

# Revised Final Preliminary Assessment Report for Perfluorinated Compounds at Peterson Air Force Base El Paso County, Colorado

November 2016



Air Force Civil Engineer Center 3515 General McMullen Suite 155 San Antonio, Texas 78226-2018

Submitted by:

U.S. Army Corps of Engineers Omaha District 1616 Capitol Avenue Omaha, Nebraska 68102-4901

Prepared by:

Aerostar SES LLC 1006 Floyd Culler Court Oak Ridge, Tennessee 37830-8022 under Contract No. W9128F-15-D-0051 Delivery Order No. 0003



# Revised Final Preliminary Assessment Report for Perfluorinated Compounds at Peterson Air Force Base El Paso County, Colorado

# November 2016

Submitted to: Air Force Civil Engineer Center 3515 General McMullen Suite 155 San Antonio, Texas 78226-2018

Submitted by: U.S. Army Corps of Engineers Omaha District 1616 Capitol Avenue Omaha, Nebraska 68102-4901

Prepared by:
Aerostar SES LLC
1006 Floyd Culler Court
Oak Ridge, Tennessee 37830
under
Contract No. W9128F-15-D-0051
Delivery Order No. 0003

# **Table of Contents**

Acronyms and Ahhrey	viations	Page
•	N	
	D	
	D OBJECTIVES	
	NVIRONMENTAL SETTING	
	NVIRONMENTAL SETTING	
	ologic Setting	
	gic Setting	
, .	ral Receptors	
O	Y ASSESSMENT METHODS	
	ANIZATION	
	G AREAS	
	RE TRAINING AREA	
	ion and Operational History	
	haracteristics	
	and Environmental Hazard Assessment	
	ion and Operational History	
	haracteristics	
	and Environmental Hazard Assessment	
	······································	
	ion and Operational History	
-	haracteristics	
2.3.3 Pathway	and Environmental Hazard Assessment	14
	INING AREAS	
3.1 HANGARS		19
3.1.1 Hangar	119	19
3.1.2 Hangar	121	20
0	133	
	140	
0	210	
0	214	
	NS	
	218 Fire Station #1	
	2032 Fire Station #2	
	RESPONSE	
	S AND RELEASES	
	n Pond #3	
3.4.2 Golf Cou	urse and Former Leach Field	30
	D CONCLUSIONS	
	,	
	ining Areas	
	e Training Areas	
	IS	
5. REFERENCES.		49

# **List of Figures**

Appendix A – Peterson Air Force Base Communication Logs

Appendix B – Peterson Air Force Base Photo Record Log and Field Photographs

Appendix C – Peterson Air Force Base Preliminary Assessment Forms

Appendix D – Aerostar SES LLC March 2016 Site Visit Notes

# **Acronyms and Abbreviations**

AOC area of concern ASL Aerostar SES LLC

AFFF aqueous film forming foam

AFB Air Force Base

bgs below ground surface

CDPHE Colorado Department of Public Health and Environment

CDWR Colorado Department of Water Resources

CERCLA Comprehensive Environmental Response, Compensation, and Liability Act of 1980

COS Colorado Springs Airport CSU Colorado Springs Utilities

EPA United States Environmental Protection Agency

FTA fire training area

HEIR Hangar Evaluation Installation Report

HI-EX high expansion foam

IRP Installation Restoration Program
NWIS National Water Information System

**OWS** oil water separator PA preliminary assessment Peterson Air Force Base **PAFB PFC** perfluorinated compound **PFCA** perfluorocarboxylic acid perfluorooctanoic acid **PFOA** perfluorooctane sulfonate **PFOS** perfluorosulfonate **PFSA** 

PWS public water supply
RI remedial investigation
RIV Rapid Intervention Vehicle
TPH total petroleum hydrocarbons

USACE United States Army Corps of Engineers

USAF United States Air Force

USGS United States Geological Survey
UST underground storage tank
VOC volatile organic compound

WWSD Widefield Water and Sanitation District

#### 1. INTRODUCTION

Aerostar SES LLC (ASL) has been contracted by the U.S. Army Corps of Engineers (USACE) Omaha District (Contract No. W9128F-15-D0051, Delivery Order No. 0003) to perform preliminary assessment (PA) activities at Peterson Air Force Base (PAFB), a United States Air Force (USAF) installation, to determine locations of potential environmental release of perfluorinated compounds (PFCs). Specifically, the ASL team is completing PA activities consistent with the United States Environmental Protection Agency (EPA) guidance for preparing PAs under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (EPA, September 1991) to determine potential release locations of PFCs from fire training areas (FTAs) and other known or suspected PFC or aqueous film forming foam (AFFF) usage or storage areas.

ASL completed the PA activities at PAFB on March 23 and 24, 2016, in accordance with CERCLA and the Superfund Amendments and Reauthorization Act of 1986 PA processes. Initially opened as Colorado Springs Municipal Airport in 1926, PAFB officially opened as Colorado Springs Army Air Base in 1942. The facility was named Peterson Army Air Base in December 1942 and has been the home of various training and operational units through several base closures, reactivations, and name changes. Named Peterson Air Force Base in 1976, PAFB is home to the 21<sup>st</sup> Space Wing, which provides missile warning and space control to the North American Aerospace Defense Command and U.S. Strategic Command through a network of ground- and space-based sensors. (Global Security, 2016, and USAF, 2016).

#### 1.1 BACKGROUND

PFCs are a large group of manmade chemicals that have been used in industry and consumer products worldwide since the 1950s. Products such as waterproof clothing, molded plastics, receipt paper, carpet stain preventers, Teflon cookware, and fast food wrappers are all examples of general industry products that may contain PFCs. In the United States, making and using these chemicals in consumer products has decreased during the past 10 years. The largest manufacturer of PFCs voluntarily stopped producing it in 2002. Studies have been conducted on how PFCs affect animals' health, but scientists are still trying to understand how exposure to PFCs affects human health. PFCs are resistant to heat, oil, grease, and water (Centers for Disease Control and Prevention [CDC], September 2015).

The two best known groups of this family of chemicals are the perfluorocarboxylic acids (PFCAs), which include perfluorocatanoic acid (PFOA, sometimes called C8), and the perfluorosulfonates (PFSAs), which include perfluorocatane sulfonate (PFOS). PFCAs and PFSAs do not break down easily in the environment. They also bioaccumulate, or build up, in the blood and organs of exposed humans and animals and remain there for extended periods of time (CDC, September 2015).

Other countries still produce PFCs, and they can be imported into the United States in limited quantities. In 2006, EPA and major companies in the PFC industry launched the 2010/2015 PFOA Stewardship Program. Companies participating in the program have been working to stop producing PFCs and related chemicals by 2015 (CDC, September 2015).

PFCs are used in the formulation of AFFF, which the USAF has used in fire training exercises, suppressing aircraft and other vehicle fires, and in aircraft hangar fire suppression systems. Although PFCs are not regulated under CERCLA or the Resource Conservation and Recovery Act, there is evidence that PFOS and PFOA, which can be found in the environment following an AFFF release, may present potential, noncarcinogenic risks to human health and the environment (Chang et al., 2014; Porter, March 2011; Rak et al., March 2009).

M2027.0003 10/7/16

Several federal government documents confirm the initial use of AFFF by the USAF beginning in 1970:

- Military specification for AFFF (MIL-F-24385), formally issued in 1969;
- General Accounting Office determination on sole source award protest to provide AFFF to the Navy in December 1969; and
- A History of Fire Protection Training at Chanute AFB, 1964-1976 (Coates, February 1977).

Based on USAF performance testing results on AFFF, M.G. Goddard, the USAF director of civil engineering, issued authorization for the USAF to procure AFFF in 1970 (Coates, February 1977). No usage of AFFF by the Air Force could have occurred prior to 1970.

#### 1.2 PURPOSE AND OBJECTIVES

The purpose and objective of this PA report is to identify locations at PAFB where AFFF may have been used resulting in a potential release of PFCs to the environment and to conduct an initial assessment of possible migration pathways and receptors of potential contamination.

This PA report documents the known FTAs as well as additional locations (non-FTAs) where AFFF has been used at PAFB. Table 1-1 provides a list of FTAs and non-FTAs at PAFB where AFFF has been stored, transferred, or used. There have been no emergency response events that used AFFF on PAFB. Locations that are considered non-FTAs include, but are not limited to, hangars, fire stations, emergency response, and any other location where the potential exists for AFFF to have been released into the environment. This PA report also differentiates locations that pose little or no potential threat to human health and the environment from locations that warrant further investigation. Figure 1-1 shows the location of PAFB and Figure 1-2 shows the location of all FTAs and non-FTA sites identified for potential AFFF releases.

Table 1-1 Fire Training Areas and Non-Fire Training Areas Identified for Potential Aqueous Film Forming Foam Releases for Peterson Air Force Base, Colorado

Fire Training Areas
Current Fire Training Area
Site 5
Site 8
Non-Fire Training Areas
Hangars
Hangar 119
Hangar 121
Hangar 133
Hangar 140
Hangar 210
Hangar 214
Fire Stations
Building 218 Fire Station #1
Building 2032 Fire Station #2
Emergency Response
None

# Table 1-1 Fire Training Areas and Non-Fire Training Areas Identified for Potential Aqueous Film Forming Foam Releases for Peterson Air Force Base, Colorado (continued)

Other Spills and Releases	
Detention Pond #3	
Golf Course and Former Leach Field	

#### 1.3 BASEWIDE ENVIRONMENTAL SETTING

# 1.3.1 Geology

PAFB is in El Paso County, Colorado. Cities and towns immediately adjacent to PAFB are Cimarron Hills to the north, Colorado Springs to the west, and Fountain and Security-Widefield to the south. PAFB is in the Colorado Piedmont Section of the Great Plains Physiographic Province, an area dominated by gently to strongly rolling high plains. The general ground surface slopes to the southwest with elevations in the area ranging from 6,000 to 6,300 feet above mean sea level (USAF, September 1989).

PAFB is on a thick layer of alluvial sediment overlying bedrock. Three bedrock units are directly beneath PAFB: Pierre Shale, Fox Hills Sandstone, and the Laramie formation. Surficial deposits at the site consist of unconsolidated alluvium comprising three alluvial units, the Broadway Alluvium, Piney Creek Alluvium, and a windblown sand unit (eolian sand). These alluvial layers are characterized by varying amounts of poorly sorted gravel, well-stratified clays, silt, and sand lenses up to 20 feet thick. Most of the facility is covered by the Broadway Alluvium, which consists of poorly sorted, yellowish brown, pebbly, highly permeable, granitic gravel. This unit can be up to 20 feet thick. The more recent Piney Creek Alluvium occurs only along the East Fork Sand Creek and in its floodplain, which crosses the northwest corner of the base. The sediment of the Piney Creek formation is humic rich, firmly compacted, and can be up to 20 feet thick; it is distinguishable from the Broadway Alluvium by its greater silt and clay content and an associated low to moderate permeability. The eolian sand unit consists of a poorly sorted, fine to coarse-grained sand that varies widely in depth. The underlying bedrock units are primarily composed of sandstone, siltstone, and shale (USAF, 1989).

# 1.3.2 Hydrogeologic Setting

The Denver Basin aquifer system supplies water to rural and suburban residents of the plains area along the eastern front of the Rocky Mountains in northeastern Colorado. The aquifer system consists of four aquifers in five geologic formations. The geologic formations that compose the Denver Basin aquifer system are Cretaceous and Tertiary sandstone, conglomerate, and shale of the Fox Hills Sandstone, Laramie Formation, Arapahoe Formation, Denver Formation, and Dawson Arkose Formation. The Dawson Arkose Formation is the only formation not present as far south as PAFB.

These formations are separated from the deeper and less permeable Paleozoic and other Mesozoic rocks in the area by an approximately 6,000-foot-thick layer of nearly impermeable Cretaceous shale, predominantly the Pierre Shale. The five formations form a layered sequence of rock in an elongated, asymmetrical structural depression. The structure of the formations is asymmetrical because rocks near the western edge of the basin dip more steeply than rocks near the eastern edge of the basin. The differences in dip and the overall shape of the basin are the result of the uplift of the Rocky Mountains, which followed deposition of most of the Cretaceous formations in the Denver Basin. The aquifer system underlies an area of about 7,000 square miles that extends from Greeley south to near Colorado Springs and from the Front Range east to near Limon.

3

The Denver Basin aquifer system is not well connected to other major aquifers in the area. The surficial aquifer along the South Platte River Valley is the only other major aquifer near the Denver Basin. The surficial aquifer directly overlies the Denver Basin aquifer system only along the valley of the South Platte River from Denver to just east of Greeley, Colo. From east of Greeley, the alluvium along the South Platte River is in an ancestral valley eroded into Pierre Shale and, thus, is hydraulically isolated from the Denver Basin aquifer system.

Shallow, discontinuous surficial aquifers overlie parts of the Denver Basin aquifer system, primarily along small streams that extend south from the South Platte River. The surficial aquifers generally are thicker and more extensive in the northern half of the Denver Basin, where they supply water for irrigation, stock, and domestic use. The surficial aquifers are not important sources of water in most other areas of the basin.

Some permeable sandstones in the thick series of rock below the Pierre Shale receive recharge from outcrops along the western margin of the basin. Some of these sandstones extend into Nebraska and Kansas, where they are shallower and are important aquifers. In Colorado, however, these sandstones generally are deeply buried, can contain poor-quality water, and are little utilized as sources of water.

The Denver Formation contains the Denver aquifer, which extends through an area of about 3,000 square miles and underlies Denver, Colorado. The Denver Formation is a 600- to 1,100-foot thick sequence of moderately consolidated, interbedded shale, claystone, siltstone, and sandstone, in which coal and fossilized plant remains are common. Water-yielding layers of sandstone and siltstone occur in poorly defined irregular beds that are dispersed within relatively thick sequences of claystone and shale. Individual sandstone and siltstone layers commonly are lens-shaped and range in thickness from a few inches to as much as 50 feet. Although the Denver aquifer yields usable quantities of water to wells, claystone and shale are prevalent in this unit and tend to form a leaky confining layer between the overlying Dawson aquifer and the underlying Arapahoe aquifer.

The Arapahoe Formation consists of a 400- to 700-foot thick sequence of interbedded conglomerate, sandstone, siltstone, and shale. It contains the Arapahoe aquifer, which extends over an area of about 4,300 square miles or about two-thirds the area of the Denver Basin aquifer system. The top of the Arapahoe aquifer is defined by the base of shale beds in the lower part of the overlying Denver Formation; the base of the Arapahoe aquifer is defined by the top of the shale, coal seams, and thin beds of sandstone and siltstone in the upper part of the underlying Laramie Formation. The upper part of the Laramie Formation forms a nearly impermeable confining layer 300 to 400 feet thick and impedes water movement between the Arapahoe aquifer and the underlying Laramie-Fox Hills aquifer.

In some areas the Arapahoe aquifer can be divided into an upper, somewhat shalier part and a lower, somewhat sandier part. Individual conglomerate and sandstone beds in the aquifer commonly are lens-shaped, moderately consolidated, and range in thickness from a few inches to 30 or 40 feet. The beds are so closely spaced that they form a single hydrologic unit that is 200 to 300 feet thick in some areas.

The Fox Hills Sandstone and sandstones in the lower part of the Laramie Formation form the Laramie-Fox Hills aquifer. The Laramie-Fox Hills aquifer underlies all of the approximately 7,000-square-mile Denver Basin. The aquifer is underlain by the nearly impermeable Pierre Shale, which forms the base of the aquifer system. The thickness of the Laramie-Fox Hills aquifer ranges from 0 to about 300 feet.

The Laramie-Fox Hills aquifer generally consists of beds of fine- to very fine-grained sandstone or siltstone interbedded with shale. Deeply buried beds of sandstone and siltstone generally are friable and light to medium gray. In outcrops, sandstone and siltstone range from friable to very hard, depending on the presence of iron mineralization (Robson and Banta, 1995).

M2027.0003 10/7/16

In the area of PAFB, municipal and irrigation water wells are screened in three of the four aquifer systems: the alluvial aquifer, the Arapahoe aquifer and the Laramie-Fox Hills aquifer. Colorado Springs and PAFB are at the far south western edge of the Denver aquifer basin, allowing the local municipalities to screen their water supply wells in multiple aquifers at relatively shallow depths with ease (Robson, 1989).

The alluvial aquifer is commonly referred to as the Widefield aquifer or the Windmill Gulch aquifer depending on which region is being described. The alluvial aquifer is generally shallow sand and gravel deposits that contain loose unlayered silt, clay sand, and gravel deposited by running water in and around rivers. The alluvial aquifer ranges in thickness from 0 to 100 feet. The deepest portions of the Widefield aquifer occur below Security-Widefield in a former stream channel formed by Fountain Creek. (Edelmann, 1985, WWSD, 2016).

# 1.3.3 Hydrologic Setting

# 1.3.3.1 Fountain Creek Drainage Basin

PAFB is in the Fountain Creek Drainage Basin, which helps comprise the Arkansas River drainage basin. Monument Creek and Fountain Creek drain the majority of the Fountain Creek basin. Fountain Creek is a perennial stream that originates 7 miles northwest of Pikes Peak and flows southeast through the city of Colorado Springs. Monument Creek merges with Fountain Creek near downtown Colorado Springs. Intermittent tributaries to Fountain Creek that are on or near PAFB include Sand Creek, East Fork Sand Creek, and Jimmy Camp Creek. These creeks provide local surface drainage for PAFB and its surrounding areas (USAF, September 1989).

#### 1.3.3.2 East Fork Sand Creek

East Fork Sand Creek crosses the boundaries of PAFB in the northwest corner of the base. East Fork Sand Creek is the largest stream at PAFB, and all drainage from the northwest corner of the facility flows into this creek. Some portions of the airfield also drain into East Fork Sand Creek through unnamed intermittent tributaries. Drainage from the remainder of the unindustrialized portions of the facility flows through surface ditches on base to the golf course ponds, where it is used for irrigation. Surface water drainage from the industrialized portions of the facility is routed through the storm water management system to Pond #3, where it is used for irrigation. Water used for industrial applications is routed to a 146,000-gallon underground storage tank (UST) and an oil water separator (OWS) near Hangar 210. Effluent from this OWS is discharged into the sanitary sewer system; the sanitary sewer is then routed across the Colorado Springs Airport (COS) and ultimately connects to the City of Colorado Springs sanitary sewer system.

#### 1.3.4 Ecological Receptors

Ecological receptors include living organisms other than humans, the habitat that supports such organisms, or natural resources that could be adversely affected by environmental contaminants from a release or migration from an identified location.

The primary surface water features at PAFB are the East Fork Sand Creek and unnamed intermittent drainage channels that flow to it. These in turn drain to the Fountain Creek Drainage basin. These tributaries are considered primary ecological receptors for PAFB, including associated plant and animal species.

M2027.0003 10/7/16

No nature preserves are along the route that the East Fork Sand Creek and its tributaries take to the Fountain Creek Drainage Basin. Table 1-2 lists endangered species that have the potential to exist within the boundaries of PAFB.

In addition to the listed species, multiple wetlands exist within PAFB and the surrounding area. Two state-designated wetlands are within the boundaries of the golf course. Detention Pond #3 and its unlined overflow pond are also designated as state wetlands (EDR, May 2016a).

#### 1.4 PRELIMINARY ASSESSMENT METHODS

The performance of this PA included

- reviewing information and reports in the Air Force Administrative Record;
- reviewing documents related to USAF's use of AFFF;
- conducting a PA site visit to PAFB;
- conducting interviews with base environmental management personnel, the PAFB Fire Department's current and former personnel, and aircraft hangar maintenance and operations personnel;
- visiting and photographing locations where AFFF has been used, stored, or transferred between containers; and
- performing environmental data records searches to document nearby populations, water supply well information, and wetlands.

If the operational history of an identified location indicates that AFFF was not used, then no exposure pathway could exist, and the pathway and environmental hazards assessments within the PA will not be applicable.

#### 1.5 REPORT ORGANIZATION

This PA report is organized as follows:

- Section 1, Introduction, provides a project overview, provides a basewide environmental setting, and describes the methods used to conduct the PA;
- Section 2, Fire Training Areas, describes the FTAs identified during the PA visit;
- Section 3, Non-Fire Training Areas, describes the non-FTAs identified during the PA visit;
- Section 4, Summary and Conclusions, summarizes and provides conclusions for FTAs and non-FTAs:
- Section 5, References, provides references consulted during the preparation of this PA report;
- Appendix A, Peterson Air Force Base Communication Logs, provides records of all communications during the PA visit;
- Appendix B, Peterson Air Force Base Photo Record Log and Field Photographs, provides photos taken during the PA visit;
- Appendix C Peterson Air Force Base Preliminary Assessment Forms; and
- Appendix D Aerostar SES LLC March 2016 Site Visit Notes.

**Table 1-2 Endangered Species of Peterson Air Force Base** 

#### **Mammals**

Prebles Meadow Jumping Mouse Spotted Bat Pale Townsends Big Eared Bat Colorado Hog Nosed Skunk Allens Big Eared Bat Southwestern Otter Little Brown Bat

#### Birds

Mexican Spotted Owl
White Faced Ibis
Western Burrowing Owl
Least Tern
Black Tern
Piping Plover
Long Eared Myotis
Long Legged Myotis

### **Amphibians and Reptiles**

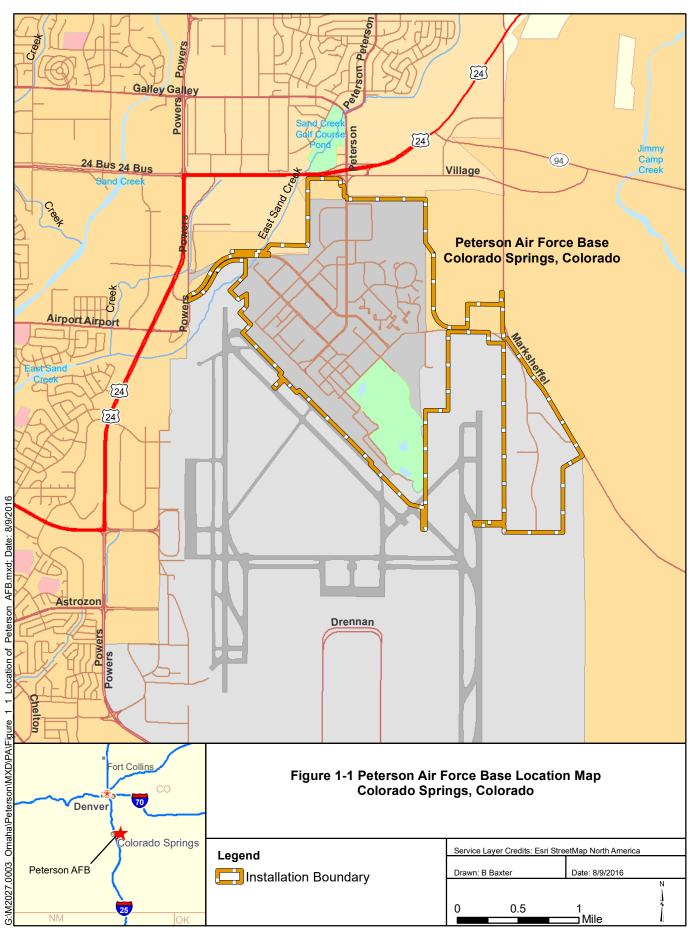
Eastern Horned Lizard Texas Horned Lizard Eastern Short Horned Lizard

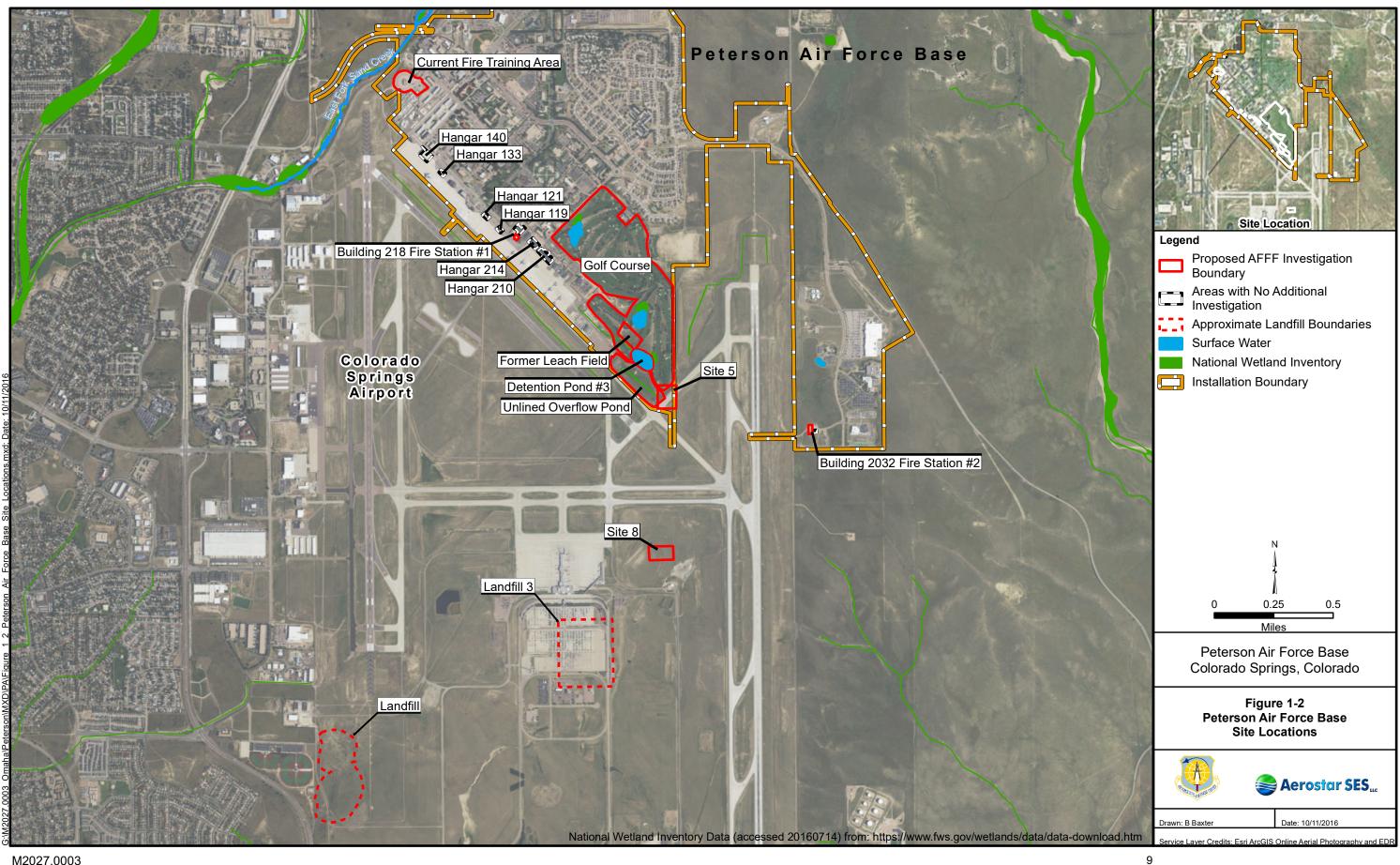
#### **Plants**

**Ute Ladies Tresses** Milk Vetch Slender Spider Flower Tiger Beardtongue Gunnison Mil Vetch Cliff Palace Milk Vetch Mesa Verde Stickleaf Kleins Evening Primrose Park Rock Cress Ripley Milk Vetch Engelmann's Goldenrod Cronquist Milk Vetch Front Range Cinquefoil Sandhill Goosefoot Clay Blazing Star Pale Blue Eyed Grass Kachina Daisy Harrington Beardtongue Brandegee Wild Buckwheat Bell's Twinpod Arkansas River Feverfew

# Adobe desert Parsley **Fish**

Greenback Cutthroat Trout Arkansas River Speckled Chub Flathead Chub Plains Minnow





#### 2. FIRE TRAINING AREAS

#### 2.1 CURRENT FIRE TRAINING AREA

#### 2.1.1 Description and Operational History

The current FTA is in the northern portion of the facility near the intersection of Ent Avenue and Goodfellow Street. The location is bordered by grassy areas associated with the airfield. To the east and southeast are paved developed areas. Figure 2-1 shows the current FTA. The geographic coordinates for this location are 39°49'42.71" N latitude, 104°42'46.49" W longitude.

