



Department of  
Environmental  
Conservation

# FINAL STATEMENT OF BASIS

Silo Area (SWMU #38)

Knolls Atomic Power Laboratory, Kesselring Site

Site No. 546038

EPA ID No. NY5890008993

West Milton, Saratoga County

March 2015

PREPARED BY  
DIVISION OF ENVIRONMENTAL REMEDIATION

# DECLARATION STATEMENT - STATEMENT OF BASIS

---

Silo Area (SWMU #38)  
Knolls Atomic Power Laboratory, Kesselring Site  
West Milton, Saratoga County  
Site No. 546038  
March 2015

## **Statement of Purpose and Basis**

This document presents the remedy for the Silo Area (SWMU #38), Knolls Atomic Power Laboratory, Kesselring Site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375, and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the Knolls Atomic Power Laboratory, Kesselring Site and the public's input to the proposed remedy presented by the Department.

## **New York State Department of Health Acceptance**

The New York State Department of Health (NYSDOH) concurs that the remedy for this site is protective of human health.

## **Declaration**

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

March 31, 2015

---

Date



---

Robert W. Schick, P.E., Director  
Division of Environmental Remediation

# Statement of Basis

Silo Area (SWMU #38)  
Knolls Atomic Power Laboratory, Kesselring Site  
West Milton, Saratoga County  
Site No. 546038  
March 2015

## Facility Description

**Location:** The 1-acre Silo Area, referred to as Solid Waste Management Unit (SWMU) #38, is located along a non-public seasonal dirt road (Lee Road) on the northwest portion of the 3,900-acre U.S. Government-owned Knolls Atomic Power Laboratory, Kesselring Site (Figure 1). The Site consists of land in the Town of Galway and the Town of Milton. The Silo Area is located in the Town of Galway.

**SWMU Features:** The Silo Area is a gently sloping open field surrounded by undeveloped forested land. There is a centrally located rip-rap lined drainage swale oriented west to east. Lee Road bisects the Silo Area and a culvert is situated beneath the road which receives drainage from the rip-rap lined swale. Adjacent to the Silo Area are the remnants of a former homestead foundation.

**Current Zoning/Uses:** The Site is U.S. Government-owned and not subject to local town zoning. The land surrounding the Site is zoned as Agricultural Residential (Town of Galway), Rural (Town of Milton), and West Milton Hamlet (Town of Milton). The Silo Area is undeveloped as is the majority of the Site. There is a 65-acre developed area within the Site. The developed area consists of two operating pressurized-water naval nuclear propulsion plants and support facilities. The activities conducted in the developed area are operational testing of prototype nuclear propulsion plants and equipment for U.S. Navy submarines and training of U.S. Navy nuclear propulsion plant operators.

**Historic Uses:** Prior to acquisition by the U.S. Government in 1948, the Silo Area was a homestead and was used for farming. During the late 1950s and early 1960s, the Silo Area was used for burning waste oil, sodium, and possibly zirconium alloy contaminated with low-level radioactivity and for disposal of components contaminated with mercury. A portion of the mercury-containing components and associated soil were removed in the 1960s and 1970s after the Silo Area was no longer used for waste disposal.

**Site Geology and Hydrogeology:** The geology of the Silo Area is comprised primarily of unconsolidated glacial deposits overlying dolomite bedrock. The glacial deposits include kame deposits (irregularly stratified fine to coarse sand and gravel) overlying glacial till. Till is typically a dense mixture of glacially deposited rock particles ranging in size from clay to boulders. Bedrock depth is quite variable in the vicinity of the Silo Area and has been noted at approximately 40 feet to the south of the Silo Area and up to 110 feet north of the Silo Area. Depth to groundwater at the Silo Area ranges from 10 to 12 feet below grade and groundwater flow is to the southeast.

## Environmental Assessment

Based upon investigations conducted, mercury was determined to be the primary contaminant of concern. Numerous soil samples exceeded the 6 NYCRR Part 375 unrestricted use soil cleanup objective (SCO) of 0.18 parts per million (ppm) with maximum results up to approximately 10 ppm. The mercury contaminated soil did not affect groundwater quality. The Silo Area has been remediated to the unrestricted use SCO for mercury, which is protective of ecological resources.

## Human Exposure Assessment

Soils in the Silo Area (SWMU#38) have been cleaned up to unrestricted levels for mercury precluding the necessity for any control measures.

## Remediation Objective

Remedial Action Objectives (RAOs). RAOs are site-specific objectives for the protection of public health and the environment and are developed based on contaminant-specific standards, criteria and guidance to address contamination identified at a site. Table 1 contains the Department's list of RAOs accompanied by brief descriptions of how they are being achieved at this site.

**Table 1**

<b>Remedial Action Objectives (RAOs)</b>	<b>Remedial Action</b>
<b>Groundwater RAOs – No groundwater impact at the Silo Area (SWMU #38)</b>	
<b>Soil RAOs for Protection of Public Health</b>	
Prevent ingestion/direct contact with contaminated soil.	Excavation and off-site disposal of soil from 16 discrete areas (Figure 2) containing mercury at concentrations exceeding the unrestricted use SCO.
<b>Soil RAOs for Environmental Protection</b>	
Prevent migration of contaminants that would result in groundwater or surface water contamination.	Excavation and off-site disposal of soil from 16 discrete areas (Figure 2) containing mercury at concentrations exceeding the unrestricted use SCO.
Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.	Excavation and off-site disposal of soil from 16 discrete areas (Figure 2) containing mercury at concentrations exceeding the unrestricted use SCO.
<b>Sediment RAOs - No sediment impact at the Silo Area (SWMU #38).</b>	
<b>Surface Water RAOs - No surface water impact at the Silo Area (SWMU #38)</b>	
<b>Soil Vapor RAOs - No SVI impact at the Silo Area (SWMU #38)</b>	

## Selected Remedy

Based on the results of the investigations at the site, the Interim Corrective Measure (ICM) that has been performed, and the evaluation presented here, the Department has selected No Further Action as the

remedy for the site. The Department believes that this remedy is protective of human health and the environment and satisfies the remediation objectives.

