



# Division of Spill Prevention and Response Contaminated Sites Program

 search

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State of Alaska &gt; DEC &gt; SPAR &gt; CSP &gt; Site Summaries

## GALENA AIR FORCE STATION



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

**Database Name:** Galena AFS

**Status:** Active

**Location:** Galena

**Latitude:** See database entries

**Longitude:** See database entries

This site has a [Restoration Advisory Board](#), which involves the community.

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Contacts updated: May 14, 2014

### PDF Version

Summary updated: May 14, 2014

Click on photos or maps for larger versions.

### Description

The former Galena Air Force Station, now known as the Galena Airport, is on the Yukon River next to the City of Galena. The city, with a population of 487, is in traditional Koyukon Athabaskan Indian territory. It's in the Yukon-Koyukuk Census Area, about 45 miles east of Nulato, 270 miles west of Fairbanks and 350 miles northwest of Anchorage. The Innoko and Koyukuk national wildlife refuges are nearby.

The airport includes buildings and other facilities, and covers roughly 84 acres. Galena Airport has primarily been used for military purposes since the U.S. Army first established a post there in 1942. Through military operations over the years, releases of petroleum and other hazardous chemicals have occurred from spills or historical handling and disposal practices.

The U.S. Air Force is the responsible party for cleaning up the individual contaminated sites (nine CERCLA remedial investigations and 22 Site Characterization Sites) at the airport, following the federal [Comprehensive Environmental Response, Compensation and Liability Act](#), or CERCLA, standards for protecting people, animals and the environment. The Alaska Department of Environmental Conservation, or DEC, is overseeing the cleanup to ensure that it meets the State of Alaska standards.

The Air Force and DEC work with local stakeholders via the Galena Technical Project Team to address their environmental concerns. The remediation efforts at Galena Airport are directed by the Triad process during the site investigations. (For more on the process and Triad meeting dates, click [here](#) and [here](#).) In addition, communication with Galena community members occurs via a Restoration Advisory Board, which involves the community, Loudon Tribal Council and City of Galena. (For more information on the board and meeting dates, click [here](#) and [here](#).)

Since the Air Force's 2005 round of Base Realignment and Closure legislation, when the federal government determined that the former Galena



A covered stockpile of petroleum-contaminated soil at the Galena landfarm is shown in June 2012, from the north end looking south. From the stockpile, the dirt is moved to nearby landfarm cells, where the soil is spread out to about 2 feet thick, fertilized, and is tilled several times a year to help bacteria break down the petroleum. The cells are left open, except during heavy rain and the winter. The water from a recent rainfall (in the foreground) is part of a pond designed to control surface erosion. (DEC photo)

Air Force Base would be completely deactivated, land formerly reserved or leased by the Air Force has been transferred back to the to the State of Alaska and the City of Galena.



DEC's Dennis Shepard is shown decontaminating a water interface probe during a groundwater monitoring well inspection for an old landfill at the Galena Airport project in the summer of 2012. The landfill is one of several that the Air Force used when the base was active. (DEC photo)

The Alaska Department of Transportation and Public Facilities received most of the former Air Force land leases and facilities in 2008. The agency operates and manages the Galena Airport and conducts its Galena operations out of a building that the Air Force used for vehicle maintenance.

The Air Force and Department of Transportation transferred land and buildings to the City of Galena in 2008. The city currently operates a boarding school in the called the Galena Interior Learning Academy. The school has a dining hall, dormitories and classroom instruction facilities in the refurbished former Air Force buildings.

The Air Force transfer included a notice of contamination and a blanket easement for monitoring and reporting contaminant concentrations. The transfer also included the consent of the Alaska Department of Transportation and the City of Galena to accept land-use controls (**institutional controls** established by DEC) on contaminated land parcels, and an affirmation that the Air Force is liable for the future cleanup of existing contamination under CERCLA, RCRA, or other applicable state or federal laws. (RCRA stands for the federal **Resource Conservation and Recovery Act** law.)

(Galena Airport, Galena Air Force Station and the Galena airfield are used

interchangeably throughout this summary.)

## Public Health and Environmental Concerns

Contamination from petroleum and other hazardous chemicals has occurred at the Galena Airport over the years:

### ▶ Petroleum, Oils and Lubricants (POL)

Petroleum-based fuels were used for facility energy needs, heating and aircraft refueling, while various oils, lubricants and antifreeze were used for maintaining the aircraft and other vehicles at the base.

### ▶ Solvents

Solvents such as tetrachloroethene (PCE) and trichloroethene (TCE) were used to maintain vehicles, aircraft, ammunitions and electronics.

### ▶ Pesticides

Widespread, low-level occurrences of pesticides found at the airport suggest historic areawide applications for insect control.