This is the only currently operating FTA at PAFB. It has a burn pit that that is lined and contains a mock aircraft. The current FTA was designed with a two-liner system that has a water-filled, 2-inch gap between the two liners. This liner system has a monitoring port that is checked monthly to ensure there is no leakage from the liner. There were four groundwater monitoring wells installed in 1997 around the FTA because they thought there was a leak in the liner; after dye testing, they did not find any leaks and have not had any reason to suspect leakage based on the monthly monitoring. The OWS was removed after the FTA was converted to propane. The current FTA has been operational since 1989 and now uses propane as a fuel source. Jeff Bohn, a former assistant fire chief at PAFB, has stated that the current FTA did not become fully operational until 1991/1992. Site 8 (discussed in Section 2.3) remained active until the current FTA was fully operational. The current FTA was originally a hydrocarbon based training area, meaning that flammable fuels were ignited for training fires. In 1999 it was converted to a propane fueled training area. During the time that it was a hydrocarbon pit firefighting foams were used quite often, but because foam made fires hard to relight it was not used for every training evolution. A record of Mr. Bohn's statements can be found in Appendix D.

All current fire training activities use water only. This is generally true for historical training events within the past 17 years at this location. However, during the PA site visit in March 2016, Assistant Fire Chief Craig Powell reported that he only knows of two instances since the beginning of his tenure in 2005 that AFFF has been used at this location. He did state that all dispensed foam was contained within the lined burn pit. A record of this interview can be found in Appendix A.

Water generated from training activities is pumped into an enclosed holding tank on the southern side of the training area. The holding tank previously had an OWS associated with it, but it has been removed. The holding tank is occasionally drained into the sanitary sewer system, but such events are rare. Several empty ANSUL AFFF drums were being stored on site. Mr. Powell stated that these drums were triplerinsed before being moved to this location for storage. The location that these drums were cleaned at is unknown. Currently these drums are used for training purposes.

The FTA was originally constructed with a liner, and all training activities have been conducted within the lined burn pit. Further, all water used at the training area is collected and routed to the enclosed holding tank, which is then drained into the sanitary sewer. No releases of AFFF to the environment could have occurred at this location due to the water management practices.

#### 2.1.2 Waste Characteristics

#### 2.1.3 Pathway and Environmental Hazard Assessment

# 2.1.3.1 Groundwater pathway

This is not applicable.

#### 2.1.3.2 Surface water pathway

This is not applicable.

#### 2.1.3.3 Soil exposure and air pathways

This is not applicable.

#### 2.2 SITE 5

#### 2.2.1 Description and Operational History

Site 5 (FT002) is a former FTA near the end of Runway 31 and the golf course. Site 5 is on what is now Colorado Springs Municipal Airport property. The FTA was active from the 1960s through 1977 and consisted of a shallow unlined burn pit. Originally at the same elevation as the golf course, the area has been filled in some areas to provide for the installation of the new taxiways. The FTA followed standard operating procedures of the time by having a shallow burn pit excavated and burning JP-4, waste oils, and solvents for training fires (Earth Tech, July 2006). Figure 2-2 shows Site 5. The geographic coordinates of the site are 38°48'31.83" N latitude and 104°41'31.17" W longitude.

Site 5 was investigated under the Installation Restoration Program (IRP). According to the *Final Supplemental Site Investigation Report Site* 5 (*FT002*) – *Former Firefighter Training Area* (*FTA-1*) *Peterson Air Force Base, Colorado*, a recommendation of no further action was made and accepted by the Colorado Department of Public Health and Environment (CDPHE) in 2006 because there was no apparent migration of contaminants to groundwater in the area (CDPHE, 2006). Previous investigations at Site 5 did not assess possible PFC contamination.

The Fiscal Year 2008 Environmental Restoration Program Management Action Plan (PAFB, February 2008) indicated that during construction of the PAFB golf course, excavated soil from the former FTA was placed in Landfill 3, situated approximately 1 mile south-southwest of the site. In addition, information provided by CDPHE indicates that material placed in Landfill 3 was subsequently excavated in 1989 during COS expansion and placed in a landfill south of Runway 17R-35L.

#### 2.2.2 Waste Characteristics

AFFF was potentially used during fire training events until 1977, when the FTA was closed. The total volume of AFFF released at this location is unknown.

#### 2.2.3 Pathway and Environmental Hazard Assessment

A complete exposure pathway typically includes

- a source of contamination (an environmental medium contaminated at the source or a release mechanism by which chemicals are released from a source medium and transported),
- an exposure medium by which a receptor comes into contact, and
- a route of intake for the contaminant into the receptor's body at the exposure point.

If any of these elements are missing, the pathway is incomplete. Other release mechanisms resulting in exposure media for receptors may include the uptake of soil contaminants by plants and animals and the emission of soil contaminants into the air in association with dust particles (EPA, December 1989).

Database research (EDR, May 2016b) shows one daycare facility, one school, no hospitals, and four colleges within the potential migration area of 4 miles from any given potential release location of PFCs. No elementary schools and two child development centers are on base. The closest child development center is approximately 0.75 miles hydrologically upgradient (northeast) of the location. The closest elementary school is approximately 2.6 miles cross gradient (west) of the location.

# 2.2.3.1 Groundwater pathway

The basewide geologic and hydrogeologic settings are provided in Section 1. Groundwater use in the area of PAFB is industrial and domestic in nature. Several public and private water wells are within 4 miles of this location, according to the Colorado Division of Water Resources (CDWR) water well locator, EDR database research, and the United States Geological Survey (USGS) National Water Information System (NWIS) (EDR, May 2016a; EDR, May 2016b; and EDR, May 2016c). The human population both on and off base primarily relies on the public water supply (PWS) provided by the Colorado Springs Utilities (CSU), Widefield Water and Sanitation District (WWSD), and the Fountain Water Department. Drinking water for the city of Colorado Springs and the surrounding areas of El Paso County is primarily obtained from mountain springs in Aspen, Leadville, and Breckinridge with supplemental water being provided by local wells screened in the Widefield, Windmill Gulch, Arapahoe, and Laramie-Fox Hills aquifers. The Rampart Reservoir and the Catamount Reservoir are northwest (upgradient) of the area of concern (AOC) and are primarily fed by mountain runoff and previously mentioned springs (Realtyscoop, 2007).

The overburden in the area is approximately 50 feet thick. The presence of groundwater in this area may be attributable to irrigation from the golf course and not East Fork Sand Creek. During the field investigation phase of the 1989 remedial investigation (RI), groundwater was located at approximately 60 feet below ground surface (bgs). It is anticipated that groundwater will be encountered between 60 and 85 feet bgs just above the Pierre Shale. Groundwater flow is to the southwest (USAF, September 1989b). Groundwater was not identified during a follow-on investigation, according to the *Supplemental Investigation Report for Site 5 (FT002) Former Firefighter Training Area (FTA-1)* (Earth Tech, Inc., July 2006). Drilling during the 2006 Supplemental Investigation stopped at 30 feet bgs based on previous investigations showing that contamination for total petroleum hydrocarbons was limited to the upper 10 feet. The soils throughout PAFB are well-drained and consist of loose, yellowish to yellowish dark brown, dry to slightly moist, poorly sorted sands with varying amounts of silt, fine- to coarse-grained sand, and fine gravel (Earth Tech, July 2006).

The population both on and off base within a 4-mile radius of the site relies on drinking water provided by the Pueblo, Rampart, and Catamount Reservoirs and local wells.

# 2.2.3.2 Surface water pathway

Surface drainage originating from the northwest corner of the facility flows into the channel of East Fork Sand Creek, which is the largest surface drainage feature on base. Drainage from the airfield also contributes to East Fork Sand Creek. Drainage from the developed portions of the facility and the portions of the airfield that do not contribute to East Fork Sand Creek flows through surface ditches throughout the facility to the golf course ponds where the water is stored and used for irrigation (USAF, 1989b).

# 2.2.3.3 Soil exposure and air pathways

This former FTA has been inactive since 1977 and is not in use. An airfield taxiway has been built over the original site. The surrounding paved and well-vegetated areas would preclude any fugitive dust emissions and potential exposures. Current land use does not involve any human health exposures, and future land use is likely to remain unchanged. The potential exists for exposure to burrowing animals.

Workers at the site include airfield maintenance personnel. The nearest residential area is approximately 4,000 feet north of the site. Population details of the residential areas within a 4-mile radius are discussed in Section 2.2.3.

No schools or daycare facilities are within a 200-foot radius of the site. The nearest school is Wildflower Elementary School, approximately 2.60 miles northwest of PAFB in a residential area.

#### 2.3 SITE 8

#### 2.3.1 Description and Operational History

Site 8 is a former FTA south of PAFB on the property of Colorado Springs Municipal Airport. The area in and surrounding Site 8 is maintained and well-vegetated. The site is approximately 2,000 feet east of the airport terminal and 1,100 feet south of the nearest taxiway. All structures associated with the FTA have been removed but included a collection pit, an OWS, and associated piping. Water/liquids collected in the pit drained to the OWS and water was ultimately allowed to discharge to the ground surface to a drainage area east of the site. The original size of the pit is unknown and is now filled with soil and covered with grass. The training area was active from 1977 to late 1991 or early 1992 based on information provided by Jeff Bohn, a former assistant fire chief at PAFB. Figure 2-3 shows Site 8. The geographic coordinates of the site are 38°47'58.96" N latitude and 104°41'35.96" W longitude.

The site was initially investigated in 1988 under the IRP, and soil samples were analyzed for chlorinated pesticides, polychlorinated biphenyls, total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), methylene chloride, and lead. One boring was analyzed for metals. No results of significance were found. In 1996 further investigations were conducted with additional surface and subsurface soil samples being collected. The 1996 analytes included VOCs; semivolatile organic compounds; benzene, toluene, ethylbenzene, and xylenes; TPH; and priority pollutant metals. A baseline risk assessment was conducted using the results of these analyses, and it indicated that Site 8 did not pose a significant hazard to human receptors. No groundwater investigations have been conducted at this site (Earth Tech, June 2008).

#### 2.3.2 Waste Characteristics

Ending use in 1989, AFFF was potentially used during fire training events. The total volume of AFFF released at this location is unknown.

# 2.3.3 Pathway and Environmental Hazard Assessment

A complete exposure pathway typically includes

- a source of contamination (an environmental medium contaminated at the source or a release mechanism by which chemicals are released from a source medium and transported),
- an exposure medium by which a receptor comes into contact, and
- a route of intake for the contaminant into the receptor's body at the exposure point.

If any of these elements are missing, the pathway is incomplete. Other release mechanisms resulting in exposure media for receptors may include the uptake of soil contaminants by plants and animals and the emission of soil contaminants into the air in association with dust particles (EPA, December 1989).

Database research (EDR, May 2016b) shows one daycare facility, one school, no hospitals, and four colleges within the potential migration area of 4 miles from any given potential release location of PFCs. No elementary schools and two child development centers are on base. The closest child development center is approximately 1.25 miles hydrologically upgradient (northeast) of the location. The closest elementary school is approximately 2.7 miles crossgradient (northwest) of the location.

# 2.3.3.1 Groundwater pathway

The basewide geologic and hydrogeologic settings are provided in Section 1. Groundwater use in the area of PAFB is both industrial and domestic in nature. Several public and private water wells are within 4 miles of this location, according to the CDWR water well locator, EDR database research, and the USGS NWIS (EDR, May 2016a; EDR, May 2016b; EDR, May 2016c). The human population both on and off base primarily relies on the PWS provided by the CSU, WWSD, and the Fountain Water Department. Drinking water for the city of Colorado Springs and the surrounding areas of El Paso County is primarily obtained from mountain springs in Aspen, Leadville, and Breckinridge, with supplemental water being provided by local wells screened in the Widefield, Windmill Gulch, Arapahoe, and Laramie-Fox Hills aquifers. The Rampart Reservoir and the Catamount Reservoir are both northwest (upgradient) of the AOC and are primarily fed by mountain runoff and previously mentioned springs (Realtyscoop, 2007).

The overburden in the area is approximately 50 feet thick. The presence of groundwater in this area is attributable to irrigation from the golf course and not East Fork Sand Creek. During the field investigation phase of the 1989 RI, groundwater was located at approximately 60 feet bgs. It is anticipated that groundwater will be encountered between 60 and 85 feet bgs just above the Pierre Shale. Groundwater flow is generally to the southwest throughout PAFB (USAF, September 1989). The soils throughout PAFB are well-drained and consist of loose, yellowish to yellowish dark brown, dry to slightly moist, poorly sorted sands with varying amounts of silt, fine to coarse-grained sand, and fine gravel (Earth Tech, 2006).

The population both on and off base within a 4-mile radius of the site relies on drinking water provided by the Pueblo, Rampart, and Catamount Reservoirs and local wells.

# 2.3.3.2 Surface water pathway

Surface drainage originating from the northwest corner of the facility flows into the channel of East Fork Sand Creek, which is the largest surface drainage feature on base. Drainage from the airfield also contributes to East Fork Sand Creek. Drainage from the developed portions of the facility and the portions of the airfield that do not contribute to East Fork Sand Creek flows through surface ditches throughout the facility to the golf course ponds where the water is stored and used for irrigation (USAF, 1989b). Surface water at Site 8 currently appears to drain into surrounding grassed areas where it percolates into the subsurface. Historical drainage paths are uncertain but, based on topographic maps that predated COS expansion, surface water may have drained to a topographically low area to the southeast and ultimately to Jimmy Camp creek. Further evaluation of current and historical surface drainage patterns may be required if it is determined that AFFF use has impacted Site 8.

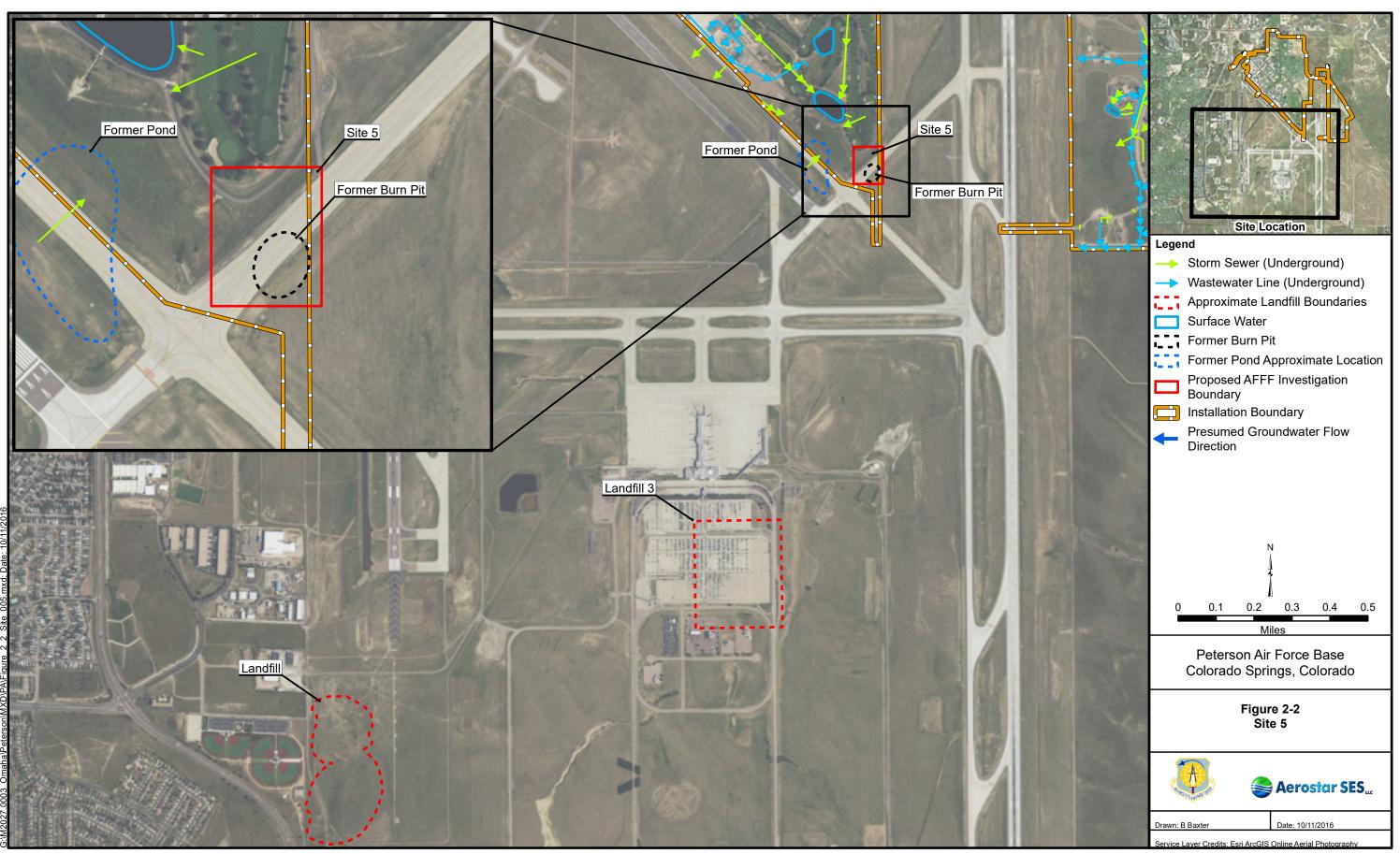
#### 2.3.3.3 Soil exposure and air pathways

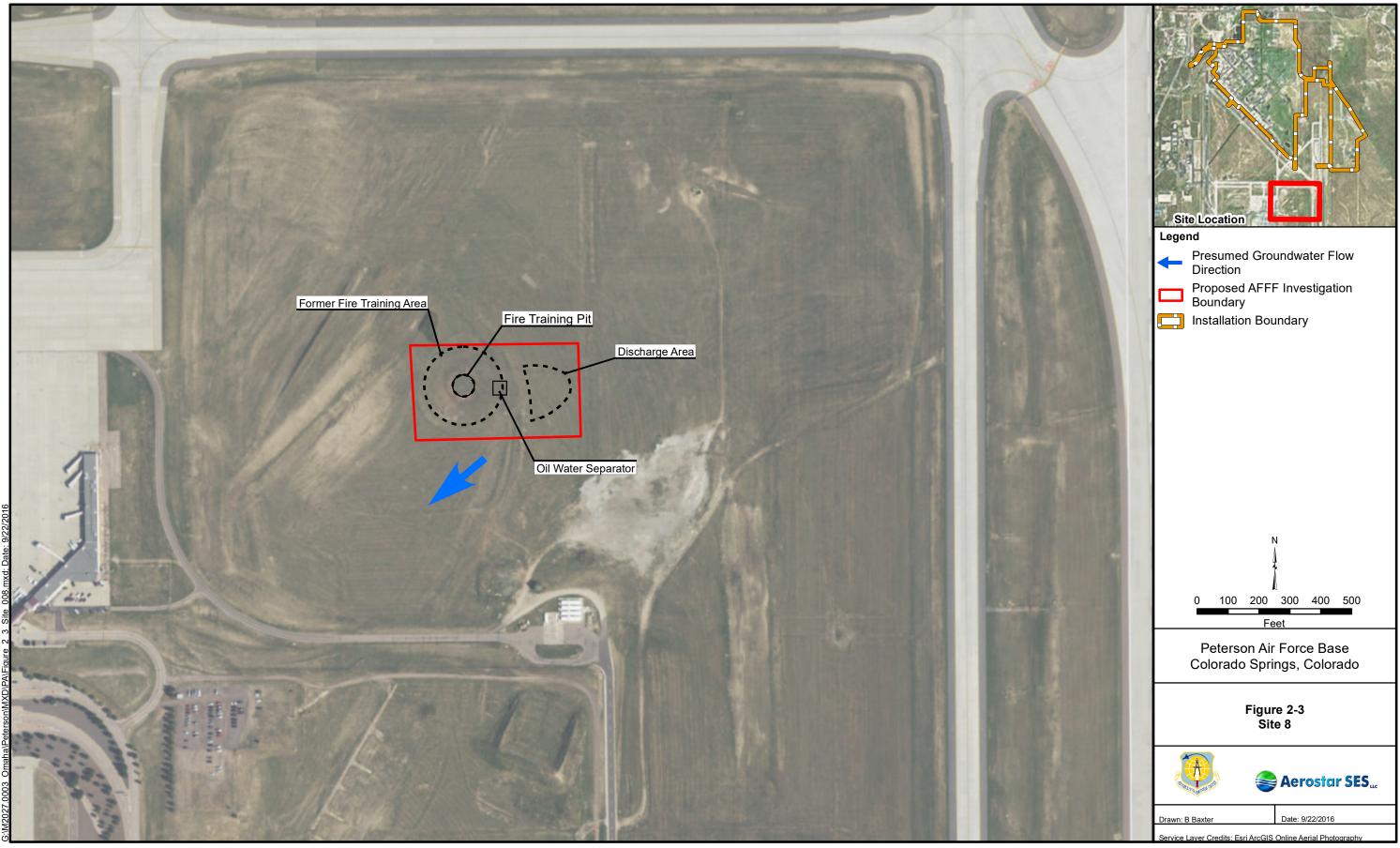
The site is a former FTA that has been inactive since 1989. The surrounding areas are well-vegetated precluding any fugitive dust emissions and potential exposures. Current land use does not involve any human health exposures, and future land use is likely to remain unchanged. The potential exists for exposure to burrowing animals.

Workers at the site include airfield maintenance personnel. The nearest residential area is approximately 1.4 miles north of the site. Population details of the residential areas within a 4-mile radius are discussed in Section 2.3.3.

No schools or daycare facilities are within a 200-foot radius of the site. The nearest school is Wildflower Elementary School, approximately 2.70 miles northwest of PAFB in a residential area.







#### 3. NON-FIRE TRAINING AREAS

#### 3.1 HANGARS

#### 3.1.1 Hangar 119

Typically, hangars have fixed foam suppression systems that are either deluge (water), AFFF, or highexpansion foam (HI-EX). ASL interviewed Assistant Fire Chiefs Burke Ferrin and Craig Powell for the types of systems that have been used historically and currently at each hangar. In addition, John Heimer, who works for base maintenance and tests the fire suppression systems, was interviewed. Base maintenance is responsible for all operational testing at PAFB. During more recent fire suppression testing, containment booms are placed around the inside perimeter of the hangar floor and water used to wash the foam into hangar floor drains to ensure that foam is not released to the environment. Hangar floors are sloped toward floor drains within the areas where testing is conducted. Floor drains were installed when the hangars were originally constructed; they are in good condition and have been maintained. Although containment booms were not used during historical testing, most AFFF released would be washed into floor drains. Any foam that exited the hangar door evaporated on the apron and any residual AFFF would ultimately enter the storm water system and discharge to Pond #3 (or the original pond replaced by Pond #3, shown on Figure 3-10). Photos of containment booms used during testing activities can be found in Appendix B. The booms in the photos are not positioned as they would be during testing activities. Fire suppression systems in hangars at PAFB are either charged with AFFF, HI-EX, or water. All hangars ASL visited had a fire suppression system of some type. At this time, PAFB has five hangars equipped with foam fire suppression systems; four are AFFF systems, and one is HI-EX but was formerly water only. A sixth hangar, Hangar 119, previously had an AFFF system installed that has been removed. These systems have been tested once every five years since installation. All six hangars investigated have floor drains that connect to a 146,000-gallon UST near Building 210. This storage tank empties into the sanitary sewer system after the liquids pass through an OWS. Surface water on the apron areas outside the hangars flows in varying directions to storm drains connected to the underground storm sewer and ultimately discharges to Pond #3 (PAFB, February 2016).

