

February 2000

Fact Sheet

Naval Air Facility Adak



Background on Free Phase Product Recovery Sites on Adak

One of the primary tasks associated with clean up of Operable Unit A on Adak Island is the recovery of free phase petroleum from a variety of locations.

There are five active recovery sites and two sites proposed for additional recovery of free phase product.

The term "free phase product" refers to raw petroleum that has not been mixed with groundwater.

The Navy has proposed to the Environmental Protection Agency and the Alaska Department of Environmental Conservation that there be a transition from active pumping at some sites on Adak to a period of monitoring.

The monitoring of sites would be accompanied by natural attenuation – or a decrease of remaining petroleum over time.

To date, approximately \$_____ has been spent to address possible impacts from petroleum on Adak Island. There is no evidence of migration of free phase product in the past 11 years of monitoring.

To follow is a brief history of the environmental mitigation and recovery work at these sites.

ACTIVE RECOVERY SITES

Tanker Shed (UST 42494)

History

The Tanker Shed on Adak was built in the 1960s and used to perform maintenance on tanker transport trucks and for aircraft fueling. In 1985 an underground storage tank was put in to collect oil generated during vehicle maintenance and to collect fluids from an oil/water separator system.

A sheen and petroleum hydrocarbon odor were observed when the tank was removed in 1995. Though there is no record of a spill or release associated with this underground storage tank, the most likely source of the free phase product is from overfilling the tank or from leaking pipes.

What has been done to clean up the site and protect the environment?

A recovery system at the

Tanker Shed was installed in January 1998. The system consists of 10 skimmers that use compressed air. These were installed in 16 recovery wells. To date, the wells have recovered about 396 gallons of product, with the amount of recovered product steadily declining from a maximum of 70 gallons in March 1998 to less than two gallons per month since 1999.

Yakutat Hangar, (UST T-2039-A)

History

Building T-2039, the main hangar at the Yakutat complex, was built in the 1940s as an airplane hangar. A car repair garage was also constructed at the site. In the late 1970s the hangar was converted to an additional automotive repair and hobby shop in the late 1970s. Three underground storage tanks (USTs) were installed there between 1979 and 1981 and an above ground storage tank replaced one of the underground tanks at an unknown later date.

