21-8	8' - 11'		Soil				X	
P1-21-11	11' - 14'		Soil				X	
P1-21-14	14' - 17'		Soil				X	
P1-21-17	17' - 20'		Soil				X	
P1-22-0	0' - 0.5'		Soil		X			
P1-22-0.5	0.5' - 2'		Soil			X		
P1-22-2	2' - 5'		Soil				X	
P1-22-5	5' - 8'		Soil				X	
P1-22-8	8' - 11'		Soil				x MS/MSD	
P1-22-11	11' - 14'		Soil				X	
P1-22-14	14' - 17'		Soil				X	
P1-22-17	17' - 20'		Soil				X	
P1-23-0	0' - 0.5'		Soil		X			
P1-23-0.5	0.5' - 2'		Soil			X		
P1-23-2	2' - 5'		Soil				X	
P1-23-5	5' - 8'		Soil				X	
P1-23-8	8' - 11'		Soil				X	
P1-23-11	11' - 14'		Soil				X	
P1-23-14	14' - 17'		Soil				X	
P1-23-17	17' - 20'		Soil				X	
P1-25-0	0' - 0.5'		Soil		X			
P1-25-0.5	0.5' - 2'		Soil			X		
P1-25-2	2' - 5'		Soil				X	
P1-25-5	5' - 8'		Soil				X	
P1-25-8	8' - 11'		Soil				X	
P1-25-11	11' - 14'		Soil				X	
P1-25-14	14' - 17'		Soil				X	
P1-25-17	17' - 20'		Soil				X	
P1-25C-0	0' - 0.5'		Soil		x MS/MSD			
P1-25C-0.5	0.5' - 2'		Soil			X		
P1-25C-2	2' - 5'		Soil				X	

Table 5-1A. Request for Analyses - Phase 1 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					CLP	CLP	CLP	CLP
Specific Analyses Requested					Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	**Sample Depth**	**Sample ID**	**Sample Type**	**Sample Date**	**1 x 8 -oz. glass jar**	**1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar**	**1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar**	**2-1 L amber bottles**
P1-25C-5	5' - 8'		Soil				X	
P1-25C-8	8' - 11'		Soil				X	
P1-25C-11	11' - 14'		Soil				X	
P1-25C-14	14' - 17'		Soil				X	
P1-25C-17	17' - 20'		Soil				X	
P1-25D-0	0' - 0.5'		Soil		X			
P1-25D-0.5	0.5' - 2'		Soil			X		
P1-25D-2	2' - 5'		Soil				X	
P1-25D-5	5' - 8'		Soil				X	
P1-25D-8	8' - 11'		Soil				X	
P1-25D-11	11' - 14'		Soil				X	
P1-25D-14	14' - 17'		Soil				X	
P1-25D-17	17' - 20'		Soil				X	
P1-24-0	0' - 0.5'		Soil		X			
P1-24-0.5	0.5' - 2'		Soil			X		
P1-24-2	2' - 5'		Soil				X	
P1-24-5	5' - 8'		Soil				X	
P1-24-8	8' - 11'		Soil				x MS/MSD	
P1-24-11	11' - 14'		Soil				X	
P1-24-14	14' - 17'		Soil				X	
P1-24-17	17' - 20'		Soil				X	
P1-26-0	0' - 0.5'		Soil		X			
P1-26-0.5	0.5' - 2'		Soil			X		
P1-26-2	2' - 5'		Soil				X	
P1-26-5	5' - 8'		Soil				X	
P1-26-8	8' - 11'		Soil				X	
P1-26-11	11' - 14'		Soil				X	
P1-26-14	14' - 17'		Soil				X	
P1-26-17	17' - 20		Soil				X	
P1-27-0	0' - 0.5'		Soil		X			
P1-27-0.5	0.5' - 2'		Soil			X		
P1-27-2	2' - 5'		Soil				X	
P1-27-5	5' - 8'		Soil				X	
P1-27-8	8' - 11'		Soil				X	
P1-27-11	11' - 14'		Soil				X	
P1-27-14	14' - 17'		Soil				X	
P1-27-17	17' - 20'		Soil				X	
P1-28-0	0' - 0.5'		Soil		x MS/MSD			
P1-28-0.5	0.5' - 2'		Soil			X		
P1-28-2	2' - 5'		Soil				X	
P1-28-5	5' - 8'		Soil				X	
P1-28-8	8' - 11'		Soil				X	
P1-28-11	11' - 14'		Soil				X	
P1-28-14	14' - 17'		Soil				X	

Table 5-1A. Request for Analyses - Phase 1 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					**CLP**	**CLP**	**CLP**	**CLP**
Specific Analyses Requested					**Pesticides/PCBs**	**Pesticides/PCBs**	**Pesticides/PCBs**	**Pesticides/PCBs**
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	**Sample Depth**	**Sample ID**	**Sample Type**	**Sample Date**	**1 x 8 -oz. glass jar**	**1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar**	**1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar**	**2-1 L amber bottles**
P1-28-17	17' - 20'		Soil				X	
P1-29-0	0' - 0.5'		Soil		X			
P1-29-0.5	0.5' - 2'		Soil			X		
P1-29-2	2' - 5'		Soil				X	
P1-29-5	5' - 8'		Soil				X	
P1-29-8	8' - 11'		Soil				X	
P1-29-11	11' - 14'		Soil				X	
P1-29-14	14' - 17'		Soil				X	
P1-29-17	17' - 20'		Soil				X	
P1-30-0	0' - 0.5'		Soil		X			
P1-30-0.5	0.5' - 2'		Soil			X		
P1-30-2	2' - 5'		Soil				X	
P1-30-5	5' - 8'		Soil				X	
P1-30-8	8 ' - 11'		Soil				x MS/MSD	
P1-30-11	11' - 14'		Soil				X	
P1-30-14	14' - 17'		Soil				X	
P1-30-17	17' - 20'		Soil				X	
Equipment Blank								
EQ101	-------		Water					X
EQ102	-------		Water					X
EQ103	-------		Water					X
EQ104	-------		Water					X
EQ105	-------		Water					X
EQ106	-------		Water					X
EQ107	-------		Water					X
EQ108	-------		Water					X
EQ109	-------		Water					X
EQ110	-------		Water					X
EQ111	-------		Water					X
EQ112	-------		Water					X
EQ113	-------		Water					X
EQ114	-------		Water					X
EQ115	-------		Water					X
EQ116	-------		Water					X
EQ117	-------		Water					X
EQ118	-------		Water					X
EQ119	-------		Water					X
EQ120	-------		Water					X
EQ121	-------		Water					X
				Total Samples	96	96	456	
				Total Duplicates	10	10	52	
				Total Field/Equipment Blanks				21
				Total Trip Blanks				
				Total Laboratory QC (MS/MSD) Samples	20	8	44	

Table 5-1A. Request for Analyses - Phase 1 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					**CLP**	**CLP**	**CLP**	**CLP**
Specific Analyses Requested					**Pesticides/PCBs**	**Pesticides/PCBs**	**Pesticides/PCBs**	**Pesticides/PCBs**
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	**Sample Depth**	**Sample ID**	**Sample Type**	**Sample Date**	**1 x 8 -oz. glass jar**	**1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar**	**1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar**	**2-1 L amber bottles**
Subtotal Analyses					126	114	552	21
Total Analyses								813

Notes

Laboratory Quality Control (QC) = Matrix spike/matrix spike duplicate (MS/MSD) sample set consists of three times the normal sample volume (equivalent to three samples).
RCXX-XX and P1-XXC-XX= Collocate boring
RDXX-XX and P1-XXD-XX = Duplicate at the collocate boring
Equipment Blanks will be collected at a frequency of one per day.

Table 5-1B. Request for Analyses - Phase 2 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					CLP	CLP	CLP	CLP
Specific Analyses Requested					Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	Sample Depth	Sample ID	Sample Type	Sample Date	1 x 8 -oz. glass jar	1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar	1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar	2-1 L amber bottles
ECI Property								
P2-01-0	0' - 0.5'		Soil		X			
P2-01-0.5	0.5' - 2'		Soil			X		
P2-01-2	2' - 5'		Soil				X	
P2-01-5	5' - 8'		Soil				X	
P2-01-8	8' - 11'		Soil				X	
P2-02-0	0' - 0.5'		Soil		X			
P2-02-0.5	0.5' - 2'		Soil			X		
P2-02-2	2' - 5'		Soil				X	
P2-02-5	5' - 8'		Soil				X	
P2-02-8	8' - 11'		Soil				X	
P2-03-0	0' - 0.5'		Soil		X			
P2-03-0.5	0.5' - 2'		Soil			X		
P2-03-2	2' - 5'		Soil				X	
P2-03-5	5' - 8'		Soil				X	
P2-03-8	8' - 11'		Soil				X	
P2-04-0	0' - 0.5'		Soil		X			
P2-04-0.5	0.5' - 2'		Soil			X		
P2-04-2	2' - 5'		Soil				X	
P2-04-5	5' - 8'		Soil				X	
P2-04-8	8' - 11'		Soil				X	
P2-05-0	0' - 0.5'		Soil		X			
P2-05-0.5	0.5' - 2'		Soil			X		
P2-05-2	2' - 5'		Soil				X	
P2-05-5	5' - 8'		Soil				X	
P2-05-8	8' - 11'		Soil				x MS/MSD	
P2-06-0	0' - 0.5'		Soil		X			
P2-06-0.5	0.5' - 2'		Soil			X		
P2-06-2	2' - 5'		Soil				X	
P2-06-5	5' - 8'		Soil				X	
P2-06-8	8' - 11'		Soil				X	
P2-07-0	0' - 0.5'		Soil		X			
P2-07-0.5	0.5' - 2'		Soil			X		
P2-07-2	2' - 5'		Soil				X	
P2-07-5	5' - 8'		Soil				X	
P2-07-8	8' - 11'		Soil				X	
P2-08-0	0' - 0.5'		Soil		X			
P2-08-0.5	0.5' - 2'		Soil			X		
P2-08-2	2' - 5'		Soil				X	
P2-08-5	5' - 8'		Soil				X	
P2-08-8	8' - 11'		Soil				x MS/MSD	
P2-09-0	0' - 0.5'		Soil		X			
P2-09-0.5	0.5' - 2'		Soil			X		
P2-09-2	2' - 5'		Soil				X	
P2-09-5	5' - 8'		Soil				X	

Table 5-1B. Request for Analyses - Phase 2 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					CLP	CLP	CLP	CLP
Specific Analyses Requested					Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	Sample Depth	Sample ID	Sample Type	Sample Date	1 x 8 -oz. glass jar	1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar	1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar	2-1 L amber bottles
P2-09-8	8' - 11'		Soil				X	
P2-10-0	0' - 0.5'		Soil		X			
P2-10-0.5	0.5' - 2'		Soil			X		
P2-10-2	2' - 5'		Soil				X	
P2-10-5	5' - 8'		Soil				X	
P2-10-8	8' - 11'		Soil				X	
P2-11-0	0' - 0.5'		Soil		X			
P2-11-0.5	0.5' - 2'		Soil			X		
P2-11-2	2' - 5'		Soil				X	
P2-11-5	5' - 8'		Soil				X	
P2-11-8	8' - 11'		Soil				X	
P2-11-11	11' - 14'		Soil				X	
P2-12-0	0' - 0.5'		Soil		X			
P2-12-0.5	0.5' - 2'		Soil			X		
P2-12-2	2' - 5'		Soil				X	
P2-12-5	5' - 8'		Soil				x MS/MSD	
P2-12-8	8' - 11'		Soil				X	
P2-12-11	11' - 14'		Soil				X	
P2-12D-0	0' - 0.5'		Soil		X			
P2-12D-0.5	0.5' - 2'		Soil			X		
P2-12D-2	2' - 5'		Soil				X	
P2-12D-5	5' - 8'		Soil				X	
P2-12D-8	8' - 11'		Soil				X	
P2-12D-11	11' - 14'		Soil				X	
P2-13-0	0' - 0.5'		Soil		X			
P2-13-0.5	0.5' - 2'		Soil			X		
P2-13-2	2' - 5'		Soil				X	
P2-13-5	5' - 8'		Soil				X	
P2-13-8	8' - 11'		Soil				X	
P2-14-0	0' - 0.5'		Soil		X			
P2-14-0.5	0.5' - 2'		Soil			X		
P2-14-2	2' - 5'		Soil				X	
P2-14-5	5' - 8'		Soil				X	
P2-14-8	8' - 11'		Soil				X	
P2-15-0	0' - 0.5'		Soil		X			
P2-15-0.5	0.5' - 2'		Soil			X		
P2-15-2	2' - 5'		Soil				X	
P2-15-5	5' - 8'		Soil				X	
P2-15-8	8' - 11'		Soil				X	
P2-16-0	0' - 0.5'		Soil		X			
P2-16-0.5	0.5' - 2'		Soil			x MS/MSD		
P2-16-2	2' - 5'		Soil				X	
P2-16-5	5' - 8'		Soil				X	
P2-16-8	8' - 11'		Soil				X	
P2-16-11	11' - 14'		Soil				X	

Table 5-1B. Request for Analyses - Phase 2 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					CLP	CLP	CLP	CLP
Specific Analyses Requested					Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	Sample Depth	Sample ID	Sample Type	Sample Date	1 x 8 -oz. glass jar	1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar	1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar	2-1 L amber bottles
P2-17-0	0' - 0.5'		Soil		X			
P2-17-0.5	0.5' - 2'		Soil			X		
P2-17-2	2' - 5'		Soil				X	
P2-17-5	5' - 8'		Soil				X	
P2-17-8	8' - 11'		Soil				X	
P2-17-11	11' - 14'		Soil				X	
P2-18-0	0' - 0.5'		Soil		X			
P2-18-0.5	0.5' - 2'		Soil			X		
P2-18-2	2' - 5'		Soil				X	
P2-18-5	5' - 8'		Soil				X	
P2-18-8	8' - 11'		Soil				X	
P2-18-11	11' - 14'		Soil				X	
P2-19-0	0' - 0.5'		Soil		X			
P2-19-0.5	0.5' - 2'		Soil			X		
P2-19-2	2' - 5'		Soil				X	
P2-19-5	5' - 8'		Soil				X	
P2-19-8	8' - 11'		Soil				x MS/MSD	
P2-20-0	0' - 0.5'		Soil		X			
P2-20-0.5	0.5' - 2'		Soil			X		
P2-20-2	2' - 5'		Soil				X	
P2-20-5	5' - 8'		Soil				X	
P2-20-8	8' - 11'		Soil				X	
P2-21-0	0' - 0.5'		Soil		X			
P2-21-0.5	0.5' - 2'		Soil			X		
P2-21-2	2' - 5'		Soil				X	
P2-21-5	5' - 8'		Soil				X	
P2-21-8	8' - 11'		Soil				X	
P2-22-0	0' - 0.5'		Soil		X			
P2-22-0.5	0.5' - 2'		Soil			X		
P2-22-2	2' - 5'		Soil				X	
P2-22-5	5' - 8'		Soil				x MS/MSD	
P2-22-8	8' - 11'		Soil				X	
P2-22-11	11' - 14'		Soil				X	
P2-23-0	0' - 0.5'		Soil		X			
P2-23-0.5	0.5' - 2'		Soil			X		
P2-23-2	2' - 5'		Soil				X	
P2-23-5	5' - 8'		Soil				X	
P2-23-8	8' - 11'		Soil				X	
P2-23-11	11' - 14'		Soil				X	
P2-24-0	0' - 0.5'		Soil		X			
P2-24-0.5	0.5' - 2'		Soil			X		
P2-24-2	2' - 5'		Soil				X	
P2-24-5	5' - 8'		Soil				X	
P2-24-8	8' - 11'		Soil				X	
P2-24-11	11' - 14'		Soil				x MS/MSD	

Table 5-1B. Request for Analyses - Phase 2 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					CLP	CLP	CLP	CLP
Specific Analyses Requested					Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	**Sample Depth**	**Sample ID**	**Sample Type**	**Sample Date**	**1 x 8 -oz. glass jar**	**1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar**	**1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar**	**2-1 L amber bottles**
P2-25-0	0' - 0.5'		Soil		X			
P2-25-0.5	0.5' - 2'		Soil			X		
P2-25-2	2' - 5'		Soil				X	
P2-25-5	5' - 8'		Soil				X	
P2-25-8	8' - 11'		Soil				X	
P2-26-0	0' - 0.5'		Soil		X			
P2-26-0.5	0.5' - 2'		Soil			X		
P2-26-2	2' - 5'		Soil				X	
P2-26-5	5' - 8'		Soil				X	
P2-26-8	8' - 11'		Soil				X	
P2-27-0	0' - 0.5'		Soil		X			
P2-27-0.5	0.5' - 2'		Soil			X		
P2-27-2	2' - 5'		Soil				X	
P2-27-5	5' - 8'		Soil				X	
P2-27-8	8' - 11'		Soil				X	
P2-28-0	0' - 0.5'		Soil		X			
P2-28-0.5	0.5' - 2'		Soil			X		
P2-28-2	2' - 5'		Soil				X	
P2-28-5	5' - 8'		Soil				X	
P2-28-8	8' - 11'		Soil				x MS/MSD	
P2-28-11	11' - 14'		Soil				X	
P2-29-0	0' - 0.5'		Soil		X			
P2-29-0.5	0.5' - 2'		Soil			X		
P2-29-2	2' - 5'		Soil				X	
P2-29-5	5' - 8'		Soil				X	
P2-29-8	8' - 11'		Soil				X	
P2-29-11	11' - 14'		Soil				X	
P2-30-0	0' - 0.5'		Soil		X			
P2-30-0.5	0.5' - 2'		Soil			X		
P2-30-2	2' - 5'		Soil				X	
P2-30-5	5' - 8'		Soil				X	
P2-30-8	8' - 11'		Soil				X	
P2-31-0	0' - 0.5'		Soil		X			
P2-31-0.5	0.5' - 2'		Soil			x MS/MSD		
P2-31-2	2' - 5'		Soil				X	
P2-31-5	5' - 8'		Soil				X	
P2-31-8	8' - 11'		Soil				X	
P2-32-0	0' - 0.5'		Soil		X			
P2-32-0.5	0.5' - 2'		Soil			X		
P2-32-2	2' - 5'		Soil				X	
P2-32-5	5' - 8'		Soil				X	
P2-32-8	8' - 11'		Soil				X	
P2-32-11	11' - 14'		Soil				X	
P2-33-0	0' - 0.5'		Soil		X			
P2-33-0.5	0.5' - 2'		Soil			X		

