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INTERIM FINAL INSTALLATION RESTORATION SITE MANAGEMENT PLAN ABL ROCKET CENTER WV

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ALLIANT TECHSYSTEMS, INC.

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INTERIM FINAL

INSTALLATION RESTORATION SITE MANAGEMENT PLAN FOR ALLEGANY BALLISTICS LABORATORY

Rocket Center, West Virginia

OCTOBER 1997

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ABBREVIATIONS

1,1,1-TCA	1,1,1-Trichloroethane
2,4-DNT	2,4-Dinitrotolulene
2,6-DNT	2,6-Dinitrotolulene
ABL	Allegany Ballistics Laboratory
Alliant	Alliant TechSystems Inc.
AOC	Area of Concern
DNAPLs	Dense NonAqueous-Phase Liquids
DRO	diesel-range organics
GRO	gasoline-range organics
Hercules	Hercules Aerospace Company
HMX	Cyclotetromethylene Tetranitramine
IAS	Initial Assessment Study
IRP	Installation Restoration Program
LANTDIV	Atlantic Division, Naval Facilities Engineering Command
MEK	Methyl Ethyl Ketone
NHBK	Methyl Isobutyl Ketone
NACIP	Navy Assessment and Control of Installation Pollutants Program
NAVFAC	Naval Facilities Engineering Command, Atlantic Division
NAVSEA	Naval Sea Systems Command
NC	Nitrocellulose
NG	Nitroglycerin
PCBs	Polychlorinated Biphenyls
PETN	Pentaerythritol Tetranitrate
ppb	parts per billion
RDX	Cyclotrimethylene Trinitramine
RI/FS	Remedial Investigation/Feasibility Study
SWMU	Solid Waste Management Unit
SVOCs	Semivolatile organic compounds
TAL	Target Analyte List
TCDD	2,3,7,8-Tetrachlorodibenzo-P-Dioxin
TCE	Trichloroethene
TCL	Target Compound List
TNT	2,4,6-trinitrotoluene
TPH	Total Petroleum Hydrocarbons
VOCs	Volatile Organic Compounds
VSI	Visual Site Inspection
U.S. EPA	U.S. Environmental Protection Agency
WVDEP	West Virginia Division of Environmental Protection

DEFINITIONS

Area of Concern (AOC) - Any suspected release of a hazardous waste or hazardous waste constituent which is not associated with a SWMU.

Parties - shall mean the Navy, EPA, and West Virginia as represented by West Virginia Division of Environmental Protection (WVDEP).

Record(s) of Decision or ROD(s) - shall be the public document(s) that select(s) and explain(s) which cleanup alternative(s) will be implemented at the Site, and includes the bases for the selection of such remedy(ies). The bases include, but are not limited to, information and technical analyses generated during the RI/FS and consideration of public comments and community concerns.

Site-Screening Areas or SSAs - shall mean those geographical areas listed in Appendix A and any additional areas agreed to by the Parties in the future. SSAs may be either RCRA SWMUs or Areas of Concern or CERCLA Areas of Concern (AOCs). When the Parties agree, SSAs may expand or contract in size as information becomes available indicating the extent of contamination and the geographical area needed to be studied.

Solid Waste Management Units or SWMUs - as defined pursuant to RCRA, shall mean any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid and/or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released.

Facility Representatives - Shall mean employees authorized to act as an agent/s, authorized representatives or the Navy and/or Alliant Techsystem Inc.

State - shall mean the State of West Virginia, including all departments, offices and agencies thereof, as represented by the West Virginia Division of Environmental Protection (WVDEP).

1.0 INTRODUCTION

This report presents the Installation Restoration (IR) Site Management Plan (SMP) for the Allegany Ballistics Laboratory (ABL) located in Rocket Center, West Virginia. The purpose of the SMP is to present the planned activities to be conducted at the installation during fiscal years (FYs) 1997, 1998, and 1999 and to provide projections for long-term progress at the installation in accordance with the Department of the Navy's Installation Restoration Program (IRP). This report will also be a primary document to be required under a Federal Facilities Agreement (FFA). The report is entitled as interim final because it will be updated yearly, and should be considered a living document to be reviewed and updated. This SMP was prepared by LANTDIV, NAVSEA, ABL, EPA, Alliant TechSystems, Inc., and the State.

1.1 FORMAT OF THE SITE MANAGEMENT PLAN

The SMP is organized into five sections, as described below:

1.0 Introduction -The section presents the background of the installation.

2.0 Appendix A Units - The section describes the Appendix A Units of the FFA.

3.0 Appendix B Units - The section describes the units that are identified in Appendix B of the FFA. These units will be screened for possible inclusion into the Appendix A.

4.0 Site Management Schedules - This section provides the estimated schedules for conducting Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) activities for the IRP and Appendix A units at ABL.

5.0 References - The section lists all the references that were consulted for the preparation of the SMP.

1.2 DESCRIPTION OF THE INSTALLATION

Allegany Ballistics Laboratory (ABL) is a research, development, testing, and production center of solid propellants and motors for ammunition, rockets, and armaments. ABL is located at Rocket Center, in the north central panhandle of West Virginia, about 10 miles south of Cumberland, Maryland. ABL consists of two plants and several additional sites. Plant 1 occupies approximately 1,572 acres and is owned by the Navy and operated by Alliant Techsystems. Plant 2, a 56-acre area adjacent to Plant 1, is owned exclusively by Alliant Techsystems, and was not listed on the NPL.

Approximately 400 acres of the Plant 1 facility is in the floodplain of the North Branch of the Potomac River, the remaining acres are on forested mountainous land. The facility has been active since the early 1940s. In 1945 the Navy took ownership and Hercules, currently the Aerospace Division of Hercules, assumed management of the facility. In 1995 Alliant TechSystems Inc. acquired the Aerospace Division of Hercules and is the current operator at ABL.

1.3 ENVIRONMENTAL HISTORY OF THE INSTALLATION

Hercules Incorporated submitted a water pollution control permit/ disposal of industrial waste application to the West Virginia Department of Natural Resources on February 23, 1967. The application permitted the disposal of beryllium contaminated non-explosive waste by land burial.

The Department of Natural Resources/Water Resources Division submitted an order to Hercules Inc. for the removal of beryllium contaminated waste from the Beryllium Landfill (Site 7) on August 26, 1980.

The Navy and Hercules submitted a RCRA Part A permit application on November 13, 1980. The application included four hazardous waste management units: (1) a 25,000 gallon container storage area at the Former Hazardous Waste Storage Area I; (2) the 1,000-gallon Former Alodine Treatment Tank; (3) a 750 gallon-per-day treatment area for open burning of propellants and explosives at the Current Burning Ground; and (4) a 100,000 gallon-per-day tank treatment area at the

Plant 1 Wastewater Treatment System. ABL received EPA I.D. Number WVO170023691.

