

Contaminated Sediment Literature Survey

Summary

Shaw Alaska, Inc. (Shaw) performed a contaminated sediment literature survey in July 2006 to guide the sediment core sampling Shaw conducted at the Fort Richardson Hatchery and the Elmendorf Hatchery dams (see Sediment Core Sampling). The purpose of the literature review was to conduct a screening of identified contaminated sites in the vicinity of the dams with the potential to have an impact on the creek if present conditions at the dams were modified. The survey was also used as a screening tool to identify potential contaminants of concern that could impact the sediment in the vicinity of the hatchery dams.

Shaw's survey was guided by a search of the Alaska Department of Environmental Conservation's Contaminated Sites Database and Leaking Underground Storage Tank (LUST) Database. The ADEC databases can serve as screening tools for identifying contaminated sites; however the information contained in the databases should be used as a screening tool only, since the entries may not always be current. Additional research was conducted for several sites deemed to be located upstream of the representative dams to verify the information found in the database. Numerous contaminated sites have been identified downstream from the Elmendorf Hatchery dam, and these sites were not evaluated as part of this survey.

Seven sites were identified in the vicinity of the Elmendorf Hatchery dam and three sites were identified in the vicinity of the Fort Richardson Hatchery dam based on the search criteria used. All the sites identified are associated with military activities and have been identified as part of the Department of Defense's contaminated sites programs. All the sites have been addressed in accordance with the applicable regulatory authority (CERCLA & State of Alaska) and are in various stages of remedial action. The prominent contaminant of concern is petroleum products (gasoline range organics (GRO), diesel range organics (DRO), and benzene, toluene, ethylbenzene, and xylene (BTEX). PCBs are the primary contaminate of concern identified at the Fort Richardson OUE Bldg. 35752 located approximately 0.25 miles downstream from the Fort Richardson Hatchery dam. The contaminated sites identified during the literature survey are summarized below.

Contaminated Sediment Literature Survey

Search Criteria

The following database search criteria were used:

General Search Conditions: Relative to Both Hatchery Dam Sites

1. Upstream (East) to Municipality of Anchorage Wastewater Treatment Plant (Arctic Valley Road).
2. Downstream (West) to Reeve Blvd. and Post Road.
3. Only “open”, “conditional closure” or “active” sites reviewed as listed in Alaska Department of Environmental Conservation’s (ADEC) Contaminated Sites and Leaking Underground Storage Tanks (LUST) Database.
4. Only “high” and “medium” priority sites were reviewed – except “low” priority sites in close proximity to creek or recently confirmed spills.

Search Conditions: Specific to Elmendorf (EAFB) Hatchery Dam Site

1. North – significant or recent spills to Taxiway Row on Elmendorf Air Force Base (north 1 mile from creek and upstream)

Search Conditions: Specific to Fort Richardson (FTR) Hatchery Dam Site

1. Any upstream (East) sites.
2. Any adjacent sites within 1 mile with “high” priority status

Database Queries

1. “Owner Name”

EAFB = 3 CES/CEV Elmendorf AFB

FTR = U.S. Army Directorate of Public Works

Contaminated Sediment Literature Survey

Search Date	Site Name	Description	Location	Proximity to Ship Creek	Status	Spill Date	Priority	Potential Impact(s)
Sites in Proximity to EAFB Hatchery Dam								
7/14/06	Elmendorf SS62 SERA	AAFES Service Station, Bldg. 21-876	2 nd & Fig Streets, EAFB	(EAFB Dam) upstream	Open	12/31/93	Med	1993 confirmed release; GASOLINE RANGE ORGANICS and DIESEL RANGE ORGANICS soil contamination; 1998 LUST cleanup initiated; 2002 ADEC dissolved SERA, end of record
7/14/06	Elmendorf Black Start Power Plant	Coal-fired power plant	"Power Plant" 2 nd /3 rd St. & Gibson Ave., EAFB	(EAFB Dam) upstream, W-NW 0.4 mi (~2100 ft)	Open	Approx 1995	High	1998 confirmed release; DIESEL RANGE ORGANICS soil contamination above Level A cleanup standards; 1998 LUST cleanup initiated; 2001 ADEC request Corrective Action Plan for bioventing prior to 2001; 2002 ADEC dissolved SERA, end of record
7/14/06	Elmendorf AFID 149 "SATCOM" ST524	Bldg 5385 Satellite Dish/Satcom	Lambert Ave. & 2 nd St., EAFB (former Bldg 08-140 Wilson Dr)	(EAFB Dam) upstream, E-NE 0.4 mi (~2100 ft)	Open	Approx 1993	High	1998 confirmed release; JP-8 LUST soil contamination; 12/5/03 ADEC request for add'l site characterization at ST524 (and ST420)
7/14/06	Elmendorf ST401	Bldg 4347; LUST site	"2 nd Street" near former Bldg 22-013, former diesel and motor gas station	(EAFB Dam) upstream	Open	Approx 1992	Low	1994 confirmed release; petroleum contaminated soil; USTs on site 1946-1994; impacted soil removed to "maximum extent practicable"; at ST401 long term monitoring of groundwater ongoing for DIESEL RANGE ORGANICS, GASOLINE RANGE ORGANICS, BTEX, PAHs; possible DIESEL RANGE ORGANICS below cleanup levels predicted in 2006