### ▶ Polychlorinated biphenyls (PCBs)

The various facilities at Galena utilized electrical transformers, which contained PCB oil. Also, several sites have been identified as storage areas for PCB transformers and one former disposal site has confirmed PCB soil contamination.

### ▶ Metals

Metal contamination from leaded gasoline, aviation gasoline and waste oils are a primary concern at the Galena Airport. There is also a concern that at specific sites, waste contaminants were discarded or flushed down wastewater or floor drains. Contaminants in drain fields or landfills may include lead, mercury and other metals.

### ▶ Ordnance

Due to the historical use of military munitions at Galena Air Station, several sites on or adjacent to the airport are being investigated for discarded military munitions, unexploded ordnance, munitions debris or munitions constituents.

Potential pathways for contaminant exposure include direct contact with contaminated surface and subsurface soils, contaminated groundwater migration to drinking water wells or to the Yukon River, harmful vapors migrating from subsurface contamination into buildings (called **vapor intrusion**), and the accumulation of contaminants in wildlife harvested for subsistence.

## Preliminary Assessment

▶ More than 50 sites were identified in the Preliminary Assessment of the Galena Airport.

- ▶ Twenty-seven of those were recommended for additional Site Inspection, or SI.
- ▶ One site was recommended for Remedial Investigation (RI) under CERCLA regulations.
- ▶ Four sites with POL contamination were recommended for Site Characterization under DEC regulations.

▶ DEC has been managing the sites identified in the Preliminary Assessment



The Galena landfarm on the Campion Airstrip is shown in September 2013. The airstrip is about 8 miles east of the Galena airport. The stake

under the approved *Work Plan for Site Inspection, Remedial Investigation and Site Characterization, Former Galena Forward Operating Location, Alaska*.

During the 2010-2011 site work, samples were collected to evaluate potential releases, migration pathways and potential receptors (human and environmental).

- ▶ The Site Inspections, Remedial Investigations and Site Characterization provide information used to score the sites using the [Hazard Ranking System](#) model, which calculates a score based on the potential of a hazardous substance to spread, and how close the contamination is to people, among other factors.
- ▶ Based on the Site Inspection/Site Characterization results, a site may be recommended for cleanup (a removal action), or may be determined to be non-qualifying if no evidence of contamination is found. Of the 27 sites recommended for site inspection in the Preliminary Assessment, DEC determined that 12 sites should be designated as non-qualifying sites, and two sites were designated as **Cleanup Complete**.
- ▶ Additional sites have since been discovered at the airport. As of April 2014, there were more than 30 active sites.

with a flag on it in the foreground of the photo is a monitoring well that's been installed at the landfarm to ensure the landfarm doesn't affect the area's groundwater. Altogether, the Galena landfarm is about 2,500 feet long. It includes stockpiling areas (shown) and the landfarm cells (at the far end on the left). The landfarm cells are designed to treat roughly 5,800 cubic yards of soil. About 13,000 cubic yards of contaminated soil are shown stockpiled above. (DEC photo)

## Current Status

The Galena Airport is currently in the [Remedial Investigation/Feasibility Study, or RI/FS](#), phase of the CERCLA cleanup process, the first phase of the site characterization that Alaska law requires. Site work completed in 2010-2013 has bolstered our knowledge of contaminant concentrations in soil and groundwater.

The second phase – the development of a Remedial Design, or cleanup plan – will occur in the next few years under a new Air Force performance-based remediation contract that was issued in March 2014. The Feasibility Study will entail an extensive investigation of the airport to assess the total extent of contamination, determine the associated risks to humans and the environment, and evaluate different approaches to clean up the contamination.

Finally, as part of the Remedial Investigation/Feasibility Study process, a [Risk Assessment](#) is being developed to address the risks posed to human health by contamination at each of the sites.

Some preliminary findings and recent activities related to the RI/FS are listed below:

- ▶ Groundwater monitoring has been ongoing. A groundwater model was developed in 2012 using geotechnical information from the site investigations.
- ▶ The groundwater data that Air Force contractors have collected so far indicate that the water from the former Galena Air Force Station drinking water wells is safe to drink, and that contaminated groundwater is most likely not reaching the surface waters of the Yukon River.
- ▶ The Air Force tested bioventing treatment systems designed to remediate contaminated soil at the Galena Airport's Million Gallon Hill, and Petroleum Oils and Lubricants Tank Farm in the summers of 2003 and 2004. Additionally, a bioreactor pilot study was undertaken at site SS015 TCE area in 2010. The findings from these tests will aid in the development of the Remedial Investigation/Feasibility Study.
- ▶ The Air Force completed interim removal actions at four sites in 2011, which excavated and removed a total volume of petroleum-contaminated soil greater than 15,000 cubic yards. An additional removal action in 2013 excavated 8,700 cubic yards of petroleum-contaminated soil.
- ▶ The contaminated soil from the removal actions has been placed in stockpiles and [landfarm](#) cells constructed at the Former Campion Airstrip in 2012. Multi- increment confirmation sampling confirmed successful treatment of the first five treatment decision units in 2012 and the treated soil was accepted at the Galena landfill for use as interim cover material for landfill operations in 2013. The landfill was expanded as part of the 2013 operations.
- ▶ The Air Force prepared Remedial Investigation and Site Characterization results reports during 2012; many of the final reports have been submitted and approved by DEC.
- ▶ In November 2012, DEC identified data gaps in the investigation results reports. The Air Force addressed the data gaps by issuing three separate contracts in 2013. Data collected during the 2013 efforts will be used to supplement and complete the Remedial Investigations, Risk Assessments and Feasibility Studies beginning in the latter part of 2014.



Air Force contractors excavated 8,700 cubic yards of petroleum-contaminated dirt in the summer of 2013 as part of an Interim Removal Action for site SS016 at the northern edge of a Galena Airport runway. The soil was taken to the Galena landfarm on the Campion Airstrip. An Interim Removal Action is an interim measure to remove or isolate contamination any time during the cleanup process to protect people and the environment. (DEC photo)

## Galena History

Galena was established in 1919 as a supply and trans-shipment point for lead ore – galena – mined from prospects south of the Yukon River. The location was on the site of a former Athabaskan fish camp recorded as Natulaten in the 1880 Census map.

A school was established in the mid-1920s and a post office was opened in 1932. The population of Galena was 30 in 1940, before the first military buildup. Most residents were Athabaskan Indians who moved there from other nearby villages on the Yukon River.

The Civil Aeronautics Authority began building the Galena Airport in 1941 as part of an overall civilian-airport construction program. The airport was intended for civilian use; the military had no presence in Galena until the United States got involved in World War II.

The Army established a post and military support facilities at the airport in 1942, and the Civil Aeronautics Authority officially turned over the operation of the airfield to the military on July 1, 1943.

The airfield was used as an auxiliary airfield and refueling stop for the American-Soviet lend-lease program during WWII from 1942 until 1945. When the war ended, the Army determined that the airfield was surplus, and the Civil Aeronautics Authority resumed control of the airfield and facilities.

But then the Cold War began between the Soviet Union, and the U.S. and its NATO allies. In 1945, the Eleventh Air Force was designated the Alaskan Air Command, or AAC, and its headquarters were moved from Adak, Alaska, to Anchorage's Elmendorf Air Force Base, then Elmendorf Field. The Command's mission was to provide "Top Cover for America," as a defense against the Soviet bomber threat.

The key to Alaska defense was perceived as preventing bombing attacks against the main military complexes in Anchorage and Fairbanks. To prevent those attacks, the Alaskan Air Command used information from multiple radar sites and interceptor aircraft.

In 1951, the Alaskan Air Command entered into an agreement with the Civil Aeronautics Authority for joint- military and civilian use of the Galena airfield, and that led to the next military occupation of the Galena airport.

Named the Galena Air Station, it was then used as the northernmost Forward Operating Location, or FOL, to train combat crews in intercepts and cold weather operations until the end of the Cold War. During that time, the Air Force significantly increased the personnel at the air station, and built new facilities and made upgrades. Fighter interceptors based at Galena made the majority of the interceptions of Soviet aircraft over Alaska.

The Air Force and Civil Aeronautics Authority modified their joint-use agreement when the federal government transferred the airport to the State of Alaska in 1966, in compliance with the 1958 Statehood Act. The Air Force retained ownership of the buildings built by the military, and entered into lease agreements with the State of Alaska for the land where the buildings were located and where military operations were conducted.

By the end of the Cold War, the Air Force's mission changed. The Air Force, by 1993, had withdrawn all permanent military personnel and aircraft from Galena. It transferred many of the facilities to federal, state and local entities for their use. The Air Force put the remaining facilities into caretaker status and hired a contractor to maintain specific facilities as an alternate emergency base for support of periodic alert exercises. In August 2005, the Base Realignment and Closure Commission voted unanimously to close the former Galena Forward Operating Location. The Air Force turned over the majority of facilities and land to the State of Alaska and City of Galena on Oct. 1, 2008.

### Flooding in 2013

On May 27, 2013, the Yukon River overflowed its banks and flooded the City of Galena. Roads, buildings and city infrastructure were damaged. After the water topped the dike walls surrounding the airport, Alaska's Division of Homeland Security & Emergency Management triggered its rescue program. The Alaska Air National Guard and the National Army Guard sent aircraft to help fly residents out of Galena.

