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PROGRAM WASTE MANAGEMENT PLAN FOR INVESTIGATION-DERIVED WASTE (Revision 1) HUNTERS POINT SHIPYARD, SAN FRANCISCO, CALIFORNIA

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CONTENTS

Section			Page
ABBREVIATIONS AND ACRONYMS			iv
1.0	INTRODUCTION		1
	1.1	PLAN ORGANIZATION	2
	1.2	PLANNING AND FIELD WORK PLAN PREPARATION	2
2.0	IDENTIFICATION OF ARARs		3
	2.1	ARARS DEFINED	3
	2.2	RESOURCE CONSERVATION AND RECOVERY ACT	5
		2.2.1 Land Disposal Restrictions	8
		2.2.2 Technical Standards for Storage and Disposal Units	11
	2.3	TOXIC SUBSTANCES CONTROL ACT	12
	2.4	CLEAN WATER ACT	13
	2.5	SAFE DRINKING WATER ACT	14
	2.6	CLEAN AIR ACT	15
	2.7	DEPARTMENT OF TRANSPORTATION REQUIREMENTS	15
	2.8	STATE REQUIREMENTS	15
		2.8.1 California Requirements	16
3.0	GENERATION OF INVESTIGATION-DERIVED WASTE		16
	3.1	SOURCES OF IDW	16
	3.2	IDW VOLUME ESTIMATES	17
4.0	CHARACTERIZING INVESTIGATION-DERIVED WASTE		19
	4.1	LISTED HAZARDOUS WASTE	20
	4.2	CHARACTERISTIC HAZARDOUS WASTE	22
	4.3	CALIFORNIA REGULATIONS FOR IDENTIFYING HAZARDOUS WASTE	22
	4.4	SAMPLING AND ANALYSIS	23
	4.5	COMPLETING A WASTE PROFILE	25
	4.6	SPECIAL REQUIREMENTS FOR LABPACKS	26
	4.7	MANAGEMENT OF DISPOSABLE PPE AND EQUIPMENT	26
	4.8	MANAGEMENT OF EMPTY DRUMS	26
5.0	STORAGE		27
	5.1	STORAGE IN A TEMPORARY UNIT	28
	5.2	ACCUMULATION IN CONTAINERS FOR LESS THAN 90 DAYS	29
	5.3	CONTAINER STORAGE AREAS THAT MEET PERMITTED FACILITY STANDARDS	30
	5.4	INSPECTIONS AND STORAGE INVENTORY LOG	31
	5.5	CONTAINER LABELING	32
	5.6	USE OF PORTABLE STORAGE TANKS	36
	5.7	REPACKAGING AND OVERPACKING CONTAINERS	36

CONTENTS (Continued)

Section			Page
6.0	MANAGING INVESTIGATION-DERIVED WASTE AT AN OFF-SITE FACILITY		36
	6.1	MANAGEMENT OF AQUEOUS LIQUIDS AT INSTALLATION WASTEWATER TREATMENT PLANTS	37
	6.2	MANAGEMENT OF AQUEOUS LIQUIDS AT PUBLICLY-OWNED TREATMENT WORKS	37
	6.3	USING THE WASTE MANAGEMENT SUBCONTRACT	38
		6.3.1 Completing a Delivery Order	39
		6.3.2 Shipment of IDW to Off-Site Facilities	39
7.0	MANAGING INVESTIGATION-DERIVED WASTE ON SITE		40
	7.1	DESIGNATED LEVEL METHODOLOGY	40
	7.2	USE OF INVESTIGATION-DERIVED WASTE IN PILOT-SCALE TREATABILITY STUDIES	41
REFERENCES			42

Attachments

A	LISTED HAZARDOUS WASTES
B	SAMPLING AND ANALYSIS PROCEDURES
C	WASTE PROFILE FORM AND INSTRUCTIONS
D	LABPACKING PROCEDURES FOR ON-SITE LABORATORIES
E	REQUEST FOR EXTENSION TO 90-DAY ACCUMULATION DEADLINE
F	TRAINING REQUIREMENTS FOR WASTE MANAGEMENT PERSONNEL
G	SAMPLE CONTINGENCY PLAN FOR SHORT-TERM CONTAINER STORAGE AREAS
H	SAMPLE CLOSURE PLAN FOR SHORT-TERM CONTAINER STORAGE AREAS
I	SAMPLE STORAGE AREA INSPECTION FORM
J	SAMPLE STORAGE AREA INVENTORY FORM
K	DISCHARGE REQUIREMENTS FOR SELECTED INSTALLATION WWTPs
L	DISCHARGE REQUIREMENTS FOR SELECTED CITY OF SAN FRANCISCO POTWs
M	STATEMENT OF WORK AND CONTRACT LINE ITEM LISTING FOR WASTE MANAGEMENT SUBCONTRACT

FIGURES

Figure		Page
1	COMPARISON OF FEDERAL AND CALIFORNIA GENERAL PROCESSES FOR DETERMINING WHETHER MATERIALS ARE HAZARDOUS WASTE	24
2	SAMPLE DRUM LABEL FOR CONTAINERIZED IDW	32
3	SAMPLE HAZARDOUS WASTE LABEL	33
4	SAMPLE NONHAZARDOUS WASTE LABEL	34

TABLES

Table		Page
1	VOLUME OF SOIL CUTTING GENERATED FROM TYPICAL DIAMETER BOREHOLES	18
2	VOLUME OF WATER GENERATED FOR A TYPICAL WELL CASING AND BOREHOLE COMBINATION	19

ABBREVIATIONS AND ACRONYMS

AECRU	Architectural-Engineering Services to Provide CERCLA/RCRA/UST Studies
AM	Action Memorandum
AOC	Area of contamination
ARAR	Applicable or relevant and appropriate requirement
ASA	Accumulation storage area
AWQC	Ambient water quality criteria
BDAT	Best demonstrated available technology
CAMU	Corrective action management unit
CCR	California Code of Regulations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFD	Certificate of final disposal
CFR	Code of Federal Regulations
CLIN	Contract line item numbers
cm	Centimeter
cm^2	Square centimeter
ft^3	Cubic feet
CWA	Clean Water Act
DE	Disposable equipment
DO	Delivery order
DOT	U.S. Department of Transportation
DTSC	Department of Toxic Substances Control
EPA	U.S. Environmental Protection Agency
FR	Federal Register
FS	Feasibility study
HAZWOPER	Hazardous Waste Operations and Emergency Response
HMR	Hazardous materials regulations
HSWA	Hazardous and Solid Waste Amendments of 1984
ID	Inside diameter
IDW	Investigation-derived waste
LDR	Land disposal restrictions
m	Meter
mm	Millimeter
MCL	Maximum contaminant levels
MTR	Minimum technological requirements
NCP	National Contingency Plan
NESHAP	National Emission Standards for Hazardous Air Pollutants

ABBREVIATIONS AND ACRONYMS (Continued)

PCB	Polychlorinated biphenyl
PPE	Personal protective equipment
ppm	Parts per million
POTW	Publicly owned treatment works
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial investigation
ROD	Record of Decision
RPM	Remedial Project Manager
s^2	Variance
SDWA	Safe Drinking Water Act
SOP	Standard Operating Procedure
STLC	Soluble threshold limit concentrations
SWDIV	Naval Facilities Engineering Command, Southwest Division
TBC	To be considered
TCLP	Toxicity characteristic leaching procedure
Tetra Tech	Tetra Tech EM Inc.
TSCA	Toxic Substances Control Act
TSD	Treatment, storage, or disposal
TSDF	Treatment, storage, or disposal facility
TTLC	Total threshold limit concentrations
TU	Temporary unit
UIC	Underground injection control
UST	Underground storage tank
VOC	Volatile organic compound
WET	Waste extraction test
x	sample mean

1.0 INTRODUCTION

Tetra Tech EM Inc. (Tetra Tech) is contracted by the U.S. Department of the Navy, Naval Facilities Engineering Command, Southwest Division (SWDIV), under the Indefinite Quantity Contract for Architectural-Engineering Services To Provide CERCLA/RCRA/UST Studies (AECRU), Contract No. N68711-00-D-0005, to provide program management and technical environmental services in support of the Navy's Installation Restoration Program.

In performing these contract activities, Tetra Tech generates hazardous and nonhazardous waste during investigation and remediation activities at various AECRU sites. The purpose of this plan is to establish standard waste management practices for investigation-derived waste (IDW) at Navy installations covered under this AECRU contract. IDW may include drilling muds, cuttings, and purge water from test pit and well installation; purge water, soils, and other materials from collection of samples; residues from the testing of treatment equipment, contaminated personnel protective equipment (PPE), and decontamination fluids.

This plan provides guidance for characterizing IDW and managing it in a manner that is protective of human health and the environment and complies with applicable or relevant and appropriate requirements (ARARs). In general, the options for managing IDW are collection and (1) immediate disposal or (2) some type of interim management, such as storage or other temporary measures. The specific option selected will depend on the type of IDW, its relative threat to human health and the environment, and other site-specific conditions. The plan discusses in detail various management methods for IDW, including management on-site, disposal at an installation or publicly-owned wastewater treatment plant, and management at off-site treatment and disposal facilities.

Management methods for specific investigation and remediation sites should be determined by the Tetra Tech project manager and the Navy Remedial Project Manager (RPM) with regulatory agencies providing input and comment. Those management methods chosen are dependent on-site characteristics and location as well as the physical and chemical characteristics of the waste, the final remedy selected for the site, and compliance with ARARs. It is important to note that most IDW (with the exception of non-indigenous IDW) generated during the course of an investigation are intrinsic elements of the site (for example, contaminated soil cuttings). If possible, IDW should be considered part of the site and should be managed with other waste from the site consistent with the final remedy. This will avoid the need for separate treatment and disposal arrangements.

1.1 PLAN ORGANIZATION

The AECRU Waste Management Program outlines the regulatory programs that affect management of IDW, including identifying ARARs. In addition, this AECRU waste management plan includes specific procedures to plan for waste generation, to sample and characterize IDW, to properly store IDW on-site, and to choose appropriate treatment and disposal methods. The plan will also address the requirement for using Tetra Tech's subcontract waste management firms under the standardized waste management contract.

The organization of this plan is designed to facilitate the decision-making process, presenting a systematic approach to be used in determining the proper handling and disposition of IDW. Section 2.0 of the plan discusses potential ARARs that may apply to management of IDW. Section 3.0 describes the types of IDW that may be generated during investigation activities. Section 4.0 addresses characterizing IDW in accordance with applicable federal and state requirements. Section 5.0 covers on-site storage of IDW and requirements for different types of storage areas. Section 6.0 contains procedures for managing IDW at off-site facilities, and Section 7.0 discusses requirements for on-site disposal of certain types of IDW under California-specific requirements and using IDW in pilot-scale treatability studies.

1.2 PLANNING AND FIELD WORK PLAN PREPARATION

The planning that leads to the field work plan for a site is an important step in the management of IDW. The field work plan should be developed along with a plan to characterize and manage IDW generated during field activities. Prior to starting field activities, consideration should be given to minimizing the amount of IDW generated during the investigation. This should be accomplished by selecting field methods that accomplish the objectives of the investigation while limiting waste generation. The Tetra Tech project manager also should consider techniques such as replacing solvent-based cleaners with aqueous-based cleaners for decontamination of equipment, reuse of equipment (where it can be decontaminated), limitation of traffic between clean and hot zones, and drilling methods and sampling techniques that generate little waste. In addition, site managers should be careful to keep hazardous waste separate from nonhazardous waste.

Those developing the field work plan should identify the types of IDW that may be generated and storage and management options for the IDW. When managing IDW, the Tetra Tech project manager must choose an option that is protective of human health and the environment and complies with (or waives) ARARs. It is very important that IDW be properly characterized as hazardous or

nonhazardous waste in order to identify ARARs that may apply to these options. Specific consideration should be given as to whether under the Resource Conservation and Recovery Act (RCRA) as discussed in Section 4.1 of this plan. As with all activities associated with a cleanup performed under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Tetra Tech project manager should also evaluate community concerns regarding the management of IDW. Once these factors have been determined, the field work plan incorporates provisions addressing specific waste characterization, storage, and management of IDW.

2.0 IDENTIFICATION OF ARARS

Field investigations performed under authority of CERCLA and RCRA authorities may result in the generation of IDW. Under CERCLA, removal and remedial actions must comply with ARARs to the extent practicable considering the exigencies of the situation. Federal environmental laws and regulations that are potential ARARs for IDW at CERCLA sites include RCRA; the Toxic Substances Control Act (TSCA); the Clean Water Act (CWA); the Clean Air Act; and the Safe Drinking Water Act (SDWA). Requirements issued by the U.S. Department of Transportation (DOT) and state and local environmental laws and regulations may also serve as ARARs. State regulations may have a great impact on how IDW is managed, since states are allowed to promulgate broader and more stringent requirements than the federal requirements for many programs, including the regulatory programs for identification and management of solid and hazardous waste. For example, California has established regulations for identifying hazardous waste that are broader and more stringent than those issued by U.S. Environmental Protection Agency (EPA).

2.1 ARARs DEFINED

CERCLA and the National Contingency Plan (NCP) require that remedial investigation (RI), feasibility study (FS), and remedial design (RD) actions comply with ARARs to the extent practical considering the exigencies of the situation. ARARs are defined under the NCP at 40 CFR 300.5. Applicable requirements are standards or criteria promulgated under federal or state law that specifically address a hazardous substance, pollutant contaminant, remedial action, location, or other circumstance at a project site (EPA 1988a). Applicability implies that the remedial action or the circumstances at the site satisfy all of the jurisdictional prerequisites of a requirement. RCRA requirements are applicable when a waste is generated at a CERCLA site that meets the definition of a hazardous waste.

If a requirement is not applicable, one must consider whether it is both relevant and appropriate. Relevant and appropriate requirements are standards or criteria promulgated under federal or state laws that are suited to a particular site because the requirements address site scenarios sufficiently similar to those for which the regulations were developed. Identification of ARARs first dictates the determination of whether they are both relevant and appropriate. This evaluation compares a number of site-specific factors with those addressed in the statutory or regulatory requirements. Factors considered include the hazardous substances present at the site, physical site features, or the type of remedial action. A given requirement might be relevant, but not appropriate, for the project site. Therefore, such a requirement would not be an ARAR for the site. When a requirement is deemed both relevant and appropriate in a given case, this requirement must be complied with to the same degree as if it were applicable. In addition, it is possible for only a portion of a requirement to be considered both relevant and appropriate for the project site. An example of a relevant and appropriate requirement is the use of maximum contaminant levels (MCL) as cleanup standards for water. The MCLs are not applicable, because the Navy is not using the contaminated water to supply drinking water. However, MCLs are relevant and appropriate if the water is being treated for potential use as drinking water at some time in the future.

To-be-considered (TBC) criteria are guidance or nonpromulgated advisories issued by federal or state government that are not legally binding and do not have the status of potential ARARs. In many circumstances, TBC criteria should be reviewed along with ARARs in determining an IDW level that is sufficiently protective of human health or the environment. This review should occur prior to the selection of an IDW management option.

There are several types of ARARS, including chemical-specific, action-specific, and location-specific ARARs. Chemical-specific ARARS are usually health- or risk-based numerical values or methodologies applied to site-specific conditions. These values establish an acceptable concentration of a chemical substance that may be found in or discharged to the ambient environment. MCLs are examples of chemical-specific ARARs. Action-specific ARARs are technology- or activity-based requirements or limitations on actions taken with respect to hazardous substances. An example of an action-specific ARAR is an emissions limit on a chemical constituent for incineration to treat contaminated soil. Location-specific ARARs are restrictions placed on the concentration of hazardous substances or the conduct of activities solely because they occur in special locations. Location standards for RCRA facilities that address seismic conditions and floodplain locations are location-specific ARARs when a new waste management unit is created to treat or dispose of waste at a CERCLA site.

In general, CERCLA does not require that administrative requirements of ARARs (for example, a RCRA storage permit) be met for IDW that is managed on-site, as long as substantive issues are addressed (EPA 1988a). However, IDW that is transported and disposed of off-site must comply with all ARARs including permitting requirements. In addition, at response actions performed under authority of CERCLA, the off-site disposal of hazardous waste must comply with the CERCLA off-site rule (see 40 CFR 300.440). The CERCLA off-site rule is further discussed in Section 6.0.

2.2 RESOURCE CONSERVATION AND RECOVERY ACT

RCRA is an important potential ARAR for IDW generated under CERCLA removal or remedial actions at Navy installations. RCRA was passed by Congress in 1976 to meet three goals: (1) the protection of human health and the environment, (2) the reduction of waste and conservation of energy and natural resources, and (3) the reduction or elimination of the generation of hazardous waste as expeditiously as possible. The Hazardous and Solid Waste Amendments of 1984 (HSWA) significantly expanded the scope of RCRA by adding new corrective action requirements for regulated treatment, storage, or disposal facilities (TSDF), land disposal restrictions (LDR), and minimum technological requirements (MTR) for land disposal units.

RCRA, as amended by HSWA, is divided into ten subtitles. Subtitles C and D establish national regulatory programs for the management of hazardous and solid waste, respectively. The implementing regulations for the Subtitle C program are at 40 CFR parts 260-279. The regulations for the Subtitle D program are at 40 CFR parts 239-258. Certain sections of the Subtitle C hazardous waste management regulations (LDRs, technical standards for storage and disposal units, and manifesting) may be ARARs for the management of IDW should the IDW be defined as RCRA hazardous waste. The LDR program is further discussed in Section 2.2.1. The RCRA technical standards for on-site storage and land disposal units are discussed in detail in sections 2.2 and 5.0. The RCRA regulations that apply to shipments of hazardous IDW off-site are discussed in Section 6.0. In general, potential ARARs for on-site management of IDW under Subtitle D of RCRA are the technical design and operating standards for municipal solid waste landfill. Non-hazardous IDW, such as decontaminated PPE or equipment, may need to be disposed of in an off-site Subtitle D facility depending on State requirements.

RCRA established definitions of solid and hazardous waste. Materials that meet those definitions become potentially subject to management regulations also issued under RCRA. Under Subtitle C regulations, a hazardous waste must first be defined as a solid waste. In general, a solid waste is defined as any material that is discarded. The definition of solid waste is at 40 CFR 261.2 and includes any

material that is discarded by being abandoned, recycled in certain ways, considered inherently waste-like by EPA, or identified as a military munition. Congress and EPA have excluded a substantial number of materials (and wastes) from the definition of solid and hazardous waste under RCRA because: (1) EPA has determined that those materials do not warrant regulation under RCRA Subtitle C; or (2) the waste is already subject to regulation under another environmental law or regulation (see 40 CFR 261.4(a) and (b) for exclusions from the definition of solid and hazardous waste, respectively).

A solid waste is identified as hazardous waste if (1) the waste is listed by EPA; (2) the waste exhibits any of four characteristics of hazardous waste; (3) the waste comprises a mixture of wastes, one of which is a listed hazardous waste (referred to as the "mixture rule"); and (4) the waste is "derived from" the treatment, storage, or disposal of a listed waste (referred to as the "derived-from rule"). The definition of hazardous waste is set forth at 40 CFR 261.3.

Listed hazardous waste and identifying characteristics of hazardous waste are distinct and fundamentally different mechanisms for defining hazardous waste. To list a hazardous waste, EPA conducts a detailed industry or process study that involves literature reviews, engineering analyses, survey and questionnaires, site visits, and waste sampling. For listing, EPA places particular emphasis on hazardous constituents contained in specific wastes generated by the industry or process being studied. However, EPA uses a comparatively flexible approach when deciding to list wastes as hazardous; including consideration of the type of threat posed, plausible ways the waste may be mismanaged, migration potential and persistence in the environment, waste quantity, and actions of other regulatory programs. EPA has identified listed hazardous wastes at 40 CFR Part 261 Subpart D. EPA has assigned listed hazardous waste with RCRA hazardous numbers beginning with F-, K-, P-, and U-.

The hazardous waste characteristics identified by EPA designate broad classes of wastes which are clearly hazardous by virtue of an inherent property, such as ignitability, corrosivity, reactivity, and toxicity. EPA established two basic criteria for identifying characteristics of hazardous waste: (1) the characteristic must be defined in terms of physical, chemical, or other properties which cause the waste to meet the statutory definition of hazardous waste; and (2) the properties defining the characteristic must be measured by standardized and available testing protocols or reasonable detected by generators through their knowledge of the waste. EPA has identified four characteristics of hazardous waste at 40 CFR Part 261 Subpart C (ignitability, corrosivity, reactivity, and toxicity). EPA has assigned the characteristics of hazardous waste with the RCRA hazardous numbers beginning with D-.

Contaminated environmental media is often generated during the cleanup of sites. Contaminated environmental media, such as soil and groundwater, is not hazardous waste and, generally, is not subject to regulation under RCRA. However, under EPA's "contained-in" policy, contaminated media can become subject to regulation under RCRA if it contains hazardous waste. EPA generally considers environmental media to contain hazardous waste: (1) when they exhibit a characteristic of hazardous waste: or, (2) when they are contaminated with concentrations of hazardous of hazardous constituents from listed hazardous waste that are above the health-base levels. If contaminated media contain hazardous waste, they are subject to all applicable RCRA requirements until they no longer contain hazardous waste (EPA 1986, 63 FR 28621).

EPA has provided a number of specific exemptions from RCRA regulations for certain hazardous wastes based on how the waste was generated or how it will be subsequently managed. Several types of exempted wastes that may be relevant to cleanups of Navy installations include:

- Samples and treatability studies (40 CFR 261.4(d), (e), and (f))
- Dredged material (40 CFR 261.4(g))
- Residues in empty containers (40 CFR 261.7)

In addition, EPA has issued regulations that exempt or reduce RCRA regulations for hazardous wastes that are recycled. The regulations are set forth in 40 CFR 261.6 and sections of 40 CFR Part 266.

Under Subtitle C of RCRA, EPA has established regulatory programs for used oil management and universal wastes. Those regulations also are potential ARARs at CERCLA actions. The regulations for used oil and universal wastes are at 40 CFR 279 and 40 CFR Part 273, respectively. It is unlikely that field activities performed under CERCLA authority will generate IDW that is categorized as universal waste. However, site investigation work, particularly with the removal of underground storage tanks (USTs) that held waste oil, could result in generating IDW that may be subject to the used oil regulations.

A field activity that creates hazardous IDW subject to RCRA regulation is defined as a "generator" under RCRA. A "generator" is any person whose act or process of produces hazardous waste identified under RCRA or causes a waste to become subject to regulation (see 40 CFR 260.10). RCRA regulations at 40 CFR 262.11 specify procedures for a generator to determine if a solid waste is a hazardous waste. At CERCLA sites, site managers should not assume that IDW is a listed or characteristic hazardous waste until there is positive evidence (records, test results, other knowledge of waste properties). The procedures for determining if IDW is a hazardous waste are further discussed in Section 4.0.

2.2.1 Land Disposal Restrictions

The HSWA established the LDR program to reduce the risks posed by the land disposal of untreated hazardous waste. The LDR regulations at 40 CFR Part 268 allow land disposal only after applicable treatment standards are met, a variance from the treatment requirements was obtained, or the waste has been disposed in a unit that meets a stringent no-migration test. Hazardous waste that is subject to the LDR program is referred to as "restricted wastes". Restricted waste that is prohibited from land disposal (for example, because the waste does not meet applicable treatment standards) is referred to as "prohibited waste".

If IDW is determined to be a hazardous waste and subject to the LDRs, "land disposal" of IDW will be prohibited unless specified treatments standards are met. Under the LDR program, "land disposal" is broadly defined to include placement of hazardous waste into a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, salt bed formation, or underground mine or cave. EPA implements the LDRs at the initial point a hazardous waste is generated and not when the waste is land disposed. In other words, the LDRs "attach" to hazardous waste at the initial point the waste is generated. For example, a site investigation generates decontamination fluids that exhibit a characteristic of hazardous waste. The fluids are placed into several 55-gallon drums at the site. The hazardous IDW in the drums becomes subject to the LDRs and is prohibited from land disposal unless the waste meets applicable treatment standards or is disposed of in a land disposal unit that meets the stringent no migration criteria.

LDR treatment standards are set forth at 40 CFR Part 268 Subpart D. Treatment standards are established for each type of hazardous waste (listed or characteristic) based on the performance of Best Demonstrated Available Technology (BDAT). The treatment standards are expressed in the regulations as concentrations of hazardous constituents in the treated waste or required treatment technologies. Restricted waste that does not meet treatment standards is prohibited from land disposal. It is critical that site managers properly determine if IDW is a hazardous waste and identify the appropriate RCRA Hazardous Waste Numbers (F001, U019, or D018) in order to identify the correct LDR treatment standard(s) for the waste.

EPA has long recognized that LDR treatment standards may not be appropriate for hazardous remediation wastes, including IDW that is determined to be a hazardous waste. In general, EPA has identified BDAT and set treatment standards based on industry generated hazardous wastes. For certain hazardous wastes, such as lab packs, hazardous debris, and contaminated soils, EPA has established alternative treatment standards. The alternative treatment standards allow site managers to treat those

hazardous wastes to different standards than the standards established for industrial wastes. Site managers also may apply for a treatability variance from LDR treatment standards for remediation wastes, including IDW that is similar in nature to the remediation waste (for example hazardous contaminated soils). Set forth at 40 CFR 268.44, a treatability variance from applicable LDR treatment standards is allowed where the existing treatment standard or treatment technology is not appropriate to the waste.

Under 40 CFR 268.3, the LDRs prohibit generators from diluting a restricted waste as a substitute for adequate treatment to achieve compliance with applicable treatment standards. Under the LDR storage prohibition at 40 CFR 268.50, restricted waste may not be stored at a site unless the storage is solely for the purpose of accumulating sufficient quantities of the waste to facilitate proper disposal, treatment, or recovery. Generally, storing hazardous IDW until a final disposal option is selected in the Record of Decision (ROD) or Action Memorandum (AM) and implemented during the remedial or removal action is allowable storage under the LDR storage prohibition.

At CERCLA sites and cleanups performed under RCRA corrective action, EPA has established policies and regulations for on-site management of hazardous remediation wastes (including IDW that is determined to be a RCRA hazardous waste) that allow movement and placement of hazardous waste into land disposal units without complying with all applicable LDR treatment standards. Remediation waste includes only waste managed because of cleanup, and does not include waste generated from ongoing hazardous waste operations, which are commonly referred to as "newly generated," "as generated," or "process wastes." The policies and regulations include the management of remediation wastes in:

- Areas of contamination (AOCs)
- Corrective Action Management Units (CAMUs)
- Temporary Units (TUs)
- Staging piles

An AOC is defined as a discrete area of generally dispersed contamination that can be equated with a RCRA landfill. An AOC is delineated by the areal extent (or boundary) of contiguous contamination. Such contamination must be continuous, but may contain varying types and concentrations of hazardous substances. EPA defined AOC in the preamble to the revised NCP regulations (55 FR 8760). Under the AOC concept, hazardous waste, including IDW that is determined to be a RCRA hazardous waste, may not be subject to LDRs if land disposal does not occur. Under EPA policy, land disposal occurs at an

AOC when wastes from different AOCs are consolidated into one AOC; when wastes are moved from outside an AOC (for treatment or storage) and returned to the same or a different AOC; or when wastes are excavated, placed in a separate hazardous waste management unit, such as an incinerator or tank within the AOC, and then reposited into the AOC.

Storing IDW that is determined to be a hazardous waste, such as contaminated soil cuttings or purge water, in a container within the AOC and then returning it to its source, is allowable without meeting the specified LDR treatment standards. The rationale for this exemption from LDRs is that a single container does not constitute a hazardous waste management unit. In addition, sampling and direct replacement of IDW within an AOC, such as replacing contaminated soil cuttings in the bore hole, does not constitute land disposal and therefore compliance with specified LDR treatment standards.

A CAMU is a type of land disposal unit created for the management of remediation waste under the RCRA corrective action program. The regulations for CAMUs are at 40 CFR 264.552 and are potential ARARs at CERCLA removal and remedial actions. When EPA first promulgated the rules for CAMUs in 1993, the Agency did not require remediation waste to meet LDR treatment standards before placement in a CAMU. In the original rule, EPA also did not require CAMUs to meet the MTRs for land disposal units (requirements for liners and leachate collection systems). However, on January 22, 2002, EPA substantially revised the regulations for CAMUs and the definition of remediation waste (see 67 FR 2962). Under the revised CAMU regulations, the LDR treatment standards will apply to principal hazardous constituents in cleanup wastes. In the revised rule, EPA also established a liner standard for the design of CAMUs. A CAMU must be designated in the ROD or AM for the site.

TUs are non land-based unit created specifically for the management of remediation waste during RCRA corrective action. Placement of hazardous waste into TUs is not considered land disposal, and therefore the LDRs do not apply. However, wastes or treatment residual removed from TUs may be subject to LDRs. TUs may operate for only one year, with an opportunity for a one-year extension. TU regulations are at 40 CFR 264.553 and are potential ARARs for CERCLA removal or remedial actions. A TU must be designated in the ROD or AM for the site.

A staging pile is a new unit created for managing remediation waste under the RCRA corrective action program. A staging pile is defined as "an accumulation of solid, non-flowing remediation waste that is not a containment building and is used only during remedial operations for temporary storage at a facility." Staging piles are not subject to the LDRs or RCRA MTRs for land disposal units (that is, requirements for liner and leachate collection systems and groundwater monitoring). The regulations

for staging piles are at 40 CFR 264.554 and are potential ARARs at CERCLA removal or remedial actions. A staging pile must be designated in the ROD or AM for the site.

If IDW is determined to be hazardous waste and sent off-site for treatment or disposal, the tracking and notification requirements under the LDR program are applicable. The regulations are at 40 CFR 268.7(a) and require the generator to provide to the TSDF a one-time LDR notification and certification (if the generator determines that the waste meets applicable treatment standards) in addition to the hazardous waste manifest. The LDR tracking regulations are further discussed in Section 6.0.

2.2.2 Technical Standards for Storage and Disposal Units

Under Subtitle C of RCRA, EPA has issued detailed regulations for units used to store and dispose of hazardous waste. The substantive technical design and operating requirements for containers, tank systems, waste piles, containment buildings, and landfills are potential ARARs for on-site management of hazardous IDW.

Under RCRA, EPA has identified technical standards for hazardous waste management units at permitted TSDFs and TSDFs operating under interim status (facilities that legally operate without the issuance of a Part B permit). The technical standards EPA uses to issue Part B permits to TSDFs are set forth at 40 CFR Part 264. The standards for interim status facilities are at 40 CFR Part 265. In general, the technical standards for permitted facilities do not differ substantially from those for interim status facilities. However, some provisions for interim status facilities are self-implementing. In addition, generators that accumulate (short-term storage) hazardous waste on-site in containers, tank systems, and containment buildings also must comply with the technical standards for those units in Part 265.

EPA has issued specific definitions for each type of unit allowed to manage hazardous waste (that is, EPA has provided a definition for "container", "tanks system", "waste pile", etc.). Similarly, EPA has provided definitions for units created to manage only remediation wastes (CAMUs, TUs, and staging piles). It is important for site managers to understand those definitions. For example, the technical standards for waste piles are not the same as those for staging piles, although the units may appear similar. In addition, units created to manage remediation waste, such as CAMUs, TUs, and staging piles must be designated in the ROD or AM.

RCRA technical storage requirements that may be ARARs for on-site management of IDW include:

- Containers (40 CFR Parts 264 and 265 Subpart I)
- Tank Systems (40 CFR Parts 264 and 265 Subpart J)
- Waste Piles (40 CFR Parts 264 and 265 Subpart L)
- Containment Buildings (40 CFR Parts 264 and 265 Subpart DD)

Section 5.0 discusses in more detail the technical requirements for containers and tank systems. Those units will very often be used to manage hazardous IDW on-site.

RCRA technical standards that may be ARARs for the on-site disposal of IDW are the regulations for landfills at 40 CFR 264 and 265 Subpart N. Note, that hazardous IDW also may be disposed of in CAMUs if it is considered remediation waste (see discussion of CAMUs in Section 2.2.1).

In addition to technical standards for units used to manage hazardous waste, EPA also has established administrative and other technical standards for TSDFs, including general facility standards, preparedness and prevention, personnel training, closure, and groundwater monitoring. For on-site CERCLA actions, site managers do not need to comply with those administrative requirements associated with RCRA storage regulations (that is, requirements for record keeping, or inspections). However, depending on the type of unit used at the site, site managers may need to comply with the substantive regulations for groundwater monitoring, closure, and post-closure care.[1,2]

2.3 TOXIC SUBSTANCES CONTROL ACT

Congress passed TSCA in 1976 to establish new requirements and authorities for identifying and controlling toxic chemical hazards to human health and the environment. While the majority of regulations promulgated under TSCA address the manufacturing of chemicals, Section 6(e) of TSCA directs EPA to regulate the marking, disposal, manufacturing, processing, distribution in commerce, and use of polychlorinated biphenyls (PCB). EPA has issued comprehensive regulations for PCBs at

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[1] This plan assumes that IDW is generated as part of cleanup actions performed under authority of CERCLA, and therefore administrative regulations of potential ARARs do not generally apply (see Section 121 of CERCLA). If the cleanup action was performed at a facility regulated under RCRA, such as a RCRA permitted TSDF or generator, the administrative regulations under RCRA would generally apply.

[2] EPA has established facility-wide and unit-specific regulations for closure. Land disposal units used to manage hazardous waste are subject to groundwater monitoring regulations. Landfills and other units that close with waste in place (such as USTs) are subject to regulations for post-closure care.

40 CFR Part 761 and those regulations are potential ARARs for on-site and off-site management of IDW containing PCBs generated at CERCLA sites.

In June 1998, EPA substantially revised the PCB regulations (63 FR 35384 and 64 FR 33755). Of specific concern to site managers are the provisions in 40 CFR Part 761 Subpart D that govern the transportation and disposal of PCB articles, PCB wastes, and PCB remediation waste. PCB remediation waste includes a broad range of materials such as soil, rags, debris (building materials), sediment, and sewage sludge. PCB remediation waste also could include non-RCRA hazardous IDW. The PCB treatment and disposal requirements are based on the types of materials that contain PCBs and the concentrations of PCBs present. At CERCLA sites, treatment and disposal decisions are made on the basis of the form PCBs are found at the site.

In general, IDW with PCB concentrations between 50-500 parts per million (ppm) must be disposed of in high-efficiency boilers, approved chemical waste landfills, or high-temperature incinerators. IDW with PCB concentrations above 500 ppm must be incinerated in a TSCA-permitted facility, except for non-liquid soil and debris. The PCB disposal regulations also allow "bulk PCB remediation wastes" including soils containing 50 ppm PCBs or greater to be disposed without treatment in a TSCA permitted facility or RCRA-permitted hazardous waste landfill. In addition, the PCB regulations include storage requirements that may limit the time that PCBs are stored to one year and specific information to be included on the PCB manifest for off-site shipments.

Under federal regulations, PCBs are not a listed RCRA hazardous waste and usually do not exhibit a RCRA hazardous waste characteristic. If IDW containing PCBs also exhibits a RCRA hazardous waste characteristic, the waste is subject to applicable RCRA regulations unless it is excluded under 40 CFR 261.8. In addition, California regulations at 22 CCR 66261 identify non-RCRA hazardous waste containing PCBs above 5 ppm as hazardous waste.

2.4 CLEAN WATER ACT

The CWA, developed in 1977, provides site-specific pollutant discharge limitations and performance standards for specific industries to protect surface water quality. During an investigation, the most likely situation where the CWA will be applicable involves the indirect discharge of IDW water to a publicly owned treatment works (POTW) or a wastewater treatment plant for treatment (EPA 1991). A less likely situation may involve direct discharge, either on-site or off-site, to surface water. The CWA also regulates criteria for selecting POTWs and sets ambient water quality criteria (AWQC) for the

protection of human health and aquatic life. Regulations under the CWA are codified in 40 CFR Parts 121 through 136.

2.5 SAFE DRINKING WATER ACT

The SDWA, which was initially enacted in 1974 and most recently amended in 1986, mandates that EPA establish regulations to protect human health from contaminants in drinking water. Regulations for the SDWA are codified in 40 CFR Parts 141 through 149. The legislation authorizes national drinking water standards and a joint federal-state system for assuring compliance with those standards. The SDWA also established a regulatory program for underground injection of waste (Underground Injection Control [UIC] program). The regulatory requirements are at 40 CFR Part 144.

EPA has developed two sets of drinking water standards, referred to as primary and secondary standards, to protect human health and to ensure the aesthetic quality of drinking water, respectively (EPA 1988b). Primary standards consist of contaminant-specific standards, known as MCLs. MCLs are set as close as feasible to maximum contaminant level goals, which are health-based goals. Secondary drinking water standards are guidelines used to regulate the aesthetic quality of water supplies, such as clarity and odor, and are not enforceable at the federal level. At a minimum, states must enforce the federal MCLs. In some cases, states establish and enforce secondary standards equal to or more stringent than EPA's.

Under Section 1424(e) of SDWA, an aquifer that is identified as the sole or principal source of drinking water for any area may be designated as a "sole source aquifer." No commitment of federal financial assistance may be made for any project that may contaminate a sole source aquifer so as to create a significant public health hazard. No IDW disposal actions should occur that could affect a sole source aquifer without consideration of MCLs.

The UIC regulations under the SDWA may be potential ARARs for disposing IDW by underground injection. If IDW is determined to be a RCRA hazardous waste it is subject to the LDR program if disposed by underground injection (underground injection is defined as "land disposal" under the LDR program). However, under EPA policy, reinjected contaminated groundwater is exempt from compliance with LDRs provided: (1) it is treated before reinjection (by ex situ or in situ methods); (2) the cleanup is protective of human health and the environment; and (3) the injection is part of response action under CERCLA or RCRA corrective action.

2.6 CLEAN AIR ACT

The Clean Air Act (CAA) established comprehensive regulations for controlling emissions of pollutants from stationary and mobile sources. CERCLA actions may generate IDW that contains asbestos. While asbestos is not regulated as a hazardous waste under federal RCRA, it is regulated as a hazardous air pollutant under the National Emission Standards for Hazardous Air Pollutants (NESHAP) of the CAA. The NESHAP at 40 CFR 61.154 is a potential ARAR for the management and disposal of IDW contaminated with asbestos.

