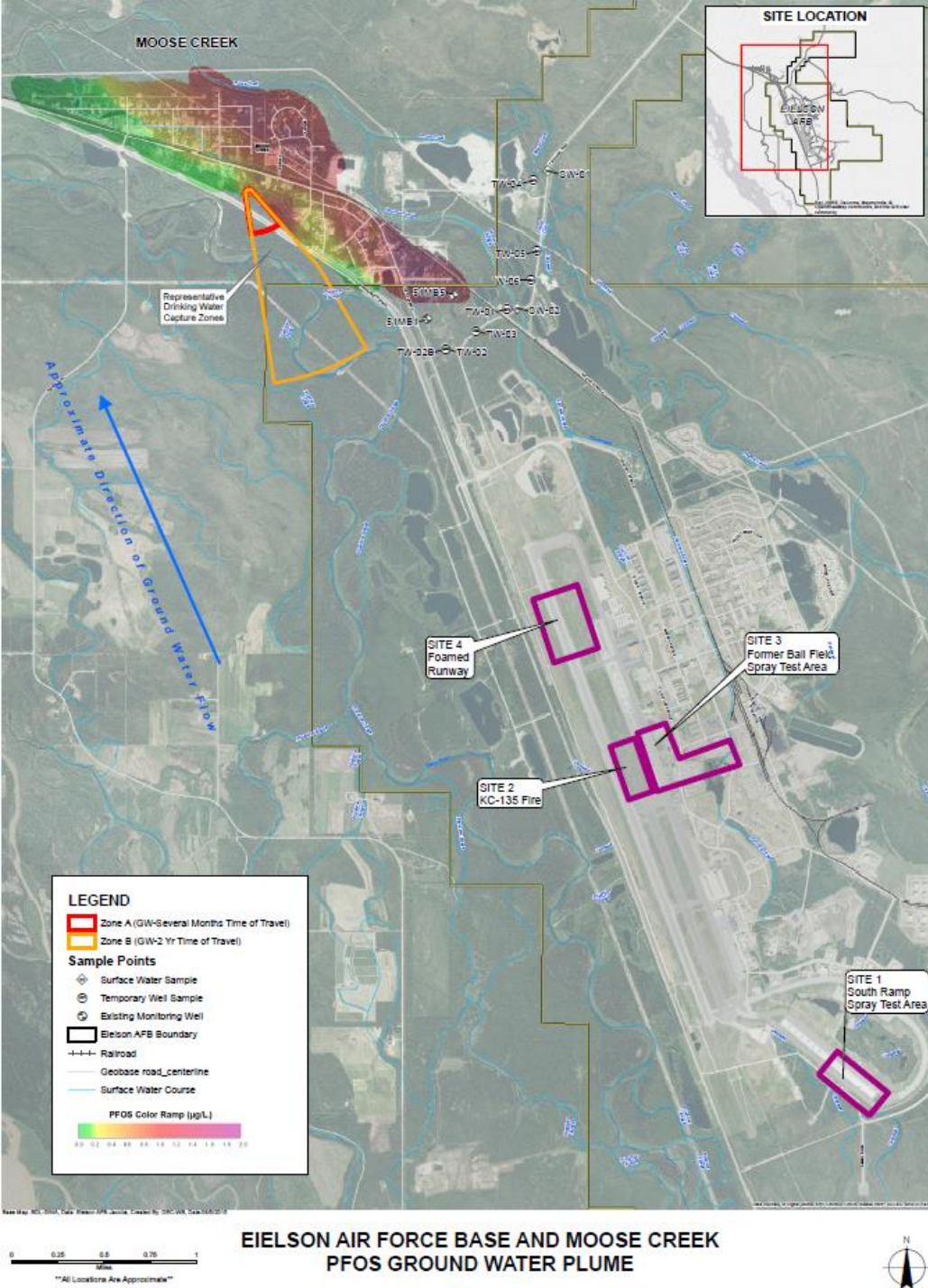