# 3.1.1.1 Description and operational history

Hangar 119 is an aircraft maintenance hangar on the eastern side of the aircraft apron. It is south of Hangar 121 and can be accessed from Hamilton Avenue. Figure 3-1 shows Hangar 119. The geographic coordinates of the site are 39°49'09.74" N latitude and 104°42'19.34" W longitude.

Hangar 119 formerly had an AFFF system, but it was converted to a wet, or water only, system in 2009-2010. The AFFF pumps and a 300-gallon tank are on site and contain a small volume of residual AFFF. No further information on this building is available. No AFFF releases to the environment could have occurred at this location while the hangar had an active AFFF system because of the manner in which testing activities inside the hangars were conducted and surface runoff was managed on the aircraft apron outside the building.

#### 3.1.1.2 Waste characteristics

#### 3.1.1.3 Pathway and environmental hazard assessment

This is not applicable.

#### 3.1.1.3.1 Groundwater pathway

This is not applicable.

# 3.1.1.3.2 Surface water pathway

This is not applicable.

#### 3.1.1.3.3 Soil exposure and air pathways

This is not applicable.

#### 3.1.2 Hangar 121

#### 3.1.2.1 Description and operational history

Hangar 121 is on the northeast side of the aircraft apron south of Hangar 133. Hangar 121 can be accessed from Hamilton Avenue and is near the intersection with Peterson Boulevard. The fire suppression system at Hangar 121 uses a 500-gallon tank of AFFF that was filled with approximately 450 gallons of AFFF concentrate at the time of the site visit. Figure 3-2 shows Hangar 121. The geographic coordinates of Hangar 121 are 39°49'13.01" N latitude and 104°42'24.00" W longitude.

This building has historically been used for aircraft maintenance. The hangar was constructed in 1942, and the fire suppression system was installed in 1994 (URS, 2016a). Containment booms are placed around the inside perimeter of the hangar floor during fire suppression system tests to ensure that foam is not released to the environment during testing operations. During the site visit, remnants of a previous test were apparent. Containment booms, as mentioned previously by Mr. Heimer, were still present. Though not fully inflated at the time of the visit, it was apparent that testing conducted at PAFB is done in a manner to prevent releases to the environment. After testing activities, foam and AFFF residue are routed to the hangar floor drains, which are connected to the OWS near Hangar 210, and then discharged into the sanitary sewer system. Photographs 43, 48, and 49 in Appendix B show how the containment booms are deployed. There have been no recorded accidental releases at this location; therefore, no releases to the environment could have occurred (URS, 2016a). The fire suppression system dispenses from a series of overhead sprinklers. There are no underwing cannons or other dispensing systems at this facility.

#### 3.1.2.2 Waste characteristics

This is not applicable.

#### 3.1.2.3 Pathway and environmental hazard assessment

#### 3.1.2.3.1 Groundwater pathway

This is not applicable.

#### 3.1.2.3.2 Surface water pathway

This is not applicable.

#### 3.1.2.3.3 Soil exposure and air pathways

This is not applicable.

#### 3.1.3 Hangar 133

#### 3.1.3.1 Description and operational history

Hangar 133 is along Hamilton Avenue near the intersection with Truax Street. Hangar 133 is home to the PAFB Aero Club and has a newly refitted AFFF system that uses an 800-gallon storage tank of AFFF. This hangar is maintained by the USAF. The hangar was constructed in 1941, and the fire suppression system was installed in 1992 and has not had any accidental discharges, so no accidental releases to the environment could have occurred (URS, 2016b). Figure 3-3 shows Hangar 133. The geographic coordinates of Hangar 850 are 38°49'22.47" N latitude and 104°42'36.02" W longitude.

At the time of the PA visit, the AFFF storage tank was filled with approximately 675 gallons. During the PA visit, one 55-gallon drum of Ansulite (AFFF) was found in the mechanical room. The system froze in 2011 or 2012 and released a small amount of AFFF into the mechanical room. The fire suppression system dispenses from a series of overhead sprinklers. Containment booms are placed around the inside perimeter of the hangar floor during fire suppression system tests to ensure that foam is not released to the environment during testing operations. After testing activities, foam and AFFF residue are routed to the hangar floor drains, which are connected to the OWS near Hangar 210, and then discharged into the sanitary sewer system. No underwing cannons or other dispensing systems are at this facility.

#### 3.1.3.2 Waste characteristics

This is not applicable.

#### 3.1.3.3 Pathway and environmental hazard assessment

This is not applicable.

#### 3.1.3.3.1 Groundwater pathway

# 3.1.3.3.2 Surface water pathway

This is not applicable.

#### 3.1.3.3.3 Soil exposure and air pathways

This is not applicable.

#### 3.1.4 Hangar 140

# 3.1.4.1 Description and operational history

Hangar 140 is the northernmost aircraft maintenance facility at PAFB and is near the intersection of Hamilton Avenue and Otis Street. The hangar was constructed in 1953, and the fire suppression system was installed in 2005 (URS, 2016c). The fire suppression system uses HI-EX. Previously, the system relied on water only for fire suppression. HI-EX is a firefighting foam concentrate composed of nonfluorinated polymer and hydrocarbon surfactant-based mixtures. Containment booms are placed around the inside perimeter of the hangar floor during fire suppression system tests to ensure that foam is not released to the environment during testing operations. After testing activities, foam and AFFF residue are routed to the hangar floor drains, which are connected to the OWS near Hangar 210, and then discharged into the sanitary sewer system. The fire suppression system at Hangar 140 has not had any accidental releases, so no releases to the environment could have occurred (URS, 2016c). Figure 3-4 shows Hangar 140. The geographic coordinates of Hangar 140 are 38°49'26.50" N latitude and 104°42'40.44" W longitude.

#### 3.1.4.2 Waste characteristics

This is not applicable.

# 3.1.4.3 Pathway and environmental hazard assessment

This is not applicable.

#### 3.1.4.3.1 Groundwater pathway

This is not applicable.

# 3.1.4.3.2 Surface water pathway

This is not applicable.

#### 3.1.4.3.3 Soil exposure and air pathways

# 3.1.5 Hangar 210

# 3.1.5.1 Description and operational history

Hangar 210 is centrally situated on the eastern side of the aircraft apron south of Hangar 214. Hangar 210 is near the intersection of Duluth Avenue and Malmstrom Street. The hangar was constructed in 1985, and the fire suppression system was installed in 2005 (URS, 2016d). Figure 3-5 shows Hangar 210. The geographic coordinates of Hangar 706 are 39°49'04.17" N latitude and 104°42'07.35" W longitude.

Hangar 210 is a two-bay hangar with two independent AFFF fire suppression systems, one for each hangar bay. Bay 1 is a fuel cell maintenance facility on the south side of the building, and Bay 2 is on the north side and used for aircraft maintenance. Containment booms are placed around the inside perimeter of the hangar floor during fire suppression system tests to ensure that foam is not released to the environment during testing operations. After testing activities, foam and AFFF residue are routed to the hangar floor drains, which are connected to the OWS near Hangar 210, and then discharged into the sanitary sewer system. Each bay has two underwing cannons for foam dispersion.

The hangar has had four instances of false activation. All incidents happened during normal operating hours, and no foam left the hangar. The first incident occurred because hangar personnel were playing basketball and accidentally hit the manual release button. The second incident was caused by water leaking into the control panel and short circuiting a release station. The third and fourth incidents were from water leaking into the release station during aircraft washing operations, short circuiting the system (URS, 2016d).

Mr. Heimer related further detail on the fourth and most recent incident. In late 2014 the system in Bay 2 tripped, releasing AFFF into the hangar. According to Mr. Heimer, a steam cleaner was being used near the manual release switch, again causing a short circuit of the control panel. All of the foam that was released was contained within the hangar. A record of this interview can be found in Appendix A. Because all accidental releases were contained within the hangar, no releases to the environment could have occurred.

#### 3.1.5.2 Waste characteristics

This is not applicable.

#### 3.1.5.3 Pathway and environmental hazard assessment

This is not applicable.

# 3.1.5.3.1 Groundwater pathway

This is not applicable.

# 3.1.5.3.2 Surface water pathway

# 3.1.5.3.3 Soil exposure and air pathways

This is not applicable.

#### 3.1.6 Hangar 214

# 3.1.6.1 Description and operational history

Hangar 214 is centrally situated on the eastern side of the aircraft apron. Hangar 214 is near the intersection of Duluth Avenue and Malmstrom Street. The hangar was constructed in 1987, and the fire suppression system was also installed in 1987 (URS, 2016e). The fire suppression system consists of a 2,000-gallon tank of AFFF and two underwing cannons for dispersion within the hangar. Containment booms are placed around the inside perimeter of the hangar floor during fire suppression system tests to ensure that foam is not released to the environment during testing operations. After testing activities, foam and AFFF residue are routed to the hangar floor drains, which are connected to the OWS near Hangar 210, and then discharged into the sanitary sewer system. Figure 3-6 shows Hangar 214. The geographic coordinates of Hangar 706 are 39°49'08.55" N latitude and 104°42'13.25" W longitude.

There is no overhead dispersion system. At the time of the PA visit, approximately 1,100 gallons of AFFF solution were in the storage tank. The 2016 URS hangar evaluation installation report (HEIR) states that no false activations have occurred at this hangar; however, the interviews conducted by ASL with Mr. Heimer in March 2016 recorded one accidental activation. The system tripped on an unknown date, and a small amount of AFFF leaked out the hangar doors. The area in front of the hangar is paved with concrete in good condition. A drain leading to the main storm sewer trunk is northwest of the hangar, and the concrete is sloped in that direction. This drain then dispenses to Pond #3. Because the area of the release is paved with well-maintained concrete and surface water is routed to the storm sewer truck, no release to the environment could have occurred at this location.

#### 3.1.6.2 Waste characteristics

This is not applicable.

#### 3.1.6.3 Pathway and environmental hazard assessment

This is not applicable.

#### 3.1.6.3.1 Groundwater pathway

This is not applicable.

# 3.1.6.3.2 Surface water pathway

This is not applicable.

#### 3.1.6.3.3 Soil exposure and air pathway

Not applicable.

#### 3.2 FIRE STATIONS

# 3.2.1 Building 218 Fire Station #1

#### 3.2.1.1 Description and operational history

Building 218 is one of two current fire stations at PAFB. The fire station is along Suffolk Street, near the intersection with Duluth Avenue. Approximately 600 gallons of ANSUL firefighting foam concentrate are stored in drums inside the building. AFFF transport equipment stationed at Fire Station 1 are

- Crash 6, a Rapid Intervention Vehicle (RIV) with a 56-gallon AFFF capacity;
- Crash 4, a P-23 with a 420-gallon AFFF capacity; and
- a trailer-mounted, 1,000-gallon foam tank.

Figure 3-7 shows Building 218. The geographic coordinates of Building 218 are 39°49'04.17" N latitude and 104°42'07.35" W longitude.

Spray testing at this facility is primarily conducted on the well-maintained concrete on the aircraft apron side of the building. Runoff from this concrete is directed into the storm water system for PAFB, which then makes its way to Pond #3. During freezing weather, spray testing is conducted over the adjacent volleyball court to avoid icing the concrete ramp. The total volume of AFFF released in this manner is unknown. Prior to the construction of Building 218, Building 117 was the original fire station at PAFB and was situated slightly southwest of Building 218, as shown on Figure 3-7. Spray testing conducted during the time that Fire Station #1 was at Building 117 was usually performed on the apron immediately southeast of Building 104 (see Figure 3-10) and occasionally on the apron adjacent to Building 117.

#### 3.2.1.2 Waste characteristics

Spray testing at Building 218 is primarily conducted on the concrete areas outside the station. The well-maintained concrete prevents AFFF from entering the environment. Liquid from spray testing activities on the concrete is routed to the sanitary sewer system. During freezing weather, spray testing is conducted on the grass and sand area adjacent to the fire station, which provides a pathway into the environment. The total volume of AFFF released at this location is unknown.

#### 3.2.1.3 Pathway and environmental hazard assessment

A complete exposure pathway typically includes

- a source of contamination (an environmental medium contaminated at the source or a release mechanism by which chemicals are released from a source medium and transported),
- an exposure medium by which a receptor comes into contact, and
- a route of intake for the contaminant into the receptor's body at the exposure point.

If any of these elements are missing, the pathway is incomplete. Other release mechanisms resulting in exposure media for receptors may include the uptake of soil contaminants by plants and animals and the emission of soil contaminants into the air in association with dust particles (EPA, 1989).

Database research (EDR, 2016) shows one daycare facility, one school, no hospitals, and four colleges within the potential migration area of 4 miles from any given potential release location of PFCs. No

elementary schools and two child development centers are on base. The closest child development center is approximately 0.9 miles hydrologically upgradient (north) of the location. The closest elementary school is approximately 2 miles crossgradient (west) of the location.

#### 3.2.1.3.1 Groundwater pathway

The basewide geologic and hydrogeologic settings are provided in Section 1. Groundwater use in the area of PAFB is both industrial and domestic in nature. Several public and private water wells are within 4 miles of this location, according to the CDWR water well locator, EDR database research, and the USGS NWIS (EDR, 2016). The human population both on and off base primarily relies on the PWS provided by the CSU, WWSD, and the Fountain Water Department. Drinking water for the city of Colorado Springs and the surrounding areas of El Paso County is primarily obtained from mountain springs in Aspen, Leadville, and Breckinridge with supplemental water being provided by local wells that are screened in the Widefield, Windmill Gulch, Laramie, Arapahoe, and Fox Hills aquifers. The Rampart Reservoir and the Catamount Reservoir are northwest (upgradient) of the AOC and are primarily fed by mountain runoff and previously mentioned springs (Realtyscoop, 2007).

The overburden in the area is approximately 50 feet thick and does not retain water. During the field investigation phase of the 1989 RI, groundwater was located between 15 and 60 feet bgs at the leach field, which is 0.6 miles southeast of the fire station. Groundwater flow is generally to the southwest throughout PAFB (USAF, September 1989). The soils throughout PAFB are well-drained and consist of loose, yellowish to yellowish dark brown, dry to slightly moist, poorly sorted sands with varying amounts of silt, fine to coarse-grained sand and fine gravel (Earth Tech, 2006).

The population both on and off base within a 4-mile radius of the site relies on drinking water provided by the Pueblo, Rampart, and Catamount Reservoirs and local wells.

# 3.2.1.3.2 Surface water pathway

Surface drainage originating from the northwest corner of the facility flows into the channel of East Fork Sand Creek, which is the largest on base surface drainage feature. Drainage from the airfield also contributes to East Fork Sand Creek. Drainage from the developed portions of the facility and the portions of the airfield that do not contribute to East Fork Sand Creek flows through surface ditches throughout the facility to the golf course ponds, where the water is stored and used for irrigation (USAF, September 1989). Liquids from spray testing conducted on the concrete areas near Building 218 drain into the industrial sewer system, which leads to Pond #3.

# 3.2.1.3.3 Soil exposure and air pathways

The site is a current fire station at which most spray testing is conducted on concrete areas. Freezing weather spray testing is conducted on a grass-bordered volleyball court area. The surrounding paved and well-vegetated areas would preclude any fugitive dust emissions and potential exposures; however, the sand-covered volleyball court may present a dust risk. Current land use involves human health exposure in the volleyball court area. Other portions of the spray test area do not present a human health risk. The potential exists for exposure to burrowing animals.

Workers at the site include airfield maintenance personnel and firefighter personnel. The nearest residential area is approximately 2,500 feet northeast of the site. Population details of the residential areas within a 4-mile radius are discussed in Section 3.2.1.3.

No schools or daycare facilities are within a 200-foot radius of the site. The nearest school is Wildflower Elementary School, approximately 1.9 miles west of PAFB in a residential area.

# 3.2.2 Building 2032 Fire Station #2

# 3.2.2.1 Description and operational history

Building 2032 is the second of two fire stations at PAFB. The fire station is along El Dorado Avenue and can be accessed from Steward Avenue in the Peterson East section of the facility. Opened in 1996, the facility has one AFFF-capable vehicle stationed at it. Crash 3 is a P-23 with a 210-gallon AFFF capacity. Figure 3-8 shows Building 2032. The geographic coordinates of the building are 38°48'25.25" N latitude and 104°40'52.24" W longitude.

The spray test area for this facility is to the west of the building along the airport access road. The total volume of AFFF released during spray testing at this location is unknown.

#### 3.2.2.2 Waste characteristics

Beginning use in 1996, spray testing at Building 2032 is primarily conducted on the concrete areas east of the station. The total volume of AFFF released at this location is unknown.

# 3.2.2.3 Pathway and environmental hazard assessment

A complete exposure pathway typically includes

- a source of contamination (an environmental medium contaminated at the source or a release mechanism by which chemicals are released from a source medium and transported),
- an exposure medium by which a receptor comes into contact, and
- a route of intake for the contaminant into the receptor's body at the exposure point.

If any of these elements are missing, the pathway is incomplete. Other release mechanisms resulting in exposure media for receptors may include the uptake of soil contaminants by plants and animals and the emission of soil contaminants into the air in association with dust particles (EPA, 1989).

Database research (EDR, May 2016b) shows no daycare facilities, one school, no hospitals, and four colleges within the potential migration area of 4 miles from any given potential release location of PFCs. No elementary schools and two child development centers are on base. The closest day care is approximately 0.6 miles hydrologically upgradient (north) of the location. The closest elementary school is approximately 3.25 miles crossgradient (west) of the location.

#### 3.2.2.3.1 Groundwater pathway

The basewide geologic and hydrogeologic settings are provided in Section 1. Groundwater use in the area of PAFB is both industrial and domestic in nature. Several public and private water wells are within 4 miles of this location, according to the CDWR water well locator, EDR database research, and the USGS NWIS (EDR, May 2016a; EDR, May 2016b; EDR, May 2016c). The human population both on and off base primarily relies on the PWS provided by the CSU, WWSD, and the Fountain Water Department. Drinking water for the city of Colorado Springs and the surrounding areas of El Paso County is primarily obtained from mountain springs in Aspen, Leadville, and Breckinridge with supplemental water being provided by local wells that are screened in the Widefield, Windmill Gulch, Laramie, Arapahoe, and Fox

Hills aquifers. The Rampart Reservoir and the Catamount Reservoir are northwest (upgradient) of the AOC and are primarily fed by mountain runoff and previously mentioned springs (Realtyscoop, 2007).

The overburden in the area is approximately 50 feet thick and does not retain water. Local groundwater flow has not been determined in this area by previous investigations; however, groundwater was located at approximately 60 feet bgs at Site 5, which is 0.6 miles northwest of Building 2032. Groundwater flow is generally to the southwest throughout PAFB (USAF, September 1989). The soils throughout PAFB are well-drained and consist of loose, yellowish to yellowish dark brown, dry to slightly moist, poorly sorted sands with varying amounts of silt, fine to coarse grained sand, and fine gravel (Earth Tech, 2006).

The population both on and off base within a 4-mile radius of the site relies on drinking water provided by the Pueblo, Rampart, and Catamount Reservoirs and local wells.

# 3.2.2.3.2 Surface water pathway

Surface water at Fire Station #2 flows into surrounding grassed areas where it infiltrates into the subsurface. The spray test area drains to the north into a topographically low, grassed area. The fire station is situated near a drainage divide and the nearest downgradient surface water body is Jimmy Camp Creek, approximately 1.3 miles east-southeast of the site.

# 3.2.2.3.3 Soil exposure and air pathways

The site is a fire station spray test area that has been active since 1996. The surrounding paved and vegetated areas would preclude any fugitive dust emissions and potential exposures. Current land use does not involve any human health exposures, and future land use is likely to remain unchanged. The potential exists for exposure to burrowing animals.

Workers at the site include airfield maintenance personnel and firefighters. The nearest residential area is approximately 1 mile northwest of the site. Population details of the residential areas within a 4-mile radius are discussed in Section 3.2.2.3

No schools or daycare facilities are within a 200-foot radius of the site. The nearest school is Wildflower Elementary School, approximately 3.65 miles west of the site in a residential area.

#### 3.3 EMERGENCY RESPONSE

There are no emergency response activities of note within the boundaries of PAFB.

#### 3.4 OTHER SPILLS AND RELEASES

#### 3.4.1 Detention Pond #3

#### 3.4.1.1 Description and operational history

Pond #3 is situated in the southern portion of PAFB between Taxiway B and the golf course (Figure 3-9) and receives storm water runoff from central and western portions of PAFB, including all industrial areas of the base. The pond was initially constructed in 1979 as an unlined detention pond; in early 2002, Pond #3 was upgraded and a butyl rubber liner was installed. The geographic coordinates for this location are 38°48'40.09" N latitude and 104°41'41.18" W longitude.

Prior to the construction of Pond #3, there was another pond approximately 850 feet to the south (based on the 1961 USGS Elsmere Topographic Quadrangle map) that received surface runoff from the same areas that currently discharge to Pond #3 (the approximate location of the former pond is shown on Figure 3-10).

Recently discovered photographs from 1997 show AFFF on the surface of the pond and a cleanup effort in progress. Although no other information is available, it appears an unknown quantity of AFFF was released to the unlined pond.

Water from Pond #3 is used to irrigate the adjacent golf course and is not treated prior to reuse. When Pond #3 reaches its maximum capacity, overflow is routed to the adjacent COS unlined detention pond and allowed to infiltrate into the ground surface. The total volume of AFFF released at this location is unknown.

#### 3.4.1.2 Waste characteristics

Beginning use in 1979, Pond #3 is a lined detention basin that receives the majority of storm water for the facility, and all water disposed of from the industrialized areas of the facility. When the pond becomes too full, overflow is routed to the unlined basin to the west and allowed to infiltrate into the surrounding area. The total volume of AFFF released to this location is unknown.

#### 3.4.1.3 Pathway and environmental hazard assessment

A complete exposure pathway typically includes

- a source of contamination (an environmental medium contaminated at the source or a release mechanism by which chemicals are released from a source medium and transported),
- an exposure medium by which a receptor comes into contact, and
- a route of intake for the contaminant into the receptors body at the exposure point.

If any of these elements are missing, the pathway is incomplete. Other release mechanisms resulting in exposure media for receptors may include the uptake of soil contaminants by plants and animals and the emission of soil contaminants into the air in association with dust particles (EPA, December 1989).

Database research (EDR, May 2016b) shows one daycare facility, one school, no hospitals, and four colleges within the potential migration area of 4 miles from any given potential release location of PFCs. No elementary schools and two child development centers are on base. The closest child development center is approximately 0.8 miles hydrologically upgradient (northeast) of the location. The closest elementary school is approximately 2.45 miles crossgradient (west) of the location.

#### 3.4.1.3.1 Groundwater pathway

The basewide geologic and hydrogeologic settings are provided in Section 1. Groundwater use in the area of PAFB is both industrial and domestic in nature. Several public and private water wells are within 4 miles of this location, according to the CDWR water well locator, EDR database research, and the USGS NWIS (EDR, 2016). The human population both on and off base primarily relies on the PWS provided by the CSU, WWSD, and the Fountain Water Department. Drinking water for the city of Colorado Springs and the surrounding areas of El Paso County is primarily obtained from mountain springs in Aspen, Leadville, and Breckinridge with supplemental water being provided by local wells that are screened in the Widefield, Windmill Gulch, Laramie, Arapahoe, and Fox Hills aquifers. The Rampart Reservoir and

the Catamount Reservoir are northwest (upgradient) of the AOC and are primarily fed by mountain runoff and previously mentioned springs (Realtyscoop, 2007).

The overburden in the area is approximately 50 feet thick and does not retain water. Groundwater in this area ranges from 15 to 60 feet bgs. During the 1989 RI, groundwater ranged from 15 to 45 feet bgs at the leach field and was located at approximately 60 feet bgs at Site 5. The leach field was approximately 500 feet north, and Site 5 is 1,000 feet southeast. Groundwater flow is generally to the southwest throughout PAFB (USAF, September 1989). The soils throughout PAFB are well-drained and consist of loose, yellowish to yellowish dark brown, dry to slightly moist, poorly sorted sands with varying amounts of silt, fine to coarse-grained sand, and fine gravel (Earth Tech, 2006).

The population both on and off base within a 4-mile radius of the site relies on drinking water provided by the Pueblo, Rampart, and Catamount Reservoirs and local wells.

# 3.4.1.3.2 Surface water pathway

Surface drainage originating from the northwest corner of the facility flows into the channel of East Fork Sand Creek, which is the largest surface drainage feature on base. Drainage from the airfield also contributes to East Fork Sand Creek. Drainage from the developed portions of the facility and the portions of the airfield that do not contribute to East Fork Sand Creek flows through surface ditches throughout the facility to the golf course ponds, where the water is stored and used for irrigation (USAF, September 1989). Water collected in Pond #3 is used to irrigate the golf course.

# 3.4.1.3.3 Soil exposure and air pathways

The site is a lined detention pond and an associated unlined overflow basin. The unlined overflow basin is partially vegetated and approximately 30 feet below the surrounding grade. Current land use involves human health exposure for workers maintaining the basin. Future land use is likely to remain unchanged. The potential exists for exposure to burrowing animals.

Workers at the site include airfield maintenance personnel. The nearest residential area is approximately 1 mile northwest of the site. Population details of the residential areas within a 4-mile radius are discussed in Section 3.4.1.3.

No schools or daycare facilities are within a 200-foot radius of the site. The nearest school is Wildflower Elementary School, approximately 2.5 miles west of the site in a residential area.

