



TECHNICAL MEMORANDUM

Date: February 8, 2005
To: Indian Head Installation Restoration Team
From: Kim C. Turnbull, Tetra Tech NUS, Inc.
Subject: Decision Document
Site 3 – Nitroglycerin Explosion, Nitration Building Area
Naval District Washington, Indian Head
Indian Head, Maryland

1.0 INTRODUCTION

This technical memorandum is a Decision Document (DD) addressing Installation Restoration (IR) Program Site 3, Nitroglycerin Explosion, Nitration Building Area, at Naval District Washington, Indian Head (NDW-IH) in Indian Head, Maryland. The DD describes the history of Site 3, summarizes key findings from a review of available documents from the period 1983 to 2004, and recommends a site management decision based on the document review findings.

This DD was prepared by Tetra Tech NUS, Inc. (TtNUS) under the Comprehensive Long-Term Environmental Action Navy (CLEAN) Contract Number N62467-94-D-0888, Contract Task Order Number 0805.

Site 3 is listed in Appendix A of the Federal Facility Agreement (FFA) (EPA Region III and DoN, 2000) for NDW-IH as a Site Screening Area (SSA) with suspected contamination requiring investigation under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Program. Utilizing existing information, this DD was prepared in accordance with Section 9.3D(3) of the FFA for an SSA that has been determined to not warrant a Remedial Investigation (RI) or status as an Accelerated Operable Unit (AOU) (FFA Section 2.1A).

2.0 SITE DESCRIPTION AND OPERATIONAL HISTORY

Site 3, located in the west-central portion of the Main Area at NDW-IH, is the location of the former Nitration Building (Building 675) that was destroyed in a nitroglycerin explosion in September 1971.

Residual materials and demolition debris were buried at the Caffee Road Landfill (Site 11). Building 1543 (Nitration Building) was constructed to replace the destroyed facility.

3.0 INVESTIGATION HISTORY

An Initial Assessment Study (IAS) was completed in 1983 to determine whether the potential for contamination existed at Site 3 (Hart, 1983). Soil sampling near Building 1543 was conducted in 2002 to screen for contamination in the vicinity of the proposed military construction (MILCON) P161 project (ERG, 2002).

4.0 DOCUMENT REVIEW

The following documents were reviewed as part of the preparation of this DD for Site 3:

- Initial Assessment Study (Hart, 1983)
- Sampling Results, Soil and Groundwater Screening, Biazzi and Moser Plants (ERG, 2002)

4.1 IAS Report

A Safety Department report on the explosion was reviewed during preparation of the IAS. This report indicated that “no material escaped from the building” and the “...site was decontaminated explosively.” This area was not recommended for a Confirmation Study because mitigating action had already been taken.

4.2 MILCON P161 Sampling Report

Three soil borings were installed adjacent to the northern, eastern, and southern sides of Building 1543 as part of the MILCON P161 sampling effort. Two soil samples were collected from each boring at depth intervals of 0.5 to 1 foot and 2 to 3 feet. Each sample was analyzed for the nitrate esters (explosives, including nitroglycerin) identified as potential contaminants and lead.

No explosive compounds were detected in any of the soil samples. The detection limit was 1.0 mg/kg. Lead was detected at concentrations ranging from 9.6 to 516 mg/kg.

The analytical results for lead detected in surface soil and subsurface soil are presented in Table 1.

5.0 SUMMARY OF KEY FINDINGS

The analytical data from the MILCON P161 sampling report were evaluated in this DD to estimate potential risks to human health and the environment. The only chemical of potential concern detected during this investigation was lead. One subsurface soil sample had a lead concentration (516 mg/kg) greater than the EPA Office of Solid Waste and Emergency Response (OSWER) screening level of 400 mg/kg (EPA, 1994) for residential land use. However, the average lead concentration (113 mg/kg) is less than the OSWER screening level. This indicates that lead does not pose a significant risk to potential human receptors.

All detected concentrations of lead in surface soil (10.5 to 16.6 mg/kg) are greater than the EPA Region 3 Biological Technical Assistance Group (BTAG) soil screening level of 0.01 mg/kg (EPA, 1995). However, lead was not detected at concentrations greater than the representative NDW-IH background concentration (149 mg/kg) for surface soil (TtNUS, 2002). Therefore, any potential risks to ecological receptors posed by lead in surface soil are not considered to be site-related.

