



Environmental Newsletter

King Salmon Air Station, Alaska



U.S. Air Force 611 Civil Engineer Squadron

Summer/Fall 2005

Introduction

This newsletter presents an overview of continuing environmental restoration efforts at the King Salmon Air Station (KSAS), which the Air Force has been doing since 1995 under the *Environmental Restoration Program (ERP)*. The Air Force is conducting these activities under the oversight of the *Alaska Department of Environmental Conservation (ADEC)* and the *Environmental Protection Agency (EPA)*, and in coordination with the *King Salmon Restoration Advisory Board (RAB)*.

Installation History

KSAS is located on the Alaska Peninsula about 280 miles southwest of Anchorage, near the community of King Salmon. The KSAS installation was established in 1941 as a military supply and support base during the World War II Aleutian Island campaign. In the 1950s and 1960s, the Air Force used the base as part of a permanent air defense system established across Alaska during the Cold War. The installation was deactivated in 1994 and placed on caretaker status, with it's military support mission functioning remotely through Elmendorf Air Force Base.

Environmental Restoration Program

The Air Force enacted the *ERP* in 1987 as a counterpart to the *EPA's CERCLA* program for environmental restoration. The *ERP* provides funding to investigate and cleanup Air Force property impacted by historical installation

~Welcome~

The Air Force is providing this newsletter to highlight some 2004/2005 restoration successes at KSAS under the *ERP*.


Technical terms and acronyms in bold italics are defined in the glossary on Page 6.

uses (prior to 1984). Environmentally impacted sites are those which pose potential risks to human health or the environment, or are not in compliance with state and federal environmental regulations.

Dave Hertzog is the Air Force's remedial project manager for the ERP at KSAS. Mr. Hertzog can be contacted by phone at (907) 552-7261 or toll free at 1(800) 222-4137, or by email at dave.hertzog@elmendorf.af.mil

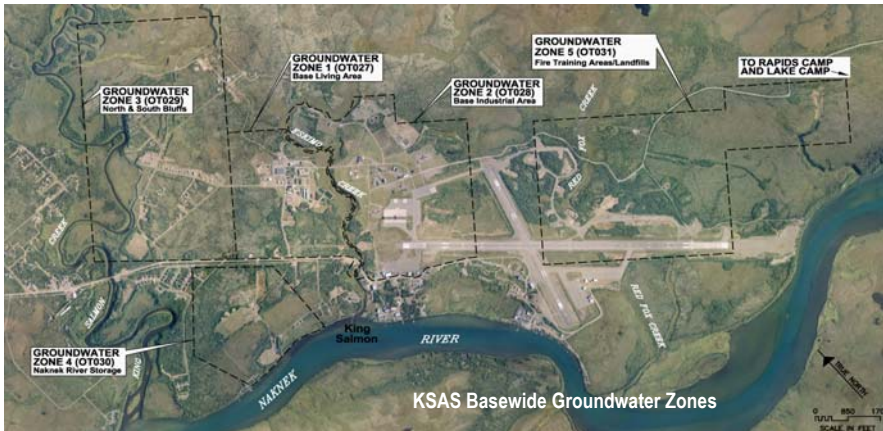
The New ADEC Representative

Jeff Norberg recently replaced Gretchen Pikul as the **ADEC** Contaminated Sites Program representative responsible for environmental investigation and cleanup of remote Air Force sites in southwestern Alaska. In his role, Jeff is responsible for technical oversight of environmental restoration activities at **KSAS**, and also represents **ADEC** on the **RPO** team.



Mr. Norberg was raised in Rhode Island and received his Bachelor of Science degree in Geology from the University of Arizona. He has worked as an Environmental Scientist throughout Alaska, from Amchitka to Barrow, for the past 11 years. He joined **ADEC's** Contaminated Sites Group in October 2004.

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In November 2005, the *RPO* team met in San Antonio, Texas to discuss ideas and future improvement strategies. Their resulting suggestions were presented at the *KSAS RAB* meeting in January 2005. A formal 2004 *RPO* report will be available in the Fall/Winter of 2005.

