Fact Sheet
Solid Waste Management Unit 48 & 49
March 2009

Introduction

This fact sheet describes the recommended action for addressing elevated constituents in groundwater at Solid Waste Management Units (SWMU) 48 [Oily Water Burial Area] and 49 [Red Water Ash Burial No. 2] at Radford Army Ammunition Plant.

Background

SWMUs 48 & 49 are adjacent to each other and are located in the southeastern portion of the Horseshoe Area. These SWMUs are situated on a bluff approximately 120 feet above and overlooking the New River.

SWMU 48 consists of two sets of unlined trenches, one at the northern end of the site and one at the southern end. SWMU 49 is a small clearing adjacent to a dirt road. There is no evidence of pits at this site and waste was likely disposed on the ground surface. Prior to off-post waste oil reclamation, approximately 200,000 gallons of oily wastewater removed from oil/water separators throughout RFAAP was reportedly disposed of in SWMU 48. However, the results of environmental sampling to date indicate that the oily wastewater was likely disposed of in the area associated with SWMU 49. Conversely, sampling indicates that the red water ash associated with SWMU 49 was disposed in the SWMU 48 disposal trenches. Because it is apparent that there was some degree of cross disposal occurring at SWMUs 48 and 49, this area was considered a combined study area consisting of both SWMUs.

Six investigations have been conducted at SWMUs 48 & 49 since 1987 to evaluate soil and groundwater at the sites. The results of these investigations are summarized below.

Soil Contamination Assessment- No analytes were detected above screening limits in 2007 soil samples from SWMUs 48 and 49. A detection of TNT above the screening levels during an earlier investigation could not be duplicated in subsequent investigations. Analysis of the chemical results from soil samples collected from the site indicate that soil is no longer impacted by the waste burial areas. Therefore, soil is not a major concern at SWMUs 48 and 49.

Groundwater Contamination Assessment- SWMUs 48 and 49's most recent (2007) groundwater samples indicated that three Volatile Organic Compounds (VOCs) [carbon tetrachloride (CT), tetrachloroethene (PCE), and trichloroethene (TCE)] as well as 11 metals were detected at concentrations exceeding groundwater screening levels. The elevated metals are likely due to a high turbidity groundwater sample collected from one well on site.

Corrective Measures Study

An evaluation of corrective measures to address elevated VOCs in groundwater was performed. Three corrective measures alternatives were evaluated based on effectiveness, implementability, and cost.

These alternatives consisted of the following:

- Alternative One: No Further Action.
- Alternative Two: Monitored Natural Attenuation and Long-term Monitoring (LTM).
- Alternative Three: In-Situ Enhanced Bioremediation and MNA.

The corrective measures objective is to reduce concentrations in groundwater to levels that are below the USEPA's maximum contaminant levels (MCLs).

Alternative Two was recommended as the final alternative for SWMUs 48 and 49 because it can be readily implemented and provides a level of protection to human health and the environment not provided by Alternative One. In addition, Alternative Two has a lower cost than Alternative Three.