Table 5-1B. Request for Analyses - Phase 2 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					CLP	CLP	CLP	CLP
Specific Analyses Requested					Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs	Pesticides/PCBs
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	Sample Depth	Sample ID	Sample Type	Sample Date	1 x 8 -oz. glass jar	1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar	1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar	2-1 L amber bottles
P2-33-2	2' - 5'		Soil				X	
P2-33-5	5' - 8'		Soil				X	
P2-33-8	8' - 11'		Soil				X	
P2-33-11	11' - 14'		Soil				X	
P2-33D-0	0' - 0.5'		Soil		X			
P2-33D-0.5	0.5' - 2'		Soil			X		
P2-33D-2	2' - 5'		Soil				X	
P2-33D-5	5' - 8'		Soil				X	
P2-33D-8	8' - 11'		Soil				x MS/MSD	
P2-33D-11	11' - 14'		Soil				X	
P2-34-0	0' - 0.5'		Soil		X			
P2-34-0.5	0.5' - 2'		Soil			X		
P2-34-2	2' - 5'		Soil				X	
P2-34-5	5' - 8'		Soil				X	
P2-34-8	8' - 11'		Soil				X	
P2-34-11	11' - 14'		Soil				X	
P2-35-0	0' - 0.5'		Soil		X			
P2-35-0.5	0.5' - 2'		Soil			X		
P2-35-2	2' - 5'		Soil				X	
P2-35-5	5' - 8'		Soil				X	
P2-35-8	8' - 11'		Soil				X	
P2-35-11	11' - 14'		Soil				X	
P2-36-0	0' - 0.5'		Soil		X			
P2-36-0.5	0.5' - 2'		Soil			X		
P2-36-2	2' - 5'		Soil				X	
P2-36-5	5' - 8'		Soil				X	
P2-36-8	8' - 11'		Soil				X	
P2-37-0	0' - 0.5'		Soil		X			
P2-37-0.5	0.5' - 2'		Soil			x MS/MSD		
P2-37-2	2' - 5'		Soil				X	
P2-37-5	5' - 8'		Soil				X	
P2-37-8	8' - 11'		Soil				X	
P2-37-11	11' - 14'		Soil				X	
P2-38-0	0' - 0.5'		Soil		X			
P2-38-0.5	0.5' - 2'		Soil			X		
P2-38-2	2' - 5'		Soil				X	
P2-38-5	5' - 8'		Soil				X	
P2-38-8	8' - 11'		Soil				X	
P2-38-11	11' - 14'		Soil				X	
P2-39-0	0' - 0.5'		Soil		X			
P2-39-0.5	0.5' - 2'		Soil			X		
P2-39-2	2' - 5'		Soil				X	
P2-39-5	5' - 8'		Soil				X	
P2-39-8	8' - 11'		Soil				X	
P2-39-11	11' - 14'		Soil				X	

Table 5-1B. Request for Analyses - Phase 2 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					**CLP**	**CLP**	**CLP**	**CLP**
Specific Analyses Requested					**Pesticides/PCBs**	**Pesticides/PCBs**	**Pesticides/PCBs**	**Pesticides/PCBs**
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	**Sample Depth**	**Sample ID**	**Sample Type**	**Sample Date**	**1 x 8 -oz. glass jar**	**1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar**	**1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar**	**2-1 L amber bottles**
P2-40-0	0' - 0.5'		Soil		X			
P2-40-0.5	0.5' - 2'		Soil			X		
P2-40-2	2' - 5'		Soil				X	
P2-40-5	5' - 8'		Soil				x MS/MSD	
P2-40-8	8' - 11'		Soil				X	
P2-40-11	11' - 14'		Soil				X	
P2-41-0	0' - 0.5'		Soil		X			
P2-41-0.5	0.5' - 2'		Soil			X		
P2-41-2	2' - 5'		Soil				X	
P2-41-5	5' - 8'		Soil				X	
P2-41-8	8' - 11'		Soil				X	
P2-41-11	11' - 14'		Soil				X	
P2-42-0	0' - 0.5'		Soil		X			
P2-42-0.5	0.5' - 2'		Soil			X		
P2-42-2	2' - 5'		Soil				X	
P2-42-5	5' - 8'		Soil				X	
P2-42-8	8' - 11'		Soil				X	
P2-42D-0	0' - 0.5'		Soil		X			
P2-42D-0.5	0.5' - 2'		Soil			X		
P2-42D-2	2' - 5'		Soil				X	
P2-42D-5	5' - 8'		Soil				X	
P2-42D-8	8' - 11'		Soil				X	
P2-43-0	0' - 0.5'		Soil		X			
P2-43-0.5	0.5' - 2'		Soil			X		
P2-43-2	2' - 5'		Soil				X	
P2-43-5	5' - 8'		Soil				X	
P2-43-8	8' - 11'		Soil				X	
P2-43D-0	0' - 0.5'		Soil		X			
P2-43D-0.5	0.5' - 2'		Soil			X		
P2-43D-2	2' - 5'		Soil				X	
P2-43D-5	5' - 8'		Soil				X	
P2-43D-8	8' - 11'		Soil				X	
P2-44-0	0' - 0.5'		Soil		X			
P2-44-0.5	0.5' - 2'		Soil			x MS/MSD		
P2-44-2	2' - 5'		Soil				X	
P2-44-5	5' - 8'		Soil				X	
P2-44-8	8' - 11'		Soil				X	
P2-44-11	11' - 14'		Soil				X	
P2-45-0	0' - 0.5'		Soil		X			
P2-45-0.5	0.5' - 2'		Soil			X		
P2-45-2	2' - 5'		Soil				X	
P2-45-5	5' - 8'		Soil				X	
P2-45-8	8' - 11'		Soil				X	
P2-45-11	11' - 14'		Soil				X	
P2-46-0	0' - 0.5'		Soil		X			

Table 5-1B. Request for Analyses - Phase 2 Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA
Method					**CLP**	**CLP**	**CLP**	**CLP**
Specific Analyses Requested					**Pesticides/PCBs**	**Pesticides/PCBs**	**Pesticides/PCBs**	**Pesticides/PCBs**
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Analytical Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days
Boring ID	**Sample Depth**	**Sample ID**	**Sample Type**	**Sample Date**	**1 x 8 -oz. glass jar**	**1 x 1.5' acetate sleeve (or) 1 x 8-oz. glass jar**	**1 x 3' acetate sleeve (or) 1 x 16-oz. glass jar**	**2-1 L amber bottles**
P2-46-0.5	0.5' - 2'		Soil			X		
P2-46-2	2' - 5'		Soil				X	
P2-46-5	5' - 8'		Soil				X	
P2-46-8	8' - 11'		Soil				X	
P2-46-11	11' - 14'		Soil				X	
P2-47-0	0' - 0.5'		Soil		X			
P2-47-0.5	0.5' - 2'		Soil			X		
P2-47-2	2' - 5'		Soil				X	
P2-47-5	5' - 8'		Soil				x MS/MSD	
P2-47-8	8' - 11'		Soil				X	
Equipment Blank								
EQ201	-------		Water					X
EQ202	-------		Water					X
EQ203	-------		Water					X
EQ204	-------		Water					X
EQ205	-------		Water					X
EQ206	-------		Water					X
EQ207	-------		Water					X
EQ208	-------		Water					X
EQ209	-------		Water					X
EQ210	-------		Water					X
Total Samples					47	47	162	
Total Duplicates					4	4	14	
Total Field/Equipment Blanks								10
Total Trip Blanks								
Total Laboratory QC (MS/MSD) Samples					0	8	20	
Subtotal Analyses					51	59	196	10
Total Analyses								316

Notes

Laboratory Quality Control (QC) = Matrix spike/matrix spike duplicate (MS/MSD) sample set consists of three times the normal sample volume (equivalent to three samples).

P2-XXD-XX = Duplicate

Equipment Blanks will be collected at a frequency of one per day.

EPA= US Environmental Protection Agency

CLP = Contract Laboratory Program

The total number of samples listed does not include samples that will be collected from the 4 to 7 colocated borings during Phase 2A and Phase 2B.

Table 5-1C. Request for Analyses - Geotechnical Soil Samples

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA	EPA
Method					ASTM D-4318	ASTM D-422	ASTM D-2216	ASTM D-2937	ASTM D-3080
Specific Analyses Requested					Atterberg Limits	Gradations with Hydrometer	Moisture Content	Density	Direct Shear
Preservatives					Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C	Chill to 4° C
Turn-around Time					14 days	14 days	14 days	14 days	14 days
Sample ID	Sample Depth	Sample ID	Sample Type	Sample Date	SPT California-Modified Ring Sampler (2.5-inch diameter) (or) 2-foot core in acetate liner (or) 16-oz glass jar			SPT California-Modified Ring Sampler (2.5-inch diameter)	
LACFCD Easement and Easement Buffer									
P1-04-0	0' -1.5'		Soil		X	X	X	X	X
P1-04-5	5' -6.5'		Soil		X	X	X	X	X
P1-04-10	10' -11.5'		Soil		X	X	X	X	X
P1-04-15	15' - 16.5'		Soil		X	X	X	X	X
P1-12-0	0' -1.5'		Soil		X	X	X		
P1-12-5	5' -6.5'		Soil		X	X	X		
P1-12-10	10' -11.5'		Soil		X	X	X		
P1-12-15	15' - 16.5'		Soil		X	X	X		
P1-19-0	0' -1.5'		Soil		X	X	X	X	X
P1-19-5	5' -6.5'		Soil		X	X	X	X	X
P1-19-10	10' -11.5'		Soil		X	X	X	X	X
P1-19-15	15' - 16.5'		Soil		X	X	X	X	X
Residential Area									
R-26-0	0' -1.5'		Soil		X	X	X		
R-26-5	5' -6.5'		Soil		X	X	X		
R-26-10	10' -11.5'		Soil		X	X	X		
R-26-15	15' - 16.5'		Soil		X	X	X		
R-40-0	0' -1.5'		Soil		X	X	X	X	X
R-40-5	5' -6.5'		Soil		X	X	X	X	X
R-40-10	10' -11.5'		Soil		X	X	X	X	X
R-40-15	15' - 16.5'		Soil		X	X	X	X	X
Subtotal Analyses					10 [(a)]	10 [(a)]	10 [(a)]	3 [(b)]	3 [(b)]
Total Analyses									36

Notes:

EPA = US Environmental Protection Agency

ASTM = American Standard Testing Method

SPT = Standard Penetration Test

LACFCD = Los Angeles County Flood Control District

Sample depths are approximate and may be adjusted depending on field conditions at time of sampling.

Geotechnical boring will be located adjacent to boring used for environmental samples.

(a) Samples will be taken at four depths at each of 5 borings. One sample from Borings P1-04, P1-12, P1-19, R-26 and R-40 will be submitted for analysis of Atterberg Limits, Gradations with Hydrometer, and Moisture Content. Other borings may be used for the geotechnical samples based on accessibility. Selection of boring locations will be finalized in the field based on accessibility.

(b) One sample will be collected from each of three borings (P1-04, P1-19, and R-40) for analysis of Density and Direct Shear. Other borings may be used for the geotechnical samples based on accessibility. Boring locations will be finalized in the field based on accessibility.

Table 5-2A. Request for Analyses - Soil IDW

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Anticipated Laboratory Performing Analysis					EPA	EPA	EPA	EPA	EPA
Method (Soil)					**EPA 1311 / CLP or CA Title 22 / CLP [a]**	**EPA 1311 / CLP or CA Title 22 / CLP [a]**	**EPA 1311 / CLP or CA Title 22 / CLP [a]**	**EPA 8015-Gasoline**	**EPA 8015-Diesel**
Specific Analyses Requested					**VOCs**	**Metals**	**Pesticides/PCBs**	**TPHg**	**TPHd**
Preservatives					No headspace, Chill to 4° C	Chill to 4° C	Chill to 4° C	No headspace, Chill to 4° C	Chill to 4° C
Analytical Holding Time					<48 hours	180 days for all metals except Mercury, which is 28 days	< 14 days prior to extraction, 40 days after extraction	< 48 hours	< 14 days prior to extraction, 40 days after extraction
Contract Holding Time					<48 hours	< 6 months (28 days for mercury)	< 14 days prior to extraction, 40 days after extraction	< 48 hours	< 14 days prior to extraction, 40 days after extraction
Turn-around Time					14 days	14 days	14 days	14 days	14 days
					# bottles/ analysis				
Borings	**Sample Location**	**Sample ID**	**Sample Matrix**	**Sample Date**	**1 x 8 -oz. glass jar**	**1 x 8 -oz. glass jar**	**1 x 8 -oz. glass jar**	**1 x 8 -oz. glass jar**	**1 x 8 -oz. glass jar**
1st quarter	**drum composite**	**SIDW-1**	**soil**		X	X	X	X	X
1st quarter	**drum composite**	**SIDW-11**	**soil (duplicate)**		X	X	X	X	X
2nd quarter	**drum composite**	**SIDW-2**	**soil (MS/MSD)**		XXX	XXX	XXX	XXX	XXX
3rd quarter	**drum composite**	**SIDW-3**	**soil**		X	X	X	X	X
4th quarter	**drum composite**	**SIDW-4**	**soil**		X	X	X	X	X
				Total Samples	4	4	4	4	4
				Total Duplicates	1	1	1	1	1
				Total Trip Blanks	1	0	0	0	0
				Total Laboratory QC (MS/MSD) Samples	2	2	2	2	2
				Total Analyses	8	7	7	7	7

Notes

Laboratory QC = Matrix spike/matrix spike duplicate (MS/MSD) sample set that will be three times the normal sample volume (equivalent to three samples).

IDW = Investigation Derived Waste

One (1) MS/MSD sample will be taken for each 20 samples per matrix.

CLP – EPA CLP methodology and QA/QC as defined in most current EPA CLP SOW.

[a] Subsequent to EPA 1311 or CA Title 22 leaching procedures, leachates will be analyzed per CLP methodology through the CLP special services

Table 5-2B. Request for Analyses - Water IDW

SOIL INVESTIGATION FOR HISTORICAL STORMWATER PATHWAY - SOUTH
MONTROSE CHEMICAL SUPERFUND SITE, LOS ANGELES COUNTY, CALIFORNIA

Method (Water)					CLP [a]	CLP	CLP	EPA 8015-Gasoline	EPA 8015-Diesel
Specific Analyses Requested					VOCs	Dissolved Metals [b]	Pesticides/PCBs	TPHg	TPHd
Preservatives					HCl to pH <2; Chill to 4° C; no headspace	HNO3 to pH <2; Chill to 4° C	Chill to 4° C	HCl to pH <2; Chill to 4° C; no headspace	Chill to 4° C
Analytical Holding Time					<14 days	< 6 months (28 days for mercury)	< 14 days prior to extraction, 40 days after extraction	< 14 days	< 7 days
Contract Holding Time					<10 days	< 6 months (28 days for mercury)	< 14 days prior to extraction, 40 days after extraction	< 14 days	< 7 days
Turn-around Time					14 days	14 days	14 days	14 days	14 days
					# bottles/ analysis				
Borings	Sample Location	Sample ID	Sample Matrix	Sample Date	3 x 40 ml VOAs	1 x 1-L poly bottle	2 x 1-L amber bottles	3 x 40 ml VOAs	2-1 L amber bottles
1st sixth	drum composite	WIDW-1	water		X	X	X	X	X
1st sixth	drum composite	WIDW-11	water (duplicate)		X	X	X	X	X
2nd sixth	drum composite	WIDW-2	water (MS/MSD)		XXX	XXX	XXX	XXX	XXX
3rd sixth	drum composite	WIDW-3	water		X	X	X	X	X
4th sixth	drum composite	WIDW-4	water		X	X	X	X	X
5th sixth	drum composite	WIDW-5	water		X	X	X	X	X
6th sixth	drum composite	WIDW-6	water		X	X	X	X	X
--	field blank	WIDW-7	water		X	X	X	X	X
				Total Samples	7	7	7	7	7
				Total Duplicates	1	1	1	1	1
				Total Field/Equipment Blanks	0	0	0	0	0
				Total Trip Blanks	1	0	0	0	0
				Total Analyses	11	10	10	10	10

Notes

Laboratory QC = Matrix spike/matrix spike duplicate (MS/MSD) sample set that will be three times the normal sample volume (equivalent to three samples).

[a] CLP – EPA CLP methodology and QA/QC as defined in most current EPA CLP SOW.

[b] Dissolved metals samples to be filtered in the laboratory

IDW = Investigation Derived Waste

One (1) MS/MSD sample will be taken for each 20 samples per matrix.

Figures

Appendix A
Request for Laboratory Sample Analysis and Data Evaluation Form (RLSA Form and RSCC Form Instructions

REGION 9 SAMPLE COORDINATION CENTER (RSCC)
SUPERFUND ANALYTICAL REQUEST FORM
Guidance and Instructions

The EPA Region 9 RSCC Analytical Request Form may be filled out electronically and e-mailed to the Sample Coordination Center. Versions are available in WordPerfect and MS Word. Simply fill in the boxes as instructed below, save, and e-mail to: r9rscc@epa.gov. Alternately, you may print and fill in the form by hand and fax to: R9 RSCC, 510-412-2302, or send via inter-office mail to PMD-2. The RSCC telephone number is 510-412-2389.

Section 1

Enter the project name, site name, site spill I.D. number, and operable unit (OU) number. Check the appropriate project type or phase. Enter the proposed sampling dates, EPA project manager, and EPA mail code. To avoid confusion with other projects, please use a specific project name (e.g., Frontier Fertilizer March 2004 Quarterly Groundwater Monitoring, rather than Frontier Fertilizer Sampling).

Section 2

Please include contact names and information for the sampling organization, if different from the EPA contact. This allows the laboratory to clarify sampling details and to contact the samplers and project managers in the event of problems.

Section 3

Enter the title and date of the Quality Assurance Project Plan, Sampling and Analysis Plan, Field Sampling Plan or other field QA document under which this sampling event will occur. Enter the EPA Quality Assurance Office (QAO) document control number (DCN) assigned to this document. This number is listed on the QAO review/approval memo for the planning document. (If you are submitting the request for analysis concurrent with submission of the QA document to the QAO, the DCN may not be available.)

> In compliance with EPA Order 5360.1, the Region 9 Quality Management Plan, Section 1.1.2, states that "An appropriate QA planning document (QMP, Quality Assurance Program Plan (QAPrP), Quality Assurance Project Plan (QAPjP), Sampling and Analysis Plan (SAP), Field Sampling Plan (FSP), or Work Plan (WP), etc.) … will be developed and approved for each environmental data collection activity prior to the initiation of data collection."

For further information regarding what type of QA planning documents are most appropriate for your project, contact the QAO Document Review Team Leader at (415) 972-3803, or the QAO Section Chief at (415) 972-3798.

Section 4

A signed hard copy of each Region 9 Laboratory report is sent to the EPA project manager.

Electronic copies (in Adobe .pdf format) or additional hard copies may be requested for other data users. An electronic data deliverable (EDD), in the form of an MS Excel spreadsheet, is available from the Region 9 laboratory upon request. Other EDD formats are also available. Contact the RSCC for more information.

For CLP analyses, an electronic spreadsheet file containing analytical results (reviewed electronically using the CLP CADRE software) is provided to the EPA project manager. Additional copies can be requested for other data users.

Section 5

Analysis, Matrix, Number of Samples

For each matrix type (water, soil/sediment, oil, tissue, etc.) indicate the requested analyses and estimated number of samples. (Alternately, attach tables indicating samples and analyses from Sampling and Analysis Plan or Field Sampling Plan.) Please be specific as to requested method number, CLP statement of Work (SOW), or Region 9 Laboratory SOP. **Unless otherwise specified, the Region 9 Laboratory will utilize the analyte lists, reporting limits and quality control criteria listed in the applicable CLP SOW or Region 9 Laboratory analytical SOP. If other reporting limits or quality control criteria are needed, please attach relevant project-specific criteria. Region 9 Laboratory SOPs are available by e-mail upon request.** Please contact the RSCC if you require assistance is selecting the appropriate analytical methods for your project.

Turn Around Time (TAT)

Please indicate the requested turn around time (TAT) for the analytical results. Standard TAT for final results from the EPA Region 9 Laboratory is 35 days. If a shorter TAT or preliminary results are required in order to meet project objectives, please indicate the desired TAT. You will be contacted if there is a reason that the laboratory will not be able to meet your request. Standard TAT for final CLP results is 21 days. Options for 14 day and 7 day TAT and for preliminary CLP results are available at additional cost to the Agency.