Areas of Concern

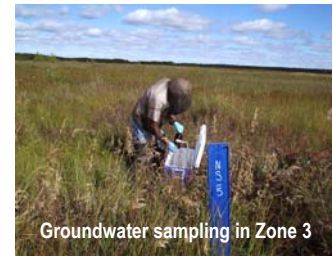
Before being identified as an “official” *ERP* site, the Air Force

Remedial Process Optimization Program

To accelerate environmental restoration progress basewide, the Air Force implemented the *Remedial Process Optimization (RPO)* program at *KSAS* in 2001. The *RPO* program utilizes a team of third-party experts to evaluate current cleanup strategies and operating remediation systems for individual sites and make improvement recommendations. The goal of the *RPO* process is to increase the efficiency of site restoration and improve projected timelines for achieving cleanup goals.

Since 2001, the *RPO* team has recommended hundreds of improvements in their annual reports. Many of these improvements have been implemented, which has expedited remedial successes at individual sites.

initially identifies an area of suspected or potential contamination as an *Area of Concern (AOC)*, and programs it for further evaluation. *AOCs* may be identified through known historical property uses, historical aerial photographs, interviews with knowledgeable persons, or visual evidence of historical impacts. Once identified, *AOCs* are assessed by inspection and sampling to identify suspected contaminants or determine whether



Groundwater sampling in Zone 3

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further study is warranted.

Thirteen new *AOCs* have

been recently identified at *KSAS* and will be evaluated in 2006 or 2007, depending upon the availability of Air Force funding.

Mr. Keith Barnack (611 CES/CEVR) is the Air Force’s remedial project manager for the new *KSAS AOC* sites, and will be directing further evaluation under the *ERP*. The new *AOCs* include two former dump areas, three trench/fill areas, one area of disturbed ground, an asphalt dump area, six drum storage areas, and one stained soil/debris area.



Groundwater sampling in Zone 1

Recent Restoration Progress at KSAS

Environmental restoration was initiated at **KSAS** in 1995. Remedial/cleanup strategies are in various stages of progress for individual sites.

Common site remediation/cleanup strategies utilized include:

- ❖ Physical removal of affected media such as excavating and treating contaminated soils off site. For example, petroleum contaminated soils were removed from several former **UST** sites and treated in a nearby **biocell** constructed for that purpose.
- ❖ Operation of a mechanized system to degrade or remove contaminants *in situ*. Several **bioventing** systems were installed at sites where physical removal of petroleum contaminants was not practical. These systems pump air through subsurface soils to stimulate naturally occurring organisms that degrade hydrocarbon constituents.
- ❖ Using naturally occurring processes in the environment, or introducing nutrients to encourage such processes, and monitoring the progress of contaminant degradation over time is called **Monitored Natural Attenuation (MNA)**. This is the cleanup option currently being implemented at several **KSAS Groundwater Zones**.

Eskimo Creek Dump Cleanup

On May 23-24, 2005, heavy equipment was used to remove exposed debris from the Eskimo Creek Dump area. The removed material was disposed at the local landfill and the excavated area was backfilled and graded to facilitate surface drainage.



King Salmon Administrative Record (KSAR)

The **KSAR** contains the official record of site reports; and regulatory documents such as correspondence, publications, and guidance; detailing the progress of environmental restoration. A summary of the **KSAR** is available at the **KSAS Information Repository** located at the **Reif Snyder Building**, and is open for viewing **Monday through Friday from 8:00am to 5:00pm**.

The **KSAR** data base is available on line for review at the following website address: <http://www.adminrec.com>
Data base documents are provided in Adobe PDF format.

The **KSAR** is maintained at the **611 CES/CEVR library** located at **Elmendorf Air Force Base in Anchorage**. To visit the library contact the **Air Force Community Relations Coordinator** toll free at **800-222-4137**

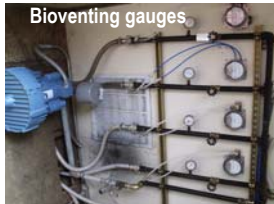
Treatment Systems

The **South Bluff Treatment System (SBTS)** was modified in 2005 to allow groundwater pumped from the lift station to bypass the treatment system and be discharge directly into wetlands adjacent to **King Salmon Creek**. Years of monitoring data have shown that the groundwater percolating through the **South Bluff's** landfill is uncontaminated and suitable for discharge into the environment "as is." Regular monitoring will continue, and the system bypass will be maintained in "standby mode" to allow for immediate reactivation and treatment should it become necessary in the future.

