

Former Schenectady Army Depot – Voorheesville Area Remedial Investigation

Overall Program Objectives:

- **Complete the RI.**

- **Identify primary human health and environmental concerns with NYSDEC / NYSDOH, in coordination with the local community.**

- **Conduct Feasibility Study to identify and evaluate site cleanup options.**

Overall Program Objectives (cont'd)

- **Decide on site cleanup remedy with NYSDEC / NYSDOH, the property owners, and other interested parties.**

- **Prepare Remedial Design that describes how cleanup will be accomplished.**

- **Conduct cleanup.**

RI Process

Characterize nature and extent of impacts caused by Department of Defense activities:

- **Identify Department of Defense activities (areas of concern) that could have caused environmental impacts and risks to human health.**

- **Identify contaminants of concern associated with these activities.**

- **Identify whether contaminants of concern could be present and the pathways by which contaminants of concern could migrate off-**

RI Process (cont'd)

receptors, which could be affected by contaminants of concern present on-site or migrating off-site.

- Sample in source areas and move outward to assess extent.
- Compare sample results to NYS regulatory criteria for soil (TAGM 4046), groundwater (Class GA), surface water (Class A & C), and

RI Summary

- **Nine areas of concern have been identified from review of historical documentation and aerial photos.**
- **Previous investigations have characterized certain areas of concern to varying degrees.**
- **Sampling has been conducted at 8 of the 9 areas of concern**
- **The RI sampling objectives and sampling program were designed for each area of concern using the previously existing data.**

AOC 1 – Southern Landfill

Status:

- Approximately 15 acres located in southern portion of site.
- Active dumpsite from 1942 to mid-1960s.
- Previous investigations have identified the nature and extent of contamination in soil and groundwater.

Source Area and Migration Pathways

Assessment:

1) OBJECTIVE: Assess whether shallow groundwater contamination can reach the bedrock aquifer

RESULT: There does not appear to be good connection between the water-bearing zones; data under review.

AOC 1 – Southern Landfill (cont'd)

2) OBJECTIVE: Assess nature and extent of impacts on surface water and sediment.

- Sample surface water at 3 locations
sediment at 4 locations.

RESULT (SW): The main pond had BEHP and aluminum

Above Class C surface water standards and background (upstream).

- BEHP was detected in GW nearby in 1990.
- Aluminum has not previously been analyzed.

- Chlorinated solvents previously detected in 1990 were not detected in 2000.

Lead was not detected above Class standards.

RESULT (SED): The main pond has PAHs, pesticides, PCBs and 10 metals above background and NYSDEC Sediment criteria.

- PAHs and pesticides were detected in nearby soil samples in 1990, 1991 and 1996.

- Metals concentrations are considerably higher than the 1990 sample located near SD06.

AOC 2 – Former Bivouac Area

Status:

- 40-acre parcel sold in 1963, now privately owned.
- Disturbance / excavations noted as early as 1943 until 1963.
- Previous investigations have found disposal of salt tablets, drums containing light fuel oil, and an oily leachate seep.
- Geophysical surveys have been conducted with limited success; extent of fill area is not known.

Source Area and Migration Pathways Assessment:

1) OBJECTIVE: Determine extent of fill materials.

RESULT: The lateral and vertical extent of fill was defined using test pits and soil borings.

AOC 2 – Former Bivouac Area (cont'd)

Source Area and Migration Pathways Assessment **(cont'd):**

2) OBJECTIVE: Assess nature and extent of soil impacts

RESULTS (surface soils): No organic compounds were above NYSDEC criteria.

- Dioxin data are under review (NYSDOH).
- Nine metals were above criteria (background).
- Surface soil samples from 1991 had VOCs, petroleum hydrocarbons, and metals (mostly nickel and zinc) above NYSDEC criteria.
- Five types of pill bottles were sampled and found to contain sodium, iodide and chloride.

RESULTS (subsurface soils):

- No organic compounds were above NYSDEC criteria.
- Thirteen metals were above NYSDEC criteria (background).

AOC 2 – Former Bivouac Area (cont'd)

Source Area and Migration Pathways Assessment **(cont'd):**

3) OBJECTIVE: Assess nature and extent of shallow groundwater impacts.

RESULTS:

- The former on-site residential well was within NYSDEC Class GA standards.
- The former residential well to the south had iron, manganese and sodium above Class GA standards.
- Benzene, BEHP, phenol and six metals were above Class GA standards near former landfill.
- The extent of groundwater impacts in that area has not been defined.
- Drums sampled in 1988 contained xylenes, BEHP, chromium and lead (light fuel oil).

AOC 2 – Former Bivouac Area (cont'd)
Source Area and Migration Pathways Assessment
(cont'd):

2) OBJECTIVE: Assess impacts on surface water and sediment.

RESULTS:

- Surface water and sediment in residential pond are below criteria.

- BEHP, pesticides, and seven metals (inc. lead) are above Class A and C surface water criteria.

- One pesticide and seven metals (inc. lead) are above NYSDEC sediment criteria.

- Flow paths and the extent of impacts in surface water and sediment have not been fully defined.

AOC 3 – Former Burn Pit Area

Status:

- **Approximately 10-acre area at north end of SADVA.**
- **Circular depression noted as early as 1940s.**
- **Area was also used for drum storage and possibly burial of waste.**
- **Geophysical surveys have identified possible disposal areas.**

Source Area and Migration Pathways Assessment:

1) OBJECTIVE: Assess the presence and vertical extent of soil impacts in former burn pits.

RESULTS (surface soils):

criteria at five locations. Only one location will likely remain exposed following construction of the

AOC 3 – Former Burn Pit Area (cont'd)

RESULTS (subsurface soils):

- Soils are impacted by VOCs, PAHs, pesticides, and metals.
- The lateral extent of soil impacts has been defined. Additional vertical definition is needed in this source area.

2) OBJECTIVE: Assess presence of shallow groundwater impacts in vicinity of former burn pits.

RESULTS:

- VOCs, SVOCs, pesticides and six metals exceed Class GA standards.
- Groundwater flows toward the northwest.
- Groundwater standards are exceeded at the northwest property line.
- The lateral extent of groundwater impacts is not known.

Only shallow groundwater quality has been assessed.