Between 1993 and 1995, three underground tanks at this

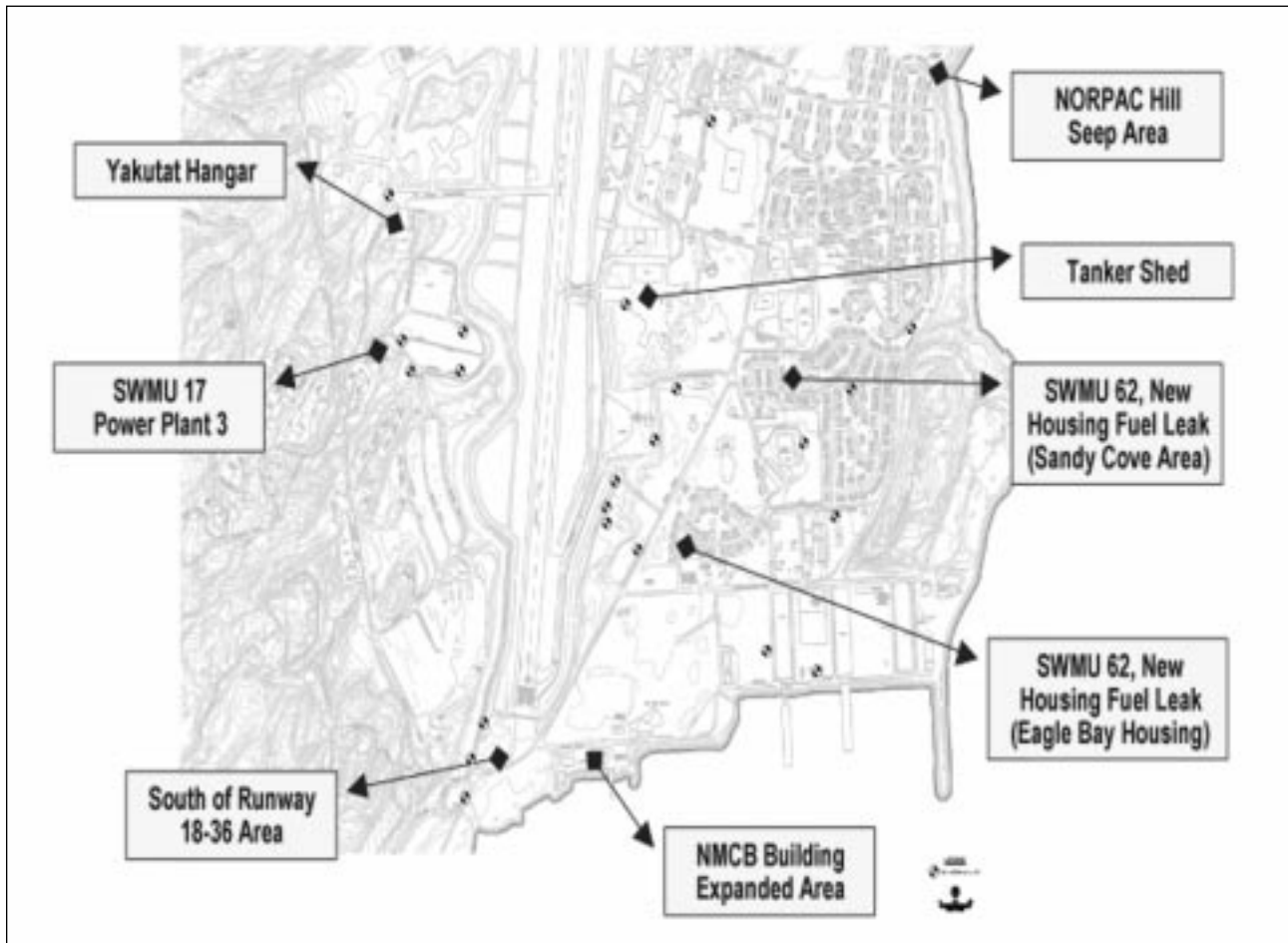
Where to Get More Information

INFOLINE: 1-800-360-1561

University of Alaska Anchorage,
Library Reserve Room,
3211 Providence Dr.
M-F, 8 am to 5 pm, Contact: Librarian
907-786-1871

NAS Adak, Adak Island, Alaska,
Bob Reeve High School
M-F, 8 am to 5 pm,
Contact: Lt. Commander Ted Posuniak
907-592-8170

Administrative Record
Engineering Field Activity NW
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Free product recovery sites on Adak.

site were removed. In 1993 a hydrocarbon sheen was observed on the groundwater entering one of the tank excavations.

Oily water was collected in the remaining two excavations in 1995. An investigation found the source of the free phase product to be underground leaks.

What has been done to clean up the site and protect the environment?

The system used for petroleum recovery at Yakutat hangar was installed in February 1997. This system has recovered approximately 681 gallons of fuel. The quantity of free product recovered here has declined over time, from a maximum of 260 gallons in March 1997, to typically less than five gallons per month since September 1998.

Area South of Runway 18-36

History

The land that makes up the South Runway area has been extensively changed since the military first occupied Adak during World War II. This area was part of a back-beach lagoon prior to occupation and was rapidly converted to a military airstrip, fuel-receipt and distribution center, and military housing area to support the War.

An abandoned fuel line near the end of the Southeast corner of Runway 18-36 was uncovered in 1990 during the installation of a new fuel line near the main road. Free product was first observed in the excavated trench and is believed to have come from the abandoned fuel line.

What has been done to clean up the site and protect the environment?

Approximately 20 wells were installed in this area. Petroleum was measured on top of the groundwater in several wells. For the past several years, skimming devices collected the product entering these wells.

In mid-1998, an automated product recovery system was installed in the monitoring wells where measurements of free product were the highest.

Although from September 1998 to August 1999 the skimming system was not in operation, in September 1999 the active recovery system was put back on line.

To date, 39 gallons of petroleum have been recovered at a rate of less than five gallons per month.

Power Plant No. 3 (Solid Waste Management Unit 17 – SWMU 17)

History

Power Plant No. 3 began operating in 1950. The five above-ground storage tanks at the former Power Plant, stored jet petroleum Number 5 (JP-5), waste oil and reserve oil supplies.