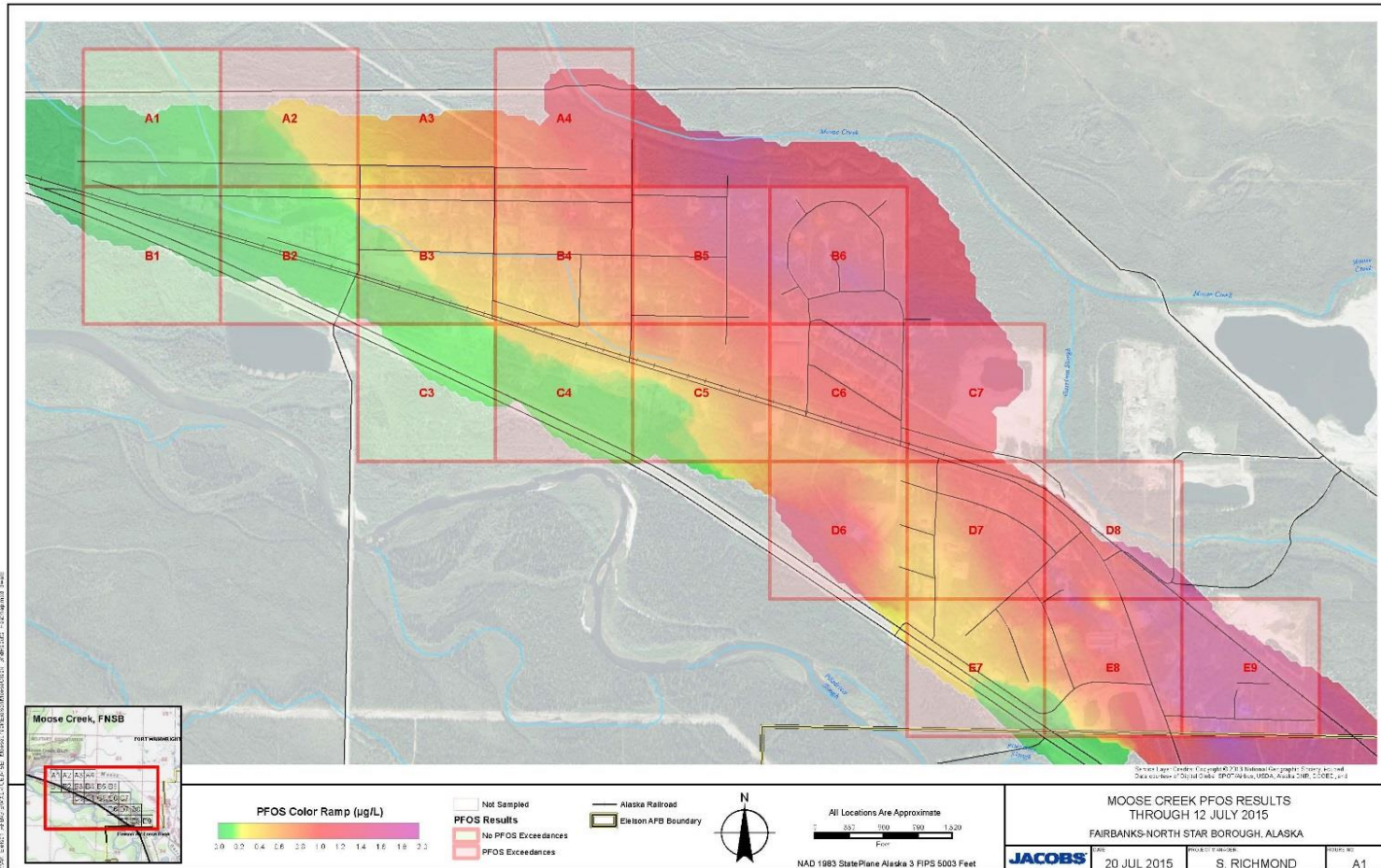