Facility representatives submitted a Notification of Hazardous Waste Site form to EPA on May 29, 1981. The notification identified two solid and hazardous waste management units. These were the Beryllium Landfill and the Current Burning Ground.

In August 1981, the State of West Virginia issued ABL a consent order for the improper storage of hazardous wastes at the storage facility within Site 1.

The Navy and Hercules requested a RCRA Part A permit modification for the relocation of the Former Hazardous Waste Storage Area I in December 1981. On August 25, 1982, the Navy and Hercules submitted a request to EPA to amend the facility's RCRA Part A permit application. The company requested that the Plant 1 Wastewater Treatment System listed on the RCRA Part A permit be deleted since no hazardous waste was generated at the unit. According to the facility, the Plant 1 Wastewater Treatment System did not treat any materials that contained explosive or reactive constituents. The amended application also added EPA hazardous waste numbers for an additional 104 chemical compounds used in facility operations.

The Navy and Hercules submitted a RCRA Part B permit application to EPA Region III on February 16, 1983. It included a revised Part A permit application. The revised Part A application deleted the 100,000 gallons-per-day Plant 1 Wastewater Treatment System tank treatment unit that was identified on the original RCRA Part A permit. The permit application included three hazardous waste process units. These units were 16,500 gallons of container storage (originally 25,000 gallons) at the Former Hazardous Waste Storage Area II, 1,000 gallons per day of tank treatment at the Former Alodine Treatment Tank, and 750 gallons per day of other treatment at the Current Burning Ground. The Navy and Hercules ~~ABL~~ included the following listed hazardous waste codes in the RCRA Part A permit: D001, D002, D003, F001, F002, F019, D007, and D008. The modification also requested that Plants 1 and 2 be combined under one EPA I.D. and that the 104 additional chemicals listed in the August 1982 revision be deleted.

In May 1983, an Initial Assessment Study (IAS) of ABL was completed pursuant to the Navy Assessment and Control of Installation Pollutants Program (NACIP). The IAS recommended only 7 areas for further evaluation. These sites are referred to in the IAS as Site 1 (Northern Riverside Waste Disposal Area), Site 2 (Previous Burning Ground (1942-1949)), Site 3 (Previous Burning ground (1950-1958)), Site 4 (Spent X-Ray Developing Solution Disposal Site), Site 5 (Inert (non-ordnance) Landfill), Site 6 (Sensitivity Test Area Surface Water Impoundment), and Site 7 (Beryllium Landfill). In addition, Site PWA (renamed Site 10) was identified in this report and recommended for further monitoring.

A public notice for the issuance of an operating permit to ABL for the operation of the Former Alodine Treatment Tank and Former Hazardous Waste Storage Area II was issued on June 2, 1984. A permit was issued on July 23, 1984. Thermal treatment of propellants and explosives at the Current Burning Ground were not included in the permit. This operation remained under interim status.

On January 22, 1985, the facility representatives requested a modification to their RCRA Part B permit to allow treatment of a chromium-containing waste aqueous solution (spent Alodine) in Building 2014 (Plant 2). This was requested in lieu of activating the permitted treatment system at Building 167. No permit modification was issued, no treatment system was installed, and waste was shipped for off-site treatment from 90 day storage accumulation areas (see **SWMU 13** and **SWMU 15**).

The facility representatives submitted a Certification of Closure of the permitted Former Alodine Treatment Tank **(SWMU 12) in Building 167** on September 30, 1987. The WVDEP granted partial closure based on its receipt of the certification. Tank treatment operations were formally closed on December 9, 1987.

On November 7, 1988, the facility representatives ~~ABL~~ submitted a RCRA Part B permit application with Subpart X requirements for the open burning of propellant and explosive wastes on-site at the Current Burning Ground (Site 1).

In August, 1987, a Confirmation Study at ABL was completed. The

Navy changed its NACIP terminology, under the newly developed Installation and Restoration Program (IRP), to follow the guidance of the Superfund Amendments and Reauthorization Act (SARA) of 1986. The results of the Confirmation Study are documented in the report entitled "Interim Remedial Investigation Report," dated October 1989. All sites examined were found to warrant further investigation, except Site 6 (Sensitivity Test Area Surface Water Impoundment).

On February 12, 1988, ABL was listed on the Federal Agency Hazardous Waste Compliance Docket, which was established pursuant to CERCLA Section 120(c).

Modification of the facility's hazardous waste management permit became effective on October 13, 1989 and was effective until July 23, 1994. WVDEP issued the modification for construction of the Current Hazardous Waste Storage Area at Building 366.

On November 7, 1990, facility representatives submitted a closure plan for the Former Hazardous Waste Storage Area II **(SWMU 2)** at Building 182. On June 3, 1992, the facility representatives requested a permit modification to restart the existing Alodine treatment process in Building 2014 (Plant 2) which had been shut down for approximately one year and transfer the Alodine liquid from Building 2014, to the Current Alodine Treatment Tank at Building 167 **(SWMU 14)**.

In May 1992, a RI/FS Work Plan for ABL was completed. Sites slated for study in the draft RI/FS work plan include Site 1, 2, 3, 5, 7, and Site PWA. The following is a brief description of the areas where hazardous substances are located:

> Site 1 - Northern Riverside Waste Disposal Area. Several waste disposal units, including the current burning ground for ordnance, three inactive spent solvent disposal pits, a former open burning area and landfill for ash, and a former storage area for drums containing hazardous waste.
>
> Metals, explosives, volatiles, semi-volatiles, and dioxins may impact the ground water, surface water and sediment, and the soils in the area.

Site 2 - Previous Burning Ground (1942 to 1949). An inactive burning ground for ordnance material. Metals and explosives may impact the soils and ground water.

Site 3 - Previous Burning Ground (1950 - 1958). An inactive burning ground for ordnance material. Metals and explosives may impact the soils and ground water.

Site 5 - Inert Landfill. An inactive landfill reported to contain emptied drums previously containing methylene chloride, TCE, and acetone; laboratory and photographic chemicals; metal and plastic machining wastes; fiberglass and other resin-coated fibers; and construction and demolition debris. Metals, volatiles, and semi-volatiles may have impacted the soils and ground water.

Site 7 - Beryllium Landfill. A small pit reported to contain beryllium dust and laboratory chemicals. Metals, volatiles, and semi-volatiles may impact the subsurface soils and ground water.