In September 1994, free phase product was first seen in two monitoring wells at the site. Seeps and stained soil were seen along the ditches near the intersection of Amulet Way and Aurora Circle in 1995.

The most likely source of the free product at Power Plant No. 3 was from a 1994 release of 500 gallons of jet petroleum No. 5 fuel from a cracked valve at the tank farm.

Other possible sources include overfilling of the storage tanks, leaking pipes from the tank farm, and leaking pipes from the oil/water separator that receives discharge water from the Power Plant.

What has been done to clean up the site and protect the environment?

There have been three modifications of a system put in place to clean up free product and protect the environmental.

A trench was put in place to allow petroleum to accumulate. A submersible pump was used to draw free product in the trench towards a skimming device that collects it. The trench and a different skimmer system were installed in June and July 1996. The original system was modified in September 1997 to include groundwater extraction.

To date, 1,157 gallons of petroleum have been recovered. The quantity typically ranges between three and 85 gallons per month, with higher levels between August and October.

New Housing Fuel Leak – (SWMU 62)

History

Sandy Cove and Eagle Bay Housing Units were constructed

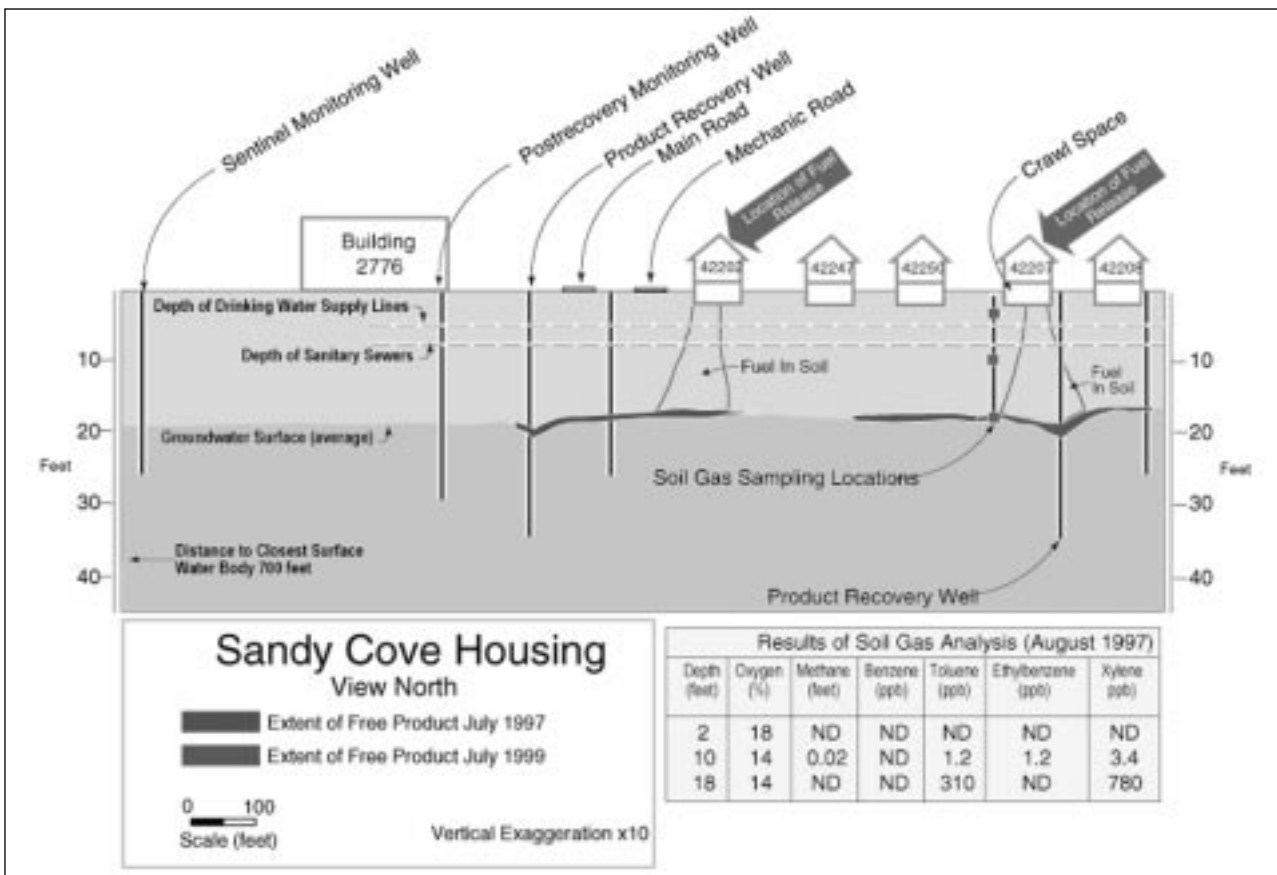
in 1986 and 1987, respectively. Turnkey Housing Units were built in 1972. JP-5 is currently used as heating fuel for the housing in Sandy Cove and was previously used as heating fuel at Eagle Bay and Turnkey Housing Units - the area now referred to as Solid Waste Management Unit 62 New Housing Fuel Leak. Fuel is stored in six above ground storage tanks near the area and is distributed to individual housing through underground pipes.