Eielson Air Force Base PFOS Plume

- Perfluorooctane sulfonate (PFOS), a component of fire-fighting foams
- Delineation is incomplete
- 4 **known source areas** (limited sampling in 2014)
- 12 other potential source areas to be investigated
- Known contamination extends more than 6 miles
- Contamination extends to at least 100 feet in depth
- Highest concentration in groundwater is 2,000 $\mu\text{g/L}$
- Some main water supply wells on EAFB affected
- Over 130 residences in Moose Creek are affected
- Drinking water is being provided to residents



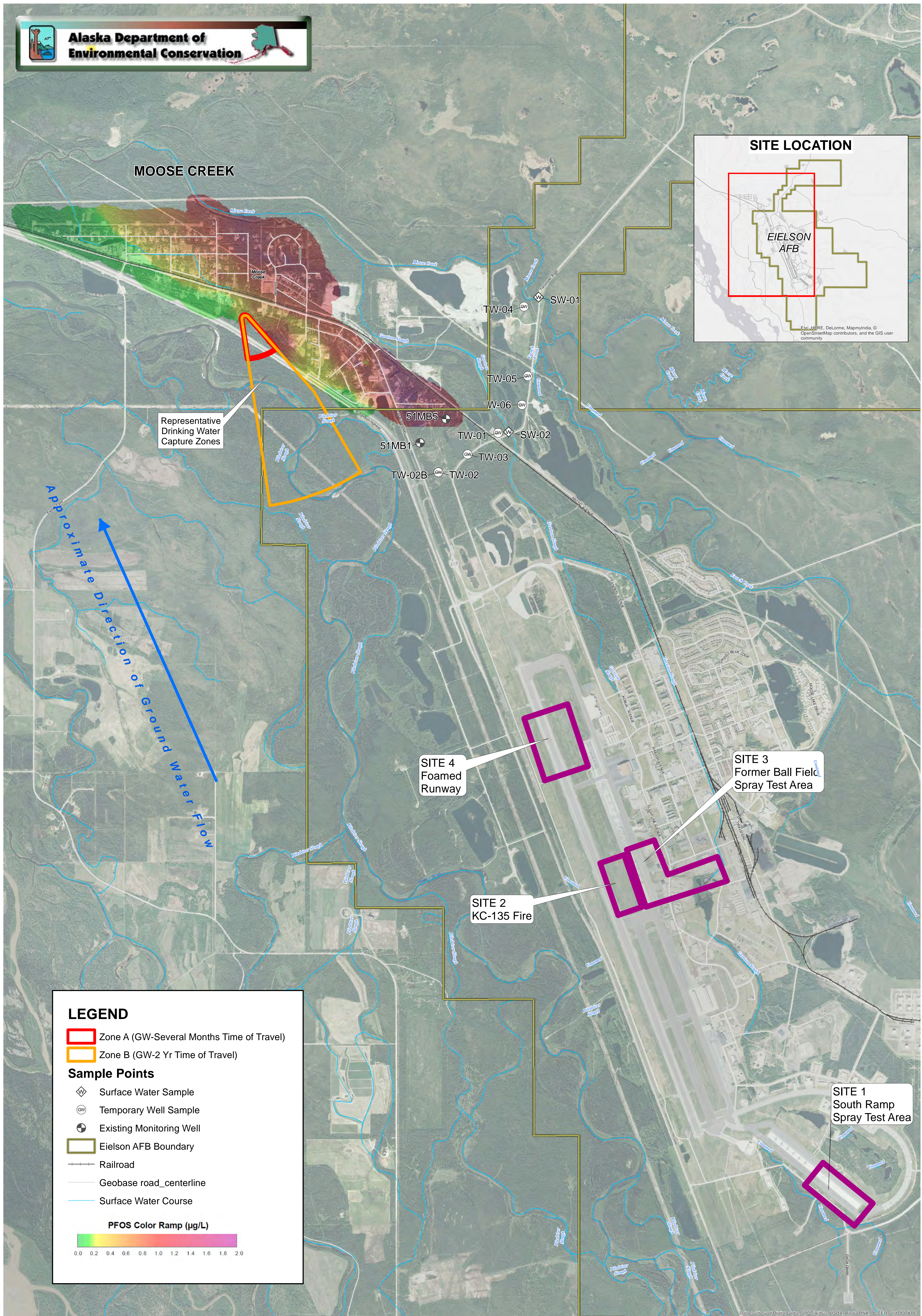
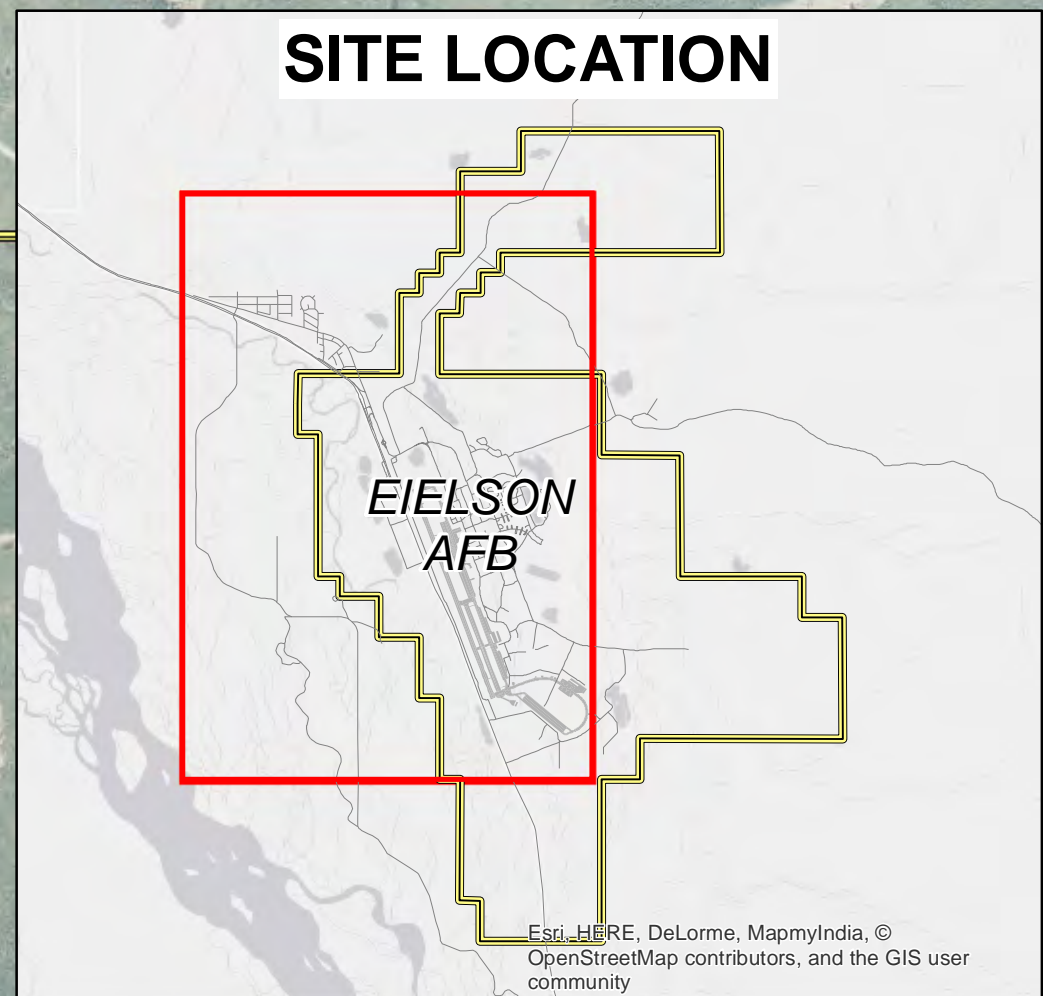
Eielson Air Force Base PFOS Plume