Site PWA (Site 10) - Plant 1 and Production Wells. Consisted of ground water production wells PWA and PWC located in the floodplain portion of Plant 1. Volatiles had been detected in both wells and all the production wells located in that portion of Plant 1 are no longer used as a potable water source. Metals and semi-volatiles may also impact the ground water.

A draft RI Report was completed in October 1992 and recommended additional investigations at Site 1 to determine whether the river acts as an hydraulic barrier for the VOC contaminated ground water and to determine the extent of contamination detected in the surface water and sediments in the river at Site 1. This report was finalized in January 1996.

In February 1993, the EPA completed, pursuant to CERCLA, a Hazard Ranking System evaluation of ABL that resulted in a score of 50.00.

The EPA Office of RCRA Programs conducted a RCRA Facility

Assessment (RFA) at ABL to identify Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs). A final RFA report was issued in August, 1993.

This RFA report identified both SWMUs and AOCs at the facility that would require additional investigation under RCRA. A site walk through by members of the Project Management Team identified three additional areas of concern and a review of older reports identified six more potential sites. Of the areas requiring additional evaluation, 10 SWMUs are currently part of the ongoing RI/FS evaluation. Site 1 includes **SWMU 1** (Former Hazardous Waste Storage Area 1), **SWMU 7** (Inert Burning Ground), **SWMU 8** (Acid Disposal Pit), **SWMU 11** (Former Burn Cages and Ash Landfill), and **SWMU 20** (Solvent Disposal Pit). Site 2 includes **SWMU 4** (Former Burning Ground I). Site 3 includes **SWMU 5** (Former Burning Ground II). Site 4A includes **SWMU 18** (Photo Solution Discharge Area I). Site 5 includes **SWMU 9** (Inert Landfill). Site 7 includes **SWMU 10** (Beryllium Landfill). The Project Management Team evaluated existing documentation, drawings, and data for 5 additional SWMUs. Soils analysis at **SWMU 16** (Plant 1 Wastewater Treatment System) indicated that no contaminants were released during the reported overflow event. No further action is recommended for the overflow area however, additional soils sampling and groundwater evaluations are recommended for the Wastewater Treatment Plant when it is demolished. For **SWMU 19**, a piping schematic and design drawings of Building 231 were inspected and the former analytical data was reviewed by the Project Management Team. There was no indication that solutions would have been discharged to the ground and no contaminants were detected in composite soil samples so no further action is recommended for this SWMU. SWMU 27 was renamed **SWMU 27A** (Drainage Ditch System, Plant 1). **SWMU 36** (Oil Pit) will be investigated as part of and with Site 11, " Production Well F" . For **SWMU 37Q** (Building 256 Wastewater Sump) the Project Management Team reviewed a data package and no further action is recommended **SWMU 39** (Weir) was incorporated with and will be investigated as part of SWMU 27A. **SWMU 41** (Automotive Maintenance Area Drain) will be evaluated as part of the evaluation of **SWMU 37B** (Building 7 Wastewater Sump). For **SWMU 44** (Settling Basin) the Project Management Team reviewed the analytical data for effluent water samples collected during operation of the air stripper related to this site. Only low levels of xylenes and lead were detected and

no further action is recommended.

For **SWMU 54** (Building 7 UST Removal Site) a complete removal data package was reviewed and no further action, except continued monitoring by WVDEP LUST/UST Section, is recommended. For **SWMU 55** (Building 2 UST Removal Site), **SWMU 56** (Building 3 UST Removal Site), and **SWMU 57** (Building 300 UST Removal Site) the Project Management Team reviewed the data packages from each removal and recommends that no further action is required under CERCLA.

For **AOC A** (Underground Storage Tanks) the removal data packages were reviewed and except for one area, show only minor contamination. The WVDEP LUST/UST Section and WVDEP Office of Environmental Enforcement continue to be involved with these sites. No further action is recommended, however groundwater contamination will be considered in conducting investigations and remedial actions.

A data package was reviewed for **AOC C** (Condensate Discharge Area). The documentation and data indicate that condensate comes from steam and no hazardous constituents were added. In the future, condensate discharge at ABL may be regulated and/or monitored under the NPDES permit at the facility. No further action under CERCLA is recommended for this SWMU. The Project Management Team conducted a visual inspection for AOC D (Building 181 Pit). The integrity was acceptable and no further action is recommended. A data package was reviewed for **AOC E** (Aboveground Storage Tank Spill Area). EPA Region III Office of Spill Control is involved with this site so no further action under CERCLA is recommended. A data package was reviewed for **AOC F** (Acid Neutralization Pit) and the results indicate that no further action is recommended. Of the remaining 41 sites 6 will be investigated as Site Screening Areas under this Agreement (See Appendix A), and 35 areas will be included as Areas of Concern listed at Appendix B to this Agreement. Listed below are the 6 sites that are currently undergoing RI/FS evaluation.

The Naval Facilities Engineering Command, contracted CH2M HILL to prepare RI/FS Work Plans for ABL. In October, 1994 LANTDIV issued a final Focused RI/FS Work Plan for Site 1 at ABL and in December,

1994 issued a final RI/FS Work Plan for Sites 2, 3, 4A, 4B, 5, and PWA (Site 10) at ABL. Also in August, 1994 LANTDIV issued a final Workplan for the Construction Investigation for Site 7 at ABL.

At Site 7, contaminated soils were excavated from the former pit in July, 1994 and were stored in two roll-offs at a secured location on ABL. In September 1996, the waste materials were segregated into three separate waste streams: 1. Beryllium P015 and Mercury U151 contaminated soil and debris, 2. One-five gallon pail containing Mercury U151, 3. One-five gallon pail containing explosive devices D003. In April 1997, the RCRA hazardous material was transported from the facility for proper disposal.

In November, 1994, groundwater contamination was detected in Groundwater Production Well F, an unused well discovered during Building 215 demolition. Further investigation revealed contamination of both soil and groundwater. Since named Site 11, an advanced Site Inspection was completed and a Report was issued in February, 1996.

In April 1995, LANTDIV issued a draft Focused Remedial Investigation Report for Site 1. The Navy issued a Final Focused Remedial Investigation ~~RI~~ Report for Site 1 in August 1995.

In June 1995 LANTDIV issued a draft Phase II Remedial Investigation Report for Sites 2, 3, 4B, 5, and 10. The Navy issued a Final Phase II Remedial Investigation Report for Sites 2, 3, 4B, 5 and 10 in August 1996.

In September 1995, the Navy issued a draft Focused Feasibility Study for Site 1. The document was revised and resubmitted in April 1996 as a draft final Site 1 Focused Feasibility Study Groundwater, Surface Water and Sediment. In September 1996, the Navy issued the final Site 1 Focused Feasibility Study Report for Groundwater, Surface Water and Sediment.

