



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, U.S. ARMY GARRISON, ALASKA
1060 GAFFNEY ROAD #4500
FORT WAINWRIGHT, ALASKA 99703-4500

OCT 14 2008

Directorate of Public Works

Alaska Department of Environmental Conservation
Air Quality Division
Attention: Alice Edwards
410 Willoughby Ave. Suite 303
PO Box 111800
Juneau, AK 99811-1800

Dear Ms. Edwards:

The enclosed document is being provided to the Alaska Department of Environmental Conservation to aid in drafting a response to the Environmental Protection Agency's currently proposed fine particulate matter ("PM-2.5") nonattainment area for the Fairbanks North Star Borough (FNSB), which encompasses Fort Wainwright's cantonment area and two of its training areas: the Yukon Training Area (YTA) and the Tanana Flats Training Area (TFTA). Based on our review of military training activity during two recent high-PM-2.5 episodes in Fairbanks; it is reasonable to conclude that the problem exists in the absence of military training activity at the YTA and TFTA. As such, these training areas should not be included in the final fine particulate nonattainment area boundary for the FNSB.

Please contact Eric Dick, Fort Wainwright Air Quality Program Manager, (907) 361-3006 or eric.michael.dick@us.army.mil, if you desire further information.

Sincerely,

Cliff Seibel
Environmental Division, Chief
US Army Garrison Fort Wainwright

Date: 14 October 2008

Subject: Military activity on the Tanana Flats and Yukon Training Areas

POC: Eric Dick (Air Quality Program Manager, US Army Garrison Fort Wainwright)

Introduction and Purpose

The US Army Garrison Fort Wainwright is home to two major Army elements: the Aviation Task Force 49 and the 1st Stryker Brigade Combat Team (SBCT), 25th Infantry Division. Fort Wainwright includes Main Post and multiple training areas across Alaska. The fine particulate nonattainment area (NAA) boundary currently proposed by the Environmental Protection Agency (EPA) incorporates two of Fort Wainwright's training areas: the Tanana Flats Training Area (TFTA) and the Yukon Training Area (YTA). The purpose of this write-up is (1) to provide an account of military training area activity during two, recent air quality episodes in Fairbanks and (2) to provide general information regarding training area facility operations.

Review of training area activity for two time periods during winter 2007/2008

In accordance with Army Regulation 350-2, ground and air space activity in the TFTA and YTA are scheduled and monitored by Fort Wainwright Range Control. Range Control conducted a thorough review of activity in the TFTA and YTA for two time periods: 25-27 January 2008 and 3-10 February 2008. These time periods were provided to the military by the state to assess the potential role of training area activity during high PM-2.5 episodes measured in Fairbanks. The result of this review is provided in Table 1, which identifies the affiliation of each group that entered the training area ("UNIT/ORGANIZATION"), their destination ("LOCATION"), and the number of personnel in the group ("# TRAINED") for each time period assessed. A summary of the activity and brief discussion follows:

- No military training exercises occurred within the TFTA during either time period.
- No contractors entered the TFTA during either time period.
- One military training exercise occurred within the YTA during the 25-27 Jan time period.
- Contractors entered the YTA on six separate occasions during the 25-27 Jan time period.
- No military training exercises occurred within the YTA during the 3-10 Feb time period.
- Contractors entered the YTA on seven separate occasions during the 3-10 Feb time period.

Of the fourteen records in Table 1, only one reflects military training, the rest reflect contractors entering the YTA to perform facilities maintenance activities as follows: communication and/or measurement systems (Arctic Slope and USAF 354); to plow snow or conduct routine facility maintenance (Shaw Enterprises); or to visually inspect and survey the area (AK Forestry). Relative to the magnitude of the issue, it is anticipated that the impact of air pollutant emissions from these typical workday events on air quality would be minor as each would involve the operation of 1-2 utility vehicles or trucks.

Fort Wainwright Range Control personnel provided the following details regarding the single training exercise. The event corresponds to gunnery training carried out by the 6-17th Calvary Squadron at the Stewart Creek Impact Area. It primarily involved three Kiowa helicopters (two person crews) engaging ground targets via machine gun fire. While target engagement can occur at relatively low altitudes (200 feet or less), a significant fraction of this exercise would occur at altitudes above the surface-based temperature inversion. The exact duration of this exercise was not determined; however, it was limited to daylight hours, which are minimal in January (and minor compared to duration of the PM-2.5 episode).¹

Background Information regarding the TFTA and the YTA

In general, the TFTA and YTA are not developed for the purposes of conducting large, battalion-level (300+ soldier) training exercises and they are not the Army's primary cold-weather training facilities. These areas can potentially support air and ground maneuver training, live fire or weapons training for smaller elements such as a squad (8+), a platoon (25+), or a company (70+).

The **Tanana Flats Training Area** is located south of the City of Fairbanks and encompasses an area roughly equal to 655,000 acres. It is bordered by rivers to the north, east, and west. The terrain is generally flat and much of the TFTA is wetland.