Data Validation/Review

Please indicate requested level (tier) and percent of third party data review/validation to be performed or arranged by the Region 9 Quality Assurance Office (QAO). Contact Rose Fong (415-972-3812), or Carl Brickner (415-772-3814) of the QAO for information regarding data review options.

Section 6

Include (or attach separately) any discussion of expanded or reduced analyte lists, required reporting limits, specialized preparation or analytical procedures, project specific reporting requirements, etc.

REGION 9 SAMPLE COORDINATION CENTER (RSCC)
SUPERFUND ANALYTICAL REQUEST FORM

Section 1

Project Name:		
Site Name:	**SS ID:**	**OU:**
[ ] RI/FS/RA [ ] Enforcement [ ] PA/SI [ ] Emergency Response [ ] Fed. Facilities		
Proposed Sampling Dates:		
EPA Project Manager:	**Mail Code:**	

Section 2

Sampling Organization (if other than above):	
Mailing Address:	
Project Manager:	**E-mail:**
Office Phone:	**Office Fax:**
Sampler (if different from above):	**E-mail:**
Office Phone:	**Mobile Phone:**

Section 3

Title of QA plan or addendum to existing plan under which this sampling event will occur: **EPA Quality Assurance Office DCN (if available):**

In compliance with EPA Order 5360.1, the EPA Region 9 Quality Management Plan, Section 1.1.2, states that, "An appropriate QA planning document … will be developed and approved for each environmental data collection activity prior to the initiation of data collection."

Section 4

Type of Data Deliverable	Data Distribution (include e-mail address if appropriate)
Hard copy report	1. 2.
Electronic report copy	1. 2.
Electronic Data Deliverable (EDD) for R9 Lab Results*	1. 2.

* Excel table. Other EDD formats may be available upon request

Section 5
(Fill in table or attach copy of analytical description from Sampling and Analysis Plan)

Analysis (method, CLP SOW number, or R9 Lab SOP number)	Matrix	No. of samples	TAT*	Review/ Validation*

* See instructions

Section 6
Include (or attach separately) any discussion of expanded or reduced analyte lists, required reporting limits, specialized preparation or analytical procedures, etc.

A full documentation package, including raw data and sample custody documentation, will be generated and kept on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Rose Fong or Carl Brickner at the Region 9 Quality Assurance Office.

Appendix B
EPA Region 9 Instructions for Sample Shipping and Documentation

INSTRUCTIONS FOR

SAMPLE SHIPPING

AND DOCUMENTATION

November 1997

Quality Assurance Management Section
U. S. EPA Region 9
San Francisco, CA

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SAMPLE SHIPMENT INFORMATION ..... Attachment 5

1.0 GENERAL

1.1 When all paperwork has been completed by the sampler and samples are ready to be shipped, place the laboratories' copies in a plastic bag and tape it to the inside of the lid of the cooler(s). For CLP Analytical Services, Contract Laboratory Analytical Services Support's (CLASS) copies must be submitted within 5 days of sampling. The Region's copies may be submitted at that time or at the end of the sampling event. If the sampling event covers an extended length of time, the Region's copies must be submitted weekly. (Note: The RSCC coordinator will not forward CLASS's copies. They will be returned to the sampler.)

QAMS address:

U.S. EPA Region 9
Quality Assurance Program (PMD-3)
75 Hawthorne Street
San Francisco, CA 94105
Attn.: RSCC Coordinator

CLASS address:

Contract Laboratory Analytical Services Support
DynCorp
2000 Edmund Halley Dr.
Reston, VA 20191-3436
Attn.: Region 9 Coordinator

1.2 For analyses performed by the Regional Laboratory, DO NOT send any copies of the paperwork to the Contract Laboratory Analytical Services Support (CLASS).

1.3 DISTRIBUTION OF COPIES

1.3.1 CLP ANALYTICAL SERVICES

1.3.1.1 ORGANIC TRAFFIC REPORT/CHAIN-OF-CUSTODY FORM

a. Blue (original) copy to QAMS, Region 9
b. Pink (second) copy to CLASS
c. White (third) and Yellow (fourth) copies accompany samples to laboratory
d. Photocopy for sampler's files

1.3.1.2 INORGANIC TRAFFIC REPORT/CHAIN-OF-CUSTODY FORM

a. Green (original) copy to QAMS, Region 9
b. Pink (second) copy to CLASS
c. White (third) and Yellow (fourth) copies accompany samples to laboratory
d. Photocopy for sampler's files

1.3.2 REGIONAL ANALYTICAL PROGRAM (RAP):

1.3.2.1 RAP CHAIN-OF-CUSTODY FORM

a. White (original) copy to laboratory with samples

b. Pink copy to QAMS, Region 9
c. Photocopy for sampler's file

1.3.3 FIELD QA/QC SUMMARY FORM

a. Original to QAMS, Region 9
b. Photocopy for sampler's files

2.0 SAMPLE SHIPMENTS

2.1 Calling in shipments to the RSCC coordinator

2.1.1 Call the EPA Regional Sample Control Center (RSCC) coordinator on a daily basis, even if no shipments were made. The RSCC coordinator may be reached at (415) 744-1498.

2.1.2 Try to stick to the sampling schedule. If this is not possible, let the RSCC coordinator know immediately so other arrangements can be made.

2.1.3 Notify the RSCC coordinator within 12 hours of sample shipments. Calling in sample shipments to the RSCC coordinator is MANDATORY. Provide the following information to the RSCC coordinator:

1. Case number
2. Name of Laboratory
3. Date of shipment
4. Carrier and airbill number
5. Number of samples shipped by matrix and analysis type
6. Number of coolers shipped
7. Information on completions, changes, delays, etc.

2.2 Special shipments (i.e., Saturday delivery/pickup)

2.2.1 General - Friday shipments for Saturday delivery/pickup must be called in by noon (12:00 pm) Friday. This is to enable the RSCC coordinator to pass the information on to CLASS or to the laboratories. Samplers may not contact the laboratories directly. (Laboratories do not have to accept notification of delivery of samples from sources other than CLASS or RSCC.)

2.2.2 Regional Laboratory - The Regional Laboratory is located within a gated compound that is closed on weekends and holidays. Designated laboratory personnel will pickup the samples at the Federal Express office, take them to the laboratory and place them inside the refrigerators. If the following shipping instructions are not followed, an unsuccessful delivery attempt will be made to the Regional Laboratory. In addition, the staff member on call will not be able to pickup the samples, since they will not be at the Federal Express office.

To ensure that samples are held at the Federal Express office, please be sure to complete the following items:

1. On the lower left side of the Federal Express airbill, “For HOLD at FedEx Location check here,” mark the box for “Hold Saturday.”

2. In Section 3 of the airbill, print the following Federal Express office address:

1600 63rd Street
Emeryville, CA 94608

Federal Express may affix stickers to the coolers. Be sure they read "SATURDAY FEDERAL EXPRESS CENTER HOLD" or something similar. Under no circumstances should a "SATURDAY DELIVERY" sticker be placed on the cooler.

If a carrier other than Federal Express is used, please call the RSCC coordinator (415-744-1498) to make special arrangements.

2.2.3 Most CLP laboratories and other commercial laboratories contracted by QAP are staffed on Saturdays. Therefore, coolers can be delivered directly to these laboratories. In this case, the "SATURDAY DELIVERY" sticker should be placed on the cooler.

2.2.4 Laboratories may request advance notification of the arrival of certain types of samples, such as samples with very short holding times (e.g., Cr +6) that will be hand delivered to the laboratory. Required deadlines for notification of sample shipments in these special cases will be determined on a case by case basis. The RSCC coordinator will inform the samplers as to when notification of sample delivery is required (e.g., by noon on the day samples will be delivered). This is to facilitate the laboratory(ies) having personnel available to analyze the samples as soon as they arrive.

2.3 Cooler Return

Samplers are responsible for providing laboratories with a means to return coolers to their place of origin. The easiest way is to enclose an airbill with return shipping instructions (i.e., the address filled in as to where the coolers are to be returned to) and an account number to charge shipping costs to.

Samplers using EMFAC coolers should refer to Section 7 of the EMFAC Users Guide for cooler return instructions. EPA contractors should contact their EPA Project Officer for details on acceptable modes of cooler return and shipping cost reimbursement.

3.0 CLP ANALYTICAL SERVICES (CLPAS) TRAFFIC REPORT/CHAIN-OF-CUSTODY FORMS FOR ORGANIC AND INORGANIC ANALYSES

3.1 CASE DOCUMENTATION

Complete this form when collecting CLPAS samples. See Attachments 1 through 3 for examples.

Enter the CLPAS case number in the box(es) located in the upper right corner of the form. CLPAS case numbers have the format "xxxxx" (e.g., 18123).

3.2 HEADER INFORMATION

3.2.1 Box 1 - PROJECT CODE/SITE INFORMATION

Enter the Project Code (i.e., $F), Site Name, City, State, Site Spill ID. **(Note: the information entered here does not go through to the laboratory's copies.)**

If sampling is not under the Superfund program, enter the Account code (account to be billed), any Regional Information and the name of the program (e.g., RCRA) in the box titled "Non-Superfund program."

3.2.2 Box 2 - REGIONAL INFORMATION

Enter the Region number, the name of your sampling company, and your name and signature in the designated spaces.

3.2.3 Box 3 - TYPE OF ACTIVITY

Check the appropriate box(es) for the type of activity for this sampling event. See Appendix A for acronym definitions.

3.2.4 Box 4 - SHIPPING INFORMATION

Enter the date shipped, the carrier (e.g., Federal Express, Airbourne, etc.) and the air bill number in the appropriate spaces.

3.2.5 Box 5 - SHIP TO

Enter the laboratory name, full address and laboratory contact (e.g., Sample Custodian).

3.2.6 Box 6 - PRESERVATIVE

This box provides a list of commonly used preservatives. Enter the appropriate preservative in Column D. If you enter "5" on the Organic Traffic Report or "7" on the Inorganic Traffic Report indicating "Other", specify the preservative used at the bottom of the "Sample Documentation" area.

If you are using more than one type of preservative, you may either note the preservatives in the box specifically under the requested analyses (e.g., in the Cyanide box enter "2") or list them, separated by commas, in the same order as the checked sample analyses. (Alternatively, the analyses may be listed on separate lines.)

3.2.7 Box 7 - SAMPLE DESCRIPTION

This box provides a list of the description/matrices of the samples that are collected. Enter the appropriate description in Column A.

3.3 SAMPLE DOCUMENTATION

3.3.1 SAMPLE NUMBERS

Carefully transcribe the CLPAS sample numbers from the printed labels onto the Organic or Inorganic Traffic Report/Chain-of-Custody forms in the column labeled "CLP Sample Numbers".

CLPAS sample numbers have the following formats: YX123 for organic and MYX123 for inorganic samples. See Appendix B for examples.

3.3.2 Column A - SAMPLE DESCRIPTION

Enter the appropriate sample description code from Box 7.

Note: Item #6 "Oil" and Item #7 "Waste" are for RAP projects only. Do not ship oily samples or waste samples without making prior arrangements with the EPA.

3.3.3 Column B - CONCENTRATION

Enter "L" for low and "M" for medium concentration samples. (Prior arrangements must have been made with the ESAT RSCC coordinator, CLASS and the laboratories accepting the samples before shipping medium concentration samples. At this time, high concentration samples must be scheduled through the RAP system.)

NOTE: Medium concentration samples must be shipped in metal cans.

3.3.4 Column C - SAMPLE TYPE COMPOSITE/GRAB

Enter the type of sample you collected. A composite is a sample composed of more than one discrete sample. A grab is a discrete sample.

3.3.5 Column D - PRESERVATIVE USED

Enter the preservative used from Box 6.

3.3.6 Column E - CLPAS ANALYSIS

Check the analytical fractions requested for each sample, for example, VOAs, BNAs and Pesticides/PCBs are for low/medium concentration organics. Total metals and cyanide are for low/medium concentration inorganics.

NOTE: If dissolved metals are requested, a note must be added indicating that the samples have been field filtered and that digestion is required. See Attachment 2 for an example.

3.3.7 Column F - REGIONAL SPECIFIC TRACKING NUMBERS OR TAG NUMBERS

Region 9 does not issue tracking numbers or tag numbers. Samplers may use this column for sampler specific tracking numbers or for "Special Instructions". If you choose to use this as "Special Instructions", be sure to note, at the bottom of the "Sample Documentation" area, what the special

handling is. The number and type of containers could be entered here. (e.g., 3-40 mL, 6-1L)

3.3.8 Column G - STATION LOCATION NUMBER

Enter the station location in the space provided.

3.3.9 Column H - MO/DAY/YEAR/TIME OF SAMPLE COLLECTION

Record the month, day, year and time (use military time, e.g., 1600 = 4:00 pm) of sample collection.

3.3.10 Column I - SAMPLER INITIALS

Enter your initials.

3.3.11 Column J - CORRESPONDING CLP ORGANIC/INORGANIC SAMPLE NUMBER

Enter the corresponding CLP sample number for organic or inorganic CLPAS analysis.

3.3.12 Column K - DESIGNATED FIELD QC

NOTE: This column is NOT to be used for the designated laboratory QC samples. **Information entered here is not reproduced onto the laboratories' copies.**

Enter the appropriate qualifier as listed below for "Blind" Field QC samples in this column. (NOTE: All samples must have a qualifier.)

Blind Field QC	Qualifier
Blind Blanks (field, etc.)	B
Blind Field Duplicates	D
Blind Field Spikes	S
Blind PE Samples	PE
All other field samples	--

"B" = These are blanks and include trip blanks (T), field blanks (F) and equipment blanks (E). Blanks may be further identified by the letter in parenthesis. For example, B(T) indicates that the sample is a trip blank.

"D" = These are field duplicates. Do not include samples designated as laboratory duplicates. The primary sample is identified with "--" and the duplicate is given "D" in column K. In addition, the station locations should also identify the primary and duplicate samples. For example, MW-1 is the primary sample and MW-1B is the duplicate sample.

"S" = These are spiked field samples and are generated by field personnel

"PE" = These are performance evaluation samples. They are spiked samples but are not field samples. They are usually prepared by other than field personnel.

"--" = All other samples not designated as blind field QC samples are given this qualifier.

3.4 "SHIPMENT FOR CASE COMPLETE (Y/N)"

This should reflect the status of the samples scheduled to be shipped to a laboratory for a specific case. Only when ALL samples scheduled for shipment to a laboratory for a specific case have been shipped is the case complete.

3.5 "PAGE 1 OF __"

Enter the number of Traffic Report/Chain-of-Custody Record form(s) enclosed in each cooler. The form(s) accompanying each cooler must list only those samples contained in that cooler.

3.6 "SAMPLE USED FOR SPIKE AND/OR DUPLICATE"

Enter the sample number of the sample designated for laboratory spike and/or duplicate analysis. This is also known as the Laboratory QC sample. This sample should be included in the first shipment to the laboratory and in the first shipment for each subsequent sample delivery group (SDG).

DO NOT enter samples designated as blind field duplicates in this block.

3.7 "ADDITIONAL SAMPLER SIGNATURES"

Record additional sampler signatures that are different from that in Box 2.

3.8 "CHAIN OF CUSTODY SEAL NUMBER"

Enter the Chain of Custody Seal Number used to seal the cooler, if applicable.

3.9 Instructions summarizing CLP sample volumes, packaging and shipment reporting requirements are printed on the back of the Traffic Reports.

4.0 REGIONAL ANALYTICAL PROGRAM (RAP) CHAIN-OF-CUSTODY FORMS

4.1 CASE DOCUMENTATION

Complete this form when collecting RAP samples. See Attachment 4 for an example.

4.1.1 PROJECT NUMBER

Enter the RAP case number in this box.

4.1.2 PROJECT NAME

Leave this space blank.

4.1.3 SAMPLERS (Signature)

Record all sampler signatures in this box.

4.2 SAMPLE DOCUMENTATION

4.2.1 SAMPLE NUMBERS

No sample numbers are provided. Samplers should designate their own numbers and enter them in the space labeled STA.NO.

4.2.2 DATE

Enter the month, day and year the sample was collected in the "DATE" column.

4.2.3 TIME

Enter the time (using military time) in the "TIME" column.

4.2.4 COMP/GRAB

Check the kind of sample collected in the composite or grab column.

4.2.5 STATION LOCATION

Enter the sample site location in the space provided.

4.2.6 SAMPLE MATRIX

For each sample, enter the appropriate sample matrix description in the right third portion of the "STATION LOCATION" column.

4.2.7 NO. OF CONTAINERS

Enter the total number of sample containers collected for each matrix at each station location.

4.2.8 SAMPLE ANALYSES

There are six slanted columns to be used to specify the kind of analysis to be performed by the laboratory. Enter the appropriate analysis in each column. Mark the box of the appropriate analysis for each sample collected.

4.2.9 REMARKS

The items listed below are to be included in this area on the appropriate sample line.

4.2.9.1 CONCENTRATION

Enter "L" for low concentration, "M" for medium concentration and "H" for high concentration.

NOTE: Medium and high concentration samples must be shipped in metal cans.

4.2.9.2 PRESERVATIVE USED

Enter the preservative used.

If more than one type of preservative is used for a sample, separate the preservative references with commas. The sequence of the reference numbers must follow the sequence of the requested "RAP Analysis" parameters that are recorded in the analysis columns.

4.2.9.3 SAMPLE USED FOR SPIKE AND/OR DUPLICATE

Enter the sample number designated for spike and/or duplicate analysis. This is also known as the Laboratory QC sample. This sample should be included in the first shipment to the laboratory and in the first shipment for each subsequent sample delivery group (SDG).

4.3 AIRBILL NUMBER

The airbill number should be entered on the first signature line, in the box marked "Received by: (Signature)".

4.4 "REMARKS" BOX

Located in the lower right hand corner of the Chain of Custody is a box labeled "Remarks". The following items should be entered there.

4.4.1 CHAIN OF CUSTODY SEAL NUMBER

Enter the Chain of Custody Seal Number used to seal the coolers, if applicable, in the box labeled "Remarks", in the lower right-hand corner.

4.4.2 LABORATORY NAME

Enter the Laboratory name in the box labeled "Remarks", in the lower right-hand corner.

4.4.3 SHIPPING COMPLETE?

Enter "yes, shipping is complete" or "No, shipping is not complete" in the box labeled "Remarks", in the lower right-hand corner.

4.4.4 CARRIER

Enter the carrier (e.g., "Fed Ex") in the box labeled "Remarks", in the lower right-hand corner.

5.0 **SAMPLE BOTTLES**

5.1 Sample bottles be labeled with the following information:

a. Case number
b. Date/Time of collection
c. Matrix/Concentration
d. Station Location
e. Sample number (CLP or sampler designated)
f. Analysis
g. Preservative

5.2 Pre-printed, self-adhesive labels are provided for CLPAS Organic, CLPAS Inorganic and RAP samples.

5.2.1 Transcribe the appropriate sample number onto the corresponding bottle label and/or affix the sample number label onto the bottle.

5.2.2 Destroy all unused labels or return them to the ESAT RSCC coordinator. DO NOT use them for future samplings. New sample numbers will be assigned.

6.0 FIELD QA/QC SUMMARY FORM

6.1 Complete one form per laboratory per matrix for each sampling event. For long term projects, complete a form(s) after each week of sampling. Complete the header portion even if no QA/QC samples were provided.