#### 3.4.2 Golf Course and Former Leach Field

# **3.4.2.1 Description and operational history**

Built in 1977, the PAFB golf course uses water from Pond #3 for irrigation. Surface water that is collected in Pond #3 is not treated prior to reuse at the golf course. Prior to construction of the golf course, the leach field was in this area. The geographic coordinates of the golf course are 38°48'59.12" N latitude and 104°41'46.39" W longitude.

The former leach field at PAFB was active from 1956 until 1978. Two different years for the termination of use are listed in the 1989 RI. The leach field was designed to be an industrial waste drainage system and consisted of a settling tank, an OWS, and a gravel envelope leach field. Effluent from the leach field would have entered the subsurface and followed the same path as groundwater in the area, which is to the

southwest under the golf course and the unlined overflow pond next to Pond #3. In 1978 the industrial runoff from PAFB was connected to the sanitary sewer line, and the leach field was decommissioned. In the intervening years, the PAFB Golf Course has been built over the site. Figure 3-10 shows the location of the golf course and former leach field. The geographic coordinates of the leach field are 38°48'46.62" N latitude and 104°41'44.06" W longitude.

Based on information provided by Jeff Bohn (a former assistant fire chief at PAFB) during draft PA review, "foam checks" were conducted along the northern edge of the ramp southeast of Building 104. Spraying occurred just off the ramp area and was directed to the northeast toward an unpaved area between the ramp and the golf course, as shown on Figure 3-10.

#### 3.4.2.2 Waste characteristics

Beginning use in 1977, the PAFB golf course uses water from Pond #3 and other ponds on its grounds for irrigation. This practice continues today. The water in Pond #3 is not treated for AFFF. The former leach field, decommissioned in 1978, served as the terminal release point for industrial runoff from the industrial portions of PAFB. The total volume of AFFF released at both the golf course and the leach field area is unknown.

#### 3.4.2.3 Pathway and environmental hazard assessment

A complete exposure pathway typically includes

- a source of contamination (an environmental medium contaminated at the source or a release mechanism by which chemicals are released from a source medium and transported),
- an exposure medium by which a receptor comes into contact, and
- a route of intake for the contaminant into the receptors body at the exposure point.

If any of these elements are missing, the pathway is incomplete. Other release mechanisms resulting in exposure media for receptors may include the uptake of soil contaminants by plants and animals and the emission of soil contaminants into the air in association with dust particles (EPA, 1989).

Database research (EDR, 2016) shows one daycare facility, one school, no hospitals, and four colleges within the potential migration area of 4 miles from any given potential release location of PFCs. No elementary schools and two child development centers are on base. The closest child development center is approximately 0.6 miles hydrologically crossgradient (west) of the location. The closest elementary school is approximately 2.4 miles crossgradient (west) of the location.

# 3.4.2.3.1 Groundwater pathway

The basewide geologic and hydrogeologic settings are provided in Section 1. Groundwater use in the area of PAFB is both industrial and domestic in nature. Several public and private water wells are within 4 miles of this location, according to the CDWR water well locator, EDR database research, and the USGS NWIS (EDR, 2016). The human population both on and off base primarily relies on the PWS provided by the CSU, WWSD, and the Fountain Water Department. Drinking water for the city of Colorado Springs and the surrounding areas of El Paso County is primarily obtained from mountain springs in Aspen, Leadville, and Breckinridge with supplemental water being provided by local wells screened in the Widefield, Windmill Gulch, Laramie, Arapahoe, and Fox Hills aquifers. The Rampart Reservoir and the Catamount Reservoir are northwest (upgradient) of the AOC and are primarily fed by mountain runoff and previously mentioned springs (Realtyscoop, 2007).

The overburden in the area is approximately 50 feet thick and does not retain water. Groundwater in this area ranges from 15 to 60 feet bgs. During the 1989 RI, groundwater ranged from 15 to 45 feet bgs at the leach field and was located at approximately 60 feet bgs at Site 5. Groundwater flow is generally to the southwest throughout PAFB (USAF, September 1989). The soils throughout PAFB are well-drained and consist of loose, yellowish to yellowish dark brown, dry to slightly moist, poorly sorted sands with varying amounts of silt, fine to coarse-grained sand and fine gravel (Earth Tech, 2006).

The population both on and off base within a 4-mile radius of the site relies on drinking water provided by the Pueblo, Rampart, and Catamount Reservoirs and local wells.

#### 3.4.2.3.2 Surface water pathway

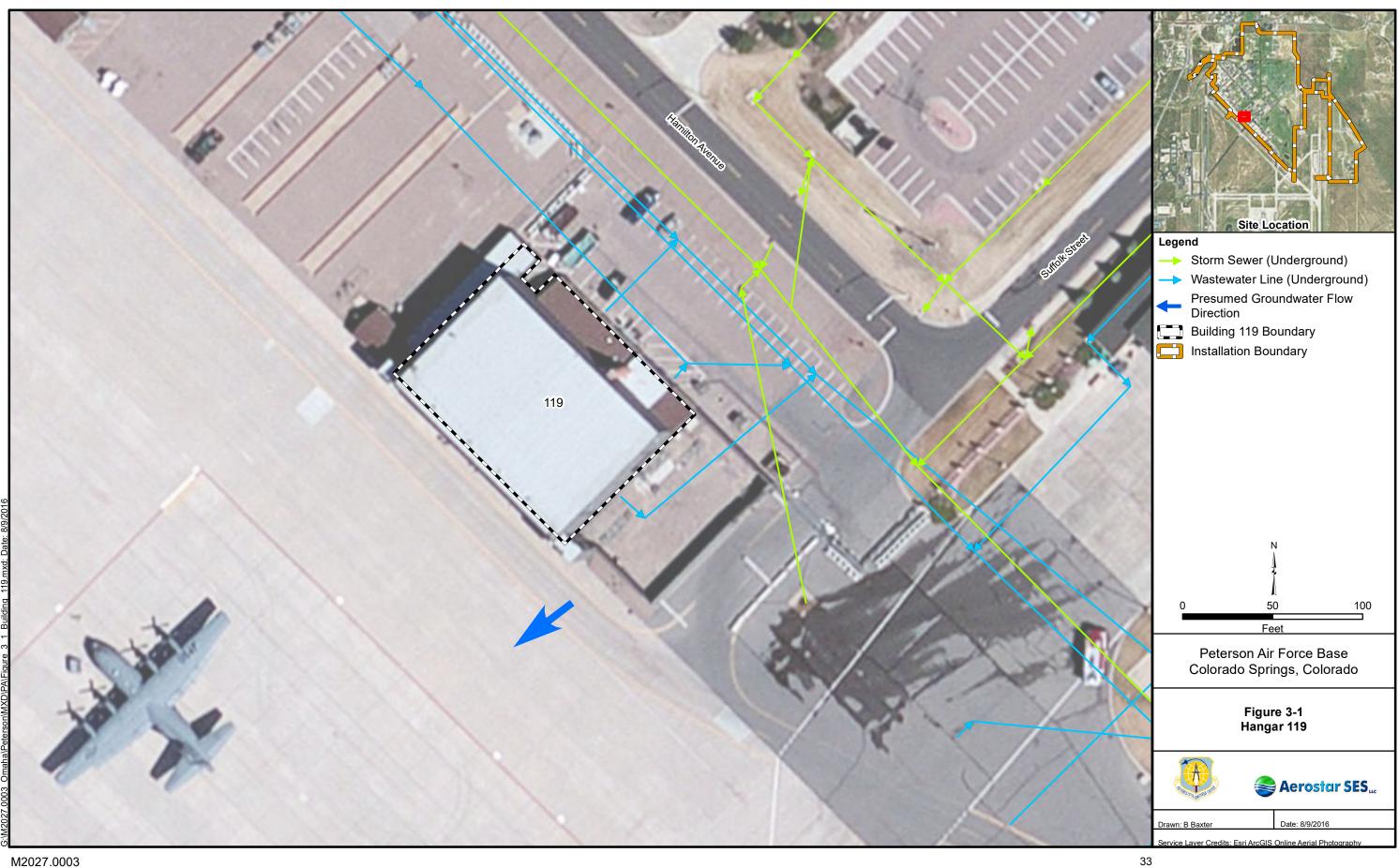
Surface drainage originating from the northwest corner of the facility flows into the channel of East Fork Sand Creek, which is the largest surface drainage feature on base. Drainage from the airfield also contributes to East Fork Sand Creek. Drainage from the developed portions of the facility and the portions of the airfield that do not contribute to East Fork Sand Creek flows through surface ditches throughout the facility to the golf course ponds and Pond #3, where the water is stored and used for irrigation (USAF, September 1989).

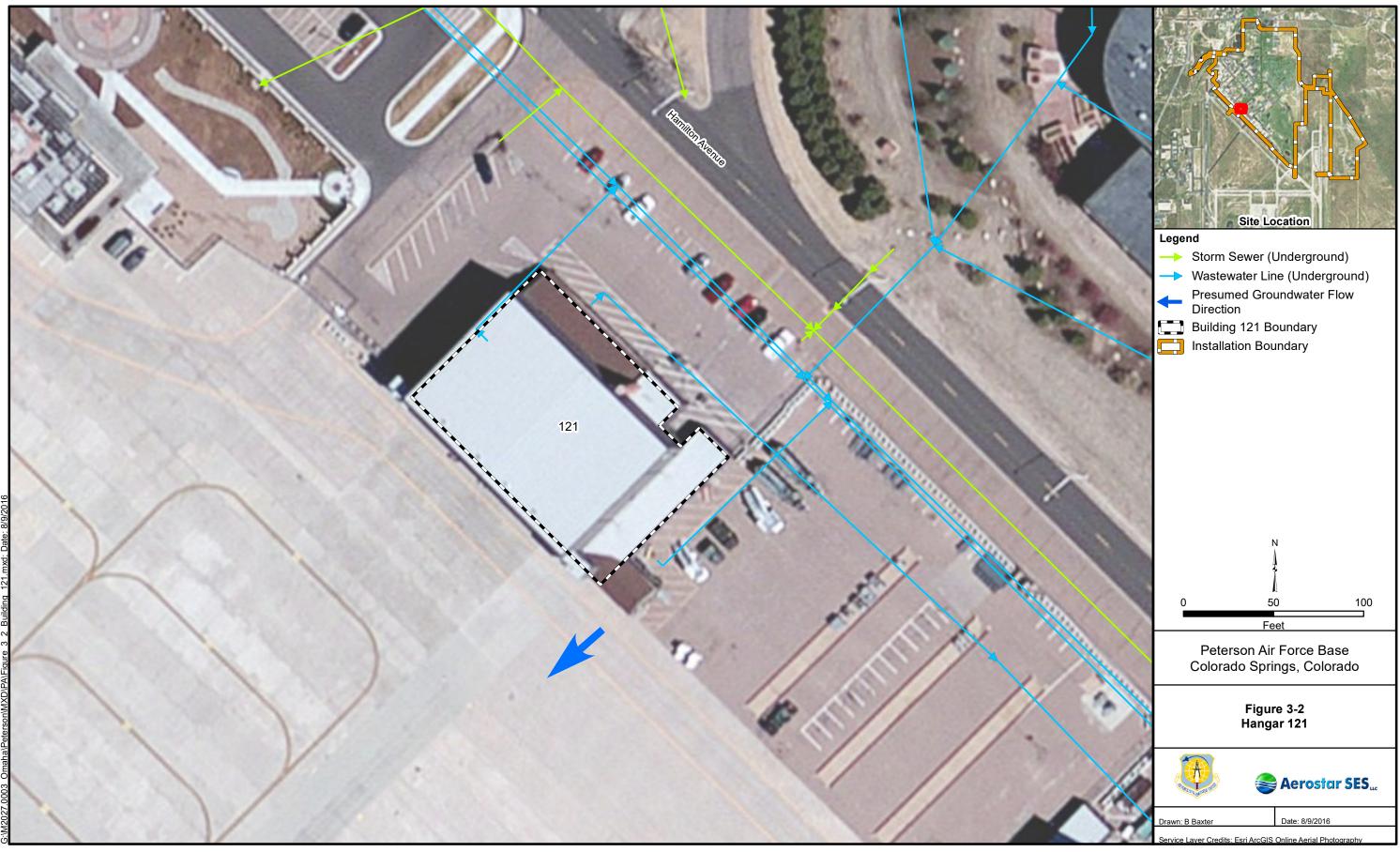
#### 3.4.2.3.3 Soil exposure and air pathways

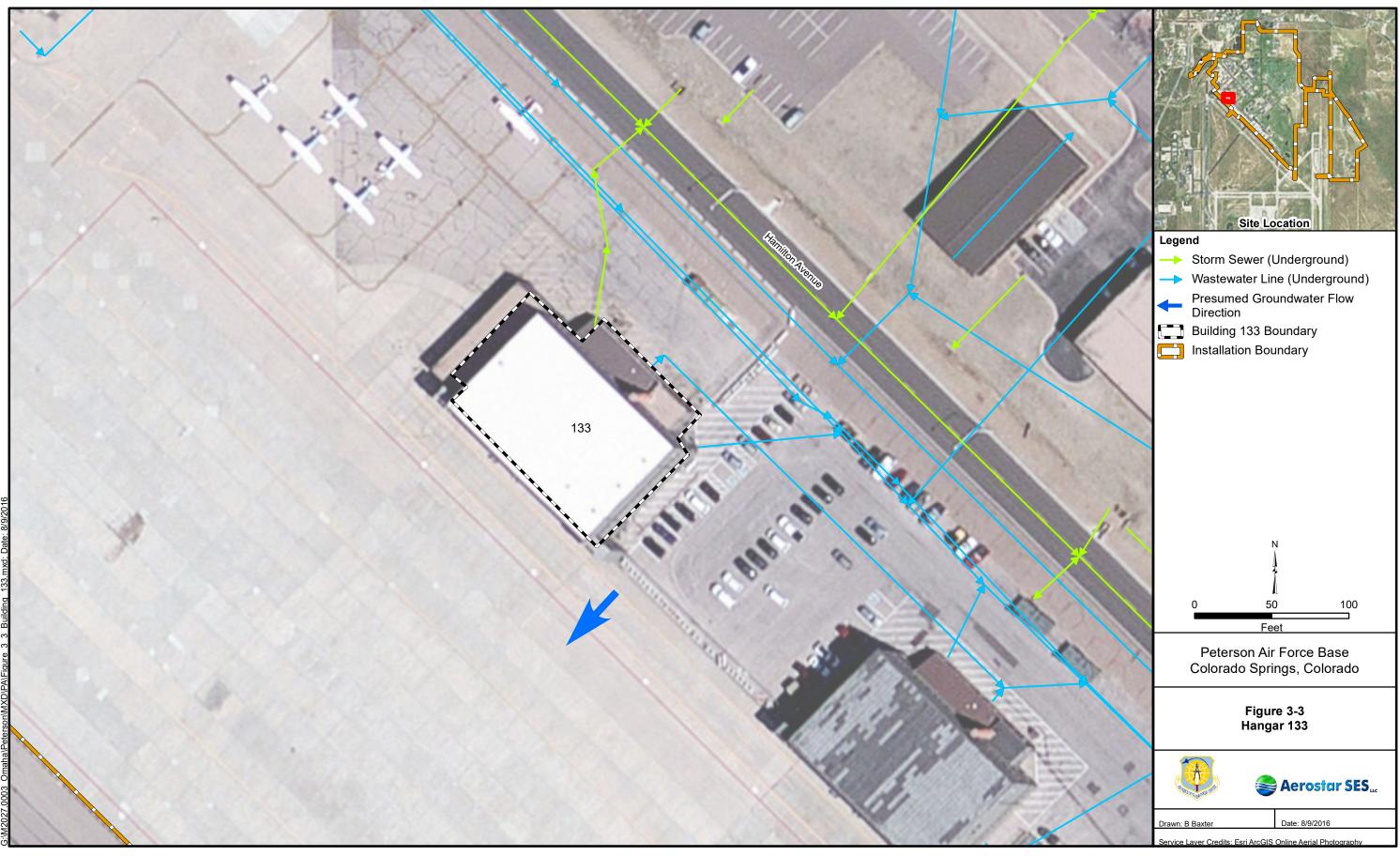
The site is a golf course and former leach field. The golf course was built in 1977, and the former leach field was decommissioned in 1978. The well-vegetated nature of the golf course would preclude any fugitive dust emissions and potential exposures. Current land use involves human health exposure from the sprinkler system. Future land use is likely to remain unchanged. The potential exists for exposure to burrowing animals.

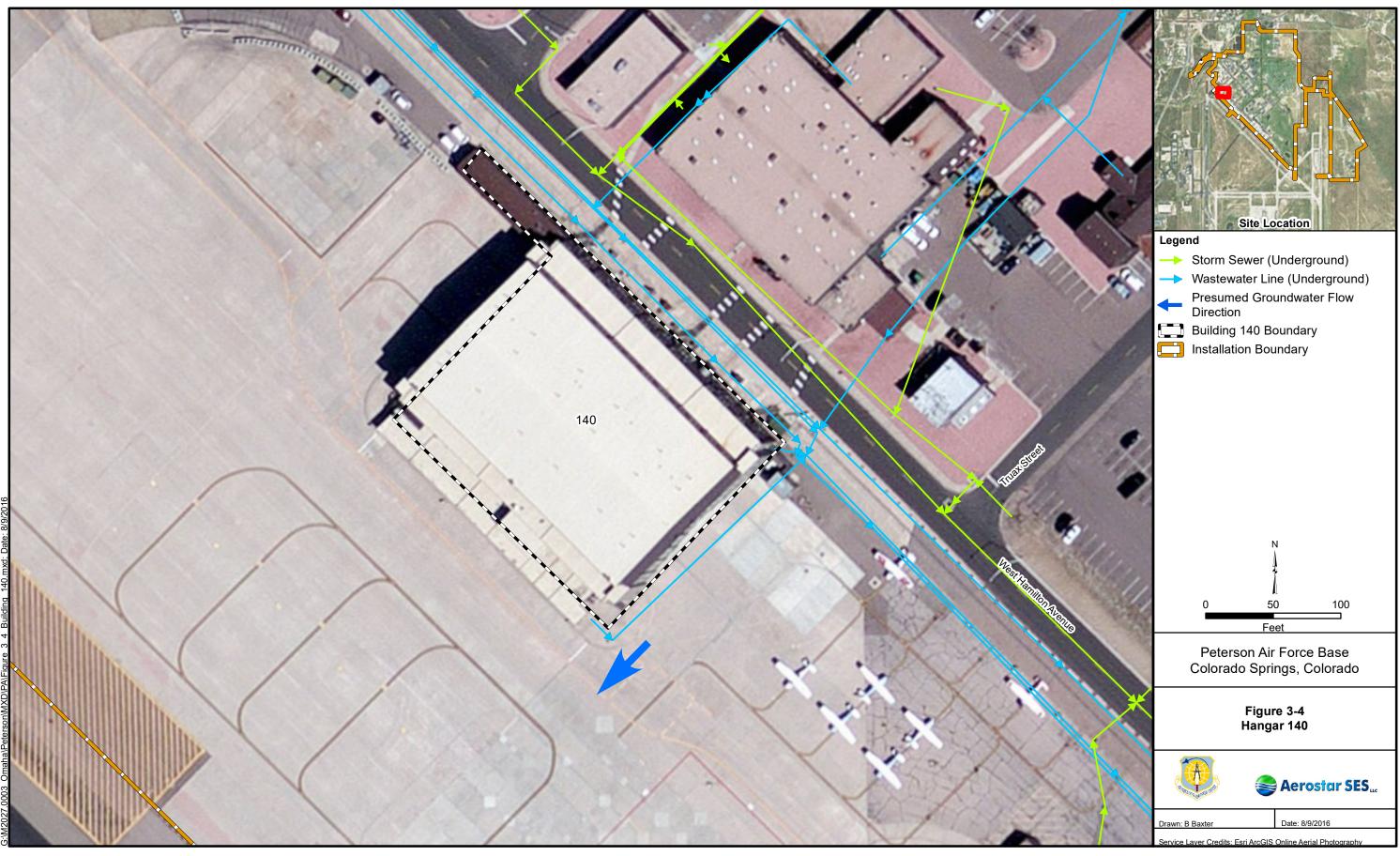
Workers at the site include golf course maintenance personnel. Public users of the course are also a potentially exposed population. The nearest residential area is approximately 215 feet northeast of the site across Glasgow Avenue. Population details of the residential areas within a 4-mile radius are discussed in Section 3.4.2.3.

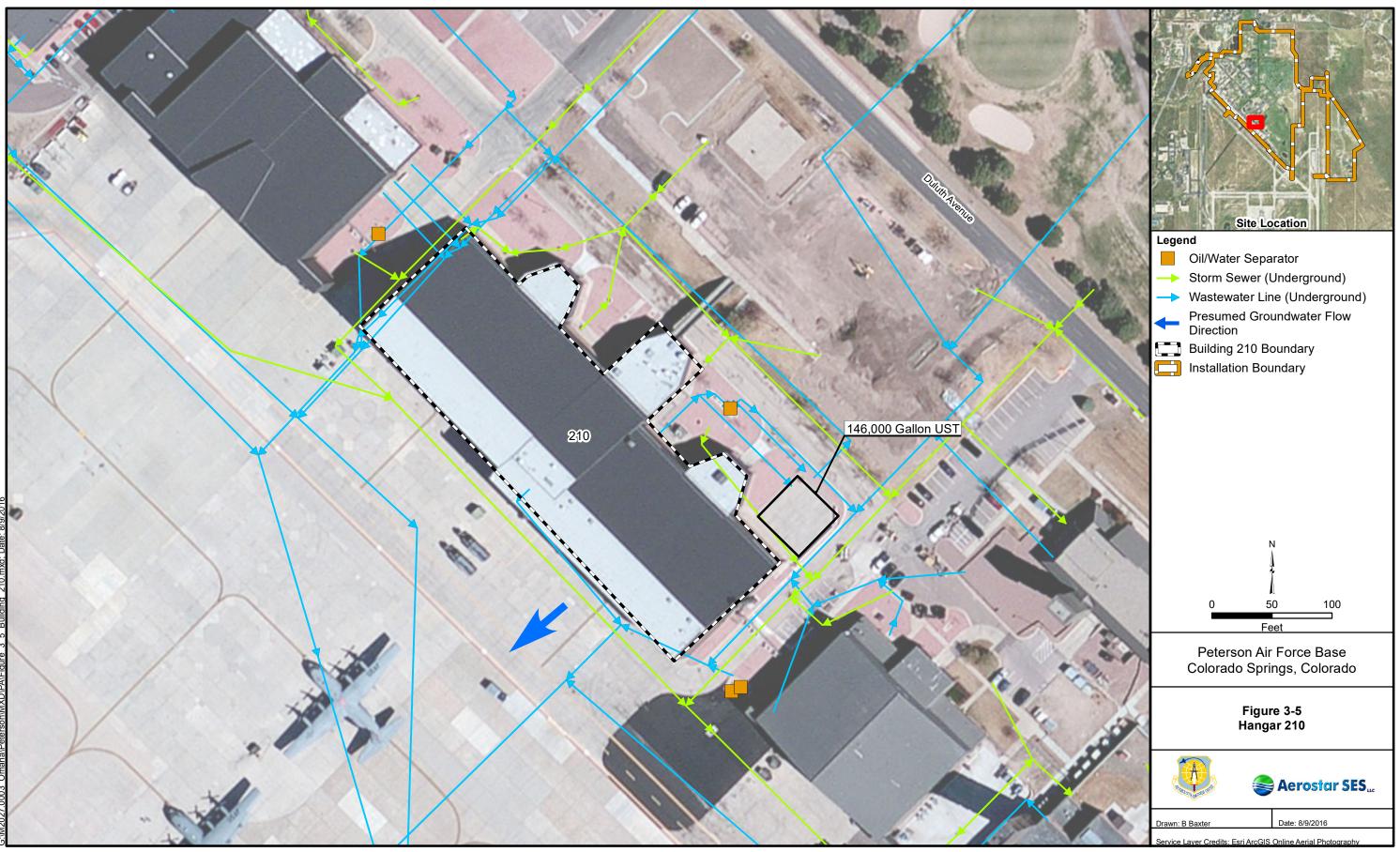
No daycare facilities or schools are within a 200-foot radius of the site. The nearest school is Wildflower Elementary School, approximately 2.4 miles northwest of the site in a residential area.