2.7 U.S. DEPARTMENT OF TRANSPORTATION REQUIREMENTS

Under authority of the Hazardous Materials Transportation Act, the DOT established regulations for the transportation of hazardous materials in commerce. Where IDW will be disposed of off-site or transported on public roads to a site, the DOT Hazardous Materials Regulations (HMR) at 49 CFR Parts 100-185 may apply. The definition of "hazardous material" is set forth at 49 CFR 171.8 and includes those materials designated by the Secretary of DOT as posing an unreasonable threat to the public health and environment. In particular, site managers should consult the HMR that govern the transportation of hazardous materials at 49 CFR Part 172. The HMR addresses hazard communication, packaging requirements, and operational rules for transporting hazardous materials. The Hazardous Material Table at 49 CFR 172.101 is extremely important to determining the proper shipping name, identification number, hazard class, packing group, labeling and markings, and restrictions and limitations applicable to transporting hazardous materials. The regulations for transporting hazardous materials off-site are further discussed in Section 6.0.

2.8 STATE REQUIREMENTS

Promulgated state regulations that are legally enforceable, timely identified, and more stringent than federal regulations may be potential ARARs for IDW managed on-site. Substantive requirements of State law that may be ARARs for IDW management include State water quality standards, direct discharge limits, and hazardous waste management regulations promulgated in a State with an authorized RCRA hazardous waste management program. Off-site substantive and administrative requirements of State law may apply.

2.8.1 California Requirements

California hazardous waste regulations, Title 22 of the California Code of Regulations (CCR) are potential ARARs for IDW management decisions. Title 22 Division 4.5 regulations establish additional criteria for the definition of hazardous waste that are broader and more stringent than federal EPA, including an expanded toxicity characteristic involving total threshold limit concentrations (TTLC) and soluble threshold limit concentrations (STLC). The waste extraction test (WET) is used to evaluate the STLC criteria. The wastes that meet these criteria, but do not meet federal hazardous waste criteria, are called non-RCRA hazardous wastes. Non-RCRA hazardous wastes defined in Title 22 must be managed in the same manner as RCRA hazardous wastes.

California's State Water Resources Control Board regulates and promulgates applicable water quality objectives that are potential ARARs for IDW soil and water management. California has also established drinking water standards for selected compounds under CCR Title 22 Division 2. These standards may also be ARARs if they are more stringent than the corresponding federal MCLs.

ARAR waivers may be available for state requirements that are inconsistently applied in similar circumstances at other remedial action sites within California, in accordance with CERCLA Section 121(d)(4)(E) and 40 CFR §300.430(f)(1)(ii)(C)(5).

Additional regulatory requirements applicable in California are explained throughout this plan in appropriate sections.

3.0 GENERATION OF INVESTIGATION-DERIVED WASTE

Activities that may generate IDW during operations at installation restoration sites include RI, FS, site investigations, removal actions, and underground storage tank (UST) investigations. IDW may include drilling muds, soil cuttings, purged groundwater, decontamination fluids, disposable equipment (DE), and PPE.

3.1 SOURCES OF IDW

Field activities performed during investigations that may generate IDW typically include some or all of the following:

ACTIVITY	WASTE
• Monitoring well installation	• Soil cuttings, decontamination fluids, drilling mud, PPE, DE
• Monitoring well development	• Development water, silt, decontamination fluid, PPE, DE
• Groundwater sampling	• Purge water, decontamination fluid, PPE, DE
• Soil boring	• Soil cuttings, drilling mud, decontamination fluid, PPE, DE
• Soil excavation or trenching	• Soil cuttings, decontamination fluid, PPE, DE
• Soil sampling	• Soil cuttings, decontamination fluid, PPE, DE
• Sediment sampling	• Sediment, decontamination fluid, PPE, DE
• Surface water sampling	• Decontamination fluid, PPE, DE
• Aquifer testing	• Development water, decontamination fluid, PPE, DE
• Radiation monitoring	• PPE, DE

The wastes described above may or may not be regulated as hazardous for the purposes of storage, treatment, or disposal. Section 4.0 describes how this determination will be made and how IDW will be characterized. Once the IDW is characterized, a determination may be made as to the proper management of the waste. In addition to the waste types listed above, general refuse may be generated during field activities, including packaging materials, broken or cut-off well screening and casing. Typically, this refuse is managed as nonhazardous material and disposed of in compliance with state solid waste regulations.

3.2 IDW VOLUME ESTIMATES

Various field activities conducted during the course of investigation activities may result in the generation of IDW. Estimated typical volumes of IDW generated from field activities are shown below:

- **Initial Studies:** Initial studies typically include soil-gas, soil-probe, and geophysical surveys, water level measurements, and surface water sampling. These activities may generate several 55-gallon drums of decontamination fluid, PPE, DE, and groundwater during the course of the initial studies.

- **Drilling:** Drilling of an 8-inch-outside-diameter soil boring will generate a minimum of 0.35 cubic feet (ft^3) or 2.6 gallons of soil cuttings per linear foot of borehole. A typical 25-foot soil boring would therefore generate approximately 9.0 ft^3, or 65 gallons, of soil cuttings (approximately one and one quarter 55-gallon drums). Table 1 shows the relationship between the diameter of the borehole and the potential volume of soil cuttings generated. Larger diameter soil borings will generate proportionately larger quantities of soil. Additional quantities of soil should be expected due to expansion of soil following removal from the borehole (known as the "fluff" factor) and slough created during drilling, especially if poorly consolidated materials are encountered. It is estimated that the fluff factor generates a 30 percent increase in soil cutting volumes.

Soil cuttings generated during drilling will typically be placed into 55-gallon containers.

TABLE 1

VOLUME OF SOIL CUTTINGS GENERATED FOR TYPICAL DIAMETER BOREHOLES

Hole Diameter (inches)	Undisturbed Volume of Soils per Lineal Foot of Hole		Volume of Loose Soil per Lineal Foot of Hole	
	Gallons	Cubic Feet	Gallons	Cubic Feet
6.0	1.5	0.20	2.0	0.26
8.0	2.6	0.35	3.4	0.46
10.0	4.0	0.54	5.2	0.70
12.0	5.8	0.78	7.5	1.01

Notes:

1 Cubic Feet = 7.5 gallons (approximately)
1 Gallon = 0.134 Cu. Ft. (approximately)

- **Well Development or Purging and Groundwater Sampling:** The volume of groundwater generated through monitoring well development and groundwater sampling is dependent on a number of variables, including the turbidity of the groundwater, well diameter, length of screened interval, diameter of the saturated filter pack, and porosity of the material used as filter packing.

  Complete well development requires the removal of at least three times the amount of water used during drilling and construction of the well, plus three times the volume of the standing groundwater in the well. Table 2 shows the estimated water volumes for various well screen diameters and borehole combinations. The standing water volume in the well includes the amount of groundwater contained within both the well screen and the saturated borehole radius, and assumes a 30 percent porosity within the filter pack.

TABLE 2

VOLUME OF WATER GENERATED FOR A TYPICAL WELL CASING AND BOREHOLE COMBINATION

Well Casing/Borehole Diameter (inches)	Volume of Water Generated per Lineal Foot of Hole (gallons)
2/8	0.9
4/10	1.2
4/12	2.2

For example, a 4-inch well with a 10-inch borehole would contain approximately 1.2 gallons of fluid per foot of saturated zone. If no additional construction water was used and only three volumes of water were pumped for the development of 15 feet of saturated material, the well would produce approximately 54 gallons of fluid.

For hollow-stem drilling, additional water is typically used for flowing sand conditions and when soil conditions cause the augers to bind. For normal well construction, minimal additional water would be used. Additional water would be generated during later purging and sampling and would be specific to the conditions for the well.

The water generated during these activities will typically be placed in 55-gallon containers or in portable storage tanks.

- **Aquifer Testing:** Aquifer tests have the potential to generate large quantities of groundwater, depending on the hydraulic properties of individual screened formations. A well installed in a formation with a high transmissivity will sustain a higher pumping rate and generate greater quantities of water. A typical test may run for 24 to 48 hours and generate up to several gallons per minute. With large volumes such as this, it will be necessary to use 20,000-gallon portable tanks to store water generated from these tests. This water will typically undergo on-site pretreatment for disposal to a publicly owned treatment works or installation wastewater treatment plant. Slug tests will typically generate a small to moderate volume of decontamination fluid. In some instances, it may be possible to combine fluids from several different aquifer tests into one storage container.

- **Trenching and Subsurface Exploration:** For trenching or other large-volume excavations, it may be necessary to store the wastes in large covered roll-off bins or on an appropriate liner material and provide a cover. This is acceptable only if the roll-off bins stay within the AOC or if the area has been defined as a CAMU. If possible, and when appropriate and approved by the regulatory agencies, the best option may be to return the materials to the excavation. Due to the large volumes of materials associated with this type of exploration, it is best to consider other suitable investigative techniques.

- **PPE, DE, and Decontamination Fluid:** The volume of IDW generated as PPE, DE, and decontamination fluids during each field activity is dependent on a number of site-specific factors and will therefore be variable in quantity. Site-specific factors include the EPA health and safety work level (Level D, Level C or Level B), number and type of field activities per site, and total number of sites being investigated. PPE waste volumes will typically account for one-half of a 55-gallon container per day for a crew of four. Decontamination fluid will vary from a few gallons per day for decontamination of monitoring instruments to several hundred gallons per day for large equipment such as drilling rigs.

4.0 CHARACTERIZING INVESTIGATION-DERIVED WASTE

The process of identifying and characterizing IDW should be started during the planning stages of field activities. Characterizing IDW is necessary to determine whether IDW must be managed as hazardous waste, nonhazardous waste, or waste subject to other laws and regulations (for example, IDW

contaminated with PCBs). Characterizing IDW is also required for purposes of determining proper storage, treatment, and disposal options. For example, an off-site TSDF will require the generator to prepare a waste profile before TSDF will accept shipment of the waste.

The basic process used to determine if IDW is hazardous waste under federal RCRA and California regulations consists of:

1. Gathering sufficient information to define the origin and disposition of the IDW (that is, identify how the waste was generated and how it may be managed), as well as appropriate analytical data regarding the waste.
2. Determining if the IDW is a hazardous waste under federal EPA regulations (consult the waste determination process in 40 CFR 262.11).
3. Determining if the IDW is hazardous waste under California regulations in 22 CCR 66261 if the IDW is not hazardous under federal EPA regulations.

If IDW is not a hazardous waste under federal RCRA or California regulations, it must determined if the IDW is subject to other potential ARARs such as TSCA regulations for PCBs or pretreatment standards under the CWA.

Characterizing IDW is a multi-step process that involves determining the origin of the waste and then considering the chemical contaminants and their concentrations in the waste. Typically, sampling data obtained from site characterization or investigation activities may be used to provide an initial determination of whether a waste is hazardous or nonhazardous. If necessary, sampling and analysis of the IDW is conducted to provide additional information and to determine specific hazardous waste characteristics. Environmental samples relevant to IDW are soil samples (for soil cuttings and excavated soils) and groundwater samples (for purge water and development water).

4.1 LISTED HAZARDOUS WASTE

The Tetra Tech project manager is responsible for identifying any potential listed hazardous wastes that may be present at the site. The project manager establishes the site's history and use, and determines whether activities at the site generate, or have generated, listed hazardous wastes. There are three major considerations in identifying whether a waste is a listed hazardous waste:

- **Date of Disposal.** If waste was disposed of prior to the effective date of RCRA regulations (November 19, 1980) and not subsequently managed after that date, then the waste is not subject to RCRA. However, a waste that had been disposed of pre-RCRA, but subsequently generated, such as a wastewater treatment sludge that is removed from an abandoned impoundment, becomes subject to RCRA if the waste meets the description of a listed waste (such as, RCRA Hazardous Waste Code F006) or exhibits a characteristic of hazardous waste.

- **Specific Activity that Generated the Waste**. Hazardous wastes listed by EPA are organized into three categories: 1) hazardous waste from non-specific sources (F-code wastes); 2) hazardous wastes from specific sources (K-code wastes); and 3) discarded commercial chemical products and contaminated media and waste generated from the cleanup of spills of discarded commercial chemical products (P- and U- code wastes). Examples of activities that may generate listed wastes include use of specific solvents, rinsing and management of pesticide containers, electroplating, dry cleaning, and wood treatment. Attachment A identifies hazardous wastes listed by EPA.

- **Mixtures or Wastes Derived From Listed Wastes.** Under the "mixture" and "derived-from" rules in the definition of hazardous waste (see 40 CFR 261.3), any waste mixture that includes a listed hazardous waste or a waste that is derived-from the treatment, storage, or disposal of a listed hazardous waste may be a hazardous waste.

EPA provides guidance in the level of effort required to establish whether listed waste activities are involved at investigation sites. EPA states that "at many CERCLA sites no information exists on the source of the wastes nor are references available citing the date of disposal. The lead agency should use available site information, manifests, storage records, and vouchers in an effort to ascertain the source of these contaminants. When this documentation is not available, the lead agency may assume that the wastes are not listed RCRA hazardous wastes, unless further analysis or information becomes available which allows the lead agency to determine that the wastes are listed RCRA hazardous wastes" (EPA 1988c).

Once it has been determined that a listed waste is involved at a field activity site, the environmental analytical data should be reviewed to determine if the IDW contains any hazardous constituents found in the RCRA listed waste. Contaminated media, such as soil, sediments, or groundwater may be subject to RCRA hazardous waste regulations if the media contains a listed hazardous waste. EPA's Superfund LDR Guide #5, *Determining When Land Disposal Restrictions Are Applicable to CERCLA Response Actions*, OSWER Directive 9347.3-OSFS, July 1989 should be referred to determine whether IDW involving contaminated media (soil cuttings or purge water) contains a listed hazardous waste.

4.2 CHARACTERISTIC HAZARDOUS WASTE

Under the waste determination regulations at 40 CFR 262.11, if the generator determines that a waste is not listed by EPA (or mixed with or derived-from a listed waste), the generator must determine if the waste exhibits any characteristics of hazardous waste. The generator may sample and test the waste to determine if it exhibits any characteristic or use the generator's knowledge about the waste and process generating the waste. The regulations that identify the characteristics of hazardous waste are in 40 CFR Part 261 Subpart C (40 CFR 261.21- 40 CFR 261.24) and include the following properties:

- Ignitability
- Corrosivity
- Reactivity
- Toxicity because the presence of
  - Heavy Metals
  - Volatile Organic Compounds
  - Semivolatile Organic Compounds
  - Pesticides and Herbicides

EPA has established a test or descriptive criteria for each characteristic to assist generators in determining whether a waste exhibits the characteristic. The regulations refer to the test methods that are used to determine the presence of the characteristic.

A review of environmental data to provide an initial screening of the IDW is used to help eliminate some or all of the hazardous constituents covered by the toxicity characteristic, as well as eliminating the need to test for other characteristics of hazardous waste. EPA provides that if a total analysis demonstrates that individual constituents are not present in the waste, or that they are present but at such low concentrations that the appropriate regulatory levels could not possibly be exceeded, the toxicity characteristic leaching procedure (TCLP) need not be run (40 CFR Part 261, Appendix II). EPA typically uses a rule of thumb of 20 times the regulatory limit to estimate the level that the total concentration should not exceed.

4.3 CALIFORNIA REGULATIONS FOR IDENTIFYING HAZARDOUS WASTE

California regulations for identifying hazardous waste are broader and more stringent than federal RCRA. California regulations at 22 CCR 66261 identify several categories of hazardous waste including:

- RCRA hazardous waste (22 CCR 66261.100)
- Non-RCRA hazardous waste 22 CCR 66261.101)
- Extremely hazardous waste (22 CCR 66261.110)
- Special waste (22 CCR 66261.120)

"RCRA hazardous waste" refers to waste identified as hazardous under federal EPA regulations. "Non-RCRA hazardous waste" refers to waste that is not hazardous under federal EPA regulations, but exhibits the toxicity characteristic under California regulations. It is important to note that solid waste excluded from the definition of hazardous waste under federal RCRA regulations (see 40 CFR 261.4(b)), may be regulated as hazardous waste under California regulations if the waste exhibits a toxicity characteristic. Figure 1 shows the distinction between federal RCRA and non-RCRA hazardous waste.

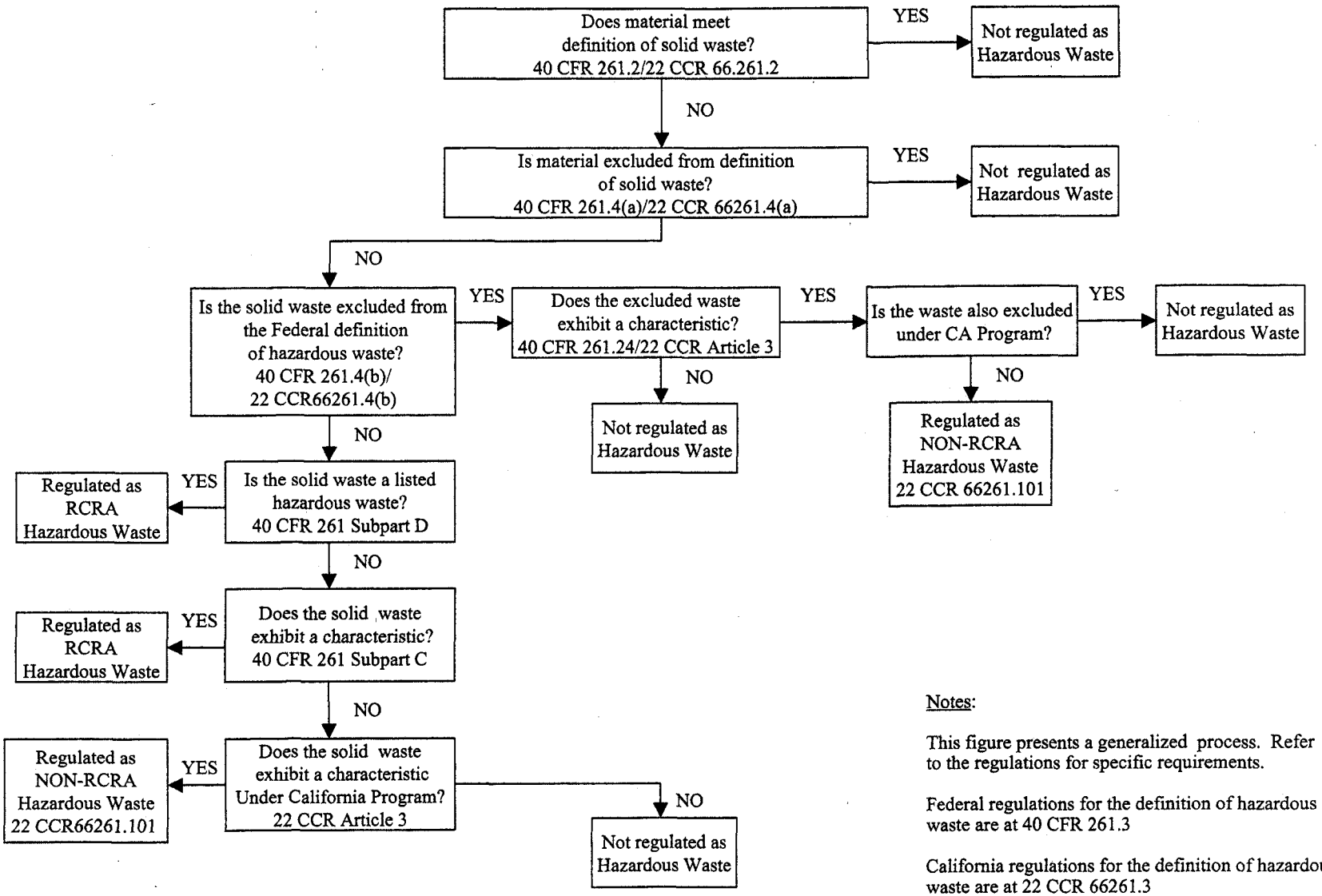
Federal RCRA specifies the use of the TCLP to determine if a waste exhibits the toxicity characteristic. The federal RCRA toxicity characteristic covers 40 hazardous constituents. Under Title 22, California has established regulations for a toxicity characteristic that includes additional hazardous constituents, based on both the total concentration in the waste and on the leachate, as simulated by the WET.

California regulations involve comparing toxic constituents present in the waste to the TTLC or STLC. Wastes are considered hazardous if the toxic constituents exceed the TTLC. If the waste contains toxic constituents at concentrations below the TTLC but ten times the STLC, the waste may still be regulated as hazardous if the toxic constituents are present above the STLC after the waste is subjected to the WET. In general, the TCLP and WET significantly differ and analytical results from the different tests are not comparable.

4.4 SAMPLING AND ANALYSIS

Sampling and analysis of IDW should be conducted when corresponding environmental sample data are not available or when additional information is needed about the waste. All samples collected for waste analysis should be representative of the waste being sampled. Guidelines for collecting representative samples are contained in Chapter 9 of *Test Methods for Evaluating Solid Waste* (EPA 1986a). A detailed discussion of sampling methods is contained in Attachment B.

Figure 1
Comparison of Federal and California
General Processes for Determining Whether Materials Are Hazardous Waste



Notes:

This figure presents a generalized process. Refer to the regulations for specific requirements.

Federal regulations for the definition of hazardous waste are at 40 CFR 261.3

California regulations for the definition of hazardous waste are at 22 CCR 66261.3

4.5 COMPLETING A WASTE PROFILE

IDW is characterized through knowledge of the waste, review of environmental data that correlate to the waste, or sampling and analysis of the waste itself. This characterization leads to a waste profile that summarizes all the information available on the IDW. The waste profile is required for shipping any IDW to off-site facilities. It should be completed for all wastes generated in investigation activities as an accurate record of the identification, source, and characteristics of the waste. The waste profile can also be used to describe wastes that are generated consistently and that have similar or identical characteristics. For example, if an investigation of a site is conducted over many months and soil cuttings are generated consistently over that period, one waste profile may be completed to describe all the soil cuttings, even though they may be shipped off-site at different times throughout the investigation. Once that profile is approved by the waste management facility, it may be used for subsequent shipments of the same waste without completing and approving a new profile. Attachment C includes the waste profile form used by Tetra Tech.

Completing all 11 sections of the profile ensures that Tetra Tech has all necessary information to properly manage the waste. Each blank on the profile form should be filled in, even if the appropriate response is "not applicable" or a zero value. The sections cover these subjects:

- Generator Information
- Waste Description
- Transportation Information
- Physical Properties
- Toxicity Characteristics
- Total Metals
- Other Solvent Constituents
- Chemical Composition
- Additional Information and Comments
- Tetra Tech Technical Review
- Generator Certification

In most cases, environmental data gathered during the site investigation will be used to characterize the associated IDW. This process allows the IDW to be characterized more quickly and minimizes the sampling and analysis of IDW by providing an initial review of potential hazardous waste categories that may apply.

Once the waste profile has been completed and reviewed by a qualified Tetra Tech technical manager, it should be submitted to the Navy installation environmental coordinator to be signed. The waste profile will then be used for obtaining approval for treatment or disposal at off-site TSD facilities and for evaluating possible on-site treatment and disposal options.

4.6 SPECIAL REQUIREMENTS FOR LABPACKS

Labpacks generated at field laboratories generally consist of glassware, reagents, and samples. These wastes should be packaged according to the type of waste, in accordance with each field lab's procedures. Labpacking procedures are included in Attachment D. All labpacks generated at field laboratories should be managed at off-site waste management facilities.

4.7 MANAGEMENT OF DISPOSABLE PPE AND EQUIPMENT

Disposable PPE and DE should be managed according to the type of activity and level of contamination encountered with the equipment. In general, most PPE and DE should be managed as nonhazardous solid waste, particularly if little contact occurs with the sampling media and low levels of contaminants are involved. The IDW should be placed in plastic bags and transferred to an on-site industrial dumpster, whose contents is routinely disposed of in a municipal landfill. A second option is to transport the IDW to a suitable off-site municipal solid waste landfill.

PPE and DE that is grossly contaminated (for example, coated with thick visible oil) should be placed in 55-gallon drums, accurately labeled as discussed in Section 5.6, and stored at a container storage area. PPE and DE should be stored until adequate characterization is complete for the site or containerized PPE and DE. The environmental sampling results from the sites where the IDW was generated should be reviewed when available. PPE and DE that is grossly contaminated with hazardous waste should be managed as hazardous waste, and should be characterized in a manner consistent with the media being sampled.

4.8 MANAGEMENT OF EMPTY DRUMS

Empty drums may be generated in rare cases, such as when IDW is consolidated on-site to minimize the number of containers shipped to off-site waste management facilities. Empty drums may also be generated when IDW is removed from containers for treatment or disposal at on-site locations. The residue in drums that held hazardous waste may still be subject to RCRA unless the drum is considered empty under federal EPA regulations at 40 CFR 261.7. Federal regulations require that containers

holding hazardous waste must be emptied to the maximum extent practicable prior to further management. For containers of 110-gallon capacities or less, empty is further defined to mean that no more than 2.5 centimeters of residue remain on the bottom of the container. In addition, if the container was used for an acutely hazardous waste, it must be decontaminated via triple rinsing prior to further management, after all waste has been emptied to the maximum extent practicable [40 CFR 261.7(b)(3)].

California imposes additional requirements for managing empty drums that previously held hazardous wastes. Like the federal regulations, California law provides an exemption for empty containers from being regulated as hazardous waste. However, in order to retain the exemption, the empty container must be managed in one of the following ways:

- Dispose of it at an approved solid waste management facility, if 5-gallon capacity or less.
- Reclaim its scrap value on-site or ship the container to a reclaimer for its scrap value.
- Recondition or remanufacture the container on-site for subsequent reuse, or ship the container to reconditioner or remanufacturer.
- Ship the container to a supplier or another intermediate collection location for accumulation prior to managing the container.

If empty drums are required to be disposed of off-site, it is most effective to manage them through the waste management subcontract, as explained in Section 6.3. The subcontract has a contract line item for disposal of empty drums and containers.

5.0 STORAGE

This section discusses procedures for storing hazardous IDW on-site in containers or tanks. If during CERCLA actions, IDW generated is determined to be a hazardous waste, the storage of the IDW is required to comply with the substantive technical standards for containers and tank systems under RCRA and California regulations. If IDW is determined to be nonhazardous waste (and not used oil or PCBs), then the storage of IDW in containers or tanks is not subject to regulation under federal RCRA regulations, but subject to applicable state regulations (consult California's Integrated Waste Management Board for guidance or requirements for nonhazardous waste).

Specific storage requirements for hazardous IDW depend on a number of factors, including the location of the storage area, the length of storage, the type of storage unit, the type and volume of waste, the regulatory status of the storage unit, the final remedy selected at the site, and community concerns.

There are several reasons why it may be advisable to store IDW temporarily or until the final action at a site. First, because wastes as the site will be shipped off-site eventually, returning IDW to its source (especially soil cuttings or sludges) would require that it be excavated again. Thus, it may be practical to containerize IDW as soon as it is generated. Second, storing IDW in containers or tanks may be more protective than returning it to its source. Third, because off-site actions may trigger such requirements as the LDRs, temporary storage will eliminate the need to meet these additional requirements until the final remedy.

Three options for on-site storage of IDW include:

- Storage in a TU
- Accumulation in containers for up to 90 days from the date of generation (RCRA accumulation standards for generators of hazardous waste)
- Storage in a container storage area that meets RCRA permitted facility standards

Each option is discussed in more detail below.

5.1 STORAGE IN A TEMPORARY UNIT

A TU provides the greatest flexibility for design and operation of a storage unit for hazardous IDW. A TU is defined as a non-land based unit created specifically for the management of remediation waste. Regulations for TUs are at 40 CFR 264.553. A TU must be a tank or container storage area used to store or treat remediation waste. Placement of waste in a TU does not constitute land disposal, and therefore LDR treatment standards do not need to be met prior to placing waste in a TU. However, wastes or treatment residuals removed from a TU are subject to LDR treatment standards if the waste is placed into a land disposal unit or CAMU (unless the waste is treated in the TU to meet LDRs). Note, that waste removed from a TU cannot be placed into an AOC without compliance with LDRs because a TU is considered ex-situ treatment. Under the TU regulations, TUs may only operate for one year, with an opportunity for a one-year extension. TUs must be administratively created with regulatory agency input and designated in the ROD, AM, or RCRA permit or corrective action order.

The design of a TU must consider:

- Length of time the unit will be in operation
- Type of unit
- Volumes of wastes to be managed

- Physical and chemical characteristics of the wastes to be managed in the unit
- Potential for releases from the unit
- Hydrogeological and other relevant environmental conditions at the facility that may influence the migration of any potential releases
- Potential for exposure of humans and environmental receptors if releases were to occur from the unit

Specific design and operating requirements for containers or tank systems (see 40 CFR Parts 264 and 265 Subparts I and J, respectively).

5.2 ACCUMULATION IN CONTAINERS FOR LESS THAN 90 DAYS

Under RCRA, large quantity generators may accumulate hazardous waste in container storage areas for up to 90 days prior to shipment to an off-site management facility. A less-than 90-day generator container storage areas are commonly called accumulation areas or sites. This storage option is an ARAR for CERCLA actions and somewhat flexible in terms of design due to the limited storage time involved. However, 90 days is not always sufficient time to adequately characterize the waste prior to shipment off-site. Case-by-case extensions to the 90-day storage limit are available from regional Department of Toxic Substances Control (DTSC) offices by completing the appropriate forms and submitting them at least 10 days prior to reaching the storage limit. Forms and instructions are included in Attachment E. This storage option is not appropriate in cases where long-term storage of IDW is needed.

Accumulation container storage areas must meet specific design and operational requirements outlined in 40 CFR 262.34 and 22 CCR 66262.34, which include the following:

- Containers must be in good condition and compatible with the waste placed inside them.
- Containers must be kept closed, except when waste is being added or removed from them, and the containers must be managed in such a way as to prevent rupture or leakage.
- Containers must be marked as hazardous waste and with the accumulation start date, composition and physical state of the waste, hazardous properties of the waste, and the name and address of the generator.
- Inspections of the accumulation storage unit must be conducted and recorded at least weekly.
- Personnel handling the containers must receive initial and annual training related to operation and maintenance of the accumulation storage unit. A summary of training requirements is included in Attachment F.

- A contingency plan must be developed and emergency equipment provided for the accumulation storage unit. A sample contingency plan outline is included in Attachment G.
- The accumulation storage unit must be closed to meet the RCRA closure performance standard. A sample closure plan outline is included in Attachment H.

In addition to these requirements, Tetra Tech recommends providing the following measures when possible:

- The accumulation storage unit should be constructed with a concrete or asphalt base, depending on the type and quantity of waste stored, and should have berms around the perimeter. Existing concrete and asphalt pads are often appropriate for storage use.
- The accumulation storage unit should be covered, or adequate capacity should be provided to handle runon and precipitation.
- Liquids from runon, precipitation, or spills should be collected promptly from the accumulation storage unit and managed appropriately.

Accumulation storage units do not require administrative action or permits; the generator simply must establish the storage area and maintain adequate documentation demonstrating compliance with the operating requirements. In addition, if the accumulation area is created for the management of wastes generated from CERCLA removal or remedial actions it is not subject to permitting requirements (see Section 121(e) of CERCLA).

5.3 CONTAINER STORAGE AREAS THAT MEET PERMITTED FACILITY STANDARDS

An addition storage option for IDW is to create a container storage area that meets all the design specifications and operating requirements applicable to a RCRA permitted facility. The requirements for a permitted container storage facility are at 40 CFR Part 264 Subparts A-E, G and I (the subpart H financial assurance requirements are not applicable to federal facilities) and were developed to allow longer storage of a variety of wastes generated at industrial facilities, and these requirements are the most stringent under RCRA. This option provides the least amount of flexibility, because the requirements are extensive and very specific. However, this option also provides the greatest amount of storage time, with no pre-established limits on the amount of time a waste may be stored. While CERCLA allows on-site storage units of this type to be exempt from permitting standards, the substantive requirements must still be met. These requirements for container storage areas are summarized below:

- General Standards (40 CFR Part 264 Subparts B)
  - Waste analysis plan for characterizing each hazardous waste stored at the facility
  - Facility security
  - Location standards for flood zones and seismically sensitive areas
  - Personnel training on an annual basis

- Emergency Preparedness (40 CFR Part 264 Subparts C and D)
  - Develop a contingency plan for emergencies
  - Provide adequate communication and alarm systems for emergencies
  - Personnel training in emergency response
  - Procedures for management of ignitable, reactive, and incompatible wastes

- Design (40 CFR Part 264 Subpart I)
  - Impermeable containment base that is free of cracks and gaps
  - Containment adequate for 10 percent of total waste capacity or largest container, whichever is greater
  - Additional containment adequate to contain a *25*-year, 24-hour storm event, or a method to prevent runon and runoff of storm water and precipitation

- Operation (40 CFR Part 264 Subpart I)
  - Weekly inspections
  - Removal of accumulated liquids in the containment system within 24 hours
  - Separation of incompatible wastes

- Closure (40 CFR Part 264 Subpart G)
  - Develop closure plan subject to agency approval (may be reviewed as part of the Proposed Plan or draft AM)

5.4 INSPECTIONS AND STORAGE INVENTORY LOG

All storage areas (TU, 90-day accumulation, and container storage areas that meet permitted facility standards) should be inspected at least weekly. A standard inspection form is included in Attachment I that shows the items to be inspected, discrepancies noted and corrective actions taken. Container storage inspections should cover the following areas:

- Condition of containers
- Adequacy and completeness of labels
- Evidence of leaks and spills
- Adequate aisle space
- Loading and unloading areas
- Emergency equipment

In addition to completing weekly inspections, an inventory of containers should be maintained that reflects the following information:

- Number of containers currently in storage
- Date each container was generated
- Dates when containers were consolidated, repackaged, or overpacked
- Dates, manifest numbers, and destination facilities for IDW that is shipped to off-site management facilities
- Dates and disposition information for IDW that is disposed of on-site

Inventory information for small quantities of IDW may be maintained in the field logbook for the site. An inventory log may be used to track larger quantities of IDW from multiple sites. A sample inventory form is included as Attachment J. Inventory information should be updated at least weekly, and a physical check of the inventory against the containers in storage should be conducted at the same time as the storage area inspection.

5.5 CONTAINER LABELING

Waste labeling and record keeping requirements include initial labeling of containers: "ANALYTICAL RESULTS ARE PENDING ON THE CONTENTS IN THIS CONTAINER." A completed label should include the following information: waste generation date, IDW type, source site number, and boring or monitoring well number. A sample drum label used for identifying containerized IDW pending characterization is shown on Figure 2.

All labeling information for each drum should be entered into the field logbook. After the contents of the drums are characterized, as described in Section 4.0, the labels should be replaced to reflect the appropriate classification of wastes within the drums and the logbook should be updated.