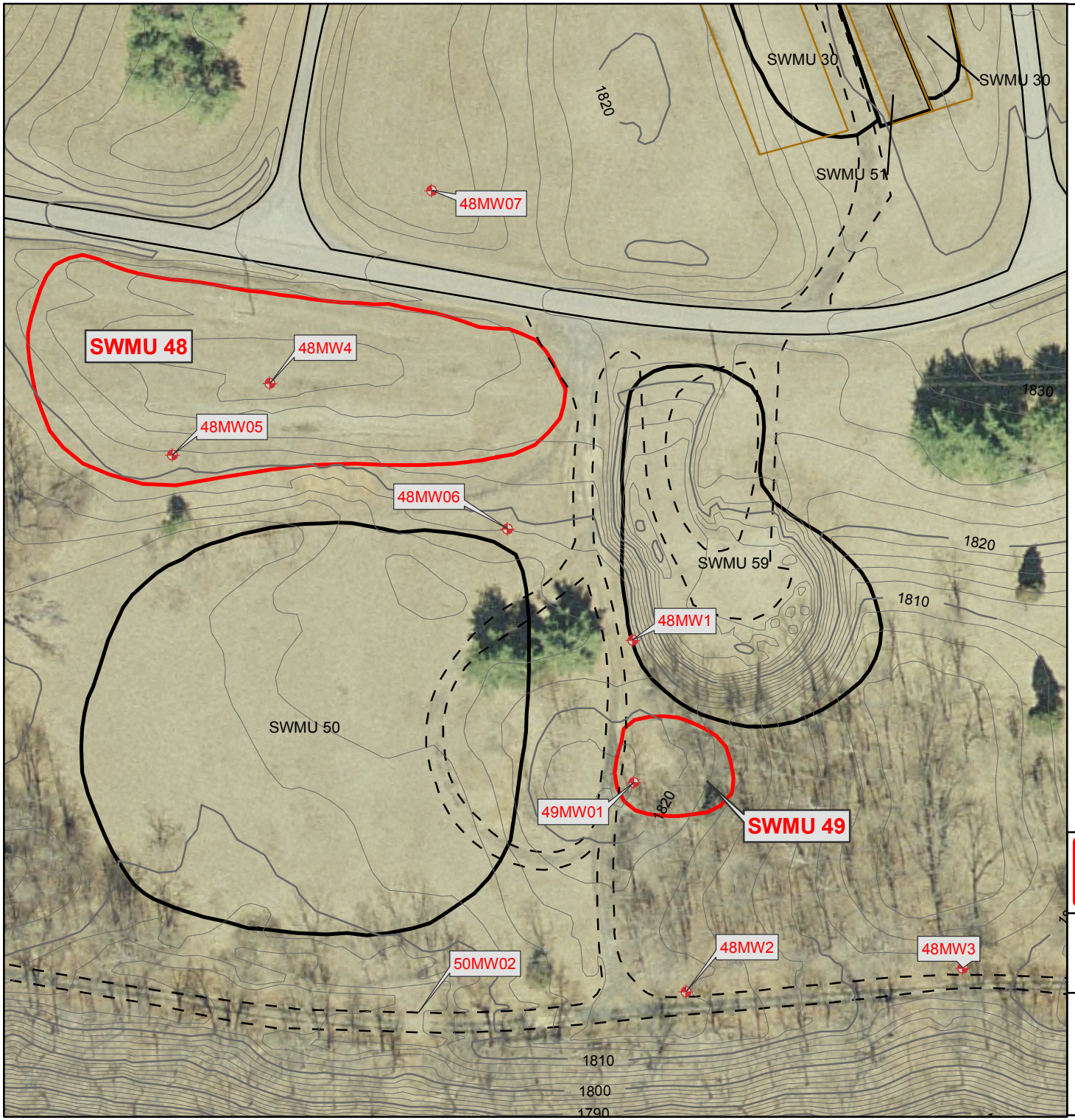
This alternative includes the following:

- LTM.

- Reporting.

The data, findings, assessments, and recommendations are contained in SWMUs 48 and 49 RFI/CMS Report dated November 2008, currently under review by the Radford AAP (RFAAP), U.S. Army Environmental Center (USAEC), U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) and the US Army Corps of Engineers (USACE). The report is to be submitted to U.S. Environmental Protection Agency (USEPA) Region III, and the Virginia Department of environmental quality (VDEQ) for their review.

For more information, please contact Ms. Joy Case, RFAAP Public Relations Officer, by phone at 540-731-5762 or by Email: joy.case@us.army.mil



LEGEND

- Monitoring Well
- Dirt Road
- Paved Road
- Fence
- 10 ft Contour Line
- SWMU 48 and SWMU 49 Boundaries
- Other SWMU Boundary

Notes:
1) Aerial photo, dated 2005, was obtained from Montgomery County, VA Planning & GIS Services.

