

NPL Factsheets for Minnesota:

NEW BRIGHTON/ ARDEN HILLS

EPA REGION 5

Ramsey County
Arden Hills

Other Names:

US Army Twin Cities Army Ammo.
Plant
St. Anthony Site

**EPA ID# MN7213820908 -
Last Update: September
2002**

4th Congressional District

Site Description

The New Brighton/Arden Hills Superfund site consists of the Twin Cities Army Ammunition Plant (TCAAP) and all other areas of the surrounding communities contaminated by the migration of hazardous substances or contaminants from TCAAP. Between 1941 and 1981, waste material was disposed of at 14 disposal areas or sites within TCAAP. The total area of the Superfund site, including the off-site contaminated groundwater plumes, is approximately 25-square miles.

Site Responsibility: This site is being addressed through Federal and State actions.

NPL Listing History: Proposed Date: 12/30/82
Final Date: 09/08/83

Threats and Contaminants

The wastes disposed included volatile organic compounds (VOCs), semi-VOCs, metals, polychlorinated biphenyls (PCBs), cyanide, pesticides and explosives. The primary impact to the surrounding communities has resulted from VOC contamination of the regional groundwater, which is used for municipal and private water supplies.

Cleanup Progress

In 1987, the Army, U.S. Environmental Protection Agency (USEPA) and the Minnesota Pollution Control Agency (MPCA) entered into a Federal Facility Agreement (FFA) for the investigation and remediation of the site. In accordance with the FFA, Army initiated numerous cleanup activities under the Department of Defense (DoD) Installation Restoration Program, including:

- A permanent granular activated carbon (GAC) water treatment system for the city of New Brighton, completed in June, 1990.
- Soil vapor extraction (SVE) systems at two areas of the site (Sites D and G) in 1986, which have since removed over 218,000 lbs of VOCs from soils.
- A shallow groundwater pump-and-treat system, installed at Site A in 1994, where VOC-contaminated groundwater in the shallow aquifer had migrated past the northwest boundary of TCAAP. Shallow groundwater pump-and-treat systems were also installed in 1988 at the Alliant Techsystems operational buildings I and K.
- A Boundary Groundwater Recovery System (BGRS), for which a ROD was signed in September 1987. Subsequent to the implementation of the BGRS, five source control wells were installed. The BGRS and source control wells together comprise the TCAAP Groundwater Recovery System (TGRS). To date the system has removed upward of 150,000 lbs of VOCs from the deep groundwater.

- Inspection, cleaning and testing of all sewer lines in the TCAAP sanitary sewer system. Work was completed by 1986.
- Thermal treatment of 1400 cubic yards of PCB-contaminated soil pursuant to a ROD signed In 1989.

Additional action taken included the construction of a GAC treatment system for the Village of St. Anthony by USEPA and MPCA. The system was completed in 1991 pursuant to a September 1986 Record of Decision.

In recognition of the need to expedite the remediation of regional groundwater contamination, USEPA, MPCA and Army agreed to address the final remedy for the site in three stages, or operable units. Operable Unit 1 (OU-1) addresses the North Plume of contaminated groundwater which has migrated off-TCAAP; Operable Unit 3 (OU-3) addresses the smaller, South Plume.

Records of Decision, in which remedies for these operable units were selected, were signed in 1992 and 1993. The remedies selected include:

- pumping of the plumes to prevent further migration (containment);
- treatment with granular activated carbon;
- discharge of treated water to the New Brighton municipal distribution system;
- alternate water supplies to affected users of private wells; and
- drilling advisories and monitoring.

The OU-1 and OU-3 RODs provide for containment pump-and-treat systems comprised of wells which serve the dual purposes of containment and municipal water supply for the city of New Brighton. Construction and full operation of the OU-3 system began in 1994. Construction of the OU-1 system was completed in the second quarter, FY1999.

For the past several years, VOC levels in monitoring wells for the South Plume have been consistently non-detect. In 2001

EPA and MPCA approved Army's request to temporarily cease pumping of the OU-3 extraction well and treatment system for remediation purposes and maintain it in "standby mode", with continued groundwater monitoring.

The last component of the final remedy for the site, a ROD for Operable Unit 2 (OU2), was signed in December 1997. The remedies selected in this ROD address contaminated soil and groundwater within the TCAAP boundary. Major elements of these remedies include:

- excavation/stabilization and off-site disposal of contaminated shallow soils;
- characterization of on-site dumps to determine their contents;
- expansion of the shallow soil vapor extraction system to deep soils at Sites D and G;
- cleanup of shallow groundwater contamination at Sites A, I and K through the use of extraction wells/trenches; installation of sentinel wells;
- containment of the extensive deep groundwater plume and optimization of the extraction system;
- long-term monitoring and institutional controls; and
- annual reviews of emerging technologies that have the potential to cost-effectively accelerate the timeframe for aquifer restoration.

An extensive long-term monitoring program for groundwater, surface water and sediments is currently in place and expected to continue for an extended period of time.