In 1988 and 1989 occupants reported hydrocarbon-like odors. At that time a total of 21-fuel pipe leaks were discovered and repaired.

What has been done to clean up the site and protect human health and the environment?

In 1989, the Solid Waste Management Unit 62 recovery system was installed near Sandy Cove and Eagle Bay Housing. This system is the largest on Adak.

In October 1996 the system was extensively modified to



include 25 recovery wells and four treatment units. The modified system involves electric, submersible pumps in each of the 25 recovery wells installed to pump groundwater from a shallow aquifer under the housing. The recovery wells are spread out to cover a wide range of free product plumes.

The system pulls the groundwater table around the well during pumping. As petroleum accumulates in the well on the top of the water table it is also pumped to a treatment unit. In each treatment unit, an oil/water separator removes the product and reduces any petroleum-chemical concentrations. The water is then discharged into the sewer system.

What are the community concerns and what has the Navy done to address these concerns?

Some Adak residents expressed concern that the reason oil recovery decreased on Adak is because pumps in recovery wells are clogged (biofouling). The Navy addressed this concern by cleaning all the wells and upgrading the system two years ago with a new type of pump. The result was a brief increase in the amount of product recovered, immediately followed by a decrease to previous low levels.

According to data, 153,000 gallons of free phase petroleum have been recovered. Approximately 93 percent of the total fuel recovered from the modified system was recovered in the first 12 months, before January 1997.

Based on this, and considering more oil has been extracted from the site, there is a strong reason

to believe that redeveloping the pump-and-treat wells will not lead to an increased extraction rate.

In December 1999 the system was upgraded to be Y2K compliant.

Proposed Active Recovery Sites

Naval Mobile Construction Battalion Expanded Area

History

The Naval Mobile Construction Battalion (NMCB) Building Expanded Area is also part of the back-beach lagoon area used in World War II. Two buildings were constructed in the early 1940s and used as a woodworking shop and supply depot.

Another building also constructed in the early 1940s was used as a machine shop for overhauling ships. Several abandoned and inactive fuel pipelines cross the site, including the abandoned pipeline that crosses South of Runway 18-36.

No documented releases of petroleum hydrocarbons have been recorded here. Petroleum was found as a result of site investigations completed as part of the Operable Unit A.

What is proposed for protection of the environment at this site?

A detailed site investigation report was completed for this site in December 1998.

A number of remedial alternatives were proposed.

Currently the Navy and state and federal regulators are in the process of evaluating those alternatives.

NORPAC Hill Seep Area

History

The NORPAC Hill area was not developed due to its steep terrain. Kuluk Housing, located near NORPAC Hill, was constructed in 1964. Before that, Army barracks and mess halls supplied with heating fuel occupied the area.

In 1966 and 1968 a sheen was reportedly observed near the shoreline of Kuluk Bay. The sheen has not been confirmed as it reportedly only occurs on very calm days at high tide.

The source of the petroleum has not been determined. Potential sources include the heating fuel system at Kuluk Housing and a probable underground fuel pipeline to supply the former Army barracks.

In October 1997 free product was observed in just one well at the site, but there have been no other observations in any other well to date. Measurements have shown the product appears most likely to occur between October and March.

What is being proposed for protection of the environment at this site?

Less than one gallon of petroleum has been recovered from the well using passive skimmers. The site is being monitored and remedial alternatives are being evaluated.

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