N

Scale:
0 50 100 200 Feet

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FIGURE 2-1
SWMU 48 and SWMU 49 Site Map

Radford Army Ammunition Plant,
Radford, VA

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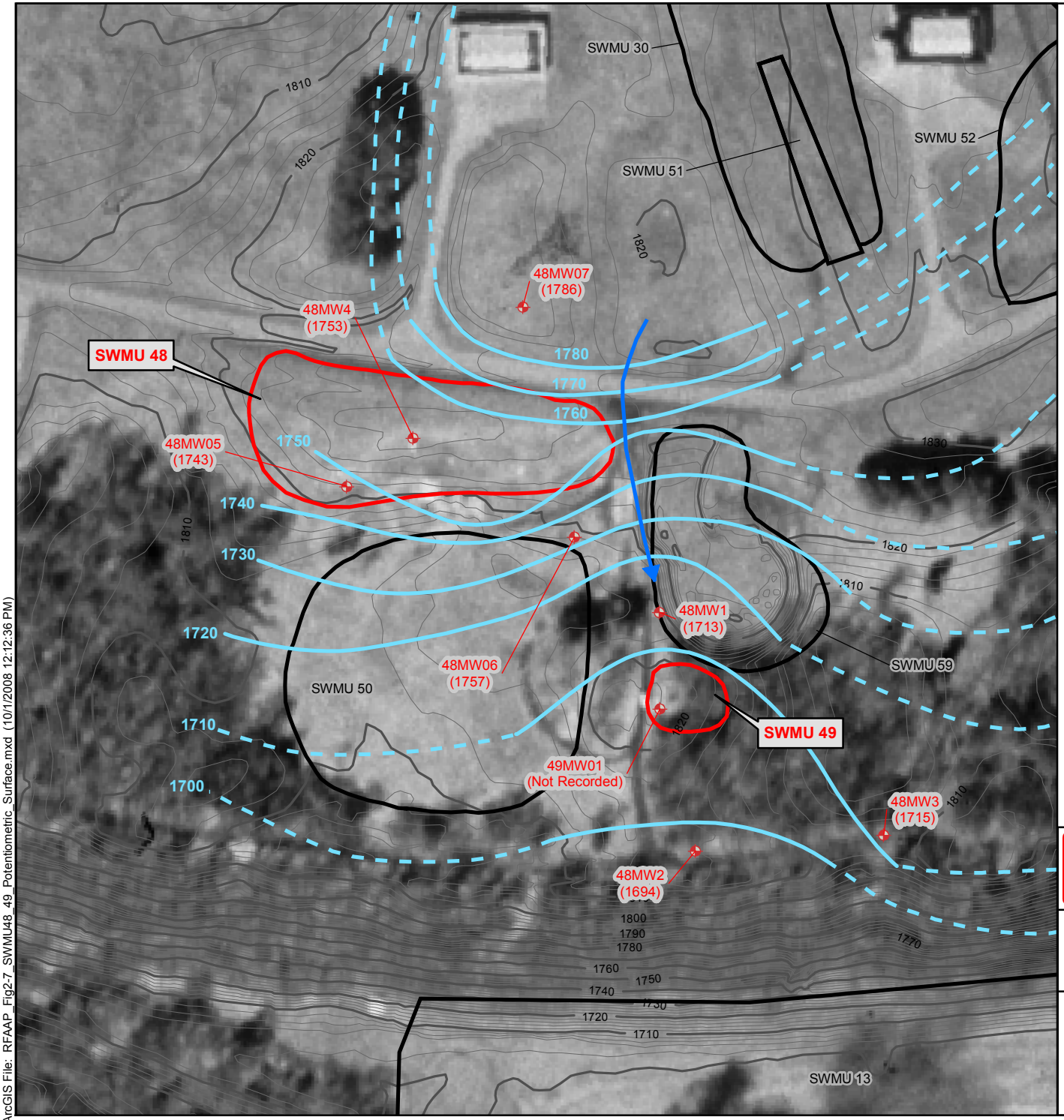

LEGEND

- Groundwater Sample Location
- Inferred Groundwater Contour
- Groundwater Contour
- Groundwater Flow Direction
- 10 ft Contour Line
- SWMU 48 and SWMU 49 Boundaries
- Other SWMU Boundary

Notes:
1) Aerial photo, dated 25 May 2000, was obtained from the Army Topographic Engineering Center.
2) Water levels are expressed in feet above mean sea level.
3) All water levels were measured in August, 2007.

N

Scale:

0 75 150 300 Feet

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FIGURE 2-7
SWMU 48 and SWMU 49
Potentiometric Surface Map
Radford Army Ammunition Plant,
Radford, VA

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Photo 1. View of SWMU 48 looking west.

Photo 2. View of SWMU 49 looking east.