In November 1995, the Navy issued the draft Engineering Evaluation/Cost Analysis (EE/CA) for Site 7. The public comment period closed in January 1996. The Navy issued the final EE/CA in May, 1996.

Consent Order (CO) #CO-R6,13,25-95-8 was issued on November 10, 1995 by the State of West Virginia. It deals with open burning of propellant and explosive (P/E) wastes and P/E contaminated wastes. The CO compliance program required cessation of open burning of P/E contaminated wastes by May 31, 1996. It also delineated three primary requirements: compliance demonstration; waste minimization and emissions mitigation; and utilization of an open burning management plan. Compliance demonstration included construction of an incinerator if open burning of P/E contaminated wastes was not ceased, research on alternative technologies, determination of impact on human health and the environment, and relocation of the burn site if the impact were unacceptable.

In April 1996, the Navy issued a draft Focused Feasibility Study ~~FS~~ for Landfill Contents and Soil at Site 5. The Navy issued the Final Feasibility Study ~~FS~~ Report for Landfill Contents and Soil in August 1996.

In May 1996, the Navy issued a draft Remedial Investigation Workplan for Site 11, Production Well F; a draft Site Inspection Report; and a draft Site Screening Process Workplan.

On November 1, 1996, the State of West Virginia issues a Draft Consent Order (HW-52496) to the NAVY for improper storage and labeling of hazardous material removed from Site 7.

In October, 1996, the Navy issued a Proposed Plan for Groundwater, Surface Water and Sediment for Site 1; and a Proposed Plan for Landfill Contents and Soil for Site 5. The public comment period for both these documents closed on December 9, 1996. The Navy also issued a draft Focused Feasibility Study ~~FS~~ for Site 10 in November, 1996.

The Navy issued a Phase II Aquifer Test Report for Site 1 and a draft Remedial Action Design for a Landfill Cap at Site 5 in January, 1997. A draft (35%) Remedial Action Design (Basis for Design) for the Site 1 was also issued in January, 1997.

The Navy, WVDEP, and the EPA signed a Record of Decision (ROD) for the Site 5 Landfill Contents and Surface Soil in February, 1997.

1.4 FEDERAL FACILITY AGREEMENT

In June, 1993, the U.S. EPA proposed that ABL be added to the National Priorities List (NPL). On May 31, 1994, ABL was finalized, at 59 Federal Register 27989, on the NPL. Following listing on the NPL, negotiations on a Federal Facility Agreement between US EPA, the state of West Virginia, and the Department of Navy was initiated. The FFA is expected to be signed within fiscal year (FY) 1998.

All the units are listed in Table 1-1 (Appendix A Units) and Table 1-2 (Appendix B Units) as categorized in the FFA either as units that will be further characterized (Appendix A of the FFA), or units that require additional documentation or sampling (Appendix B) before a no further action decision is warranted.

Units that will be further characterized (Appendix A Units) are classified as site screening areas (SSAs). SSAs include the geographical areas to be listed in Appendix A of the FFA and any additional areas agreed to by the Parties in the future. The term SSA is defined in the list of definitions following the Table of Contents. Under the terms and conditions of the FFA, SSAs will be required to be investigated and, if appropriate, remediated in accordance with the National Contingency Plan (NCP), CERCLA, Superfund Amendments and Reauthorization Act (SARA), and RCRA.

The FFA integrates the Navy's CERCLA response obligations and RCRA corrective action obligations that relate to the release(s) of hazardous substances, hazardous wastes, pollutants or contaminants. Therefore, the activities outlined in this SMP will achieve compliance with CERCLA; satisfy the corrective action requirements for a RCRA permit, and meet or exceed all applicable or relevant and appropriate Federal and State laws and regulations, to the extent required by CERCLA, and applicable State law. Remediation of releases identified in this SMP shall obviate the need for further corrective action under RCRA (i.e., no further corrective action shall be required).

The Parties agree that, with respect to releases of hazardous waste covered by the FFA that are associated with the NPL portions of the Site, RCRA shall be considered an applicable or relevant and

appropriate requirement pursuant to CERCLA Section 121. Releases or other hazardous waste activities not covered by the FFA remain subject to all applicable West Virginia and federal environmental requirements.

The Parties recognize that the requirement to obtain permits for response actions undertaken pursuant to the FFA shall be as provided for in CERCLA and the NCP. The Parties further recognize that ongoing hazardous waste management activities at ABL may require the issuance of permits under Federal and State laws. This Agreement does not affect the requirements, if any, to obtain such permits.

1.5 PURPOSE OF THE SITE MANAGEMENT PLAN

The SMP is one of the primary documents to be listed in the FFA. The SMP documents the decisions made during the project planning and scoping process for ABL. This SMP includes proposed deadlines for completion of draft primary documents, as will be specified in the FFA, to be submitted during fiscal years(FYs) 1997, 1998 and 1999 and proposed target dates for activities beyond the two year planning period. A draft SMP must be submitted to the Parties in May of each year. The SMP includes proposed actions for the CERCLA responses and RCRA corrective actions, and outlines all the response activities and associated documentation, under the FFA, to be undertaken at the installation.

2.0 APPENDIX A UNITS

This section contains a brief description of each of the Installation Restoration Program (IRP) Sites, Solid Waste Management Units (SWMUs), and Areas of Concern (AOCs) identified in Appendix A. The terms SWMUs and AOCs are defined in the front of the SMP under definitions.

2.1 NEW IRP SITE DESCRIPTIONS

This section lists new sites identified for incorporation in the IR Program.

2.1.1 Installation Restoration Sites

Site 10: PWA and Building 157

Site PWA consists of Plant 1 production wells PWA and PWC and the surrounding area. In the early 1980's water quality testing of these production wells detected VOC contamination. The Plant 1 production wells were shutdown and replaced with production from new wells to the south. The highest level of VOC contamination in the production wells was detected in Well PWA. Analytical data were obtained from monitoring wells in the bedrock and the alluvium, PWA1 and PWA2, respectively, near Well PWA during the sampling round in August 1987. The analytical results from the wells, PWA (the production well in the bedrock with an open interval of probably 150 feet), PWA1 (screened at a depth between 63 and 78 feet), and PWA2 (screened at a depth between 20 and 35 feet), showed a decrease in the concentrations of 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethene (DCE), and tetrachloroethene (PCE) and an increase in the concentration of trichloroethene (TCE) between wells PWA2, PWA1, and PWA. Because 1,1,1-TCA was not detected in Well PWA in September 1980 or March 1986, but appeared abruptly in July 1987, suggests that 1,1,1-TCA is migrating downward from a surface source. TCE also may be derived from a surface source, but one that is older (TCE was detected in Well PWA as early as October 1984) and one whose surface concentration of contaminants has declined significantly. Soil samples were taken from the surrounding area and indicated that the soils south of Building 157 were contaminated with TCE. A

TCE-recovery still operated in Building 157 in 1959 and 1960. Recent investigations near Building 157 indicated VOC contamination in deep soils and groundwater contamination in both the alluvial and bedrock aquifers.