- PFOS: one of many perfluorinated compounds (PFCs)
- PFOS and PFOA no longer manufactured in USA
- Limited toxicity data
- Persistent and bioaccumulative
- No IRIS data
- EPA Public Health Advisory Levels (PHA) for drinking water:
 - PFOS (perfluorooctane sulfonate) 0.2 µg/L
 - PFOA (perfluorooctanoic acid) 0.4 µg/L
- EPA plans to update PHA level soon
- Alaska DEC - no published cleanup level
- Alaska DEC - proposed cleanup level for groundwater: 0.6 µg/L

Timeline:

- Nov. 2012 DEC issues a letter requesting the Air Force sample for PFCs at fire training areas on Eielson.
- July 2014 The Air Force samples four areas at Eielson for PFCs in groundwater, soil, and surface water.
- Jan. 2015 Results indicate widespread PFC contamination, with levels up to 2000 µg/L in groundwater. EPA issues a letter requesting the Air Force sample the base drinking water supply for PFCs.
- Mar. 2015 The Air Force samples base drinking water supply wells, and discovers that several of them have PFOS in excess of the PHA level. The affected wells are removed from service.
- April 2015 Groundwater and surface water along the northern boundary of Eielson are sampled to determine whether contamination is migrating off base. Results indicate PFOS contamination over a broad front, extending to at least 100 feet in depth.
- May 2015 The Air Force develops plans and begins sampling of residential drinking water wells in the community of Moose Creek.
- June 2015 Sampling results from Moose Creek show that all the wells sampled have PFOS, with about 90% exceeding the PHA level. Bottled water is supplied to affected residents. The Air Force holds a well-attended public meeting.
- July 2015 Further sampling brings the count to 118 wells exceeding the PHA level (of 136 sampled). A second public meeting is held, also well-attended.
- Aug. 2015 Continued sampling, and a third public meeting.
- Sept. 2015 Installation of granular activated carbon carbon (GAC) filtration systems at affected homes begins. A total of 133 Moose Creek wells (of 152 tested) are now known to have PFOS above the EPA PHA level.



Representative Drinking Water Capture Zones

Approximate Direction of Ground Water Flow

SITE 4
Foamed Runway

SITE 3
Former Ball Field Spray Test Area

SITE 2
KC-135 Fire

SITE 1
South Ramp Spray Test Area

LEGEND

- Zone A (GW-Several Months Time of Travel)
- Zone B (GW-2 Yr Time of Travel)

Sample Points

- Surface Water Sample
- Temporary Well Sample
- Existing Monitoring Well
- Eielson AFB Boundary
- Railroad
- Geobase road_centerline
- Surface Water Course

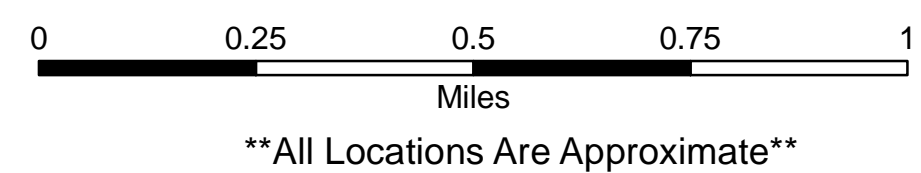
PFOS Color Ramp (µg/L)

0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0

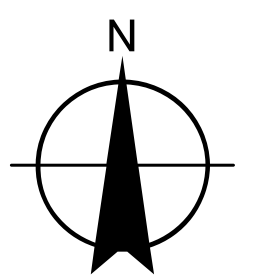
Base Map: BDL-GINA, Data: Eielson AFB-Jacobs, Created By: DEC-WB, Date:08/5/2015

Data courtesy of Digital Globe, SPOT4/HRV, USDA, Alaska DNR, DECED, and DOT&RF

**EIELSON AIR FORCE BASE AND MOOSE CREEK
PFOS GROUND WATER PLUME**



All Locations Are Approximate



DEC Proposed Regulation Changes

All comments must be received by:

5:00 p.m. December 11, 2015.

Proposed Changes to Regulations Dealing with Cleanup Levels for Soil and Groundwater and how they are Calculated for Contaminated Sites

Proposed changes will affect cleanup levels for PFOS and PFOA in soil and groundwater

in soil (<40" zone, human health)	PFOS	3.04 mg/kg
	PFOA	2.03 mg/kg
In soil (migration to groundwater)	PFOS	0.57 mg/kg
	PFOA	0.14 mg/kg
In groundwater	PFOS	0.60 µg/L
	PFOA	0.40 µg/L
Current EPA Provisional Health Advisory Level (drinking water)	PFOS	0.20 µg/L
	PFOA	0.40 µg/L