The **bioventing** system currently operating upgradient of the **Eskimo Creek Treatment System**



(ECTS) will be expanded to treat *smear zone* contaminants at the water table at Eskimo Creek. Use of the French Drain system will be discontinued in 2005 because it is no longer effective at removing petroleum product from the Eskimo Creek seeps.

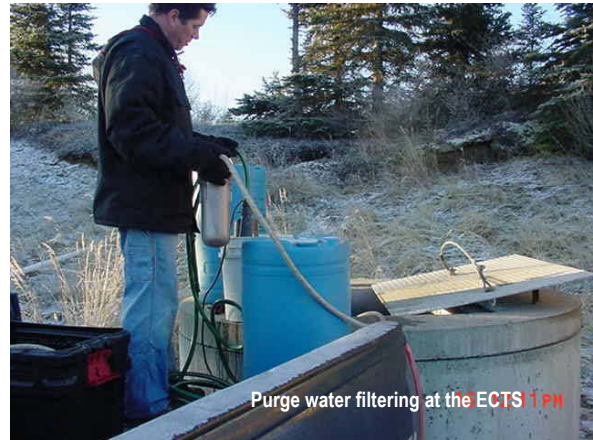


Five of the 7 *bioventing* systems, installed at *KSAS* to remove petroleum hydrocarbon contaminants from the subsurface, were shut

down because they were no longer need to reduce environmental contamination. The decision was based upon accumulated monitoring data. The systems shut down included those at Buildings 154, 306, and 307 (Base Industrial Area), Building 76-200 (Base Living Area), and at former Buildings 157 and 159. Two other *bioventing* systems will continue to operate through 2005 to remove contaminants from the environment (i.e. Bio4x in the Base Living Area and *RAPCON* in Groundwater Zone 5).

Long-Term Monitoring

Long-term monitoring at *KSAS Groundwater Zones* will continue. Four of the seven *Groundwater Zones* identified at *KSAS* are undergoing a regulatory process called a *Five-year Review*.



Five-Year Review

Five-year Reviews are currently in progress for several *KSAS Groundwater Zones* where signed *Records of Decision (RODs)* provided for "conditional site closure" based upon selected remedial actions. Such reviews are required to evaluate whether selected, site-specific actions are still protective of human health and the environment and to show that suitable restoration progress is occurring.

The review evaluates up to five years of monitoring data to assess the protectiveness of the selected remedy. Important components of a *Five-year Review* include community involvement, document review, completion of interviews and site inspection checklists, and insuring that institutional controls or land-use restrictions are documented in state/federal land records.



Sites currently in the *Five-year Review* process at *KSAS* include:

- ❖ GW Zone 1 (OT027 - Base Living Area)
- ❖ GW Zone 3 (OT029 - North and South Bluffs)
- ❖ GW Zone 4 (OT030 - Naknek River Storage)
- ❖ GW Zone 6 (OT032 - Naknek Recreation Camp I)

Military Munitions Response Program

The Military Munitions Response Program (MMRP) was initiated by the Department of Defense to separate munitions sites from environmental restoration sites in order to secure funding and accomplish a faster response time to address their significant potential dangers. *PACAF* has recently awarded a contract to Western Solutions to conduct *Preliminary Assessments* on all Air Force MMRP sites in Alaska. Two MMRP sites have been identified at *KSAS*. The contractor will perform a site visit at *KSAS* sometime in 2006 and meet with



the community. Information and meeting times will be published as it becomes available.

Mr. Keith Barnack will be the remedial project manager for *KSAS* MMRP sites, although Mr. Hertzog is still available as an Air Force point of contact and to provide historical support for actions at MMRP sites.

~The Air Force would like to Thank all Community RAB participants~

Eddie Clark ♦ Nanci Morris ♦ Richard Sherman ♦ Wesley Foster ♦
Smokey Taylor ♦ Linda Levshakoff ♦ Pat Patterson ♦ Willy Foster
♦ Abe Williams

KSAS Restoration Advisory Board

The King Salmon *RAB* was established in 1994 to provide a forum to exchange ideas and interests between the community, the Air Force, and regulatory agency representatives. *RAB* members consist of interested community participants; and representatives from the Air Force, *EPA*, and *ADEC*. The *KSAS RAB* meets up to six times a year to discuss environmental issues related to *KSAS*.

The *RAB* creates a partnership opportunity for stakeholders to have a voice in restoration decisions; which promotes understanding, active participation, and trust between the Air Force and the community.