Drums containing hazardous IDW should be labeled "HAZARDOUS WASTE" (Figure 3), and drums containing nonhazardous IDW should be labeled "NONHAZARDOUS WASTE" (Figure 4). Drum labels should be placed on the side of the drum, not on the lid, to reduce breakdown of the label by environmental conditions and to prevent the possibility of interchanging labels if lids are reused. Plastic bags used to contain PPE and DE should be identified with a drum label wrapped around a piece of wire to produce a wire tag that will be used to close the bag. In addition to drum labels, the drums

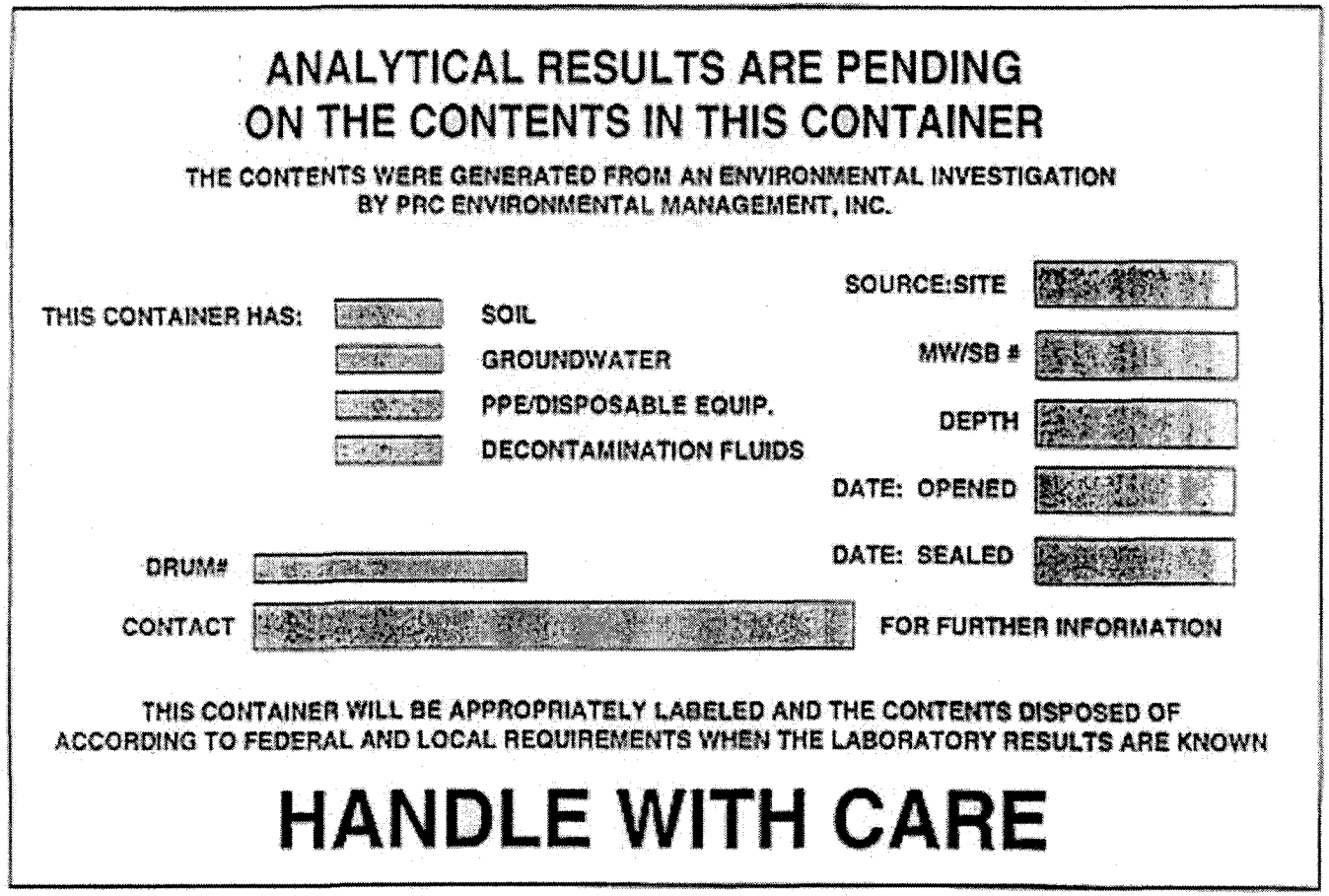


FIGURE 2

DRUM LABEL

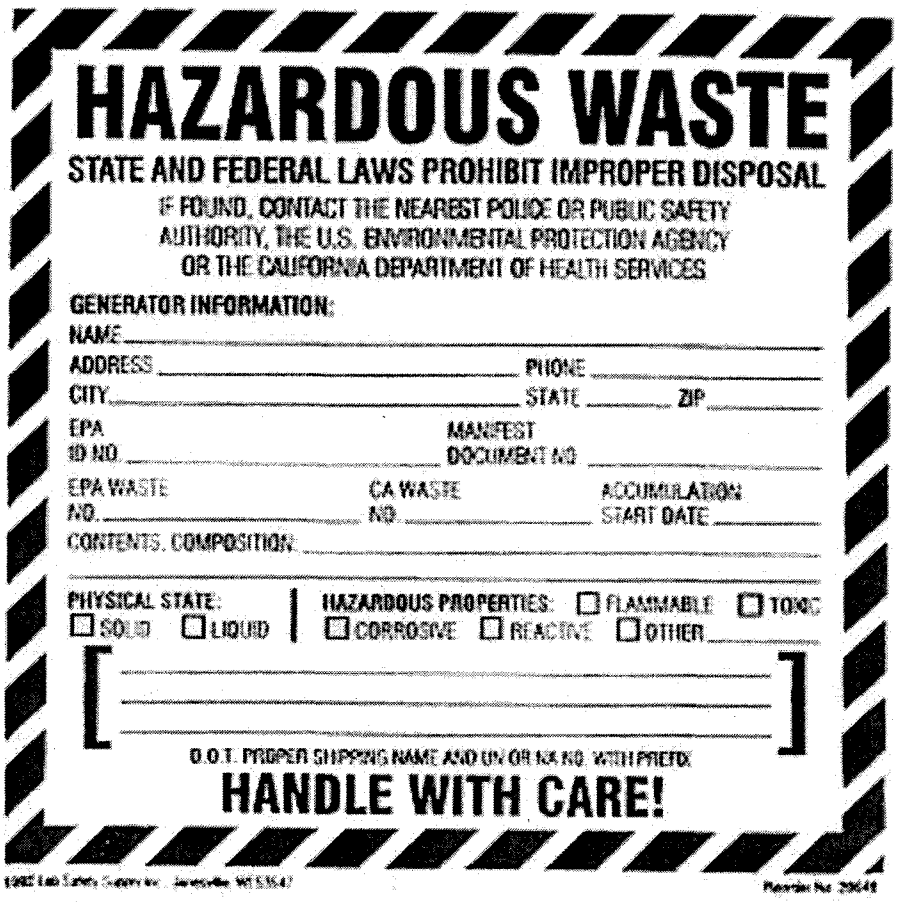


FIGURE 3
SAMPLE HAZARDOUS WASTE LABEL

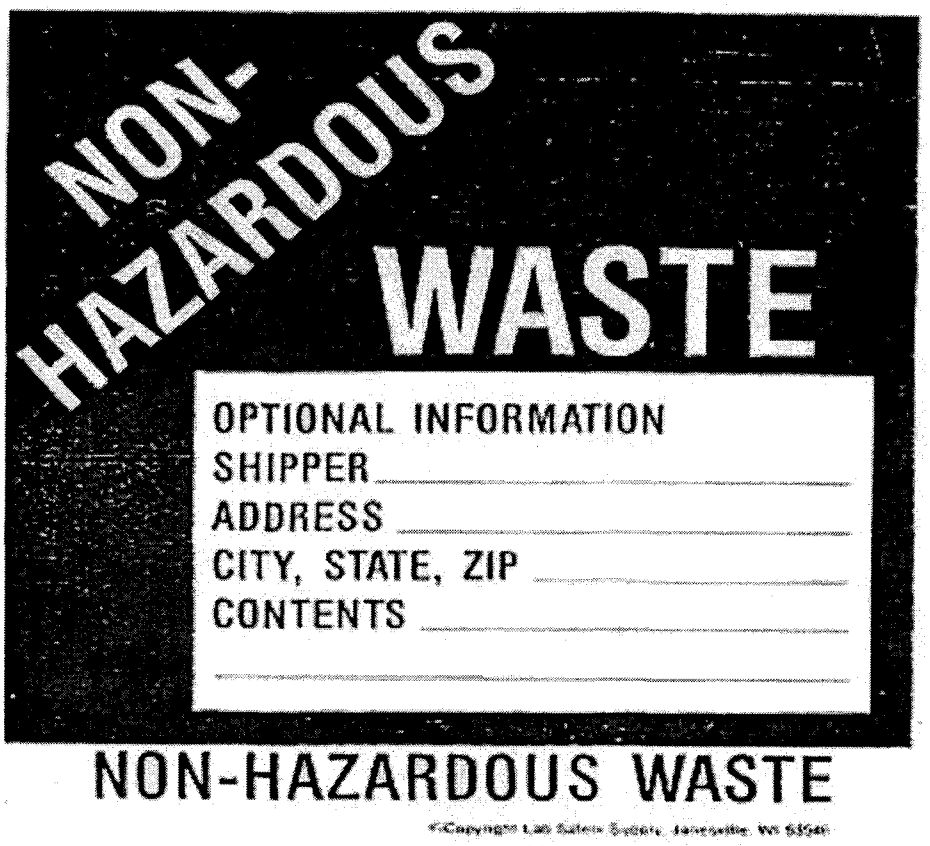


FIGURE 4
SAMPLE NONHAZARDOUS
WASTE LABEL

should be painted with a unique identifier in case the label is lost or removed. The identifier should include the site number and a unique identification number and should be entered into the field logbook or storage inventory log.

5.6 USE OF PORTABLE STORAGE TANKS

Portable storage tanks are often used for accumulation and storage of liquid IDW such as groundwater or storm water runoff. EPA and DTSC regulate these portable tanks as containers for storage on-site. Labeling of the storage tanks should be done in the same manner as for containers. However, if portable tanks will be used to transport liquids to facilities outside the installation, container specifications and labeling should comply with DOT regulations.

5.7 REPACKAGING AND OVERPACKING CONTAINERS

Repackaging or overpacking of containers may become necessary if the container becomes damaged or weathered and is no longer suitable for use. Repackaging involves transferring the waste from the damaged drum into a new container, whereas overpacking involves placing the damaged drum into a larger container. When repackaging or overpacking occurs, the new container must be labeled in an identical manner, and a note should he made in the field logbook or storage inventory log of the change in packaging or drum size. RCRA regulations that may be ARARs for overpacked drums are at 40 CFR 264.316 and 40 CFR 265.316).

6.0 MANAGING INVESTIGATION-DERIVED WASTE AT AN OFF-SITE FACILITY

Once the waste characterization process has been completed for IDW, treatment and disposal options may be considered that provide for appropriate management of the waste. The options available at a particular installation are dependent on:

- Availability of on-site management facilities, such as wastewater treatment plants, bioremediation facilities, and other treatment technologies that may have been developed for other cleanup sites.
- Availability of municipal POTW with the capability to treat wastewaters generated at the installation.
- Site conditions and regulatory approval for disposal of nonhazardous soils back onto the site where generated.

The off-site waste management options addressed in this section include management of aqueous liquids at installation wastewater treatment plants, management of aqueous liquids at POTWs, and management at off-site facilities using the waste management subcontract.

6.1 MANAGEMENT OF AQUEOUS LIQUIDS AT INSTALLATION WASTEWATER TREATMENT PLANTS

Aqueous liquids such as groundwater, surface water, and decontamination liquids are often suitable for treatment at available installation wastewater treatment plants. Based on the completed waste profile, an evaluation may be made as to whether the IDW meets the acceptance criteria under the wastewater treatment plant's discharge permit. This evaluation usually consists of comparing the contaminants in the waste to the chemical constituents the plant is permitted to manage. Acceptance and discharge of the IDW to the wastewater treatment plant is typically coordinated with the installation environmental coordinator and plant personnel. A certificate of disposal or other acknowledgment of receipt should be obtained from the wastewater treatment plant after the IDW has been accepted, and this document should be filed with the waste profile. Examples of acceptance criteria for Treasure Island Naval Station and Mare Island Naval Shipyard are included in Attachment K.

Aqueous IDW that is a RCRA hazardous waste may be treated at the facility's on-site treatment plant. However, if the aqueous waste is restricted under the RCRA LDRs at the point of generation (prior to treatment at the installation's treatment plant), it is necessary to prepare a one-time notice pursuant to 40 CFR 268.7(a)(7) and retain the notice in the facility's files.

6.2 MANAGEMENT OF AQUEOUS LIQUIDS AT PUBLICLY-OWNED TREATMENT WORKS

Many municipal POTWs are permitted to accept wastewaters for treatment under special discharge permits issued for occasional or one-time discharges. These permits may often be obtained with the data used for completing the waste profile. The process of obtaining a special discharge permit is more formal than obtaining approval; however, the turnaround time for approval is typically just 2 to 4 weeks. A certificate of disposal or other acknowledgment of receipt should be obtained from the POTW after the IDW has been accepted, and this document should be filed with the waste profile, along with copies of the LDR notification. Examples of wastewater treatment plant acceptance criteria are found in Attachment L.

Under CERCLA, an aqueous IDW that is discharged to a POTW is considered an off-site action, and therefore the action must comply with applicable requirements. Under RCRA, a hazardous waste discharged to a POTW may be subject to the domestic sewage exclusion (DSE) at 40 CFR 261.4(a). The DSE excludes mixtures of hazardous waste and domestic sewage from RCRA Subtitle C regulation. The discharge of aqueous IDW that is restricted waste under the RCRA LDRs is subject to record keeping requirements. Specifically, if aqueous IDW is considered a hazardous waste and restricted waste under the RCRA LDRs subsequent to its discharge to a POTW (before or after treatment at the facility's treatment plant), the generator must comply with the LDR notification requirements at 40 CFR 268.7(a)(7). Those regulations require that the a one-time notice stating such generation, subsequent exclusion from the definition of hazardous or solid waste or exemption from RCRA subtitle C regulation, and disposition of the waste, in the facility's file.

6.3 USING THE WASTE MANAGEMENT SUBCONTRACT

Tetra Tech is establishing an ongoing subcontract with waste management firms to provide waste management services for IDW generated at all Navy AECRU installations, including pickup, transportation, treatment, storage, and disposal of waste. This subcontract should allow efficient and consistent characterization and management of IDW at off-site facilities while providing the most effective management options at competitive prices. The subcontract was designed to allow Tetra Tech project managers and the Navy to minimize the storage time required for IDW. The subcontract is supported by a Tetra Tech subcontract manager and technical manager, who provide centralized administrative and technical expertise on waste management issues for all the Navy AECRU installations. A copy of the subcontract statement of work is included in Attachment M.

The subcontract allows the Tetra Tech project manager to fill out a delivery order (DO) request form that will reference contract line items for specific IDW categories. These IDW categories (or contract line item numbers [CLINs]) are based on the type of treatment or storage required for the waste. The DO request is forwarded to Tetra Tech's Subcontracts Department, where supporting documentation is reviewed and a DO is issued to the subcontractor waste management firm. The subcontractor is responsible for ensuring that waste profiles are approved by receiving facilities, preparing all shipment documents, transporting the shipment to the receiving facility, and ensuring that proper treatment and disposal has been accomplished.

6.3.1 Completing a Delivery Order

The installation IDW coordinator or the project manager, as appropriate, decides when sufficient quantities of IDW have been accumulated for shipment off-site while ensuring that the appropriate storage deadlines are met. The DO is completed by the Tetra Tech project manager or the Tetra Tech installation IDW coordinator. CLINs are assigned to each waste type, based on the waste profile that has been completed for the waste. A copy of the DO is kept with the IDW storage inventory, and a copy is forwarded to the Navy installation point of contact. It is then submitted to the technical manager for the waste management contract along with the signed waste profiles for the IDW. The technical manager reviews the waste profiles and CLIN assignments and resolves any discrepancies with the project manager or installation IDW coordinator. The DO is then forwarded to the subcontract manager, who prepares and issues a DO to the waste management subcontractor.

6.3.2 Shipment of IDW to Off-Site Facilities

When the waste management subcontractor receives a DO from Tetra Tech, the subcontractor is responsible for scheduling the shipment with the Tetra Tech project manager or installation IDW coordinator. The subcontractor is also responsible for preparing the following shipping documents, as applicable to the shipment:

- **Uniform Hazardous Waste Manifest.** This document is used for cradle-to-grave tracking of waste regulated as RCRA hazardous under the federal regulations, and waste regulated as non-RCRA hazardous under California regulations. It must be signed by the generator (specifically, the Navy installation point of contact) before the shipment leaves the installation. The first transporter must also sign the manifest before the shipment leaves the installation, and the generator copy of the manifest is retained by the Navy installation point of contact.
- **Nonhazardous Waste Manifest.** This document is used to track all IDW shipments of nonhazardous waste, including waste that is shipped to Class II and Class III landfills in California. The nonhazardous waste manifest may also be used for nonhazardous waste shipped to facilities outside California. The nonhazardous waste manifest is signed by the generator and the first transporter before the shipment leaves the installation, and the generator retains a copy.

- **Land Disposal Restriction Notification.** This notification is required for all RCRA hazardous waste that is restricted from land disposal under 40 CFR Part 268 and 22 CCR 66268 and for RCRA hazardous and non-RCRA hazardous waste that is restricted from land disposal under 22 CCR Chapter 18. This one-time notification is signed by the generator of the waste, and it tells the receiving facility what standards must be met for the waste before it can be placed in a hazardous waste landfill. A copy of the LDR notification is kept by the generator, and the original is attached to the manifest. A shipment of waste may have more than one LDR notification that contains standards for several different waste streams. For subsequent shipments, the generator must submit another one-time notification to the TSDF if the waste changes or a different TSDF (see 40 CFR 268.7(a)).

- **Land Disposal Restriction Certification.** A LDR certification is required when a restricted waste is shipped directly to a hazardous waste landfill without pretreatment, because it already meets the applicable treatment standards. The generator must provide a one-time certification that all the applicable standards have been met, and waste analysis to support that must be attached to the certification. A copy of the LDR certification is kept by the generator, and the original is attached to the manifest. For subsequent shipments, the generator must submit another one-time certification to the TSDF if the waste changes or a different TSDF (see 40 CFR 268.7(a)).

7.0 MANAGING INVESTIGATION-DERIVED WASTE ON-SITE

Another option for managing IDW is to identify ways to dispose of the material on-site while meeting applicable state and federal regulations. In California, disposal on-site is regulated under Title 23 as well as Title 22 of the CCR. This section discusses two options that are authorized for disposal of IDW in California:

- Disposal of nonhazardous waste solids through the designated level methodology.
- Disposal of hazardous and nonhazardous waste through use as test material for treatability studies.

7.1 DESIGNATED LEVEL METHODOLOGY

California's designated level methodology contains procedures for disposing of nonhazardous waste outside of Class II and Class III Landfills. The regulations are applicable on a site-specific basis and consider site conditions as well as contaminant levels in comparison to California MCLs for drinking water.

The first step in applying the designated level methodology is determining whether the IDW meets the criteria for designated waste. First, the contaminant levels in the waste should be compared to MCLs in California. If the contaminant levels are below MCLs, the IDW is not considered designated waste. Second, the geology and hydrogeology of the site must be evaluated to determine whether the site is underlain by any potential sources of drinking water. If there are no potential drinking water sources, the IDW may be excluded from the designated waste definition.

Therefore, IDW is considered a designated waste when contaminant levels exceed MCLs and the proposed disposal site is located over potential drinking water sources. Once it has been determined that the IDW meets the designated waste criteria, the designated level methodology may be used to calculate a dilution attenuation factor, based on the actual contaminant levels and the geology of the proposed disposal site. A model is developed which, given geological variables such as distance to groundwater or surface water and soil permeability, estimates the amount of dilution that can be expected from contaminants of concern in the waste as they migrate toward potential drinking water sources. If the dilution attenuation factor shows that the contaminants of concern should be diluted to levels below MCLs, then disposal of the IDW at the site may be approved.

The dilution attenuation factor may be affected by engineering controls placed at the disposal site, such as concrete pads or synthetic liners, and these engineering controls may be factored into the designated methodology.

7.2 USE OF INVESTIGATION-DERIVED WASTE IN PILOT-SCALE TREATABILITY STUDIES

IDW may often be used beneficially on the site in pilot-scale treatability studies. At the federal and state level, samples undergoing treatability studies at laboratories and testing facilities are exempt from hazardous waste regulations, as long as notification is given to EPA and certain record keeping and management standards are met (40 CFR 261.4[c] and [f] and 22 CCR 66261.4(d) and (e)).

Prior to conducting a treatability study, any IDW intended for use in the study should be stored in accordance with applicable regulations, in properly labeled and marked containers.

REFERENCES

U.S. Environmental Protection Agency (EPA). 1986a. "Test Methods for Evaluating Solid Waste, SW-846." Third Edition. Prepared by the Office of Solid Waste and Emergency Response.

EPA. 1988a. "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA, Interim Final." Prepared by the Office of Emergency and Remedial Response. October.

EPA. 1988b. "CERCLA Compliance with Other Laws Manual, Draft Guidance." Prepared by the Office of Emergency and Remedial Response. August.

EPA. 1988c. "National Oil and Hazardous Substances Pollution Contingency Plan: Proposed Rule." 53 FR 51444. Prepared by the Office of Emergency and Remedial Response. December 21.

EPA. 1991. "Management of Investigation-Derived Wastes During Site Inspections." Prepared by the Office of Emergency and Remedial Response, Publication 9345.3-02FS. May.

ATTACHMENTS

ATTACHMENT A

LISTING OF REGULATED GENERATOR ACTIVITIES

Subpart D—Lists of Hazardous Wastes

§261.30 General.

(a) A solid waste is a hazardous waste if it is listed in this subpart, unless it has been excluded from this list under §§260.20 and 260.22.

(b) The Administrator will indicate his basis for listing the classes or types of wastes listed in this subpart by employing one or more of the following Hazard Codes:

Ignitable Waste	(I)
Corrosive Waste	(C)
Reactive Waste	(R)
Toxicity Characteristic Waste	(E)
Acute Hazardous Waste	(H)
Toxic Waste	(T)

Appendix VII identifies the constituent which caused the Administrator to list the waste as a Toxicity Characteristic Waste (E) or Toxic Waste (T) in §§261.31 and 261.32.

(c) Each hazardous waste listed in this subpart is assigned an EPA Hazardous Waste Number which precedes the name of the waste. This number must be used in complying with the notification requirements of Section 3010 of the Act and certain recordkeeping and reporting requirements under parts 262 through 265, 268, and part 270 of this chapter.

(d) The following hazardous wastes listed in §261.31 or §261.32 are subject to the exclusion limits for acutely hazardous wastes established in §261.5: EPA Hazardous Wastes Nos. FO20, FO21, FO22, FO23, FO26, and FO27.

§261.31 Hazardous wastes from non-specific sources.

(a) The following solid wastes are listed hazardous wastes from non-specific sources unless they are excluded under §§260.20 and 260.22 and listed in appendix IX.

[Sec. 261.31(a)]

290

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Generic:		
F001	The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	(T)
F002	The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	(T)
F003	The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	(I)*
F004	The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	(T)
F005	The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	(I,T)
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum	(T)
F007	Spent cyanide plating bath solutions from electroplating operations	(R, T)
F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process	(R, T)
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process	(R, T)
F010	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process	(R, T)
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations	(R, T)
F012	Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process	(T)
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process	(T)
F020	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol.)	(H)
F021	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives	(H)

[Sec. 261.31(a)]

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
F022	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions	(H)
F023	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of Hexachlorophene from highly purified 2,4,5-trichlorophenol.)	(H)
F024	Process wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor clean-out wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, wastewater treatment sludges, spent catalysts, and wastes listed in §261.31 or §261.32.)	(T)
F025	Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution	(T)
F026	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions	(H)
F027	Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing Hexachlorophene sythesized from prepurified 2,4,5-trichlorophenol as the sole component.)	(H)
F028	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027	(T)
F032[1]	Wastewaters, process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with §261.35 of this chapter and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol. (Note: The listing of wastewaters that have not come into contact with process contaminants is stayed administratively. The listing for plants that have previously used chlorophenolic formulations is administratively stayed whenever these wastes are covered by the F034 or F035 listings. These stays will remain in effect until further administrative action is taken.)	(T)
F034[1]	Wastewaters, process residuals, preservative drippage, and spent formulations from wood preserving process generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol. (Note: The listing of wastewaters that have not come into contact with process contaminants is stayed administratively. The stay will remain in effect until further administrative action is taken.)	(T)
F035[1]	Wastewaters, process residuals, preservative drippage, and spent formulations from wood preserving process generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol. (Note: The listing of wastewaters that have not come into contact with process contaminants is stayed administratively. The stay will remain in effect until further administrative action is taken.)	(T)

[Sec. 261.31(a)]

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
F037	Petroleum refinery primary oil/water/solids separation sludge-Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. Such sludges include, but are not limited to, those generated in: oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and stormwater units receiving dry weather flow. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in §261.31(b)(2) (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing.	(T)
F038	Petroleum refinery secondary (emulsified) oil/water/solids separation sludge-Any sludge and/or float generated from the physical and/or chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in: induced air flotation (IAF) units, tanks and impoundments, and all sludges generated in DAF units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in §261.31(b)(2) (including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and F037, K048, and K051 wastes are not included in this listing.	(T)
F039	Leachate (liquids that have percolated through land disposed wastes) resulting from the disposal of more than one restricted waste classified as hazardous under subpart D of this part. (Leachate resulting from the disposal of one or more of the following EPA Hazardous Wastes and no other Hazardous Wastes retains its EPA Hazardous Waste Number(s): F020, F021, F022, F026, F027, and/or F028.)	(T)

[1] The F032, F034, and F035 listings are administratively stayed with respect to the process area receiving drippage of these wastes provided persons desiring to continue operating notify EPA by August 6, 1991 of their intent to upgrade or install drip pads, and by November 6, 1991 provide evidence to EPA that they have adequate financing to pay for drip pad upgrades or installation, as provided in the administrative stay. The stay of the listings will remain in effect until February 6, 1992 for existing drip pads and until May 6, 1992 for new drip pads.

*(T) should be used to specify mixtures containing ignitable and toxic constituents.

[*Editor's note*: EPA Dec. 24, 1992 revised §261.31 table entries for F032, F034 and F035, effective June 6, 1993 (57 FR 61502). For the convenience of the user, the revised text is published below.]

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Generic:		
F032	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with §261.35 of this chapter or potentially cross-contaminated wastes that are otherwise currently regulated as hazardous wastes (i.e., F034 or F035), and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.	(T)
F034	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.	(T)

[Sec. 261.31(a)]

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
F035	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.	(T)

[§261.31(a) table revised at 57 61502, Dec. 24, 1992]

(b) Listing Specific Definitions.

(1) For the purposes of the F037 and F038 listings, oil/water/solids is defined as oil and/or water and/or solids.

(2) (i) For the purposes of the F037 and F038 listings, aggressive biological treatment units are defined as units which employ one of the following four treatment methods: activated sludge; trickling filter; rotating biological contactor for the continuous accelerated biological oxidation of wastewaters; or high-rate aeration. High-rate aeration is a system of surface impoundments or tanks, in which intense mechanical aeration is used to completely mix the wastes, enhance biological activity, and (A) the units employs a minimum of 6 hp per million gallons of treatment volume; and either (B) the hydraulic retention time of the unit is no longer than 5 days; or (C) the hydraulic retention time is no longer than 30 days and the unit does not generate a sludge that is a hazardous waste by the Toxicity Characteristic.

(ii) Generators and treatment, storage and disposal facilities have the burden of proving that their sludges are exempt from listing as F037 and F038 wastes under this definition. Generators and treatment, storage and disposal facilities must maintain, in their operating or other onsite records, documents and data sufficient to prove that: (A) the unit is an aggressive biological treatment unit as defined in this subsection; and (B) the sludges sought to be exempted from the definitions of F037 and/or F038 were actually generated in the aggressive biological treatment unit.

(3) (i) For the purposes of the F037 listing, sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement.

(ii) For the purposes of the F038 listing,

(A) sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement and

(B) floats are considered to be generated at the moment they are formed in the top of the unit.

§261.32 Hazardous wastes from specific sources.

The following solid wastes are listed hazardous wastes from specific sources unless they are excluded under §§260.20 and 260.22 and listed in appendix IX.

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Wood preservation:		
K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol	(T)
Inorganic pigments:		
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments	(T)
K003	Wastewater treatment sludge from the production of molybdate orange pigments	(T)
K004	Wastewater treatment sludge from the production of zinc yellow pigments	(T)
K005	Wastewater treatment sludge from the production of chrome green pigments	(T)
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated)	(T)
K007	Wastewater treatment sludge from the production of iron blue pigments	(T)
K008	Oven residue from the production of chrome oxide green pigments	(T)
Organic chemicals:		
K009	Distillation bottoms from the production of acetaldehyde from ethylene	(T)
K010	Distillation side cuts from the production of acetaldehyde from ethylene	(T)
K011	Bottom stream from the wastewater stripper in the production of acrylonitrile	(R, T)
K013	Bottom stream from the acetonitrile column in the production of acrylonitrile	(R, T)
K014	Bottoms from the acetonitrile purification column in the production of acrylonitrile	(T)
K015	Still bottoms from the distillation of benzyl chloride	(T)
K016	Heavy ends or distillation residues from the production of carbon tetrachloride	(T)
K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin	(T)
K018	Heavy ends from the fractionation column in ethyl chloride production	(T)
K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production	(T)
K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production	(T)
K021	Aqueous spent antimony catalyst waste from fluoromethanes production	(T)

[Sec. 261.32]

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
K022	Distillation bottom tars from the production of phenol/acetone from cumene	(T)
K023	Distillation light ends from the production of phthalic anhydride from naphthalene	(T)
K024	Distillation bottoms from the production of phthalic anhydride from naphthalene	(T)
K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene	(T)
K026	Stripping still tars from the production of methy ethyl pyridines	(T)
K027	Centrifuge and distillation residues from toluene diisocyanate production	(R, T)
K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane	(T)
K029	Waste from the product steam stripper in the production of 1,1,1-trichloroethane	(T)
K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene	(T)
K083	Distillation bottoms from aniline production	(T)
K085	Distillation or fractionation column bottoms from the production of chlorobenzenes	(T)
K093	Distillation light ends from the production of phthalic anhydride from ortho-xylene	(T)
K094	Distillation bottoms from the production of phthalic anhydride from ortho-xylene	(T)
K095	Distillation bottoms from the production of 1,1,1-trichloroethane	(T)
K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane	(T)
K103	Process residues from aniline extraction from the production of aniline	(T)
K104	Combined wastewater streams generated from nitrobenzene/aniline production	(T)
K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes	(T)
K107	Column bottoms from product separation from the production of 1,1-dimethyl-hydrazine (UDMH) from carboxylic acid hydrazines	(C,T)
K108	Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides	(I,T)
K109	Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides	(T)
K110	Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides	(T)
K111	Product washwaters from the production of dinitrotoluene via nitration of toluene	(C,T)
K112	Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene	(T)
K113	Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene	(T)
K114	Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene	(T)
K115	Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene	(T)
K116	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine	(T)
K117	Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene	(T)
K118	Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene	(T)
K136	Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene	(T)
K140	Distillation bottoms from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups. (This waste does not include still bottoms from the distillation of benzyl chloride.)	(T)
K150	Organic residuels, excluding spent carbon adsorbent, from the spent chlorine gas and hydrochloric acid recovery processes associated with the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups.	(T)
K151	Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of wastewaters from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compunds with mixtures of these functional groups.	(T)
Inorganic chemicals:		
K071	Brine purification muds from the mercury cell process in chlorine production, where seperately prepurified brine is not used	(T)

[Sec. 261.32]

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
K073	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production	(T)
K106	Wastewater treatment sludge from the mercury cell process in chlorine production	(T)
Pesticides:		
K031	By-product salts generated in the production of MSMA and cacodylic acid	(T)
K032	Wastewater treatment sludge from the production of chlordane	(T)
K033	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane	(T)
K034	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane	(T)
K035	Wastewater treatment sludges generated in the production of creosote	(T)
K036	Still bottoms from toluene reclamation distillation in the production of disulfoton	(T)
K037	Wastewater treatment sludges from the production of disulfoton	(T)
K038	Wastewater from the washing and stripping of phorate production	(T)
K039	Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate	(T)
K040	Wastewater treatment sludge from the production of phorate	(T)
K041	Wastewater treatment sludge from the production of toxaphene	(T)
K042	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T	(T)
K043	2,6-Dichlorophenol waste from the production of 2,4-D	(T)
K097	Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane	(T)
K098	Untreated process wastewater from the production of toxaphene	(T)
K099	Untreated wastewater from the production of 2,4-D	(T)
K123	Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salt	(T)
K124	Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts	(C, T)
K125	Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts	(T)
K126	Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts	(T)
K131	Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide	(C, T)
K132	Spent absorbent and wastewater separator solids from the production of methyl bromide	(T)
Explosives:		
K044	Wastewater treatment sludges from the manufacturing and processing of explosives	(R)
K045	Spent carbon from the treatment of wastewater containing explosives	(R)
K046	Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds	(T)
K047	Pink/red water from TNT operations	(R)
Petroleum refining:		
K048	Dissolved air flotation (DAF) float from the petroleum refining industry	(T)
K049	Slop oil emulsion solids from the petroleum refining industry	(T)
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry	(T)
K051	API separator sludge from the petroleum refining industry	(T)
K052	Tank bottoms (leaded) from the petroleum refining industry	(T)
Iron and steel:		
K061	Emission control dust/sludge from the primary production of steel in electric furnaces	(T)
K062	Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332)	(C,T)
Primary copper:		
K064	Acid plant blowdown slurry/sludge resulting from the thickening of blowdown slurry from primary copper production	(T)
Primary lead:		
K065	Surface impoundment solids contained in and dredged from surface impoundments at primary lead smelting facilities	(T)
Primary zinc:		
K066	Sludge from treatment of process wastewater and/or acid plant blowdown from primary zinc production	(T)
Primary aluminum:		
K088	Spent potliners from primary aluminum reduction	(T)
Ferroalloys:		
K090	Emission control dust or sludge from ferrochromium-silicon production	(T)

[Sec. 261.32]

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
K091	Emission control dust or sludge from ferrochromium production	(T)
Secondary lead:		
K069	Emission control dust/sludge from secondary lead smelting. (Note: This listing is stayed administratively for sludge generated from secondary acid scrubber systems. The stay will remain in effect until further administrative action is taken. If EPA takes further action effecting this stay, EPA will publish a notice of the action in the Federal Register	(T)
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting	(T)
Veterinary pharmaceuticals:		
K084	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds	(T)
K101	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds	(T)
K102	Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds	(T)
Ink formulation:		
K086	Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead	(T)
Coking:		
K060	Ammonia still lime sludge from coking operations	(T)
K087	Decanter tank tar sludge from coking operations	(T)
K141	Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the production of coke from coal or the recovery of coke by-products produced from coal. This listing does not include K087 (decanter tank tar sludges from coking operations).	(T)
K142	Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products from coal.	(T)
K143	Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters, and wash oil recovery units from the recovery of coke by-products produced from coal.	(T)
K144	Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke by-products produced from coal.	(T)
K145	Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal	(T)
K147	Tar storage tank residues from coal tar refining	(T)
K148	Residues from coal tar distillation, including but not limited to, still bottoms	(T)

[§261.32 table revised at 57 FR 37305, Aug. 18, 1992; 57 FR 47385, Oct. 15, 1992]

§261.33 Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof.

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded as described in §261.2(a)(2)(i), when they are mixed with waste oil or used oil or other material and applied to the land for dust suppression or road treatment, when they are otherwise applied to the land in lieu of their original intended use or when they are contained in products that are applied to the land in lieu of their original intended use, or when, in lieu of their original intended use, they are produced for use as (or as a component of) a fuel, distributed for use as a fuel, or burned as a fuel.

(a) Any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section.

(b) Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) or (f) of this section.

(c) Any residue remaining in a container or in an inner liner removed from a container that has held any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraphs (e) or (f) of this section, unless the container is empty as defined in §261.7(b) of this chapter.

Comment: Unless the residue is being beneficially used or reused, or legitimately recycled or reclaimed, or being accumulated, stored, transported or treated prior to such use, re-use, recycling or reclamation, EPA considers the residue to be intended for discard, and thus, a hazardous waste. An example of a legitimate re-use of the residue would be where the residue remains in the container and the container is used to hold the same commercial chemical product or manufacturing chemical intermediate it previously held. An example of the discard of the residue would be where the drum is sent to a drum reconditioner who reconditions the drum but discards the residue.

(d) Any residue or contaminated soil, water or other debris resulting from the cleanup of a spill into or on any land or water of any commercial chemical product or manufacturing chemical intermedi-

[Sec. 261.33(d)]

ate having the generic name listed in paragraph (e) or (f) of this section, or any residue or contaminated soil, water or other debris resulting from the cleanup of a spill, into or on any land or water, of any off-specification chemical product and manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) or (f) of this section.

Comment: The phrase "commercial chemical product or manufacturing chemical intermediate having the generic name listed in . . ." refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in paragraph (e) or (f). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in paragraph (e) or (f), such waste will be listed in either §261.31 or §261.32 or will be identified as a hazardous waste by the characteristics set forth in subpart C of this part.

(e) The commercial chemical products, manufacturing chemical intermediates or off-specification commercial chemical products or manufacturing chemical intermediates referred to in paragraphs (a) through (d) of this section, are identified as acute hazardous wastes (H) and are subject to be the small quantity exclusion defined in §261.5(e).

Comment: For the convenience of the regulated community the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), and R (Reactivity). Absence of a letter indicates that the compound only is listed for acute toxicity.