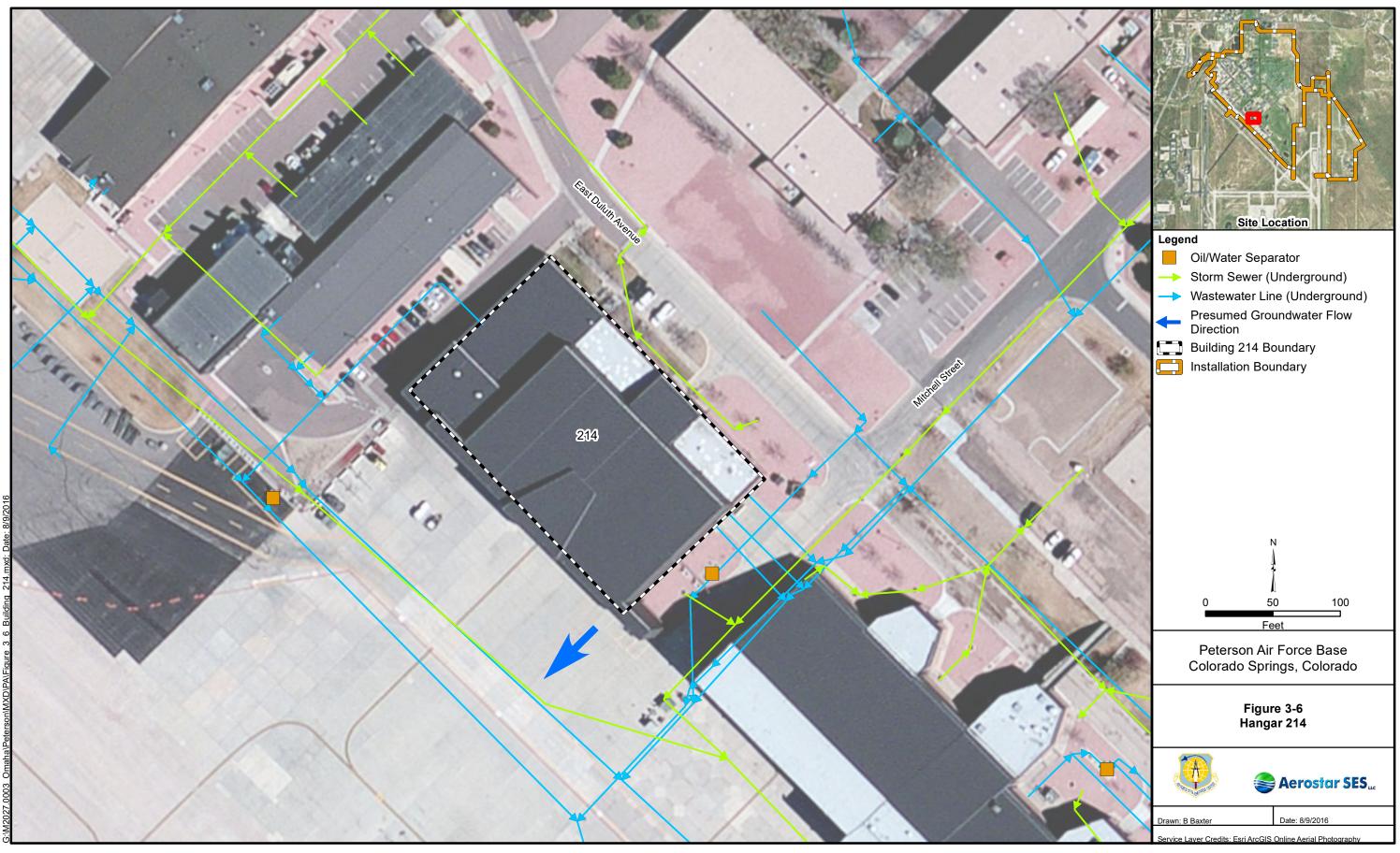


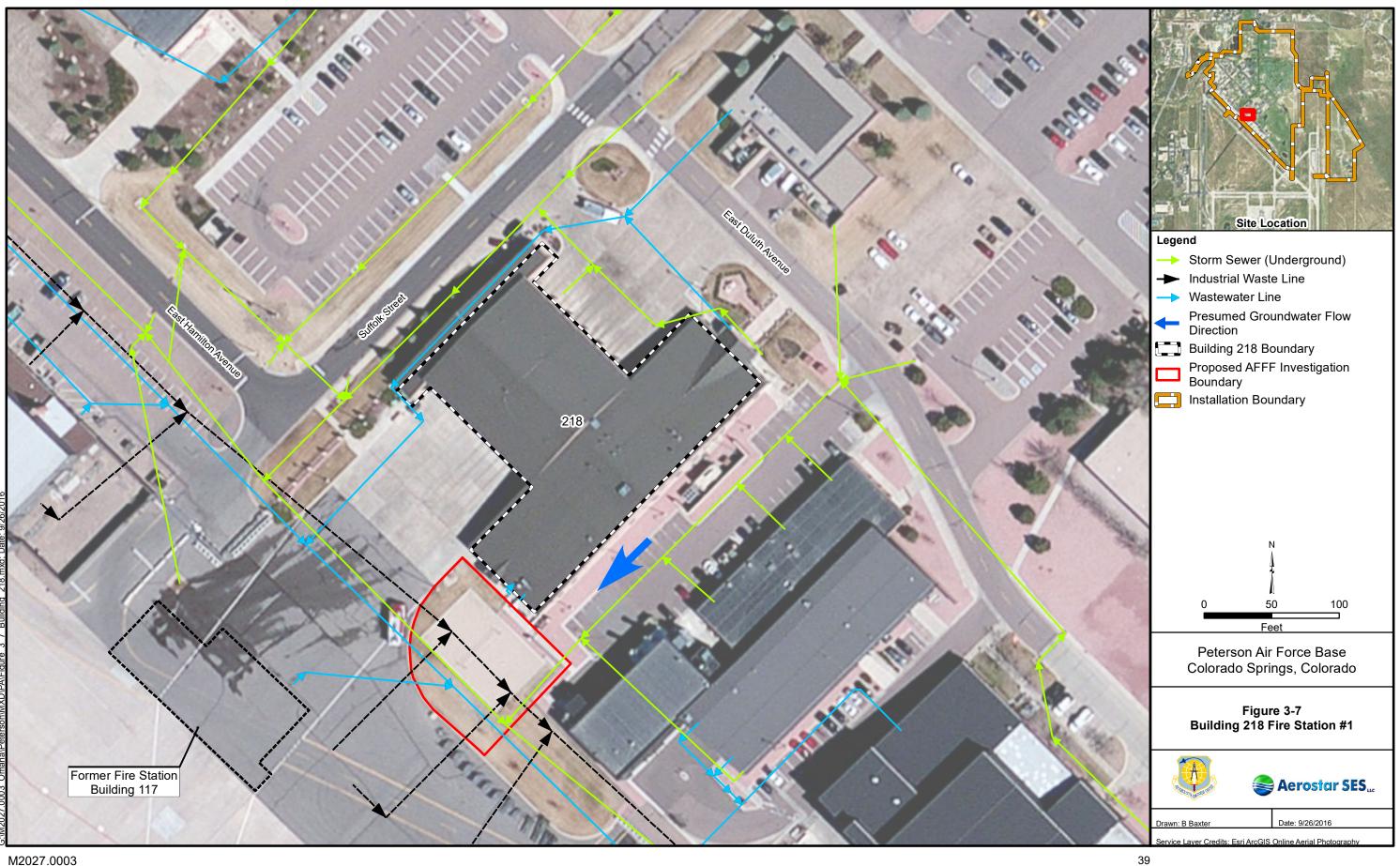




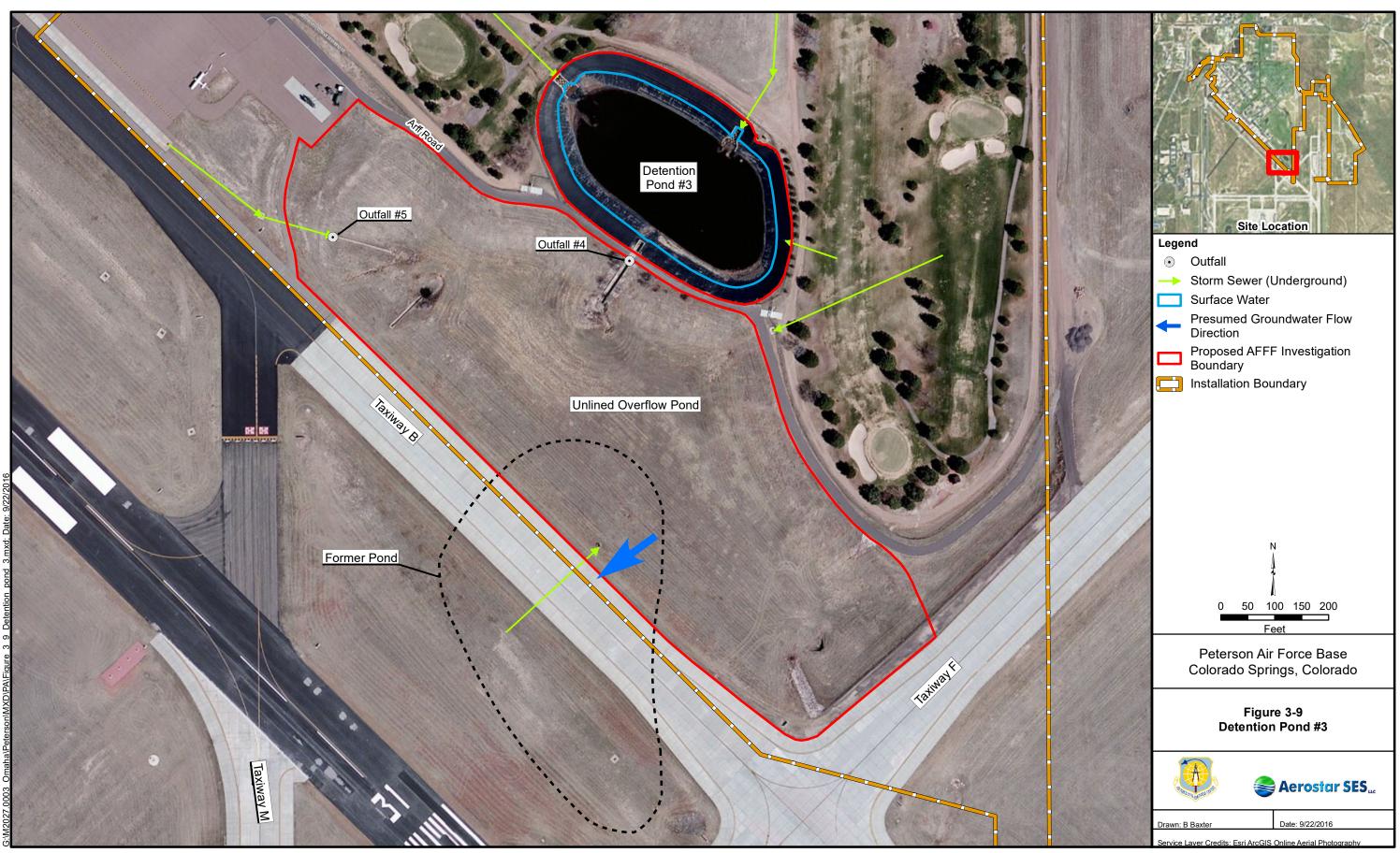














# 4. SUMMARY AND CONCLUSIONS

#### 4.1 SUMMARY

## 4.1.1 Fire Training Areas

# 4.1.1.1 Fire training areas closed prior to 1970

FTAs closed prior to 1970 did not use AFFF for fire training activities and are not considered to have been impacted by PFOA or PFOS from AFFF use. PAFB does not have any FTAs that were closed prior to 1970.

# 4.1.1.2 Fire training areas operational after 1970

FTAs used after 1970 may potentially contain PFOA- and PFOS-impacted media. Site 5 and Site 8 were used after 1970 and have had AFFF releases during their operational periods. During construction of the PAFB golf course, excavated soil from Site 5 was placed in Landfill 3, situated approximately 1 mile south-southwest of the site. In addition, information provided by CDPHE indicates that material placed in Landfill 3 was subsequently excavated in 1989 during COS expansion and placed in a landfill south of Runway 17R-35L

# 4.1.1.3 Current fire training areas

PAFB has one operating FTA with a lined burn pit that contains a mock aircraft. The current FTA has been fully operational since 1991/1992 and was converted to a propane system in 1999. When it was first opened, the current FTA was a hydrocarbon pit, where fuels were used to create training fires. Foams were used to extinguish some training fires, but because they made further fires hard to relight, their use was not extensive. Generally, current fire training activities use water only. During the PA site visit in March 2016, Assistant Fire Chief Craig Powell reported that AFFF has been used twice at this location since the beginning of his tenure in 2005. He did state that all dispensed foam was contained within the lined burn pit. The water storage tank, which collects water from the lined training area, is drained into the sanitary sewer as needed. Empty AFFF drums were also seen at this location; however, Assistant Fire Chief Powell stated that these drums were triple-rinsed prior to storage though the location where they were cleaned is unknown. Currently these drums are used for training purposes. An OWS was previously installed on site, but it has been decommissioned.

# **4.1.2** Non-Fire Training Areas

# **4.1.2.1** Hangars

PAFB has five hangars equipped with foam fire suppression systems; four are AFFF systems, and one is currently HI-EX but was formerly water only. A sixth hangar, Hangar 119, previously had an AFFF system that has been removed and replaced with a wet system. At PAFB, base maintenance is responsible for all operational testing. Containment booms are placed around the inside perimeter of the hangar being tested to ensure that foam is not released to the environment. Fire suppression systems in hangars at PAFB are either charged with foam, not charged with foam, or removed. These systems are tested once every five years. All hangars investigated at PAFB have floor drains installed that connect to the main industrial sewer line, which dispenses into a 146,000-gallon UST near Building 210. This storage tank is pumped into the sanitary sewer system after the liquids pass through an OWS. Two hangars, Hangars 210

and 214, have had confirmed accidental activations of their AFFF systems. All five confirmed instances of accidental activation were contained within the hangar itself or on the paved apron outside the hangar and did not impact the environment. No accidental releases of AFFF to the environment could have occurred at any of the hangars on PAFB.

#### 4.1.2.2 Fire stations

Two operating fire stations are at PAFB. Building 218 is the primary fire station, and Building 2032 is a satellite station on the eastern portion of PAFB. These two stations have three trucks and one trailer that can carry foam:

- Crash 6, an RIV with a 56-gallon AFFF capacity (Building 218);
- Crash 3, a P-23 with a 210-gallon AFFF capacity (at Building 2032);
- Crash 4, a P-23 with a 420-gallon AFFF capacity (Building 218); and
- A 1,000-gallon foam trailer (Building 218).

Additionally, 600 gallons of ANSUL AFFF concentrate are stored in drums at Building 218.

Both stations have a spray test area. At Building 218 spray tests are primarily conducted on the paved surface leading to the aircraft apron, which drains to the industrial sewer system. In the event of freezing weather, spray testing is conducted in the volleyball court area adjacent to the station. Building 117 was the original fire station at PAFB and was situated slightly southwest of Building 218, as shown on Figure 3-7. Spray testing conducted during the time that Fire Station #1 was at Building 117 was usually performed on the apron immediately southeast of Building 104 (see Figure 3-10) and occasionally on the apron adjacent to Building 117. Spray testing is conducted along the road leading to the airfield at Building 2032 (Fire Station #2). Surface conditions at both spray test areas allow for infiltration of AFFF to the subsurface.

#### 4.1.2.3 Emergency Response

No emergency response events at PAFB have been on Air Force property.

# 4.1.2.4 Other spills and releases

Pond #3 and the Golf Course/Former Leach Field are both in the southern portion of PAFB east of the aircraft taxiway.

Pond #3 is a lined detention pond that receives all runoff from the industrial areas of PAFB. Water from Pond #3 is used to irrigate the adjacent golf course and is not treated prior to reuse. Southwest of detention Pond #3 is an unlined overflow pond that is within the boundaries of PAFB. The PAFB golf course uses water from Pond #3 for irrigation, and portions of the golf course were built over the former leach field. If Pond #3 gets too full, it will dispense water through Outfall #4 into the overflow pond. Outfall #5 is on the northern side of the secondary pond, and it is unlikely that it will contribute to PFC contamination that may be in the unlined overflow pond. This is because all releases in the area of the hangar apron were confined within Hangar 210 or would enter Pond #3 through the storm water management system prior to arriving at the unlined overflow pond. Both outfalls show evidence of use. Water from Pond #3 is not treated before reuse.

Spray testing was also conducted along the northern edge of the ramp southeast of Building 104. Spraying occurred just off the ramp area and was directed to the northeast toward an unpaved area between the ramp and the golf course.

Prior to construction of the golf course, the former leach field was in this area. The former leach field served as a final point to which all industrial runoff was routed. Effluent from the leach field would have entered the subsurface and followed the same path as groundwater in the area, which is to the southwest under the golf course and the unlined overflow pond next to Pond #3.

# 4.2 CONCLUSIONS

Table 4-1 summarizes the findings from this PA report and presents possible future management decisions on the identified locations. These locations are identified as areas of possible PFC contamination as a result of AFFF release to the environment. In accordance with the EPA CERCLA PA and site inspections guidance documents, each of the identified locations is either recommended for implement removal action due to imminent threat; close out of the identified location due to no release; initiate an RI; or initiate a site inspection.

- Removal action, as defined in CERCLA Section 104, are actions taken to eliminate, control, or otherwise mitigate a threat posed to public health or the environment from a release or threatened release of hazardous substances (EPA, 1991).
- Close out or no further remedial action planned is defined as a site disposition decision that further response under the Federal Superfund Act is not necessary (EPA, 1991).
- Site inspection is defined as an investigation to collect and analyze waste and environmental samples to support a site evaluation (EPA, 1992).
- RI is defined as a field investigation to characterize the nature and extent of contamination at a site. The RI supports development, evaluation, and selection of the appropriate response alternative (EPA, 1991).

None of the sites investigated during this PA were identified as presenting an imminent risk to public health or the environment.

**Table 4-1 Preliminary Assessment Report Summary and Findings Peterson Air Force Base** 

Locations	Rationale	Recommendation
Current Fire Training Area	<ul> <li>The current FTA has been fully operational since 1991/1992 and currently uses propane as a fuel source.</li> <li>From 1991/1992 until 1999, hydrocarbon fuels were used as a fuel source and an unknown volume of AFFF was used during this period. Although there are no known releases of AFFF to the environment, CDPHE has requested that the recommendation for the current FTA be changed to "Initiate a Site Inspection".</li> <li>All current fire training activities are conducted using water only. This is generally true for historical training events at this location as well.</li> <li>Assistant Fire Chief Powell reported that AFFF has been used twice at this location since the beginning of his tenure in 2005; however, all dispensed foam was contained within the lined burn pit.</li> <li>Empty AFFF drums were seen at this location; however, Assistant Fire Chief Powell stated that these drums were triple-rinsed prior to storage. The location that these drums were rinsed at is unknown.</li> <li>Water collected from the FTA is stored in a covered tank that is dispensed into the sanitary sewer system as needed.</li> </ul>	Initiate a Site Inspection
Site 5	<ul> <li>Site 5 was an active FTA from 1956 to 1977. Though no record confirming use could be found, it is likely that AFFF was used at this location.</li> <li>Soil was excavated from Site 5 during construction of the golf course and placed in Landfill 3, approximately 1 mile south-southwest of the site.</li> <li>Soil placed in Landfill 3 was subsequently excavated and relocated to a landfill immediately south of Runway 17R-35L.</li> </ul>	Initiate a Site Inspection
Site 8	Site 8 was active from 1977 to 1991. AFFF was used at this location.	Initiate a Site Inspection
Hangar 119	<ul> <li>Containment booms are placed around the inside perimeter of the hangar floor during fire suppression system tests to ensure that foam is not released to the environment.</li> <li>Hangar 119 has floor drains that connect to the main storm sewer line which dispenses to a 146,000-gallon UST near Building 210. This storage tank empties into the sanitary sewer after the liquids pass through an OWS.</li> </ul>	Close out with no additional investigation
Hangar 121	<ul> <li>Containment booms are placed around the inside perimeter of the hangar floor during fire suppression system tests to ensure that foam is not released to the environment.</li> <li>Hangar 121 has floor drains that connect to the main storm sewer line, which dispenses to a 146,000-gallon UST near Building 210. This storage tank empties into the sanitary sewer after the liquids pass through an OWS.</li> </ul>	Close out with no additional investigation

Locations	Rationale	Recommendation
Hangar 133	<ul> <li>Containment booms are placed around the inside perimeter of the hangar floor during fire suppression system tests to ensure that foam is not released to the environment.</li> <li>Hangar 133 has floor drains installed that connect to the main storm sewer line, which dispenses to a 146,000-gallon UST near Building 210. This storage tank empties into the sanitary sewer after the liquids pass through an OWS.</li> </ul>	Close out with no additional investigation
Hangar 140	<ul> <li>Containment booms are placed around the inside perimeter of the hangar floor during fire suppression system tests to ensure that foam is not released to the environment.</li> <li>Hangar 140 has floor drains installed that connect to the main storm sewer line, which dispenses to a 146,000-gallon UST near Building 210. This storage tank empties into the sanitary sewer after the liquids pass through an OWS.</li> </ul>	Close out with no additional investigation
Hangar 210	<ul> <li>Containment booms are placed around the inside perimeter of the hangar floor during fire suppression system tests to ensure that foam is not released to the environment.</li> <li>Hangar 210 has floor drains that connect to the main storm sewer line, which dispenses to a 146,000-gallon UST near Building 210. This storage tank empties into the sanitary sewer after the liquids pass through an OWS.</li> </ul>	Close out with no additional investigation
Hangar 214	<ul> <li>Containment booms are placed around the inside perimeter of the hangar floor during fire suppression system tests to ensure that foam is not released to the environment.</li> <li>Hangar 214 has floor drains installed that connect to the main storm sewer line, which dispenses to a 146,000-gallon UST near Building 210. This storage tank empties into the sanitary sewer after the liquids pass through an OWS.</li> </ul>	Close out with no additional investigation
Building 218, Fire Station #1	<ul> <li>Spray tests are primarily conducted on the paved surface leading to the aircraft apron. Runoff from these tests then drain to Pond #3.</li> <li>In the event of freezing temperatures, spray testing is conducted in the volleyball court area adjacent to the station.</li> <li>An unknown volume of AFFF has been released into the volleyball court area.</li> <li>Building 117 was the original fire station at PAFB and was situated slightly southwest of Building 218.</li> <li>Spray testing conducted during the time that Fire Station #1 was at Building 117 was usually performed on the apron immediately southeast of Building 104 and occasionally on the apron adjacent to Building 117.</li> </ul>	Initiate a Site Inspection
Building 2032, Fire Station #2	<ul> <li>Spray tests are conducted along the road leading to the airfield.</li> <li>An unknown volume of AFFF may have been released during spray testing.</li> </ul>	Initiate a Site Inspection
Pond #3	<ul> <li>Pond #3 is a lined detention pond that receives all runoff from the industrial areas of PAFB.</li> <li>Adjacent to detention Pond #3 is an unlined overflow pond. If Pond #3 gets too full, it will dispense water through Outfall #4 into the overflow pond.</li> <li>Water from Pond #3 is not treated for AFFF.</li> <li>An unknown volume of AFFF may have been released from this location.</li> </ul>	Initiate a Site Inspection

Locations	Rationale	Recommendation
Golf Course/Former	• Prior to construction of the golf course, the leach field was in this area. The leach field served as a final	Initiate a Site
Leach Field	point to which all industrial runoff was routed.	Inspection
	• Spray testing was conducted on the northern edge of the airfield ramp between the ramp and the golf	
	course.	
	• The golf course uses water from Pond #3 for irrigation.	
	An unknown volume of AFFF may have been released from this location.	

FTA = fire training area

OWS = oil water separator

PAFB = Peterson Air Force Base

UST = underground storage tank

#### 5. REFERENCES

Chang, E.T. et al., 2014. A Critical Review of Perfluorocanoate and Perfluoroctanesulfanate Exposure and Cancer Risk in Humans, Crit Rev Toxicol, 44(S1): 1-81.

Centers for Disease Control (CDC), September 2015. Perfluoroalkyl Substances and Your Health: Overview. http://www.atsdr.cdc.gov/pfc/overview.html. Accessed 7-7-16.

Coates, C.Y. (Center Historian), February 1977. A History of USAF Fire Protection Training at Chanute Air Force Base (AFB) 1964-1976. Chanute Technical Training Center, Chanute AFB, Illinois.

Colorado Department of Public Health and Environment, 2006. Site Summaries, Peterson AFB Colorado Springs CO Letter of Receipt.

Earth Tech Inc., July 2006. Final Supplemental Site Investigation Report, Site 5 (FT002) – Former Firefighter Training Area (FTA-1) Peterson Air Force Base, Colorado.

Earth Tech Inc., June 2008. Final Work Plan Site Inspections Sites 6, 7, and 8. Peterson AFB, Colorado.

Earth Tech Inc., March 2012. Final Site Inspections Sites 6, 7, and 8. Peterson AFB, Colorado.

Edelmann, P. and Cain, D. 1985. Sources of Water and Nitrogen to the Widefield Aquifer, Southwestern El Paso County, Colorado. Water-Resources Investigations Report 85-4162. Colorado Springs Department of Public Utilities and the Lower Fountain Water Quality Management Association.

EDR, May 2016a. NEPA Check, EDR Inquiry #4628488.5s

EDR, May 2016b. GeoCHECK, EDR Inquiry #4630550.2s

EDR, May 2016c. Radius Atlas. EDR Inquiry #4628488.6s

Environmental Protection Agency (EPA) Office of Emergency and Remedial Response, December 1989. *Interim Final Risk Assessment Guidance for Superfund Volume 1: Human Health Evaluation Manual (Part A)* (EPA/540/1-89/002).

EPA, September 1991. EPA Guidance for Performing Preliminary Assessments under CERCLA.

EPA, 1992. EPA Guidance for Performing Site Inspections under CERCLA.

Fire Fighting Foam Coalition, 2014. Fact Sheet on AFFF Fire Fighting Agents.

Fountain Water Department, 2016. Water Supply. http://www.fountaincolorado.org/department/division.php?structureid=179. Accessed 6-16-16.

Globalsecurity.org. Peterson AFB. <a href="http://www.globalsecurity.org/space/facility/peterson.htm">http://www.globalsecurity.org/space/facility/peterson.htm</a>. Accessed June 2, 2016.

Peterson Air Force Base (PAFB), February 2008. FY08 Environmental Restoration Program Management Action Plan (Public Version).

PAFB, February 29, 2016. U.S. Air Force Storm Water Pollution Prevention Plan Peterson Air Force Base.

Porter, R., March 2011. AFCEE/TDV Emerging Issues. Perfluorinated Compounds. Air Force Restoration and Technology Transfer Workshop.

Rak, Andrew, and Vogel, Catherine M.; March 2009. *Increasing Regulation of Perfluorinated Compounds and the Potential Impacts at Air Force Installations*.