By the summer of 1999, major components of the soils remediation component of the OU2 remedy had been designed and implemented. These components included:

- completion of a Corrective Action Management Unit (CAMU) providing a central area of the staging and stabilization of excavated soils;
- completion of the excavation/stabilization of 10,000 cubic yards of soil at Site A;
- characterization of the unpermitted landfill (UPL) at

Site A;

- completion of the SVE pilot studies at Sites D and G;
- design of an SVE/Air Sparging system at Site A;
- characterization of unknowns at Sites B and 129-15;
- bounding of contaminated areas at Sites C, E and H;
- completion of the Tier II ecological risk assessment workplan and preliminary field work;
- completion of the EE/CAs, Action Memos and removal work plans for the Outdoor Firing Range and the Grenade Range; and
- initiation of the groundwater modeling effort for the optimization of the boundary groundwater containment system.

In 1996 the Army performed limited soil sampling at the 135 and 535 Primer Tracer Areas (PTAs). The PTAs were part of an Army mobilization mission at the time that the TCAAP preliminary assessment was performed and were, therefore, not investigated at the time. Additional work will be needed at these areas to evaluate their contamination status.

By the summer of 2002, the following on-TCAAP remedial and removal actions had been completed:

- excavation, stabilization and off-site disposal of contaminated soils at Sites A, H, E, 129-3 and 129-5;
- placement of cover on Site 129-15;
- installation and operation of a soil vapor extraction system at Site A;
- closeout of Site B;
- removal of contaminated soil from the Grenade Range;
- removal of contaminated soil from the Outdoor Firing Range and the #150 Reservoir Site;
- preliminary assessment and site inspection of the 135 Primer/Tracer Area;
- preliminary assessments of the 535 Primer/Tracer Area;
- completion of soil vapor extraction at Sites D and G;
- field investigation of soils at Site D;
- investigation of tar-like materials beneath the cover at Site G;

Ongoing activities being performed on-TCAAP include: 1) Operation and maintenance of on-TCAAP groundwater remediation systems (Site A and TGRS) 2) annual performance monitoring of the groundwater remediation systems, 3) annual private well inventory.

Finally, the following activities are also underway: 1) reconfiguration/optimization of the TGRS; 2) ROD modifications (i.e., ESDs/ROD Amendments) to address remedy changes at OU-1, Sites I and 129-15, and conditions at Site C; and 3) Tier II Ecological Risk Assessment.

Property Reuse

As noted in the Community Involvement section of the Update, community interest in the New Brighton/Arden Hills Site has increased as a result of the Army's decision to declare over 1000 acres of property along the eastern boundary of TCAAP excess.

The City of Arden Hills has been interested in development of various portions of the TCAAP property over a number of years. During the mid-1990's, then-Congressman Bruce Vento convened a TCAAP Reutilization Committee, whose mission was to discuss, evaluate and recommend a conceptual physical land use plan for the long-range future of the TCAAP site. The results of that committee's deliberations, commonly referred to as the Vento Plan, have recently been used as an initial basis of coordination among the various stakeholders (Army, EPA, MPCA, General Services Administration, City of Arden Hills, developers and community members) for the anticipated excessing of the property along the eastern TCAAP boundary. Initial meetings to discuss how the process will proceed, and especially how environmental assessment of the property will be performed, began during the summer of 2002. Environmental assessment activities have already begun (September 2002).

Additionally, by special Congressional action, the Army was

authorized to excess 39 acres of property along the southern boundary of TCAAP to the City of Arden Hills (approximately 6 acres) and Ramsey County (approximately 33 acres). The City of Arden Hills parcel has already been transferred, and a new City Hall for Arden Hills constructed. The Ramsey County parcel is currently under environmental investigation and review. A Finding of Suitability to Transfer is anticipated to be completed for this parcel within 12 months.

Congressional Interest

Congressional interest in the New Brighton/Arden Hills Site currently (September 2002) revolves around the cleanup of the TCAAP facility insofar as it will impact land transfer and reuse. Because the Army is not remediating the contaminated soils sites to unrestricted use levels, and because of the need to assess previously unassessed areas of TCAAP that are slated for excess, the office of Representative Betty McCullom has sought information from the Army and the regulators regarding the cleanup process at the Site.

Success Story

The biggest success story at the New Brighton/Arden Hills Site has been the outstanding working relationship that has been established over the years among the stakeholders, including the Army, EPA, MPCA, City of New Brighton and RAB. In total, from 1981 - 2002, the U.S. Army has spent \$184, 552, 600 on the investigation and remediation of this large and complex site, the No. 1 NPL site in Minnesota.

Among the substantial environmental cleanup accomplishments at the site which have already been summarized, the biggest may be the innovative method used to to remediate the large plume of groundwater contamination that has migrated beyond the TCAAP boundary (the North Plume). The remedy selected for the North Plume involves operating New Brighton's water supply

wells s remediation wells also, treating, rather than wasting, the large volumes of water generated (approximately 1900 gallons per minute) for potable use.

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