

Division of Spill Prevention and Response

Contaminated Sites Program



State of Alaska > DEC > SPAR > CSP > Site Summaries > Fairbanks > Fort Wainwright

Fort Wainwright, Taku Gardens (102 Communications Site)



Summary Date: June 2009

[View detailed information from database on this site.](#)

Status: Active

Database Name: Fort Wainwright Taku Gardens (102 Comm. Site).

Location: Fairbanks, Alaska

Latitude/Longitude: See database entry

DEC Contaminated Sites Contact: [Sharon Richmond](#), Project Manager (907) 451-2158U.S. Army Project Manager: [Cliff Seibel](#), U.S. Army Garrison Alaska, Directorate of Public Works, (907) 361-6220U.S. Environmental Protection Agency Project Manager: [Jacques Gusmano](#), U.S. EPA Region 10, Alaska Operations Office, Anchorage, 907-271-1271[Description](#)[Health & Environment](#)[Current Status](#)[More Info](#)

Description

Fort Wainwright is located in Interior Alaska, east of the Fairbanks city limits. It was initially created in 1939 as Ladd Field, and served as an Army cold weather station to test aircraft under arctic conditions. This facility was a strategic part of military efforts during World War II from 1942 until 1945. The U.S. Air Force operated Ladd Field from 1947 until 1961, when the Army resumed control and renamed it Fort Wainwright.

Encompassing over 900,000 acres, the post includes a main cantonment area of 4,473 acres, 8,825 acres of ranges, and over 898,000 acres of military maneuver areas. Approximately 15,000 people live and work on Fort Wainwright. The Chena River, which is used for recreational activities and sport fishing, runs through Fort Wainwright.

Fort Wainwright was placed on the Environmental Protection Agency (EPA) National Priorities List of "Superfund" sites in 1990. Most of the contamination identified at that time is being managed in five operable units (OUs) under a cooperative Federal Facilities Agreement between the Army, DEC, and EPA, and the remainder is managed under the "Two-Party Agreement" between the State and the US Army. Contamination in these areas has either been treated or removed, is undergoing active treatment, or is being monitored. Cleanup was guided in part by a Restoration Advisory Board, which disbanded in 2003. The Taku Gardens site (also known as the Former Communication Site) was added as Operable Unit 6 in 2007 and is also being managed under the Federal Facilities Agreement. Information on these cleanup efforts is summarized on the EPA [Superfund website](#) and [DEC's Contaminated Sites Databases](#).



Contractors installing test pits at the Taku Gardens housing project at Fort Wainwright. The test pits were located in areas with suspected metal debris or other contamination. (DEC photo, May 20, 2006).

Former Communications Site Background

Construction of a 54-acre housing project known as Taku Gardens began in 2005 to provide housing for new personnel and their families. In June 2005, construction workers noticed stained soil and unusual odors during excavation of a building foundation. Laboratory testing of this soil confirmed the presence of PCBs ([polychlorinated biphenyls](#)), with concentrations as high as 115,000 milligrams per kilogram (mg/kg). Alaska's current cleanup standard is 1 mg/kg.

DEC and EPA were notified, and construction was temporarily halted so that the extent of PCB contamination could be

determined. Following the assessment, a gated and locked chain-link fence was built around the area of known and suspected PCB contamination. This approximately 5-acre area is also referred to as the "PCB Exclusion Zone". Samples collected outside the PCB Exclusion Zone and from neighboring residential areas confirmed that PCBs did not pose a risk to nearby residents or construction workers and construction resumed. During 2005, construction crews also discovered petroleum contamination and removed large quantities of metal debris and drums in other areas outside of the PCB Exclusion Zone.

Over the winter of 2005/2006, a review of records indicated that additional contamination could be present in other areas of the construction site. To investigate this possibility, a Preliminary Source Evaluation was carried out in 2006. During the evaluation, munitions-related debris and buried drums, intermingled with large quantities of scrap metal, were discovered. Several partially demilitarized, World War II and Korean War-era explosive devices (discarded military munitions), were also found, prompting an immediate halt to all unauthorized excavation. In addition to PCBs and petroleum, contaminants of potential concern currently identified include: volatile and semi-volatile organic compounds; chlorinated compounds including solvents, herbicides, pesticides, and dioxin/furans; heavy metals such as lead; and munitions-related compounds such as nitroaromatics and propellants.