These wastes and their corresponding EPA Hazardous Waste Numbers are:

Hazardous waste No.	Chemical abstracts No.	Substance
P023	107-20-0	Acetaldehyde, chloro-
P002	591-08-2	Acetamide, N-(aminothioxomethyl)-
P057	640-19-7	Acetamide, 2-fluoro-
P058	62-74-8	Acetic acid, fluoro-, sodium salt
P002	591-08-2	1-Acetyl-2-thiourea
P003	107-02-8	Acrolein
P070	116-06-3	Aldicarb
P004	309-00-2	Aldrin
P005	107-18-6	Allyl alcohol
P006	20859-73-8	Aluminum phosphide (R,T)
P007	2763-96-4	5-(Aminomethyl)-3-isoxazolol
P008	504-24-5	4-Aminopyridine
P009	131-74-8	Ammonium picrate (R)
P119	7803-55-6	Ammonium vanadate
P099	506-61-6	Argentate(1-), bis(cyano-C)-, potassium
P010	7778-39-4	Arsenic acid H_3AsO_4
P012	1327-53-3	Arsenic oxide As_2O_3
P011	1303-28-2	Arsenic oxide As_2O_5
P011	1303-28-2	Arsenic pentoxide
P012	1327-53-3	Arsenic trioxide
P038	692-42-2	Arsine, diethyl-
P036	696-28-6	Arsonous dichloride, phenyl-
P054	151-56-4	Aziridine
P067	75-55-8	Aziridine, 2-methyl-
P013	542-62-1	Barium cyanide
P024	106-47-8	Benzenamine, 4-chloro-
P077	100-01-6	Benzenamine, 4-nitro-
P028	100-44-7	Benzene, (chloromethyl)-
P042	51-43-4	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-
P046	122-09-8	Benzeneethanamine, alpha,alpha-dimethyl-
P014	108-98-5	Benzenethiol
P001	81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1 -phenylbutyl)-, & salts, when present at concentrations greater than 0.3%
P028	100-44-7	Benzyl chloride
P015	7440-41-7	Beryllium
P017	598-31-2	Bromoacetone
P018	357-57-3	Brucine
P045	39196-18-4	2-Butanone, 3,3-dimethyl-1-(methylthio)-, ...O- [(methylamino)carbonyl] oxime
P021	592-01-8	Calcium cyanide
P021	592-01-8	Calcium cyanide $Ca(CN)_2$
P022	75-15-0	Carbon disulfide
P095	75-44-5	Carbonic dichloride
P023	107-20-0	Chloroacetaldehyde

[Sec. 261.33(e)]

Hazardous waste No.	Chemical abstracts No.	Substance
P024	106-47-8	p-Chloroaniline
P026	5344-82-1	1-(o-Chlorophenyl)thiourea
P027	542-76-7	3-Chloropropionitrile
P029	544-92-3	Copper cyanide
P029	544-92-3	Copper cyanide Cu(CN)
P030		Cyanides (soluble cyanide salts), not otherwise specified
P031	460-19-5	Cyanogen
P033	506-77-4	Cyanogen chloride
P033	506-77-4	Cyanogen chloride (CN)Cl
P034	131-89-5	2-Cyclohexyl-4,6-dinitrophenol
P016	542-88-1	Dichloromethyl ether
P036	696-28-6	Dichlorophenylarsine
P037	60-57-1	Dieldrin
P038	692-42-2	Diethylarsine
P041	311-45-5	Diethyl-p-nitrophenyl phosphate
P040	297-97-2	O,O-Diethyl O-pyrazinyl phosphorothioate
P043	55-91-4	Diisopropylfluorophosphate (DFP)
P004	309-00-2	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa- chloro-1,4,4a,5,8,8a,-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)-
P060	465-73-6	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa- chloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5beta,8beta,8abeta)-
P037	60-57-1	2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta, 7aalpha)-
P051	[1]72-20-8	2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta, 7aalpha)-, & metabolites
P044	60-51-5	Dimethoate
P046	122-09-8	alpha,alpha-Dimethylphenethylamine
P047	[1]534-52-1	4,6-Dinitro-o-cresol, & salts
P048	51-28-5	2,4-Dinitrophenol
P020	88-85-7	Dinoseb
P085	152-16-9	Diphosphoramide, octamethyl-
P111	107-49-3	Diphosphonic acid, tetraethyl ester
P039	298-04-4	Disulfoton
P049	541-53-7	Dithiobiuret
P050	115-29-7	Endosulfan
P088	145-73-3	Endothal
P051	72-20-8	Endrin
P051	72-20-8	Endrin, & metabolites
P042	51-43-4	Epinephrine
P031	460-19-5	Ethanedinitrile
P066	16752-77-5	Ethanimidothioic acid,...N-[[(methylamino)carbonyl]oxy]-, methyl ester
P101	107-12-0	Ethyl cyanide
P054	151-56-4	Ethyleneimine
P097	52-85-7	Famphur
P056	7782-41-4	Fluorine
P057	640-19-7	Fluoroacetamide
P058	62-74-8	Fluoroacetic acid, sodium salt
P065	628-86-4	Fulminic acid, mercury(2+) salt (R,T)
P059	76-44-8	Heptachlor
P062	757-58-4	Hexaethyl tetraphosphate
P116	79-19-6	Hydrazinecarbothioamide
P068	60-34-4	Hydrazine, methyl-
P063	74-90-8	Hydrocyanic acid
P063	74-90-8	Hydrogen cyanide
P096	7803-51-2	Hydrogen phosphide
P060	465-73-6	Isodrin
P007	2763-96-4	3(2H)-Isoxazolone, 5-(aminomethyl)-
P092	62-38-4	Mercury, (acetato-O)phenyl-
P065	628-86-4	Mercury fulminate (R,T)
P082	62-75-9	Methanamine, N-methyl-N-nitroso-

[Sec. 261.33(e)]

Hazardous waste No.	Chemical abstracts No.	Substance
P064	624-83-9	Methane, isocyanato-
P016	542-88-1	Methane, oxybis[chloro-
P112	509-14-8	Methane, tetranitro- (R)
P118	75-70-7	Methanethiol, trichloro-
P050	115-29-7	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-...hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide
P059	76-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-...3a,4,7,7a-tetrahydro-
P066	16752-77-5	Methomyl
P068	60-34-4	Methyl hydrazine
P064	624-83-9	Methyl isocyanate
P069	75-86-5	2-Methyllactonitrile
P071	298-00-0	Methyl parathion
P072	86-88-4	alpha-Naphthylthiourea
P073	13463-39-3	Nickel carbonyl
P073	13463-39-3	Nickel carbonyl $Ni(CO)_4$, (T-4)-
P074	557-19-7	Nickel cyanide
P074	557-19-7	Nickel cyanide $Ni(CN)_2$
P075	154-11-5	Nicotine, & salts
P076	10102-43-9	Nitric oxide
P077	100-01-6	p-Nitroaniline
P078	10102-44-0	Nitrogen dioxide
P076	10102-43-9	Nitrogen oxide NO
P078	10102-44-0	Nitrogen oxide NO_2
P081	55-63-0	Nitroglycerine (R)
P082	62-75-9	N-Nitrosodimethylamine
P084	4549-40-0	N-Nitrosomethylvinylamine
P085	152-16-9	Octamethylpyrophosphoramide
P087	20816-12-0	Osmium oxide OsO_4, (T-4)-
P087	20816-12-0	Osmium tetroxide
P088	145-73-3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P089	56-38-2	Parathion
P034	131-89-5	Phenol, 2-cyclohexyl-4,6-dinitro-
P048	51-28-5	Phenol, 2,4-dinitro-
P047	534-52-1	Phenol, 2-methyl-4,6-dinitro-, & salts
P020	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
P009	131-74-8	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P092	62-38-4	Phenylmercury acetate
P093	103-85-5	Phenylthiourea
P094	298-02-2	Phorate
P095	75-44-5	Phosgene
P096	7803-51-2	Phosphine
P041	311-45-5	Phosphoric acid, diethyl 4-nitrophenyl ester
P039	298-04-4	Phosphorodithioic acid, O,O-diethyl...S- [2-(ethylthio)ethyl] ester
P094	298-02-2	Phosphorodithioic acid, O,O-diethyl...S- [(ethylthio)methyl] ester
P044	60-51-5	Phosphorodithioic acid, O,O-dimethyl S- [2-(methylamino)-2-oxoethyl] ester
P043	55-91-4	Phosphorofluoridic acid, bis(1-methylethyl) ester
P089	56-38-2	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester
P040	297-97-2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P097	52-85-7	Phosphorothioic acid,...O-[4- [[dimethylamino]sulfonyl]phenyl] O,O-dimethyl ester
P071	298-00-0	Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester
P110	78-00-2	Plumbane, tetraethyl-
P098	151-50-8	Potassium cyanide
P098	151-50-8	Potassium cyanide K(CN)
P099	506-61-6	Potassium silver cyanide
P070	116-06-3	Propanal, 2-methyl-2-(methylthio) -...O- [(methylamino)carbonyl]oxime
P101	107-12-0	Propanenitrile
P027	542-76-7	Propanenitrile, 3-chloro-
P069	75-86-5	Propanenitrile, 2-hydroxy-2-methyl-
P081	55-63-0	1,2,3 Propanetriol, trinitrate (R)
P017	598-31-2	2-Propanone, 1-bromo-
P102	107-19-7	Propargyl alcohol

[Sec. 261.33(e)]

Hazardous waste No.	Chemical abstracts No.	Substance
P003	107-02-8	2-Propenal
P005	107-18-6	2-Propen-1-ol
P007	75-55-8	1,2-Propyleneimine
P102	107-19-7	2-Propyn-1-ol
P008	504-24-5	4-Pyridinamine
P075	*54-11-5	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts
P114	12039-52-0	Selenious acid, dithallium(1+) salt
P103	630-10-4	Selenourea
P104	506-64-9	Silver cyanide
P104	506-64-9	Silver cyanide Ag(CN)
P105	26628-22-8	Sodium azide
P106	143-33-9	Sodium cyanide
P106	143-33-9	Sodium cyanide Na(CN)
P108	*57-24-9	Strychnidin-10-one, & salts
P018	357-57-3	Strychnidin-10-one, 2,3-dimethoxy-
P108	*57-24-9	Strychnine, & salts
P115	7446-18-6	Sulfuric acid, dithallium(1+) salt
P109	3689-24-5	Tetraethyldithiopyrophosphate
P110	78-00-2	Tetraethyl lead
P111	107-49-3	Tetraethyl pyrophosphate
P112	509-14-8	Tetranitromethane (R)
P062	757-58-4	Tetraphosphoric acid, hexaethyl ester
P113	1314-32-5	Thallic oxide
P113	1314-32-5	Thallium oxide Tl_2O_3
P114	12039-52-0	Thallium(I) selenite
P115	7446-18-6	Thallium(I) sulfate
P109	3689-24-5	Thiodiphosphoric acid, tetraethyl ester
P045	39196-18-4	Thiofanox
P049	541-53-7	Thioimidodicarbonic diamide [$(H_2NC(S))_2NH$
P014	108-98-5	Thiophenol
P116	79-19-6	Thiosemicarbazide
P026	5344-82-1	Thiourea, (2-chlorophenyl)-
P072	86-88-4	Thiourea, 1-naphthalenyl-
P093	103-85-5	Thiourea, phenyl-
P123	8001-35-2	Toxaphene
P118	75-70-7	Trichloromethanethiol
P119	7803-55-6	Vanadic acid, ammonium salt
P120	1314-62-1	Vanadium oxide V_2O_5
P120	1314-62-1	Vanadium pentoxide
P084	4549-40-0	Vinylamine, N-methyl-N-nitroso-
P001	*81-81-2	Warfarin, & salts, when present at concentrations greater than 0.3%
P121	557-21-1	Zinc cyanide
P121	557-21-1	Zinc cyanide $Zn(CN)_2$
P122	1314-84-7	Zinc phosphide Zn_3P_2, when present at concentrations greater than 10% (R,T)

* CAS Number given for parent compound only.

(f) The commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products referred to in paragraphs (a) through (d) of this section, are identified as toxic wastes (T), unless otherwise designated and are subject to the small quantity generator exclusion defined in §261.5 (a) and (g).

Comment: For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), R (Reactivity), I (Ignitability) and C (Corrosivity). Absence of a letter indicates that the compound is only listed for toxicity.

These wastes and their corresponding EPA Hazardous Waste Numbers are:

[Sec. 261.33(f)]

Hazardous waste No.	Chemical abstracts No.	Substance
U001	75-07-0	Acetaldehyde (I)
U034	75-87-6	Acetaldehyde, trichloro-
U187	62-44-2	Acetamide, N-(4-ethoxyphenyl)-
U005	53-96-3	Acetamide, N-9H-fluoren-2-yl-
U240	*94-75-7	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters
U112	141-78-6	Acetic acid ethyl ester (I)
U144	301-04-2	Acetic acid, lead(2+) salt
U214	563-68-8	Acetic acid, thallium(1+) salt
see F027	93-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-
U002	67-64-1	Acetone (I)
U003	75-05-8	Acetonitrile (I,T)
U004	98-86-2	Acetophenone
U005	53-96-3	2-Acetylaminofluorene
U006	75-36-5	Acetyl chloride (C,R,T)
U007	79-06-1	Acrylamide
U008	79-10-7	Acrylic acid (I)
U009	107-13-1	Acrylonitrile
U011	61-82-5	Amitrole
U012	62-53-3	Aniline (I,T)
U136	75-60-5	Arsinic acid, dimethyl-
U014	492-80-8	Auramine
U015	115-02-6	Azaserine
U010	50-07-7	Azirino[2',3':3,4]pyrrolo [1,2-a]indole-4,7-dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-[1aalpha, 8beta,8aalpha,8balpha]]-
U157	56-49-5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
U016	225-51-4	Benz[c]acridine
U017	98-87-3	Benzal chloride
U192	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-
U018	56-55-3	Benz[a]anthracene
U094	57-97-6	Benz[a]anthracene, 7,12-dimethyl-
U012	62-53-3	Benzenamine (I,T)
U014	492-80-8	Benzenamine, 4,4'-carbonimidoylbis [N,N-dimethyl-
U049	3165-93-3	Benzenamine, 4-chloro-2-methyl-, hydrochloride
U093	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-
U328	[illegible]	Benzenamine, 2-methyl-
U353	106-49-0	Benzenamine, 4-methyl-
U158	101-14-4	Benzenamine, 4,4'-methylenebis[2-chloro-
U222	636-21-5	Benzenamine, 2-methyl-, hydrochloride
U181	99-55-8	Benzenamine, 2-methyl-5-nitro-
U019	71-43-2	Benzene (I,T)
U038	510-15-6	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester
U030	101-55-3	Benzene, 1-bromo-4-phenoxy-
U035	305-03-3	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-
U037	108-90-7	Benzene, chloro-
U221	25376-45-8	Benzenediamine, ar-methyl-
U028	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester
U069	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester
U088	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester
U102	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester
U107	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester
U070	95-50-1	Benzene, 1,2-dichloro-
U071	541-73-1	Benzene, 1,3-dichloro-
U072	106-46-7	Benzene, 1,4-dichloro-
U060	72-54-8	Benzene, 1,1'-(2,2-dichloroethylidene)bis [4-chloro-
U017	98-87-3	Benzene, (dichloromethyl)-
U223	26471-62-5	Benzene, 1,3-diisocyanatomethyl- (R,T)
U239	1330-20-7	Benzene, dimethyl- (I,T)
U201	108-46-3	1,3-Benzenediol
U127	118-74-1	Benzene, hexachloro-

[Sec. 261.33(f)]

[illegible] Register
[illegible]

Hazardous waste No.	Chemical abstracts No.	Substance
U056	110-82-7	Benzene, hexahydro- (I)
U220	108-88-3	Benzene, methyl-
U105	121-14-2	Benzene, 1-methyl-2,4-dinitro-
U106	606-20-2	Benzene, 2-methyl-1,3-dinitro-
U055	98-82-8	Benzene, (1-methylethyl)- (I)
U169	98-95-3	Benzene, nitro-
U183	608-93-5	Benzene, pentachloro-
U185	82-68-8	Benzene, pentachloronitro-
U020	98-09-9	Benzenesulfonic acid chloride (C,R)
U020	98-09-9	Benzenesulfonyl chloride (C,R)
U207	95-94-3	Benzene, 1,2,4,5-tetrachloro-
U061	50-29-3	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis [4-chloro-
U247	72-43-5	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis [4- methoxy-
U023	98-07-7	Benzene, (trichloromethyl)-
U234	99-35-4	Benzene, 1,3,5-trinitro-
U021	92-87-5	Benzidine
U202	'81-07-2	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts
U203	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-
U141	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-
U090	94-58-6	1,3-Benzodioxole, 5-propyl-
U064	189-55-9	Benzo[rst]pentaphene
U248	'81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, & salts, when present at concentrations of 0.3% or less
U022	50-32-8	Benzo[a]pyrene
U197	106-51-4	p-Benzoquinone
U023	98-07-7	Benzotrichloride (C,R,T)
U085	1464-53-5	2,2'-Bioxirane
U021	92-87-5	[1,1'-Biphenyl]-4,4'-diamine
U073	91-94-1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-
U091	119-90-4	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-
U095	119-93-7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-
U225	75-25-2	Bromoform
U030	101-55-3	4-Bromophenyl phenyl ether
U128	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U172	924-16-3	1-Butanamine, N-butyl-N-nitroso-
U031	71-36-3	1-Butanol (I)
U159	78-93-3	2-Butanone (I,T)
U160	1338-23-4	2-Butanone, peroxide (R,T)
U053	4170-30-3	2-Butenal
U074	764-41-0	2-Butene, 1,4-dichloro- (I,T)
U143	303-34-4	2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7 a-1 etrahydro-1H-pyrrolizin-1-yl ester,...[1S-[1alpha(Z),7(2S*,3R*),7aalpha]]-
U031	71-36-3	n-Butyl alcohol (I)
U136	75-60-5	Cacodylic acid
U032	13765-19-0	Calcium chromate
U238	51-79-6	Carbamic acid, ethyl ester
U178	615-53-2	Carbamic acid, methylnitroso-, ethyl ester
U097	79-44-7	Carbamic chloride, dimethyl-
U114	'111-54-6	Carbamodithioic acid, 1,2-ethanediylbis-,...salts & esters
U062	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester
U215	6533-73-9	Carbonic acid, dithallium(1+) salt
U033	353-50-4	Carbonic difluoride
U156	79-22-1	Carbonochloridic acid, methyl ester (I,T)
U033	353-50-4	Carbon oxyfluoride (R,T)
U211	56-23-5	Carbon tetrachloride
U034	75-87-6	Chloral
U035	305-03-3	Chlorambucil
U036	57-74-9	Chlordane, alpha & gamma isomers
U026	494-03-1	Chlornaphazin
U037	108-90-7	Chlorobenzene

[Sec. 261.33(f)]

Hazardous waste No.	Chemical abstracts No.	Substance
U038	510-15-6	Chlorobenzilate
U039	59-50-7	p-Chloro-m-cresol
U042	110-75-8	2-Chloroethyl vinyl ether
U044	67-66-3	Chloroform
U046	107-30-2	Chloromethyl methyl ether
U047	91-58-7	beta-Chloronaphthalene
U048	95-57-8	o-Chlorophenol
U049	3165-93-3	4-Chloro-o-toluidine, hydrochloride
U032	13765-19-0	Chromic acid H_2CrO_4, calcium salt
U050	218-01-9	Chrysene
U051		Creosote
U052	1319-77-3	Cresol (Cresylic acid)
U053	4170-30-3	Crotonaldehyde
U055	98-82-8	Cumene (I)
U246	506-68-3	Cyanogen bromide (CN)Br
U197	106-51-4	2,5-Cyclohexadiene-1,4-dione
U056	110-82-7	Cyclohexane (I)
U129	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro-,...(1alpha,2alpha,3beta,4alpha,5alpha,6beta)-
U057	108-94-1	Cyclohexanone (I)
U130	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
U058	50-18-0	Cyclophosphamide
U240	94-75-7	2,4-D, salts & esters
U059	20830-81-3	Daunomycin
U060	72-54-8	DDD
U061	50-29-3	DDT
U062	2303-16-4	Diallate
U063	53-70-3	Dibenz[a,h]anthracene
U064	189-55-9	Dibenzo[a,i]pyrene
U066	96-12-8	1,2-Dibromo-3-chloropropane
U069	84-74-2	Dibutyl phthalate
U070	95-50-1	o-Dichlorobenzene
U071	541-73-1	m-Dichlorobenzene
U072	106-46-7	p-Dichlorobenzene
U073	91-94-1	3,3'-Dichlorobenzidine
U074	764-41-0	1,4-Dichloro-2-butene (I,T)
U075	75-71-8	Dichlorodifluoromethane
U078	75-35-4	1,1-Dichloroethylene
U079	156-60-5	1,2-Dichloroethylene
U025	111-44-4	Dichloroethyl ether
U027	108-60-1	Dichloroisopropyl ether
U024	111-91-1	Dichloromethoxy ethane
U081	120-83-2	2,4-Dichlorophenol
U082	87-65-0	2,6-Dichlorophenol
U084	542-75-6	1,3-Dichloropropene
U085	1464-53-5	1,2,3,4-Diepoxybutane (I,T)
U108	123-91-1	1,4-Diethyleneoxide
U028	117-81-7	Diethylhexyl phthalate
U086	1615-80-1	N,N'-Diethylhydrazine
U087	3288-58-2	O,O-Diethyl S-methyl dithophosphate
U088	84-66-2	Diethyl phthalate
U089	56-53-1	Diethylstilbesterol
U090	94-58-6	Dihydrosafrole
U091	119-90-4	3,3'-Dimethoxybenzidine
U092	124-40-3	Dimethylamine (I)
U093	60-11-7	p-Dimethylaminoazobenzene
U094	57-97-6	7,12-Dimethylbenz[a]anthracene
U095	119-93-7	3,3'-Dimethylbenzidine
U096	80-15-9	alpha,alpha-Dimethylbenzylhydroperoxide (R)
U097	79-44-7	Dimethylcarbamoyl chloride
U098	57-14-7	1,1-Dimethylhydrazine

[Sec. 261.33(f)]

Hazardous waste No.	Chemical abstracts No.	Substance
U099	540-73-8	1,2-Dimethylhydrazine
U101	105-67-9	2,4-Dimethylphenol
U102	131-11-3	Dimethyl phthalate
U103	77-78-1	Dimethyl sulfate
U105	121-14-2	2,4-Dinitrotoluene
U106	606-20-2	2,6-Dinitrotoluene
U107	117-84-0	Di-n-octyl phthalate
U108	123-91-1	1,4-Diokane
U109	122-66-7	1,2-Diphenylhydrazine
U110	142-84-7	Dipropylamine (I)
U111	621-64-7	Di-n-propylnitrosamine
U041	106-89-8	Epichlorohydrin
U001	75-07-0	Ethanal (I)
U174	55-18-5	Ethanamine, N-ethyl-N-nitroso-
U155	91-80-5	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-
U067	106-93-4	Ethane, 1,2-dibromo-
U076	75-34-3	Ethane, 1,1-dichloro-
U077	107-06-2	Ethane, 1,2-dichloro-
U131	67-72-1	Ethane, hexachloro-
U024	111-91-1	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-
U117	60-29-7	Ethane, 1,1'-oxybis-(I)
U025	111-44-4	Ethane, 1,1'-oxybis[2-chloro-
U184	76-01-7	Ethane, pentachloro-
U208	630-20-6	Ethane, 1,1,1,2-tetrachloro-
U209	79-34-5	Ethane, 1,1,2,2-tetrachloro-
U218	62-55-5	Ethanethioamide
U226	71-55-6	Ethane, 1,1,1-trichloro-
U227	79-00-5	Ethane, 1,1,2-trichloro-
U359	110-80-5	Ethanol, 2-ethoxy-
U173	1116-54-7	Ethanol, 2,2'-(nitrosoimino)bis-
U004	98-86-2	Ethanone, 1-phenyl-
U043	75-01-4	Ethene, chloro-
U042	110-75-8	Ethene, (2-chloroethoxy)-
U078	75-35-4	Ethene, 1,1-dichloro-
U079	156-60-5	Ethene, 1,2-dichloro-, (E)-
U210	127-18-4	Ethene, tetrachloro-
U228	79-01-6	Ethene, trichloro-
U112	141-78-6	Ethyl acetate (I)
U113	140-88-5	Ethyl acrylate (I)
U238	51-79-6	Ethyl carbamate (urethane)
U117	60-29-7	Ethyl ether (I)
U114	1111-54-6	Ethylenebisdithiocarbamic acid, salts & esters
U067	106-93-4	Ethylene dibromide
U077	107-06-2	Ethylene dichloride
U359	110-80-5	Ethylene glycol monoethyl ether
U115	75-21-8	Ethylene oxide (I,T)
U116	96-45-7	Ethylenethiourea
U076	75-34-3	Ethylidene dichloride
U118	97-63-2	Ethyl methacrylate
U119	62-50-0	Ethyl methanesulfonate
U120	206-44-0	Fluoranthene
U122	50-00-0	Formaldehyde
U123	64-18-6	Formic acid (C,T)
U124	110-00-9	Furan (I)
U125	98-01-1	2-Furancarboxaldehyde (I)
U147	108-31-6	2,5-Furandione
U213	109-99-9	Furan, tetrahydro-(I)
U125	98-01-1	Furfural (I)
U124	110-00-9	Furfuran (I)
U206	18883-66-4	Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-, D-

[Sec. 261.33(f)]

Hazardous waste No.	Chemical abstracts No.	Substance
U206	18883-66-4	D-Glucose, 2-deoxy-2-[(methylnitrosoamino)-, carbonyl]amino]-
U126	765-34-4	Glycidylaldehyde
U163	70-25-7	Guanidine, N-methyl-N'-nitro-N-nitroso-
U127	118-74-1	Hexachlorobenzene
U128	87-68-3	Hexachlorobutadiene
U130	77-47-4	Hexachlorocyclopentadiene
U131	67-72-1	Hexachloroethane
U132	70-30-4	Hexachlorophene
U243	1888-71-7	Hexachloropropene
U133	302-01-2	Hydrazine (R,T)
U086	1615-80-1	Hydrazine, 1,2-diethyl-
U098	57-14-7	Hydrazine, 1,1-dimethyl-
U099	540-73-8	Hydrazine, 1,2-dimethyl-
U109	122-66-7	Hydrazine, 1,2-diphenyl-
U134	7664-39-3	Hydrofluoric acid (C,T)
U134	7664-39-3	Hydrogen fluoride (C,T)
U135	7783-06-4	Hydrogen sulfide
U135	7783-06-4	Hydrogen sulfide H_2S
U096	80-15-9	Hydroperoxide, 1-methyl-1-phenylethyl- (R)
U116	96-45-7	2-Imidazolidinethione
U137	193-39-5	Indeno[1,2,3-cd]pyrene
U190	85-44-9	1,3-Isobenzofurandione
U140	78-83-1	Isobutyl alcohol (I,T)
U141	120-58-1	Isosafrole
U142	143-50-0	Kepone
U143	303-34-4	Lasiocarpine
U144	301-04-2	Lead acetate
U146	1335-32-6	Lead, bis(acetato-O)tetrahydroxydi-
U145	7446-27-7	Lead phosphate
U146	1335-32-6	Lead subacetate
U129	58-89-9	Lindane
U163	70-25-7	MNNG
U147	108-31-6	Maleic anhydride
U148	123-33-1	Maleic hydrazide
U149	109-77-3	Malononitrile
U150	148-82-3	Melphalan
U151	7439-97-6	Mercury
U152	126-98-7	Methacrylonitrile (I, T)
U092	124-40-3	Methanamine, N-methyl- (I)
U029	74-83-9	Methane, bromo-
U045	74-87-3	Methane, chloro- (I, T)
U046	107-30-2	Methane, chloromethoxy-
U068	74-95-3	Methane, dibromo-
U080	75-09-2	Methane, dichloro-
U075	75-71-8	Methane, dichlorodifluoro-
U138	74-88-4	Methane, iodo-
U119	62-50-0	Methanesulfonic acid, ethyl ester
U211	56-23-5	Methane, tetrachloro-
U153	74-93-1	Methanethiol (I, T)
U225	75-25-2	Methane, tribromo-
U044	67-66-3	Methane, trichloro-
U121	75-69-4	Methane, trichlorofluoro-
U036	57-74-9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-
U154	67-56-1	Methanol (I)
U155	91-80-5	Methapyrilene
U142	143-50-0	1,3,4-Metheno-2H-cyclobuta [cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-
U247	72-43-5	Methoxychlor
U154	67-56-1	Methyl alcohol (I)
U029	74-83-9	Methyl bromide
U186	504-60-9	1-Methylbutadiene (I)

[Sec. 261.33(f)]

Hazardous waste No.	Chemical abstracts No.	Substance
U045	74-87-3	Methyl chloride (I,T)
U156	79-22-1	Methyl chlorocarbonate (I,T)
U226	71-55-6	Methyl chloroform
U157	56-49-5	3-Methylcholanthrene
U158	101-14-4	4,4'-Methylenebis(2-chloroaniline)
U068	74-95-3	Methylene bromide
U080	75-09-2	Methylene chloride
U159	78-93-3	Methyl ethyl ketone (MEK) (I,T)
U160	1338-23-4	Methyl ethyl ketone peroxide (R,T)
U138	74-88-4	Methyl iodide
U161	108-10-1	Methyl isobutyl ketone (I)
U162	80-62-6	Methyl methacrylate (I,T)
U161	108-10-1	4-Methyl-2-pentanone (I)
U164	56-04-2	Methylthiouracil
U010	50-07-7	Mitomycin C
U059	20830-81-3	5,12-Naphthacenedione, 8-acetyl-10- [(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydr o-6 ,8,11-trihydroxy-1-methoxy-, (8S-cis)-
U167	134-32-7	1-Naphthalenamine
U168	91-59-8	2-Naphthalenamine
U026	494-03-1	Naphthalenamine, N,N'-bis(2-chloroethyl)-
U165	91-20-3	Naphthalene
U047	91-58-7	Naphthalene, 2-chloro-
U166	130-15-4	1,4-Naphthalenedione
U236	72-57-1	2,7-Naphthalenedisulfonic acid, 3,3'- [(3,3'-...dimethyl [1,1'-biphenyl]-4,4'-diyl)bis(azo)bis [5-amino-4-hydroxy]-, tetrasodium salt
U166	130-15-4	1,4-Naphthoquinone
U167	134-32-7	alpha-Naphthylamine
U168	91-59-8	beta-Naphthylamine
U217	10102-45-1	Nitric acid, thallium(1+) salt
U169	98-95-3	Nitrobenzene (I,T)
U170	100-02-7	p-Nitrophenol
U171	79-46-9	2-Nitropropane (I,T)
U172	924-16-3	N-Nitrosodi-n-butylamine
U173	1116-54-7	N-Nitrosodiethanolamine
U174	55-18-5	N-Nitrosodiethylamine
U176	759-73-9	N-Nitroso-N-ethylurea
U177	684-93-5	N-Nitroso-N-methylurea
U178	615-53-2	N-Nitroso-N-methylurethane
U179	100-75-4	N-Nitrosopiperidine
U180	930-55-2	N-Nitrosopyrrolidine
U181	99-55-8	5-Nitro-o-toluidine
U193	1120-71-4	1,2-Oxathiolane, 2,2-dioxide
U058	50-18-0	2H-1,3,2-Oxazaphosphorin-2-amine, ...N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide
U115	75-21-8	Oxirane (I,T)
U126	765-34-4	Oxiranecarboxyaldehyde
U041	106-89-8	Oxirane, (chloromethyl)-
U182	123-63-7	Paraldehyde
U183	608-93-5	Pentachlorobenzene
U184	76-01-7	Pentachloroethane
U185	82-68-8	Pentachloronitrobenzene (PCNB)
See F027	87-86-5	Pentachlorophenol
U161	108-10-1	Pentanol, 4-methyl-
U186	504-60-9	1,3-Pentadiene (I)
U187	62-44-2	Phenacetin
U188	108-95-2	Phenol
U048	95-57-8	Phenol, 2-chloro-
U039	59-50-7	Phenol, 4-chloro-3-methyl-
U081	120-83-2	Phenol, 2,4-dichloro-
U082	87-65-0	Phenol, 2,6-dichloro-
U089	56-53-1	Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-

(Sec. 261.33(f))

Hazardous waste No.	Chemical abstracts No.	Substance
U101	105-67-9	Phenol, 2,4-dimethyl-
U052	1319-77-3	Phenol, methyl-
U132	70-30-4	Phenol, 2,2'-methylenebis[3,4,6-trichloro-
U170	100-02-7	Phenol, 4-nitro-
See F027	87-86-5	Phenol, pentachloro-
See F027	58-90-2	Phenol, 2,3,4,6-tetrachloro-
See F027	95-95-4	Phenol, 2,4,5-trichloro-
See F027	88-06-2	Phenol, 2,4,6-trichloro-
U150	148-82-3	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-
U145	7446-27-7	Phosphoric acid, lead(2+) salt (2:3)
U087	3288-58-2	Phosphorodithioic acid, O,O-diethyl S-methyl ester
U189	1314-80-3	Phosphorus sulfide (R)
U190	85-44-9	Phthalic anhydride
U191	109-06-8	2-Picoline
U179	100-75-4	Piperidine, 1-nitroso-
U192	23950-58-5	Pronamide
U194	107-10-8	1-Propanamine (I,T)
U111	621-64-7	1-Propanamine, N-nitroso-N-propyl-
U110	142-84-7	1-Propanamine, N-propyl- (I)
U066	96-12-8	Propane, 1,2-dibromo-3-chloro-
U083	78-87-5	Propane, 1,2-dichloro-
U149	109-77-3	Propanedinitrile
U171	79-46-9	Propane, 2-nitro- (I,T)
U027	108-60-1	Propane, 2,2'-oxybis[2-chloro-
U193	1120-71-4	1,3-Propane sultone
See F027	93-72-1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-
U235	126-72-7	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U140	78-83-1	1-Propanol, 2-methyl- (I,T)
U002	67-64-1	2-Propanone (I)
U007	79-06-1	2-Propenamide
U084	542-75-6	1-Propene, 1,3-dichloro-
U243	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-
U009	107-13-1	2-Propenenitrile
U152	126-98-7	2-Propenenitrile, 2-methyl- (I,T)
U008	79-10-7	2-Propenoic acid (I)
U113	140-88-5	2-Propenoic acid, ethyl ester (I)
U118	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester
U162	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester (I,T)
U194	107-10-8	n-Propylamine (I,T)
U083	78-87-5	Propylene dichloride
U148	123-33-1	3,6-Pyridazinedione, 1,2-dihydro-
U196	110-86-1	Pyridine
U191	109-06-8	Pyridine, 2-methyl-
U237	66-75-1	2,4(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-
U164	56-04-2	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
U180	930-55-2	Pyrrolidine, 1-nitroso-
U200	50-55-5	Reserpine
U201	108-46-3	Resorcinol
U202	81-07-2	Saccharin, & salts
U203	94-59-7	Safrole
U204	7783-00-8	Selenious acid
U204	7783-00-8	Selenium dioxide
U205	7488-56-4	Selenium sulfide
U205	7488-56-4	Selenium sulfide SeS_2 (R,T)
U015	115-02-6	L-Serine, diazoacetate (ester)
See F027	93-72-1	Silvex (2,4,5-TP)
U206	18883-66-4	Streptozotocin
U103	77-78-1	Sulfuric acid, dimethyl ester
U189	1314-80-3	Sulfur phosphide (R)
See F027	93-76-5	2,4,5-T

[Sec. 261.33(f)]

Hazardous waste No.	Chemical abstracts No.	Substance
U207	95-94-3	1,2,4,5-Tetrachlorobenzene
U208	630-20-6	1,1,1,2-Tetrachloroethane
U209	79-34-5	1,1,2,2-Tetrachloroethane
U210	127-18-4	Tetrachloroethylene
See F027	58-90-2	2,3,4,6-Tetrachlorophenol
U213	109-99-9	Tetrahydrofuran (I)
U214	563-68-8	Thallium(I) acetate
U215	6533-73-9	Thallium(I) carbonate
U216	7791-12-0	Thallium(I) chloride
U216	7791-12-0	Thallium chloride Tlcl
U217	10102-45-1	Thallium(I) nitrate
U218	62-55-5	Thioacetamide
U153	74-93-1	Thiomethanol (I,T)
U244	137-26-8	Thioperoxydicarbonic diamide [$(H_2N)C(S)]_2S_2$, tetramethyl-
U219	62-56-6	Thiourea
U244	137-26-8	Thiram
U220	108-88-3	Toluene
U221	25376-45-8	Toluenediamine
U223	26471-62-5	Toluene diisocyanate (R,T)
U328	95-53-4	o-Toluidine
U353	106-49-0	p-Toluidine
U222	636-21-5	o-Toluidine hydrochloride
U011	61-82-5	1H-1,2,4-Triazol-3-amine
U227	79-00-5	1,1,2-Trichloroethane
U228	79-01-6	Trichloroethylene
U121	75-69-4	Trichloromonofluoromethane
See F027	95-95-4	2,4,5-Trichlorophenol
See F027	88-06-2	2,4,6-Trichlorophenol
U234	99-35-4	1,3,5-Trinitrobenzene (R,T)
U182	123-63-7	1,3,5-Trioxane, 2,4,6-trimethyl-
U235	126-72-7	Tris(2,3-dibromopropyl) phosphate
U236	72-57-1	Trypan blue
U237	66-75-1	Uracil mustard
U176	759-73-9	Urea, N-ethyl-N-nitroso-
U177	684-93-5	Urea, N-methyl-N-nitroso-
U043	75-01-4	Vinyl chloride
U248	[1]81-81-2	Warfarin, & salts, when present at concentrations of 0.3% or less
U239	1330-20-7	Xylene (I)
U200	50-55-5	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta,20alpha)-
U249	1314-84-7	Zinc phosphide Zn_3P_2, when present at concentrations of 10% or less

[1] CAS Number given for parent compound only.

ATTACHMENT B

SAMPLING AND ANALYSIS PROCEDURES

ATTACHMENT B
SAMPLING AND ANALYSIS PROCEDURE

The basic objective of the IDW sampling program is to produce a set of samples representative of the IDW media under investigation and suitable for subsequent analysis. This attachment describes the methods and materials that will be used for sampling IDW generated at Navy installations. Under many circumstances, the sampling and testing performed for the investigation will be sufficient to classify the IDW and no additional sampling will be necessary. When additional sampling is required to characterize the waste, it is important that quality control (QC) sampling is performed to assess the accuracy and precision of the sampling program. QC sampling methods should be the same as those stated in the approved work plan.

Sampling accuracy is usually achieved by using a random sampling technique. Sampling precision is achieved by collecting the appropriate number of samples and by maximizing the physical size of the samples.

A simple random sampling strategy will be employed for most solid waste cases where it is determined that additional samples are required to characterize the IDW. The rationale for using this type of sampling method is that typically little or no information is known about the distribution of the chemical contaminants within the waste. For most solid IDW, distinct strata within the containers are not identified and variations in composition or stratification may have occurred at unknown and random depths.

Simple random sampling is a type of probability sampling that relies on mathematical and statistical theories. In simple random sampling all locations or portions of the IDW have an equal chance of being sampled. For simple random sampling, the appropriate number of samples to be collected is estimated by finding the regulatory threshold for the contaminants of concern and by estimating the sample mean (x) and variance (s^2).

Simple random sampling may be used for liquid IDW that is thought to be homogeneous. Stratified random sampling may he used for liquid IDW sampling where the contaminants of concern are thought to stratify due to their density relative to the other liquids. Stratified random sampling is different from simple random sampling in that the x and s^2 are calculated for each stratum in the population and then integrated into the overall estimates of those statistics. Systematic random sampling may also be used for instances where there are recognized trends or cycles associated with

the contaminants in the IDW. Cases where systematic random sampling may be used include drums with floating or sinking products.

It is also likely that if the waste is to be disposed of to a treatment, storage, or disposal unit (TSDF), the TSDF's operators will perform their own waste characterization or verification. Therefore, it is important to contact the potential TSDF prior to performing sampling and laboratory analysis of the IDW to avoid duplication of efforts and costs. Acceptance requirements, laboratory requirements, and disposal rates at TSDFs are subject to periodic change. Transportation requirements and costs should be determined prior to shipping.

The sampling method chosen for each of the IDW media will, in part, be dependent on the potential contaminants of concern as shown by site history or analytical results of the field sampling program. The generation of additional decontamination fluids through IDW sampling should be minimized and should be a factor considered in the final choice of sampling technique. Care should be exercised to avoid the use of sampling devices plated with chrome or other materials that might contaminate the sample.

The description of sampling methods for containerized media is divided into three sections that address (1) soil and sludges, (2) containerized liquids, and (3) containerized personal protective equipment (PPE). If required, wipe sampling will be used to analyze the surface of drums, disposable equipment (DE), and PPE.

1.0 SOIL AND SLUDGE SAMPLING

Sampling devices suitable for soil and sludge (or sediment) sampling include scoops, thin-walled tube samplers, hand augers, core samplers, and sampling triers. The use of a scoop and a sampling trier 100 centimeters (cm) long is the recommended method for sampling containerized soil and sludge. However, site-specific conditions may necessitate a variety of sampling options, and therefore all of these sampling methods will be discussed. The presence of rocks, debris, or other sampling-specific considerations may complicate sampling and preclude the use of or require modification to some of these sampling devices.

When sampling a previously sealed vessel, the presence of a bottom sludge should be checked. This is easily accomplished by measuring the depth to apparent bottom and then comparing it to the known interior depth. Methods for sampling a bottom sludge are described in the following sections. Sludges that develop in 55-gallon drums can also be collected by employing glass tubes used for the liquid portion of the sample.