6.2 Complete all applicable entries. Please use the appropriate sample numbers for each laboratory. (e.g., for the laboratory performing CLPAS organics, use the CLP organic sample numbers, YX123, etc. For the laboratory performing RAP analyses, use the RAP sample numbers, SY0123, etc.) Please do not use station locations. If a laboratory is performing more than one type of analysis, list all applicable sample numbers.

6.3 This form is very important for validation purposes. The validators will compare the results of duplicates and assess the quality of blanks, if they know which samples they are. Failure to provide this information will delay the completion of validation.

Appendix A

TYPE OF ACTIVITY

Check the box which describes the funding lead for this sampling event:

Funding Lead

SF = Superfund
PRP = Potentially Responsible Party
ST = State
FED = Federal

Check one or more boxes, as appropriate, which describe the task of this sampling event:

Pre-Remedial

PA = Preliminary Assessment
SSI = Screening Site Investigation
LSI = Listing Site Investigation

Remedial

RIFS = Remedial Investigation Feasibility Study
RD = Remedial Design
O&M = Operations and Maintenance
NPLD = National Priorities List

Removal

CLEM = Classic Emergency
REMA = Removal Assessment
REM = Removal
OIL = Oil Response
UST = Underground Storage Tank Response

Appendix B

CLP SAMPLE NUMBERS

Each sample is assigned a unique sample number. A "sample" is defined as follows:

- one matrix, e.g., water, soil/sediment, fish, etc.
- one station location
- one analytical program, e.g., CLPAS organics, CLPAS inorganics or a RAP analysis
- one laboratory

Sample numbers for CLPAS analyses:

- CLPAS Organic sample numbers consist of five alpha-numerics, always beginning with "Y"

  Example - YJ386

- CLPAS Inorganic sample numbers consist of six alpha-numerics, always beginning with "MY"

  Example - MYG528

Examples for assigning sample numbers:

- CLPAS Volatiles & CLPAS Pesticides/PCBs receive the **SAME SAMPLE NUMBER**, if the samples are:

  - the same matrix
  - part of the same analytical program, e.g., CLPAS organics
  - from the same station location
  - going to the same laboratory

- CLPAS Volatiles & CLPAS Pesticides/PCBs receive **DIFFERENT SAMPLE NUMBERS**, if the samples are:

  - the same matrix
  - part of the same analytical program, e.g., CLPAS organics
  - from the same station location
  - going to different laboratories

- CLPAS Volatiles & CLPAS Metals receive **DIFFERENT SAMPLE NUMBERS**, if the samples are:

  - the same matrix
  - part of different analytical programs, e.g., CLPAS organics & CLPAS inorganics
  - from the same station location
  - going to the same laboratory

Appendix C
Health and Safety Plan

CH2M HILL HEALTH AND SAFETY PLAN

This Health and Safety Plan (HSP) will be kept on the site during field activities and will be reviewed as necessary. The plan will be amended or revised as project activities or conditions change or when supplemental information becomes available. The plan adopts, by reference, the Standards of Practice (SOPs) in the CH2M HILL *Corporate Health and Safety Program, Program and Training Manual*, as appropriate. In addition, this plan adopts procedures in the project Work Plan. The Site Safety Coordinator (SSC) is to be familiar with these SOPs and the contents of this plan. CH2M HILL's personnel and subcontractors must sign Attachment 1.

Project Information and Description

PROJECT NO: 335367.PP.05

CLIENT: US EPA

PROJECT/SITE NAME: Montrose Superfund Site, Jones Chemical Company, Del Amo Superfund Site, and the Dual Site Groundwater Operable Unit

SITE ADDRESS: Torrance California

CH2M HILL PROJECT MANAGER: John Dolegowski

CH2M HILL OFFICE: Southern California/Santa Ana

DATE HEALTH AND SAFETY PLAN PREPARED: 6/30/2004, revised 03/03/2006

DATE(S) OF SITE WORK: January 2006 to October 2008

SITE ACCESS: Permission from Potentially Responsible Parties and USEPA

SITE SIZE: 13 Mile Square

SITE TOPOGRAPHY: flat

PREVAILING WEATHER: sunny, warm

SITE DESCRIPTION AND HISTORY: The Montrose, Del Amo, Dual Site Groundwater Operable Unit (DSGWOU) Superfund Site is located in Torrance California. The limits of the groundwater flow encompass an area of approximately 6.6 square miles. Historically, an undeveloped area on the site was used for rubber plant process residue disposal known as the Del Amo Waste Pit. There were formerly styrene, butadiene, copolymer plants in the area that processed these chemicals. Groundwater conditions have been impacted at the site by light non-aqueous phase liquids (LNAPL) and dense non-aqueous phase liquids (DNAPL), volatile organic compounds (VOCs), pesticides. Benzene LNAPL was encountered in April 1990 during installation of monitoring well MW-20 located in the western portion of the styrene plant. Since that time, more monitoring wells have been installed. The benzene LNAPL is submerged beneath groundwater table with ~ 30 ft thick smear zone within the Bellflower aquitard. The primary contaminants of concern at the Montrose property include dichlorodiphenyl-trichloroethane (DDT), chlorobenzene, and para-chlorobenzene sulfonic acid (p-CBSA). Chlorobenzene DNAPL was identified in 1992 beneath the former central Montrose processing plant. Other VOCs such as trichlororethene (TCE), tetrachloroethene (PCE) and benzene are also present in groundwater. Extensive past investigations have been performed. Jones Chemicals manufactured sulfuric acid on the site. Previous investigations indicated that DDT,DDD,DDE, dieldrin and monochlorobenzene, semivolatile organic compounds (SVOCs), VOCs, pesticides, heavy metals such as lead and chromium are present in the soils. Each potentially responsible party has contractors performing environmental investigation on their behalf. CH2MHILL represents the USEPA.

DESCRIPTION OF SPECIFIC TASKS TO BE PERFORMED:

CH2MHILL tasks will include:

- Collection of split samples with Potentially Responsible Party (PRP) representatives. The PRP representatives will be responsible for contractor arrangements, such as drilling, water development, well purging and water pumping, and surveying. Although CH2MHILL employees will be exposed to these activities, CH2MHILL is responsible only for site safety coordinator (SSC) duties as pertains to CH2M HILL HILL staff or subcontractors and collection of soil, water, DNAPL and soil vapor samples.

- Operations and maintenance (O&M) inspections of the storage cells (5 soil cells and 1 debris cells) along with possible sampling of the soil/sediment and liquid (leachate) associated with the O&M of the storage cells. The storage cells contain pesticide-contaminated soil and debris from the Kenwood Avenue cleanup activities conducted by EPA. The soils and debris are contained by multiple layers of geomembranes and synthetic liners.

- CH2M HILL will also conduct a inspection of the storage cells prior to O&M operations. This will include a visual inspection of the cells along with taking a few photographs to document the condition of the storage cells.

- CH2M HILL will also conduct oversight of the removal of contaminated soil from the Ecology Control Industries (ECI) facility at 20846 Normandie Avenue, Torrance, CA. The soil that will be removed from the ECI property was previously excavated and stockpiled at the ECI property. This soil will be loaded into trucks and hauled off the property for disposal at an EPA-approved disposal facility. CH2M HILL will be overseeing these activities at EPA's request.

  Our Staff are to remain upwind during earthmoving activities and at no time shall they enter an area where there is visible dust without being in a respirator, Level C PPE. On site air monitoring is conducted by EarthTech and their dust action level of 0.05 mg/m3 is sufficient for protection from potential exposure to the various contaminants. Our staff should be aware of the locations of the excavations and not approach where they may have a fall potential.

- CH2M HILL will collect surface and subsurface soil samples to a maximum depth of 20 feet using direct push (Geoprobe) technologies. During Phase 1, soil samples will be collected on the ECI property and the adjacent residential properties directly east of the ECI Property. Based on the results of Phase 1, additional sampling may be conducted on the ECI Property west of the LACFCD Easement Buffer and Within the Historical Stormwater Pathway (Phase 2A) and on the ECI Property West and Outside of the Historical Stormwater Pathway (Phase 2B). Soil samples will be analyzed for geotechnical parameters and pesticides/PCBs. Investigation-derived waste (soil and water) samples will be analyzed for Pesticides/PCBs, Total Petroleum Hydrocarbons – gasoline (TPHg), Total Petroleum Hydrocarbons – diesel (TPHd), VOCs, andTotal threshold limit concentration (TTLC) Metals.. CH2M HILL will be responsible for subcontractor arrangements, such as direct push drilling and soil and IDW sample collection. CH2MHILL employees will be exposed to these activities and CH2MHILL is responsible only for site safety coordinator (SSC) duties as pertains to CH2M HILL staff or subcontractors and collection of soil samples.

Site Map

This page is reserved for a Site Map.

Note locations of Support, Decontamination, and Exclusion Zones; site telephone; first aid station; evacuation routes; and assembly areas.

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1 Tasks to be Performed Under this Plan

1.1 Description of Tasks

(Reference Field Project Start-up Form)

Refer to project documents (i.e., Work Plan) for detailed task information. A health and safety risk analysis (Section 1.2) has been performed for each task and is incorporated in this plan through task-specific hazard controls and requirements for monitoring and protection. Tasks other than those listed below require an approved amendment or revision to this plan before tasks begin. Refer to Section 8.2 for procedures related to "clean" tasks that do not involve hazardous waste operations and emergency response (Hazwoper).

1.1.1 Hazwoper-Regulated Tasks

- Test pit excavation
- Drilling
- Groundwater monitoring
- Leachate sampling
- Surface soil sampling
- Investigation-derived waste (drum) sampling and disposal
- Observation of material loading for offsite disposal
- Geoprobe soils sampling

1.1.2 Non-Hazwoper-Regulated Tasks

Under specific circumstances, the training and medical monitoring requirements of federal or state Hazwoper regulations are not applicable. It must be demonstrated that the tasks can be performed without the possibility of exposure in order to use non-Hazwoper-trained personnel. **Prior approval from the Health and Safety Manager (HSM) is required before these tasks are conducted on regulated hazardous waste sites.**

TASKS	CONTROLS
•	• Brief on hazards, limits of access, and emergency procedures
• Engineering testing/evaluation	• Post contaminant areas as appropriate (refer to Section 8.2 for details)
• Waste removal/hauling	• Sample and monitor as appropriate (refer to Section 5.0)
• Weekly soil cell inspections	
• Inspection of Montrose Property to assess condition of soil cells, asphalt cover, fencing, and gate.	
•	

1.2 Task Hazard Analysis

(Refer to Section 2 for hazard controls)

POTENTIALHAZARDS	TASKS					
	Test pit/ excavation	Drilling, geoprobe, and well installation & abandonment	Groundwater monitoring, aquifer testing	IDW drum sampling and disposal	Observation of loading material for offsite disposal	Soil cell inspection
Flying debris/objects	X	X		X	X	
Noise > 85dBA	X	X			X	
Electrical	X	X	X			
Suspended loads	X	X			X	
Buried utilities, drums, tanks	X	X				
Slip, trip, fall	X	X	X	X	X	X
Back injury	X	X	X	X		X
Confined space entry	X					
Trenches / excavations	X					
Visible lightning	X	X	X	X	X	
Vehicle traffic					X	X
Elevated work areas/falls	X					
Fires	X	X		X		
Entanglement		X				
Drilling		X				
Heavy equipment	X	X			X	
Working near water						
Working from boat						
IDW Drum Sampling				X		

2 Hazard Controls

This section provides safe work practices and control measures used to reduce or eliminate potential hazards. These practices and controls are to be implemented by the party in control of either the site or the particular hazard. CH2M HILL employees and subcontractors must remain aware of the hazards affecting them regardless of who is responsible for controlling the hazards. CH2M HILL employees and subcontractors who do not understand any of these provisions should contact the SC-HW for clarification.

In addition to the controls specified in this section, Project-Activity Self-Assessment Checklists are contained in Attachment 6. These checklists are to be used to assess the adequacy of CH2M HILL and subcontractor site-specific safety requirements. The objective of the self-assessment process is to identify gaps in project safety performance, and prompt for corrective actions in addressing these gaps. Self-assessment checklists should be completed early in the project, when tasks or conditions change, or when otherwise specified by the HSM. The self-assessment checklists, including documented corrective actions, should be made part of the permanent project records, and be promptly submitted to the HSM.

Project-specific frequency for completing self-assessments: Weekly

2.1 Project-Specific Hazards

2.1.1 Benzene

- Do not enter regulated work areas unless training, medical monitoring, and PPE requirements established by the competent person have been met.
- Do not eat, drink, smoke, chew tobacco or gum, or apply cosmetics in regulated areas.
- Skin absorption is a potential route of benzene exposure.
- Benzene is considered a “Confirmed Human Carcinogen.”
- A Short Term Exposure Limit (STEL: 15 minutes) exists for this material.
- Benzene has an aromatic odor.
- Respiratory protection and other exposure controls selection shall be based on the most recent exposure monitoring results obtained from the competent person.

2.1.2 Lead

The following requirements pertain to lead abatement activities:

- Work activities involving cutting, grinding, burning, welding, and other abrasive operations performed on any painted and/or coated surfaces should be treated as having an increased potential for lead exposure.
- Surfaces suspected of containing lead shall be treated as lead unless documentation and/or testing results indicate otherwise.
- Do not enter regulated work areas unless training, medical monitoring, and PPE requirements established by the competent person have been met.
- Do not eat, drink, smoke, chew tobacco or gum, or apply cosmetics in regulated areas.
- Do not launder work clothes with ordinary clothes.
- Respiratory protection and other exposure controls selection shall be based on the most recent exposure monitoring results obtained from the competent person.

The following requirements pertain to lead contaminated soils:

- Work shall progress in a sequence from less contaminated to more contaminated areas.
- Water should be added to soils prior to and during excavation, air rotary drilling, and other activities that create or have the potential to create airborne lead contaminated dust. For air rotary drilling operations, water can be added to the boring to reduce dust generation from the cyclone. Depending upon soil type, watering of soil may be required several days prior to commencing ground intrusive activities.

- Personnel working in the vicinity of lead contaminated soil shall wear disposable coveralls or equal and exercise enhanced personal hygiene (i.e., frequent hand washing prior to eating, drinking, and smoking; separation of work and street clothing/footwear; etc.).

2.1.3 Methylene Chloride

- Do not enter regulated work areas unless training, medical monitoring, and PPE requirements established by the competent person have been met.
- Do not eat, drink, smoke, chew tobacco or gum, or apply cosmetics in regulated areas.
- A Short Term Exposure Limit (STEL: 15 minutes) and a Ceiling Limit (Not to Exceed) exists for this material.
- Methylene Chloride has a faint, sweet odor which is not noticeable at dangerous concentrations.
- Shipped as liquefied compressed gas.
- Will cause frostbite on contact.
- Respiratory protection and other exposure controls selection shall be based on the most recent exposure monitoring results obtained from the competent person.

2.1.4 Drilling

(Reference CH2M HILL SOP *Drilling*)

- Only authorized personnel are permitted to operate drill rigs.
- Stay clear of areas surrounding drill rigs during every startup.
- Stay clear of the rotating augers and other rotating components of drill rigs.
- Stay as clear as possible of all hoisting operations. Loads shall not be hoisted overhead of personnel.
- Do not wear loose-fitting clothing or other items such as rings or watches that could get caught in moving parts. Long hair should have it restrained.
- If equipment becomes electrically energized, personnel shall be instructed not to touch any part of the equipment or attempt to touch any person who may be in contact with the electrical current. The utility company or appropriate party shall be contacted to have line de-energized prior to approaching the equipment.
- Smoking around drilling operations is prohibited.

2.1.5 Forklifts

- Only authorized and trained personnel may operate forklifts.
- Forklifts shall be inspected by the operator prior to use.
- No part of a load must pass over any personnel.
- Forklifts left unattended must be immobilized and secured against accidental movement and forks, buckets or other attachments must be in the lowered position or be firmly supported.
- No load may exceed the maximum rated load and loads must be handled in accordance with the height and weight restrictions on the load chart.
- When a load is in the raised position, the controls must be attended by an operator.
- If an operator does not have a clear view of the path, a signaler must be used.
- Loads must be carried as close to the ground or floor as the situation permits.
- Loads that may tip or fall must be secured.
- Where a forklift is required to enter or exit a vehicle to load or unload, the vehicle must be immobilized and secured against accidental movement.
- Forklifts shall not be used to support, raise or lower workers.
- Forklifts operators shall wear seatbelts at all times.
- Concentrations of carbon monoxide created by forklift operation indoors must be monitored when the potential exists for reaching or exceeding permissible exposure limits.
- Barriers, warning signs, designated walkways or other safeguards must be provided where pedestrians are exposed to the risk of collision.

2.1.6 Respiratory Protection

(Reference CH2M HILL SOP *Respiratory Protection*)

- Respirator users must have completed appropriate respirator training within the past 12 months. Level C training is required for air-purifying respirators (APR) use and Level B training is required for supplied-air respirators (SAR) and self-contained breathing apparatus (SCBA) use. Specific training is required for the use of powered air-purifying respirators (PAPR).
- Respirator users must complete the respirator medical monitoring protocol and been approved for the specific type of respirator to be used.
- Tight-fitting facepiece respirator (negative or positive pressure) users must have passed an appropriate fit test within past 12 months.
- Respirator use shall be limited to those activities identified in this plan. If site conditions change that alter the effectiveness of the specified respiratory protection, the HSM shall be notified to amend the written plan.
- Tight-fitting facepiece respirator users shall be clean-shaven and shall perform a user seal check before each use.
- Canisters/cartridges shall be replaced according to the change-out schedule specified in this plan. Respirator users shall notify the SSC/DSC of any detection of vapor or gas breakthrough. The SSC/DSC shall report any breakthrough events to the HSM for schedule upgrade.
- Respirators in regular use shall be inspected before each use and during cleaning
- Respirators in regular use shall be cleaned and disinfected as often as necessary to ensure they are maintained in a clean and sanitary condition.
- Respirators shall be properly stored to protect against contamination and deformation.
- Field repair of respirators shall be limited to routine maintenance. Defective respirators shall be removed from service.
- When breathing air is supplied by cylinder or compressor, the SSC/DSC shall verify the air meets Grade D air specifications.
- The SSC/DSC shall complete the H&S Self-Assessment Checklist – Respiratory Protection include in Attachment 6 of this plan to verify compliance with CH2M HILL's respiratory protection program.

2.1.7 Earthmoving Equipment (Reference CH2M HILL SOP *Earthmoving Equipment*)

- Only authorized personnel are permitted to operate earthmoving equipment.
- Maintain safe distance from operating equipment and stay alert of equipment movement. Avoid positioning between fixed objects and operating equipment and equipment pinch points, remain outside of the equipment swing and turning radius. Pay attention to backup alarms, but not rely on them for protection. Never turn your back on operating equipment.
- Approach operating equipment only after receiving the operator's attention. The operator shall acknowledge your presence and stop movement of the equipment. Caution shall be used when standing next to idle equipment; when equipment is placed in gear it can lurch forward or backward. Never approach operating equipment from the side or rear where the operator's vision is compromised.
- When required to work in proximity to operating equipment, wear high-visibility vests to increase visibility to equipment operators. For work performed after daylight hours, vests shall be made of reflective material or include a reflective stripe or panel.
- Do not ride on earthmoving equipment unless it is specifically designed to accommodate passengers. Only ride in seats that are provided for transportation and that are equipped with seat belts.
- Stay as clear as possible of all hoisting operations. Loads shall not be hoisted overhead of personnel.
- Earthmoving equipment shall not be used to lift or lower personnel.
- If equipment becomes electrically energized, personnel shall be instructed not to touch any part of the equipment or attempt to touch any person who may be in contact with the electrical current. The utility company or appropriate party shall be contacted to have line de-energized prior to approaching the equipment.