Site 11: F-Well

F-Well was recently encountered during construction work at Plant 1. The 8-inch diameter well was drilled as a production well in 1961. The original drilling specifications required the well to be drilled to a depth of 350 feet or until 150 gallons per minute (gpm) were produced; it is not known which of these specifications were met. When the well was tested, it was found to produce excessive suspended solids when pumped and therefore, was never used. A boiler-house expansion (Building 215) was constructed over the well and the well was lost until Building 215 was demolished. When the well was rediscovered in late 1994, there was a hydrocarbon odor and a small amount of oil was recovered floating on the water in the well. Further testing also indicated the presence of a dense non-aqueous phase liquid (DNAPL) in the bottom of the well.

2.1.2 Solid Waste Management Units and Areas of Concern

This section contains the SWMUs and AOCs that were recommended in the RCRA Facility Assessment (RFA) performed by U.S. EPA Region III (A.T. Kearny, 1993) for further action.

SWMU 27A: Drainage Ditch System

A system of open earthen drainage ditches, catch basins, and culverts throughout the facility property serves as a storm water drainage system. The ditches range from less than one foot deep and one foot wide to approximately four feet deep and five feet wide. None of the ditches are lined with impervious liners, however several ditches have concrete weir structures, or are partially lined with riprap. The ditches drain toward the north and west side of the Plant 1 property and discharge to the North Branch Potomac River. During periods of heavy rainfall, standing water is generated in many low-lying areas of the property. In addition, the groundwater level rises to within a few feet of the

surface. This unit started operation during the 1940s and is still in operation today. This unit manages storm water runoff from the developed property area. The unit receives wash down from some of the process buildings. Analysis of soil samples taken in October 1984 from the drainage ditch at Building 181 indicated the concentration of silver contamination between 8,512 mg/kg and 12,800 mg/kg.

SWMU 37C: Building 12 Wastewater Sump

This unit is a concrete sump below grade and enclosed with a wooden lid. Cracking and staining of the concrete was observed during field sampling in late 1995. The sump manages wastewater contaminated with PETN. Analysis of a subsurface soil sample indicated PETN and a small amount of tetrachloroethene contamination.

SWMU 37J: Building 100 Wastewater Sump

This unit is an earthen sump that managed wash down from explosives processing operations. Surface and subsurface soil samples were collected in late 1995. Polycyclic aromatic hydrocarbons (PAHs) were detected in the surface soils and toluene and PCE were detected in (at small levels) the subsurface soils.

SWMU 37N: Building 167 Wastewater Sump

This sump potentially received Alodine waste and/or product from Alodine treatment operations. Surface and subsurface soil samples were collected in late 1995. PAHs and phtahalates were detected in the surface soils and low levels of VOCs were detected in the surface and subsurface soils.

SWMU 40: Laboratory Exhaust Filter

This unit is located along the outside southern wall of the Strand Bomb Testing Laboratory at Building 12. Exhaust from test operations conducted in the westernmost testing room of the building is discharged through the unit. The unit is located approximately 18 inches above the ground surface. This unit most likely started operation during the 1960s, but may have started

operation as early as the 1940s, and is currently operational.

According to the facility, this unit processes combustion products, including vaporized lead. The facility uses NG, HMX, RDX, and AP in such products. No release controls are associated with this unit. During the Visual Site Inspection (VSI), a black ash residue was observed on the ground and wall surface beneath the unit. The majority of the surrounding ground surface is covered with concrete. A one-foot wide area of gravel covered ground is located approximately eighteen inches west of the unit. Recent sampling data indicated elevated lead concentrations and PETN in the soil.

SWMU 52: Current Alodine Treatment Tank

This unit was the most recent alodine treatment tank. The tank was removed in 1995. The tank had replaced (1987) a former treatment tank positioned in the same location, on the south side of Building 167. The most recent alodine treatment tank was open on the top and had a plastic containment structure (six feet in diameter and two feet in depth) below. The unit was located on a concrete pad, however it was adjacent to an exposed ground area. This SWMU listing also includes the former tank, and the investigation will include sampling SWMU 37N, Building 167 Wastewater Sump. Surface and subsurface soil samples were collected in late 1995 and indicate that small amounts of VOCs, moderate levels of PAHs, and inorganics contaminate the soils. Groundwater samples were also collected in late 1995 and indicate VOC and inorganic contamination.

3.0 APPENDIX B UNITS

This section discusses units that are collectively called Appendix B units and are listed in Table 3-1. The Navy has agreed to provide additional documentation, which may include sampling, for review by the US EPA Region III and WVDEP. Based on a desktop evaluation, these units will be proposed for no further action, or transferred to Appendix A with the approval of the Navy, US EPA Region III, and WVDEP. If appropriate, and the Parties agree, the Navy may initiate a clean up of the unit. If a clean up is performed, the Navy will provide confirmatory sampling in a closeout report to the US EPA Region III and WVDEP for approval. The Navy will then propose a brief closeout document on units requiring no further action. Unit descriptions, in this section, are based on existing information.

SWMU 21: Building 241 Catch Basin

ABL operated an explosive test bunker for reactivity testing of propellants. The top of the structure was open allowing precipitation to enter. Water from precipitation and wash down procedures drained via gravity down a concrete ramp and through a metal pipe in a northerly direction to a metal catch basin which trapped any residual explosives. The catch basin consisted of a metal box-like structure measuring approximately one foot by two feet in area and one foot high. The bottom and sides consisted of a fine screen material that filtered the particulate residue and allowed water to pass through. The water was discharged down the steep slope of the mountain. According to a 1983 IAS report, the bunker was used for conducting tests on quantities of explosives totaling less than 50 pounds. According to the facility, the unit was cleaned only a few times during its life span and wastes were presumably taken to the burning grounds. This unit started operation during the 1960s. The unit ceased operation during the 1980s. According to the facility, the unit managed water that may have contained residual explosive materials from testing operations in the Building 241 bunker. No estimate of the quantity of residue is available. According to a 1983 IAS report, a sample of soil and detritus from the unit was analyzed and found to contain nitroglycerine. No specific concentration levels were provided in the report. The catch basin was removed and the building was

demolished in November 1993. Surface soil samples were collected from the drainage in late 1995 and analyzed for inorganics, PETN, and nitroglycerine. The results indicate high lead and nitroglycerine in the soils.