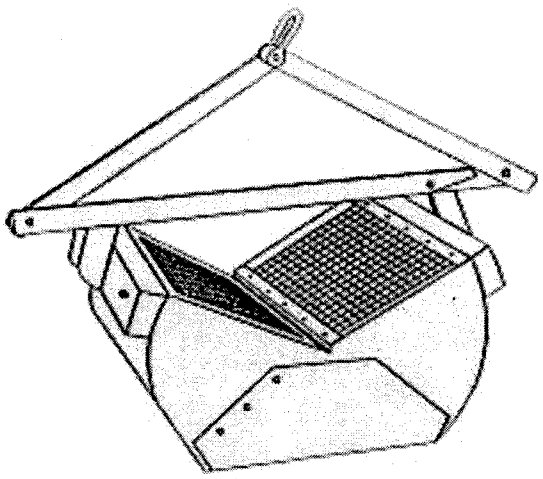
1.1 SHOVEL, SPADES, AND SCOOPS

Collection of soil and sludge samples can be accomplished with tools such as spades, shovels, and scoops. The recommended and most direct method of collecting surface samples for subsequent analysis is with the use of a spade and scoop. This method is limited somewhat to sampling at the near surface. Samples from depths greater than 50 cm may become very labor-intensive. Samples collected for volatile organic compound (VOC) analysis will be placed directly into the analytical bottle. Samples collected for other analyses will be composited in a stainless steel bowl and then placed into the analytical bottles.

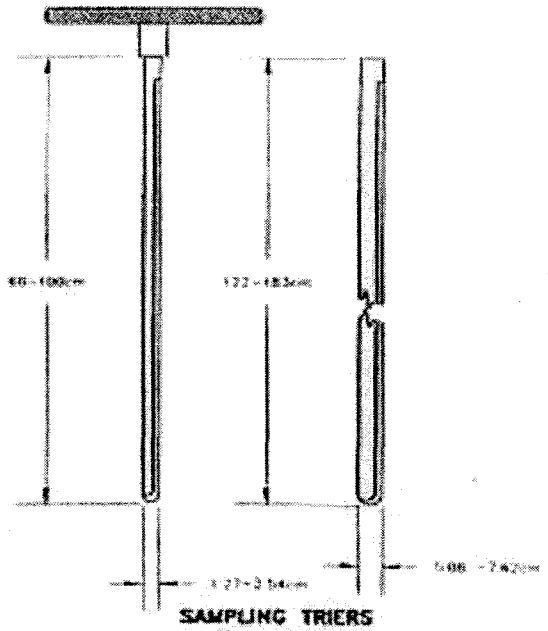
1.2 THIN-WALLED TUBE SAMPLER AND HAND CORERS

The thin-walled tube sampler is, as its name implies, a metal tube generally 2.5 to 7.5 cm in diameter and 30 to 60 cm long, as shown on Figure 1. The tube is forced into the soil or sludge and then extracted. Friction will usually hold the sample material in the tube during extraction. A variety of interchangeable cutting tips facilitates penetration with reduced sample disturbance. Thin-walled tube samplers are available in various styles and construction materials and are suitable for moist, dry, sandy, or heavy-duty applications.

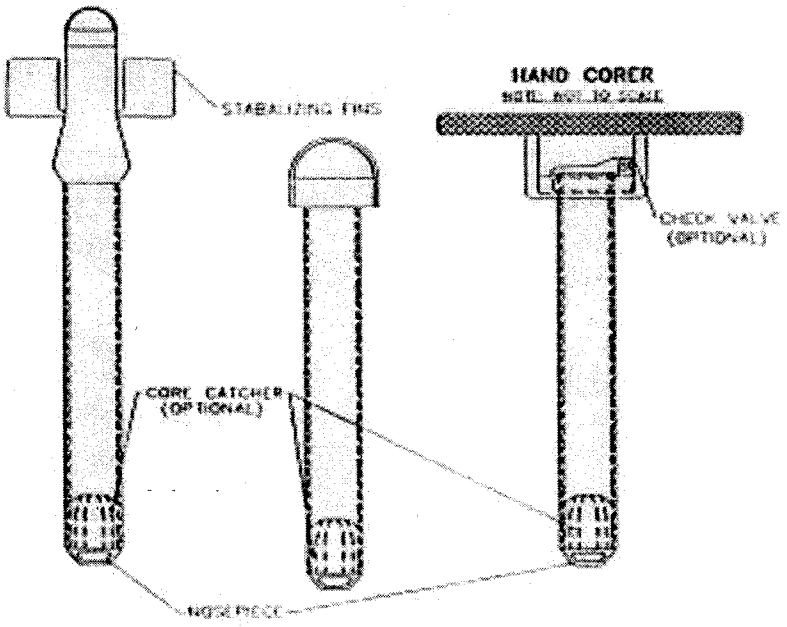
Sampling soil or sludge can also be accomplished with a hand corer. A typical hand corer is shown on Figure 1. This device is essentially the same type of thin-walled tube sampler described above. It is modified by the addition of a handle to facilitate driving the corer and a check valve on top to prevent washout during retrieval through an overlying water layer. Hand auguring devices can be used in conjunction with a thin-walled tube sampler. In this manner, a thin-walled tube sampler can be used to sample both from the surface or to the bottom of a 55-gallon drum. However, the presence of rocks or the collapse of the auger hole generally prohibits sampling at depth.



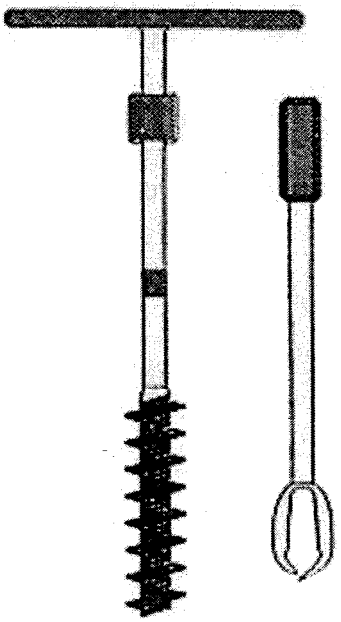
PONAR GRAB
NOTE: NOT TO SCALE



SAMPLING TRIERS
NOTE: NOT TO SCALE



GRAVITY CORERS
NOTE: NOT TO SCALE



HAND AUGER AND THIN WALLED TUBE SAMPLER
NOTE: NOT TO SCALE

FIGURE 1
SOIL AND SLUDGE SAMPLING EQUIPMENT

1.3 GRAVITY CORERS AND GRAB SAMPLERS

A small gravity corer, such as those used in limnological studies, is useful when a deep overlying liquid column exists in the 55-gallon drum. An example of a gravity corer is presented on Figure 1. If the sludge layer is less than 30 cm in thickness, the penetration of the corer may damage the container liner or bottom. In this instance a grab sampler, such as shown on Figure 1, may be applicable. Gravity corers are easier to preclean and decontaminate than are grab samplers. The presence of rocks or debris may complicate sampling and preclude the use of or require modification to some devices.

1.4 SAMPLING TRIERS

Bulk materials sampling can be conducted using a sampling trier. This method is recommended for the collection of composite samples of containerized soil. A typical sampling trier is a long tube with a slot that extends almost its entire length as shown on Figure 1. The tip and edges are sharpened to allow the trier to cut a core of the material to be sampled when rotated after insertion into the material. Sampling triers are usually made of stainless steel with wooden handles. They are about 61 to 100 cm long and 1.27 to 2.54 cm in diameter. Following sample retrieval, all samples to be analyzed, with the exception of VOC samples, will be composited in a stainless steel bowl prior to placement in analytical bottles. Discrete VOC samples would be contained separately and composited in the laboratory.

2.0 AQUEOUS LIQUID SAMPLING

Beakers, glass tubes, bailers, and extended bottle samplers and composite liquid waste samplers are potential devices that may be used to sample containerized liquid media. Site-specific conditions may necessitate a variety of sampling options, and therefore all of these methods will be discussed. Samples from drums can also be readily collected by merely submerging a sample bottle.

2.1 BEAKERS

The use of a sampling device such as a beaker, either disposable or constructed of glass, Teflon, or stainless steel, is the recommended method for sampling containerized liquids. The device typically has a capacity of at least 500 milliliters (ml) to provide an adequate sample volume for analysis and to minimize the number of times the liquid will be disturbed, thus reducing agitation of any sediment layer. Large sample volumes that are required for some analyses will require submerging the beaker several times to obtain the appropriate volume. A stainless steel beaker with pour spout and handle, as shown on Figure 2, works well. It is easily cleaned and considerably less expensive than Teflon.

2.2 GLASS TUBES AND BAILERS

Liquid samples from open containers, such as 55-gallon drums, may be collected using lengths of glass tubing or bailers. The glass tubes are normally 122 cm in length with an inside diameter (ID) of 6 to 16 millimeters. Larger diameter tubes may be used for more viscous fluids. The major disadvantages to using glass tubes are splash hazards, the need for sampler decontamination, and potential sample loss when sampling low viscosity fluids. Bailers may also be used to collect liquid samples from containers such as drums or tanks. The major disadvantages to using bailers are splash hazards, and the need for decontamination of reusable bailers, and the generation of waste when using disposable bailers.

2.3 EXTENDED BOTTLE SAMPLER

The extended bottle sampler is a grab sampler designed to collect subsurface liquid samples to a maximum depth of 1.5 meters (m) (5 feet). This sampler consists of a 1.8-m (6-foot) aluminum tube with a stainless steel clamp attached to the end. The clamp is used to hold a sample jar of the desired size, as shown on Figure 2. Because the sample bottle is exposed to the aqueous liquid, it must be decontaminated prior to shipment or reuse.

2.4 COMPOSITE LIQUID WASTE SAMPLERS

The composite liquid waste sampler is designed to permit representative sampling of the complete water column from drums or other containerized liquid media. This type of sampler is used when contaminants of different densities such as oil and water are potentially present in the containerized liquid. It consists of a 152-cm long by 4-cm ID section of tubing with a neoprene stopper at one end. The stopper is attached to a rod running the length of the tube and terminating with a locking mechanism at the other end. Manipulation of the locking mechanism opens and closes the sampler by raising and lowering the neoprene stopper. A current model of the composite liquid waste sampler is shown on Figure 2. The major drawbacks associated with using the composite liquid waste sampler include the difficulty of decontamination and cost. The sampler is difficult to decontaminate in the field and high in cost relative to alternative procedures such as glass tubes. The composite liquid waste sampler should only be used when multiphase wastes are suspected.

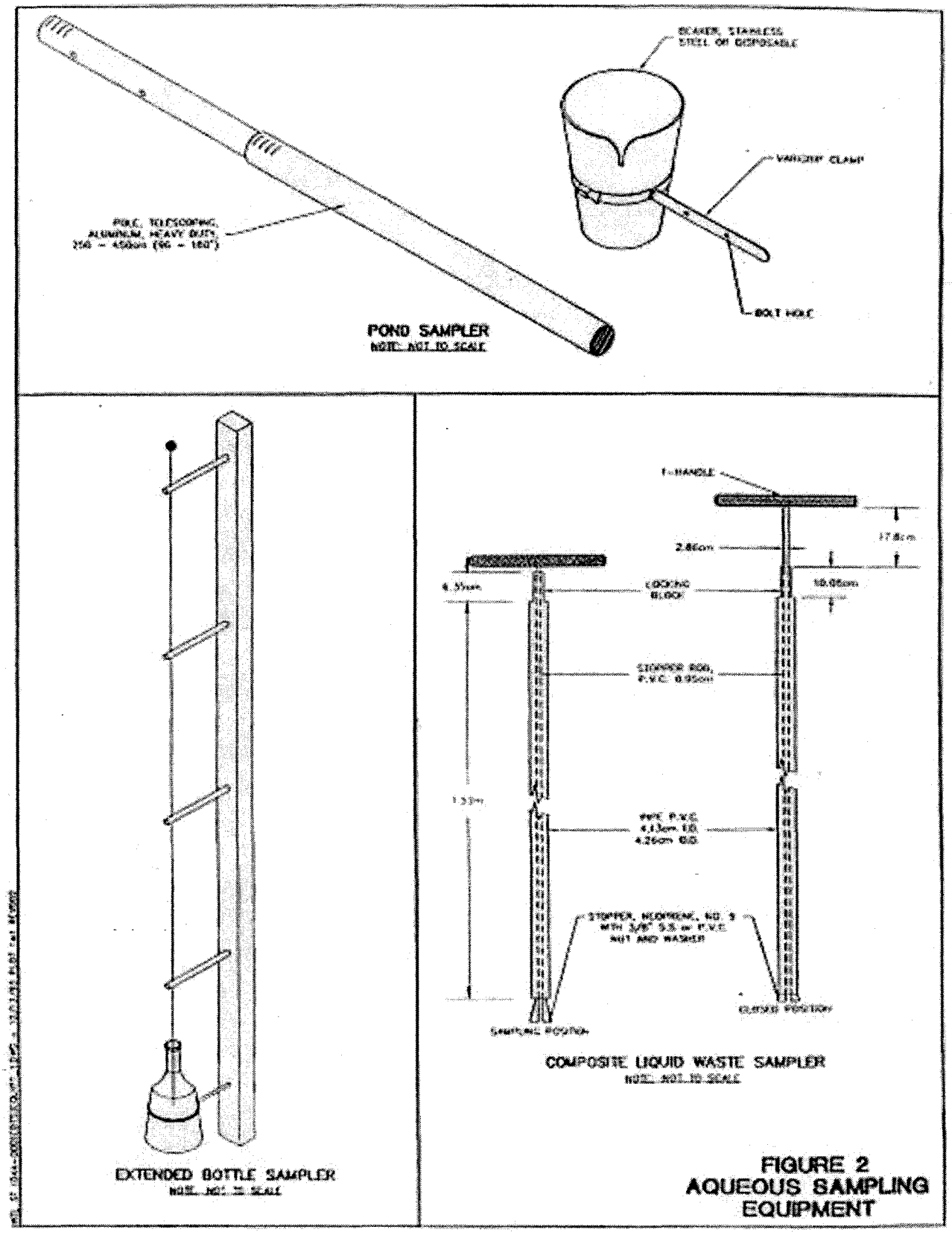


FIGURE 2
AQUEOUS SAMPLING EQUIPMENT

3.0 WIPE SAMPLING

Wipe samples are used to assess surface contamination and are applicable for the analysis of drums containing used PPE and DE. The terms "wipe sample," "swipe sample," and "smear sample" have all been used synonymously. For purposes of this section, the sample will be termed "wipe sample."

Wipe sampling consists of rubbing a moistened filter paper over a measured area of 100 square centimeters (cm^2). The paper is then sent to the laboratory for analysis, and the results are related to the known sample area. Equipment required for collecting wipe samples includes Whatman 541 filter paper or equivalent, solvent to wet the filter paper, and disposable chemical-resistant gloves. The type of solvent required is dependent on the analysis performed. The laboratory conducting the analysis will specify the type of solvent required. The steps involved in obtaining a wipe sample are as follows:

- Using a clean and impervious disposable glove, remove a filter paper and moisten with a collection medium selected to dissolve the contaminants of concern as specified for the source area. Organic-free water or the laboratory analysis solvent should be used to moisten the filter paper. The filter should be wet but not dripping. A new glove should be used for each sample to avoid cross-contamination of samples.
- Thoroughly wipe approximately 100 cm^2 of the area with the moistened filter. Using a template will help in judging the size of the wipe area. If a different size area is wiped, the change should be recorded in the field logbook and on the chain-of-custody form. If the surface is not flat, any crevices or depressions must be wiped and the physical shape of the area should be recorded.
- Without allowing the filter to contact any other surface, fold the filter with the exposed side in, and then fold it over to form a 90-degree angle in the center of the filter. Place the filter, angle first, into the appropriate sampling jar for the analyses to be conducted and send the sample to the appropriate laboratory.
- To prepare a blank sample, moisten a filter with the collection medium. Place the blank in a separate sample bottle and submit it with the other samples. Document the sample collection in the field logbook and on appropriate forms, and ship samples per procedures specified by the receiving laboratory.

ATTACHMENT C

WASTE PROFILE FORM AND INSTRUCTIONS

Revision 0.0 (2/2/94)

PROFILE NUMBER _____
Completed by _____
Date _____
Reviewed by _____

U.S. NAVY WESTDIV

INVESTIGATION DERIVED WASTE PROFILE

Complete one form for each waste stream generated at each site. See instructions for detailed information about this form.

1.0 GENERATOR INFORMATION

Facility Name _____ USEPA ID Number _____
Site Name _____ Technical Contact _____
Address _____ Phone _____
_____ Fax _____
City _____ State _____ Zip _____ CTO Number _____

2.0 WASTE DESCRIPTION

Waste Description _____
Is this waste regulated by USEPA or CalEPA? _____ Waste codes _____ CLIN _____
LDR Subcategory _____
Wastewater or Nonwastewater? (see instructions) _____
Concentration Standard per §268.41? _____ _____ _____ _____
Concentration Standard per §268.43? _____ _____ _____ _____
Technology-Based Standard §268.42? _____ _____ _____ _____
Biennial Report Source Code/Process _____
Biennial Report Waste Form Code/Category of Waste _____
Special Handling Instructions _____

3.0 TRANSPORTATION INFORMATION

DOT Proper Shipping Name _____
DOT Hazard Class _____ UN/NA Number _____ RQ _____
Packaging Description _____

4.0 PHYSICAL PROPERTIES

Color _____
Odor _____

	Avg.	Min.	Max.
pH			
Specific Gravity			
Flash point			
(Method):			
BTU/lb			

Liquid Layering _____
Physical State _____
Viscosity _____
Yard-Pound Factor _____ x YD = LB
% Halogens _____
% Liquids _____
% Sludge _____
% Solids _____
% Water _____

Waste Profile No. _____ Page 2 of _____

4.0 PHYSICAL PROPERTIES (Continued)

Acid Reactive	Y	N	Biological	Y	N	Corrosive	Y	N
Dioxin	Y	N	Explosive	Y	N	Flammable	Y	N
Oxidizer	Y	N	Pesticide	Y	N	Herbicide	Y	N
Poison	Y	N	Pumpable	Y	N	Pyrophoric	Y	N
Radioactive	Y	N	RCRA Reactive	Y	N	Shock Sensitive	Y	N
Wastewater	Y	N	Water Reactive	Y	N	Other _____		

5.0 TOXICITY CHARACTERISTICS

U.S EPA Waste Code	Contaminant	Level (mg/L)	Federal Regulated Level	California STLC	California TTLC
	Aldrin	_____		0.14	1.4
	Antimony	_____		15	500
D004	Arsenic	_____	5.0	5.0	500
	Asbestos	_____			1.0%
D005	Barium	_____	100.0	100.0	10,000
D018	Benzene	_____	0.5		
	Beryllium	_____		0.75	75
D006	Cadmium	_____	1.0	1.0	100
D019	Carbon Tetrachloride	_____	0.5		
D020	Chlordane	_____	0.03	0.25	2.5
D021	Chlorobenzene	_____	100.0		
D022	Chloroform	_____	6.0		
D007	Chromium (Total)	_____	5.0	5	2,500
	Chromium (Trivalent)	_____		5	2,500
	Chromium (Hexavalent)	_____		5	500
	Cobalt	_____		80	8,000
	Copper	_____		25	2,500
D023	o-Cresol	_____	200.0		
D024	m-Cresol	_____	200.0		
D025	p-Cresol	_____	200.0		
D016	2,4-D	_____	10.0	10.0	100
	DDT, DDE, DDD	_____		0.1	1.0
D027	1,4-Dichlorobenzene	_____	7.5		
D028	1,2-Dichloroethane	_____	0.5		
D029	1,1-Dichloroethylene	_____	0.7		
	Dieldrin	_____		0.8	8.0
D030	2,4-Dinitrotoluene	_____	0.13		
	Dioxin (2,3,7,8, - TCDD)	_____		0.001	0.01
D012	Endrin	_____	0.02	0.02	0.2
	Fluoride salts	_____		180	18,000
D031	Heptachlor (& its epoxide)	_____	0.008	0.47	4.7
D032	Hexachlorobenzene	_____	0.13		
D033	Hexachlorobutadiene	_____	0.5		
D034	Hexachloroethane	_____	3.0		
	Kepone	_____			
D008	Lead	_____	5.0	2.1	21
	Lead components, organic	_____		5.0	1,000
D013	Lindane	_____	0.4		13
D009	Mercury	_____	0.2	0.4	4.0
D014	Methoxychlor	_____	10.0	0.2	20
D035	Methyl ethyl Ketone	_____	200.0	10	100
	Mirex	_____			
	Molybdenum	_____		2.1	21
	Nickel	_____		350	3,500
D036	Nitrobenzene	_____	2.0	20	2,000
D037	Pentachlorophenol	_____	100.0	1.7	17
D038	Pyridine	_____	5.0		

Waste Profile No. _____ Page 3 of _____

5.0 TOXICITY CHARACTERISTICS (Continued)

D010	Selenium	_____	1.0	1.0	100
D011	Silver	_____	5.0	5	100
D039	Tetrachloroethylene	_____	0.7		
	Thallium	_____		7.0	700
D015	Toxaphene	_____	0.5	0.5	5
D017	2,4,5-TP (Silvex)	_____	1.0	1.0	10
D040	Trichloroethylene	_____	0.5	204	2,040
D041	2,4,5-Trichlorophenol	_____	400.0		
D042	2,4,6-Trichlorophenol	_____	2.0		
	Vanadium	_____			
D043	Vinyl chloride	_____	0.2	24	2400
	Zinc	_____		250	5,000
	PCB	_____		5.0	50

6.0 TOTAL METALS

Metals (ppm)	Avg.	Min.	Max.	Metals (ppm)	Avg.	Min.	Max.
Aluminum				Iron			
Antimony				Lead			
Arsenic				Mercury			
Barium				Molybdenum			
Beryllium				Nickel			
Cadmium				Selenium			
Chromium VI				Silver			
Chromium III				Thallium			
Cobalt				Vanadium			
Fluoride				Zinc			

7.0 CHEMICAL COMPOSITION

Chemical Name	Avg.	Min.	Max	Circle one:
				% PPM PPB
				% PPM PPB
				% PPM PPB
				% PPM PPB
				% PPM PPB
				% PPM PPB
Water				% PPM PPB

8.0 ADDITIONAL INFORMATION AND COMMENTS

Attached documentation: _____

Waste Profile No. _____ Page 4 of _____

9.0 PRC TECHNICAL REVIEW

Reviewed by _____ Date _____

☐ Approved ☐ Rejected ☐ Conditional

Reasons for Rejection/Conditions _____

Acceptance Dates: _____ to _____

10.0 GENERATOR CERTIFICATION

I hereby certify, as an authorized representative of the generator named on Page 1 of this Waste Profile, that the information provided in this and all attached documents is true and correct; reveals any and all known or suspected hazards involving the handling, transportation, treatment, storage and disposal of this waste; and no willful misrepresentations or omissions have been made. I further certify and warrant that this identification is the result either of an analysis of a representative sample obtained and analyzed in accordance with the sampling and testing procedures specified by the U.S. Environmental Protection Agency or by applying knowledge of the process generating the specific waste being offered.

Generator's Signature _____ Title _____ Date _____

Instructions for Completing the Investigation-Derived Waste Profile

1.0 *Generator Information.* The mailing address of the generator and the site where the waste will be picked up should be indicated. The EPA Identification Number for the site must be provided, unless the generator is a conditionally-exempt small quantity generator. Be sure to include the CTO number associated with the IDW being profiled.

2.0 *Waste Description.* This section provides a general description of the waste and how it was generated. It also requests regulatory information about the waste that will assist in determining what kind of treatment or disposal is required.

2.1 EPA hazardous waste codes are also included in this section. Waste codes are chosen according to whether the waste contains any listed hazardous waste or whether the waste exhibits a hazardous waste characteristic. There is a hierarchy for assigning waste codes which can be reviewed in detail in 40 CFR Part 261 of the federal hazardous waste regulations and 22 CCR Chapter 11 of the California Regulations. Here's a simple explanation:

a. If the remediation site is associated with a specific industrial process, first look under the K-code listing in 40 CFR §261.32 or 22 CCR §66261.32 to determine if any of the generating processes exactly match the activities previously conducted at the site. If so, the waste gets the K-code associated with that industrial process, then go on to step "d" to assign characteristic codes. If the process is not described in the K-code list, go to step "b." There are very few specific industrial processes from the K list that would result in such IDW at Navy facilities.

b. If the former activities at the remediation site do not match any of the industrial processes in the K list, look under the more general F-code listings in 40 CFR §261.31 or 22 CCR §66261.31 to determine if any of the generating processes match the activity and contaminants at the site. If so, the waste gets the appropriate F-code, and then continue to step "d" to assign characteristic codes. If the waste does not meet a F-code listing description, also go to step "d." Some common F-code activities include use of solvents, wood treatment activities, and electroplating operations.

c. If the remediation site is associated with the release of an unused commercial product, an out-of-date product, or an off-specification product from a manufacturing process, look under the P-code and U-code listings in 40 CFR §261.33 or 22 CCR §66261.33 for a match to the contaminants found at the site. P-code wastes are acutely toxic, and U-code waste are listed for chronic toxicity, reactivity, or ignitability. A common activity which results in this type of waste is a pesticide storage area where containers were rinsed or where releases occurred. Don't forget to check the lists for common synonyms of the chemical. The CAS number may also be used to review the list of waste codes. If the waste does not match any of the chemicals in this list, go to step "d."

d. This step is for assigning additional codes and for assigning codes to wastes that didn't fall into any of the categories described in steps a, b, or c. This step covers physical properties of the waste rather than the process that generated the waste. These waste characteristics are described in 40 CFR Part 261, Subpart C and 22 CCR 66261, Article 3. There are four categories of characteristics, known as D-code wastes: ignitable, corrosive, reactive and toxic. A waste may exhibit one or more of these characteristics. The only way to

determine whether a waste is regulated as a characteristic waste is to take a sample and analyze it for the characteristic, or to use other analytical data to determine if it exhibits one or more characteristics. Toxicity characteristics are discussed in more detail in Section 5 below. If the waste does not fall into any of the categories listed in steps "a" through "c" and does not exhibit a hazardous characteristic, it is not regulated as hazardous waste, although it may be regulated as designated waste.

In addition to the waste codes assigned under the federal regulations, the state of California uses its own set of waste codes that describe the physical nature of the waste. These waste codes should be identified for each hazardous waste according to the list of California waste codes in Appendix 1 to these instructions.

2.2 This section of the profile also requests information about the land disposal restrictions (LDR) that are applicable to the waste. LDR subcategories exist for some waste codes and should be indicated if applicable. If the waste meets the definition of a wastewater described in 40 CFR 268.2(f), please indicate that in this section. Wastewater is defined as wastes that contain less than 1% by weight total organic carbon (TOC) *and* less than 1% by weight total suspended solids (TSS), with exceptions for some wastes. In addition, 40 CFR Part 268 details the LDR treatment standards that apply to each hazardous waste code. These regulations should be used to identify specific LDR treatment standards for the waste described on the profile.

2.3 Biennial report generation source codes and waste form codes are used to track the waste generated by each installation throughout the year. This information is compiled and submitted to California EPA in biennial reports. Use the source and form codes that best describe the waste. Source code descriptions are included in Appendix 2, and form code descriptions are included in Appendix 3.

3.0 ***Transportation Information.*** This section is for completing the proper U.S. Department of Transportation shipping name, hazard class and UN/NA number. In addition, the reportable quantity (RQ) for the waste is shown here. DOT information is available in 49 CFR Part 172, and RQ information is available in 40 CFR Part 302.

4.0 ***Physical Properties.*** Important physical characteristics are described in this section of the profile, including many of the characteristics that will be used for verifying the waste identification when the waste is picked up by PRC's waste management contractor.

5.0 ***Toxicity Characteristics.*** This section of the profile deals with the toxicity category of the four characteristic waste categories. It contains a comprehensive listing of chemical constituents that are regulated by EPA and California. Their corresponding D-codes are shown in the list, as is the regulated level for each chemical. This section of the form should be completed even if the waste is listed as a K-code, F-code, P-code or U-code so that LDR requirements are addressed. It is usually based on an analytical report for the waste. If a sample will be collected for toxicity characteristic analysis, the constituents chosen for analysis should be based on a review of available corresponding environmental data, known activities at the site, and possible management methods for the waste.

6.0 ***Total Metals.*** Information on total metals is usually required for waste streams requiring certain types of treatment. For example, an inorganic sludge that exhibits a toxicity characteristic for cadmium and lead (D006 and D008) may be chemically stabilized to meet LDR treatment standards before it is landfilled. Usually this type of treatment consists of "fixing" the waste in

a concrete-like material. In order to ensure that the required EPA treatment standards will be met, the treatment company needs information on the total quantity of cadmium and lead in the waste so that is can develop the proper "recipe" for the waste and stabilizer.

7.0 ***Chemical Composition.*** All the components of the waste are listed, along with a range of their concentration. It is important that the average concentrations add up to 100%, so that al' the components are represented. The composition of a typical solvent/water waste stream is shown here.

Chemical Name	Avg.	Min.	Max.	Conc.
Xylol (Dimethylbenzene)	3	2	4	%
Ethyl Acetate	5	4	6	%
Methanol	1	1	2	%
Ethanol	1	1	2	%
Hexone (Methyl isobutyl ketone)	1	1	2	%
Aliphatic Naphtha (carrier)	69	50	70	%
Water	20	10	55	%
Total Composition	100	N/A	N/A	%

8.0 ***Additional Information and Comments.*** This section is for explaining any special conditions or handling required for the waste. In addition, this section should list the supporting documentation attached to the profile to support the waste characterization.

9.0 ***PRC Technical Review.*** A PRC Technical Manager will review each waste profile and indicate possible management options for the waste.

10.0 ***Generator Certification.*** The generator certification should be signed by the environmental coordinator for the Navy installation where the waste is generated.

Appendix 1 California Hazardous Waste Codes
Appendix 2 Biennial Report Generation Source Codes
Appendix 3 Biennial Report Waste Form Codes

APPENDIX 1

CALIFORNIA HAZARDOUS WASTE CODES

Appendix XII

California Hazardous Waste Codes

(a) Subdivisions (b) and (c) of this appendix establish the California Hazardous Waste Code Numbers assigned to wastes which have been identified as hazardous wastes pursuant to the characteristics of hazardous waste as set forth in article 3 of this chapter or pursuant to the lists of hazardous wastes in article 4 of this chapter. These Waste Code Numbers shall be used in complying with the notification requirements of Health and Safety Code section 25153.6 and, where applicable, in the recordkeeping and reporting requirements under chapters 12 through 15, 18, and 20 of this division.

(1) In cases where hazardous wastes may have both an EPA Hazardous Waste Number and a California Hazardous Waste Code Number, both numbers shall be used in complying with the notification requirements of Health and Safety Code section 25153.6 and the recordkeeping and reporting requirements under chapters 12 through 15, 18, and 20 of this division.

(2) If both a California Hazardous Waste Code from the "California Restricted Wastes" category and a code from another category of California Hazardous Waste Codes apply to a specific hazardous waste, the code from the "California Restricted Wastes" category shall be used.

(b) List of California Hazardous Waste Codes arranged in numerical order.

Waste Code Number	*Waste Description*
	(1) Inorganics:
121	Alkaline solution (pH ≤ 12.5) with metals (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc)
122	Alkaline solution without metals (pH > 12.5)
123	Unspecified alkaline solution
131	Aqueous solution (2 < pH < 12.5) containing reactive anions (azide, bromate, chlorite, cyanide, fluoride, hypochlorite, nitrite, perchlorate, and sulfide anions)
132	Aqueous solution with metals (restricted levels and see waste code 121 for a list of metals)
133	Aqueous solution with 10% or more total organic residues
134	Aqueous solution with less than 10% total organic residues
135	Unspecified aqueous solution
141	Off-specification, aged, or surplus inorganics
151	Asbestos-containing waste
161	Fluid-cracking catalyst (FCC) waste
162	Other spent catalyst
171	Metal sludge (see 121)
172	Metal dust (see 121) and machining waste
181	Other inorganic solid waste
	(2) Organics:
211	Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.)
212	Oxygenated solvents (acetone, butanol, ethyl acetate, etc.)
213	Hydrocarbon solvents (benzene, hexane, Stoddard, etc.)
214	Unspecified solvent mixture
221	Waste oil and mixed oil
222	Oil/water separation sludge
223	Unspecified oil-containing waste
231	Pesticide rinse water
232	Pesticides and other waste associated with pesticide production
241	Tank bottom waste
251	Still bottoms with halogenated organics
252	Other still bottom waste
261	Polychlorinated biphenyls and material containing PCB's
271	Organic monomer waste (includes unreacted resins)
272	Polymeric resin waste
281	Adhesives
291	Latex waste
311	Pharmaceutical waste
321	Sewage sludge
322	Biological waste other than sewage sludge
331	Off-specification, aged, or surplus organics
341	Organic liquids (nonsolvents) with halogens
342	Organic liquids with metals (see 121)
343	Unspecified organic liquid mixture
351	Organic solids with halogens
352	Other organic solids
	(3) Sludges:
411	Alum and gypsum sludge
421	Lime sludge
431	Phosphate sludge
441	Sulfur sludge
451	Degreasing sludge
461	Paint sludge
471	Paper sludge/pulp
481	Tetraethyl lead sludge
491	Unspecified sludge waste
	(4) Miscellaneous:
511	Empty pesticide containers 30 gallons or more
512	Other empty containers 30 gallons or more
513	Empty containers less than 30 gallons
521	Drilling mud
531	Chemical toilet waste
541	Photochemicals/photoprocessing waste
551	Laboratory waste chemicals
561	Detergent and soap
571	Fly ash, bottom ash, and retort ash
581	Gas scrubber waste
591	Baghouse waste
611	Contaminated soil from site clean-ups
612	Household waste
613	Auto shredder waste
	(5) California Restricted Wastes:
711	Liquids with cyanides ≥ 1000 mg/l
721	Liquids with arsenic ≥ 500 mg/l
722	Liquids with cadmium ≥ 100 mg/l
723	Liquids with chromium (VI) ≥ 500 mg/l
724	Liquids with lead ≥ 500 mg/l
725	Liquids with mercury ≥ 20 mg/l
726	Liquids with nickel ≥ 134 mg/l
727	Liquids with selenium ≥ 100 mg/l
728	Liquids with thallium ≥ 130 mg/l
731	Liquids with polychlorinated biphenyls ≥ 50 mg/l
741	Liquids with halogenated organic compounds ≥ 1000 mg/l
751	Solids or sludges with halogenated organic compounds ≥ 1000mg/kg
791	Liquids with pH ≤ 2
792	Liquids with pH ≤ 2 with metals
801	Waste potentially containing dioxins

(c) List of California Hazardous Waste Codes arranged alphabetically within each numbered category in this subdivision:

Waste Code Number	*Waste Description*
	(1) Inorganics:
121	Alkaline solution (pH ≥ 12.5) with metals (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc)
122	Alkaline solution without metals (pH ≥ 12.5)
131	Aqueous solution (2 < pH < 12.5) containing reactive anions (azide, bromate, chlorate, cyanide, fluoride, hypochlorite, nitrite, perchlorate, and sulfide anions)
133	Aqueous solution with 10% or more total organic residues
134	Aqueous solution with less than 10% total organic residues
132	Aqueous solution with metals (restricted levels and see waste code 121 for a list of metals)
151	Asbestos-containing waste
161	Fluid-cracking catalyst (FCC) waste
172	Metal dust (see 121) and machining waste
171	Metal sludge (see 121)
141	Off-specification, aged, or surplus inorganics
181	Other inorganic solid waste
162	Other spent catalysts
123	Unspecified alkaline solution
135	Unspecified aqueous solution
	(2) Organics:
281	Adhesives
322	Biological waste other than sewage sludge
211	Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.)
213	Hydrocarbon solvents (benzene, hexane, Stoddard, etc.)
291	Latex waste
331	Off-specification, aged, or surplus organics
222	Oil/water separation sludge
341	Organic liquids (nonsolvents) with halogens
342	Organic liquids with metals (see 121)
271	Organic monomer waste (includes unreacted resins)
351	Organic solids with halogens
352	Other organic solids
252	Other still bottom waste
212	Oxygenated solvents (acetone, butanol, ethyl acetate, etc.)
231	Pesticide rinse water
232	Pesticides and other waste associated with pesticide production
311	Pharmaceutical waste
261	Polychlorinated biphenyls and material containing PCBs
272	Polymeric resin waste
321	Sewage sludge
251	Still bottoms with halogenated organics
241	Tank bottom waste
223	Unspecified oil-containing waste
343	Unspecified organic liquid mixture
214	Unspecified solvent mixture
221	Waste oil and mixed oil
	(3) Sludges:
411	Alum and gypsum sludge
431	Degreasing sludge
421	Lime sludge
461	Paint sludge
471	Paper sludge/pulp
431	Phosphate sludge
441	Sulfur sludge
481	Tetraethyl lead sludge
491	Unspecified sludge waste
	(4) Miscellaneous:
613	Auto shredder waste
591	Baghouse waste
531	Chemical toilet waste
611	Contaminated soil from site clean-ups
561	Detergent and soap
521	Drilling mud
513	Empty containers less than 30 gallons
511	Empty pesticide containers 30 gallons or more
571	Fly ash, bottom ash, ad retort ash
581	Gas scrubber waste
612	Household waste
551	Laboratory waste chemicals
512	Other empty containers 30 gallons or more
541	Photochemical/photoprocessing waste
	(5) California Restricted Wastes:
721	Liquids with arsenic ≥ 500 mg/l
722	Liquids with cadmium ≥ 100 mg/l
723	Liquids with chromium (VI) ≥ 500 mg/l
711	Liquids with cyanides ≥ 1000 mg/l
741	Liquids with halogenated organic compounds ≥ 1000 mg/l
724	Liquids with lead ≥ 500 mg/l
725	Liquids with mercury ≥ 20 mg/l
726	Liquids with nickel ≥ 134 mg/l
791	Liquids with pH ≤ 2
792	Liquids with pH ≤ 2 with metals
731	Liquids with polychlorinated biphenyls ≥ 50 mg/l
727	Liquids with selenium ≥ 100 mg/l
728	Liquids with thallium ≥ 130 mg/l
751	Solids or sludges with halogenated organic compounds ≥ 1000 mg/l
801	Waste potentially containing dioxins

Note: Authority cited: Sections 208 and 25150, Health and Safety Code. Reference: Sections 25117.9, 25122.7, and 25150, Health and Safety Code.