Contaminated Sediment Literature Survey

7/14/06	Elmendorf ST401 AFID 96-104	Diesel Pump Station Bldg. 4347 2 nd Street	See above Former Bldg 22-013 Bluff Rd. between Wilson & Maple	See above	Conditional Closure	Approx 1992	Low	Nine regulated steel underground storage tanks (USTs) ranging in capacity from 12,000 gallons to 50,000 gallons was located at ST401. The USTs were identified as Air Force Identification (AFID) numbers 96 through 104 and Alaska Department of Environmental Conservation (ADEC) numbers 357 through 360 and 35 through 40. Installed in 1946, the tanks were used for diesel storage until 1993 when they were converted to store motor vehicle gasoline (Mogas). The USTs and associated piping were removed in 1994. Petroleum contaminated soil identified during closure of USTs #96-104 near building 22-013. The tanks had contained fuel and unleaded gasoline.
7/17/06	Elmendorf - ST424 AFID 189	Bldg 10334 Auxiliary Power Plant	"intersection of 24th St and Jerstad Avenue"	(EAFB Dam) North	Conditional Closure	Approx 1995	NE	1995 "confirmed release"; formerly Bldg. 32-189 10,000 gallon diesel fuel UST for emergency generator; 1995 UST, vault, piping removed and soil contamination found above cleanup levels; 7/23/04 ADEC agrees no further remediation or investigation is required. The selected remedy is monitored natural attenuation; DIESEL RANGE ORGANICS levels in smear zone soil exceed the

Contaminated Sediment Literature Survey

								ADEC 18 AAC 75 Method Two (January 2003) cleanup level at the former UST location.
7/17/06	Elmendorf - ST516 AFID 154	Bldg. 5374 Lambert Ave	between 2nd St and Arctic Warrior Dr	(EAFB Dam) upstream, E-NE 0.5 mi (~2600 ft)	Conditional Closure	Approx 1996	NE	Formerly building 9-154 which had a 1,300 gallon UST located next to wash rack/steam pad southwest of the building. Also associated with the system was an oil water separator which had leaked; In 2005, groundwater in monitoring well OU5MW-11, located approximately 200-feet downgradient of ST516, did not have detectable concentrations of GASOLINE RANGE ORGANICS, DIESEL RANGE ORGANICS, or BTEX compounds.
Sites in Proximity to FTR Hatchery Dam								
7/14/06	Fort Rich Biathlon Range		Arctic Valley Road, former leaking AST site	(FTR Dam) upstream, E. ~1.5 miles	Active	early 1990s	Low	Historic leak from former heating oil AST; initial DIESEL RANGE ORGANICS and GASOLINE RANGE ORGANICS above soil cleanup levels; 100 cy soil scheduled for removal to ASR for treatment; 7/20/05 last record; removal not confirmed.
7/17/06	Fort Rich Bldg. 27004 UST 47	Arctic Valley Rd. FTRS-63	formerly 27006 Site# R078, 1990 RFA SWMU 81	(FTR Dam) upstream, E. ~1.25 miles	Conditional Closure	1980s	Low	UST removed in October 1989 without a former site assessment being performed during tank removal; all contamination has been dealt with to the maximum extent practicable; no further action required or planned; last record

Contaminated Sediment Literature Survey

								7/2/98, site under USARAK "institutional controls on soil contamination left in place at depths greater than 15 feet"
7/17/06	Fort Rich OUE Bldg. 35752	DESRTS Site FTRS-044. UST Facility ID 788. Formerly known as Building 35752-DEH PCB and "Emergency" Hazardous Waste Accumulation Point	Off Davis Hwy near Bldg 35750	(FTR Dam) downstream, W-NW ~0.25 miles	Active	Early 1990s	High	Building 35-750 transformer mounting pad area and drainage area are contained within OUE and are located north of Building 35-752. Building 35-752 is the former generator building for the adjacent high frequency transmitter site at Building 35-750. Building 35-752 is currently enclosed with a security fence and vacant. Building 35-750 is currently in use by communications personnel. PCB-containing transformer oil was apparently spilled sometime in the past at the east side of Building 35-750, during routine transformer maintenance activities. Transformer oil containing PCB was reportedly burned in a shallow pit in the area now paved as the parking lot south of Building 35-750. The approximate location of the former burn pit area. This area was the suspected source of dioxins/furans contamination. Additionally, PCB-contaminated soil may have been spread along the paved access road and parking lot during grading

Contaminated Sediment Literature Survey

								activities prior to paving in 1997. Contaminated soils have been excavated and disposed of at a permitted facility out of state and site will not require any further remedial action.
--	--	--	--	--	--	--	--	--