SWMU 22A: Explosive Incinerator

This unit was an incinerator for explosive waste disposal located approximately 30 feet west of Building 4 and 50 feet south of an east-west drainage ditch. The incinerator was operated from the early 1940s to mid 1950. In late 1995 surface soil and subsurface soil samples were taken an analyzed for explosives and inorganics. The results are under review by the project team.

SWMU 22B: Classified Document Incinerator

This incinerator was used to burn classified documents and was located 100 feet northeast of Building 247 and 80 feet west of Building 235. The documents were destroyed by burning them in a small metal cage. The operation continued from 1942 to the 1980s. Since the 1980s the area were the incinerator was located has been covered by soil and used as a contractor staging/trailer parking area. In late 1995 subsurface soils were collected and analyzed for inorganics. The results are under review by the project team.

SWMU 22C: Pilot Fluidized Bed Incinerator

A pilot study of a fluidized bed incinerator (FBI) for the disposal of propellants and explosives was conducted during the early 1980's. The pilot FBI was located on the asphalt surface at the former hazardous waste storage area. Solid materials were removed from the incinerator waste stream using a cyclone separator followed by aqueous scrubber. In late 1995 surface soils were collected and analyzed for inorganics, RDX, TNT, PETN and nitroglycerine. The results are under review by the project team.

SWMU 22D: Non-Explosive Combustible Incinerator

During the 1960s and 1970s, general facility refuse and non-explosive combustible materials were incinerated in a wire cage at this unit. The non-explosive combustible incinerator was located

at the former hazardous waste storage area. A surface soil and subsurface soil sample was taken in late 1995 and analyzed for inorganics. The results are under review by the project team.

SWMU 23: Salvage Yard

This unit consists of an area measuring approximately 250 feet by 50 feet, and located immediately east of Building 270 in the northern portion of the Plant 1 property. It is also located approximately 50 feet north of the automotive test Building 224 and immediately south of the Acid Disposal Pits (SWMU 8) and the Solvent Disposal Pit (SWMU 20). The surface of the unit consists of exposed, compacted soil, and vegetated land. A chain link fence encloses the entire area. At the time of the VSI, several hundred empty drums were being stored in the eastern portion of this unit. Large metal components and pieces of scrap metal were being stored at the western end of the area. Scrap metals are picked up from this unit by local scrap metal dealers. According to the facility, this unit manages scrap metals including aluminum and copper. The facility also stores outdated equipment at the unit. Some of the equipment that has been stored at the yard over the years, such as compressors, has contained oil. All such equipment has been sampled for PCBs. If equipment was found to be PCB-contaminated it was removed from the area after the oil was drained and the unit flushed with solvent. The PCB-contaminated fluids (including solvents) generated from the draining and flushing operation were containerized and disposed off-site at an approved facility within one year. Equipment containing non-PCB-contaminated oil has been stored here. The unit is also used to store empty drums. The bungs on all drums have been tightened. Drums are reused for waste accumulation and storage. Drums that are not reused are periodically picked up by a local salvage collector. The drum tops are removed and the drums are crushed before they are taken offsite. At some time during the 1980s, according to the facility, this unit received spent automotive batteries. Several automotive batteries were found to be leaking in 1990. The batteries were emptied into containers and removed, and soil was tested for pH using pH paper. When no contamination was found, no sampling or excavation of soil was conducted, according to the facility. A five-foot wide ditch from the facility's Drainage Ditch System (SWMU 27) runs in an easterly direction along the southern boundary

of this unit.

In late 1995 surface soils and subsurface soils were collected from four locations on the unit and two groundwater samples were collected. The subsurface soils were analyzed for inorganics, the surface soils for VOCs, SVOCs, inorganics, and PCBs. The groundwater was analyzed for VOCs and SVOCs. The results are under review by the project team.

SWMU 24E: Satellite Accumulation Area Building 7

This unit has been operating since the 1940s and was closed in 1995. The unit was used to collect waste oil from automotive maintenance and repair operations. The unit included a 55-gallon drum on paved asphalt about 10 feet south of Building 7. Some staining and approximately 15 drum rings impressions were noted. A surface soil and subsurface soil sample was collected in late 1995 and analyzed for VOCs, SVOCs, and inorganics. The results are under review by the project team.

SWMU 24J: Satellite Accumulation Area Building 16

SWMU 24J is a 6-foot by 10-foot area in the southern end of the pressure test room in Building 16. The area consisted of one 55 gallon drum until January 1995 used to collect freon from pressure testing machines and now used to manage spent n-butyl alcohol. This area has a concrete floor and is within Building 16. There is heavy staining on the floor. In late 1995, wipe samples were collected and analyzed for PCBs. The results are under review by the project team.

SWMU 24R: Satellite Accumulation Area Building 219

Building 219 is a small building for storage of lubricating oils and greases used by the maintenance staff. A drum containing used oil was located outside this building and that drum was identified as the SWMU. Since the RFA, the drum has been removed, but inspection of the site by WVDEP and EPA identified an area of oil-contaminated soil behind the building caused by spilled oil inside the building flowing out an opening at floor level. This release

of oil to the soil is currently the concern for this SWMU.

SWMU 24V: Satellite Accumulation Area Building 145

Waste oil from equipment on Plant 1 of ABL has been managed on SWMU 24V since 1940s. The unit is located 20 feet from Building 145 and consists of a 7 foot by 7-foot concrete pad surrounded by sand and gravel. Staining was observed on the north and west sides of the pad and during the RFA six waste oil drums were being stored. Surface soil and subsurface soil samples were collected in late 1995 from two locations and analyzed for VOCs, SVOCs, and inorganics. The results are under review by the project team.

SWMU 26: Septic Tank & Building 181 Pit

One unit consists of a round, vertical, below grade terra-cotta pipe unit located approximately 10 feet northeast of Building 181 and five feet west of a shallow drainage ditch which is part of the facility's Drainage Ditch System (SWMU 27). The septic tank is located 80 feet to the northeast of Building 181 and may be connected to the terra-cotta unit. Both units appear to have served as a possible discharge outlet. The septic tank was operating during the 1940s and ceased operation during the mid-1960s. Industrial wastewater was generated from photographic processes in Building 181. Industrial wastewater contained photographic solutions, including silver compounds. According to the facility, the septic tank is not part of any current building drainage system. In late 1995 subsurface soil samples were collected near the septic tank and in the associated drainage or leach field and analyzed for inorganics. The results are under review by the project team.

Another septic tank was located 5 feet south of Building 369. Subsurface soils were collected near this unit and analyzed for VOCs, SVOCs, and inorganics. The results are under review by the project team.