History

1. New section filed 5-24-91, effective 7-1-91 (Register 91, No. 22).

APPENDIX 2

BIENNIAL REPORT GENERATION SOURCE CODES

Code	Description
	CLEANING AND DEGREASING
A01	Stripping
A02	Acid Cleaning
A03	Caustic (Alkali) Cleaning
A04	Flush rinsing
A05	Dip rinsing
A06	Spray rinsing
A07	Vapor degreasing
A08	Physical scraping and removal
A09	Clean out process equipment
A19	Other cleaning and degreasing
	SURFACE PREPARATION AND FINISHING
A21	Painting
A22	Electroplating
A23	Electroless plating
A24	Phosphating
A25	Heat treating
A26	Pickling
A27	Etching
A29	Other surface coating/preparation (Specify in comments)
	PROCESSES OTHER THAN SURFACE PREPARATION
A31	Product rinsing
A32	Product filtering
A33	Product distillation
A34	Product solvent extraction
A35	By-product processing
A36	Spent catalyst removal
A37	Spent process liquids removal
A38	Tank sludge removal
A39	Slag removal
A40	Metal forming
A41	Plastics forming
A49	Other processes other than surface preparation (specify in comments)

Code	Description
	PRODUCTION OR SERVICE DERIVED 0NE-TIME AND INTERMFTTENT PROCESSES
A5l	Leak collection
A53	Cleanup of spill residues
A54	Oil changes
A55	Filter/Battery replacement
A56	Discontinue use of process equipment
A57	Discarding off-spec material
A58	Discarding out-of-date products or chemicals
A59	Other production-derived one-time and intermittent processes
A60	Sludge removal
	REMEDIATION DERIVED WASTE
A61	Superfund Remedial Action
A62	Superfund Emergency Response
A63	RCRA Corrective Action at solid waste management unit
A64	RCRA closure of hazardous waste management unit
A65	Underground storage tank cleanup
A69	Other remediation
	POLLUTION CONTROL OR WASTE TREATMENT PROCESSES
A71	Filtering/screening
A72	Metals recovery
A73	Solvents recovery
A74	Incineration/thermal treatment
A75	Wastewater treatment
A76	Sludge dewatering
A77	Stabilization
A78	Air pollution control devices
A79	Leachate collection
A89	Other pollution control or waste management (specify in comments)
	OTHER PROCESSES
A91	Clothing and personal protective equipment
A92	Routine cleanup wastes (e.g., floor sweepings)
A93	Closure of management unit(s) or equipment other than by remediation specified in codes A61-A69
A94	Laboratory wastes
A99	Other

APPENDIX 3

BIENNIAL REPORT WASTE FORM CODES

Code	Description
	LAB PACKS. Lab packs of mixed wastes, chemicals, lab wastes
B001	Lab packs of old chemicals only
B002	Lab packs of debris only
B003	Mixed lab packs
B004	Lab packs containing acute hazardous wastes
B009	Other lab packs (specify in comments)
	LIQUIDS
	Inorganic Liquids – Waste that is primarily inorganic and highly fluid (e.g., aqueous), with low suspended solids and low organic content
B101	Aqueous waste with low solvents
B102	Aqueous waste with low other toxic organics
B103	Spent acid with metals
B104	Spent acid without metals
B105	Acidic aqueous waste
B106	Caustic solution with metals but no cyanides
B107	Caustic solution with metals and cyanides
B108	Caustic solution with cyanides but no metals
B109	Spent caustic
B110	Caustic aqueous waste
B111	Aqueous waste with reactive sulfides
B112	Aqueous waste with other reactives (e.g., explosives)
B113	Other aqueous waste with high dissolved solids
B114	Other aqueous waste with low dissolved solids
B115	Scrubber water
B116	Leachate
B117	Waste liquid mercury
BI 19	Other inorganic liquids (specify in comments)
	Organic Liquids – Waste that is primarily organic and is highly fluid, with low inorganic solids content and low-to-moderate water content
B201	Concentrated solvent-water solution
B202	Halogenated (e.g., chlorinated) solvent
B203	Non-halogenated solvent
B204	Halogenated/non-halogenated solvent mixture
B205	Oil-water emulsion or mixture
B206	Waste oil
B207	Concentrated aqueous solution of other organics

Code	Description
B208	Concentrated phenolics
B209	Organic paint, ink, lacquer, or varnish
B210	Adhesives or epoxies
B211	Paint thinner or petroleum distillates
B212	Reactive or polymerizable organic liquid
B219	Other organic liquids (specify in comments)
	SOLIDS
	Inorganic Solids – Waste that is primarily inorganic and solid, with low organic content and low-to-moderate water content; not pumpable
B301	Soil contaminated with organics
B302	Soil contaminated with inorganics only
B303	Ash, slag, or other residue from incineration of wastes
B304	Other "dry" ash, slag, or thermal residue
B305	"Dry" lime or metal hydroxide solids chemically 'fixed"
B306	"Dry" lime or metal hydroxide solids not "fixed"
B307	Metal scale, filings, or scrap
B308	Empty or crushed metal drums or containers
B309	Batteries or battery parts, casings, cores
B310	Spent solid filters or adsorbents
B311	Asbestos solids and debris
B312	Metal-cyanide salts/chemicals
B313	Reactive cyanide salts/chemicals
B314	Reactive sulfide salts/chemicals
B315	Other reactive salts/chemicals
B316	Other metal salts/chemicals
B319	Other waste inorganic solids (specify in comments)
	Organic Solids – Waste that is primarily organic and solid, with low-to-moderate inorganic content and water content; not pumpable
B401	Halogenated pesticide solid
B402	Non-halogenated pesticide solid
B403	Solid resins or polymerized organics
B404	Spent carbon
B405	Reactive organic solid
B406	Empty fiber or plastic containers
B407	Other halogenated organic solids (specify in comments)
B409	Other non-halogenated organic solids (specify in comments)

Code	Description
	SLUDGES
	Inorganic Sludges – Waste that is primarily inorganic, with moderate-to-high water content and low organic content, and pumpable
B501	Lime sludge without metals
B502	Lime sludge with metals/metal hydroxide sludge
B503	Wastewater treatment sludge with toxic organics
B504	Other wastewater treatment sludge
B505	Untreated plating sludge without cyanides
B506	Untreated plating sludge with cyanides
B507	Other sludge with cyanides
B508	Sludge with reactive sulfides
B509	Sludge with other reactives
B510	Degreasing sludge with metal scale or filings
B511	Air pollution control device sludge (e.g., fly ash, wet scrubber sludge)
B512	Sediment or lagoon dragout contaminated with organics
B513	Sediment or lagoon dragout contaminated with inorganics only
B514	Drilling mud
B515	Asbestos slurry or sludge
B516	Chloride or other brine sludge
B519	Other inorganic sludges (specify in comments)
	Organic Sludges – Waste that is primarily organic with low-to-moderate inorganic solids content and water content, and pumpable
B601	Still bottoms of halogenated (e.g., chlorinated) solvents or other organic liquids
B602	Still bottoms of non-halogenated solvents or other organic liquids
B603	Oily sludge
B604	Organic paint or ink sludge
B605	Reactive or polymerizable organics
B606	Resins, tars, or tarry sludge
B607	Biological treatment sludge
B608	Sewage or other untreated biological sludge
B609	Other organic sludges (specify in comments)
	GASES
	Inorganic Gases – Waste that is primarily inorganic with a low organic content and is a gas at atmospheric pressure
13701	Inorganic gases
	Organic Gases – Waste that is primarily organic with low-to-moderate inorganic content and is a gas at atmospheric pressure
B801	Organic gases

ATTACHMENT D

SAMPLE LAB PACKING PROCEDURES FOR ON-SITE LABORATORIES

ATTACHMENT D

SAMPLE LABPACKING PROCEDURES FOR ON-SITE LABORATORIES

INTRODUCTION

The purpose of this standard operating procedure (SOP) is to describe the procedure for waste management at field laboratories under Tetra Tech's Navy AECRU contract. Five separate waste streams have been identified based on the predominate matrix of the waste (solid or liquid) and general type of waste (solid or liquid).

ASSOCIATED SOPS

None.

MATERIALS NEEDED

- Sharpies
- 1-gallon ziplock bags
- Garbage bags
- Liquid waste container
- Solid waste container
- Trash can

PROCEDURE

1. Laboratory wastes will be divided into the following five waste streams:

WASTE STREAM	GENERAL COMPONENTS	APPROPRIATE CONTAINER
Injection vial waste	Standard and sample injection vials	Labeled 1-gallon ziplock bag
General liquid waste	Water and solvent waste from standard/sample prep (decanted from the 40 mL vials) and analysis (purged samples)	Liquid waste container
Soil prep waste	Capped 40 mL vials with soil (solvent already decanted), unused dried soil from soil moisture, and excess soil from any soil prep	Labeled I-gallon ziplock bag
General solid waste	Empty solvent bottles, disposable pipettes	Single bagged, solid waste can
PPE waste	Gloves, paper towels, miscellaneous garbage	Double bagged trash can

2. The waste streams contain the following expected constituents and will be disposed of in the manner stated below.

WASTE STREAM	EXPECTED CONSTITUENTS	FINAL DISPOSAL
Injection vial waste	Capped 2mL vials with 95.9% hexane, 4% methanol, 1% methylene chloride, and <0.1% diesel, gasoline, and BTEX	Lab pack – see waste coordinator
General liquid waste	30% water, 30% acetone, 30% methanol, and 10% hexane	Lab pack – see waste coordinator
Soil prep waste	Capped 40 mL vials with 60% soil, 5% acetone, 5% methanol, 30% loose soil with aluminum pans	Lab pack – see waste coordinator
General solid waste	Trace solvents: acetone, methanol, and hexane	Lab pack – see waste coordinator
PPE waste	50% gloves, 25% paper towels, 25% miscellaneous trash	Double bag and place in trash dumpster

3. All ziplock bags will be labeled with the type of waste stream, the date started and the initials of the person beginning the accumulation of the waste. The liquid waste container, solid waste can, and garbage can need permanently affixed general labels that describe the type of waste contained.

ATTACHMENT E

REQUEST FOR EXTENSION TO 90-DAY ACCUMULATION DEADLINE

STATE OF CALIFORNIA - ENVIRONMENTAL PROTECTION AGENCY

PETE WILSON, Governor

DEPARTMENT OF TOXIC SUBSTANCES CONTROL
700 HEINZ AVE., SUITE 200
BERKELEY, CA 94710

To: Applicants Requesting Storage Extension

From: Toxic Substances Control Program, Region 2

Subject: Storage Extension Application to the 90 Day Hazardous Waste Storage Limit

The Department of Health Services (Department) may grant an extension of up to 30 days to the generator who cannot meet the 90 day on site hazardous waste storage requirements. According to Title 40, Code of Federal Regulations (CFR), Section 262.34(b) and Title 22, California Code of Regulations (CCR), Section 66508(b), "an extension of up to 30 days may be granted if hazardous wastes must remain on site for longer than 90 days due to unforeseen, temporary, and uncontrollable circumstances."

The procedure adopted by the Department in granting such an extension is as follows:

A. The generator who cannot meet the 90 day on-site hazardous waste storage requirements submits to the Department a Storage Extension Application.

B. The Department reviews the request based on the information in the application. The request may be approved or denied.

   1. If the request is approved, an appropriate expiration date will be given. The hazardous wastes must be removed from the facility within the extension time limit given.

   2. If the request if denied, the Department will explain the reason for the denial. In most cases, denials are automatically given to applications submitted after the 90 day storage limit or for incomplete applications. The hazardous wastes must still be appropriately removed from the facility within 90 days.

C. The processing time is approximately 10 days. The processed application with the Department's determination will be returned to the generator.

D. An extension of up to 30 days will be granted only once by the Department.

E. An extension does not waive any other provisions of law or regulations. All requirements for hazardous waste generators still apply.

F. A legible photocopy of the manifest showing that the waste was removed within the allotted time must be submitted to the Department within 10 days after the expiration of the extension. The application number found on the first page of the "FOR OFFICE USE ONLY BOX" of the application must be printed on the top center of the copied manifest.

G. Applications must be filled out accurately and completely. Inaccurate applications may be subject to enforcement action if the information provided is misrepresented.

If you have any questions, please contact this office at (415) 540-3734.

Sincerely,

Michael R. James
Branch Chief
Facility Permitting Branch
Region 2
Toxic Substances Control Program

Enclosure(s)

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
Department of Toxic Substances Control

HAZARDOUS WASTE STORAGE EXTENSION APPLICATION

FOR OFFICE USE ONLY
Appl. No._____
___ Approved Exp. date_____
___ Denied (see comments on following page)
Prepared by _____ Date _____

Please type the following information.

Generator Name **EPA ID#**

Site Address **City** **State** **Zip Code**

Mailing Address **City** **State** **Zip Code**

Name of Applicant **Title** **Telephone**

Signature of Applicant **Date**

A. DESCRIPTION OF WASTE:

	Waste Component(s)	Waste Code	Concentration	Quantity (gal/drum)
1.				
2.				
3.				
4.				

B. DESCRIPTION OF STORAGE:

- ☐ drums Type:_____
- ☐ tanks Type:_____
- ☐ bins Type:_____
- ☐ others (specify): Type:_____

TOXIC SUBSTANCES CONTROL PROGRAM REGIONAL OFFICES

Region 1
10151 Croydon Way
Sacramento, CA 95827
(916) 855-7200

Region 2
700 Heinz Avenue
Bldg. F, 3rd Floor
Berkeley, CA 94710
(415) 540-3734

Region 3
1405 N. San Fernando Blvd.
Suite 300
Burbank, CA 91504
(818) 567-3000

Region 4
245 West Broadway
Suite 350
Long Beach, CA 90802
(213) 590-4868

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
Department of Toxic Substances Control

HAZARDOUS WASTE STORAGE EXTENSION APPLICATION

Please type the following information.

C. BRIEF DESCRIPTION OF STORAGE AREA (i.e., containment system, berms, warning signs, etc.).

D. Accumulation Start Date:_____

E. Date of 90 Day Storage Limit:_____

F. Number of Additional Days Requested:_____
(30 day maximum)

G. REASON FOR STORAGE EXTENSION:

FOR OFFICE USE ONLY

Reason for Denial:

☐ Does not meet Title 22, California Code of Regulations, Section 66508(b)

☐ Other (specify):

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL
FACILITY MANAGEMENT BRANCH
245 West Broadway, Suite 350
Long Beach, California 90802

STORAGE EXTENSION APPLICATION

I. Extension from 90-day storage requirements is limited to the generator who cannot meet the 90-day on-site storage requirements due to some unforeseeable circumstances. The maximum additional time to be allowed will be 30 days (22 CCR 66508). To apply for a storage extension, you must submit the following information to the address above:

II. Application

1. Name and address of the facility:

_____

_____

_____

2. Address where waste is located (if different from above):

_____

_____

_____

3. EPA ID Number: _____

4. Contact Person: _____

Telephone Number: _____

5. Type, quantity and concentration of waste to be stored:

_____

_____

6. Brief description of storage area (i.e., containment system, berm, warning sign, etc.):

_____

_____

7. Type of storage (i.e., drums or tanks):

_____

_____

8. Reason for requesting a storage extension:

_____

_____

_____

_____

_____

9. Accumulation start date: _____

10. Number of additional days requested: _____
(30-day maximum)

11. Submit a copy of manifest document pertaining to the hazardous wastes stored for this specific request.

12. Applicant's Signature: _____

Date: _____

ATTACHMENT F

TRAINING REQUIREMENTS FOR WASTE MANAGEMENT PERSONNEL

Tetra Tech EM Inc. (Tetra Tech) employees and subcontractors who perform IDW management activities related to storage and packaging of waste should be trained to perform those duties in a safe manner that is protective of the environment. The training should meet the substantive requirements of 40 CFR §265.16 and 22 CCR §66265.16, although training received to meet other hazardous waste operations requirements may be used in whole or in part to meet these requirements.

The U.S. Environmental Protection Agency (EPA) requires that personnel at hazardous waste facilities successfully complete a program of classroom or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with hazardous waste management requirements. The program should be directed by a person trained in hazardous waste management procedures, and it should include instruction which teaches facility personnel hazardous waste management procedures, including implementation of the contingency plan, for any duties they are expected to perform. Tetra Tech project managers or installation coordinators should ensure that facility storage area personnel are able to respond effectively to emergencies by incorporating the following elements into training sessions:

- Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment
- Communications and alarm systems
- Response to fire or explosions
- Response to groundwater contamination incidents
- Shutdown of operations

Initial training must be conducted within 6 months of an employee's hire or assignment to storage area duties. During the 6-month period, the employee cannot work unsupervised until the training is received. Each employee must participate in refresher training at least annually.

Training records should be kept for each installation and each employee with storage area duties. The installation training records should consist of the following:

- A written job description for each position and the name of each employee filling the position.
- A written description of the type and amount of both introductory and annual training that is given to each person for each position described above.
- Records that document that the training or job experience required has been given to each storage area employee.

Each employee's training files should contain a record of the introductory and annual training given and the date of completion.

Training records should be maintained at the installation until the storage area is closed. Training records for individual employees should he maintained for 3 years after the employee has left employment with Tetra Tech or is transferred to other duties.

The following sample training plan outline may he used to develop a site-specific training program.

1 Training Plan Objectives

1.1 Allow for safe operation of the accumulation storage area (ASA)

1.2 Instruct employees in methods to keep ASA in compliance with applicable regulations at all times

2 Training Management

2.1 Tetra Tech Health and Safety Program

2.1.1 Occupational Safety and Health Administration Required Training

2.1.2 First Aid and CPR Training

2.2 Navy Facility Managers

3 Training Plan Design

3.1 Initial Training

3.1.1 Introductory On-The-Job Training

3.1.1.1 Procedures for using, inspecting, repairing and /or replacing ASA equipment and emergency equipment

3.1.1.2 Familiarize employees with the contingency plan, emergency procedures, communication equipment, and alarm systems

3.1.1.3 Learn appropriate responses to fires, releases, injuries, and natural disasters as they relate to the ASA and post-emergency procedures

3.1.1 Hazardous Waste Operations and Emergency Response (HAZWOPER) Training

3.1.2 First Aid and CPR Training

3.2 Continuing Training

3.2.1 Annual HAZWOPER Refresher

3.2.2 First Aid and CPR Training

3.3 Record keeping

3.3.1 Training Records

3.3.2 Job Descriptions

ATTACHMENT G

SAMPLE CONTINGENCY PLAN OUTLINE FOR ACCUMULATION CONTAINER STORAGE AREA

I. Accumulation Storage Area (ASA) Description

A. Location of ASA

1. Vicinity Location map
2. Neighboring areas
3. Proximity to investigation

B. Rationale for location choice

C. Description of ASA

1. ASA layout map
2. Storage capacities
3. Types of waste being accumulated
4. Required packaging of waste
5. Evacuation Plan

II. Operations at ASA

A. Placement of waste for storage

B. Preparation of waste for transport

C. Removal of waste from site

D. Inspections

III. Emergency Coordinator

A. Designation of coordinator

1. Coordinator rotation schedule
2. Method of contact
   a. Phone list
   b. Pager
   c. Cellular

B. Emergency Coordinator Responsibilities

1. Contact Facility personnel
   a. Navy environmental personnel to be contacted
   b. Tetra Tech personnel to be contacted
2. Determination of extent of emergency
   a. Determine problem

b. Determine appropriate response. Take into account training of personnel, threat to human health, threat to environment, ambient conditions.

3. Implement response action
4. Oversee response action
5. Evaluate response action
6. Review response action records
7. Amend contingency plan as required based on evaluation of response

IV. Coordination Agreements. Results of attempts to arrange emergency response actions with facility emergency response personnel.

V. Emergency Equipment
   A. Types of hazards anticipated
   B. Emergency Response equipment at the ASA
      1. Placement of equipment on ASA site map
      2. Limitations of emergency equipment
      3. Emergency equipment available from Navy

VI. Implementation of Contingency Plan
   A. Fire or Explosion
   B. Release
   C. Geologic or rneteorological events
   D. Medical emergency

VII. Emergency Response Procedures
   A. Injured personnel
   B. Fire
   C. Release
   D. Approaching storms

VIII. Procedures when requesting Navy or other outside emergency services

IX. Post-emergency procedures
   A. Storage and treatment of released material
   B. Emergency equipment maintenance

X. Notification and reporting

A. Navy contacts

B. Local contacts

1. Regional Water Quality Control Board

2. Regional Department of Toxic Substances Control

C. State contacts: California State Office of Emergency Services

D. National contacts

1. U.S. Environmental Protection Agency

2. U.S. Department of Transportation

3. Others

XI. Amendments to Contingency Plan

ATTACHMENT H

SAMPLE CLOSURE PLAN OUTLINE FOR ACCUMULATION STORAGE UNIT

I. Closure Plan Objective

A. To close any portion of the storage unit at any time during its active lifetime

B. To close the accumulation storage units in a manner that meets the Closure Performance Standard outlined in 40 CFR §265.111

1. Minimizes the need for further maintenance

2. Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste decomposition products to the ground or surface waters or to the atmosphere

3. Complies with the applicable closure requirements for tanks and container storage units

II. Description of the Accumulation Storage Unit

A. Location and vicinity

B. Site Layout. Include plan showing detail of storage unit.

C. History of accumulation storage unit site

1. Past uses of site

2. Results of soil and/or groundwater analysis of site

III. Operations

A. Person(s) managing accumulation storage area

B. Description and rationale behind site layout

1. Maximum storage capacity

2. Physical harriers to control movement of waste into and out of accumulation storage area

3. Containment areas

C. Equipment used to minimize releases

D. Procedures used to minimize releases

1. Inspections

2. Storage procedures

IV. Closure of Container Storage Area (if applicable)

A. Removal of maximum inventory

B. Decontamination and disposal of structures

C. Management of wastes generated during closure

D. Verification sampling

E. Closure and post-closure documentation

V. Closure of Tank(s)

A. Removal of maximum inventory

B. Decontamination of tank(s), ancillary equipment, and containment areas

C. Management of waste generated during closure

D. Verification sampling

E. Closure documentation

F. Contingent closure and post-closure

1. If subsurface contamination is found, plans to be taken to close the tank as a landfill (40 CFR §265.310)

2. Plans for post-closure care and monitoring

ATTACHMENT I

SAMPLE STORAGE AREA INSPECTION FORM

ACCUMULATION STORAGE UNIT
GENERAL INSPECTION – WEEKLY

INSPECTED BY:_____ _____ __/__/__
Inspector's name (print) Signature Date Time

REVIEWED BY: _____ _____ __/__/__
Manager's name (print) Signature Date Time

EQUIPMENT/AREA	SAT	UNSAT	COMMENTS
FACILITY PROPER			
Evacuation Routes			
Access (Unobstructed)	☐	☐	
Emergency exits unlocked at start of day	☐	☐	
Pavement/curbing			
No evidence of leakage, spillage, or accumulated liquid	☐	☐	
Access Road			
Access (Unobstructed)	☐	☐	
Condition (No holes, depressions, or debris)	☐	☐	
.....	☐	☐	
SECURITY DEVICES			
Fences			
Condition (No damage or corrosion)	☐	☐	
Gates			
Condition (No damage or corrosion)	☐	☐	
Operation (Swing or slide freely)	☐	☐	
Access (Unobstructed)	☐	☐	
Padlocks			
Present at each gate	☐	☐	
Operation	☐	☐	
Warning Signs			
Presence (Maximum 75 feet apart	☐	☐	
Legibility (From a minimum 25 feet away)	☐	☐	

EQUIPMENT/AREA	SAT	UNSAT	COMMENTS
SAFETY AND EMERGENCY EQUIPMENT			
Emergency Shower/Eye Wash Stations			
Adequate supply of eyewash solution	☐	☐	
Handle operation	☐	☐	
Water {Pressure, volume, and flow)	☐	☐	
Identification signs (Present, legible, and in satisfactory condition)	☐	☐	
Access (Unobstructed)	☐	☐	
Portable Fire Extinguishers			
Each type present at designated location	☐	☐	
Charge (Adequate pressure)	☐	☐	
Access (Unobstructed)	☐	☐	
Service tags (Attached to each and up to date)	☐	☐	
Spill Kits			
SEE INSPECTION LAYOUT			
Present at designated locations	☐	☐	
Identification markings (Legible)	☐	☐	
Access (Unobstructed)	☐	☐	
Communication System – Telephones			
Present at designated locations	☐	☐	
Operation (Capable of obtaining an outside line)	☐	☐	
First Aid Kits			
Present at designated locations	☐	☐	
Access (Unobstructed)	☐	☐	
OPERATING EQUIPMENT			
Handtruck			
Condition (No damage or corrosion)	☐	☐	
Containers			
Condition (No leaks, buckles, bulges, or corrosion)	☐	☐	
Verify containers are sitting securely on pallets, are adequately supported and not tilted	☐	☐	
Labels/Markings			
Present on each container (Hazardous Waste affixed, not deteriorated)	☐	☐	
Completion of information	☐	☐	
Accumulation Start Date (Less than 90-days)	☐	☐	
Visibility	☐	☐	
Legibility	☐	☐	

EQUIPMENT/AREA	SAT	UNSAT	COMMENTS
Pallets			
Condition (No evidence of leakage or broken planks)	☐	☐	
Storage Pad			
No evidence of leakage, spillage, or accumulated liquid in the vicinity of storage pad	☐	☐	
Container placement (All containers are stored on pad)	☐	☐	
Access to air horns, fire extinguishers, spill kits, entrances/exits (Unobstructed)	☐	☐	
Proper segregation of incompatible wastes	☐	☐	
All containers of ignitable, oxidizer, or reactive waste stored at least 50 ft. from property line	☐	☐	
Secondary Containment			
No evidence of leakage, spills or accumulated liquid	☐	☐	
No cracks, corrosion or obstructions	☐	☐	
No evidence of infiltration of rainwater	☐	☐	
Integrity of coating	☐	☐	
Surrounding Area			
No intrusion of debris, erosion, or evidence of a release (e.g., wet spots, discoloration, dead or dying vegetation)..	☐	☐	
TANK STORAGE AREAS			
Materials of Construction			
Tank supports, anchors, walls, bottoms, seams, and joints (No damage, corrosion, buckles, bulges, and evidence of leakage)	☐	☐	
Ancillary Equipment			
Condition of piping, valves, flanges, and fixtures (No damage, corrosion, buckles, or bulges, or evidence of leakage)	☐	☐	
Operation	☐	☐	
Overfill/Spill Prevention Control			
Liquid level indicator (No obstruction of movement)	☐	☐	
Record quantity of liquid in each tank	☐	☐	
Compare liquid level indicators to actual levels	☐	☐	
Record quantity of liquid in each tank, verify no more than 95% full	☐	☐	
Verify high level alarms and shutoffs	☐	☐	
Labels/Markings			
Present on each tank (content identification)	☐	☐	
Completeness of information	☐	☐	
Visibility	☐	☐	
Legibility	☐	☐	

EQUIPMENT/AREA	SAT	UNSAT	COMMENTS
Secondary Containment (Tanks, Ancillary Equipment)			
No evidence of leakage, spills or accumulated liquid	☐	☐	
No cracks, corrosion or obstructions	☐	☐	
No evidence of infiltration of rainwater	☐	☐	
Surrounding Area			
No intrusion of debris, erosion, or evidence of a release (e.g., wet spots, discoloration, dead or dying vegetation).....	☐	☐	

ACCUMULATION STORAGE AREA

TASK INSPECTION – DAILY

INSPECTED BY:_____ _____ __/__/

Inspector's name (print) Signature Date Time

REVIEWED BY: _____ _____ __/__/

Manager's name (print) Signature Date Time

EQUIPMENT/AREA	SAT	UNSAT	COMMENTS
HAZARDOUS WASTE TANK SYSTEM			
Materials of Construction			
Tank supports, anchors, walls, bottoms, seams, and joints (No damage, corrosion, buckles, bulges, and evidence of leakage)	☐	☐	
Ancillary Equipment			
Condition of piping, valves, flanges, and fixtures (No damage, corrosion, buckles, bulges, and evidence of leakage)	☐	☐	
Operation	☐	☐	
Overfill/Spill Prevention Control			
Liquid level indicator (No obstruction of movement).....	☐	☐	
Verify tanks filled to no more than 95% capacity.....	☐	☐	
Verify high level alarms and shutoffs	☐	☐	
Secondary Containment (Tanks, Ancillary Equipment)			
No evidence of leakage, spills or accumulated liquid.....	☐	☐	
No cracks, corrosion, or obstructions.....	☐	☐	
No evidence of infiltration of rainwater.....	☐	☐	
Surrounding Area			
No intrusion of debris, erosion, or evidence of a release (e.g., wet spots, discoloration, dead or dying vegetation)..	☐	☐	

ATTACHMENT J

SAMPLE STORAGE AREA INVENTORY FORM

WESTDIV CLEAN N62474-88-D-5086

INVESTIGATION DERIVED WASTE

STORAGE AREA INVENTORY

Installation ____________ Storage Area Designation ____________ Storage Area Manager ____________

STORAGE	DISPOSITION
CTO # ______ IDW Description ______ Profile # ______ Date Generated ______ CLIN ______ CONTAINER STORAGE Type of Container ______ DOT POP Specification ______ No. of Containers ______ Total Volume ______ gals lbs tons yd³ Container No. ______ TANK STORAGE Tank(s) Used ______ Material of Construction ______ Total Volume ______ Maximum Allowable Volume ______	OFF-SITE DISPOSAL/TREATMENT Date Shipped ______ Manifest ______ Destination ______ D.O. # ______ Notes ______ ON-SITE DISPOSAL/TREATMENT Date Shipped ______ BOL # ______ Destination ______ D.O. # ______ Notes ______
CTO # ______ IDW Description ______ Profile # ______ Date Generated ______ CLIN ______ CONTAINER STORAGE Type of Container ______ DOT POP Specification ______ No. of Containers ______ Total Volume ______ gals lbs tons yd³ Container No. ______ TANK STORAGE Tank(s) Used ______ Material of Construction ______ Total Volume ______ Maximum Allowable Volume ______	OFF-SITE DISPOSAL/TREATMENT Date Shipped ______ Manifest ______ Destination ______ D.O. # ______ Notes ______ ON-SITE DISPOSAL/TREATMENT Date Shipped ______ BOL # ______ Destination ______ D.O. # ______ Notes ______
CTO # ______ IDW Description ______ Profile # ______ Date Generated ______ CLIN ______ CONTAINER STORAGE Type of Container ______ DOT POP Specification ______ No. of Containers ______ Total Volume ______ gals lbs tons yd³ Container No. ______ TANK STORAGE Tank(s) Used ______ Material of Construction ______ Total Volume ______ Maximum Allowable Volume ______	OFF-SITE DISPOSAL/TREATMENT Date Shipped ______ Manifest ______ Destination ______ D.O. # ______ Notes ______ ON-SITE DISPOSAL/TREATMENT Date Shipped ______ BOL # ______ Destination ______ D.O. # ______ Notes ______

ATTACHMENT K

DISCHARGE REQUIREMENTS FOR SELECTED INSTALLATION WASTEWATER TREATMENT PLANTS

TREASURE ISLAND

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 90-081

NPDES PERMIT NO. CA0110116

REISSUING WASTE DISCHARGE REQUIREMENTS FOR:

U.S. NAVY, NAVAL SUPPORT ACTIVITY
TREASURE ISLAND, SAN FRANCISCO COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter called the Board, finds that:

1. The United States Navy, hereinafter called the discharger, submitted a report of waste discharge dated December 29, 1989, for reissuance of NPDES Permit No. CA0110116 for the Naval Support Activity, Treasure Island. The discharge is presently governed by waste discharge requirements contained in Order No. 85-61 issued by the Board on May 15, 1985.

2. The discharger presently discharges an annual average of 0.7 million gallons per day (mgd) of domestic waste from its wastewater treatment plant located on the north side of Treasure Island into San Francisco Bay, a water of the United States, at latitude 37 Deg/49 Min/50 Sec and longitude 122 Deg/21 Min/25 Sec. The waste receives secondary treatment (trickling filter) with chlorination and dechlorination, and is discharged through a submarine outfall 400 feet offshore in 30 feet of water. Average dry weather design flow is 2.0 mgd and peak wet weather design flow is 4.4 mgd. Sludge from the wastewater treatment facility is stabilized in anaerobic digesters and reprocess for fertilizer.

3. To improve the operational reliability, the plant is currently undergo series of major process improvements. The improvement programs consist of:

   -- Construction of Equalization Basin
   -- Addition of a Plastic Media Trickling Filter
   -- Renovation of the Primary Sedimentation Basin
   -- Construction of a Secondary Sedimentation Basin
   -- Modification to Sludge Handling System
   -- Construction of an Operation/Laboratory Building

4. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986, and the State Water Resources Control Board (SWRCB) approved it on May 21, 1987.

5. The benificial uses of San Francisco Bay and contiguous water-bodies are:

Industrial Service Supply
Industrial Process Supply
Naigation
Water Contact Recreation
Non-Contact Water Recreation
Ocean Commercial and Sport Fishing
Wildlife Habitat
Preservation of Rare and Endangered Species
Fish Migration
Fish Spawning
Shellfish Harvesting
Estuarine Habitat

6. An Operations and Maintenance Manual is maintained by the discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, facilities, and recommended operating strategies, process control monitoring, and maintenance activities. In order to remain a useful and relevant document, this manual should be kept updated to reflect significant changes in plant facilities or activities.

7. This Order serves as an NPDES Permit, reissuance of which is exempt from the provision of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

8. The discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided with the opportunity for a public hearing and the opportunity to submit their written views and recommendations.

9. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, that the discharger in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and the provisions of the Clean Water Act as amended and regulations and guidelines adopted thereunder shall comply with the following:

A. Discharge Prohibitions

1. Bypass or overflow of untreated wastewater to waters of the State either at the treatment plant or from any of the discharger's interceptor system and pump stations tributary to the treatment plant is prohibited.

2. The average dry weather flow shall not exceed 2.0 mgd. Average shall be determined over three consecutive months each year.

B. Effluent Limitation

1. Effluent discharged shall not exceed the following limits:

Constituents	Units	Monthly Average	Weekly Average	Maximum Daily	Instantaneou Maximum
a. Settleable Matter	ml/l-hr	0.1	—	—	0.2
b. BOD (5-day)		30	45	—	—
c. Total Suspended Solid	mg/l	30	45	—	—
d. Oil & Grease	mg/l	10	—	20	—
e. Total Chlorine Residual (1)	mg/l	—	—	—	0.0

(1) Requirement defined as below the limit of detection in standard test method.

2. The arithmetic mean of the biochemical oxygen demand (5-day, 20°C) and suspended solids values, by weight for effluent samples collected in calendar month shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected approximately the same times during the same period (i.e. 85 percent removal).

3. The moving median value for total coliform in any five consecutive effluent samples shall not exceed 240 MPN/100 ml. Any single sample shall not exceed 10,000 MPN/100 ml when verified by repeat sample within 48 hours.

4. The pH of the discharge shall not exceed 9.0 nor be less than 6.0.

5. The survival of test organisms acceptable to the Executive officer in 96-hour bioassays of the effluent shall achieve a 90 percentile value of not less than 50% survival based on the ten most recent consecutive samples. Bioassays shall be performed using two test species in parallel tests: three-spined stickleback and fathead minnow.

6. Representative samples of the effluent shall not exceed the following limits (1):

Constituent	Unit of Measurement	Daily Maximum
a. Arsenic	ug/l	200
b. Cadmium	ug/l	30
c. Chromium(VI) (2)	ug/l	110
d. Copper	ug/l	200
e. Lead	ug/l	56
f. Mercury	ug/l	1
g. Nickel	ug/l	71
h. Silver	ug/l	23
i. Zinc	ug/l	580
j. Cyanide	ug/l	25
k. Phenols	ug/l	500
l. Polynuclear Aromatic Hydrocarbons (3)	ug/l	150
m. Selenium (4)		

(1) There limits are intended to be achieved through secondary treatment, source control and application of pretreatment standards.

(2) The discharger, at its option, may meet this limit as total chromium.

(3) As identified by EPA Method 610. If a discharge exceeds the limit for PAHs, concentrations of individual constituents should be reported.

(4) Selenium limitation to be established.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

a. Floating, suspended, or deposited macroscopic particulate matter or foam;

b. Bottom deposits or aquatic growths;

c. Alternation of temperature, turbidity, or apparent color beyond present natural background levels;

d. Visible, floating, suspended, or deposited oil or other products of petroleum or origin;

e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or water fowl, or which render any of these unfit for human consumption wither at levels created in the receiving waters or as result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

a.	Dissolved Oxygen	5.0 mg/l minimum. Median of any three consecutive months shall not be less than 80% saturation. When natural factors cause lesser concentrations than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
b.	Dissolved Sulfide	0.1 mg/l maximum.
c.	pH	Variation from natural ambient pH by more than 0.5 pH units.
d.	Un-ionized Ammonia	0.025 mg/l as N Annual Median 0.16 mg/l as N Maximum

3. The discharge shall not cause a violation of any applicable water quality standard for receiving water adopted by the Board or the State Water Resource Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Sludge Requirements

1. Permanent sludge storage or disposal activities are not authorized by this permit. A Report of Waste Discharge shall be filed and the site brought into compliance with all applicable regulations prior to commencing any such activity.

2. The treatment, disposal, storage, orprocessing of sludge shall not create a condition of pollution or nuisance as defined in Section 13050(l) and (m) of the California Water Code.

3. The treatment, disposal, storage, or processing of sewage sludge shall not cause waste material to be in any position where it is, or can be, carried from the sludge treatment, disposal, storage, or processing site and be deposited in waters of the State.

4. Any sludge treatment, disposal, storage, or processing site shall hae facilities adequate to divert surface runoff from adjacent areas, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage from the materials in the disposal site to escape from the site. Adequate protection is defined as protected from at least a 100-year storm and from the highest tidal stage that may occur.

