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Final

**Non-Significant Differences Documentation
Site 1, Camp Allen Landfill**

**Naval Station, Norfolk
Norfolk, Virginia**

Contract Task Order 173

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Prepared for

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1.0 Introduction to the Site and Statement of Purpose

This document presents a written description of the non-significant difference (NSD) to the final Selected Remedy at Site 1 – Camp Allen Landfill (CAL), Naval Station, Norfolk (NSN), Norfolk, Virginia, and acts as an addendum to the original Decision Document signed August 14, 1995 (Baker, 1995c). This NSD is issued jointly by the United States Navy (Navy), the lead agency for clean-up, and the United States Environmental Protection Agency, Region III (USEPA), in consultation with the Virginia Department of Environmental Quality (VDEQ) as the support agency.

The CAL Decision Document (Baker, 1995c) outlined the Navy's planned response to contaminated groundwater, soil, and sediment. The selected remedy included groundwater extraction and treatment, monitoring, and institutional controls impacting land usage at the site. Based on groundwater usage restrictions established by the City of Norfolk, groundwater cleanup goals for the Columbia (shallow) aquifer were established based on non-potable risk based concentrations. However, comments received on the October 2003 Five Year Review Report provides that the cleanup goals should have been established based on potable use of the shallow groundwater aquifer. As a result, the Navy in partnership with USEPA and VDEQ (NSN Tier 1 Partnering Team) agreed to revise the groundwater cleanup goals for the Columbia Aquifer from the risk based non-potable use values documented in the Decision Document to the more conservative Safe Drinking Water Act (SDWA) maximum contaminant levels (MCLs). MCLs provide for maximum groundwater protection and future unlimited use and unrestricted exposures to groundwater once the goals are achieved. The change in cleanup goals is consistent with the overall strategy of the original selected remedy, and will not result in a reduced level of protectiveness or long-term effectiveness.

In accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) § 117(c) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) §300.435 (c)(2)(i), this written statement will become a part of the Administrative Record, which is available to the public. The Decision Document (Baker, 1995c), Final Proposed Remedial Action Plan (PRAP) (Baker 1995b), Remedial Investigation (RI) (Baker, 1994a), Feasibility Study (Baker, 1994b), and Baseline Risk Assessment (Baker, 1995b) are also available in the Administrative Record. The information repositories for the Administrative Record are maintained at the location listed below:

**Kirn Memorial Branch
Norfolk Public Library
301 East City Hall Avenue
Norfolk, VA 23510
757-664-7323**

2.0 Site History, Contamination, and Selected Remedy

2.1 Site History

Site 1, CAL, is approximately one mile east of Hampton Boulevard and one mile south of Willoughby Bay. During the early 1940s, landfilling operations commenced in the CAL and continued until about 1974. Disposal activities occurred in two primary areas, designated as Area A and Area B. Area A of CAL is a 45-acre site that was used for the disposal of wastes from the early 1940s to 1975. During this time, significant quantities of wastes were disposed of including general refuse, demolition debris, sludges from metal plating processes, parts cleaning and paint stripping operations, expired shelf-life chemicals, various chlorinated organic solvents, acids, caustics, paints, paint thinners, pesticides, and asbestos. In the mid-1940s, an incinerator was constructed in the southern portion of the Camp Allen area to burn combustible wastes. This incinerator operated until the mid-1960s. Materials too bulky for the incinerator were buried in Area A of CAL. Area B, the eastern portion of CAL, received wastes from a 1971 fire at the adjoining Camp Allen Salvage Yard (CASY).

At present, the majority of CAL is covered with soil and grass. Area A, which includes the Navy Brig facility and a heliport, was built over a portion of the landfill during the mid-1970s. A residential area, Glenwood Park, is located to the west of the site, off government property.

NSN was placed on USEPA's National Priorities List (NPL) in 1997. The Navy and USEPA signed a Federal Facilities Agreement (FFA) in 1999 for NSN, which identified specific requirements that the Navy, USEPA, and VDEQ must follow to meet the CERCLA requirements at the Installation Restoration (IR) sites at the base. CAL (Site 1) and CASY (Site 22) were two of the ten IR sites identified in the FFA and administered through the Navy's IR Program (IRP) following the provisions and requirements of CERCLA as amended by the Superfund Amendments and Reauthorization Act (SARA) in 1989. Changes to sites with a remedy in place (such as Site 1), as well as investigations and remedial actions that occur at the Navy's IR sites must comply with the requirements of the FFA and any other applicable Record of Decision or Decision Document.