2.1.8 Excavation (Reference CH2M HILL SOP *Excavations*)

- Do not enter the excavations unless completely necessary, and only after the competent person has completed the daily inspection and has authorized entry.
- Follow all excavation entry requirements established by the competent person.
- Do not enter excavations where protective systems are damaged or unstable.
- Do not enter excavations where objects or structures above the work location may become unstable and fall into the excavation.
- Do not enter excavations with the potential for a hazardous atmosphere until the air has been tested and found to be at safe levels.
- Do not enter excavations with accumulated water unless precautions have been taken to prevent excavation cave-in.
- H&S Self-Assessment Checklist – Excavations, found in Attachment 6 of this plan, should be used to evaluate excavations prior to entry.

2.2 General Hazards

2.2.1 General Practices and Housekeeping

(Reference CH2M HILL SOP *General Practices*)

- Site work should be performed during daylight hours whenever possible. Work conducted during hours of darkness require enough illumination intensity to read a newspaper without difficulty.
- Good housekeeping must be maintained at all times in all project work areas.
- Common paths of travel should be established and kept free from the accumulation of materials.
- Keep access to aisles, exits, ladders, stairways, scaffolding, and emergency equipment free from obstructions.
- Provide slip-resistant surfaces, ropes, and/or other devices to be used.
- Specific areas should be designated for the proper storage of materials.
- Tools, equipment, materials, and supplies shall be stored in an orderly manner.
- As work progresses, scrap and unessential materials must be neatly stored or removed from the work area.
- Containers should be provided for collecting trash and other debris and shall be removed at regular intervals.
- All spills shall be quickly cleaned up. Oil and grease shall be cleaned from walking and working surfaces.

2.2.2 Hazard Communication

(Reference CH2M HILL SOP *Hazard Communication)*

The SSC is to perform the following:

- Complete an inventory of chemicals brought on site by CH2M HILL using Attachment 2.
- Confirm that an inventory of chemicals brought on site by CH2M HILL subcontractors is available.
- Request or confirm locations of Material Safety Data Sheets (MSDSs) from the client, contractors, and subcontractors for chemicals to which CH2M HILL employees potentially are exposed.
- Before or as the chemicals arrive on site, obtain an MSDS for each hazardous chemical.
- Label chemical containers with the identity of the chemical and with hazard warnings, and store properly.
- Give employees required chemical-specific HAZCOM training using Attachment 3.
- Store all materials properly, giving consideration to compatibility, quantity limits, secondary containment, fire prevention, and environmental conditions.

2.2.3 Shipping and Transportation of Chemical Products

(Reference CH2M HILL's *Procedures for Shipping and Transporting Dangerous Goods)*

Chemicals brought to the site might be defined as hazardous materials by the U.S. Department of Transportation (DOT). All staff who ship the materials or transport them by road must receive CH2M HILL training in shipping dangerous goods. All hazardous materials that are shipped (e.g., via Federal Express) or are transported by road must be properly identified, labeled, packed, and documented by trained staff. Contact the HSM or the Equipment Coordinator for additional information.

2.2.4 Lifting

(Reference CH2M HILL SOP *Lifting*)

- Proper lifting techniques must be used when lifting any object.
  - Plan storage and staging to minimize lifting or carrying distances.
  - Split heavy loads into smaller loads.
  - Use mechanical lifting aids whenever possible.
  - Have someone assist with the lift -- especially for heavy or awkward loads.
  - Make sure the path of travel is clear prior to the lift.

2.2.5 Fire Prevention

(Reference CH2M HILL SOP *Fire Prevention*)

- Fire extinguishers shall be provided so that the travel distance from any work area to the nearest extinguisher is less than 100 feet. When 5 gallons or more of a flammable or combustible liquid is being used, an extinguisher must be within 50 feet. Extinguishers must:
  - be maintained in a fully charged and operable condition,
  - be visually inspected each month, and
  - undergo a maintenance check each year.
- The area in front of extinguishers must be kept clear.
- Post “Exit” signs over exiting doors, and post “Fire Extinguisher” signs over extinguisher locations.
- Combustible materials stored outside should be at least 10 feet from any building.
- Solvent waste and oily rags must be kept in a fire resistant, covered container until removed from the site.
- Flammable/combustible liquids must be kept in approved containers, and must be stored in an approved storage cabinet.

2.2.6 Electrical

(Reference CH2M HILL SOP *Electrical*)

- Only qualified personnel are permitted to work on unprotected energized electrical systems.
- Only authorized personnel are permitted to enter high-voltage areas.
- Do not tamper with electrical wiring and equipment unless qualified to do so. All electrical wiring and equipment must be considered energized until lockout/tagout procedures are implemented.
- Inspect electrical equipment, power tools, and extension cords for damage prior to use. Do not use defective electrical equipment, remove from service.
- All temporary wiring, including extension cords and electrical power tools, must have ground fault circuit interrupters (GFCIs) installed.
- Extension cords must be:
  - equipped with third-wire grounding.
  - covered, elevated, or protected from damage when passing through work areas.
  - protected from pinching if routed through doorways.
  - not fastened with staples, hung from nails, or suspended with wire.
- Electrical power tools and equipment must be effectively grounded or double-insulated UL approved.
- Operate and maintain electric power tools and equipment according to manufacturers' instructions.
- Maintain safe clearance distances between overhead power lines and any electrical conducting material unless the power lines have been de-energized and grounded, or where insulating barriers have been installed to prevent physical contact. Maintain at least 10 feet from overhead power lines for voltages of 50 kV or less, and 10 feet plus ½ inch for every 1 kV over 50 kV.
- Temporary lights shall not be suspended by their electric cord unless designed for suspension. Lights shall be protected from accidental contact or breakage.
- Protect all electrical equipment, tools, switches, and outlets from environmental elements.

2.2.7 Stairways and Ladders

(Reference CH2M HILL SOP *Stairways and Ladders*)

- Stairway or ladder is generally required when a break in elevation of 19 inches or greater exists.
- Personnel should avoid using both hands to carry objects while on stairways; if unavoidable, use extra precautions.
- Personnel must not use pan and skeleton metal stairs until permanent or temporary treads and landings are provided the full width and depth of each step and landing.
- Ladders must be inspected by a competent person for visible defects prior to each day's use. Defective ladders must be tagged and removed from service.
- Ladders must be used only for the purpose for which they were designed and shall not be loaded beyond their rated capacity.
- Only one person at a time shall climb on or work from an individual ladder.
- User must face the ladder when climbing; keep belt buckle between side rails
- Ladders shall not be moved, shifted, or extended while in use.
- User must use both hands to climb; use rope to raise and lower equipment and materials
- Straight and extension ladders must be tied off to prevent displacement
- Ladders that may be displaced by work activities or traffic must be secured or barricaded
- Portable ladders must extend at least 3 feet above landing surface
- Straight and extension ladders must be positioned at such an angle that the ladder base to the wall is one-fourth of the working length of the ladder
- Stepladders are to be used in the fully opened and locked position
- Users are not to stand on the top two steps of a stepladder; nor are users to sit on top or straddle a stepladder
- Fixed ladders $\geq$ 24 feet in height must be provided with fall protection devices.
- Fall protection should be considered when working from extension, straight, or fixed ladders greater than six feet from lower levels and both hands are needed to perform the work, or when reaching or working outside of the plane of ladder side rails.

2.2.8 Heat Stress

(Reference CH2M HILL SOP *Heat and Cold Stress*)

- Drink 16 ounces of water before beginning work. Disposable cups and water maintained at 50°F to 60°F should be available. Under severe conditions, drink 1 to 2 cups every 20 minutes, for a total of 1 to 2 gallons per day. Do not use alcohol in place of water or other nonalcoholic fluids. Decrease your intake of coffee and caffeinated soft drinks during working hours.
- Acclimate yourself by slowly increasing workloads (e.g., do not begin with extremely demanding activities).
- Use cooling devices, such as cooling vests, to aid natural body ventilation. These devices add weight, so their use should be balanced against efficiency.
- Use mobile showers or hose-down facilities to reduce body temperature and cool protective clothing.
- Conduct field activities in the early morning or evening and rotate shifts of workers, if possible.
- Avoid direct sun whenever possible, which can decrease physical efficiency and increase the probability of heat stress. Take regular breaks in a cool, shaded area. Use a wide-brim hat or an umbrella when working under direct sun for extended periods.
- Provide adequate shelter/shade to protect personnel against radiant heat (sun, flames, hot metal).
- Maintain good hygiene standards by frequently changing clothing and showering.
- Observe one another for signs of heat stress. Persons who experience signs of heat syncope, heat rash, or heat cramps should consult the SSC/DSC to avoid progression of heat-related illness.

SYMPTOMS AND TREATMENT OF HEAT STRESS					
	Heat Syncope	Heat Rash	Heat Cramps	Heat Exhaustion	Heat Stroke
Signs and Symptoms	Sluggishness or fainting while standing erect or immobile in heat.	Profuse tiny raised red blister-like vesicles on affected areas, along with prickling sensations	Painful spasms in muscles used during work (arms, legs, or abdomen); onset	Fatigue, nausea, headache, giddiness; skin clammy and moist; complexion pale, muddy, or flushed; may faint on standing; rapid thready	Red, hot, dry skin; dizziness; confusion; rapid breathing and pulse; high oral

SYMPTOMS AND TREATMENT OF HEAT STRESS					
		during heat exposure.	during or after work hours.	pulse and low blood pressure; oral temperature normal or low	temperature.
Treatment	Remove to cooler area. Rest lying down. Increase fluid intake. Recovery usually is prompt and complete.	Use mild drying lotions and powders, and keep skin clean for drying skin and preventing infection.	Remove to cooler area. Rest lying down. Increase fluid intake.	Remove to cooler area. Rest lying down, with head in low position. Administer fluids by mouth. Seek medical attention.	Cool rapidly by soaking in cool– but not cold– water. Call ambulance, and get medical attention immediately!

Monitoring Heat Stress

These procedures should be considered when the ambient air temperature exceeds 70°F, the relative humidity is high (>50 percent), or when workers exhibit symptoms of heat stress.
The heart rate (HR) should be measured by the radial pulse for 30 seconds, as early as possible in the resting period. The HR at the beginning of the rest period should not exceed 100 beats/minute, or 20 beats/minute above resting pulse. If the HR is higher, the next work period should be shortened by 33 percent, while the length of the rest period stays the same. If the pulse rate still exceeds 100 beats/minute at the beginning of the next rest period, the work cycle should be further shortened by 33 percent. The procedure is continued until the rate is maintained below 100 beats/minute, or 20 beats/minute above resting pulse.

2.2.9 Procedures for Locating Buried Utilities

Local Utility Mark-Out Service

Name: Contractor's Task
Phone:

- Where available, obtain utility diagrams for the facility.
- Review locations of sanitary and storm sewers, electrical conduits, water supply lines, natural gas lines, and fuel tanks and lines.
- Review proposed locations of intrusive work with facility personnel knowledgeable of locations of utilities. Check locations against information from utility mark-out service.
- Where necessary (e.g., uncertainty about utility locations), excavation or drilling of the upper depth interval should be performed manually
- Monitor for signs of utilities during advancement of intrusive work (e.g., sudden change n advancement of auger or split spoon).
- When the client or other onsite party is responsible for determining the presence and locations of buried utilities, the SSC should confirm that arrangement.

2.3 Biological Hazards and Controls

2.3.1 Bees and Other Stinging Insects

Bee and other stinging insects may be encountered almost anywhere and may present a serious hazard, particularly to people who are allergic. Watch for and avoid nests. Keep exposed skin to a minimum. Carry a kit if you have had allergic reactions in the past, and inform the SSC and/or buddy. If a stinger is present, remove it carefully with tweezers. Wash and disinfect the wound, cover it, and apply ice. Watch for allergic reaction; seek medical attention if a reaction develops.

2.3.2 Bloodborne Pathogens

(Reference CH2M HILL SOP *Bloodborne Pathogens*)

Exposure to bloodborne pathogens may occur when rendering first aid or CPR, or when coming into contact with landfill waste or waste streams containing potentially infectious material. Exposure controls and personal protective

equipment (PPE) are required as specified in CH2M HILL SOP HS-36, *Bloodborne Pathogens*. Hepatitis B vaccination must be offered before the person participates in a task where exposure is a possibility.

2.3.3 Other Anticipated Biological Hazards

2.5 Contaminants of Concern

(Refer to Project Files for more detailed contaminant information)

Contaminant	Location and Maximum[a] Concentration (ppm)	Exposure Limit[b]	IDLH[c]	Symptoms and Effects of Exposure	PIP[d] (eV)
Arsenic	SB: 98 mg/kg	0.01 mg/m^3	5 Ca	Ulceration of nasal septum, respiratory irritation; dermatitis; gastrointestinal disturbances; peripheral neuropathy, hyperpigmentation	NA
Chlorobenzene	SB: 81,000 mg/kg	10 ppm	1,000	Skin, eye, and nose irritation; drowsiness; uncoordination; CNS depression	9.07
DDT	SB: 7,620 mg/kg	0. 5 mg/m^3	500 Ca	Paresthesia of tongue, lips, hand, and face; tremors; dizziness; confusion; headache; fatigue; convulsions; eye and skin irritation; vomiting	UK
Lead	SB: 999 mg/kg	0.05 mg/m^3	100	Weakness, lassitude; facial pallor; pal eye; weight loss, malnutrition; abdominal pain, constipation; anemia; gingival lead line; tremors; paralysis of wrist and ankles; encephalopathy; kidney disease; irritated eyes; hypotension	NA
BHC (alpha, beta, delta, gamma)	SB: 52 mg/kg	0.5 mg/m^3	NL Ca	Confirmed carcinogen; poison by ingestion; convulsions; cyanosis	UK
Benzene	SB:1200 mg/kg	1 ppm	500 Ca	Eye, nose, skin, and respiratory irritation; headache; nausea; dermatitis; fatigue; giddiness; staggered gait; bone marrow depression	9.24
Chlordane	SB: 3.5 mg/kg	0.5 mg/m^3	100 Ca	Blurred vision, confusion, ataxia, delirium, coughing, abdominal pain, nausea, vomiting, diarrhea, irritability, tremors, anuria	UK
Chloroform	SB:72 mg/kg	2 ppm	500 Ca	Dizziness, mental dullness, nausea, confusion, disorientation, headache, fatigue, eye and skin irritation, anesthesia, enlarged liver	11.42
Chromium (as Cr(II) & Cr(III))	SB: low levels	0.5 mg/m^3	25	Irritated eyes, sensitization dermatitis, histologic fibrosis of lungs	NA
Chromium (hexavalent)	GW: SB: low levels SS:	0.01 mg/m^3	15 Ca	Irritated respiratory system, nasal septum perforation, liver and kidney damage, leucytosis, leupen, monocytosis, eosinophilla, eye injury, conjunctivitis, skin ulcer, sensitization dermatitis	NA
p-Dichlorobenzene (1,4-Dichlorobenzene)	GW: SB:34 mg/kg SS:	10 ppm	150 Ca	Headache, eye irritation, nausea, vomiting, swelling periorbital, profus rhinitis, jaundice, cirrhosis	8.98
1,1-Dichloroethane	GW: SB: SS:	100 ppm	3,000	CNS depression, skin irritation; liver, kidney, and lung damage	11.06
1,2-Dichloroethane (Ethylene Dichloride)	GW: SB: SS:	1 ppm	50 Ca	CNS depression, nausea, vomiting, dermatitis, eye irritation, liver, kidney, and CNS damage; corneal opacity	11.05

2.5 Contaminants of Concern

(Refer to Project Files for more detailed contaminant information)

Contaminant	Location and Maximum[a] Concentration (ppm)	Exposure Limit[b]	IDLH[c]	Symptoms and Effects of Exposure	PIP[d] (eV)
Ethyl Benzene	SB:	100 ppm	800	Eye, skin, and mucous membrane irritation; headache; dermatitis; narcotic; coma	8.76
Naphthalene	GW: SB: SS:	10 ppm	250	Eye irritation, headache, confusion, excitement, nausea, vomiting, abdominal pain, bladder irritation, profuse sweating, dermatitis, corneal damage, optical neuritis	8.12
PCBs (Limits as Aroclor 1254)	SB: 23.1 mg/kg (sum of Aroclors 1254 and 1260) SS: 6.1 mg/kg Aroclor 1254 and 1.8 mg/kg Aroclor 1260.	0.5 mg/m^3	5 Ca	Eye and skin irritation, acne-form dermatitis, liver damage, reproductive effects	UK
PAHs (as Coal Tar Pitch volatiles)	SB: SS:	0.2 mg/m^3	80 Ca	Dermatitis and bronchitis	UK
Tetrachloroethylene (PCE)	SB: 6700 mg/kg SS:	25 ppm	150 Ca	Eye, nose, and throat irritation; nausea; flushed face and neck; vertigo; dizziness; sleepiness; skin redness; headache; liver damage	9.32
Toluene	GW: SB: SS:	50 ppm	500	Eye and nose irritation, fatigue, weakness, confusion, dizziness, headache, dilated pupils, excessive tearing, nervousness, muscle fatigue, paresthesia, dermatitis, liver and kidney damage	8.82
Xylenes	GW: SB: SS:	100 ppm	900	Irritated eyes, skin, nose, and throat; dizziness; excitement; drowsiness; incoherence; staggering gait; corneal vacuolization; anorexia; nausea; vomiting; abdominal pain; dermatitis	8.56

Footnotes:

[a] Specify sample-designation and media: SB (Soil Boring), A (Air), D (Drums), GW (Groundwater), L (Lagoon), TK (Tank), S (Surface Soil), SL (Sludge), SW (Surface Water).

[b] Appropriate value of PEL, REL, or TLV listed.

[c] IDLH = immediately dangerous to life and health (units are the same as specified "Exposure Limit" units for that contaminant); NL = No limit found in reference materials; CA = Potential occupational carcinogen.

[d] PIP = photoionization potential; NA = Not applicable; UK = Unknown.

2.6 Potential Routes of Exposure

Dermal: Contact with contaminated media. This route of exposure is minimized through proper use of PPE, as specified in Section 4.	**Inhalation:** Vapors and contaminated particulates. This route of exposure is minimized through proper respiratory protection and monitoring, as specified in Sections 4 and 5, respectively.	**Other:** Inadvertent ingestion of contaminated media. This route should not present a concern if good hygiene practices are followed (e.g., wash hands and face before drinking or smoking).

3 Project Organization and Personnel

3.1 CH2M HILL Employee Medical Surveillance and Training

(Reference CH2M HILL SOPs HS-01, *Medical Surveillance*, and HS-02, *Health and Safety Training)*

The employees listed below are enrolled in the CH2M HILL Comprehensive Health and Safety Program and meet state and federal hazardous waste operations requirements for 40-hour initial training, 3-day on-the-job experience, and 8-hour annual refresher training. Employees designated "SSC" have completed a 12-hour site safety coordinator course, and have documented requisite field experience. An SSC with a level designation (D, C, B) equal to or greater than the level of protection being used must be present during all tasks performed in exclusion or decontamination zones. Employees designated "FA-CPR" are currently certified by the American Red Cross, or equivalent, in first aid and CPR. At least one FA-CPR designated employee must be present during all tasks performed in exclusion or decontamination zones. The employees listed below are currently active in a medical surveillance program that meets state and federal regulatory requirements for hazardous waste operations. Certain tasks (e.g., confined-space entry) and contaminants (e.g., lead) may require additional training and medical monitoring.