The remediation of the mercury contaminated soil was performed in 2012 resulting in approximately 830 cubic yards of soil being excavated and disposed off-site at a permitted disposal facility. As part of the remedial program, soil samples were collected which confirmed that the unrestricted use SCO (0.18 ppm) was achieved. Cleanup was approved by the Department prior to backfilling. All excavations were backfilled with select sand and gravel from a Department-permitted sand and gravel pit; topsoil was placed for site restoration; and vegetation was re-established. A report was prepared that documents the details of the remediation. This report was approved by the Department on November 19, 2013 and no further action is deemed necessary. The cost for the implementation of the remediation was approximately \$353,000.

### **Public Participation**

The proposed Statement of Basis was distributed to the public on February 26, 2015. A comment period was established from February 26, 2015 to March 28, 2015. During the comment period no comments were received and the proposed remedy was adopted without change.

**For questions concerning this State of Basis,**

**please contact:**

Mr. Matthew Dunham, PE  
NYS Department of Environmental Conservation  
Division of Environmental Remediation  
625 Broadway  
Albany, New York 12233-7017  
1-888-459-8667  
matthew.dunham@dec.ny.gov

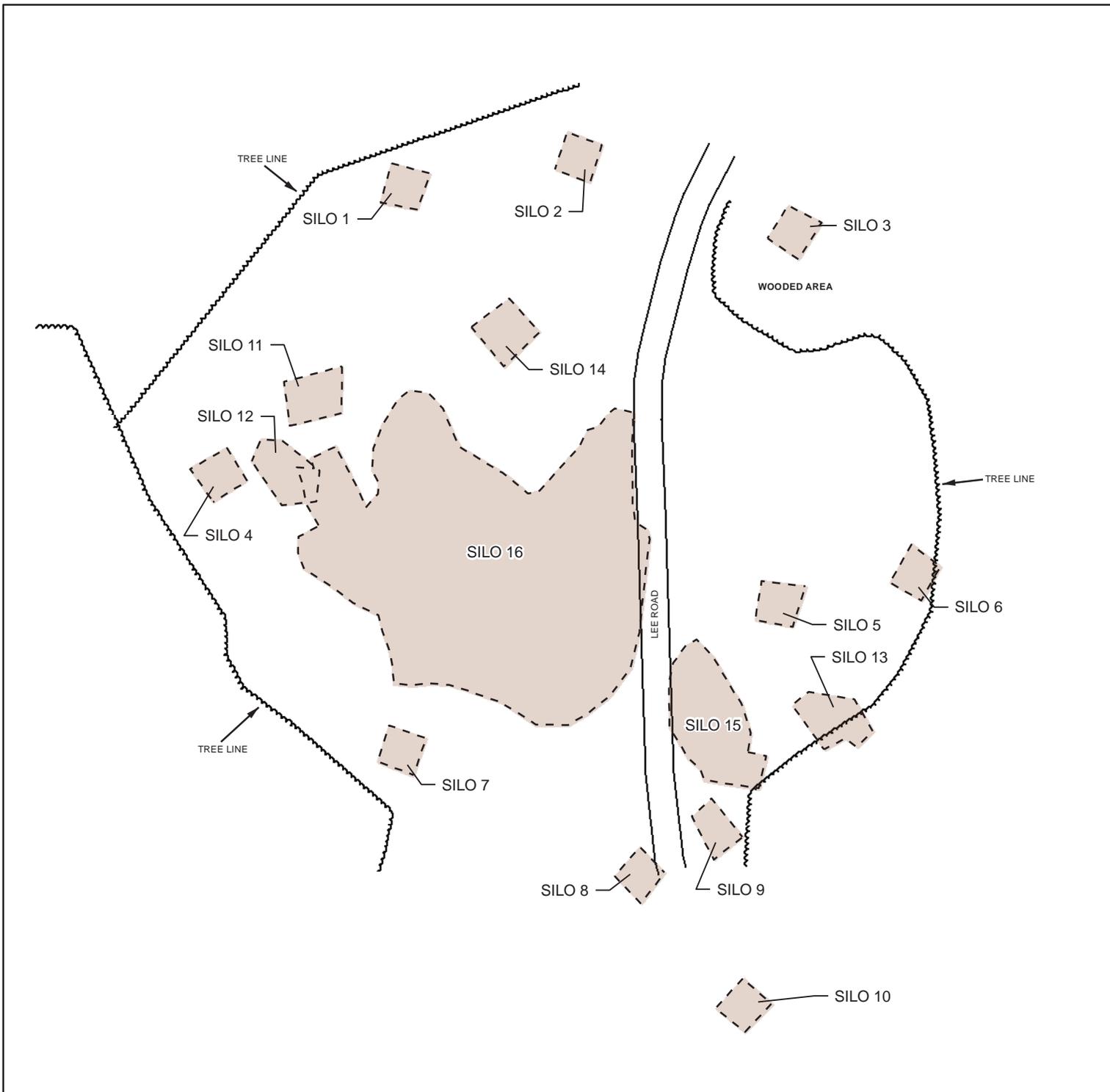


FIGURE 2



LEGEND

 Excavation Area



KNOLLS ATOMIC POWER LABORATORY  
KESSELRING SITE  
WEST MILTON, NEW YORK

SILO AREA (SWMU #38)  
STATEMENT OF BASIS  
EXCAVATION AREAS