5. The direct or indirect discharge of sludge waste to waters of the State is prohibited.

6. Sludge management and disposal practices shall comply with all current state and EPA regulations, including 40 CFR 257.

7. This permit may be reopened to include sludge management requirements pormulgated under Section 405 (d)(2) of the Clean Water Act, provided that the existing permit contains less stringent sludge management requirements.

8. The Discharger shall provide written notice to the Regional Board at least 90 days prior to making any significant changes in sludge disposit practices.

D. Provisions

1. The requirements prescribed by this Order supersede the requirement prescribed by Order No.85-61. Order No. 85-61 is hereby rescinded.

2. Where effluent concentration limitations in are contained in this permit, the following mass emission limitations shall also apply:
Mass Emission Limit (in lbs/day or kg/day) = Concentration Limit in mg/l x (8.34 or 3.79) x Actual flow in mgd averaged over the time interval to which the limit applies.

3. The discharger shall comply with all sections of this Order immediatedly upon adoption.

4. The discharger shall review and update its Operations and Maintenance Manual annually, or in the event of significant facility or process changes, shortly after such changes have occurred. Annual revisions, or letters stating that no changes are needed, shall

be submitted by December 30 of each year. Documentation of operator input and review shall accompany each annual update.

5. The discharger shall review and update annually its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

6. The discharger shall comply with the attached self-monitoring program. The Executive Officer may make minor amendment to it pursuant to federal regulations (40 CFR 122.63).

7. The discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements" dated December, 1986.

8. This Order expires June 20, 1995. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

9. This Order shall serve at National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after the date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Steven R. Ritchie, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on June 20, 1990.

STEVEN R. RITCHIE
Executive Officer

Attachments:
Standard Provisions & Reporting Requirements, December 1986
Self-Monitoring Program
Resolution 74-10

other sample points, the flow proportional method shall be used, (as determined by the District).

Figure 2. NAVSHIP MARE'S discharge limitations for the Industrial Waste Treatment Facility.

	Concentration, mg/l.	
Parameter	Daily Maximum	Monthly Average
Cadmium	0.37	0.14
Chromium (total)	1.47	0.91
Copper	1.80	1.10
Lead	0.37	0.23
Nickel	2.11	1.26
Silver	0.25	0.13
Zinc	1.39	0.79
Cyanide (total)	0.64	0.35
Oil and grease	28	
pH	6-9	
Total Suspended Solids	32	16
Total Toxic Organics**	1.13	

**Total Toxic Organics (TTO) are defined as the sum of the masses or concentrations of specific toxic organic compounds in the industrial users process discharge at a concentration greater than 0.01 mg/l. A complete listing of the compounds to be tested by NAVSHIP MARE is located at 40 CFR 433.11 (e).

3. NAVSHIP MARE shall maintain the device(s) capable of determining pH, flow, and petroleum based hydrocarbon concentrations at the DOM-4 pump station wet well. The device(s) shall be serviced and calibrated on a quarterly basis, or more frequently as required. NAVSHIP MARE shall submit test results, and calibration procedures for flow devices and monitoring units at the Mare Island Industrial Waste Treatment Plant and DOM-4 pump station on a quarterly basis. Calibration of these instruments shall be conducted by a certified technician.

4. If flows to the IWTP change significantly during any 90 day period, discharge limits will be adjusted to reflect these changes. In the event of a significant change in flows to the IWTP, NAVSHIP MARE shall submit information showing the measured average daily and maximum daily flow to the District from the Regulated Process Streams and other streams as necessary to allow for use of the combined waste stream formula. Wastestream flows required by the District shall be submitted within 30 days of the date of request.

ATTACHMENT L

DISCHARGE REQUIREMENTS FOR SELECTED CITY OF SAN FRANCISCO PUBLICLY OWNED TREATMENT WORKS

City and County of San Francisco
Department of Public Works

Bureau of Environmental Regulation and Management

Bayview Plaza
3801 Third St. Suite 600
San Francisco, CA 94124

September 29, 1993

REQUIREMENTS FOR BATCH WASTEWATER DISCHARGES

The information that must be included in applications for permits to carry out batch discharges of wastewater into the City and County of San Francisco's (City's) sewerage system is outlined below.

Such batch discharges may result from de-watering of construction sites, wells drilled to investigate/mitigate a suspected contaminated site, water used for cleaning/hydrostatic testing of pipes or tanks, or any other activity which generates wastewater, other than from routine commercial/industrial processes.

The discharges shall be subject to payment of sewer service charges in accordance with the provisions of applicable City laws.

The application for discharge shall be submitted no later than 45 days prior to the proposed commencement of the discharge and must include the following information:

(1) The source (i.e. the activity and location at which the wastewater is generated);
(2) The total estimated volume of proposed discharge;
(3) The proposed discharge location (including location of side sewer, street manhole(s) or storm drain(s) proposed for disposal use); and,
(4) A copy of applicable analytical results (see below) from a representative sample (i.e. a sample portion of the wastewater that is as nearly identical in content and consistency as possible to that in the larger body of wastewater being sampled).
[NOTE: All sampling and analysis shall be performed in accordance with techniques and procedures approved by the U.S. Environmental Protection Agency (EPA) and amendments thereto, or otherwise approved by the EPA.]

The following applicable analytical results, as indicated in Table 1A below, are required from all wastewaters from all sources.

Table 1A. General Analytical Requirements For Batch Wastewater Discharges

Pollutant/Pollutant Property	Analytical Methodology[1] / Test Methods[2]
pH (pH units)	4500-H^+ / 9040
Dissolved sulfides (mg/L)	4500-S^{2-} / 9030A
Hydrocarbon Oil and Grease (mg/L)	5520F / ----
Total Recoverable Oil and Grease (mg/L)	5520B / 9070
Total suspended solids (mg/L)	2540D / ----
Chemical oxygen demand (mg/L)	5220 / ----
Flashpoint (°C, °F)	---- / 1010
Cyanide (Total) (mg/L)	4500-CN^- D,E / 9010A, 9012
Phenols (mg/L)	5530D / ----
Conductivity (μmhos/cm)	2510 / 9050
Metals:	
Arsenic (Total) (mg/L)	3113, 3114, 3120 / 7060, 7061A
Cadmium (Total) (mg/L)	3500-Cd A,B,C / 6010A, 7130, 7131
Chromium (Total) (mg/L)	3500-Cr A,B,C / 6010A, 7190, 7191

[1] Standards Methods For The Examination Of Water And Wastewater, Greenberg, Arnold E., et al., American Public Health Association, et al., Washington, D.C., 1992, 18th ed., as amended;

[2] Test Methods For Evaluating Solid Waste, U.S. Environmental Protection Agency, November 1986 (Rev. July 1992), 3rd ed., SW-846, as amended.

Table 1A., cont'd.

Pollutant/Pollutant Property	Analytical Methodology / Test Methods
Copper (Total) (mg/L)	3500-Cu A,B,C / 6010A, 7210, 7211
Lead (Total) (mg/L)	3500-Pb A,B,C / 6010A, 7420, 7421
Mercury (Total) (mg/L)	3500-Hg A,B / 7470
Molybdenum Total) (mg/L)	3500-Mo A,B,C / 6010A, 7480, 7481
Nickel (Total) (mg/L)	3500-Ni A,B,C / 6010A, 7520
Silver (Total) (mg/L)	3500-Ag A,B,C / 6010A, 7760A, 7761
Zinc (Total) (mg/L)	3500-Zn A,B,C / 6010A, 7950, 7951

In addition to the analyses listed in Table 1A, above, wastewaters that are suspected of petroleum contamination because of location and site history (e.g. service stations, garages, automotive repair/wrecking areas, fuel oil storage areas, etc.) are further subject to the following specified analyses, as delineated below in **Table 1B.**

Table 1B. Analytical Requirements For Wastewaters Suspected of Petroleum Contamination

Pollutant/Pollutant Property	Test Methods[3]
Purgeable Halocarbons (µg/L)	8010
Purgeable Aromatics (µg/L)	8020

[3] Footnoted in Table 1A, above.

In addition to the analyses listed in Table 1A, above, wastewaters that are suspected of contamination from hazardous waste sites are also subject to the following specified analyses, as delineated below in Table 1C.

[NOTE: All fill areas of the City and County of San Francisco are suspected of hazardous waste contamination. Therefore permit applications for wastewater discharges from such locations also require the submittal of the following additional analytical results]:

Table 1C. Analytical Requirements For Wastewaters Suspected of Hazardous Waste Contamination

Pollutant/Pollutant Property	Test Methods[2]
Purgeables (µg/L)	8240
Base/Neutrals and Acids (µg/L)	8250/8270

Applications for permission to discharge should be addressed as follows:

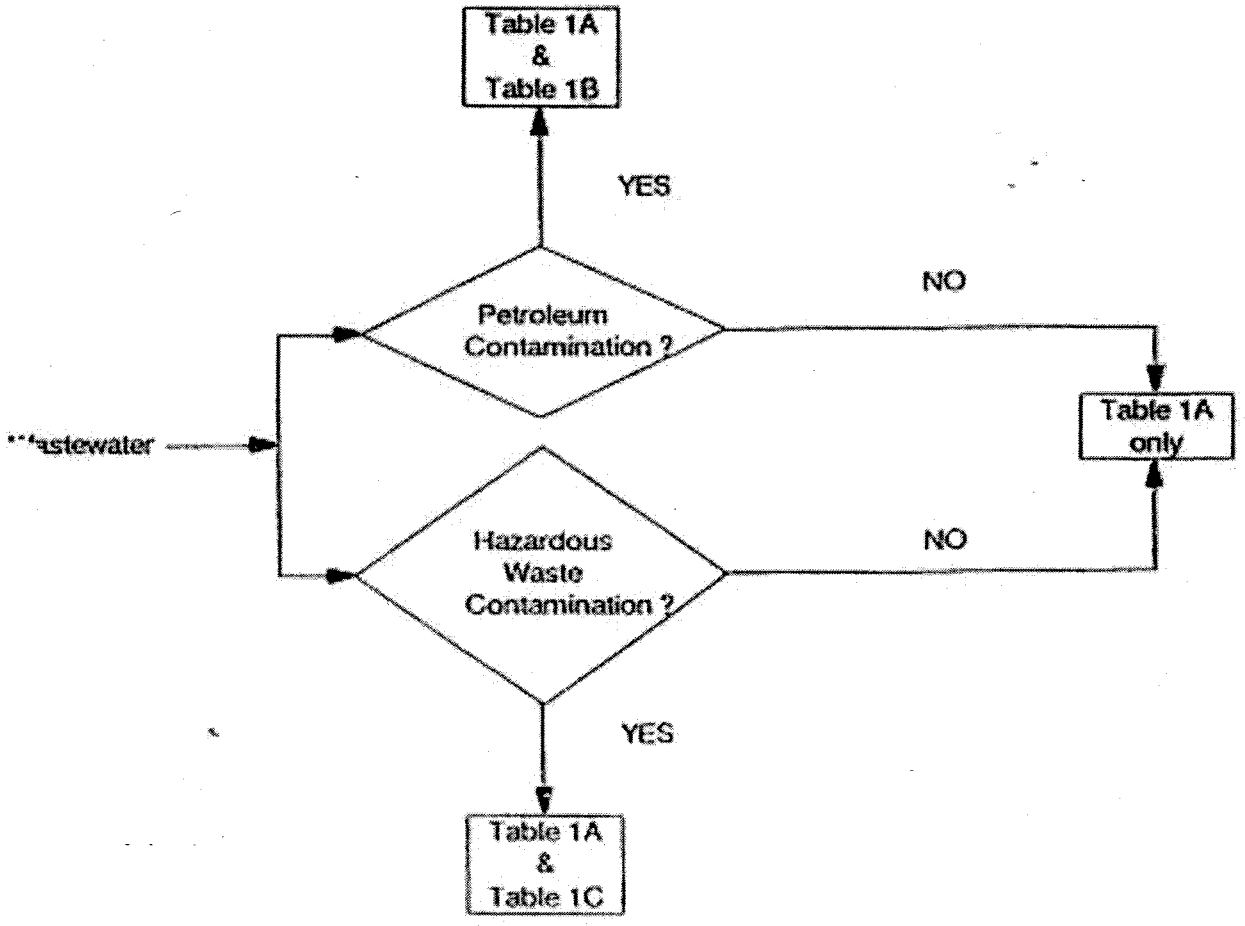
Mr. Tommy Lee
City and County of San Francisco
Department of Public Works
Bureau of Environmental Regulation
and Management
Bayview Plaza
3801 - 3rd Street, Suite 600
San Francisco, CA 94124

If you have any questions or wish further explanation, you may call Tommy Lee at (415) 695-7321.

[2] Footnoted in Table 1A, above.

BATCH WASTEWATER DISCHARGES

Required Analytical Results



COMPLIANCE CHECK LIST

ITEMS	LIMITS		Vio?
pH (GRAB)	6.0 MIN - 9.5 MAX		
DIS SULFIDES (GRAB)	0.5 MG/L MAX		
TEMP (GRAB)	125 DEG F		
G/O MIN OR PETRO (GRAB)	100 MG/L		
BTEX	100 MG/L		
G/O ANI OR VEG (COMP)	300 MG/L		
As (COMP)	4.0 MG/L	(STATE 5.0 MG/L)	
Cd (COMP)	0.5 MG/L	(STATE 1.0 MG/L)	
Cr (COMP)	5.0 MG/L		
Cu (COMP)	4.0 MG/L	(STATE 25.0 MG/L)	
Pb (COMP)	1.5 MG/L	(STATE 5.0 MG/L)	
Hg (COMP)	0.05 MG/L	(STATE 0.2 MG/L)	
Ni (COMP)	2.0 MG/L	(STATE 20 MG/L)	
Ag (COMP)	0.6 MG/L	(STATE 5.0 MG/L)	
Zn (COMP)	7.0 MG/L	(STATE 250 MG/L)	
PHENOL (COMP)	23.0 MG/L		
CN (COMP)	1.0 MG/L		

ATTACHMENT M

STATEMENT OF WORK AND CONTRACT LINE ITEM LISTING FOR WASTE MANAGEMENT SUBCONTRACT

1.0 INTRODUCTION

Tetra Tech EM Inc. (Tetra Tech) is contracted by the U.S. Department of the Navy, Naval Facilities Engineering Command, Southwest Division (SWDIV), under the Indefinite Quantity Contract for Architectural-Engineering Services To Provide CERCLA/RCRA/UST Studies (AECRU), Contract No. N68711-00-D-0005, to provide program management and technical environmental services in support of the Navy's Installation Restoration Program.

To perform these contract activities, Tetra Tech requires waste management services for hazardous and nonhazardous waste generated during investigation and remediation activities at various Navy sites. Typical waste management services include obtaining waste stream approvals from the receiving facility; packaging according to the receiving facility's requirements; transportation to the facility; treatment, storage or disposal of the waste; and documentation of final disposal.

2.0 GENERAL REQUIREMENTS

The Subcontractor shall provide all necessary personnel, supplies, equipment, and materials necessary to remove, transport, treat, store, and dispose of hazardous and nonhazardous wastes in accordance with all federal, state, and local laws and regulations governing such activities for waste generated at various military installations in California, Nevada, and Utah. This contract does not cover domestic sewage, etiologic agents, putrescible wastes, medical wastes, ordnance, explosives, radioactive wastes, nor dioxin-containing waste.

3.0 TECHNICAL DEFIMTIONS

CLIN. Contract Line Item Number. The number designating each item included in the contract. See Schedule A for a list of waste streams and logistics functions included as contract line items under this contract.

LDR Standard. The U.S. Environmental Protection Agency (EPA) land disposal restriction treatment standards, or standards developed under state programs, consisting of either technological treatment methods or numerical standards for individual chemical constituents. Wastes regulated under these programs must meet the applicable land disposal restrictions (LDR) standards prior to disposal in a land disposal waste management unit.

Nonhazardous Waste Facility. A waste management facility that manages only waste that is not classified as hazardous waste nor non-RCRA hazardous waste.

TSD. Treatment, Storage, and Disposal. A general term used to describe how wastes are managed. These methods may be used alone or in conjunction with others to achieve final disposition of the waste. The actual methods used will depend on the characteristics of the individual wastes and federal, state, and local laws and regulations.

TSD Facility. A facility that conducts treatment, storage, and/or disposal of hazardous waste and is permitted by the EPA, a state agency authorized under 40 CFR Part 271, and state or local agencies with other permitting programs.

Waste Classified as Hazardous. Waste is classified as hazardous when it meets the criteria for hazardous waste under the Resource Conservation and Recovery Act (RCRA), as defined in 40 CFR Part 261, and/or if it meets the criteria for hazardous waste under state regulations, such as Title 22 of the CCR. In addition, all PCB-containing wastes regulated under TSCA by EPA, as defined in 40 CFR Part 761, are classified as hazardous under this contract.

Waste Classified as Nonhazardous. Waste is classified as nonhazardous if it does not meet the criteria for hazardous waste under the federal laws and regulations and it is not classified as hazardous under applicable state and local laws and regulations.

Waste Classified as Non-RCRA Hazardous. Waste is classified as non-RCRA hazardous if it is generated in California and meets the criteria for non-RCRA hazardous waste under Title 22 of the CCR.

Waste Containing Free Liquids. A waste within a container or a bulk shipment contains free liquids when a representative sample of the waste cannot pass the Paint Filter Liquids Test, as described in Test Method 9095 (USEPA 1986).

Waste Profile. Written documentation for each type of waste, along with any analytical data sheets, that describes the waste's characteristics, the DOT shipping designation, and lists the chemical constituents and EPA and state waste codes. It also provides information about the generation of the waste, the generating location's EPA Identification Number, and the location's technical contact. The TSD facility uses the waste profile to evaluate the waste and ensure it can be managed at the facility. The waste profile may be accompanied by a sample of the waste, if requested by the receiving TSD facility.

4.0 REQUIREMENTS FOR SUBCONTRACTOR FACILITIES

If at any time the Subcontractor selects a new transporter or TSD facility, the Subcontractor must notify the Tetra Tech Subcontract Manager of the change and provide the information required in the Subcontract. This information must be submitted at least 20 days in advance of picking up the waste. Waste under this contract shall not be removed from any Navy site by a new transporter or transported to a new TSD facility until approved in writing by the Tetra Tech Subcontract Manager.

4.1 MANAGEMENT FACILITIES FOR HAZARDOUS WASTE

All hazardous waste management facilities used under this contract must meet the requirements of EPA's off-site waste disposal policy (50 FR 45, 933). This policy will be formalized into final regulations under Title 40 of the Code of Federal Regulations (CFR) Section 300.440 (40 CFR §300.440) in the near future. Once the final regulations are published, they will take precedence over the existing EPA policy.

The current off-site policy contains procedures for any response action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) that requires off-site treatment, storage, or disposal of hazardous substances. It prohibits the use of a TSD facility for off-site management of these wastes if the facility has significant RCRA violations or other environmental conditions that affect the satisfactory operation of the facility. A significant violation includes any Class I violation, defined as a violation that results in a release or a serious threat of release of hazardous waste into the environment, or involves the failure to ensure that groundwater will be protected, that proper closure and postclosure activities will be undertaken, or that hazardous wastes will be destined for and delivered to RCRA-permitted or interim status facilities. If there are significant violations or other contributing factors, the facility may not be used unless both of the following are true:

1. A compliance agreement is in place to correct all deficiencies at the facility; and
2. The unit that is used for waste from CERCLA sites does not cause or contribute to significant problems at the facility.

In addition, the following requirements must be met for each TSD facility:

1. The facility must have a RCRA permit or an equivalent state-issued permit.
2. A RCRA compliance inspection must be performed at the facility before waste can be accepted from a CERCLA site.
3. The Regional EPA office must evaluate the TSD facility and make a judgment as to whether the facility may accept CERCLA waste.

4.2 MANAGEMENT FACILITIES FOR NONHAZARDOUS WASTE

Management facilities for nonhazardous waste are not subject to the off-site requirements under CERCLA for hazardous waste facilities. The Subcontractor shall demonstrate that management facilities for nonhazardous waste are in compliance with applicable federal and state requirements for management of solid waste. Use of these facilities is subject to prior written approval by Tetra Tech

California requirements that may apply to nonhazardous waste facilities may vary from facility to facility. If a California solid waste facility is to be used, it is the Subcontractor's responsibility to identify the appropriate waste characterization requirements and ensure that the waste is adequately characterized and accepted by the facility before picking up the waste.

5.0 WASTE MANAGEMENT SERVICES

Upon issuance of a DO by Tetra Tech, the Subcontractor has 20 days to remove the waste from the pickup location. Tetra Tech may order an expedited pickup within 5 days of issuing the written DO.

5.1 CONTRACT LINE ITEMS

Schedule A contains a list of waste streams that may be generated at any of the Navy sites as well as logistical services to be provided by the Subcontractor. Logistical services include transportation, waste profile approvals, and preparing loads for shipment. Tetra Tech may establish new contract line items for waste streams not currently covered in Schedule A, as necessary.

5.2 WASTE PACKAGING AND LABELING

Waste will be offered for shipment either in containers or in bulk. The Subcontractor must ensure that waste packaged in containers meets all applicable DOT and state regulations prior to shipment. Containers may include, but are not limited to, 55- and 85-gallon drums. Shipments of waste in containers must be loaded by the Subcontractor into the transport vehicle. Waste offered for shipment in bulk must be packaged by the Subcontractor in shipping containers that meet applicable DOT and state regulations for shipment of the waste material. The Subcontractor will be required to provide proper labeling of all containers and bulk waste loads as required by the EPA, DOT, applicable state and local laws, and according to the receiving facility's requirements.

5.3 COLLECTION POINTS

Collection points will be specified in the DO issued by Tetra Tech for each waste pickup. If there are multiple pickup locations under one DO, Tetra Tech will provide a location map with the DO showing each collection point.

5.4 TRANSPORTATION TO TSD FACILITY

The Subcontractor is responsible for transportation of each waste shipment from the collection point to a permitted TSD facility or nonhazardous waste facility. Transportation shall be conducted according to applicable DOT, EPA, and individual state regulations.

5.5 METHOD OF TREATMENT, STORAGE, OR DISPOSAL

The Subcontractor is responsible for treatment, storage, and disposal of each hazardous waste at TSD facilities with EPA and state permits for hazardous waste treatment, storage, and disposal, or at recycling facilities that comply with all EPA and state requirements. Waste containing greater than 50 ppm PCBs must be sent to facilities with EPA permits to handle such waste. In cases where the waste is regulated under RCRA as hazardous and under TSCA, the waste must be shipped to facilities with applicable permits under both laws.

Nonhazardous wastes may be shipped to solid waste landfills, provided the Subcontractor meets all applicable waste acceptance requirements for the receiving landfill. In California, nonhazardous wastes may be shipped to solid waste landfills that are classified as Class II or Class III facilities.

Storage of waste at third-party storage facilities is prohibited under this contract. Third-party storage facilities are those permitted or interim status storage facilities not associated with on-site treatment or disposal capacity. All waste shipments must be manifested directly from the generation-site to the facility that will be treating or disposing of the waste.

5.6 EMPTY CONTAINERS

The Subcontractor shall manage empty containers according to applicable federal, state, and local laws and regulations.

5.7 MEASUREMENT AND PRICING

Measurement of all waste will be in pounds for solids and gallons for liquids. Tetra Tech will estimate quantities on the deliver order, and the Subcontractor is responsible for providing actual measurement of the waste upon arrival at the receiving facility. Measurement must be certified by the Subcontractor for each shipment. Pickup and transportation charges per load shall reflect all costs associated with loading containers onto transport vehicles or loading bulk shipments, transporting the shipment, and unloading wastes at an appropriate TSD facility. Treatment, storage, and disposal costs shall be exclusive of transportation charges and shall be based on the net weight or volume of the load and unit-priced accordingly.

5.8 SPILL RESPONSIBILITY

The Subcontractor shall be responsible for cleaning up and correcting all spills or leaks at pickup locations that occur during the performance of this contract as a result of, or are contributed to by, the actions of the Subcontractor. The Subcontractor must clean up such spills or leaks to the satisfaction of Tetra Tech and in a manner that complies with applicable federal, state, and local laws and regulations. All costs associated with the cleanup of spills or leaks shall be the responsibility of the Subcontractor. The Subcontractor is responsible for making reports required under federal, state, and local spill reporting regulations to the appropriate regulatory agencies.

The Subcontractor shall report all spills or leaks, regardless of their quantity, to the Tetra Tech Subcontract Manager within 4 hours of their occurrence or discovery. A written follow-up report shall be submitted to the Tetra Tech Subcontract Manager not later than 3 days after the initial report. The written report shall include as a minimum:

- Exact location of the spill, including a description of the area involved.
- Date and time of the spill.
- Cause of the spill.
- Description of the item spilled, including identity, chemical composition, profile number, and manifest number, as applicable.
- Quantity spilled and an indication of whether it was a reportable quantity spill, as defined in 40 CFR Part 300.
- Description of containment and cleanup procedures.
- Level of decontamination achieved in the cleanup, including an assessment of actual or potential hazards to human health or the environment.
- The extent of injuries, if any.
- The estimated quantity and disposition of recovered material that resulted from the spill.
- Description of any reports made to regulatory or emergency response agencies, including identifying the agency, contact, time of report, content of report, and report identification number.

6.0 SUPPORTING DOCUMENTATION

The Subcontractor shall maintain adequate supporting documentation to demonstrate compliance with this statement of work and all applicable federal, state, and local laws and regulations. Supporting documentation includes, but is not limited to, waste profiles, shipping documents, certificates of final disposal, and other compliance records and reports.

6.1 WASTE PROFILES AND WASTE ANALYSIS

Tetra Tech will provide waste profiles for each waste to the Subcontractor with the issuance of DOs. Waste profiles will consist of a completed Tetra Tech waste profile form and available supporting analytical data. The Subcontractor shall advise the Tetra Tech Technical Manager of any additional information, such as samples, chemical descriptions, and waste profiles, that he or she requires to accept the waste for treatment, storage, or disposal. Changes to facility waste acceptance requirements must be approved in advance, in writing, by the Tetra Tech Subcontract Manager.

Tetra Tech will prepare waste profiles for wastes not previously placed on a DO and submit them to the Subcontractor. The Subcontractor shall obtain acceptance approval for new wastes within 20 days of receipt of the waste profile and other required information from the Tetra Tech Technical Manager. Tetra Tech may request an expedited waste approval within 5 days of submitting the waste profile to the

Subcontractor. The Subcontractor shall identify to the Tetra Tech Subcontract Manager the treatment, storage, and disposal methods and facilities to be used for new wastes at the time acceptance approval is obtained. Tetra Tech reserves the right to disapprove of any such treatment, storage, or disposal methods or facilities. The Subcontractor shall notify the Tetra Tech Subcontract Manager it least 60 days prior to expiration of a waste profile approval.

6.2 SHIPPING DOCUMENTS

The Subcontractor shall be responsible for preparing all required shipping documents for each shipment of waste. The Subcontractor shall return original Uniform Hazardous Waste Manifests to the generator address shown on the manifest by certified mail within 30 days of each shipment.

The Subcontractor shall submit copies of all shipping documents to Tetra Tech with each billing statement. As a minimum, copies of the following documents must be submitted with each billing statement:

- For Hazardous Waste Shipments
  - Uniform Hazardous Waste Manifest
  - LDR Notification, if waste is LDR restricted
  - LDR Certification, if waste is LDR restricted and certified to meet LDR standards
  - Certificate of weight
- For Nonhazardous Waste Shipments
  - Bill of Lading
  - Certificate of weight

6.3 CERTIFICATE OF FINAL DISPOSAL

The Subcontractor shall provide the Tetra Tech Subcontract Manager with certificates of final disposal (CFD) for all wastes handled under this contract. A CFD is a certification signed by the responsible party at the receiving facility showing that the waste has been properly treated or disposed of or both.

One CFD shall be prepared for each manifest line item. The following information shall be included with the CFD:

- Delivery Order (DO) Number: The DO number of which the item was included.
- CLIN: The contract line item number, as it appears in Schedule A of this Statement of Work.

- Waste Profile Number, as it appears on the DO.
- Unit: Unit of measure (such as pounds or gallons), as specified in Schedule A of this statement of work.
- Quantity Disposed of: Actual quantity of waste that was disposed of.
- Uniform Hazardous Waste Manifest Number: The manifest number applicable to the waste CLIN as shipped.
- EPA Identification Number, name, location, and phone number for the final TSD facility.
- Disposal Method: Method of treatment, storage or disposal.
- Date of Final Disposal.
- Signature of persons responsible for adequate and appropriate final disposition of the waste.

6.4 RECORDS AND REPORTS

The Subcontractor shall be responsible for initiating and maintaining all records required by all applicable federal, state, and local regulations when the Subcontractor serves as a transporter, treatment facility, storage facility, or disposal facility. Record keeping shall be conducted in sufficient detail to meet EPA's record keeping requirements under RCRA and TSCA, as well as applicable state and local requirements. These records include, as a minimum, copies of manifests, land disposal restriction documents, certificates of final disposal, annual reports, exception reports, and operating/inspection records for TSD facilities.

REFERENCE

U.S. Environmental Protection Agency (EPA). 1986. "Test Methods for Evaluating Solid Waste, SW-846." Third Edition. Office of Solid Waste and Emergency Response. November.

ATTACHMENT C
AMENDMENT NO. 002
SOLICITATION NO. NC-93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES

ALL BIDDERS MUST COMPLETE THIS BLOCK

COMPANY:
SIGNATURE:
NAME (TYPE OR PRINT):
TITLE:
DATE:

The quantities specified in this Price Schedule are estimates. All prices shall include the cost of all supplies and services that are necessary or normally required as part of performing each task, but which may not be specified in detail in this Price Schedule or the Statement of Work.

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
BASE YEAR
FEBRUARY 1, 1994 THROUGH JANUARY 31, 1995

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
1000	**CONTAMINATED SOIL AND DEBRIS**				
1010	**Soils/debris containing petroleum constituents; not classified as hazardous waste**				
1011	No free liquids; PCBs < 2 ppm; drums	125,000	LBS	$	$
1012	No free liquids; PCBs < 2 ppm; bulk	125,000	LBS	$	$
1013	No free liquids; PCBs < 50 ppm; drums	5,000	LBS	$	$
1014	No free liquids; PCBs < 50 ppm; bulk	5,000	LBS	$	$
1015	Free liquids present; PCBs < 2 ppm; drums	25,000	LBS	$	$
1016	Free liquids present; PCBs < 50 ppm; drums	5,000	LBS	$	$
1020	**Classified as hazardous due to inorganic toxicity characteristic**				
1021	No free liquids; PCBs < 2 ppm; drums	50,000	LBS	$	$
1022	No free liquids; PCBs < 2 ppm; bulk	50,000	LBS	$	$
1023	No free liquids; PCBs < 50 ppm; drums	5,000	LBS	$	$
1024	No free liquids; PCBs < 50 ppm; bulk	5,000	LBS	$	$
1025	Free liquids present; PCBs < 2 ppm; drums	10,000	LBS	$	$
1026	Free liquids present; PCBs < 50 ppm; drums	5,000	LBS	$	$
1030	**Classified as hazardous due to organic toxicity characteristic (no pesticides)**				
1031	No free liquids; PCBs < 2 ppm; meets LDR standards; drums	25,000	LBS	$	$
1032	No free liquids; PCBs < 2 ppm; meets LDR standards; bulk	25,000	LBS	$	$
1033	No free liquids; PCBs < 2 ppm; does not meet LDR standards; drums	25,000	LBS	$	$
1034	No free liquids; PCBs < 2 ppm; does not meet LDR standards; bulk	25,000	LBS	$	$
1035	No free liquids; PCBs < 50 ppm; meets LDR standards; drums	5,000	LBS	$	$
1036	No free liquids; PCBs < 50 ppm; does not meet LDR standards; drums	5,000	LBS	$	$
1037	Free liquids present; PCBs < 2 ppm; meets LDR standards; drums	12,500	LBS	$	$
1038	Free liquids present; PCBs < 2 ppm; does not meet LDR standards; drums	12,500	LBS	$	$
1039	Free liquids present; PCBs < 50 ppm; meets LDR standards; drums	2,500	LBS	$	$
1040	Free liquids present; PCBs < 50 ppm; does not meet LDR standards; drums	2,500	LBS	$	$

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-93174
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
BASE YEAR
FEBRUARY 1, 1994 THROUGH JANUARY 31, 1995

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
1050	**Classified as hazardous due to inorganic and organic toxicity characteristic (no pesticides)**				
1051	No free liquids; PCBs < 2 ppm; meets LDR standards; drums	12,500	LBS	$	$
1052	No free liquids; PCBs < 2 ppm; meets LDR standards; bulk	12,500	LBS	$	$
1053	No free liquids; PCBs < 2 ppm; does not meet LDR standards; drums	12,500	LBS	$	$
1054	No free liquids; PCBs < 2 ppm; does not meet LDR standards; bulk	12,500	LBS	$	$
1055	No free liquids; PCBs < 50 ppm; meets LDR standards; drums	5,000	LBS	$	$
1056	No free liquids; PCBs < 50 ppm; does not meet LDR standards; drums	5,000	LBS	$	$
1057	Free liquids present; PCBs < 2 ppm; meets LDR standards; drums	2,500	LBS	$	$
1058	Free liquids present; PCBs < 2 ppm; does not meet LDR standards; drums	2,500	LBS	$	$
1059	Free liquids present; PCBs < 50 ppm; meets LDR standards; drums	2,500	LBS	$	$
1060	Free liquids present; PCBs < 50 ppm; does not meet LDR standards; drums	2,500	LBS	$	$
1070	**Classified as hazardous due to pesticide toxicity characteristic**				
1071	No free liquids; drums	10,000	LBS	$	$
1072	Free liquids present; drums	2,500	LBS	$	$
1080	**Classified as hazardous due to F001 – F005 solvents**				
1081	No free liquids; meets LDR standards; drums	25,000	LBS	$	$
1082	No free liquids; meets LDR standards; bulk	25,000	LBS	$	$
1083	No free liquids; does not meet LDR standards; drums	25,000	LBS	$	$
1084	No free liquids; does not meet LDR standards; bulk	25,000	LBS	$	$
1085	Free liquids present; does not meet LDR standards; drums	25,000	LBS	$	$
1090	**Classified as hazardous due to P – and U – listed organic hazardous wastes**				
1091	Meets LDR standards; drums	25,000	LBS	$	$
1092	Meets LDR standards; bulk	25,000	LBS	$	$
1093	Does not meet LDR standards; drums	25,000	LBS	$	$
1094	Does not meet LDR standards; bulk	25,000	LBS	$	$

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
BASE YEAR
FEBRUARY 1, 1994 THROUGH JANUARY 31, 1995

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
1100	Classified as hazardous due to P- and U-listed inorganic wastes				
1101	Meets LDR standards; drums	12,500	LBS	$	$
1102	Meets LDR standards; bulk	12,500	LBS	$	$
1103	Does not meet LDR standards; drums	12,500	LBS	$	$
1104	Does not meet LDR standards; bulk	12,500	LBS	$	$
1110	Classified as hazardous due to F006 - F012, F019 wastes				
1111	Meets LDR standards; drums	25,000	LBS	$	$
1112	Meets LDR standards; bulk	25,000	LBS	$	$
1113	Does not meet LDR standards; drums	25,000	LBS	$	$
1114	Does not meet LDR standards; bulk	25,000	LBS	$	$
1120	Classified as non-RCRA hazardous waste in California				
1121	No free liquids; drums	25,000	LBS	$	$
1122	No free liquids; bulk	25,000	LBS	$	$
1102	Free liquids present; drums	25,000	LBS	$	$
1130	Other Waste				
1131	Soil/debris containing between 50 and 500 ppm PCB's; may or may not contain other hazardous constituents; drums	25,000	LBS	$	$
1132	Soil/debris containing between 50 and 500 ppm PCB's; may or may not contain other hazardous constituents; bulk	25,000	LBS	$	$
1133	Soils/debris containing = or > 500 ppm PCBs; may or may not contain other hazardous constituents; drums	5,000	LBS	$	$
1134	Asbestos debris; drums	5,000	LBS	$	$

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
BASE YEAR
FEBRUARY 1, 1994 THROUGH JANUARY 31, 1995

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
2000	AQUEOUS WASTE				
2010	Groundwater and rinse water containing petroleum constituents;	4,500	LBS	$	$
	not classified as hazardous waste; drums				
2020	Groundwater and rinse water containing petroleum constituents;	4,500	LBS	$	$
	not classified as hazardous waste; tank				
2030	Groundwater and rinse water classified as hazardous due to	4,500	LBS	$	$
	inorganic toxicity characteristic; drums				
2040	Groundwater and rinse water classified as hazardous due to	4,500	LBS	$	$
	inorganic toxicity characteristic; tank				
2050	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	organic toxicity characteristic (no pesticides); drums				
2060	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	organic toxicity characteristic (no pesticides); tank				
2070	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	inorganic and organic toxicity characteristic (no pesticides); drums				
2080	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	inorganic and organic toxicity characteristic (no pesticides); tank				
2090	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	pesticide toxicity characteristic; drums				
2100	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	pesticide toxicity characteristic; tank				
2110	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	F001-F005 solvents; does not meet LDR standards; drums				
2120	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	F001-F005 solvents; does not meet LDR standards; tank				
2130	Groundwater and rinse water classified as hazardous due to P-	9,000	LBS	$	$
	and U-listed organic listed wastes; does not meet LDR standards; drums				

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-95374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
BASE YEAR
FEBRUARY 1, 1994 THROUGH JANUARY 31, 1995