Pregnant employees are to be informed of and are to follow the procedures in CH2M HILL's SOP HS-04, *Reproduction Protection*, including obtaining a physician's statement of the employee's ability to perform hazardous activities before being assigned fieldwork.

Employee Name	Office	Responsibility	SC-HW/FA-CPR
Benjamin (BJ) Lechler	SCO	Team lead/SSC	Level C, SC-HW, FA/CPR
Justin Zumbro	SCO	Team Lead/SSC	Level C, SC-HW, FA/CPR
Elizabeth Bryant	THO	Team member	Level C, SC-HW, FA/CPR
John Dolegowski	SCO	PM	NonHazwoper, no entry
Bill Hannah	SCO	Team Member	Level D
Vik Mathur	SCO	Team member, SC	Level C, FA/CPR, Sc-HW
Amanda Berens	SCO	Team Member	Level C, FA/CPR, SC-HW
Randy Kellerman	SCO	Team Member	Level C, FA/CPR,
Luis Sujo	SCO	Team Member	Level D
Michelle Dembacher	SCO	Team Member	Level D
Kerang Sun	SCO	Team Member	Level C, FA/CPR
Christopher Romero	SCO	Team member	Level D, FA/CPR
Mike Ladeau	SCO	Team member	Level C, FA/CPR
D.J. Poehls	SCO	Team Member	Level C, FA/CPR, SC-HW
Carl Jones	SCO	Team Member	Level D
Curt Basnett	SCO	Team Member	Level C, FA/CPR, SC-HW
Emily Keene	SCO	Team Member	Level C, FA/CPR, SC-HW

3.2 Field Team Chain of Command and Communication Procedures

3.2.1 Client

Contact Name: Sue Keydel
Cell Phone: 510/847-6586
Facility Contact Name:USEPA, Region 9

Work Phone: (415) 972-3106

3.2.2 CH2M HILL

Project Manager: John Dolegowski/SCO
Health and Safety Manager: Rick Cavil/BAO
Field Team Leader: Elizabeth Bryant/THO
Site Safety Coordinator: BJ Lechler , Justin Zumbro, Vik Mathur
The SSC is responsible for contacting the Field Team Leader and Project Manager. In general, the Project Manager will contact the client. The Health and Safety Manager should be contacted as appropriate.

3.2.3 Contractors

(Reference CH2M HILL SOP HS-55, *Subcontractor, Contractor, and Owner*)

Contractor: EarthTech
Contractor Contact Name: Brian Dean (PM)
Telephone:

Contractor: EarthTech
Contractor Contact Name: Robert (Jay) Newman (field lead)
Telephone: 562-577-6044

Contractor: Hargis + Assoc.
Contractor Contact Name: Mike Palmer (PM)
Telephone: 619/521-0165

Contractor: Levine Frecke
Contractor Contact Name: Melissa C. Schuetz (PM)
Telephone: (714) 755-7239

This plan does not cover contractors that are contracted directly to the client or the owner. CH2M HILL is not responsible for the health and safety or means and methods of the contractor's work, and we must never assume such responsibility through our actions (e.g., advising on H&S issues). In addition to this plan, CH2M HILL staff should review contractor safety plans so that we remain aware of appropriate precautions that apply to us. Except in unusual situations when conducted by the HSM, CH2M HILL must never comment on or approve contractor safety procedures. Self-assessment checklists contained in Attachment 6 are to be used by the SSC to review the contractor's performance ONLY as it pertains to evaluating our exposure and safety.

Health and safety related communications with contractors should be conducted as follows:

- Request the contractor to brief CH2M HILL employees and subcontractors on the precautions related to the contractor's work.
- When an apparent contractor non-compliance/unsafe condition or practice poses a risk to CH2M HILL employees or subcontractors:
  - Notify the contractor safety representative
  - Request that the contractor determine and implement corrective actions
  - If needed, stop affected CH2M HILL work until contractor corrects the condition or practice. Notify the client, Project Manager, and HSM as appropriate.
- If apparent contractor non-compliance/unsafe conditions or practices are observed, inform the contractor safety representative. Our obligation is limited strictly to informing the contractor of our observation – the contractor is solely responsible for determining and implementing necessary controls and corrective actions.
- If an apparent imminent danger is observed, immediately warn the contractor employee(s) in danger and notify the contractor safety representative. Our obligation is limited strictly to immediately warning the affected individual(s) and informing the contractor of our observation – the contractor is solely responsible for determining and implementing necessary controls and corrective actions.
- Document all oral health and safety related communications in project field logbook, daily reports, or other records.

4 Personal Protective Equipment (PPE)

(Reference CH2M HILL SOP HS-07, *Personal Protective Equipment*, HS-08, *Respiratory Protection*)

PPE Specifications [a]

	Level		Head	Respirator [b]
General site entry Surveying Oversight of remediation	D	Work clothes; steel-toe, leather work boots; work glove.	Hardhat [c] Safety glasses Ear protection [d]	None required
Surface soil sampling Hand augering Geoprobe boring ECI site oversight	Modified D	Work clothes or cotton coveralls **Boots:** Steel-toe, chemical-resistant boots OR steel-toe, leather work boots with outer rubber boot covers **Gloves:** Inner surgical-style nitrile & outer chemical-resistant nitrile gloves.	Hardhat [c] Safety glasses Ear protection [d]	None required
Groundwater sampling Soil boring Investigation-derived waste (drum) sampling and disposal	Modified D	**Coveralls:** Uncoated Tyvek® **Boots:** Steel-toe, chemical-resistant boots OR steel-toe, leather work boots with outer rubber boot covers **Gloves:** Inner surgical-style nitrile & outer chemical-resistant nitrile gloves.	Hardhat [c] Splash shield [c] Safety glasses Ear protection [d]	None required.
Test pit excavation Visible dust during ECI site oversight. Tasks requiring upgrade	C	**Coveralls:** Polycoated Tyvek® **Boots:** Steel-toe, chemical-resistant boots OR steel-toe, leather work boots with outer rubber boot covers **Gloves:** Inner surgical-style nitrile & outer chemical-resistant nitrile gloves.	Hardhat [c] Splash shield [c] Ear protection [d] Spectacle inserts	APR, full face, MSA Ultratwin or equivalent; with GME-H cartridges or equivalent[e].
Tasks requiring upgrade	B	**Coveralls:** Polycoated Tyvek® **Boots:** Steel-toe, chemical-resistant boots OR steel-toe, leather work boots with outer rubber boot covers **Gloves:** Inner surgical-style nitrile & outer chemical-resistant nitrile gloves.	Hardhat [c] Splash shield [c] Ear protection [d] Spectacle inserts	Positive-pressure demand self-contained breathing apparatus (SCBA); MSA Ultralite, or equivalent.

Reasons for Upgrading or Downgrading Level of Protection

Upgrade[f]	Downgrade
• Request from individual performing tasks. • Change in work tasks that will increase contact or potential contact with hazardous materials. • Occurrence or likely occurrence of gas or vapor emission. • Known or suspected presence of dermal hazards. • Instrument action levels (Section 5) exceeded.	• New information indicating that situation is less hazardous than originally thought. • Change in site conditions that decreases the hazard. • Change in work task that will reduce contact with hazardous materials.

[a] Modifications are as indicated. CH2M HILL will provide PPE only to CH2M HILL employees.
[b] No facial hair that would interfere with respirator fit is permitted.
[c] Hardhat and splash-shield areas are to be determined by the SSC.
[d] Ear protection should be worn when conversations cannot be held at distances of 3 feet or less without shouting.
[e] Cartridge change-out schedule is at least every 8 hours (or one work day), except if relative humidity is > 85%, or if organic vapor measurements are > midpoint of Level C range (refer to Section 5)--then at least every 4 hours. If encountered conditions are different than those anticipated in this HSP, contact the HSM.
[f] Performing a task that requires an upgrade to a higher level of protection (e.g., Level D to Level C) is permitted only when the PPE requirements have been approved by the HSM, and an SSC qualified at that level is present.

5 Air Monitoring/Sampling

(Reference CH2M HILL SOP HS-06, *Air Monitoring)*

5.1 Air Monitoring Specifications

Instrument	Tasks	Action Levels[a]		Frequency [b]	Calibration
PID: OVM with 10.6eV lamp or equivalent	Sampling	<5 ppm >5 ppm >25 ppm	Level D Level C Stop work, contact HSM	Initially and periodically during task	Daily
CGI: MSA model 260 or 261 or equivalent	Drilling	0-10% : 10-25% LEL: >25% LEL:	No explosion hazard Potential explosion hazard Explosion hazard; evacuate or vent	Continuous during advancement of boring or trench	Daily
Detector Tube: Drager benzene specific 0.5/c (0.5 to 10 ppm range) with pre-tube, or equivalent	Sampling	<0.5 ppm 0.5-1 ppm >1 ppm	Level D Level C Level B	Initially and periodically when PID/FIB >1 ppm	Not applicable
Nose-Level Monitor [e]:	Drilling	<85 dB(A) 85-120 dB(A) 120 dB(A)	No action required Hearing protection required Stop; re-evaluate	Initially and periodically during task	Daily
Dust Monitor: Miniram model PDM-3 or equivalent	Excavations, earthmoving	<0.05 mg/m^3 >0.05 mg/m^3	Level D Level C	Continuous during earthmoving tasks	Daily

[a] Action levels apply to sustained breathing-zone measurements above background.
[b] The exact frequency of monitoring depends on field conditions and is to be determined by the SSC; generally, every 5 to 15 minutes if acceptable; more frequently may be appropriate. Monitoring results should be recorded. Documentation should include instrument and calibration information, time, measurement results, personnel monitored, and place/location where measurement is taken (e.g., “Breathing Zone/MW-3”, “at surface/SB-2”, etc.).
[c] If the measured percent of O_2 is less than 10, an accurate LEL reading will not be obtained. Percent LEL and percent O_2 action levels apply only to ambient working atmospheres, and not to confined-space entry. More-stringent percent LEL and O_2 action levels are required for confined-space entry (refer to Section 2).
[d] Refer to SOP HS-10 for instructions and documentation on radiation monitoring and screening.
[e] Noise monitoring and audiometric testing also required.

5.2 Calibration Specifications

(Refer to the respective manufacturer's instructions for proper instrument-maintenance procedures)

Instrument	Gas	Span	Reading	Method
PID: OVM, 10.6 or 11.8 eV bulb	100 ppm isobutylene	RF = 1.0	100 ppm	1.5 lpm reg T-tubing
PID: MiniRAE, 10.6 eV bulb	100 ppm isobutylene	CF = 100	100 ppm	1.5 lpm reg T-tubing
PID: TVA 1000	100 ppm isobutylene	CF = 1.0	100 ppm	1.5 lpm reg T-tubing
Dust Monitor: Miniram-PDM3	Dust-free air	Not applicable	0.00 mg/m^3 in "Measure" mode	Dust-free area OR Z-bag with HEPA filter

5.3 Air Sampling

Sampling, in addition to real-time monitoring, may be required by other OSHA regulations where there may be exposure to certain contaminants. Air sampling typically is required when site contaminants include lead, cadmium, arsenic, asbestos, and certain volatile organic compounds. Contact the HSM immediately if these contaminants are encountered.

Method Description

Personnel and Areas

Results must be sent immediately to the HSM. Regulations may require reporting to monitored personnel. Results reported to:

HSM:
Other:

6 Decontamination

(Reference CH2M HILL SOP HS-13, *Decontamination*)

The SSC must establish and monitor the decontamination procedures and their effectiveness. Decontamination procedures found to be ineffective will be modified by the SSC. The SSC must ensure that procedures are established for disposing of materials generated on the site.

6.1 Decontamination Specifications

Personnel

- Boot wash/rinse
- Glove wash/rinse
- Outer-glove removal
- Body-suit removal
- Inner-glove removal
- Respirator removal
- Hand wash/rinse
- Face wash/rinse
- Shower ASAP
- Dispose of PPE in municipal trash, or contain for disposal
- Dispose of personnel rinse water to facility or sanitary sewer, or contain for offsite disposal

Sample Equipment

- Wash/rinse equipment
- Solvent-rinse equipment
- Contain solvent waste for offsite disposal

Heavy Equipment

- Power wash
- Steam clean
- Dispose of equipment rinse water to facility or sanitary sewer, or contain for offsite disposal

6.2 Diagram of Personnel-Decontamination Line

No eating, drinking, or smoking is permitted in contaminated areas and in exclusion or decontamination zones. The SSC should establish areas for eating, drinking, and smoking. Contact lenses are not permitted in exclusion or decontamination zones.

Figure 6-1 illustrates a conceptual establishment of work zones, including the decontamination line. Work zones are to be modified by the SSC to accommodate task-specific requirements.

7 Spill-Containment Procedures

Sorbent material will be maintained in the support zone. Incidental spills will be contained with sorbent and disposed of properly.

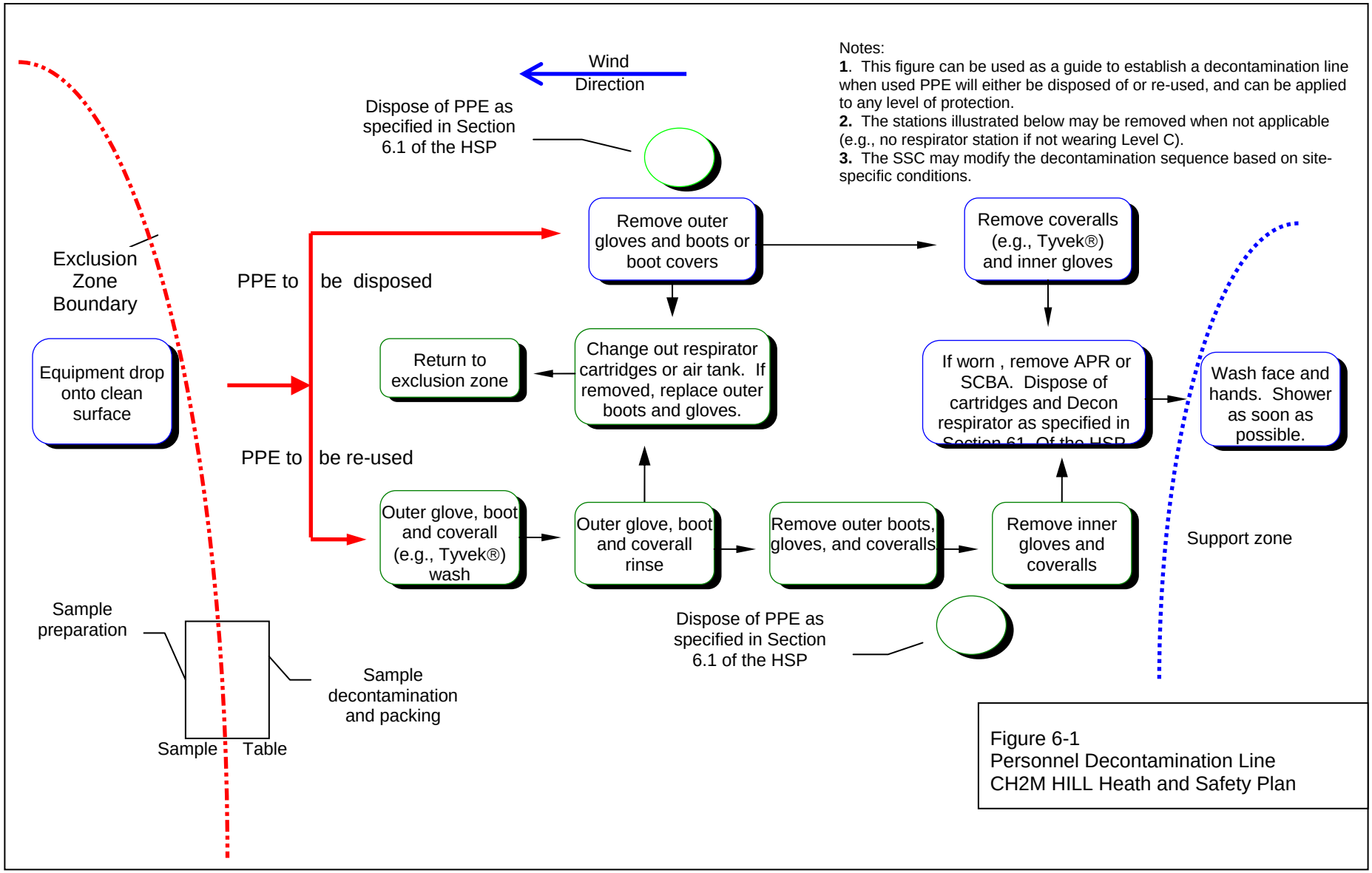


Figure 6-1
Personnel Decontamination Line
CH2M HILL Heath and Safety Plan

8 Site-Control Plan

8.1 Site-Control Procedures

(Reference CH2M HILL SOP *Site Control)*

- The SSC will conduct a site safety briefing (see below) before starting field activities or as tasks and site conditions change.
- Topics for briefing on site safety: general discussion of Health and Safety Plan, site-specific hazards, locations of work zones, PPE requirements, equipment, special procedures, emergencies.
- The SSC records attendance at safety briefings in a logbook and documents the topics discussed.
- Post the OSHA job-site poster in a central and conspicuous location in accordance with CH2M HILL SOP HS-71, *OSHA Postings*.
- Establish support, decontamination, and exclusion zones. Delineate with flags or cones as appropriate. Support zone should be upwind of the site. Use access control at entry and exit from each work zone.
- Establish onsite communication consisting of the following:
  - Line-of-sight and hand signals
  - Air horn
  - Two-way radio or cellular telephone if available
- Establish offsite communication.
- Establish and maintain the "buddy system."
- Initial air monitoring is conducted by the SSC in appropriate level of protection.
- The SCC is to conduct periodic inspections of work practices to determine the effectiveness of this plan – refer to Sections 2 and 3. Deficiencies are to be noted, reported to the HSM, and corrected.

8.2 Hazwoper Compliance Plan

(Reference CH2M HILL SOP *Site-Specific Written Safety Plans)*

Certain parts of the site work are covered by state or federal Hazwoper standards and therefore require training and medical monitoring. Anticipated Hazwoper tasks (Section 1.1.1) might occur consecutively or concurrently with respect to non-Hazwoper tasks. This section outlines procedures to be followed when approved activities specified in Section 1.1.2 do not require 24- or 40-hour training. Non-Hazwoper-trained personnel also must be trained in accordance with all other state and federal OSHA requirements.

- In many cases, air sampling, in addition to real-time monitoring, must confirm that there is no exposure to gases or vapors before non-Hazwoper-trained personnel are allowed on the site, or while non-Hazwoper-trained staff are working in proximity to Hazwoper activities. Other data (e.g., soil) also must document that there is no potential for exposure. The HSM must approve the interpretation of these data. Refer to subsections 2.5 and 5.3 for contaminant data and air sampling requirements, respectively.
- When non-Hazwoper-trained personnel are at risk of exposure, the SSC must post the exclusion zone and inform non-Hazwoper-trained personnel of the:
  - nature of the existing contamination and its locations
  - limitations of their access
  - emergency action plan for the site
- Periodic air monitoring with direct-reading instruments conducted during regulated tasks also should be used to ensure that non-Hazwoper-trained personnel (e.g., in an adjacent area) are not exposed to airborne contaminants.
- When exposure is possible, non-Hazwoper-trained personnel must be removed from the site until it can be demonstrated that there is no longer a potential for exposure to health and safety hazards.
- Remediation treatment system start-ups: Once a treatment system begins to pump and treat contaminated media, the site is, for the purposes of applying the Hazwoper standard, considered a treatment, storage, and disposal facility (TSDF). Therefore, once the system begins operation, only Hazwoper-trained personnel (minimum of 24 hour of training) will be permitted to enter the site. All non-Hazwoper-trained personnel must not enter the TSDF area of the site.