No chemical warfare weapons have been found, and there is no evidence to suggest that this type of material might have been disposed of at this site. In July 2006, two discarded military munitions items were excavated, one of which contained a liquid. Because it was not known at the time what the liquid was, these munitions were treated as if they might contain chemical weapons until munitions specialists determined that the liquid was water.

1950s-era aerial photos show potential communication buildings and structures in the southwest portion of the site, near the area where PCBs were initially identified. PCBs were commonly used as lubricants and electrical insulators before they were banned in 1977. Continued research and investigation has since confirmed that in addition to a communications facility, this site was historically used for military salvage, reclamation, and disposal activities, and also served as a temporary barracks.

In April 2007, Taku Gardens was designated as Operable Unit 6 in an amendment to the Fort Wainwright Federal Facilities Agreement, signed by the U.S. Army, DEC, and EPA. No houses will be occupied until these three agencies agree that it is safe for residential occupancy. It is not known when the houses will be released for residential occupation. Approximately 60 acres, including the entire housing project area, is fenced, gated, and locked. Access is restricted to qualified personnel.

Public Health and Environmental Concerns

The most significant public health concern to date has been the presence of munitions and chemical contaminants. Contaminants of concern include PCBs, petroleum compounds, chlorinated compounds, volatile and semi-volatile organics, metals, munitions constituents, and discarded military munitions. The extent of contamination in soil and groundwater is currently under investigation.

The area is fenced and site access is restricted, limiting potential human exposure to contaminants and munitions. Groundwater at this site is not used as a drinking water source, and no excavation is permitted unless authorized by remedial project managers with the Army, DEC, and EPA. The post obtains drinking water from groundwater wells, and regular testing confirms that it meets all drinking water standards. No excavation is permitted unless authorized by remedial project managers with the Army, DEC, and EPA. Excavation in areas where discarded military munitions are likely to be encountered is subject to oversight and approval by the Department of Defense Explosives Safety Board. The safety of nearby and future residents and site workers remains the top priority.

Current Status



Clean dirt has replaced the soil contaminated with PCBs and metal debris within the housing area. Excavated soil was either disposed of at the Fort Wainwright Landfill or shipped out of state for disposal at a federally regulated PCB disposal/treatment facility (DEC photo, June 2008).



Some of the discarded military munitions unearthed at the Taku Gardens site during investigation and removal over the past 2 years. (DEC photo, June 2008).

This site is being investigated and managed in accordance with all applicable state regulations and the federal Comprehensive Environmental Response, Compensation, and Liability Act ([CERCLA](#)). A Preliminary Source Evaluation performed in 2006 is complete. Results indicated that additional investigation of contaminated soil and groundwater was necessary in multiple areas of this site. A Remedial Investigation and baseline risk assessment (RI/RA), as required under CERCLA, was carried out in 2007 and 2008. A report on this effort is pending. Upon DEC and EPA review of the report, additional investigation and/or remedial efforts may be warranted. Groundwater monitoring continues.

As of June 2009, all excavated soil and debris accumulated during housing construction have been tested and examined for contamination and munitions and removed from the site for disposal or treatment. Several thousand cubic yards of PCB-contaminated soil have been excavated and removed from the PCB Exclusion Zone and a former transformer servicing area. Soil samples were collected from the bottom and sides of these excavations to determine if any contamination remains which exceeds state or federal cleanup levels. Results of this effort will be included in the RI/RA report. Depending on PCB concentrations, excavated soil was either disposed of at the Fort Wainwright Landfill or shipped out of state for disposal at a federally-regulated PCB disposal/treatment facility.



Approximately 60 acres, including the entire housing project area, is fenced, gated, and locked. Access is restricted to qualified personnel. (DEC photo, June 2008).