Realtyscoop.com, 2007. Where does Colorado Springs Get Its Water Supply From? <a href="https://realtyscoop.wordpress.com/2007/05/22/where-does-colorado-springs-get-its-water-supply-from/">https://realtyscoop.wordpress.com/2007/05/22/where-does-colorado-springs-get-its-water-supply-from/</a>. Accessed June 10, 2016.

Robson, S. G, 1989. *Alluvial and Bedrock Aquifers of the Denver Basin – Eastern Colorado's Dual Groundwater Resource*. USGS Water –Supply Paper 2302.

Robson, S. G, and Banta, E. R. 1995. *Ground water atlas of the United States, Arizona, Colorado, New Mexico, Utah.* USGS HA 730-C.

URS, 2016a. Evaluation of Air Force Hangar Fire Protection Features: Hangar/Building 121. Peterson AFB (COS), CO: Final Hangar Evaluation Installation Report (HEIR).

URS, 2016b. Evaluation of Air Force Hangar Fire Protection Features: Hangar/Building 133. Peterson AFB (COS), CO: Final Hangar Evaluation Installation Report (HEIR).

URS, 2016c. Evaluation of Air Force Hangar Fire Protection Features: Hangar/Building 140. Peterson AFB (COS), CO: Final Hangar Evaluation Installation Report (HEIR).

URS, 2016d. Evaluation of Air Force Hangar Fire Protection Features: Hangar/Building 210. Peterson AFB (COS), CO: Final Hangar Evaluation Installation Report (HEIR).

URS, 2016e. Evaluation of Air Force Hangar Fire Protection Features: Hangar/Building 214. Peterson AFB (COS), CO: Final Hangar Evaluation Installation Report (HEIR).

United States Air Force (USAF), September 1989. IRP Remedial Investigation/Feasibility Study at Peterson AFB, CO; Final Technical Reports Volumes I & II, and Appendix Volumes III-VIII.

USAF, August 2012. Interim Air Force Guidance on Sampling and Response Actions for Perfluorinated Compounds at Active and BRAC Installations.

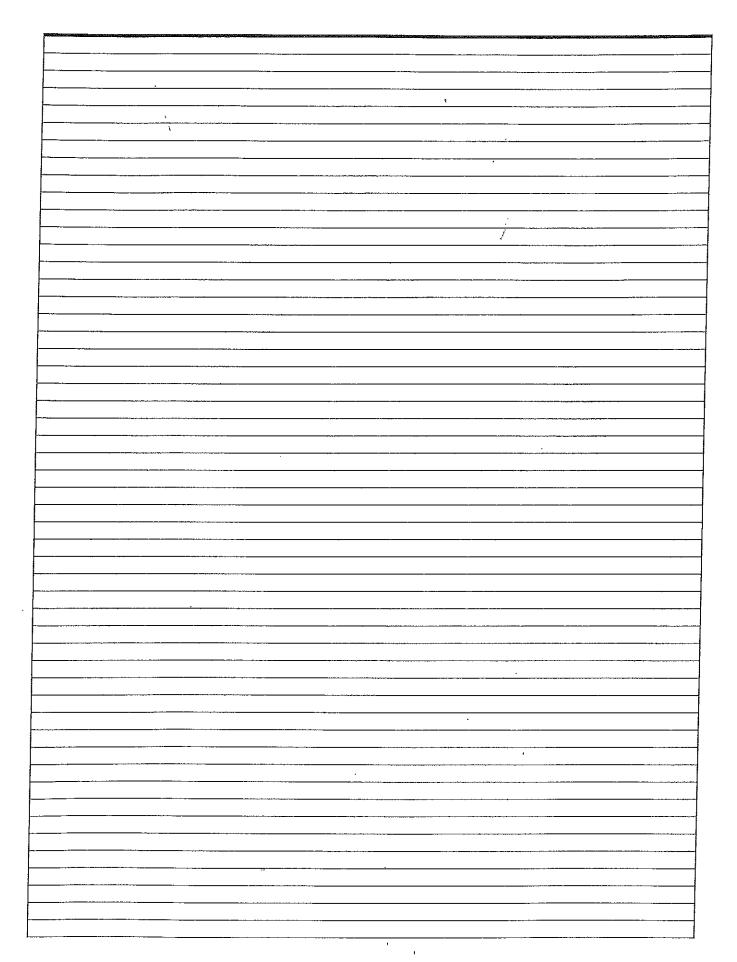
USAF. Peterson Air Force Base Units. http://www.peterson.af.mil/Units. Accessed June 10, 2016.

Widefield Water and Sanitation District, 2016. UPDATE ON EPA'S NEW LOWER COMBINED PFC HEALTH ADVISORY LEVEL. <a href="http://www.wwsdonline.com/water-fag">http://www.wwsdonline.com/water-fag</a>. Accessed 6-16-2016.

# Appendix A Peterson Air Force Base Communication Log

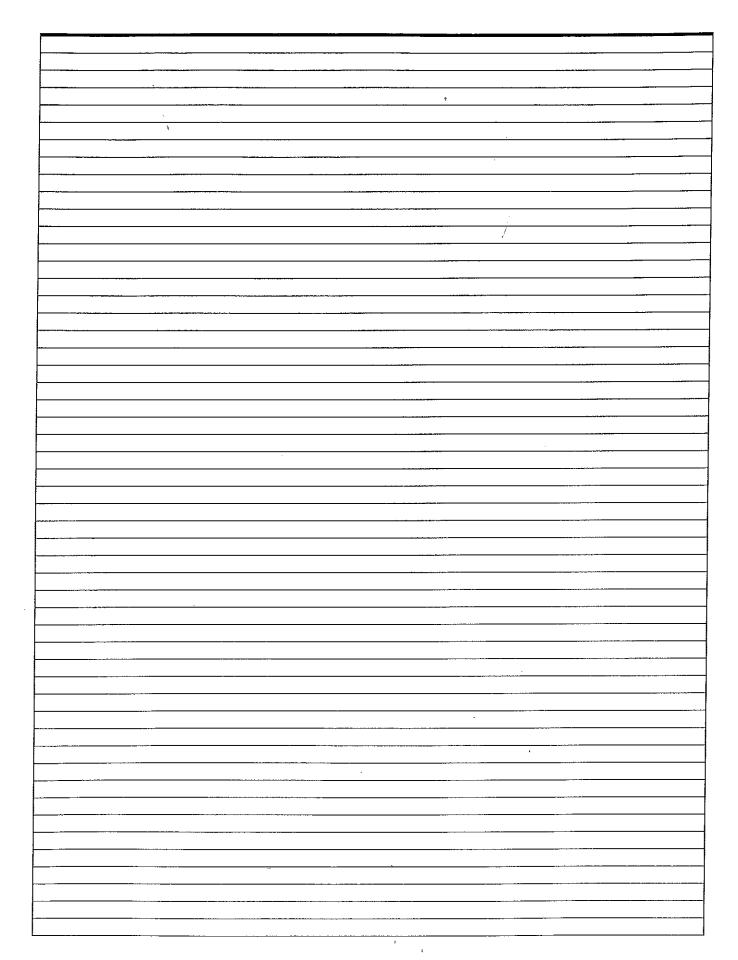
	Date: 03 -23-2016	Communication Posser
	Time: 0900	Communication Record
None of Board St. 1		
Name of Base, State: Peters	→ AFB	
-1, -1		
Organization: ASL		Phone: 845-368-342
Position/Role on this project:	Field Operations	E-mail: accison @ specproenu.com
Interviewe	<b>泰尔斯 中国人工发展的工作员</b>	
Interviewee: Take Envi	convented starte	Phone: Jurious
	1	E-mail: Various
How long at this base in current	and provious positions	
Have you held similar positions	at other bases 13-	, po 3
	at other bases: No	
Which bases:	- Anna Anna Anna Anna Anna Anna Anna Ann	
vineti bases.		
How Long:		
, .		
Discussion:		
	11 61	Clier- frederick - brooks @ ws. af. will
(2) (A)	586-6100	C. d' - freelerick . brooks @ Us. af. mil
( *(*)	356-6100	and the second s
51 51 EBA	Ð	<i>A</i>
/20)	554- 1819	Sharon. Stone @ us. af. mil
(+13)	33 4 - 2819	
Solvette River - Fr	Sign to English	- sil vette. rivera- eliza@ os. af. mil
(7.9)	556-1910	STIDETE LIVERS PILEQ (O' US, at. mil
<u> </u>		
acility Bowles - D	lineating line the T	AFB and the Colombo springs
	unicipal wirport is	Taxina Bayo
	ways are slar	ed lit the facilities that
	he city at Cala	rado Springs is the owner
revious Sampling -	The state of 60	planda has conducted Sampling esplin coere electronically should
• 3	oreviously. These n	soles were electronically should
	with ASL	
Drinking Water -	Water for the	Springs
	City of Calmana	Spring
<u> </u>	A register of De	blic and ectionte malle is an ilable
	online	blic and private wells is available
tormouter -	Managed by Sy	luette Rivera
	3 unity Neath, E	art, and Contral
<u> </u>	The central unit	encompasses the majority
	of the working	· facilités at PAFB and
	drains to Pand	g facilities at PAFB and
	Pand #3 is lived	I pond on the southernendal
and the state of t	the facility	

- Pond #3. has a spill way leading to an unlined over
Place Pond
Plans Pond  - Northern unit flow to pend #2 (Sand (reek)  - Eastern unit flows to go Poteson East Pond  - Six outlants are sampled on a growterly basis  for NPDES permiting
Correct whit \$1000 to pand \$12 ( most Create)
- Castern unit How to Peterson East Porch
- Six outlets are sampled on a quarterly tasis
for NADES permiting
Buildings - Hongars of Concern 140, 133, 126, 130, 123, 123, 121
was a O THE (All : Control with)
Buildings - Hongars of Concern 140, 133, 126, 130, 123, 123, 121  119, and 714 (Allin Central onit)  - Bidg 216 is fire Station #1 (Central Unit)  Bidg 2032 is Fire Station #2 (Fastern unit)
- Birlly 216 is the startion of a control UMF)
Blog 201219 Fire Howton # of Charlen unit)
Other areas of Concern - Current FTA
= Site 5 (Former FTA) on (SMA
site 8 (Former FTA) on 15 MA
- site 8 (Former FTA) on LSMA - 146,000 gallon OST new building Z10
- 1761 COL gamon ON TIER BUILDING COL
AFFF Volume on size - Hungar 121 - 500 gal 3% AFFF Honger 133 - 800 gal 3% AFFF
Hanner 137 - 200 mail 3% AFFF
II and the second of AFEC
Hangar 140 - 800 gal 3% AFFF Hangar 210 - 2x 1100 gal 3% AFFF
Hangar 40 - 3x WD gal 310HFFF
Hangar 214 - 2000 gal 3% AFFF  # * - Later determined thangar 140 was HEF
# 16 - Later determined thougar 140 was HEF
Work at Colorado Springs Minicipal Airport (CSMA) will involve an
- ( ) in 16 100 C. Res
-60 is 65-100 a BG5
-60 is 65-100 9 BG5
-60 is 65-100 a BG5
-6w is 65-100 a BG5
-6w is 65-100 a BG5
-60 is 65-100 a BG5
-60 is 65-100 Q B65
-60 is 65-100 A BG5
-62 is 65-100 4 BG5
-6D is 65-100 Q B65
-6D is 15-100 Q B65
-6D is 65-100 & B65
- GD is 15-100 Q BE5
-6 \( \text{is} \) \( is
-6D is 65-100 & 865
-6\to is 45-1\to 4 845
-6D is LS-100 & BG5
-60 is 65-100 A B45
- GeD is 65-1000 De 1845
- Ger is 65-1000 to 1845
- GeD is 65-1000 Ge 1865
- Ged is 65-1000 Ge 1865
-6\( \to \) is \( \text{LS-100 } \tau \) 865



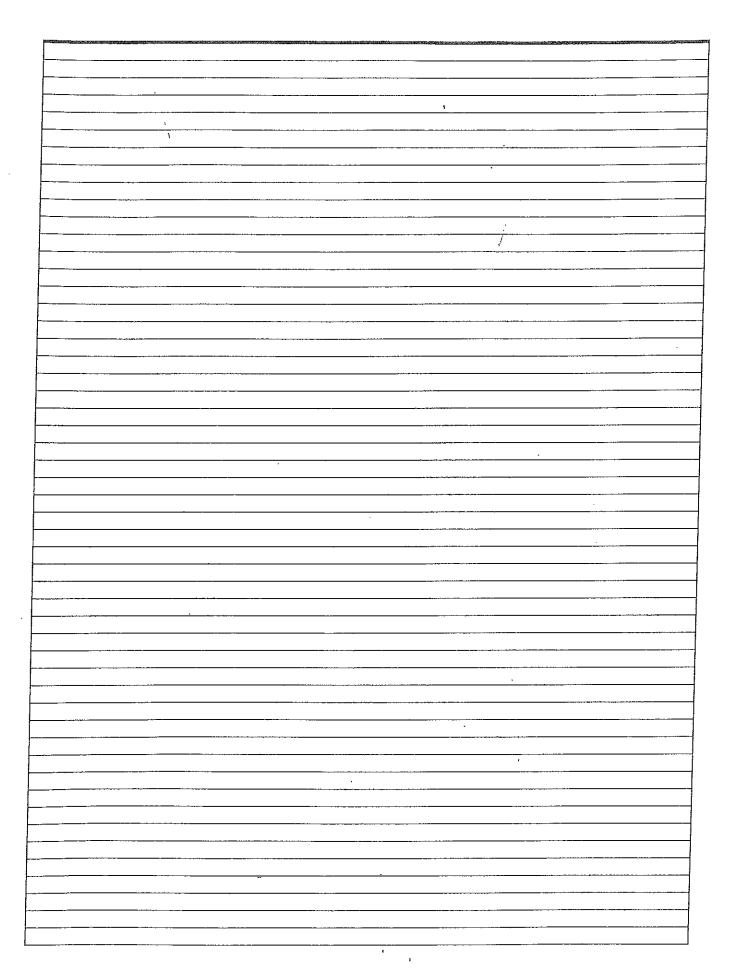
	Date: 03-23-16	<b>Communication Record</b>
	Time: 336	Communication Record
Name of Base, State: ?		
Interviewer: G.C.	risa	
Organization: ASL		Phone: 845-348-3112
Position/Role on this proj	ect: Field Operations	E-mail: acartson @ specpro env.com
Interviewee: Crain Por	well, Bucke Ferrin	Phone:
Organization: PAFRED		ng E-mail: burke, ferrin Quos afamil
How Long at this positions		
· · · · · · · · · · · · · · · · · · ·	urrent and previous positions:	· · · · · · · · · · · · · · · · · · ·
Have you held similar posi	tions at other bases: 🔥	
•		
Which bases:		
How Long:		·
Discussion:		
Assistant Chief Po.	well - Training officer	for PAFII fire department
Assistant Chias B.	unke - Assistant Fine Chi	of gave ASL a tour of Station I
		. 3
Current FTA - In	astalled in the early 1	9904, is engineered and has a
	ning	· · · · · · · · · · · · · · · · · · ·
	IFFF has been used .	Ensice at the current FTA. All
	IFFF was contained w	isthing the lined pit.
		·
Spray testing - 5	spray testing at Fire	Station #1 is done on the
<u> </u>	menete ramp during	good weather and at the volley ball
	ourt during inclame	in weather
Fire Station #2 -	Built in 1996 to eno	able quicker response times. Blog 202
•		
Building 104 -	Has a Hi-Ex gystem	was mater only
	Previously the system	was water only
		····
System Maineranc	e-Base plumbing u	national the plumbing related
*	systems of fire	suppression equipment touite
	base utilities mai-	rtains the electrical and mechanical
	portions of the s	systems
	•	•
Iccidental Disclar	ges - Hangar 210 an	of the gar 214 both recently lispensed through the underwing
	tripped and d	lipensed through the underwing
	nozzles. The H	angar Z14 system was rebuilt
	by western State	es Fire Protection 12-17 years ago.

Vehicler Maintained by PAFB FD-
Crast 6- PCIV - Stegatlon AFFF trank
Cross 4- P-23- 420 rather AFFF tank
(cash) - P-23" Gree gallon Tank (AFF) Station )
AFFF Trailer - 1000 gallon capacity 600 gallon sof ANSUL stored at Station 1
1.00 gallon s. of ANSUL stored at Station 1
Old Crosh 4 - Currently at base motor prod awaiting
dispolition
Emergency Response - Mooney Crack - Dec 23, 2010
- < mall personal Plane
Emergency Response - Mooney Crash - Dec 23, 2010  - Small personal plane  - Crash occurred Tuse North of Runnary 171  - Truch had a stuck value that wasn't
- Truck had a stuck callo that wasn't
meterica properly. Atlant in pallon of AFFF
metering properly. At least 100 gallor of AFFF were released
7 (H-Ve 17) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1
<del>.</del>
•
·
,
<u> </u>



	Date: 3-24-2016		
1	Time: 6800	Comm	unication Recor
Name of Base, State: Peters	on AFB		
Interviewer: 6 Cardson			
Organization: ASL	. ()	Phone: 866	5-368-2115
Position/Role on this project: 🗜	eld Operations	E-mail: 🥴	Courbon @ Specproenc
nterviewee: John Hei-		Phone:	
Interviewee: John Hei- Organization: Rose Ut		<del></del>	16:
	veors	L-Itiali. Joka,	Heimer@ 08.05.mil
low long at this base in current an		ars	
lave you held similar positions at o		=	
-	140		
			•
Vhich bases:			
ow Long:			
		and the second s	The state of the s
iscussion:		0 0 11 1	
	Leacuess to all requ	sired faciliti	es today
Tr. Breisser with Jordon			- (
•		<u> </u>	
Hangers to visit inclu	De 119, 121, 133, 210	<u> </u>	
•	De 119, 121, 133, 210	<u> </u>	
Hangers to visit inches	De 119, 121, 133, 210 LH:-Ex System	o, and 214.	Mr. Heimer started that
Hangers to visit inches	De 119, 121, 133, 210 LH:-Ex System	o, and 214.	Mr. Heimer started that
Hangers to visit inches	De 119, 121, 133, 210 LH:-Ex System	o, and 214.	Mr. Heimer started that
Hangers to visit inches Hanger 140 has a The primary sewer ends near Hanger there. This UST	De 119, 121, 133, 210 LH:-Ex System	o, and 214.	Mr. Heimer started that
Hangers to visit inches	De 119, 121, 133, 210 LH:-Ex System	o, and 214.	Mr. Heimer started that
Hangers to visit inches Hanger 140 has a The primary sewer ends near Hanger there. This UST	De 119, 121, 133, 210  Hi-Ex system  trunk for the Re 210, discharging in drains for Pond	o, and 214.  citing begins  to the law,000  #3.apter	Mr. Heimer stated that  at Hongar 140 and  so gation ust located  liquids pass through
Hangers to visit inches Hangar 140 has a The primary sewer ends near Hangar there. This UST .a. DUS	De 119, 121, 133, 210  Hi-Ex system  trunk for the Re 210, discharging in drains for Pond	o, and 214.  citing begins  to the law,000  #3.apter	Mr. Heimer stated that  at Hongar 140 and  so gation ust located  liquids pass through
Hangers to visit included thanger 140 has a sever thanger thanger thanger thanger thanger and out the out than out the out than out the out than out the out the out than out the out	De 119, 121, 133, 210  Hi-Ex system  trunk for the Re 210, discharging in drains for Pond	o, and 214.  citing begins  to the law,000  #3.apter	Mr. Heimer stated that  at Hongar 140 and  so gation ust located  liquids pass through
Hangers to visit included thanger 140 has a sever thanger thanger thanger thanger thanger and out the out than out the out than out the out than out the out the out than out the out	De 119, 121, 133, 210  Hi-Ex system  trunk for the Re 210, discharging in drains for Pond	o, and 214.  citing begins  to the law,000  #3.apter	Mr. Heimer stated that  at Hongar 140 and  so gation ust located  liquids pass through
Hangers to visit included the primary sewer ends near Hanger there. This UST	De 119, 121, 133, 210  Hi-Ex system  trunk for the Re 210, discharging in drains for Pond	o, and 214.  citing begins  to the law,000  #3.apter	Mr. Heimer stated that  at Hongar 140 and  so gation ust located  liquids pass through
Hangers to visit included the primary sewer ends near Hanger there. This UST	De 119, 121, 133, 210  Hi-Ex system  trunk for the Re 210, discharging in drains for Pond	o, and 214.  citing begins  to the law,000  #3.apter	Mr. Heimer stated that  at Hongar 140 and  so gation ust located  liquids pass through
Hangers to visit included the primary sewer ends near Hanger there. This UST	De 119, 121, 133, 210  Hi-Ex system  trunk for the Re 210, discharging in drains for Pond	o, and 214.  citing begins  to the law,000  #3.apter	Mr. Heimer stated that  at Hongar 140 and  so gation ust located  liquids pass through
Hangers to visit included the primary sewer ends near Hanger there. This UST	De 119, 121, 133, 210  Hi-Ex system  trunk for the Re 210, discharging in drains for Pond	o, and 214.  citing begins  to the law,000  #3.apter	Mr. Heimer stated that  at Hongar 140 and  so gation ust located  liquids pass through
Hangers to visit included thanger 140 has a sever thanger thanger thanger thanger thanger and out the out than out the out than out the out than out the out the out than out the out	De 119, 121, 133, 210  Hi-Ex system  trunk for the Re 210, discharging in drains for Pond	o, and 214.  citing begins  to the law,000  #3.apter	Mr. Heimer stated that  at Hongar 140 and  so gation ust located  liquids pass through
Hangers to visit included thanger 140 has a sever thanger thanger thanger thanger thanger and out the out than out the out than out the out than out the out the out than out the out	De 119, 121, 133, 210  Hi-Ex system  trunk for the Re 210, discharging in drains for Pond	o, and 214.  citing begins  to the law,000  #3.apter	Mr. Heimer stated that  at Hongar 140 and  so gation ust located  liquids pass through
Hangers to visit included thanger 140 has a sever thanger thanger thanger thanger thanger and out the out than out the out than out the out than out the out the out than out the out	De 119, 121, 133, 210  Hi-Ex system  trunk for the Re 210, discharging in drains for Pond	o, and 214.  citing begins  to the law,000  #3.apter	Mr. Heimer stated that  at Hongar 140 and  so gation ust located  liquids pass through
Hangers to visit included thanger 140 has a server ends near thanger there. This UST an OWS	De 119, 121, 133, 210  Hi-Ex system  trunk for the Re 210, discharging in drains for Pond	o, and 214.  citing begins  to the law,000  #3.apter	Mr. Heimer stated that  at Hongar 140 and  so gation ust located  liquids pass through
Hangers to visit included thanger 140 has a sever thanger thanger thanger thanger there. This UST an OWS	De 119, 121, 133, 210  Hi-Ex system  trunk for the Re 210, discharging in drains for Pond	o, and 214.  citing begins  to the law,000  #3.apter	Mr. Heimer stated that  at Hongar 140 and  so gation ust located  liquids pass through
Hangers to visit included thanger 140 has a sever thanger thanger thanger thanger there. This UST an OWS	De 119, 121, 133, 210  Hi-Ex system  trunk for the Re 210, discharging in drains for Pond	o, and 214.  citing begins  to the law,000  #3.apter	Mr. Heimer stated that  at Hongar 140 and  so gation ust located  liquids pass through
Hangers to visit inches Hangar 140 has a The primary sewer ends near Hangar there. This UST .a. DUS	De 119, 121, 133, 210  Hi-Ex system  trunk for the Re 210, discharging in drains for Pond	o, and 214.  citing begins  to the law,000  #3.apter	Mr. Heimer stated that  at Hongar 140 and  so gation ust located  liquids pass through
Hangers to visit inches Hangar 140 has a The primary sewer ends near Hangar there. This UST .a. DUS	De 119, 121, 133, 210  Hi-Ex system  trunk for the Re 210, discharging in drains for Pond	o, and 214.  citing begins  to the law,000  #3.apter	Mr. Heimer stated that  at Hongar 140 and  so gation ust located  liquids pass through
Hangers to visit inches Hangar 140 has a The primary sewer ends near Hangar there. This UST .a. DUS	De 119, 121, 133, 210  Hi-Ex system  trunk for the Re 210, discharging in drains for Pond	o, and 214.  citing begins  to the law,000  #3.apter	Mr. Heimer stated that  at Hongar 140 and  so gation ust located  liquids pass through
Hangers to visit inches Hanger 140 has a The primary sewer ends near Hanger there. This UST	De 119, 121, 133, 210  Hi-Ex system  trunk for the Re 210, discharging in drains for Pond	o, and 214.  citing begins  to the law,000  #3.apter	Mr. Heimer stated that  at Hongar 140 and  so gation ust located  liquids pass through

CONTRACTOR TO THE OWNER OF THE PROPERTY OF THE				and a superior and the superior of the superio
İ				
				<del></del>
			t	
1 .	1			
<u></u> .	1			
L.				
‡				
ļ				•
				·
	<del></del>	······		
				<del>-</del>
				-
	<del></del>	******		
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		· · · · · · · · · · · · · · · · · · ·		<del> </del>
	<del> </del>			· · · · · · · · · · · · · · · · · · ·
the state of the s	·			
			•	
•				
		<del></del>	·	
			,	
	***************************************			
				Ţ
		-		
•				
	<del></del>			
	**			