2.2 Contaminants of Concern at Camp Allen Landfill

Cleanup goals for the selected remedy were developed to address the contaminants of concern (COCs) in both the Yorktown (deep) and the Columbia (shallow) groundwater aquifers at CAL. COCs for groundwater included the following volatile organic chemicals (VOCs): 1,2-dichloroethane (1,2-DCA), cis-1,2-dichloroethene (cis-1,2-DCE), 1,1,1-trichloroethane (1,1,1-TCA), benzene, ethylbenzene, tetrachloroethene (PCE), toluene, trichloroethene (TCE), vinyl chloride (VC), and xylenes. Separate cleanup goals were established for VOCs in the Yorktown and Columbia aquifers.

2.3 Selected Groundwater Remedy

Contamination at CAL was addressed in the Decision Document (Baker, 1995c) according to the area groupings (Areas A and B) described in Section 2.1. Groundwater from both the Yorktown and Columbia Aquifer is extracted through a series of mid-depth (approximately 65 feet [ft]), and shallow depth (approximately 25 ft) extraction wells that pump

groundwater to the Camp Allen Landfill Treatment Plant (CATP). The treatment system, which is capable of removing metals via clarification/filtration, and VOCs via air stripping and carbon adsorption, is sized to accommodate groundwater flow from both Areas A and B. A groundwater-monitoring program is also used to assess trends in groundwater quality over time and to evaluate the effectiveness of the groundwater extraction and treatment system. The evaluation of the effectiveness of the treatment system includes monitoring the zones of hydraulic influence of both the deep and shallow extraction wells. This monitoring ensures that contaminated groundwater is being contained by the extraction well system and is not migrating beyond the Navy's property boundary. Institutional controls have also been implemented to limit exposure to, and use of groundwater; and to limit the area to non-residential land uses.

3.0 Basis of Document

While groundwater at CAL is not currently nor is it expected to be used as a potable water supply, the Navy, USEPA, and VDEQ (the NSN Tier 1 Partnering Team) agreed to revise the cleanup goals for the Columbia Aquifer groundwater from the risk based values documented in the Decision Document (Baker, 1995c) to the federal MCLs. The revision of clean up goals to MCLs is consistent with the clean up goals established in the Decision Document for the Yorktown Aquifer. Since MCLs are more conservative than the risk based clean up goals established in the Decision Document for groundwater, this change will not result in a reduced level of protectiveness or long-term effectiveness of the remedy.

4.0 Description of Differences

Table 1 details the cleanup goals that were established for groundwater in the Decision Document (Baker, 1995c) for COCs in both the Yorktown and Columbia Aquifer. Table 1 also provides the revised cleanup goals (MCLs) for COCs in the Columbia Aquifer. As shown in the following table, the revised clean up goals are more conservative than the previous risk-based clean up goals specified in the Decision Document.

TABLE 1
Comparison of Groundwater Cleanup Goals
Camp Allen Landfill, Naval Station Norfolk, Norfolk, VA

Aquifer	Selected Remedial Goals from Decision Document		Recommended Remedial Goal
	Yorktown Aquifer	Columbia Aquifer	Columbia Aquifer
Cleanup Goals	MCL	Risk-based	MCL
Contaminant of Concern			
1,2-Dichloroethane	5	190	5
cis-1,2-Dichloroethene	70	15,000	70
1,1,1-Trichloroethane	200	13,500	200
Benzene	5	600	5
Ethylbenzene	700	150,000	700
Tetrachloroethene	5	340	5
Toluene	1,000	301,000	1,000
Trichloroethene	5	1,600	5
Vinyl Chloride	2	9	2
Xylenes	10,000	3,000,000	10,000

Concentrations are in micrograms per liter
MCL - Maximum Contaminant Level

5.0 Statutory Determinations

The selected groundwater remedy satisfies the statutory requirements of CERCLA Section 121, as it remains protective of human health and the environment, is in compliance with Applicable or Relevant and Appropriate Requirements, and is cost-effective. The selected groundwater remedy addresses all contaminants of concern impacting groundwater at the site.

6.0 References

- Baker, 1994a. *Final Camp Allen Landfill RI Report*. Norfolk Naval Base, Norfolk, Virginia. July.
- Baker. 1994b. *Final Camp Allen Landfill Feasibility Study Report*. Naval Base, Norfolk, Virginia. November.
- Baker. 1995a. *Revised Final Baseline Risk Assessment, Camp Allen Landfill Areas A and B*. Naval Base, Norfolk, Virginia. February.
- Baker. 1995b. *Final Camp Allen Landfill Proposed Remedial Action Plan*. Naval Base, Norfolk, Virginia. March.
- Baker. 1995c. *Final Decision Document, Camp Allen Landfill*. Naval Base, Norfolk, Virginia. July.