Two drum and debris disposal areas have been excavated. Metal debris was removed to the greatest extent possible without damaging existing structures. Some uncharacterized drum and debris material still remains under a few structures; a final decision regarding management of this material is under consideration. Soil samples were collected from the bottom and sides of these excavations to determine if potentially remaining contamination exceeds state or federal cleanup levels. Results of this effort will be included in the RI/RA report.

Additional munitions-related items (discarded military munitions) were discovered during test pit excavations in another disposal area in 2007. These items were examined by qualified personnel and properly disposed of. Investigation and removal of debris, drums, potential contamination, and discarded military munitions continued in this and other areas of the former salvage yard in 2007 and 2008. Soil samples were collected during all excavations and tested for potential contamination. Results of this effort will be included in the RI/RA report.

Numerous groundwater monitoring wells were installed in 2005 through 2008. Many of these wells have since been incorporated into a semi-annual groundwater monitoring program. These wells were tested to locate potential sources of groundwater contamination and some will continue to be monitored. The drinking water supply wells at Fort Wainwright are not affected by contamination at this site. Drinking water supplied to Fort Wainwright is regularly tested and meets all state and federal drinking water requirements.

DEC participates regularly in meetings with the Army and EPA and receives frequent updates from the Army. All agencies have worked cooperatively during this investigation. Appropriate measures to protect the health and safety of site workers and nearby residents are in place, and public meetings and press releases are provided, as appropriate. It is not known when the entire remedial investigation and any additional remedial actions will be complete. There are no immediate plans to release any of these houses for residential occupancy.

Institutional Controls

[Institutional controls](#) (ICs) are measures to prevent or limit human exposure to hazardous substances and are an important part of managing contamination at Taku Gardens. The following site-specific Institutional Controls for Taku Gardens have been incorporated into the Fort Wainwright Base Master Plan with the agreement of DEC and EPA:

- The entire housing area is fenced, gated, and locked;
- Site access is restricted to trained personnel and site workers;
- Groundwater use is not permitted;
- Excavation is only permitted for the purpose of site investigation and with the approval of DEC, EPA, and the Department of Defense Explosives Safety Board;
- No housing at this site will be released for residential occupancy until the Army, DEC, and EPA agree that it is safe.

More information is available on a report from DEC's of [Institutional Controls database for Taku Gardens](#)

Ordinance

This site was historically used for salvage operations and disposal of munitions and explosives of concern. Several disposal areas were identified using geophysical surveys, and these areas were excavated to the greatest extent practical during the 2007-08 remedial investigation. Soil samples were collected from all excavations and tested for contaminants. Results of this

effort will be included in the RI/RA report. Additional geophysical investigations will be performed in 2009 to confirm that the removals were adequate. Site access is restricted to authorized, properly trained personnel. All investigation and/or removal of munitions or explosives of concern have taken place in accordance with procedures approved by DEC, EPA, and the Department of Defense Explosives Safety Board.

More Information, Recent Reports

Contaminated Sites Database Reports -There are a number of individual contaminated sites on Fort Wainwright, and reports on the status of each is available on DEC's database. We have a [glossary](#) available to help you with any acronyms used in the reports. The database entries are updated as time allows and are not always up to date.

- "[Communications Site](#)" -- or Taku Gardens"
- For all other sites, [follow this link](#) and choose Fort Wainwright" in the city drop-down box.

Documents

- DEC Situation Report (sitrep) on Taku Gardens, August 7, 2006 ([PDF 27K](#))
- U.S. Army's press release on Taku Gardens, August 4, 2006 ([PDF 10K](#))

DEC fact sheets

- Cleanup process for contaminated sites ([PDF 304K](#))
- How DEC Makes Cleanup Decisions ([PDF 20K](#))
- Introduction to Groundwater ([PDF 412K](#))
- Understanding Contaminant Concentrations ([PDF 164K](#))
- Department of Defense Cleanups ([PDF 59K](#))
- Environmental Laws ([PDF 39K](#))
- Cleanup Methods ([PDF 171K](#))

Click map for a higher resolution image

Legend