**Peterson Air Force Base Photo Record Log and Field Photographs** 

Team: G. Carlson/ B. Odom				Date: 03-23 thru 03-24-16		
Project Number: M2027.0003				Observation Period: 0800-1600		
Weather: 03-23-16 - Blizzard conditions, 30-35°			35°F			
03-24-16 - Partly cloudy, 45-60°F				Start_	Stop	
Photo		.j, .e e e e				
Number	Time	View Direction	Location/Description		Description	
1		East		Sita 5 Famman FTA		
2		East		Site 5 Former FTA Site 5 Former FTA		
2		Last		510 5 1 0	THE ITA	
3		East	Site 5 Former FTA			
4		South		Site 5 For	rmer FTA	
5		Southeast		Site 5 For	rmer FTA	
6		East		Site 5 For	rmer FTA	
7		Southeast		Site 8 For	rmer FTA	
8		North		Site 8 For	rmer FTA	
9		Southeast		Site 8 For	rmer FTA	
10		South		Site 8 For	rmer FTA	
11		Southeast	Site 8 Former FTA			
12		Southeast	Site 8 Former FTA		rmer FTA	
13			AFFF Storage at Fire Station #1, 600 gallons		Station #1, 600 gallons	
14			AFFF Storage at Fire Station #1, 600 gallons		Station #1, 600 gallons	
15			Crash 4, Model P-23, 420-gallon AFFF capacity, side			
13			Crash 4, Model P-23, 420-gallon AFFF capacity, right			
16			Crasii 4,		de	
17				1,000-gallon AFF	F trailer, right side	
18				1,000-gallon AFI	FF trailer, left side	
			Rapid Intervention Vehicle (RIV), 56-gallon AF		ele (RIV), 56-gallon AFFF	
19				capa	acity	
20		NI d	D	. : 1 F: 0:	U1 37' 1 1 .1	
20		Northwest	Ramp outside Fire Station #1. View looks northw Southeast view of fire station #1			
21		Southeast				
22			Fire station #1 vehicle doors			
23			G:		on #1 ramp	
		C 0.141	Station		eather spray test area, the	
24		Southwest			all court	
25		Southwest			rom fire station #1	
26					F mechanical room	
27			_		label on 800-gallon tank	
28			Hangar 133 AFFF pump and activation system			
29	Hangar 133 AFFF system test label			r system test label		

			T
Photo	æ.	W. D	
Number	Time	View Direction	Location/Description
20			Current AFFF volume at Hangar 133, approximately 650
30			gallons
			55 gallon drum of 3% AFFF found at Hangar 133.
31			Ansulite brand
32			Ceiling joists and AFFF suppression system at Building 131
			Further image of AFFF suppression system at Building
33			131
34			Close up view of AFFF dispensing head at Hangar 133
35			Building 131 drain system
36			Hangar 121 AFFF mechanical room
37			Hangar 121 AFFF system test label
38			Hangar 121 AFFF activation system
39			Hangar 121 AFFF storage tank, 600-gallon capacity
40			Hangar 121 current volume on hand, approximately 450
41			Hangar 121 AFFF activation system
			Fire department connection to AFFF system at Hangar
42			121
			Hangar at 121. Note the puddles and containment booms
43			from recent testing
44			Residual water and small bubbles remaining from recent
45			Containment booms from testing
46			Residual foam from testing
47			Hangar 121 foam controls
			Deflated containment booms from AFFF system testing
48			at Hangar 121
			Note boom placement outside sewer drainage during
49			testing
50			Foam controls and alarms at Hangar 121
51			Foam heads at Hangar 121
52			Hangar 119 sprinkler heads
53			Decommissioned foam system at Hangar 119
54			Decommissioned foam tank at Hangar 119
55			2,000-gallon AFFF storage tank at Hangar 214
56			Showing the level of AFFF concentrate at Hangar 214
57			AFFF system inspection tag at Hangar 214
58			AFFF pump control system for Hangar 214
59			Foam pumping system, Hangar 214
60			Underwing cannon at Hangar 214
61			Underwing cannon at Hangar 214
01			Onuci wing camon at Hangai 214

Dl ( -			
Photo	T:	Wissa Dissatism	I and in a /Decorieties
Number	Time	View Direction	Location/Description
62			Interior of Hangar 214 hangar doors
			Exterior of Hangar 214 hangar doors, view facing
63		Northeast	northeast
64		East	Exterior of Hangar 214 hangar doors, view facing east
			Tarmac outside Hangar 214. Note the depression for
65			drainage, center right
66			Close up of tarmac drainage in previous photo
67			Second view of drainage from Hangar 214 tarmac
			Southeast looking photo of Hangar 214, note the good
68		Southeast	repair of the concrete
69			Hangar 210 AFFF storage tanks
70			Hangar 210, tank 2, inspection tag
71			Hangar 210, tank 1, inspection tag
72			Drain protection in place at Hangar 210
73			Hangar 210 AFFF storage tanks
74			Hangar 210 AFFF pump motor
75			Hangar 210 diesel engine pump controllers
76			Hangar 210 fire suppression water supply to AFFF tanks
77			Second view of Hangar 210 diesel pumps at Hangar 210
			AFFF dispensing manifold in Hangar 210 mechanical
78			room
79			Hangar 210, Bay 1 underwing cannon #1
80			Hangar 210, Bay 1, underwing cannon #2
81			Hangar 210, Bay 2, underwing cannon #1
82			Hangar 210, Bay 2, underwing cannon #2
83			Hangar 210, Bay 2 floor drainage
84			Hot high pressure washers in Bay 2
			Rear of hot high pressure washers in Bay 2 at Hangar
85			210
			Unlined detention pond next to Pond #3. Notice the
86			overflow scarring
			Outfall #5 leading to unlined detention pond. View is
87			northwest
88		Northwest	Northwestern looking view of unlined detention pond
89		Southwest	Southwestern view of unlined pond
90			Spillway from Pond #3
91		Northeast	Northeastern view of Pond #3
92			Note the pond lining
93		East	Eastern view of Pond #3
			L .

Photo			
Number	Time	View Direction	Location/Description
94		Southeast	Southeastern view of Pond #3
95			Current FTA airplane mockup
96			Current FTA used water holding tank
97			Current FTA holding tank
98			Used Ansul AFFF drums.
99			Current FTA airplane mockup
100			Current FTA airplane mockup
101			Current FTA vehicle mockup
102			Current FTA airplane mockup
			Crash 3, stationed at fire station #2, Model P-23, 210
103			gallon AFFF capacity, left side
			Crash 3, stationed at fire station #2, Model P-23, 210
104			gallon AFFF capacity, right side
105			Station #2 spray test area
106			Station #2 spray test area





Photo 11 Site 8. Photo 12 Site 8.



Photo 12 AFFF Storage at Fire Station #1, 600 gallons.



Photo 13 AFFF Storage at Fire Station #1, 600 gallons.



Photo 14 Crash 4, Model P-23, 420-gallon AFFF capacity.



Photo 14 Crash 4, Model P-23, 420-gallon AFFF capacity.



Photo 15 AFFF trailer (1,000 gallons).



Photo 16 AFFF trailer (1,000 gallons).



Photo 19 Rapid Intervention Vehicle, 56- gallon AFFF capacity.



Photo 20 Ramp outside Fire Station #1. View looks northwest.



Photo 21 Southeast view of Fire Station #1.



Photo 22 Fire Station #1 vehicle doors.



Photo 23 Fire Station #1 ramp.



Photo 24 Station #1 inclement weather spray test area, the volleyball court.



Photo 25 Southwest view from Fire Station #1.



Photo 26 Building 133 AFFF mechanical room.



Photo 27 Hangar 133, 3 percent AFFF label on 800-gallon tank.



Photo 28 Hangar 133 AFFF pump and activation system.



Photo 29 Hangar 133 AFFF system test label.



Photo 30 Current AFFF volume at Hangar 133, approximately 650 gallons.



Photo 31 55 gallon drum of 3 percent AFFF found at Hangar 133 (Ansulite brand).



Photo 32 Ceiling joists and AFFF suppression system at Building 131.



Photo 33 Further image of AFFF suppression system at Building 131.



Photo 34 Closeup view of AFFF dispensing head at Hangar 133.

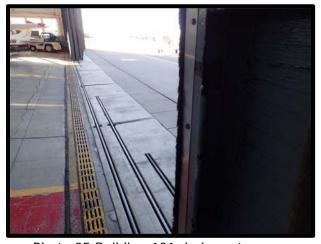


Photo 35 Building 131 drain system.



Photo 36 Hangar 121 AFFF mechanical room.



Photo 37 Hangar 121 AFFF system test label.



Photo 38 Hangar 121 AFFF activation system.



Photo 39 Hangar 121 AFFF storage tank, 600-gallon capacity.



Photo 40 Hangar 121 current volume on hand, approximately 450 gallons.



Photo 41 Hangar 121 AFFF activation system.



Photo 42 Fire department connection to AFFF system at Hangar 121.



Photo 43 Hangar 121. Note puddles and containment booms from recent testing.



Photo 44 Residual water and small bubbles from recent testing at Hangar 121.



Photo 45 Containment booms from testing.



Photo 46 Residual foam from testing.



Photo 47 Hangar 121 foam controls.



Photo 48 Deflated containment booms from AFFF system testing at Hangar 121.



Photo 49 Note boom placement outside sewer drainage during testing.



Photo 50 Foam controls and alarms at Hangar 121.



Photo 51 Foam heads at Hangar 121.



Photo 52 Hangar 119 sprinkler heads.



Photo 53 Decommissioned foam system at Hangar 119.



Photo 54 Decommissioned foam tank at Hangar 119.



Photo 55 AFFF storage tank at Hangar 214 (2,000-gallon).



Photo 56 Showing the level of AFFF concentrate at Hangar 214.



Photo 57 AFFF system inspection tag at Hangar 214.



Photo 58 AFFF pump control system for Hangar 214.



Photo 59 Foam pumping system at Hangar 214.

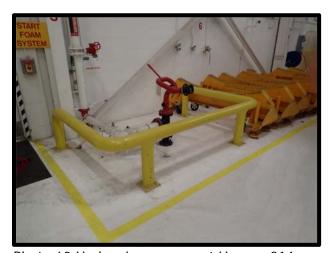


Photo 60 Underwing cannon at Hangar 214.



Photo 61 Underwing cannon at Hangar 214.



Photo 62 Interior of Hangar 214.



Photo 63 Exterior of Hangar 214 doors (view facing northeast).



Photo 64 Exterior of Hangar 214 doors (view facing east)



Photo 65 Tarmac outside Hangar 214. Note the depression for drainage, center right.



Photo 66 Closeup of tarmac drainage in Photo 65.



Photo 67 Second view of drainage from Hangar 214 tarmac.



Photo 68 Southeast looking photo of Hangar 214. Note the good repair of the concrete.



Photo 69 Hangar 210 AFFF storage tanks.



Photo 70 Hangar 210, Tank 2, inspection tag.



Photo 71 Hangar 210, tank 1, inspection tag.



Photo 72 Drain protection in place at Hangar 210.



Photo 73 Hangar 210 AFFF storage tanks.



Photo 74 Hangar 210 AFFF pump motor.



Photo 75 Hangar 210 diesel engine pump controllers.



Photo 76 Hangar 210 fire suppression water supply to AFFF tanks.



Photo 76 Second view of Hangar 210 diesel pumps.



Photo 77 AFFF dispensing manifold in Hangar 210 mechanical room.



Photo 79 Hangar 210, Bay 1 underwing Cannon #1.



Photo 80 Hangar 210, Bay 1, underwing Cannon #2.



Photo 81 Hangar 210, Bay 2, underwing Cannon #1.



Photo 82 Hangar 210, Bay 2, underwing Cannon #2.



Photo 83 Hangar 210, Bay 2 floor drainage.

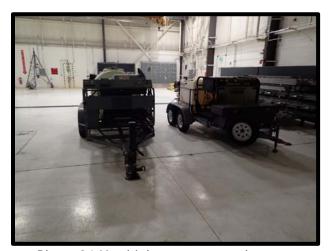


Photo 84 Hot high-pressure washers in Bay 2.



Photo 85 Rear of hot high-pressure washers in Bay 2 at Hangar 210.



Photo 86 Unlined detention pond next to Pond #3. Notice the overflow scarring.



Photo 87 Outfall #5 leading to unlined detention pond. View is northwest.



Photo 88 Northwestern looking view of unlined detention pond.



Photo 89 Southwestern view of unlined pond.



Photo 90 Spillway from Pond #3.



Photo 91 Northeastern view of Pond #3.



Photo 92 Note the pond lining.



Photo 93 Eastern view of Pond #3.



Photo 94 Southeastern view of Pond #3.



Photo 95 Current FTA airplane mockup.



Photo 96 Current FTA used water holding tank.

B-20



Photo 97 Current FTA holding tank.



Photo 98 Used ANSUL AFFF drums.



Photo 99 Current FTA airplane mockup.



Photo 100 Current FTA airplane mockup.



Photo 101 Current FTA vehicle mockup.



Photo 102 Current FTA airplane mockup.



Photo 103 Crash 3, stationed at Fire Station #2, Model P-23, 210-gallon AFFF capacity.



Photo 104 Crash 3, stationed at Fire Station #2, Model P-23, 210-gallon AFFF capacity.



Photo 105 Fire Station #2 spray test area.



Photo 106 Fire Station #2 spray test area.

## Appendix C Peterson Air Force Base Preliminary Assessment Forms

## Identification **Potential Hazardous Waste Site Preliminary** State: CO CERCLIS #: **Assessment Form CERCLIS Discovery Date:** 1. General Site Information Name: Peterson Air Force Base (PAFB) Street Address: Platte Avenue & Powers Blvd City: Colorado Spings State: Zip Code: County: Co Code: Cong. Dist. El Paso CO 80916 CO-05 Approximate Area of Site: Latitude: Longitude: Status of Site: 39°49'42.71" N 104°42'46.49" W Active Not Specified Acres 255,000 Inactive NA (GW Plume etc.) Sq. Ft. Site Name: Current Fire Training Area The current FTA, which is in the northern portion of the facility, is a lined fire training pit with an aircraft mockup in the center. The fires used for training activities are generated with propane, and water is used to extinguish training fires. This FTA was installed in the early 1990s. Two instances of AFFF use were reported by Assistant Chief Powell since the beginning of his tenure in 2005; however, all dispensed foam was contained within the lined pit. Water generated from training activities is pumped into an enclosed holding tank on the southern side of the training area. This holding tank used to have a sediment separator and OWS associated with it, but these have been removed. The holding tank is occasionally drained into the sewer system, but the occurrence of such events is rare. Several empty ANSUL AFFF drums were observed on site. Assistant Chief Powell stated that these drums were triple-rinsed before being stored at this location. 2. Owner/Operator Information Owner: Peterson Air Force Base Operator: Same As Owner Street Address: Platte Avenue & Powers Blvd Street Address: ----City: Colorado Spings City: ----Zip Code: 80916 Telephone: N/A State: ----Zip Code: ----State: Colorado Telephone: ----Type of Ownership: Type of Ownership: Private County Private County ederal Agency Municipal Federal Agency Municipal Name: DOD Not Specified Name: Not Specified State State Other: \_ Other: \_ Indian Indian 3. Site Evaluator Information Name of Evaluator: Greg Carlson Agency/Organization: Aerostar SES LLC Date Prepared: 05-16-16 Street Address: 1006 Floyd Culler Court State: TN City: Oak Ridge Name of EPA or State Agency Contact: N/A Street Address: N/A City: N/A State: N/A Telephone: N/A 4. Site Disposition (for EPA use only) Emergency Response Removal Assessment **CERCLIS Recommendation:** Signature: **Higher Priority SI** Recommendation: Lower Priority SI Yes Name (Typed): Nο NFRAP **RCRA** Position:

M2027.0003 7/21/16

Date:

Other \_

		5. Gener	al Site Characteristics	
Predominant Land Use Wit	hin 1 Mile of Site	2:	Site Setting:	Years of Operation:
			Urban	Beginning Year: 1989
Industrial	Mining	Other Federal	Suburban	
Commercial	DOD	Facility:	Rural	Ending Year: In Use
Residential	DOE			<u> </u>
Forest/Fields	DOI	Other:		Unknown
Agriculture				
Type of Site Operations (Cir	rcle All that Appl	v):	1	Waste Generated:
Manufacturing (Must				Onsite
Lumber and Wood		Recycling		Offsite
Inorganic Chem	nicals	Junk/Salva	ge yard	Onsite and Offsite
Plastic and/or Rubbe	r Products	Municipal I	_andfill	
Paints/Varnisl	hes	Other Land	fill	Waste Deposition Authorized By:
Industrial Organic C	Chemicals	DOD		Present Owner
Agricultural Che	micals	DOE		Former Owner
Miscellaneous Chemic	cal Products	DOI		Present and Former Owner
Primary Meta	als	Other Fede	eral Facility:	Unauthorized
Metal Coating, Plating	g, Engraving	RCRA		Unknown
Metal Forging, Sta	amping		TSDF	Waste Accessible to the Public:
Fabricated Structur	al Metal	Large	Quantity Generator	Yes
Electronic Equip	ment	Small	Quantity Generator	No
Mining (Must Select a S	ub-Category):		Subtitle D	
Metals			Municipal	Distance to Nearest Dwelling
Coal	Coal Indust			School or Workplace:
Oil and Gas	5		"Converter"	
Non-Metallic Mi	nerals	II	Protective Filer"	0.0 Miles
		"1	Non or Late Filer"	
		Not Specifi	ed	
		Other:		
			aracteristics Information	
			A Table 1 for WC Score)	
Source Type	Source W	aste Quantity (Include	Tier* General Type of	Waste (Circle all that Apply)
(Select all that apply)		Units)		
			Metals	Pesticides/Herbicides
Landfill			Organics	Acids/Bases
Surface Impoundment			Inorganics	Oily Waste
Drums			Solvents	Municipal Waste
Tanks and Non Drum Containe	ers		Paints/Pigments	Mining Waste
Chemical Waste Pile			Laboratory/Medic	
Scrap Metal or Junk Pile			Radioactive Waste	
Tailings Pile			Construction/Den	iolition Waste
Trash Pile (open drum)				
Land Treatment			Physical State of	Waste as Deposited (Circle all that apply):
Contaminated GW Plume				
Contaminated SW/Sediment			Solid	
Contaminated Soil			Sludg	
Other		Unknown	Powd	
No Sources *C-Consult	ant W-Wastestraar	m, V=Volume, A=Area	Liquid	ン
C-Collsuit	ant, w-wastestiedi	n, v-volume, A-Alea	Gas	

	7. Groundwater P	athway	
Is Groundwater Used for Drinking Within 4	Is There a Suspected Release to	List Secondary Target Populati	ion Served by Ground Water
Miles	Groundwater:	Withdrawn From:	on served by Ground Trace.
		Withdrawn From.	
Yes	Yes		
No	No	0.0-0.25 Mile	
If Yes, Distance to Nearest Drinking Well	Have Primary Target Drinking	>0.25 - 0.5 Mile	
Miles	Water Wells Been Identified:		
		>0.5. 4.0.Mile	
	Yes	>0.5 - 1.0 Mile	
Type of Drinking Water Wells Within 4	No		
Miles (Circle Each that Applies)	If Yes, Enter Primary Target	>1.0 - 2.0 Mile	
Municipal	Population		
Private	440,000 People	>2.0 - 3.0 Mile	
None			
		>2.0.4.0.Mile	
Depth to Shallowest Aquifer:	Nearest Designated Wellhead	>3.0 - 4.0 Mile	
<u>43-55 feet</u>	Protection Area:		
	Underlies Site	Total within 4 Miles	
Karst Terrain/Aquifer Present:	>0-4 Miles		
Yes	None Within 4 Miles		
No			
NO	8. Surface Water P	athway	
Type of Curface Water Praining Site and 15			am Any Course to Curfoce Water
Type of Surface Water Draining Site and 15	willes Downstream:	Shortest Overland Distance Fr	om Any Source to Surface Water:
Stream River Pond	Lake	5	<u>50</u> Feet
Bay Ocean Other		0.	11 Miles
Is There as Suspected Release to Surface Wa	ater:	Site is Located in:	
	1101.	Annual - 10 y	r Floodplain
Yes		-	·
No		>10 yr 100 y	·
		>100 yr 500 y	yr. Floodplain
		> 500 yr. F	loodplain
Drinking Water Intake Located Along the Su	rface Water Migration Path:	List All Secondary Drinking Wa	ater Intakes:
Yes	C	,	
No		Name Water Body Flow	v (cfs) Population Served
	D 1-1+:6:1-		
Have Primary Target Drinking Water Intakes		<del></del>	
	ince to Nearest Drinking Water Intake	<del></del>	<del></del>
No40	_ Miles	<u></u>	<u></u>
If Yes, Enter Population Served By Target Int	ake		
, , ,			
		Total Within 15 Miles	0
		Total Within 13 Wiles	<u> </u>
Fisheries Located Along the Surface Water N	Migration Path:	List All Secondary Target Fishe	ories.
	ince to Nearest Fishery:	Water Body/Fishery Name	
ii res, Dista		' <u>'</u>	·
	Miles	<del></del>	
Have Primary Target Fisheries Been Identifie	ed:		
Yes No			<del></del>

		8. Surface Wate	ter Pathwa	ay (Continu	ied)			
Wetlands Located A	Along the Surface Wa			Other Sen Migration	nsitive Enviro Path:	nments Locate	ed Along the Surface Water	
Town	No No Doon Id			Migration	Path	'CY Distan	· · · · · · · · · · · · · · · · · · ·	
Have Primary Large	et Wetlands Been Ide Yes	entified		Yes If Yes, Distance to Nearest Sensitive  No Environment: Miles				
				No Drim	Campiting			
· · · All Matable mode.	No			Have Priin	nary Sensitive Yes		s Been Identified:	
List All Wetlands:	Flow (efc)	Frontage Miles		All Co		_	No	
Water Body Wetlands and Waters of	Flow (cfs)				ensitive Envir I <u>ter Body</u>	onments: Flow (cfs)	Sensitive Environment Type	
the US	Unknown	Unknown		<u>vvu</u>	ter bouy	FIUW (CIS)	Sensitive Environment Type	
					<u></u>			
				<del>-</del>	<u>-</u>			
		9. Soil E	xposure P	athway				
Are People Occupying R	Pasidence or	Number of Workers On			estrial Sensit	tive Environme	ents Been Identified on or	
Attending School or Day		Number of workers C	isite.				or Suspected Contamination:	
200 Feet of Area of Kno		None		VVICINII = C	0166651	203 UI MIO 2	1 Suspected Contamination	
Contamination:	Wil of Suspection	1-100						
Yes		101-1,000				Yes		
No		>1,000				No		
		·		If Yes, List	Each Terres	trial Sensitive E	Environment:	
If Yes, Enter Total Resid	lential Population:							
,		Population Within 1 Mi	ile:					
	People	People						
	Реоріе	r ευριο						
		10	: D-Ah					
			. Air Pathw					
Is There A Suspected Re		_	Wetlands		thin 4 Miles		-	
Yes	No No	)	)	Yes		If Yes, How M		
Enter The Population or 0.0-0.25 Mile	n or Within:			No			101Acres	
>0.25 - 0.5 Mile	·		Other Sens	sitive Enviro	onments Loc Yes		Miles of the Site	
>0.5 - 1.0 Mile			List All Sen	nsitive Envir	ronments Wi	ithin 0.5 Mile o	of the Site	
>1.0 - 2.0 Mile			<u>Distance</u> Onsite		Sensitive En	vironment Type/	/Wetlands Area (Acres)	
>2.0 - 3.0 Mile			0 - 0.25 Mile					
>3.0 - 4.0 Mile			>0.25 - 0.5 1	Mile				
Total within 4 Mil	les							

					Identification	n		
Potontial L	Hazardous \	Masta Sita	Drolim	inary		11	CERCLIS #:	
Potential			Piellili	illiai y			CLICLIS #.	
	Assessm	ent Form			CERCLIS Disc	overy Date:		
		1. Gene	eral Site Info	rmation	•			
Name: Peterson Air F	orce Base (PAFB)		Street Add	ress: Platte	Avenue & Po	wers Blvd		
City: Colorado Spings			-	State: CO	Zip Code: 80916	County: El Paso	Co Code:	Cong. Dist. CO-05
Latitude:	Longitude	:	Approxima	te Area of	Site:	Status of Si	te:	
38°48′31.83″ N	104°41′31	17" W	1	0.50	Acres	Active	Not Specifie	èd
			456,	935	Sq. Ft.	Inactive	NA (GW Plu	me etc.)
Site Name: Site 5	·		,			•		
Site Description: Site	5 (FT002) is a former fi	re training area near t	he end of Ru	ınway 31 aı	nd the golf cou	urse. The FT	A was active	from the 1960s
through 1977 and coi	nsisted of a shallow un	lined burn pit. Original	lv at the san	ne elevatio	n as the golf c	ourse, the ai	ea has beei	n filled in some
•	he installation of the ta				•	•		
•					ii u operatiiig į	Jiocedules (	or the time i	Jy Havilig a
shallow burn pit exca	vated and burning JP-4	l, waste oils, and solve	nts for traini	ing fires.				
		2.0	/O	. f A!				
		2. Owner	Operator Ir					
Owner: Peterson Air			•	Same As O	wner			
Street Address: Platt	e Avenue & Powers Blv	/d	Street Add	ress:				
City: Colorado Spings			City:					
State: Colorado	Zip Code: 80916	Telephone: N/A	State:		Zip Code:		Telephone	·
State. Colorado	21p code. 80310	relephone. N/A	State.		Zip Code.		Гетерпопе	
Type of Ownership:	•	•	Type of Ov	vnership:	•		•	
Private	County		Private		County			
Eederal Agency	Municipal		Federal Age	ncy	Municipal			
Name: DOD	Not Specified		Name:	•	Not Specified			
State	Other:		State		Other:			
Indian	Other.		Indian		Other.			
iliulali								
			valuator Inf		ı			
Name of Evaluator: G	reg Carlson	Agency/Organization	: Aerostar Sl	ES LLC	Date Prepare	ed: 05-16-16		
Street Address: 1006	Floyd Culler Court	•	City: Oak F	Ridge	•	State: TN		
Name of EPA or State	Agency Contact: N/A		Street Add	ress: N/A		•		
City: N/A		State: N/A			Telephone: N	N/A		
		4. Site Dispo	sition (for E	PA use onl	y)			
Emergency Response	Removal Assessment	•		ecommend		Signature:		
Recommendation:				Higher Prio		2.6		
necommendation.	Yes			Lower Prior	-	Name (Typ	eq).	
	No			NFRAP	ity Ji	ivaille (Typ	euj.	
	INU					<b>D</b>		
				RCRA		Position:		
Date:				Other				
			Date:					