~Responsibilities of Community RAB Participants~

- ❖ Participate in voluntary capacity
- ❖ Attend regular *RAB* meetings
- ❖ Comment on environmental restoration actions at *KSAS*
- ❖ Review Restoration documents
- ❖ Participate in open dialog at *RAB* meetings with Air Force and regulatory representatives



If you would like to become a RAB member contact the Air Force Community Relations Coordinator (Steve Wilhelmi) by
Toll Free Phone: (800) 222-4137

Or by email at steven.wilhelmi@elmendorf.af.mil

~ Air Force 611 CES/CEVR Contacts for KSAS ERP ~

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♦ Keith Barnack ~ Phone: (907) 552-5160

Or email: keith.barnack@elmendorf.af.mil

(Or call toll free phone number listed above)

ADEC Contact ~ Jeff Norberg

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Glossary of Terms

611 CES/CEVR – 611th Civil Engineering Squadron/Civil Environmental Restoration – The branch of the Air Force responsible for environmental restoration in Alaska.

ADEC – Alaska Department of Environmental Conservation – Alaska's lead environmental regulatory agency.

AOC - Area of Concern – An area of environmental concern identified based upon visual or historical evidence where a Preliminary Assessment is recommended to determine further appropriate actions under the ERP.

Administrative closure – Elimination of site in USAF and ADEC records.

Administrative Record – Official library of documents and other papers prepared as a part of environmental restoration activities at this site.

Bioventing – The injection of air into subsurface soils to help naturally occurring bacteria break down fuel contaminants into carbon dioxide and water.

CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act of 1980, also known as Superfund.

EPA – Environmental Protection Agency – The government agency promulgating federal environmental regulations.

ERP – Environmental Restoration Program – (formerly the Installation Restoration Program (IRP)). The Air Force CERCLA program for environmental restoration of federal installations from historical contaminant sources (prior to 1980).

Five-year Review – A regulatory review and data evaluation performed after five years of implementation and monitoring to evaluate the effectiveness of the selected remedial alternative and projected achievement of timely cleanup goals.

Groundwater Zones – An area or “zone” of common aquifer characteristics encompassing a collection of ERP Sites that are potential sources of common groundwater contaminants. After years of study, seven Groundwater Zones have been delineated at KSAS. The zones are in various stages of monitoring and restoration under the ERP.

Institutional Controls – Any type of physical, legal, or administrative mechanism to restrict the use of, or limit access to, real property to prevent exposure to contaminants above permissible levels.

LTM – long term monitoring – An accepted schedule of sampling, usually annual, where environmental media is sampled to monitor levels of potential contaminants over time.

MNA – Monitored natural attenuation – An environmental cleanup strategy involving monitoring of naturally occurring processes (such as biological degradation) that breakdown contaminants or reduce contaminant concentrations in the environment.

NFRAP – No Further Response Action Planned – Document that identifies that further action is not recommended with institutional controls and land use restrictions and controls, and the site does not pose a risk to human health or the environment.

Natural attenuation – Natural processes in the environment that break down contaminants over time.

PACAF – Pacific Air Forces. The Air Force component of the Pacific Forces under the Department of Defense.

Preliminary Assessment – The environmental assessment phase that involves collecting and reviewing information about a suspected environmentally impacted site to assess what further investigative actions may be appropriate in the restoration process.

Proposed Plan – A document distributed to the public for review that encourages comment on preferred cleanup alternatives to be considered for a ROD.

ROD - Record of Decision – The ROD presents rationale for remedial alternative decisions and establishes performance goals for site cleanup in a formal document. This Air Force has adopted this required step for National Priority Sites in the CERCLA process.

RAB - Restoration Advisory Board – An advisory body with diverse community representation designed to act as a focal point for the exchange of information between the Air Force, regulatory bodies, and interested stakeholders.

RI/FS - Remedial Investigation/Feasibility Study – An evaluation of site conditions (RI) and potentially applicable remedial actions (FS).

RPO - Remedial Process Optimization – An Air Force program designed to improve remedial operations and accelerate environmental restoration schedules at Air Force installations.

Remediation – Efforts to eliminate, reduce, or control potential environmental hazards posed by a contaminated site.

Smear zone – A horizontal layer of subsurface soils through which a fluctuating water table has smeared petroleum contaminants.