6.0 RECOMMENDATIONS

The evaluation of existing information indicates that no further action is required for Site 3 to protect human health and the environment.

7.0 REFERENCES

EPA (United States Environmental Protection Agency), 1994. Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities. EPA/540/F-94/043, Office of Emergency and Remedial Response, Washington, D.C.

EPA, 1995. Region III BTAG Screening Levels. Region III Biological Technical Assistance Group. Philadelphia, Pennsylvania.

EPA Region III and DoN (United States Department of the Navy), 2000. Federal Facility Agreement under CERCLA Section 120, Naval Surface Warfare Center, Indian Head Division, Indian Head, Maryland. Administrative Docket Number III-FCA-CERC-018.

ERG, 2002. Sampling Results, Soil and Groundwater Screening, Biazzi and Moser Plants, Indian Head Division, Naval Surface Warfare Center.

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Hart (Hart, Fred C. Associates, Inc.), 1983. Initial Assessment Study, Naval Ordnance Station, Indian Head, Maryland. New York, New York.

TtNUS (Tetra Tech NUS, Inc.), 2002. Background Soil Investigation Report of Indian Head and Stump Neck Annex, Naval Surface Warfare Center, Indian Head, Maryland. King of Prussia, Pennsylvania,

TABLE 1

SUMMARY OF SOIL ANALYTICAL RESULTS FOR LEAD
SITE 3 - NITROGLYCERIN EXPLOSION, NITRATION BUILDING AREA
NDW-IH, INDIAN HEAD, MARYLAND

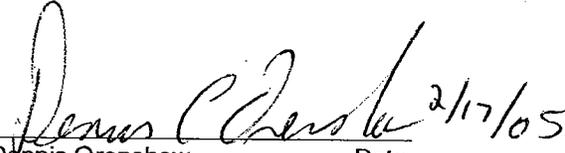
Sample Location	Depth (ft bgs)	Lead (mg/kg)
Surface Soil		
MSS-12	0.5 - 1	10.5
MSS-13	0.5 - 1	16.6
MSS-14	0.5 - 1	12.5
Subsurface Soil		
MSS-12	2 - 3	516
MSS-13	2 - 3	9.6
MSS-14	2 - 3	(1)

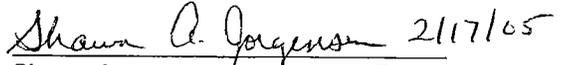
(1) Sample jar broken.

**CONCURRENCE FOR NO FURTHER ACTION
SIGNATURE PAGE**

**Site 3 – Nitroglycerin Explosion, Nitration Building Area
Naval District Washington, Indian Head
Indian Head, Maryland**

In 2005, in partnership with the United States Environmental Protection Agency (USEPA) Region III and the Maryland Department of the Environment (MDE), the Navy prepared this decision document for Site 3 (Nitroglycerin Explosion, Nitration Building Area) at the Naval District Washington, Indian Head in Indian Head, Maryland. Based upon a review of available information, it is the consensus of the Department of the Navy (DoN), the USEPA Region III, with concurrence from the MDE, and members of the Indian Head Installation Restoration Team (IHIRT), that Site 3 requires no further action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended. As appropriate, constituent concentrations, pathways, and receptors were evaluated by comparing analytical data to the most recent version of USEPA Region III human health and ecological screening levels, conducting human health and ecological risk evaluations, reviewing historical site data, and applying best professional judgment. In the event that contamination posing an unacceptable risk to human health or the environment is discovered after execution of this agreement, the IHIRT agrees to reevaluate Site 3 as deemed necessary.


 _____ 2/17/05
 Dennis Orenshaw Date
 Remedial Project Manager
 USEPA Region III


 _____ 2/17/05
 Shawn Jorgensen Date
 Remedial Project Manager
 Naval District Washington, Indian Head


 _____ 2/17/05
 Jeffrey W. Morris Date
 Remedial Project Manager
 NAVFAC Washington


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 Joseph Rail Date
 Remedial Project Manager
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