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
2140	Groundwater and rinse water classified as hazardous due to P-	9,000	LBS	$	$
	and U-listed organic listed wastes; does not meet LDR standards; tank				
2150	Groundwater and rinse water classified as hazardous due to P-	9,000	LBS	$	$
	and U-listed inorganic wastes; does not meet LDR standards; drums				
2160	Groundwater and rinse water classified as hazardous due to P-	9,000	LBS	$	$
	and U-listed inorganic wastes; does not meet LDR standards; tank				
2170	Groundwater and rinse water classified as hazardous due to	12,000	LBS	$	$
	F006-F012, F019 wastes; does not meet LDR standards; drums				
2180	Groundwater and rinse water classified as hazardous due to	12,000	LBS	$	$
	F006-F012, F019 wastes; does not meet LDR standards; tank				
2190	Groundwater and rinse water classified as non-RCRA hazardous	12,000	LBS	$	$
	waste in California; drums				
2200	Groundwater and rinse water classified as non-RCRA hazardous	12,000	LBS	$	$
	waste in California; tank				
2210	Groundwater and rinse water containing PCBs < 50 ppm; drums	4,500	LBS	$	$
3000	SLUDGES (from tank and sump cleaning)				
3010	Petroleum sludge not classified as hazardous waste; drums	12,000	LBS	$	$
3020	Petroleum sludge not classified as hazardous waste; bulk	12,000	LBS	$	$
3030	Sludge classified as hazardous waste for inorganic toxicity; drums	12,000	LBS	$	$
3040	Sludge classified as hazardous waste for inorganic toxicity; bulk	12,000	LBS	$	$
3050	Sludge classified as hazardous waste for organic toxicity; drums	15,000	LBS	$	$
3060	Sludge classified as hazardous waste for organic toxicity; bulk	15,000	LBS	$	$
3070	Sludge classified as hazardous waste for inorganic and organic toxicity; drums	15,000	LBS	$	$
3080	Sludge classified as hazardous waste for inorganic and organic toxicity; bulk	15,000	LBS	$	$
3090	Sludge classified as hazardous waste for F001-F005 solvents; drums	6,000	LBS	$	$

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
BASE YEAR
FEBRUARY 1, 1994 THROUGH JANUARY 31, 1995

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
3100	Sludge classified as hazardous waste for F001-F005 solvents; bulk	6,000	LBS	$	$
3110	Sludge classified as non-RCRA hazardous waste in California; drums	15,000	LBS	$	$
3120	Sludge classified as non-RCRA hazardous waste in California; bulk	15,000	LBS	$	$
4000	PERSONAL PROTECTIVE EQUIPMENT (PPE) AND RELATED DEBRIS				
4020	Classified as hazardous due to inorganic toxicity characteristic; drums	4,000	LBS	$	$
4030	Classified as hazardous due to organic toxicity characteristic; drums	4,000	LBS	$	$
4040	Classified as hazardous due to inorganic and organic toxicity	4,000	LBS	$	$
	characteristic; drums				
4050	Classified as hazardous due to F001-F005 solvents; drums	4,000	LBS	$	$
4060	Classified as hazardous due to other organic P- and U-listed wastes; drums	1,000	LBS	$	$
4070	Classified hazardous due to other inorganic P- and U-listed wastes; drums	1,000	LBS	$	$
4080	Classified as hazardous due to F006-F012, F019 wastes; drums	4,000	LBS	$	$
4090	Classified as non-RCRA hazardous waste in California; drums	4,000	LBS	$	$
4100	PPE and debris contaminated with PCBs > 50 ppm; drums	4,000	LBS	$	$
5000	LABORATORY WASTE				
5010	Labpacks containing injection vial waste, consisting of approximately 95.9%	1,200	LBS	$	$
	hexane, 4% methanol, 1% methylene chloride and <0.1% diesel, gasoline and BTEX				
5020	Labpacks containing general liquid waste, consisting of approximately 30%	1,200	LBS	$	$
	water, 30% acetone, 30% methanol and 10% hexane				
5030	Labpacks containing soil prep waste, consisting of approximately 60% soil,	1,200	LBS	$	$
	5% acetone, 5% methanol, 30% loose soil with aluminum pans				
5040	Labpacks containing general solid waste with trace solvents,	1,200	LBS	$	$
	including acetone, methanol and hexane				

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
BASE YEAR
FEBRUARY 1, 1994 THROUGH JANUARY 31, 1995

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
6000	LOGISTICAL AND OTHER SUPPORT SERVICES				
6010	Soil/debris loading equipment and operator	1	YD	$	$
6011	Mobilization/Demobilization of Loading Equipment	1	EA	$	$
6020	Pump for bulk liquids or sludges (per occurrence)	1	EA	$	$
6030	Waste Profiles	1	EA	$	$
6040	New waste stream approval; 30-day turnaround	1	EA	$	$
6050	New waste stream approval; 5-day turnaround	1	EA	$	$
6070	Waste stream recertification	1	EA	$	$
6080	Overpacking of unfit or leaking containers	100	EA	$	$
7000	TRANSPORTATION **				
7010	Transportation Base Charge for 20-Day Pickup up to 100 Miles				
7011	Stepvan - 10, 55 gallon drum capacity	25	LD	$	$
7012	Tanker truck - 5,000 gallon minimum capacity	25	LD	$	$
7013	Tanker truck - 1,000 gallon minimum capacity	10	LD	$	$
7014	Flat bed truck - 80 drum minimum capacity	30	LD	$	$
7015	Vacuum truck	10	LD	$	$
7016	Dump truck - 40,000 LB capacity	10	LD	$	$
7017	Other (specify):	1	LD	$	$
7018	Other (specify)	1	LD	$	$
7020	Transportation Base Charge for 5-Day Pickup up to 100 Miles				
7021	Stepvan - 10, 55 gallon drum capacity	5	LD	$	$
7022	Tanker truck - 5,000 gallon minimum capacity	5	LD	$	$
7023	Tanker truck - 1,000 gallon minimum capacity	8	LD	$	$
7024	Flat bed truck - 80 drum minimum capacity	5	LD	$	$
7025	Vacuum truck	10	LD	$	$

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
BASE YEAR
FEBRUARY 1, 1994 THROUGH JANUARY 31, 1995

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
7026	Dump truck – 40,000 LB capacity	5	LD	$	$
7027	Other (specify):	1	LD	$	$
7028	Other (specify):	1	LD	$	$
7030	**Transportation Per Mile Charge for Shipments Greater Than 100 Miles**				
7031	Stepvan – 10, 55 gallon drum capacity	500	MI	$	$
7032	Tanker truck – 5,000 gallon minimum capacity	500	MI	$	$
7033	Tanker truck – 1,000 gallon minimum capacity	500	MI	$	$
7034	Flat bed truck – 60 drum minimum capacity	500	MI	$	$
7035	Vacuum truck	500	MI	$	$
7036	Dump truck – 40,000 LB capacity	500	MI	$	$
7037	Other (specify):	500	MI	$	$
7038	Other (specify):	500	MI	$	$

**Transportation prices include all equipment, supplies and services (including such items as handling, loading, and documentation) necessary or normally required as part of performing these tasks, but which may not be specified in detail in the Price Schedule or the Statement of Work.

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC - 93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
OPTION YEAR I
FEBRUARY 1, 1995 THROUGH JANUARY 31, 1996

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
1000	CONTAMINATED SOIL AND DEBRIS				
1010	Soils/debris containing petroleum constituents; not classified as hazardous waste				
1011	No free liquids; PCBs < 2 ppm; drums	125,000	LBS	$	$
1012	No free liquids; PCBs < 2 ppm; bulk	125,000	LBS	$	$
1013	No free liquids; PCBs < 50 ppm; drums	5,000	LBS	$	$
1014	No free liquids; PCBs < 50 ppm; bulk	5,000	LBS	$	$
1015	Free liquids present; PCBs < 2 ppm; drums	25,000	LBS	$	$
1016	Free liquids present; PCBs < 50 ppm; drums	5,000	LBS	$	$
1020	Classified as hazardous due to inorganic toxicity characteristic				
1021	No free liquids; PCBs < 2 ppm; drums	50,000	LBS	$	$
1022	No free liquids; PCBs < 2 ppm; bulk	50,000	LBS	$	$
1023	No free liquids; PCBs < 50 ppm; drums	5,000	LBS	$	$
1024	No free liquids; PCBs < 50 ppm; bulk	5,000	LBS	$	$
1025	Free liquids present; PCBs < 2 ppm; drums	10,000	LBS	$	$
1026	Free liquids present; PCBs < 50 ppm; drums	5,000	LBS	$	$
1030	Classified as hazardous due to organic toxicity characteristic (no pesticides)				
1031	No free liquids; PCBs < 2 ppm; meets LDR standards; drums	25,000	LBS	$	$
1032	No free liquids; PCBs < 2 ppm; meets LDR standards; bulk	25,000	LBS	$	$
1033	No free liquids; PCBs < 2 ppm; does not meet LDR standards; drums	25,000	LBS	$	$
1034	No free liquids; PCBs < 2 ppm; does not meet LDR standards; bulk	25,000	LBS	$	$
1035	No free liquids; PCBs < 50 ppm; meets LDR standards; drums	5,000	LBS	$	$
1036	No free liquids; PCBs < 50 ppm; does not meet LDR standards; drums	5,000	LBS	$	$
1037	Free liquids present; PCBs < 2 ppm; meets LDR standards; drums	12,500	LBS	$	$
1038	Free liquids present; PCBs < 2 ppm; does not meet LDR standards; drums	12,500	LBS	$	$
1039	Free liquids present; PCBs < 50 ppm; meets LDR standards; drums	2,500	LBS	$	$
1040	Free liquids present; PCBs < 50 ppm; does not meet LDR standards; drums	2,500	LBS	$	$

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
OPTION YEAR I
FEBRUARY 1, 1995 THROUGH JANUARY 31, 1996

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
1050	Classified as hazardous due to inorganic and organic toxicity characteristic (no pesticides)				
1051	No free liquids; PCBs < 2 ppm; meets LDR standards; drums	12,500	LBS	$	$
1052	No free liquids; PCBs < 2 ppm; meets LDR standards; bulk	12,500	LBS	$	$
1053	No free liquids; PCBs < 2 ppm; does not meet LDR standards; drums	12,500	LBS	$	$
1054	No free liquids; PCBs < 2 ppm; does not meet LDR standards; bulk	12,500	LBS	$	$
1055	No free liquids; PCBs < 50 ppm; meets LDR standards; drums	5,000	LBS	$	$
1056	No free liquids; PCBs < 50 ppm; does not meet LDR standards; drums	5,000	LBS	$	$
1057	Free liquids present; PCBs < 2 ppm; meets LDR standards; drums	2,500	LBS	$	$
1058	Free liquids present; PCBs < 2 ppm; does not meet LDR standards; drums	2,500	LBS	$	$
1059	Free liquids present; PCBs < 50 ppm; meets LDR standards; drums	2,500	LBS	$	$
1060	Free liquids present; PCBs < 50 ppm; does not meet LDR standards; drums	2,500	LBS	$	$
1070	Classified as hazardous due to pesticide toxicity characteristic				
1071	No free liquids; drums	10,000	LBS	$	$
1072	Free liquids present; drums	2,500	LBS	$	$
1080	Classified as hazardous due to F001 – F005 solvents				
1081	No free liquids; meets LDR standards; drums	25,000	LBS	$	$
1082	No free liquids; meets LDR standards; bulk	25,000	LBS	$	$
1083	No free liquids; does not meet LDR standards; drums	25,000	LBS	$	$
1084	No free liquids; does not meet LDR standards; bulk	25,000	LBS	$	$
1085	Free liquids present; does not meet LDR standards; drums	25,000	LBS	$	$
1090	Classified as hazardous due to F – and U – listed organic hazardous wastes				
1091	Meets LDR standards; drums	25,000	LBS	$	$
1092	Meets LDR standards; bulk	25,000	LBS	$	$
1093	Does not meet LDR standards; drums	25,000	LBS	$	$
1094	Does not meet LDR standards; bulk	25,000	LBS	$	$

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
OPTION YEAR 1
FEBRUARY 1, 1995 THROUGH JANUARY 31, 1996

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
1100	Classified as hazardous due to P- and U-listed inorganic wastes				
1101	Meets LDR standards; drums	12,500	LBS	$	$
1102	Meets LDR standards; bulk	12,500	LBS	$	$
1103	Does not meet LDR standards; drums	12,500	LBS	$	$
1104	Does not meet LDR standards; bulk	12,500	LBS	$	$
1110	Classified as hazardous due to F006 -- F012, F019 wastes				
1111	Meets LDR standards; drums	25,000	LBS	$	$
1112	Meets LDR standards; bulk	25,000	LBS	$	$
1113	Does not meet LDR standards; drums	25,000	LBS	$	$
1114	Does not meet LDR standards; bulk	25,000	LBS	$	$
1120	Classified as non-RCRA hazardous waste in California				
1121	No free liquids; drums	25,000	LBS	$	$
1122	No free liquids; bulk	25,000	LBS	$	$
1102	Free liquids present; drums	25,000	LBS	$	$
1130	Other Waste				
1131	Soil/debris containing between 50 and 500 ppm PCB's; may or may not contain other hazardous constituents; drums	25,000	LBS	$	$
1132	Soil/debris containing between 50 and 500 ppm PCB's; may or may not contain other hazardous constituents; bulk	25,000	LBS	$	$
1133	Soil/debris containing = or > 500 ppm PCBs; may or may not contain other hazardous constituents; drums	5,000	LBS	$	$
1134	Asbestos debris; drums	5,000	LBS	$	$

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
OPTION YEAR 1
FEBRUARY 1, 1995 THROUGH JANUARY 31, 1996

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
2000	AQUEOUS WASTE				
2010	Groundwater and rinse water containing petroleum constituents;	4,500	LBS	$	$
	not classified as hazardous waste; drums				
2020	Groundwater and rinse water containing petroleum constituents;	4,500	LBS	$	$
	not classified as hazardous waste; tank				
2030	Groundwater and rinse water classified as hazardous due to	4,500	LBS	$	$
	inorganic toxicity characteristic; drums				
2040	Groundwater and rinse water classified as hazardous due to	4,500	LBS	$	$
	inorganic toxicity characteristic; tank				
2050	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	organic toxicity characteristic (no pesticides); drums				
2060	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	organic toxicity characteristic (no pesticides); tank				
2070	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	inorganic and organic toxicity characteristic (no pesticides); drums				
2080	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	inorganic and organic toxicity characteristic (no pesticides); tank				
2090	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	pesticide toxicity characteristic; drums				
2100	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	pesticide toxicity characteristic; tank				
2110	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	F001-F005 solvents; does not meet LDR standards; drums				
2120	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	F001-F005 solvents; does not meet LDR standards; tank				
2130	Groundwater and rinse water classified as hazardous due to P-	9,000	LBS	$	$
	and U-listed organic listed wastes; does not meet LDR standards; drums				

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
OPTION YEAR 1
FEBRUARY 1, 1995 THROUGH JANUARY 31, 1996

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
2140	Groundwater and rinse water classified as hazardous due to P-	9,000	LBS	$	$
	and U-listed organic listed wastes; does not meet LDR standards; tank				
2150	Groundwater and rinse water classified as hazardous due to P-	9,000	LBS	$	$
	and U-listed inorganic wastes; does not meet LDR standards; drums				
2160	Groundwater and rinse water classified as hazardous due to P-	9,000	LBS	$	$
	and U-listed inorganic wastes; does not meet LDR standards; tank				
2170	Groundwater and rinse water classified as hazardous due to	12,000	LBS	$	$
	F006-F012, F019 wastes; does not meet LDR standards; drums				
2180	Groundwater and rinse water classified as hazardous due to	12,000	LBS	$	$
	F006-F012, F019 wastes; does not meet LDR standards; tank				
2190	Groundwater and rinse water classified as non-RCRA hazardous	12,000	LBS	$	$
	waste in California; drums				
2200	Groundwater and rinse water classified as non-RCRA hazardous	12,000	LBS	$	$
	waste in California; tank				
2210	Groundwater and rinse water containing PCBs < 50 ppm; drums	4,500	LBS	$	$
3000	SLUDGES (from tank and sump cleaning)				
3010	Petroleum sludge not classified as hazardous waste; drums	12,000	LBS	$	$
3020	Petroleum sludge not classified as hazardous waste; bulk	12,000	LBS	$	$
3030	Sludge classified as hazardous waste for inorganic toxicity; drums	12,000	LBS	$	$
3040	Sludge classified as hazardous waste for inorganic toxicity; bulk	12,000	LBS	$	$
3050	Sludge classified as hazardous waste for organic toxicity; drums	15,000	LBS	$	$
3060	Sludge classified as hazardous waste for organic toxicity; bulk	15,000	LBS	$	$
3070	Sludge classified as hazardous waste for inorganic and organic toxicity; drums	15,000	LBS	$	$
3080	Sludge classified as hazardous waste for inorganic and organic toxicity; bulk	15,000	LBS	$	$
3090	Sludge classified as hazardous waste for F001-F005 solvents; drums	6,000	LBS	$	$

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
OPTION YEAR 1
FEBRUARY 1, 1995 THROUGH JANUARY 31, 1996

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
3100	Sludge classified as hazardous waste for F001-F005 solvents; bulk	6,000	LBS	$	$
3110	Sludge classified as non-RCRA hazardous waste in California; drums	15,000	LBS	$	$
3120	Sludge classified as non-RCRA hazardous waste in California; bulk	15,000	LBS	$	$
4000	PERSONAL PROTECTIVE EQUIPMENT (PPE) AND RELATED DEBRIS				
4020	Classified as hazardous due to inorganic toxicity characteristic; drums	4,000	LBS	$	$
4030	Classified as hazardous due to organic toxicity characteristic; drums	4,000	LBS	$	$
4040	Classified as hazardous due to inorganic and organic toxicity	4,000	LBS	$	$
	characteristic; drums				
4050	Classified as hazardous due to F001-F005 solvents; drums	4,000	LBS	$	$
4060	Classified as hazardous due to other organic P- and U-listed wastes; drums	1,000	LBS	$	$
4070	Classified hazardous due to other inorganic P- and U-listed wastes; drums	1,000	LBS	$	$
4080	Classified as hazardous due to F006-F012, F019 wastes; drums	4,000	LBS	$	$
4090	Classified as non-RCRA hazardous waste in California; drums	4,000	LBS	$	$
4100	PPE and debris contaminated with PCBs > 50 ppm; drums	4,000	LBS	$	$
5000	LABORATORY WASTE				
5010	Labpacks containing injection vial waste, consisting of approximately 95.9%	1,200	LBS	$	$
	hexane, 4% methanol, 1% methylene chloride and <0.1% diesel, gasoline and BTEX				
5020	Labpacks containing general liquid waste, consisting of approximately 30%	1,200	LBS	$	$
	water, 30% acetone, 30% methanol and 10% hexane				
5030	Labpacks containing soil prep waste, consisting of approximately 60% soil,	1,200	LBS	$	$
	5% acetone, 5% methanol, 30% loose soil with aluminum pans				
5040	Labpacks containing general solid waste with trace solvents,	1,200	LBS	$	$
	including acetone, methanol and hexane				

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
OPTION YEAR I
FEBRUARY 1, 1995 THROUGH JANUARY 31, 1996

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
6000	LOGISTICAL AND OTHER SUPPORT SERVICES				
6010	Soil/debris loading equipment and operator	1	YD	$	$
6011	Mobilization/Demobilization of Loading Equipment	1	EA	$	$
6020	Pump for bulk liquids or sludges (per occurrence)	1	EA	$	$
6030	Waste Profiles	1	EA	$	$
6040	New waste stream approval; 30-day turnaround	1	EA	$	$
6050	New waste stream approval; 5-day turnaround	1	EA	$	$
6070	Waste stream recertification	1	EA	$	$
6080	Overpacking of unfit or leaking containers	100	EA	$	$
7000	TRANSPORTATION **				
7010	Transportation Base Charge for 20-Day Pickup up to 100 Miles				
7011	Stepvan - 10, 55 gallon drum capacity	25	LD	$	$
7012	Tanker truck - 5,000 gallon minimum capacity	25	LD	$	$
7013	Tanker truck - 1,000 gallon minimum capacity	10	LD	$	$
7014	Flat bed truck - 80 drum minimum capacity	30	LD	$	$
7015	Vacuum truck	10	LD	$	$
7016	Dump truck - 40,000 LB capacity	10	LD	$	$
7017	Other (specify)	1	LD	$	$
7018	Other (specify)	1	LD	$	$
7020	Transportation Base Charge for 5-Day Pickup up to 100 Miles				
7021	Stepvan - 10, 55 gallon drum capacity	5	LD	$	$
7022	Tanker truck - 5,000 gallon minimum capacity	5	LD	$	$
7023	Tanker truck - 1,000 gallon minimum capacity	8	LD	$	$
7024	Flat bed truck - 80 drum minimum capacity	5	LD	$	$
7025	Vacuum truck	10	LD	$	$

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
OPTION YEAR I
FEBRUARY 1, 1995 THROUGH JANUARY 31, 1996

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
7026	Dump truck – 40,000 LB capacity	1	LD	$	$
7027	Other (specify):	1	LD	$	$
7028	Other (specify):	1	LD	$	$
7030	Transportation Per Mile Charge for Shipments Greater Than 100 Miles				
7031	Stepvan – 10, 55 gallon drum capacity	500	MI	$	$
7032	Tanker truck – 5,000 gallon minimum capacity	500	MI	$	$
7033	Tanker truck – 1,000 gallon minimum capacity	500	MI	$	$
7034	Flat bed truck – 60 drum minimum capacity	500	MI	$	$
7035	Vacuum truck	500	MI	$	$
7036	Dump truck – 40,000 LB capacity	500	MI	$	$
7037	Other (specify):	500	MI	$	$
7038	Other (specify):	500	MI	$	$

**Transportation prices include all equipment, supplies and services (including such items as handling, loading, and documentation) necessary or normally required as part of performing these tasks, but which may not be specified in detail in the Price Schedule or the Statement of Work.

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
OPTION YEAR II
FEBRUARY 1, 1996 THROUGH JANUARY 31, 1997

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
1000	**CONTAMINATED SOIL AND DEBRIS**				
1010	**Soils/debris containing petroleum constituents; not classified as hazardous waste**				
1011	No free liquids; PCBs < 2 ppm; drums	125,000	LBS	$	$
1012	No free liquids; PCBs < 2 ppm; bulk	125,000	LBS	$	$
1013	No free liquids; PCBs < 50 ppm; drums	5,000	LBS	$	$
1014	No free liquids; PCBs < 50 ppm; bulk	5,000	LBS	$	$
1015	Free liquids present; PCBs < 2 ppm; drums	25,000	LBS	$	$
1016	Free liquids present; PCBs < 50 ppm; drums	5,000	LBS	$	$
1020	**Classified as hazardous due to inorganic toxicity characteristic**				
1021	No free liquids; PCBs < 2 ppm; drums	50,000	LBS	$	$
1022	No free liquids; PCBs < 2 ppm; bulk	50,000	LBS	$	$
1023	No free liquids; PCBs < 50 ppm; drums	5,000	LBS	$	$
1024	No free liquids; PCBs < 50 ppm; bulk	5,000	LBS	$	$
1025	Free liquids present; PCBs < 2 ppm; drums	10,000	LBS	$	$
1026	Free liquids present; PCBs < 50 ppm; drums	5,000	LBS	$	$
1030	**Classified as hazardous due to organic toxicity characteristic (no pesticides)**				
1031	No free liquids; PCBs < 2 ppm; meets LDR standards; drums	25,000	LBS	$	$
1032	No free liquids; PCBs < 2 ppm; meets LDR standards; bulk	25,000	LBS	$	$
1033	No free liquids; PCBs < 2 ppm; does not meet LDR standards; drums	25,000	LBS	$	$
1034	No free liquids; PCBs < 2 ppm; does not meet LDR standards; bulk	25,000	LBS	$	$
1035	No free liquids; PCBs < 50 ppm; meets LDR standards; drums	5,000	LBS	$	$
1036	No free liquids; PCBs < 50 ppm; does not meet LDR standards; drums	5,000	LBS	$	$
1037	Free liquids present; PCBs < 2 ppm; meets LDR standards; drums	12,500	LBS	$	$
1038	Free liquids present; PCBs < 2 ppm; does not meet LDR standards; drums	12,500	LBS	$	$
1039	Free liquids present; PCBs < 50 ppm; meets LDR standards; drums	2,500	LBS	$	$
1040	Free liquids present; PCBs < 50 ppm; does not meet LDR standards; drums	2,500	LBS	$	$

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. SC-93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
OPTION YEAR II
FEBRUARY 1, 1996 THROUGH JANUARY 31, 1997

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
1050	Classified as hazardous due to inorganic and organic toxicity characteristic (no pesticides)				
1051	No free liquids; PCBs < 2 ppm; meets LDR standards; drums	12,500	LBS	$	$
1052	No free liquids; PCBs < 2 ppm; meets LDR standards; bulk	12,500	LBS	$	$
1053	No free liquids; PCBs < 2 ppm; does not meet LDR standards; drums	12,500	LBS	$	$
1054	No free liquids; PCBs < 2 ppm; does not meet LDR standards; bulk	12,500	LBS	$	$
1055	No free liquids; PCBs < 50 ppm; meets LDR standards; drums	5,000	LBS	$	$
1056	No free liquids; PCBs < 50 ppm; does not meet LDR standards; drums	5,000	LBS	$	$
1057	Free liquids present; PCBs < 2 ppm; meets LDR standards; drums	2,500	LBS	$	$
1058	Free liquids present; PCBs < 2 ppm; does not meet LDR standards; drums	2,500	LBS	$	$
1059	Free liquids present; PCBs < 50 ppm; meets LDR standards; drums	2,500	LBS	$	$
1060	Free liquids present; PCBs < 50 ppm; does not meet LDR standards; drums	2,500	LBS	$	$
1070	Classified as hazardous due to pesticide toxicity characteristic				
1071	No free liquids; drums	10,000	LBS	$	$
1072	Free liquids present; drums	2,500	LBS	$	$
1080	Classified as hazardous due to F001 - F005 solvents				
1081	No free liquids; meets LDR standards; drums	25,000	LBS	$	$
1082	No free liquids; meets LDR standards; bulk	25,000	LBS	$	$
1083	No free liquids; does not meet LDR standards; drums	25,000	LBS	$	$
1084	No free liquids; does not meet LDR standards; bulk	25,000	LBS	$	$
1085	Free liquids present; does not meet LDR standards; drums	25,000	LBS	$	$
1090	Classified as hazardous due to P- and U-listed organic hazardous wastes				
1091	Meets LDR standards; drums	25,000	LBS	$	$
1092	Meets LDR standards; bulk	25,000	LBS	$	$
1093	Does not meet LDR standards; drums	25,000	LBS	$	$
1094	Does not meet LDR standards; bulk	25,000	LBS	$	$

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
OPTION YEAR II
FEBRUARY 1, 1996 THROUGH JANUARY 31, 1997

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
1100	Classified as hazardous due to P- and U-listed inorganic wastes				
1101	Meets LDR standards; drums	12,500	LBS	$	$
1102	Meets LDR standards; bulk	12,500	LBS	$	$
1103	Does not meet LDR standards; drums	12,500	LBS	$	$
1104	Does not meet LDR standards; bulk	12,500	LBS	$	$
1110	Classified as hazardous due to F006 - F012, F019 wastes				
1111	Meets LDR standards; drums	25,000	LBS	$	$
1112	Meets LDR standards; bulk	25,000	LBS	$	$
1113	Does not meet LDR standards; drums	25,000	LBS	$	$
1114	Does not meet LDR standards; bulk	25,000	LBS	$	$
1120	Classified as non-RCRA hazardous waste in California				
1121	No free liquids; drums	25,000	LBS	$	$
1122	No free liquids; bulk	25,000	LBS	$	$
1102	Free liquids present; drums	25,000	LBS	$	$
1130	Other Waste				
1131	Soil/debris containing between 50 and 500 ppm PCB's; may or may	25,000	LBS	$	$
	not contain other hazardous constituents; drums				
1132	Soil/debris containing between 50 and 500 ppm PCB's; may or may	25,000	LBS	$	$
	not contain other hazardous constituents; bulk				
1133	Soils/debris containing = or > 500 ppm PCBs; may or may not	5,000	LBS	$	$
	contain other hazardous constituents; drums				
1134	Asbestos debris; drums	5,000	LBS	$	$

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
OPTION YEAR II
FEBRUARY 1, 1996 THROUGH JANUARY 31, 1997

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
2000	AQUEOUS WASTE				
2010	Groundwater and rinse water containing petroleum constituents;	4,500	LBS	$	$
	not classified as hazardous waste; drums				
2020	Groundwater and rinse water containing petroleum constituents;	4,500	LBS	$	$
	not classified as hazardous waste; tank				
2030	Groundwater and rinse water classified as hazardous due to	4,500	LBS	$	$
	inorganic toxicity characteristic; drums				
2040	Groundwater and rinse water classified as hazardous due to	4,500	LBS	$	$
	inorganic toxicity characteristic; tank				
2050	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	organic toxicity characteristic (no pesticides); drums				
2060	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	organic toxicity characteristic (no pesticides); tank				
2070	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	inorganic and organic toxicity characteristic (no pesticides); drums				
2080	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	inorganic and organic toxicity characteristic (no pesticides); tank				
2090	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	pesticide toxicity characteristic; drums				
2100	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	pesticide toxicity characteristic; tank				
2110	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	F001-F005 solvents; does not meet LDR standards; drums				
2120	Groundwater and rinse water classified as hazardous due to	9,000	LBS	$	$
	F001-F005 solvents; does not meet LDR standards; tank				
2130	Groundwater and rinse water classified as hazardous due to P-	9,000	LBS	$	$
	and U-listed organic listed wastes; does not meet LDR standards; drums				

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
OPTION YEAR II
FEBRUARY 1, 1996 THROUGH JANUARY 31, 1997

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
2140	Groundwater and rinse water classified as hazardous due to P-	9,000	LBS	$	$
	and U-listed organic listed wastes; does not meet LDR standards; tank				
2150	Groundwater and rinse water classified as hazardous due to P-	9,000	LBS	$	$
	and U-listed inorganic wastes; does not meet LDR standards; drums				
2160	Groundwater and rinse water classified as hazardous due to P-	9,000	LBS	$	$
	and U-listed inorganic wastes; does not meet LDR standards; tank				
2170	Groundwater and rinse water classified as hazardous due to	12,000	LBS	$	$
	F006-F012, F019 wastes; does not meet LDR standards; drums				
2180	Groundwater and rinse water classified as hazardous due to	12,000	LBS	$	$
	F006-F012, F019 wastes; does not meet LDR standards; tank				
2190	Groundwater and rinse water classified as non-RCRA hazardous	12,000	LBS	$	$
	waste in California; drums				
2200	Groundwater and rinse water classified as non-RCRA hazardous	12,000	LBS	$	$
	waste in California; tank				
2210	Groundwater and rinse water containing PCBs < 50 ppm; drums	4,500	LBS	$	$
3000	SLUDGES (from tank and sump cleaning)				
3010	Petroleum sludge not classified as hazardous waste; drums	12,000	LBS	$	$
3020	Petroleum sludge not classified as hazardous waste; bulk	12,000	LBS	$	$
3030	Sludge classified as hazardous waste for inorganic toxicity; drums	12,000	LBS	$	$
3040	Sludge classified as hazardous waste for inorganic toxicity; bulk	12,000	LBS	$	$
3050	Sludge classified as hazardous waste for organic toxicity; drums	15,000	LBS	$	$
3060	Sludge classified as hazardous waste for organic toxicity; bulk	15,000	LBS	$	$
3070	Sludge classified as hazardous waste for inorganic and organic toxicity; drums	15,000	LBS	$	$
3080	Sludge classified as hazardous waste for inorganic and organic toxicity; bulk	15,000	LBS	$	$
3090	Sludge classified as hazardous waste for F001-F005 solvents; drums	6,000	LBS	$	$

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
OPTION YEAR II
FEBRUARY 1, 1996 THROUGH JANUARY 31, 1997

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
3100	Sludge classified as hazardous waste for F001-F005 solvents; bulk	6,000	LBS	$	$
3110	Sludge classified as non-RCRA hazardous waste in California; drums	15,000	LBS	$	$
3120	Sludge classified as non-RCRA hazardous waste in California; bulk	15,000	LBS	$	$
4000	PERSONAL PROTECTIVE EQUIPMENT (PPE) AND RELATED DEBRIS				
4020	Classified as hazardous due to inorganic toxicity characteristic; drums	4,000	LBS	$	$
4030	Classified as hazardous due to organic toxicity characteristic; drums	4,000	LBS	$	$
4040	Classified as hazardous due to inorganic and organic toxicity	4,000	LBS	$	$
	characteristic; drums				
4050	Classified as hazardous due to F001-F005 solvents; drums	4,000	LBS	$	$
4060	Classified as hazardous due to other organic P- and U-listed wastes; drums	1,000	LBS	$	$
4070	Classified hazardous due to other inorganic P- and U-listed wastes; drums	1,000	LBS	$	$
4080	Classified as hazardous due to F006-F012, F019 wastes; drums	4,000	LBS	$	$
4090	Classified as non-RCRA hazardous waste in California; drums	4,000	LBS	$	$
4100	PPE and debris contaminated with PCBs > 50 ppm; drums	4,000	LBS	$	$
5000	LABORATORY WASTE				
5010	Labpacks containing injection vial waste, consisting of approximately 95.9%	1,200	LBS	$	$
	hexane, 4% methanol, 1% methylene chloride and <0.1% diesel, gasoline and BTEX				
5020	Labpacks containing general liquid waste, consisting of approximately 30%	1,200	LBS	$	$
	water, 30% acetone, 30% methanol and 10% hexane				
5030	Labpacks containing soil prep waste, consisting of approximately 60% soil,	1,200	LBS	$	$
	5% acetone, 5% methanol, 30% loose soil with aluminum pans				
5040	Labpacks containing general solid waste with trace solvents,	1,200	LBS	$	$
	including acetone, methanol and hexane				

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-91374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
OPTION YEAR II
FEBRUARY 1, 1996 THROUGH JANUARY 31, 1997

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
6000	LOGISTICAL AND OTHER SUPPORT SERVICES				
6010	Soil/debris loading equipment and operator	1	YD	$	$
6011	Mobilization/Demobilization of Loading Equipment	1	EA	$	$
6020	Pump for bulk liquids or sludges (per occurrence)	1	EA	$	$
6030	Waste Profiles	1	EA	$	$
6040	New waste stream approval; 30-day turnaround	1	EA	$	$
6050	New waste stream approval; 5-day turnaround	1	EA	$	$
6070	Waste stream recertification	1	EA	$	$
6080	Overpacking of unfit or leaking containers	100	EA	$	$
7000	TRANSPORTATION **				
7010	Transportation Base Charge for 20-Day Pickup up to 100 Miles				
7011	Stepvan - 10, 55 gallon drum capacity	25	LD	$	$
7012	Tanker truck - 5,000 gallon minimum capacity	25	LD	$	$
7013	Tanker truck - 1,000 gallon minimum capacity	10	LD	$	$
7014	Flat bed truck - 80 drum minimum capacity	30	LD	$	$
7015	Vacuum truck	10	LD	$	$
7016	Dump truck - 40,000 LB capacity	10	LD	$	$
7017	Other (specify)	1	LD	$	$
7018	Other (specify)	1	LD	$	$
7020	Transportation Base Charge for 5-Day Pickup up to 100 Miles				
7021	Stepvan - 10, 55 gallon drum capacity	5	LD	$	$
7022	Tanker truck - 5,000 gallon minimum capacity	5	LD	$	$
7023	Tanker truck - 1,000 gallon minimum capacity	8	LD	$	$
7024	Flat bed truck - 80 drum minimum capacity	5	LD	$	$
7025	Vacuum truck	10	LD	$	$

Bidder Name:

ATTACHMENT C
AMENDMENT 002
SOLICITATION NO. NC-93374
PRICE SCHEDULE
WASTE MANAGEMENT SERVICES
OPTION YEAR II
FEBRUARY 1, 1996 THROUGH JANUARY 31, 1997

CLIN	DESCRIPTION OF WASTE	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
7026	Dump truck – 40,000 LB capacity	5	LD	$	$
7027	Other (specify):	1	LD	$	$
7028	Other (specify):	1	LD	$	$
7030	Transportation Per Mile Charge for Shipments Greater Than 100 Miles				
7031	Stepvan – 10, 55 gallon drum capacity	500	MI	$	$
7032	Tanker truck – 5,000 gallon minimum capacity	500	MI	$	$
7033	Tanker truck – 1,000 gallon minimum capacity	500	MI	$	$
7034	Flat bed truck – 80 drum minimum capacity	500	MI	$	$
7035	Vacuum truck	500	MI	$	$
7036	Dump truck – 40,000 LB capacity	500	MI	$	$
7037	Other (specify):	500	MI	$	$
7038	Other (specify):	500	MI	$	$

**Transportation prices include all equipment, supplies and services (including such items as handling, loading, and documentation) necessary or normally required as part of performing these tasks, but which may not be specified in detail in the Price Schedule or the Statement of Work.

TASK ORDER 0000
UNDER
SUBCONTRACT S5086-94-XXX-039

ISSUED TO (Seller):	ISSUED BY (Buyer):
Chemical Waste Management, Inc. 4227 Technology Drive Fremont, CA 94538	PRC Environmental Management, Inc. 135 Main Street, Suite 1800 San Francisco, CA 94105

This Task Order is issued pursuant to and shall be performed in accordance with the terms and conditions of Subcontract S5086-94-XXX-039 between the parties hereto.

Effective Date		
Task Title:	Waste Transport, Storage, Treatment, and Disposal	
Statement of Work:	Seller shall provide all equipment, materials, and supplies to load, transport, treat, and dispose of the waste specified in this order in accordance with the terms and conditions of the subcontract.	
Site:		
Contract Reference:	N62474-88-D-5086	
Period of Performance		
Project Manager:	Marty Walters	Phone: (415) 222-8205
Subcontract Manager	Jeffrey Marchesani	Phone: (415) 222-8301

Profile Numbers:

CLIN	DESCRIPTION	QTY.	UNIT (DRUM/YDS)	ESTIMATED LBS	UNIT PRICE	TOTAL PRICE
TOTAL FIXED PRICE*						

*Fixed price is based on estimated weight of waste and may be adjusted based upon actual weight as indicated by weight certificates from the disposal facility.)

In witness whereof, the parties, through their signatures, attest their agreement hereto:

Chemical Waste Management, Inc.	PRC Environmental Management, Inc.
Signature _____ Date	Signature _____
Type or Print Name _____	Type or Print Name _____
Title _____	Title _____