Despite the devastation and the massive flood restoration efforts during the summer of 2013, the City of Galena implored the Air Force to continue its efforts to characterize contaminated sites, complete planned removal actions and landfarm operations. These Air Force efforts helped to keep many Galena residents employed during the summer months and allowed them to prepare for the coming winter.

Coordination among a host of agencies and groups ensured the work of both the flood restoration and contaminated site remediation continued in the summer and fall of 2013. They included state and federal agencies, contractors, the City of Galena, Tanana Chiefs Conference and Loudon Tribal Council.

### More Information on the Cleanup

▶ Four main project overview documents (listed below) give viewers a general look at what's occurring in the Galena Airport cleanup. The documents are available in the [Project Overview](#) section of the DEC's Galena Documents page.

▶ **Environmental Baseline Survey –**

Final Environmental Baseline Survey, Air Force Property at Galena Airport, Alaska (February 2010)

▶ **Preliminary Assessment –**

Preliminary Assessment, Former Galena Forward Operating Location, Alaska, Final Report (September 2011)

▶ **Work Plan –**

2010 Work Plan for Site Inspection, Remedial Investigation and Site Characterization – Former Galena Forward Operating Location, Alaska (August 2010)

▶ **Interim Removal Action –**

2011 Work Plan for Interim Removal Action at Sites SS005, SS014, SS016, SS017 and AST1569 at Former Galena Forward Operating Location, Alaska (September 2011)

▶ Nearly all the [Air Force documents on the Galena Airport cleanup](#):



The Air Force Administrative Record for most Air Force contaminated sites in Alaska can be found at <http://afcec.publicadmin-record.us.af.mil/>. Next, click on "Galena AFS, AK" in the left column, then select the individual site and "Search." The documents will appear at the bottom of the page.

- ▶ DEC's [Galena Airport Documents](#) page has Air Force newsletter updates on the cleanup, maps, plus detailed information on the various groups that provide input on the cleanup and their meetings, as mentioned earlier: the Restoration Advisory Board, Stakeholders, Triad and Technical Project Team. It also has the Project Overview section mentioned above in this bullets section.
- ▶ DEC's previous Web pages on Galena:
  - June 2006 ([PDF 180K](#))
- ▶ DEC's [Glossary/Acronyms](#) link is on the bottom of the Contaminated Sites Program's home page.

### General DEC Fact Sheets

- "Cleanup Process for Contaminated Sites," (March 2009) – ([PDF 304K](#))
- "How DEC Makes Cleanup Decisions," (June 2009) – ([PDF 20K](#))
- "Introduction to Groundwater," (June 2009) – ([PDF 412K](#))
- "Understanding Contaminant Concentrations," (June 2009) – ([PDF 164K](#))
- "Department of Defense Cleanups," (June 2009) – ([PDF 59K](#))
- "Environmental Laws and Regulations," (June 2009) – ([PDF 39K](#))
- "Environmental Cleanup Methods," (June 2009) – ([PDF 171K](#))
- "Human Health Risk Assessment," (June 2009) – ([PDF 78K](#))
- "Common Alaska Contaminants and their Sources," (June 2009) – ([PDF 240K](#))

### Other websites about Galena:

- ▶ [Galena City School District](#)
- ▶ Alaska Department of Community and Economic Development's [Community Information Summary on Galena](#) (Select Galena from community list.)
- ▶ Alaska Department of Labor and Workforce Development's [Alaska Local and Regional Information on Galena](#) (Select Galena on the right, click on "go" and then "next.")
- ▶ [CERCLA Overview](#)

### Contaminated Sites Database reports

There are a number of individual "contaminated sites" on the Galena Airport, and reports on the status of each are available on [DEC's database](#).

- ▶ Galena AFS - Sitewide
- ▶ Galena AFS - Bldg. 1400 & 1401 USTs
- ▶ Galena AFS - Bldg. 1872
- ▶ Galena AFS - Bldgs. 1845/1700
- ▶ Galena AFS - CTDSA/CTDSA South
- ▶ Galena AFS - Fire Train. Area FT01
- ▶ Galena AFS - JP4 Fillstands
- ▶ Galena AFS - Million Gal. Hill CG01
- ▶ Galena AFS - Perimeter Dike Drums
- ▶ Galena AFS - POL Fuel Line Leak
- ▶ Galena AFS - POL Tank Farm
- ▶ Galena AFS - Power Plant Tank 49
- ▶ Galena AFS - Road Oiling
- ▶ Galena AFS - SE Runway Fuel Spill
- ▶ Galena AFS - Waste Accumulatn. Area

[Glossary/Acronyms](#) [Site Map](#) [Commissioner](#) [Public Notices](#) [External Links](#)

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