Military training activities that could potentially generate air pollutants within TFTA include air and ground maneuver training, live fire training, operation and maintenance of range facilities, and vegetation management activity; however, from an Army standpoint, current utilization of the TFTA during the winter is extremely limited. Air maneuver training exercises are currently inhibited due to the lack of any training support facilities for Army aviation units. Ground maneuver training exercises during the winter are inhibited by the lack of any permanent road system. The only wintertime road in the TFTA is an ice road that leads to the Blair Lakes Range Facility, which is located approximately 23 miles south of Fairbanks and operated by the Air Force. Stationary source emissions and Air Force training activity at this range facility are relatively small in magnitude and are being addressed by Eielson Air Force Base.

TFTA facilities and infrastructure were inventoried by Fort Wainwright's Forestry group this year. With the exception of the Blair Lakes Range Facility, the inventory consists of survival cabins, observation towers and communication equipment that typically utilize battery or solar arrays to meet their low power requirements. All together, approximately one dozen small structures permanently reside on this 655,000 acre training area. This area is infrequently used, vast and relatively inaccessible by the public. Four photographs to help illustrate this point are provided as part of this document: *TFTA Photo-1: survival5mile1.jpeg (survival cabin); TFTA Photo-2: blairtower2.jpeg (communication tower); TFTA Photo-3: blairrange6.jpeg (Blair Lakes Range Facility); and TFTA Photo-4: salmonloaf2.jpeg (observation tower).*

¹ It should be pointed out that the level of military training activity can vary considerably from year to year due to large-scale deployments like the current SBCT tour in IRAQ that involves 4000 soldiers and their assets. The SBCT and aviation support units were not deployed during winter 2008. That training area activity was low during these two time periods is a reflection of the intermittent nature of wintertime training within the TFTA and YTA.

The **Yukon Training Area** is located approximately east-southeast of Fairbanks; it is roughly rectangular in shape and spans 247,952 acres. The terrain is characteristic of the Yukon-Tanana Uplands with rolling hills and even topped ridges. Elevations range from approximately 200 to 3000 feet above sea level.

Military training activities that could potentially generate air pollutants within YTA include air and ground maneuver training, live fire training, operation and maintenance of range facilities, and vegetation management activity. Air Force and Army aviation live-fire training exercises are conducted primarily at the Stuart Creek Impact Area. Ground-based training exercises are conducted primarily at four sites; three of these sites support only dismounted training and the fourth site supports live-fire mounted training for up to three Stryker vehicles at one time. Under most robust training conditions, approximately 20 Stryker vehicles could enter the course in groups of three, but the scenario is extremely rare. While the YTA is utilized during the winter, the frequency, magnitude, and duration of training events are significantly reduced compared to the summer as result of the reduced daylight and the increased number of days with poor visibility. With regard to “strong inversion days”, many of the Army’s training sites are located on ridge tops (at elevations that potentially exceed the height of the surface-based inversion, particularly during peak training (daylight) hours when the inversion would be weaker).

YTA facilities and infrastructure were inventoried by Fort Wainwright’s Forestry group this year. Both Army and Air Force own and operate facilities within the YTA. As Eielson Air Force Base pointed out in their 2 October 2008 comments to the EPA, these facilities typically draw small operational loads and are not permanently staffed. Emission units associated with these training facilities are few and insignificant from a regulatory standpoint (emission rate basis). Most facilities are tied into the area’s electric distribution system for heat and power. The most commonly used training facilities consist of several buildings used as a range operations center, after-action review, ammunition breakdown, and latrines. The following photos are provided to illustrate the various facility-types referenced above: *YTA Photo-1: DMPTR2.jpeg (Army training site); YTA Photo-2: ISBC2.jpeg (Army training site); YTA Photo-3: BravoBatShaw1.jpeg (Shaw’s maintenance shed); YTA Photo-4: AF_firepoint83 (AF structure); YTA Photo-5: AF_laternvillage2.jpeg (AF structure); and YTA Photo-6: Manchu.jpeg (Army training site).*

TABLE 1: YUKON AND TANANA FLATS TRAINING AREAS ACTIVITY*

<i>25-27 JANUARY 2008</i>		
UNIT/ORGANIZATION	LOCATION	# TRAINED
6/17 CAV	STUART CRK IMP	6
AK Forestry (Contractor, Army)	YTA-2	1
Shaw Enterprises (Contractor, Army)	B BTRY	5
Arctic Slope (Contractor, Air Force)	NOVEMBER THREAT SITE	1
Arctic Slope (Contractor, Air Force)	OSCAR THREAT SITE	2
Arctic Slope (Contractor, Air Force)	SIERRA THREAT SITE	1
Arctic Slope (Contractor, Air Force)	UNIFORM THREAT SITE	1

<i>3-10 FEBRUARY 2008</i>		
UNIT/ORGANIZATION	LOCATION	# TRAINED
Shaw Enterprises (Contractor, Army)	B BTRY	6
Shaw Enterprises (Contractor, Army)	CHARLIE BTRY	3
AK Forestry (Contractor, Army)	MANCHU RNG	3
Arctic Slope (Contractor, Air Force)	ALPHA THREAT SITE	2
Arctic Slope (Contractor, Air Force)	OSCAR THREAT SITE	4
Arctic Slope (Contractor, Air Force)	POLE HILL	1
USAF 354 (Contractor, Air Force)	AFTAC	5

*These data were derived via the Range Facility Management Support System.



Photo- 1



Photo- 2



Photo- 3



Photo- 4



Photo- 5



Photo- 6



Photo-7



Photo- 8



Photo- 9



Photo- 10