9 Emergency Response Plan

(Reference CH2M HILL, SOP *Emergency Response*)

9.1 Pre-Emergency Planning

The SSC performs the applicable pre-emergency planning tasks before starting field activities and coordinates emergency response with CH2M HILL onsite parties, the facility, and local emergency-service providers as appropriate.

- Review the facility emergency and contingency plans where applicable.
- Determine what onsite communication equipment is available (e.g., two-way radio, air horn).
- Determine what offsite communication equipment is needed (e.g., nearest telephone, cell phone).
- Confirm and post emergency telephone numbers, evacuation routes, assembly areas, and route to hospital; communicate the information to onsite personnel.
- Field Trailers: Post "Exit" signs above exit doors, and post "Fire Extinguisher" signs above locations of extinguishers. Keep areas near exits and extinguishers clear.
- Review changed site conditions, onsite operations, and personnel availability in relation to emergency response procedures.
- Where appropriate and acceptable to the client, inform emergency room and ambulance and emergency response teams of anticipated types of site emergencies.
- Designate one vehicle as the emergency vehicle; place hospital directions and map inside; keep keys in ignition during field activities.
- Inventory and check site emergency equipment, supplies, and potable water.
- Communicate emergency procedures for personnel injury, exposures, fires, explosions, and releases.
- Rehearse the emergency response plan before site activities begin, including driving route to hospital.
- Brief new workers on the emergency response plan.

The SSC will evaluate emergency response actions and initiate appropriate follow-up actions.

9.2 Emergency Equipment and Supplies

The SSC should mark the locations of emergency equipment on the site map and post the map.

Emergency Equipment and Supplies	Location
20 LB (or two 10-lb) fire extinguisher (A, B, and C classes)	Support Zone/Heavy Equipment
First aid kit	Support Zone/Field Vehicle
Eye Wash	Support & Decon Zone/Field Vehicle
Potable water	Support & Decon Zone/Field Vehicle
Bloodborne-pathogen kit	Support Zone/Field Vehicle
Additional equipment (specify):	

9.3 Incident Response

In fires, explosions, or chemical releases, actions to be taken include the following:

- Shut down CH2M HILL operations and evacuate the immediate work area.
- Notify appropriate response personnel.
- Account for personnel at the designated assembly area(s).
- Assess the need for site evacuation, and evacuate the site as warranted.

Instead of implementing a work-area evacuation, note that small fires or spills posing minimal safety or health hazards may be controlled.

9.4 Emergency Medical Treatment

The procedures listed below may also be applied to non-emergency incidents. Injuries and illnesses (including overexposure to contaminants) must be reported to Human Resources. If there is doubt about whether medical treatment is necessary, or if the injured person is reluctant to accept medical treatment, contact the CH2M HILL medical consultant. During non-emergencies, follow these procedures as appropriate.

- Notify appropriate emergency response authorities listed in Section 9.8 (e.g., 911).
- The SCC will assume charge during a medical emergency until the ambulance arrives or until the injured person is admitted to the emergency room.
- Prevent further injury.
- Initiate first aid and CPR where feasible.
- Get medical attention immediately.
- Perform decontamination where feasible; lifesaving and first aid or medical treatment take priority.
- Make certain that the injured person is accompanied to the emergency room.
- When contacting the medical consultant, state that the situation is a CH2M HILL matter, and give your name and telephone number, the name of the injured person, the extent of the injury or exposure, and the name and location of the medical facility where the injured person was taken.
- Report incident as outlined in Section 9.7.

9.5 Evacuation

- Evacuation routes and assembly areas (and alternative routes and assembly areas) are specified on the site map.
- Evacuation route(s) and assembly area(s) will be designated by the SSC before work begins.
- Personnel will assemble at the assembly area(s) upon hearing the emergency signal for evacuation.
- The SSC and a "buddy" will remain on the site after the site has been evacuated (if safe) to assist local responders and advise them of the nature and location of the incident.
- The SSC will account for all personnel in the onsite assembly area.
- A designated person will account for personnel at alternate assembly area(s).
- The SSC will write up the incident as soon as possible after it occurs and submit a report to the Corporate Director of Health and Safety.

9.6 Evacuation Signals

Signal	Meaning
Grasping throat with hand	Emergency-help me.
Thumbs up	OK; understood.
Grasping buddy's wrist	Leave area now.
Continuous sounding of horn	Emergency; leave site now.

9.7 Incident Notification and Reporting

- Upon any project incident (fire, spill, injury, near miss, death, etc.), immediately notify the PM and HSM. Call emergency beeper number if HSM is unavailable.
- For CH2M HILL work-related injuries or illnesses, contact and help Human Resources administrator complete an Incident Report Form (IRF). IRF must be completed within 24 hours of incident.
- For CH2M HILL subcontractor incidents, complete the Subcontractor Accident/Illness Report Form and submit to the HSM.
- Notify and submit reports to client as required in contract.

10 Approval

This site-specific Health and Safety Plan has been written for use by CH2M HILL only. CH2M HILL claims no responsibility for its use by others unless that use has been specified and defined in project or contract documents. The plan is written for the specific site conditions, purposes, dates, and personnel specified and must be amended if those conditions change.

10.1 Original Plan

Written By: Rick Cavil/SFO **Date: 07/01/2004**

Approved By: Rick Cavil/SFO **Date: 07/13/2004**

10.2 Revisions

Revisions Made By: John Dolegowski **Date: 03/02/2005**

Revisions to Plan: Changes in staff, minor edits.

Revisions Approved By: Rick Cavil/SFO **Date: 03/08/2005**

Revisions Made By: John Dolegowski & Rick Cavil **Date: 1/13/06**

Revisions to Plan: Changes in staff, hazard section added, air monitoring sections added, minor edits.

Revisions Approved By: ***Rick Cavil/BAO*** **Date: 01/15/2006**

Revisions Made By: Emily Keene & Rick Cavil **Date: 03/01/06**

Revisions to Plan: Changes in staff, new tasks, minor edits.

Revisions Approved By: ***Rick Cavil/BAO*** **Date: 03/03/2006**

11 Attachments

Attachment 1: **Employee Signoff Form – Field Safety Instructions**
Attachment 2: **Project-Specific Chemical Product Hazard Communication Form**
Attachment 3: **Chemical-Specific Training Form**
Attachment 4: **Emergency Contacts**
Attachment 5: **Project H&S Forms/Permits**
Attachment 6: **Project Activity Self-Assessment Checklists**
Attachment 7: **Applicable Material Safety Data Sheets**

CH2MHILL

EMPLOYEE SIGNOFF FORM

Health and Safety Plan

- The CH2M HILL project employees and subcontractors listed below have been provided with a copy of this HSP, have read and understood it, and agree to abide by its provisions.

Project Name: Joint Montrose, Jones, Del Amo Superfund Site **Project Number:** 335367.PP.05

EMPLOYEE NAME (Please print)	**EMPLOYEE SIGNATURE**	**COMPANY**	**DATE**

CH2MHILL

Project-Specific Chemical Product Hazard Communication Form

This form must be completed prior to performing activities that expose personnel to hazardous chemicals products. Upon completion of this form, the SSC shall verify that training is provided on the hazards associated with these chemicals and the control measures to be used to prevent exposure to CH2M HILL and subcontractor personnel. Labeling and MSDS systems will also be explained.

Project Name: Joint Montrose, Jones, Del Amo Superfund Site **Project Number:** 335367.PP.05

MSDSs will be maintained at the following location(s): With site safety plan

Hazardous Chemical Products Inventory

Chemical	Quantity	Location	MSDS Available	Container labels	
				Identity	Hazard
Methane	1 liter, compressed	Support Zone			
Isobutylene	1 liter, compressed	Support Zone			
Pentane	1 liter, compressed	Support Zone			
Hydrochloric acid	< 500 ml	Support Zone / sample bottles			
Nitric acid	< 500 ml	Support Zone / sample bottles			
Sulfuric Acid	< 500 ml	Support Zone / sample bottles			
Sodium hydroxide	< 500 ml	Support Zone / sample bottles			
Methanol	< 1 Gallon	Support/Decon Zones			
Hexane	< 1 Gallon	Support/Decon Zones			
pH buffers	< 500 ml	Support Zone			
MSA Sanitizer	< 1 liter	Support/Decon Zones			
Alconox/Liquinox	< 1liter	Support/Decon Zones			

Refer to SOP HS-05 *Hazard Communication* for more detailed information.

CH2MHILL

CHEMICAL-SPECIFIC TRAINING FORM

Location:	Project # : 335367.PP.01
HCC:	Trainer:

TRAINING PARTICIPANTS:

NAME	SIGNATURE	NAME	SIGNATURE

REGULATED PRODUCTS/TASKS COVERED BY THIS TRAINING:

The HCC shall use the product MSDS to provide the following information concerning each of the products listed above.

☐ Physical and health hazards

☐ Control measures that can be used to provide protection (including appropriate work practices, emergency procedures, and personal protective equipment to be used)

☐ Methods and observations used to detect the presence or release of the regulated product in the workplace (including periodic monitoring, continuous monitoring devices, visual appearance or odor of regulated product when being released, etc.)

Training participants shall have the opportunity to ask questions concerning these products and, upon completion of this training, will understand the product hazards and appropriate control measures available for their protection.

Copies of MSDSs, chemical inventories, and CH2M HILL's written hazard communication program shall be made available for employee review in the facility/project hazard communication file.

Emergency Contacts

24-hour CH2M HILL Emergency Beeper – 720-286-4911

Medical Emergency – 911
Facility Medical Response #:
Local Ambulance #:

CH2M HILL Medical Consultant
Health Resources
Dr. Jerry H. Berke, M.D., M.P.H.
600 West Cummings Park, Suite 3400
Woburn, MA 01801-6350
1-800-350-4511 (0800-2300 EST, M-F)
all other times 1-800-978-7003
(After hours calls will be returned within 20 minutes)

Fire/Spill Emergency -- 911
Local Fire Dept #:

Corporate Director Health, Safety & Environment
Name: Jerry Lyle/BOI
Phone: 208/345-5310 x6244
24-hour emergency beeper: 720-286-4911

Security & Police – 911
Local Police #:

Health & Safety Manager (HSM)
Name: Rick Cavil/BAO
Phone: 510-251-2426 x7502 or cell 408-896-0140

Safety Coordinator (SC)
Name: Elizabeth Bryant/BJ
Phone: 714/697-9028
Lechler/Justin Zumbro
Phone: (714) 697-4203
Name: Vikas Mathur
Phone: 714 791 2697

Regional Human Resources Department
Name: Lisa Covey/SAC
Phone: 916/286-0253

Project Manager (PM)
Name: John Dolegowski/SCO
Phone: 714/435-6355 (work);
949/547-6052 (cell)

Corporate Human Resources Department
Name: Pete Hannan/COR
Phone: 720-286-3077

Federal Express Dangerous Goods Shipping
Phone: 800/238-5355

CH2M HILL Emergency Number for Shipping Dangerous Goods
Phone: 800/255-3924

Worker's Compensation:
Contact Regional HR dept. to have form completed or contact Julie Zimmerman after hours: 720-286-2375

Automobile Accidents:
Rental: Carol Dietz/COR 720-286-2757
CH2M HILL owned vehicle:
Zurich Insurance Co. 800/987-3373

Contact the PM. Generally, the PM will contact relevant government agencies.

Facility Alarms:

Evacuation Assembly Area(s):

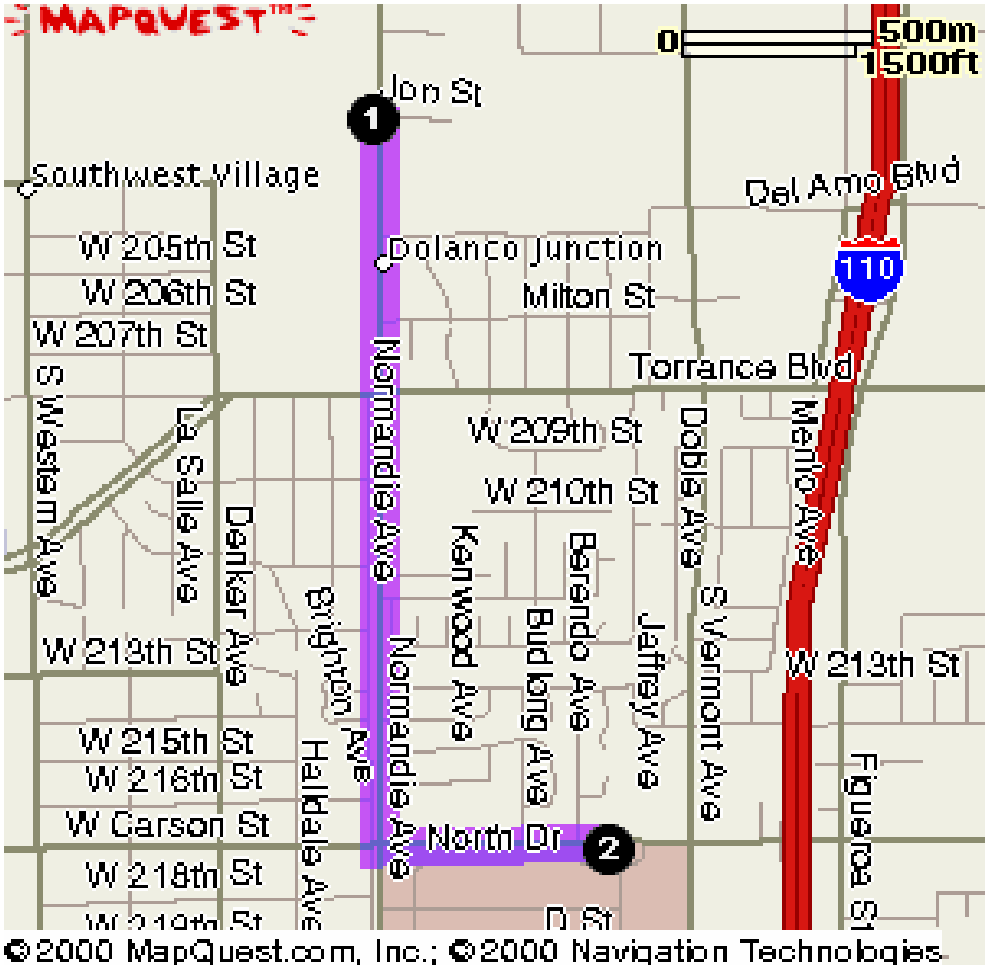
Facility/Site Evacuation Route(s):

Hospital Name/Address: LA County Harbor-UCLA Medical Center
1000 W. Carson St., Torrance, CA

Hospital Phone #:
310-222-2345

Directions to Hospital

Include written directions here, and attach or post a highlighted map if needed.
Go south on Normandie Ave. towards W 204th St., 1.2 miles
Turn left onto W. Carson St., Hospital is on the right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500m
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Jon St
1
Southwest Village
Del Amo Blvd
W 205th St
W 206th St
W 207th St
Dolanco Junction
Milton St
110
Torrance Blvd
S Western Ave
La Salle Ave
Denker Ave
Normandie Ave
W 209th St
W 210th St
Doble Ave
Menlo Ave
Kenwood Ave
Berendo Ave
Budlong Ave
Jeffrey Ave
S Vermont Ave
Brighton Ave
W 213th St
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W 215th St
W 216th St
W Carson St
W 218th St
Halldale Ave
Normandie Ave
North Dr
2
D St
Figueroa St
©2000 MapQuest.com, Inc.; ©2000 Navigation Technologies

Attachment 5

Project H&S Forms and Permits

Attachment 6

Project Activity Self-Assessment Checklists

CH2MHILL

H&S Self-Assessment Checklist - DRILLING

This checklist shall be used by CH2M HILL personnel **only** and shall be completed at the frequency specified in the project's HSP/FSI.

This checklist is to be used at locations where: 1) CH2M HILL employees are potentially exposed to hazards associated with drilling operations (complete Sections 1 and 3), and/or 2) CH2M HILL oversight of a drilling subcontractor is required (complete entire checklist).

SSC/DSC may consult with drilling subcontractors when completing this checklist, but shall not direct the means and methods of drilling operations nor direct the details of corrective actions. Drilling subcontractors shall determine how to correct deficiencies and we must carefully rely on their expertise. Items considered to be imminently dangerous (possibility of serious injury or death) shall be corrected immediately or all exposed personnel shall be removed from the hazard until corrected.

Completed checklists shall be sent to the health and safety manager for review.

Project Name: _____ Project No.: _____

Location: _____ PM: _____

Auditor: _____ Title: _____ Date: _____

This specific checklist has been completed to:

☐ Evaluate CH2M HILL employee exposures to drilling hazards
☐ Evaluate a CH2M HILL subcontractor's compliance with drilling H&S requirements
Subcontractors Name: _____

- Check "Yes" if an assessment item is complete/correct.
- Check "No" if an item is incomplete/deficient. Deficiencies shall be brought to the immediate attention of the drilling subcontractor. Section 3 must be completed for all items checked "No."
- Check "N/A" if an item is not applicable.
- Check "N/O" if an item is applicable but was not observed during the assessment.

Numbers in parentheses indicate where a description of this assessment item can be found in Standard of Practice HS-35.

SECTION 1	Yes	No	N/A	N/O
PERSONNEL SAFE WORK PRACTICES (3.1)				
1. Only authorized personnel operating drill rig	☐	☐	☐	☐
2. Personnel cleared during rig startup	☐	☐	☐	☐
3. Personnel clear of rotating parts	☐	☐	☐	☐
4. Personnel not positioned under hoisted loads	☐	☐	☐	☐
5. Loose clothing and jewelry removed	☐	☐	☐	☐
6. Personnel instructed not to approach equipment that has become electrically energized	☐	☐	☐	☐
7. Smoking is prohibited around drilling operation	☐	☐	☐	☐
8. Personnel wearing appropriate PPE, per HSP/FSI	☐	☐	☐	☐

Rev.0

SECTION 2	Yes	No	N/A	N/O
GENERAL (3.2.1)				
9. Daily safety briefing/meeting conducted with crew	☐	☐	☐	☐
10. Daily inspection of drill rig and equipment conducted before use	☐	☐	☐	☐
DRILL RIG PLACEMENT (3.2.2)				
11. Location of underground utilities identified	☐	☐	☐	☐
12. Safe clearance distance maintained from overhead powerlines	☐	☐	☐	☐
13. Drilling pad established, when necessary	☐	☐	☐	☐
14. Drill rig leveled and stabilized	☐	☐	☐	☐
DRILL RIG TRAVEL (3.2.3)				
15. Rig shut down and mast lowered and secured prior to rig movement	☐	☐	☐	☐
16. Tools and equipment secured prior to rig movement	☐	☐	☐	☐
17. Only personnel seated in cab are riding on rig during movement	☐	☐	☐	☐
18. Safe clearance distance maintained while traveling under overhead powerlines	☐	☐	☐	☐
19. Backup alarm or spotter used when backing rig	☐	☐	☐	☐
DRILL RIG OPERATION (3.2.4)				
20. Kill switch clearly identified and operational	☐	☐	☐	☐
21. All machine guards are in place	☐	☐	☐	☐
22. Rig ropes not wrapped around body parts	☐	☐	☐	☐
23. Pressurized lines and hoses secured from whipping hazards	☐	☐	☐	☐
24. Drill operation stopped during inclement weather	☐	☐	☐	☐
25. Air monitoring conducted per HSP/FSI for hazardous atmospheres	☐	☐	☐	☐
26. Rig placed in neutral when operator not at controls	☐	☐	☐	☐
DRILL RIG MAINTENANCE (3.2.5)				
27. Defective components repaired immediately	☐	☐	☐	☐
28. Lockout/tagout procedures used prior to maintenance	☐	☐	☐	☐
29. Cathead in clean, sound condition	☐	☐	☐	☐
30. Drill rig ropes in clean, sound condition	☐	☐	☐	☐
31. Fall protection used for fall exposures of 6 feet or greater	☐	☐	☐	☐
32. Rig in neutral and augers stopped rotating before cleaning	☐	☐	☐	☐
33. Good housekeeping maintained on and around rig	☐	☐	☐	☐
DRILLING AT HAZARDOUS WASTE SITES (3.2.6)				
34. Waste disposed of according to HSP	☐	☐	☐	☐
35. Appropriate decontamination procedures being followed, per HSP	☐	☐	☐	☐

Rev.0

SECTION 3

Complete this section for all items checked "No" in Sections 1 or 2. Deficient items must be corrected in a timely manner.