SWMU 34A: Oil/Water Separator Building 252

Building 252 houses an air compressor and air dryer. An oil/water separator was associated with this compressor. Oil contamination

of soil behind the building was evident when WVDEP and the EPA visited this site. The source of the oil could have been from the separator, but more likely was from the air dryer blowdown.

SWMU 34B: Oil/Water Separator Building 341

A compressor, air dryer, and oil/water separator are present in Building 341. At this location, signs of an oil release from the separator were apparent during the visit by the WVDEP and the EPA. A shallow excavation on the south side of the building was partly filled with water with an oil layer on the water.

SWMU 36: Oil Pit

This unit was a 55-gallon drum set in the ground inside a diked fuel storage area. When the drum was removed in 1994 it was found intact and holding oil. Soil stained with oil was observed around the drum and samples were collected from within the bermed area. Free-product was encountered at a depth of 3 feet at the East End of the area. The contaminated soils were excavated. The closeout report is being reviewed by the project team.

SWMU 37A: Building 4 Wastewater Sump

SWMU 37A is an enclosed below-grade concrete structure. This unit is not separately lined and it was observed that three of the sides were cracked. PETN was managed in this unit. The sump has discharged into nearby components of the facility's Drainage Ditch System (SWMU 27A). In late 1995 a subsurface soil sample was collected and analyzed for VOCs, SVOCs, inorganics, PETN, and nitroglycerine. The results are under review by the project team.

SWMU 37B: Building 7 Wastewater Sump

This unit is a covered concrete sump that received wash down water from automotive maintenance activities since the 1940s. The sump is not separately lined and may have handled coolants, oils, and solvents. All sides of the unit had cracks. A subsurface soil sample was collected in late 1995 and analyzed for VOCs, SVOCs, inorganics, and PCBs. The results are being reviewed by the project team.

SWMU 37D: Building 13 Wastewater Sump

This unit is a concrete sump covered with a wooden lid. The sump is not separately lined and has cracks on two of the sides. The unit managed wastewater involving PETN and may have discharged to the facility's Drainage Ditch System (SWMU 27A). A subsurface soil sample was collected in late 1995 and analyzed for VOCs, inorganics, PETN, and nitroglycerine. The results are being reviewed by the project team.

SWMU 37E: Building 15 Wastewater Sump

SWMU 37E is an earthen sump equipped with a filter to remove solid propellant chips. The sump reportedly received propellant contact cooling water containing nitrate esters, nitramines, aluminum, ammonium perchlorate, and lead. The unit may have discharged to the facility's Drainage Ditch System (SWMU 27A). Subsurface soil samples were collected in late 1995 and analyzed for RDX, TNT. PETN, and nitroglycerine. The results are being reviewed by the project team.

SWMU 37F: Building 22 Wastewater Sump

This unit is an earthen sump that received wastewater contaminated with liquid explosives from the late 1940s through the early 1960s. The unlined sump may have discharged to the facility's Drainage Ditch System (SWMU 27A). During field visits the former sump could not be located and no representative sampling location could be selected. The area where the sump might have been was covered with up to 10 feet of soil. Based on an understanding that the sump soils had been periodically detonated in-place, the potential risk from this unit was determined to be low.

SWMU 37G: Building 27 Wastewater Sump

SWMU 37G is a metal catch basin where wash down from HMX and RDX grindings were handled from the 1970s until 1984. The unlined sump may have discharged to the facility's Drainage Ditch System (SWMU 27A). A groundwater sample was collected in late 1995 and analyzed for HMX and RDX. The results are being reviewed by the project

team.

SWMU 37H: Building 32 Wastewater Sump

SWMU 37H was a metal catch basin that also received wash down from HMX and RDX grindings were handled from the 1970s until 1984. The unlined sump may have discharged to the facility's Drainage Ditch System (SWMU 27A). A groundwater sample was collected in late 1995 and analyzed for HMX and RDX. The results are being reviewed by the project team.

SWMU 37I: Building 49 Wastewater Sump

SWMU 37I was an earthen wastewater sump that managed water contaminated with nitroglycerine since the 1940s. The unit is no longer in operation but may have discharged to the facility's Drainage Ditch System (SWMU 27A). A groundwater sample was collected in late 1995 and analyzed for PETN and nitroglycerine. The results are being reviewed by the project team.

SWMU 37K: Building 103 Wastewater Sump

This unit was an earthen sump that managed wastewater contaminated with liquid explosives from 1961 to 1963. The unit may have discharged to the facility's Drainage Ditch System (SWMU 27A). Subsurface soil samples were collected in late 1995 and analyzed for PETN and nitroglycerine. The results are being reviewed by the project team.

SWMU 37L: Building 105 Wastewater Sump

This unit was an earthen sump that received propellant contact cooling water containing nitrate esters, nitramines, aluminum, ammonium perchlorate, and lead. The sump was in operation from the 1950s until 1993. The unlined sump has potentially discharged to the facility's Drainage Ditch System (SWMU 27A). Surface and subsurface soil samples were collected in late 1995 and analyzed for RDX and TNT. The results are being reviewed by the project team.

SWMU 37M: Building 105A Wastewater Sump

This unit is an earthen lined sump that managed wastewater contaminated with liquid explosives. The sump operated until 1961. The sump potentially discharged to the facility's Drainage Ditch System (SWMU 27A). A groundwater sample was collected in late 1995 and analyzed for RDX and TNT. The results are under review by the project team.

SWMU 37O: Building 226 Wastewater Sump

This unit was an earthen lined wastewater sump managing contact cooling water and building wash down water from 1962 until 1970. The sump potentially discharged to the facility's Drainage Ditch System (SWMU 27A).

Surface soil and subsurface soil samples were collected in late 1995 near the former discharge point and analyzed for RDX, and TNT. The results are under review by the project team.

SWMU 37P: Building 248 Wastewater Sump

This unit was an earthen lined unit that may have received contact cooling water and building wash down water from 1962 until 1970. The sump potentially discharged to the facility's Drainage Ditch System (SWMU 27A). Surface soil and subsurface soil samples were collected in late 1995 and analyzed for VOCs, SVOCs, inorganics, RDX, and TNT. The results are under review by the project team.

SWMU 37S: Building 280 Wastewater Sump

SWMU 37S is an earthen lined unit that reportedly received wastewater suspected to contain nitroglycerine. In late 1995 surface soil and subsurface soil samples were collected near the unit and analyzed for PETN, and nitroglycerine. The results are under review by the project team.

SWMU 37T: Building 11 Wastewater Sump

SWMU 37T is a concrete wastewater sump reported to have received wastewater contaminated with PETN, nitroglycerine, metals, and VOCs. A small vertical crack was observed in the unit. In late

1995 a subsurface soil sample was collected near the unit and analyzed for VOCs, inorganics, PETN, and nitroglycerine. The results are under review by the project team.

SWMU 37U: Building 22 Wastewater Sump

This unit is a concrete wastewater sump reported to have received wastewater suspected to contain PETN, nitroglycerine, metals, and VOCs. In late 1995 a subsurface soil sample was collected near the unit and analyzed for VOCs, inorganics, PETN, and nitroglycerine. The results are under review by the project team.

SWMU 37V: Building 14 Wastewater Sump and Acetone Collector

This unit is a concrete wastewater sump reported to have received wastewater suspected to contain Acetone.

SWMU 58: PCB Spill Area

This unit was identified during the initial review of formerly completed response actions. The PCB spill area, inside Building 2, was cleaned-up in the early 1990s with the removal of the leaking hydraulic press, contaminated soil and concrete and with the application of a paint sealant to the steam cleaned floors. The project team could not find the Removal Action Report that would document the cleanup and was not certain that the area outside the building had not been contaminated. Two surface soil samples were collected at SWMU 58 and were analyzed for PCBs. The results are under review by the project team.

SWMU 10002 (AOC B): PCB Transformers Storage Area

This unit consists of a concrete pad measuring approximately 20 feet by 30 feet in area, located immediately east of Building 157 on the Plant 1 property. The unit is not enclosed by any walls or containment structures, or covered by a roof. The unit served as a staging area for transformers which were designated for reuse at the facility. Approximately 44 transformers, containing 7,491 kg of PCB-containing fluid were stored here as of 1983, according to the IAS report. According to the facility, at the time not all equipment had been tested. All items were assumed to be PCB

containing. Transformers were stored on wooden pallets. According to the facility, all transformers were removed from the area in 1991 and 1992. Surface and subsurface soil samples and wipe samples of stained areas were collected in late 1995 and analyzed for PCBs. The results are under review by the project team.

SWMU 10006 (AOC J): A and B Ranges

These two ranges were located at Building 3 in the southwestern portion of the Plant 1 property. The ranges were operational between the 1940s and 1960s. The unit included two subscale rocket motor static test-firing ranges that were used prior to the construction of the X Range Area (AOC G). The unit consists of two concrete firing bays on the south side of Building 3 and an open land area to the south of the bays measuring approximately 300 feet by 300 feet in area. These ranges received propellant residue as a result of rocket motor test firing operations. The range area is completely vegetated now.

Surface soil and subsurface soil samples were collected in late 1995 and analyzed for inorganics, TNT, PETN, RDX, and nitroglycerine. The results are under review by the project team.

SWMU 10007 (AOC K): C Range

This range which operated during the 1940s was located near the area where Building 43 now stands on the Plant 1 property. The unit was used for the test firing of .50-caliber machine gun ammunition during World War II. The unit consisted of an open land area. Facility representatives did not have any information regarding the size of the unit. This area is now partially paved with the remainder of the area vegetated. Building 43 is located at the site of the former unit. This range received bullets that were fired into sand, which was contained in a backstop. The sand was removed prior to 1956. A portion of the backstop has been converted into Building 43. According to the facility, composition of the bullets is not known with certainly. They may have been lead, they may have been jacketed, or they may have been steel with a copper gas check ring. According to the facility, no explosive warheads were used at this unit.

SWMU 10008 (AOC L): H Range

This range, operating during the 1940s was located approximately 500 feet from the North Branch Potomac River, north of where Building 275 is currently located on the Plant 1 property. The unit was used as a mortar testing range during World War II. The unit includes the impact area for the testing operations. The ballistics characteristics of mortar propellant were tested by firing the materials toward the hillside to the north (the impact area). The unit measured approximately 100 feet by 300 feet in area. This area is now completely vegetated. The unit is located approximately 100 feet east of the Former Burning Ground I (SWMU 4). This range potentially received propellant and explosive constituents during testing operations. According to the facility, no explosive warheads were used at this unit. No release controls are associated with this unit. The range area consisted of exposed land surface. According to facility officials, several concrete-filled mortar shells were unearthed at this unit in 1991 when Building 356 was being constructed, approximately 500 feet to the southeast of this range. No sampling data is available for this area, according to the facility.

4.0 SITE MANAGEMENT SCHEDULES

5.0 REFERENCES

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APPENDIX A UNITS

SWMU 27A: Drainage Ditch System
SWMU 37C: SWMU 37C: Building 12 Wastewater Sump
SWMU 37J: Building 100 Wastewater Sump
SWMU 37N: Building 167 Wastewater Sump
SWMU 40: Laboratory Exhaust Filter
SWMU 52: Current Alodine Treatment Tank

APPENDIX B UNITS

SWMU 21: Building 241 Catch Basin
SWMU 22A: Explosive Wastewater Incinerator
SWMU 22B: Classified Document Incinerator
SWMU 22C: Pilot Fluidized Bed Incinerator
SWMU 22D: Non-Explosive Combustible Incinerator
SWMU 23: Salvage Yard
SWMU 24E: Satellite Accumulation Area Building 7
SWMU 24J: Satellite Accumulation Area Building 16
SWMU 24V: Satellite Accumulation Area Building 153
SWMU 26: Septic Tank & Building 181 Pit
SWMU 34A: Building 252 Oil/Water Separator
SWMU 34B: Building 341 Oil/Water Separator
SWMU 36: Oil Pit
SWMU 37A: Building 4 Wastewater Sump
SWMU 37B: Building 7 Wastewater Sump
SWMU 37D: Building 13 Wastewater Sump
SWMU 37E: Building 15 Wastewater Sump
SWMU 37F: Building 22 Wastewater Sump
SWMU 37G: Building 27 Wastewater Sump
SWMU 37H: Building 32 Wastewater Sump
SWMU 37I: Building 49 Wastewater Sump
SWMU 37K: Building 103 Wastewater Sump
SWMU 37L: Building 105 Wastewater Sump
SWMU 37M: Building 105A Wastewater Sump
SWMU 37O: Building 226 Wastewater Sump
SWMU 37P: Building 248 Wastewater Sump
SWMU 37S: Building 280 Wastewater Sump
SWMU 37T: Building 11 Wastewater Sump
SWMU 37U: Building 22 Wastewater Sump
SWMU 37V: Building 14 Wastewater Sump and Acetone Collector
SWMU 58: PCB Spill Area
SWMU 10002 (AOC B): PCB Transformers Storage Area
SWMU 10006 (AOC J): A and B Ranges
SWMU 10007 (AOC K): C Range
SWMU 10008 (AOC L): H Range