Item #	Corrective Action Planned/Taken	Date Corrected

CH2MHILL

H&S Self-Assessment Checklist: RESPIRATORY PROTECTION

This checklist is provided as a method of verifying compliance with the OSHA respiratory protection standard. It shall be used at locations where CH2M HILL personnel are using respiratory protection, or are required to perform oversight of a subcontractor using respiratory protection, or both.

CH2M HILL staff shall not direct the means and methods of subcontractor use of respiratory protection nor direct the details of corrective actions. The subcontractor must determine how to correct deficiencies and CH2M HILL staff must carefully rely on their expertise. Items considered to be imminently dangerous (possibility of serious injury or death) must be corrected immediately or all exposed personnel must be removed from the hazard until corrected.

Completed checklists must be sent to the appropriate regional health and safety program manager for review.

Project Name: _____ Project No.: _____

Location: _____ PM: _____

Auditor: _____ Title: _____ Date: _____

This specific checklist has been completed to (check only one of the boxes below):

☐ Evaluate CH2M HILL compliance with its respiratory protection program (SOP HS-08)
☐ Evaluate a CH2M HILL subcontractor's compliance with its respiratory protection program
Subcontractor's Name: _____

- Check "Yes" if an assessment item is complete or correct.
- Check "No" if an item is incomplete or deficient. Section 2 must be completed for all items checked "No."
- Check "N/A" if an item is not applicable.
- Check "N/O" if an item is applicable but was not observed during the assessment.

Numbers in parentheses indicate where a description of this assessment item can be found in Standard of Practice HS-08.

SECTION 1	Yes	No	N/A	N/O
TRAINING (6.1)				
1. Respirator users have completed appropriate training on the respirator to be used	☐	☐	☐	☐
2. Training is current within the past 12 months	☐	☐	☐	☐
3. Attachment 1 of SOP HS-08 distributed to employees using respirators voluntarily	☐	☐	☐	☐
MEDICAL EVALUATION (6.2)				
4. Respirator users completed medical evaluation protocol	☐	☐	☐	☐
5. Respirator use does not exceed any physician's written recommendation limitations	☐	☐	☐	☐
6. Respirator users know to report any medical signs or symptoms related to respirator use	☐	☐	☐	☐
FIT TESTING (6.3)				
7. Respirator users of tight-fitting facepieces have passed a fit test	☐	☐	☐	☐
8. Fit test is current within the past 12 months	☐	☐	☐	☐
9. Respirator users know to have new fit test performed if any change affects respirator fit	☐	☐	☐	☐

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SECTION 1 (Continued)	Yes	No	N/A	N/O
RESPIRATOR SELECTION (6.4)				
10. All feasible engineering controls have been considered in reducing exposure levels	☐	☐	☐	☐
11. Appropriate respiratory protection and limitations are specified in HSP/FSI	☐	☐	☐	☐
12. Cartridge or canister change-out schedule is specified in HSP/FSI	☐	☐	☐	☐
RESPIRATOR USE (6.5)				
13. Respirator use is limited to those specified in HSP/FSI	☐	☐	☐	☐
14. HSM notified of changes in site conditions that may alter effectiveness of specified respirators	☐	☐	☐	☐
15. Respirator users of tight-fitting facepieces are cleanly shaven	☐	☐	☐	☐
16. Respirator users of tight-fitting facepieces perform user seal check before each use	☐	☐	☐	☐
17. Cartridges or canisters replaced according to change-out schedule in HSP/FSI	☐	☐	☐	☐
18. Respirator users informed to report any gas or vapor breakthrough to SSC/DSC	☐	☐	☐	☐
19. SSC/DSC knows to report any gas or vapor breakthrough to HSM	☐	☐	☐	☐
20. Personnel not entering IDLH areas until standby-person established with appropriate equipment	☐	☐	☐	☐
RESPIRATOR INSPECTION (6.6)				
21. Respirators in regular use are inspected before each use and during cleaning	☐	☐	☐	☐
21. Emergency response respirators are inspected and documented monthly	☐	☐	☐	☐
22. Defective respirators are taken out of service or repaired	☐	☐	☐	☐
RESPIRATOR CLEANING AND DISINFECTING (6.7)				
23. Respirators in regular use are cleaned and disinfected as necessary	☐	☐	☐	☐
24. Emergency and transferred respirators are cleaned and disinfected after use	☐	☐	☐	☐
RESPIRATOR STORAGE (6.8)				
25. Respirators are properly stored to prevent contamination and deformation	☐	☐	☐	☐
26. Emergency respirators are accessible and clearly marked as emergency respirators	☐	☐	☐	☐
RESPIRATOR REPAIRS (6.9)				
27. Respirator repair is limited to routine maintenance	☐	☐	☐	☐
28. Respirators beyond routine repair are removed from service	☐	☐	☐	☐
BREATHING AIR SUPPLIED BY CYLINDER (6.10.1)				
29. Cylinders are marked with NIOSH approval label	☐	☐	☐	☐
30. Certificate of analysis meets Grade D specifications	☐	☐	☐	☐
31. Certificate of analysis is kept onsite	☐	☐	☐	☐
BREATHING AIR SUPPLIED BY COMPRESSOR (6.10.2)				
32. Breathing air meets Grade D specifications	☐	☐	☐	☐
33. Compressor intake is located away from exhaust gases	☐	☐	☐	☐
34. Compressor is provided with sorbent filters	☐	☐	☐	☐
35. Sorbent filter change-out documentation is kept on the compressor	☐	☐	☐	☐
36. High temperature or carbon monoxide alarm provided on oil-lubricated compressors	☐	☐	☐	☐
37. If high temperature alarm is used alone, carbon monoxide levels are monitored	☐	☐	☐	☐
38. Practical measures taken to control carbon monoxide levels on non oil-lubricated compressors	☐	☐	☐	☐

SECTION 2

Complete this section for all items checked "No" in Section 1. Deficient items must be corrected in a timely manner.

Item #	Corrective Action Planned or Taken	Date Corrected

CH2MHILL

H&S Self-Assessment Checklist - EARTHMOVING EQUIPMENT

This checklist shall be used by CH2M HILL personnel **only** and shall be completed at the frequency specified in the project's HSP/FSI.

This checklist is to be used at locations where: 1) CH2M HILL employees are potentially exposed to hazards associated with earthmoving equipment operations (complete Sections 1 and 3), and/or 2) CH2M HILL oversight of a earthmoving equipment subcontractor is required (complete entire checklist).

SSC/DSC may consult with earthmoving equipment subcontractors when completing this checklist, but shall not direct the means and methods of equipment operations nor direct the details of corrective actions. Earthmoving equipment subcontractors shall determine how to correct deficiencies and we must carefully rely on their expertise. Items considered to be imminently dangerous (possibility of serious injury or death) shall be corrected immediately or all exposed personnel shall be removed from the hazard until corrected.

Completed checklists shall be sent to the health and safety manager for review.

Project Name: _____ Project No.: _____

Location: _____ PM: _____

Auditor: _____ Title: _____ Date: _____

This specific checklist has been completed to:

☐ Evaluate CH2M HILL employee exposures to earthmoving equipment hazards
☐ Evaluate a CH2M HILL subcontractor's compliance with earthmoving equipment H&S requirements
Subcontractors Name: _____

- Check "Yes" if an assessment item is complete/correct.
- Check "No" if an item is incomplete/deficient. Deficiencies shall be brought to the immediate attention of the earthmoving equipment subcontractor. Section 3 must be completed for all items checked "No."
- Check "N/A" if an item is not applicable.
- Check "N/O" if an item is applicable but was not observed during the assessment.

Numbers in parentheses indicate where a description of this assessment item can be found in Standard of Practice HS-27.

SECTION 1	Yes	No	N/A	N/O
PERSONNEL SAFE WORK PRACTICES (3.1)				
1. Only authorized personnel operating earthmoving equipment	☐	☐	☐	☐
2. Personnel maintaining safe distance from operating equipment	☐	☐	☐	☐
3. Personnel and equipment operator in close communication when personnel must be in proximity of operating equipment	☐	☐	☐	☐
4. Personnel approach operating equipment safely	☐	☐	☐	☐
5. Personnel wearing high-visibility and/or reflective vests when close to operating equipment	☐	☐	☐	☐
6. Personnel riding only in seats of equipment cab and using seat belts	☐	☐	☐	☐
7. Personnel not positioned under hoisted loads	☐	☐	☐	☐
8. Personnel not hoisted by equipment	☐	☐	☐	☐
9. Personnel instructed not to approach equipment that has become electrically energized	☐	☐	☐	☐
10. Personnel wearing appropriate PPE, per HSP/FSI	☐	☐	☐	☐

SECTION 2	Yes	No	N/A	N/O
GENERAL (3.2.1)				
11. Daily safety briefing/meeting conducted with crew	☐	☐	☐	☐
12. Daily inspection of equipment and equipment accessories conducted before use	☐	☐	☐	☐
13. At least one fire extinguisher available at the equipment operating area	☐	☐	☐	☐
EARTHMOVING EQUIPMENT COMPONENTS (3.2.2)				
14. Backup alarm or spotter used when backing equipment	☐	☐	☐	☐
15. Operational horn provided on bi-directional equipment	☐	☐	☐	☐
16. Seat belts are provided and used	☐	☐	☐	☐
17. Rollover protective structures (ROPS) provided	☐	☐	☐	☐
18. Braking system capable of stopping full payload	☐	☐	☐	☐
19. Headlights and taillights operable when additional light required	☐	☐	☐	☐
20. Brake lights in operable condition	☐	☐	☐	☐
21. Cab glass provides no visible distortion to the operator	☐	☐	☐	☐
22. Hauling equipment (dump trucks) provided with cab shield or canopy	☐	☐	☐	☐
23. Dump truck beds provided with positive means of support during maintenance or inspection	☐	☐	☐	☐
24. Dump truck operating levers provided with latch to prevent accidental dumping	☐	☐	☐	☐
EARTHMOVING EQUIPMENT PLACEMENT (3.2.3)				
25. Location of underground utilities identified	☐	☐	☐	☐
26. Safe clearance distance maintained while working under overhead powerlines	☐	☐	☐	☐
27. Safe distance is maintained while traveling under powerlines	☐	☐	☐	☐
28. Unattended equipment visibly marked at night	☐	☐	☐	☐
29. Parking brake set when equipment parked and equipment chocked when parked on incline	☐	☐	☐	☐
EARTHMOVING EQUIPMENT OPERATION (3.2.4)				
30. Equipment operated on safe roadways and grades	☐	☐	☐	☐
31. Equipment operated at safe speed	☐	☐	☐	☐
32. Equipment not operated during inclement weather, lightning storms	☐	☐	☐	☐
33. Using equipment to lift loads, other than earth, done according to equipment manufacturer specifications	☐	☐	☐	☐
34. Lifting and hauling capacities are not exceeded	☐	☐	☐	☐
35. Equipment components lowered when not in use	☐	☐	☐	☐
36. All machine guards are in place	☐	☐	☐	☐
37. Air monitoring conducted per HSP/FSI for hazardous atmospheres	☐	☐	☐	☐
EARTHMOVING EQUIPMENT MAINTENANCE (3.2.5)				
38. Defective components repaired immediately	☐	☐	☐	☐
39. Suspended equipment or equipment parts are supported prior to work under or between	☐	☐	☐	☐
40. Lockout/tagout procedures used prior to maintenance	☐	☐	☐	☐
41. Tires on split rims removed using safety tire rack or cage	☐	☐	☐	☐
42. Good housekeeping maintained on and around equipment	☐	☐	☐	☐
EXCAVATING AT HAZARDOUS WASTE SITES (3.2.6)				
43. Waste disposed of according to HSP	☐	☐	☐	☐
44. Appropriate decontamination procedures being followed, per HSP	☐	☐	☐	☐

SECTION 3

Complete this section for all items checked "No" in Sections 1 or 2. Deficient items must be corrected in a timely manner.

Item #	Corrective Action Planned/Taken	Date Corrected

CH2MHILL

H&S Self-Assessment Checklist - EXCAVATIONS

This checklist shall be used by CH2M HILL personnel **only** and shall be completed at the frequency specified in the project's HSP/FSI.

This checklist is to be used at locations where: 1) CH2M HILL employees enter excavations (complete Sections 1 and 3), and/or 2) CH2M HILL oversight of an excavation subcontractor is required (complete entire checklist).

SSC/DSC may consult with excavation subcontractors when completing this checklist, but shall not direct the means and methods of excavation operations nor direct the details of corrective actions. Excavation subcontractors shall determine how to correct deficiencies and we must carefully rely on their expertise. Items considered to be imminently dangerous (possibility of serious injury or death) shall be corrected immediately or all exposed personnel shall be removed from the hazard until corrected.

Completed checklists shall be sent to the health and safety manager for review.

Project Name: _____ Project No.: _____

Location: _____ PM: _____

Auditor: _____ Title: _____ Date: _____

This specific checklist has been completed to:

☐ Evaluate CH2M HILL employee exposures to excavation hazards
☐ Evaluate a CH2M HILL subcontractor's compliance with excavation H&S requirements
Subcontractors Name: _____

- Check "Yes" if an assessment item is complete/correct.
- Check "No" if an item is incomplete/deficient. Deficiencies shall be brought to the immediate attention of the excavation subcontractor. Section 3 must be completed for all items checked "No."
- Check "N/A" if an item is not applicable.
- Check "N/O" if an item is applicable but was not observed during the assessment.

Numbers in parentheses indicate where a description of this assessment item can be found in Standard of Practice HS-32.

SECTION 1	Yes	No	N/A	N/O
PERSONNEL SAFE WORK PRACTICES (3.1)				
1. Competent person has completed daily inspection and has authorized entry	☐	☐	☐	☐
2. Personnel aware of entry requirements established by competent person	☐	☐	☐	☐
3. Protective systems are free from damage and in stable condition	☐	☐	☐	☐
4. Surface objects/structures secured from falling into excavation	☐	☐	☐	☐
5. Potential hazardous atmospheres have been tested and found to be at safe levels	☐	☐	☐	☐
6. Precautions have been taken to prevent cave-in from water accumulation in the excavation	☐	☐	☐	☐
7. Personnel wearing appropriate PPE, per HSP/FSI	☐	☐	☐	☐

SECTION 2	Yes	No	N/A	N/O
GENERAL (3.2.1)				
8. Daily safety briefing/meeting conducted with personnel	☐	☐	☐	☐
9. Excavation and protective systems adequately inspected by competent person	☐	☐	☐	☐
10. Defective protective systems or other unsafe conditions corrected before entry	☐	☐	☐	☐
11. Guardrails provided on walkways over excavation 6' or deeper	☐	☐	☐	☐
12. Barriers provided at excavations 6' or deeper when not readily visible	☐	☐	☐	☐
13. Barriers or covers provided for wells, pits, shafts, or similar excavation 6' or deeper	☐	☐	☐	☐
14. Excavating equipment operated safely (use earthmoving equipment checklist in HS-27)	☐	☐	☐	☐
PRIOR TO EXCAVATING (3.2.2)				
15. Location of underground utilities and installations identified	☐	☐	☐	☐
EXCAVATING ACTIVITIES (3.2.3)				
16. Rocks, trees, and other unstable surface objects removed or supported	☐	☐	☐	☐
17. Exposed underground utility lines supported	☐	☐	☐	☐
18. Undermined surface structures supported or determined to be in safe condition	☐	☐	☐	☐
19. Warning system used to remind equipment operators of excavation edge	☐	☐	☐	☐
EXCAVATION ENTRY (3.2.4)				
20. Trenches > 4' deep provided with safe means of egress within 25'	☐	☐	☐	☐
21. Structure ramps designed and approved by competent person	☐	☐	☐	☐
22. Potential hazardous atmospheres tested prior to entry	☐	☐	☐	☐
23. Rescue equipment provided where potential for hazardous atmospheres exists	☐	☐	☐	☐
24. Ventilation used to control hazardous atmospheres and air tested frequently	☐	☐	☐	☐
25. Appropriate respiratory protection used when ventilation does not control hazards	☐	☐	☐	☐
26. Precautions taken to prevent cave-in from water accumulation in the excavation	☐	☐	☐	☐
27. Precautions taken to prevent surface water from entering excavation	☐	☐	☐	☐
28. Protection provided from falling/rolling material from excavation face	☐	☐	☐	☐
29. Spoil piles, equipment, materials restrained or kept at least 2' from excavation edge	☐	☐	☐	☐
EXCAVATION PROTECTIVE SYSTEMS (3.2.5)				
30. Protective systems used for excavations 5' or deeper	☐	☐	☐	☐
31. Protective systems for excavation deeper than 20' designed by registered PE	☐	☐	☐	☐
32. If soil unclassified, maximum allowable slope is 34 degrees	☐	☐	☐	☐
33. Protective systems free from damage	☐	☐	☐	☐
34. Protective system used according to manufacturer recommendations and not subjected to loads exceeding design limits	☐	☐	☐	☐
35. Protective system components securely connected to prevent movement or failure	☐	☐	☐	☐
36. Cave-in protection provided while entering/exiting shielding systems	☐	☐	☐	☐
37. Personnel removed from shielding systems when installed, removed, or vertical movement	☐	☐	☐	☐
PROTECTIVE SYSTEM REMOVAL (3.2.6)				
38. Protective system removal starts and progresses from excavation bottom	☐	☐	☐	☐
39. Protective systems removed slowly and cautiously	☐	☐	☐	☐
40. Temporary structure supports used if failure of remaining components observed	☐	☐	☐	☐
41. Backfilling taking place immediately after protective system removal	☐	☐	☐	☐
EXCAVATING AT HAZARDOUS WASTE SITES (3.2.7)				
42. Waste disposed of according to HSP	☐	☐	☐	☐
43. Appropriate decontamination procedures being followed, per HSP	☐	☐	☐	☐

SECTION 3

Complete this section for all items checked "No" in Sections 1 or 2. Deficient items must be corrected in a timely manner.

Item #	Corrective Action Planned/Taken	Date Corrected

CH2M HILL HEALTH AND SAFETY PLAN

Attachment 7

Applicable Material Safety Data Sheets