		5. Gener	al Site Characteristics	
Predominant Land Use Wit	hin 1 Mile of Site	:	Site Setting:	Years of Operation:
			Urban	Beginning Year:1950's
Industrial	Mining	Other Federal	Suburban	
Commercial	DOD	Facility:	Rural	Ending Year:1977
Residential	DOE			
Forest/Fields	DOI	Other:		Unknown
Agriculture				
Type of Site Operations (Cir	cle All that Apply	<b>/</b> ):	II.	Waste Generated:
Manufacturing (Must	select a sub-cate	egory): Retail		Onsite
Lumber and Wood	Products	Recycling		Offsite
Inorganic Chem	icals	Junk/Salva	ge yard	Onsite and Offsite
Plastic and/or Rubbe	r Products	Municipal I	andfill	
Paints/Varnish	nes	Other Land	fill	Waste Deposition Authorized By:
Industrial Organic C	hemicals	DOD		Present Owner
Agricultural Cher	micals	DOE		Former Owner
Miscellaneous Chemic	al Products	DOI		Present and Former Owner
Primary Meta	als	Other Fede	ral Facility:	Unauthorized
Metal Coating, Plating	, Engraving	<u>RCRA</u>		Unknown
Metal Forging, Sta	amping		TSDF	Waste Accessible to the Public:
Fabricated Structur	al Metal	Large	Quantity Generator	Yes
Electronic Equip	Electronic Equipment Small Quantity Generator			No
Mining (Must Select a S	ub-Category):		Subtitle D	
Metals			Municipal	Distance to Nearest Dwelling
Coal	Coal Indus			School or Workplace:
Oil and Gas	i		"Converter"	
Non-Metallic Mi	nerals	II	Protective Filer"	0.48 Miles
		"N	lon or Late Filer"	
		Not Specifi	ed	
		Other:		
		6. Waste Ch	aracteristics Information	
		(Refer to P	A Table 1 for WC Score)	
Source Type	Source W	aste Quantity (Include	Tier* General Type o	f Waste (Circle all that Apply)
(Select all that apply)		Units)		
			Metals	Pesticides/Herbicides
Landfill			Organics	Acids/Bases
Surface Impoundment			Inorganics	Oily Waste
Drums			Solvents	Municipal Waste
Tanks and Non Drum Containe	ers		Paints/Pigments	Mining Waste
Chemical Waste Pile			Laboratory/Medi	
Scrap Metal or Junk Pile			Radioactive Wast	
Tailings Pile			Construction/Der	nolition Waste
Trash Pile (open drum)				
Land Treatment			Physical State of	of Waste as Deposited (Circle all that apply):
Contaminated GW Plume				
Contaminated SW/Sediment			Solic	
Contaminated Soil			Slud	_
Other		Unknown	Pow	
No Sources			Liqu	id
*C=Consult	ant, W=Wastestrean	n, V=Volume, A=Area	Gas	

	7. Groundwater Pa	athway	
s Groundwater Used for Drinking Within 4	Is There a Suspected Release to	List Secondary Target Population	Served by Ground Water
Miles	Groundwater:	Withdrawn From:	·
Yes	Yes		
No	No	0.0-0.25 Mile	<del></del> -
If Yes, Distance to Nearest Drinking Well	Have Primary Target Drinking	>0.25 - 0.5 Mile	
Miles	Water Wells Been Identified:	0.25 0.5	
	Yes Yes	>0.5 - 1.0 Mile	
Type of Drinking Water Wells Within 4	No	70.3 1.0 111110	
Miles (Circle Each that Applies)	If Yes, Enter Primary Target	>1.0 - 2.0 Mile	
Municipal	· -	>1.0 - 2.0 Wille	<del></del>
Private	Population	>2.0. 2.0 Mile	
	440,000 People	>2.0 - 3.0 Mile	<del></del>
None			
Depth to Shallowest Aquifer:	Nearest Designated Wellhead	>3.0 - 4.0 Mile	
<u>43-55 feet</u>	Protection Area:		
	Underlies Site	Total within 4 Miles	<del></del>
Karst Terrain/Aquifer Present:	>0-4 Miles		
Yes	None Within 4 Miles		
No			
	8. Surface Water P	athway	
ype of Surface Water Draining Site and 15	Miles Downstream:	Shortest Overland Distance Fron	n Any Source to Surface Water
Stream River Pond	Lake	1,28	<u>85</u> Feet
Bay Ocean Other		0.24	Miles
s There as Suspected Release to Surface Wa	ater:	Site is Located in:	
Yes		Annual - 10 yr. F	Floodplain
No		>10 yr 100 yr.	Floodplain
		>100 yr 500 yr.	Floodplain
		> 500 yr. Floo	
Prinking Water Intake Located Along the Su	rface Water Migration Path:	List All Secondary Drinking Wate	
Yes			· ····caircoi
No		Name Water Body Flow (	cfs) Population Served
Have Primary Target Drinking Water Intakes	Reen Identified:		
	ince to Nearest Drinking Water Intake		
	•		
No40	_ Miles		
No40 f Yes, Enter Population Served By Target Int 	_ Miles cake	Total Within 15 Miles	0
No40  f Yes, Enter Population Served By Target Int	_ Miles cake  Migration Path:	Total Within 15 Miles  List All Secondary Target Fisherie	0
No40  F Yes, Enter Population Served By Target Int  isheries Located Along the Surface Water N	_ Miles cake  Migration Path: unce to Nearest Fishery:	Total Within 15 Miles	0
No 40  f Yes, Enter Population Served By Target Int	_ Miles cake  Migration Path: unce to Nearest Fishery: Miles	Total Within 15 Miles  List All Secondary Target Fisherie	0
No 40  If Yes, Enter Population Served By Target Interpretation  Fisheries Located Along the Surface Water No If Yes, Distantance Wa	_ Miles cake  Migration Path: unce to Nearest Fishery: Miles	Total Within 15 Miles  List All Secondary Target Fisheric  Water Body/Fishery Name	0 Pes:
No 40  f Yes, Enter Population Served By Target Int	_ Miles cake  Migration Path: unce to Nearest Fishery: Miles	Total Within 15 Miles  List All Secondary Target Fisheric  Water Body/Fishery Name	0 Ps: Flow (cfs)

	8. Surface Wate	er Pathway	(Continue	ed)		
Wetlands Located Along the Surface Water Migration Path:  Yes  No  Have Primary Target Wetlands Been Identified  Yes  No			Migration I Migration I Yes No Have Prima	Path: Path ary Sensitive	If Yes, Distan Environment	ed Along the Surface Water  ace to Nearest Sensitive  t: Miles  as Been Identified:
List All Wetlands:  Water Body Flow (cfs)  Wetlands and Waters of the US  Unknown	Frontage Miles Unknown	I	ist All Sen	Yes nsitive Enviro er Body 	onments: Flow (cfs)	Sensitive Environment Type
	9. Soil Ex	cposure Pa	thway			
Are People Occupying Residence or Attending School or Daycare on or Within 200 Feet of Area of Known or Suspected Contamination: Yes No  If Yes, Enter Total Residential Population: People	Number of Workers On:  None 1-100 01-1,000 >1,000  Population Within 1 Mil	le:	Within 200	Feet of Are		ents Been Identified on or or or Suspected Contamination:  Environment:
	10.	Air Pathwa	ıy			
Is There A Suspected Release to Air:  Yes  Enter The Population on or Within:  0.0-0.25 Mile	>		ocated with Yes No	hin 4 Miles o	of the Site: If Yes, How N	Many Acres: 101Acres
>0.25 - 0.5 Mile		Other Sensi		nments Loca Yes	ated Within 4	Miles of the Site
>0.5 - 1.0 Mile		ist All Sens	itive Enviro	onments Wi	thin 0.5 Mile o	of the Site
>1.0 - 2.0 Mile		<u>Distance</u> Dnsite Dr. 0.25 Mile		Sensitive Env	rironment Type	/Wetlands Area (Acres)
>3.0 - 4.0 Mile		·0.25 - 0.5 M	ile			
Total within 4 Miles						

					Identification	n		
Potential H	Hazardous \	<b>Naste Site</b> I	Prelim	inary			CERCLIS #:	
	Assessm	ent Form			CERCLIS Disc	overy Date:		
		1. Gene	eral Site Info	rmation	I			
Name: Peterson Air F	orce Base (PAFB)		Street Add	ress: Platte	Avenue & Po	wers Blvd		
City: Colorado Spings				State: CO	Zip Code: 80916	County: El Paso	Co Code:	Cong. Dist.
Latitude:	Longitude	:	Approxima	te Area of	Site:	Status of Si	te:	l .
38°47′58.96″ N	104°41′35	.96" W	2.	76	Acres Active Not Specified			ed
			120,	265	Sq. Ft.	Inactive	NA (GW Plu	me etc.)
Site Name: Site 8	+							
Site Description: Site	8 is a former fire traini	ng area, also known as	Rapier Area	6, along th	ne southeaste	rn boundary	of PAFB. Si	te 8 (FT003)
waste oils, and solver	nts were burned in the	pit to create training fi	ires.					
		2. Owner	Operator Ir	formation				
Owner: Peterson Air	Force Base	•		Same As O				
	e Avenue & Powers Blv	/d	Street Add					
City: Colorado Spings			City:					
State: Colorado	Zip Code: 80916	Telephone: N/A	State:		Zip Code:	-	Telephone	:
Type of Ownership:	1	-	Type of Ov	vnership:	•		•	
Private	County		Private		County			
Federal Agency	Municipal		Federal Age	ncy	Municipal			
Name:_ <u>DOD</u>	Not Specified		Name:		Not Specified			
State	Other:		State		Other:			
Indian			Indian					
		3. Site E	valuator Inf	ormation				
Name of Evaluator: G	reg Carlson	Agency/Organization	: Aerostar SI	ES LLC	Date Prepare	ed: 05-16-16		
Street Address: 1006	Floyd Culler Court	<del>,</del>	City: Oak R	lidge		State: TN		
Name of EPA or State	Agency Contact: N/A		Street Add	ress: N/A		•		
City: N/A		State: N/A	1		Telephone: N	N/A		
		4. Site Dispo	sition (for E	PA use onl	y)			
Emergency Response	Removal Assessment			commend		Signature:		
Recommendation:				Higher Prio				
	Yes			Lower Prior	-	Name (Typ	ed):	
	No			NFRAP		- (./6	,	
				RCRA		Position:		
Date: _				Other				
			Date:					
						1		

		5. Gener	al Site Characteristics	
Predominant Land Use Wit	hin 1 Mile of Site	2:	Site Setting:	Years of Operation:
			Urban	Beginning Year:1977
Industrial	Mining	Other Federal	Suburban	
Commercial	DOD	Facility:	Rural	Ending Year: 1989
Residential	DOE			
Forest/Fields	DOI	Other:		Unknown
Agriculture				
Type of Site Operations (Ci	rcle All that Appl	y):		Waste Generated:
Manufacturing (Must	select a sub-cat	egory): Retail		Onsite
Lumber and Wood	Products	Recycling		Offsite
Inorganic Chem	nicals	Junk/Salva	ge yard	Onsite and Offsite
Plastic and/or Rubbe	er Products	Municipal I	andfill	
Paints/Varnis	hes	Other Land	fill	Waste Deposition Authorized By:
Industrial Organic C	Chemicals	DOD		Present Owner
Agricultural Che	micals	DOE		Former Owner
Miscellaneous Chemic	cal Products	DOI		Present and Former Owner
Primary Met	als	Other Fede	ral Facility:	Unauthorized
Metal Coating, Plating	g, Engraving	<u>RCRA</u>		Unknown
Metal Forging, Sta	amping		TSDF	Waste Accessible to the Public:
Fabricated Structur	al Metal	Large	Quantity Generator	Yes
Electronic Equip	ctronic Equipment Small Quantity Generator			No
Mining (Must Select a S	ub-Category):		Subtitle D	
Metals			Municipal	Distance to Nearest Dwelling
Coal	Coal			School or Workplace:
Oil and Gas	S		"Converter"	
Non-Metallic Mi	nerals	II	Protective Filer"	0.42 Miles
		"N	lon or Late Filer"	
		Not Specifi	ed	
		Other:		
		6. Waste Ch	aracteristics Information	
		(Refer to P	A Table 1 for WC Score)	
Source Type	Source W	aste Quantity (Include	Tier* General Type of V	Waste (Circle all that Apply)
(Select all that apply)		Units)		
			Metals	Pesticides/Herbicides
Landfill			Organics	Acids/Bases
Surface Impoundment			Inorganics	Oily Waste
Drums			Solvents	Municipal Waste
Tanks and Non Drum Containe	ers		Paints/Pigments	Mining Waste
Chemical Waste Pile			Laboratory/Medica	
Scrap Metal or Junk Pile			Radioactive Waste	Other: AFFF
Tailings Pile			Construction/Demo	olition Waste
Trash Pile (open drum)				
Land Treatment			Physical State of V	Waste as Deposited (Circle all that apply):
Contaminated GW Plume				
Contaminated SW/Sediment			Solid	
Contaminated Soil			Sludge	
Other		Unknown	Powde	er .
No Sources			Liquid	<b>&gt;</b>
*C=Consult	ant, W=Wastestrear	n, V=Volume, A=Area	Gas	

	7. Groundwater Pa	athway	
s Groundwater Used for Drinking Within 4	Is There a Suspected Release to	List Secondary Target Population	Served by Ground Water
⁄liles	Groundwater:	Withdrawn From:	
Yes	Yes		
No	No	0.0-0.25 Mile	
If Yes, Distance to Nearest Drinking Well	Have Primary Target Drinking	>0.25 - 0.5 Mile	
<del></del> _ Miles	Water Wells Been Identified:		
	Yes	>0.5 - 1.0 Mile	
Type of Drinking Water Wells Within 4	No		
Miles (Circle Each that Applies)	If Yes, Enter Primary Target	>1.0 - 2.0 Mile	
Municipal	Population		
Private	440,000 People	>2.0 - 3.0 Mile	
None			
Depth to Shallowest Aquifer:	Nearest Designated Wellhead	>3.0 - 4.0 Mile	
43-55 feet	Protection Area:		
	Underlies Site	Total within 4 Miles	
Karst Terrain/Aquifer Present:	>0-4 Miles		
Yes	None Within 4 Miles		
No			
	8. Surface Water P	athway	
Type of Surface Water Draining Site and 15		Shortest Overland Distance From	Any Source to Surface Water
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			,
Stream River Pond	Lake	4,505	5 Feet
Bay Ocean Other		0.85	Miles
•			
s There as Suspected Release to Surface Wa	ater:	Site is Located in:	
Yes		Annual - 10 yr. Fl	oodplain
No		>10 yr 100 yr. F	·
		>100 yr <u>500 y</u> r. F	·
		> 500 yr. Floor	
Drinking Water Intake Located Along the Su	rface Water Migration Path:	List All Secondary Drinking Water	
Yes	ridee Water Wilgration Fatin	List / III Secondary Britishing Water	meakes.
No		Name Water Body Flow (cf	rs) Population Served
Have Primary Target Drinking Water Intakes	Reen Identified		
	ince to Nearest Drinking Water Intake		
No. 40	Miles		
	_ Miles		<u></u>
	_		
	_		
	_		
f Yes, Enter Population Served By Target Int	- cake	Total Within 15 Miles	0
f Yes, Enter Population Served By Target Int  Fisheries Located Along the Surface Water N	- cake Migration Path:	Total Within 15 Miles  List All Secondary Target Fisheries	0
f Yes, Enter Population Served By Target Int  sisheries Located Along the Surface Water N	Aligration Path:	Total Within 15 Miles  List All Secondary Target Fisheries  Water Body/Fishery Name	0 5: Flow (cfs)
f Yes, Enter Population Served By Target Int	Aligration Path: unce to Nearest Fishery: Miles	Total Within 15 Miles  List All Secondary Target Fisheries  Water Body/Fishery Name	 0 s: Flow (cfs)
f Yes, Enter Population Served By Target Int  Fisheries Located Along the Surface Water No If Yes, Dista	Aligration Path: unce to Nearest Fishery: Miles	Total Within 15 Miles  List All Secondary Target Fisheries  Water Body/Fishery Name	 0 s: Flow (cfs)
f Yes, Enter Population Served By Target Int	Aligration Path: unce to Nearest Fishery: Miles	Total Within 15 Miles  List All Secondary Target Fisheries  Water Body/Fishery Name	 0 s: Flow (cfs)

	8. Surface Water	er Pathway (Continued)
Wetlands Located Along the Surface W Yes No Have Primary Target Wetlands Been I Yes	· ·	Other Sensitive Environments Located Along the Surface Water Migration Path:  Migration Path  Yes If Yes, Distance to Nearest Sensitive  Environment: Miles
List All Wetlands:  Water Body Wetlands and Waters of the US  No  Flow (cfs) Unknown	Frontage MilesUnknown	Have Primary Sensitive Environments Been Identified:  Yes  List All Sensitive Environments:  Water Body Flow (cfs) Sensitive Environment Type
	9. Soil Exp	posure Pathway
Are People Occupying Residence or Attending School or Daycare on or Within 200 Feet of Area of Known or Suspected Contamination: Yes No  If Yes, Enter Total Residential Population:People	Number of Workers Onsi  None 1-100 101-1,000 >1,000  Population Within 1 Mile People	Within 200 Feet of Areas of Known or Suspected Contamination:  Yes No If Yes, List Each Terrestrial Sensitive Environment:  e:
		Air Pathway
Is There A Suspected Release to Air: Yes  Enter The Population on or Within: 0.0-0.25 Mile	>	Vetlands Located within 4 Miles of the Site:  If Yes, How Many Acres:
>0.25 - 0.5 Mile		Yes <b>No</b>
>0.5 - 1.0 Mile		ist All Sensitive Environments Within 0.5 Mile of the Site
>1.0 - 2.0 Mile >2.0 - 3.0 Mile	On 0 -	istance Sensitive Environment Type/Wetlands Area (Acres) - 0.25 Mile 0.25 - 0.5 Mile
>3.0 - 4.0 Mile  Total within 4 Miles		

					Identificatio	n		
Potential H		Waste Site F	Prelim	inary			CERCLIS #:	
	Assessm	ent Form			CERCLIS Disc	overy Date:		
		1. Gene	eral Site Info	rmation				
Name: Peterson Air F	orce Base (PAFB)		Street Add	ress: Platte	Avenue & Po	wers Blvd		
City: Colorado Spings				State: CO	Zip Code: 80916	County: El Paso	Co Code:	Cong. Dist. CO-05
Latitude:	Longitude	:	Approxima	te Area of S	Site:	Status of Si	te:	
39°49′09.74″ N	104°42′19	).34" W	0.	.33	_Acres $\subset$	Active Not Specified		
			14,2	16	Sq. Ft.	Inactive	NA (GW Plu	ıme etc.)
Site Name: Hangar 11	19		-!		<u> </u>			
300-gallon tank with a	a small volume of resid	dual AFFF in the bottom	1. No further	· informatio	on on this buil	ding was ava	ailable.	
		2. Owner/	Operator In	ıformation				
Owner: Peterson Air F	Force Base		Operator: S	Same As Ov	wner			
Street Address: Platte	e Avenue & Powers Blv	/d	Street Add	ress:				
City: Colorado Spings			City:					
State: Colorado	Zip Code: 80916	Telephone: N/A	State:		Zip Code:	-	Telephone	X
Type of Ownership: Private Federal Agency Name: DOD State Indian	County Municipal Not Specified Other:		Type of Ownership: Private County Federal Agency Municipal Name: Not Specified State Other:					
		3. Site Ev	valuator Info	ormation				
Name of Evaluator: G	reg Carlson	Agency/Organization:	: Aerostar SE	S LLC	Date Prepare	ed: 05-16-16		
Street Address: 1006	Floyd Culler Court	_	City: Oak R	idge	<u>l</u>	State: TN		
Name of EPA or State	e Agency Contact: N/A		Street Add	ress: N/A				
City: N/A		State: N/A			Telephone: N	N/A		
		4. Site Dispo	sition (for E	PA use onl	y)			
Emergency Response	Removal Assessment		CERCLIS Re	ecommenda	ation:	Signature:		
Recommendation:				Higher Prior	rity SI			
	Yes			Lower Prior	ity SI	Name (Type	ed):	
	No			NFRAP				
				RCRA		Position:		
Date:				Other				
			Date:					

5. General Site Characteristics						
Predominant Land Use Within 1 Mile of Site:		Site Setting:	Years of Operation:			
		Urban	Beginning Year:			
Industrial Mining	Other Federal	Suburban				
Commercial DOD	Facility:	Rural	Ending Year: In Use			
Residential DOE						
Forest/Fields DOI	Other:		Unknown			
Agriculture						
Type of Site Operations (Circle All that Apply):			Waste Generated:			
Manufacturing (Must select a sub-catego			Onsite			
Lumber and Wood Products	Recycling		Offsite			
Inorganic Chemicals	Junk/Salvag	e yard	Onsite and Offsite			
Plastic and/or Rubber Products	Municipal La	andfill				
Paints/Varnishes	Other Landf	ill	Waste Deposition Authorized By:			
Industrial Organic Chemicals	DOD	<b>)</b>	Present Owner			
Agricultural Chemicals	DOE		Former Owner			
Miscellaneous Chemical Products	DOI		Present and Former Owner			
Primary Metals	Other Feder	al Facility:	Unauthorized			
Metal Coating, Plating, Engraving	<u>RCRA</u>		Unknown			
Metal Forging, Stamping		TSDF	Waste Accessible to the Public:			
Fabricated Structural Metal	Large	Quantity Generator	Yes			
Electronic Equipment	Small	Quantity Generator	No			
Mining (Must Select a Sub-Category):		Subtitle D				
Metals		Municipal	Distance to Nearest Dwelling			
Coal		Industrial	School or Workplace:			
Oil and Gas		"Converter"				
Non-Metallic Minerals	"P	rotective Filer"	0.0 Miles			
	"N	on or Late Filer"				
	Not Specifie	d				
	Other:					
		racteristics Information				
		Table 1 for WC Score)				
	te Quantity (Include	Tier* General Type of Was	te (Circle all that Apply)			
(Select all that apply)	Units)					
		Metals	Pesticides/Herbicides			
Landfill		Organics	Acids/Bases			
Surface Impoundment		Inorganics	Oily Waste			
Drums		Solvents	Municipal Waste			
Tanks and Non Drum Containers		Paints/Pigments	Mining Waste			
Chemical Waste Pile		Laboratory/Medical Wa				
Scrap Metal or Junk Pile		Radioactive Waste	Other: AFFF			
Tailings Pile		Construction/Demolition	on Waste			
Trash Pile (open drum)						
Land Treatment		Physical State of Was	ste as Deposited (Circle all that apply):			
Contaminated GW Plume						
Contaminated SW/Sediment		Solid				
Contaminated Soil		Sludge				
$\bigcirc$	nknown	Powder				
No Sources	/=\/olumo_A=A=o	Liquid				
*C=Consultant, W=Wastestream, \	-volume, A-Aled	Gas				

7. Groundwater Pathway						
Is Groundwater Used for Drinking Within 4 Miles		List Secondary Target Population Serve Withdrawn From:	ed by Ground Water			
Yes	Yes No	0.0-0.25 Mile				
If Yes, Distance to Nearest Drinking Well	Have Primary Target Drinking Water Wells Been Identified:	>0.25 - 0.5 Mile				
Type of Drinking Water Wells Within 4	Yes	>0.5 - 1.0 Mile				
Miles (Circle Each that Applies)  Municipal	If Yes, Enter Primary Target Population	>1.0 - 2.0 Mile				
Private None	People	>2.0 - 3.0 Mile				
Depth to Shallowest Aquifer: 43-55 feet	Nearest Designated Wellhead Protection Area:	>3.0 - 4.0 Mile				
Karst Terrain/Aquifer Present:	Vinderlies Site >0-4 Miles None Within 4 Miles	Total within 4 Miles				
Yes						
Type of Surface Water Draining Site and 15 I	8. Surface Water P	Pathway Shortest Overland Distance From Any				
Stream River Pont Bay Ocean Other	Lake		Feet Miles			
Is There as Suspected Release to Surface Water:  Yes  No		Site is Located in:  Annual - 10 yr. Floodplain >10 yr 100 yr. Floodplain >100 yr 500 yr. Floodplain >500 yr. Floodplain				
Drinking Water Intake Located Along the Sur Yes	face Water Migration Path:	List All Secondary Drinking Water Intak	kes:			
Have Primary Target Drinking Water Intakes  Yes If Yes, Dista No40  If Yes, Enter Population Served By Target Int	nce to Nearest Drinking Water Intake _ Miles	Name   Water Body   Flow (cfs)	Population Served 0			
Fisheries Located Along the Surface Water Migration Path:  Yes  No  If Yes, Distance to Nearest Fishery:  Miles  Have Primary Target Fisheries Been Identified:  Yes  No		List All Secondary Target Fisheries:  Water Body/Fishery Name	<u>Flow (cfs)</u> 			
Yes No	,					

8. Surface Water Pathway (Continued)							
Wetlands Located Along the Surface Water Migration Path:  Yes  No  Have Primary Target Wetlands Been Identified  Yes  No			Other Sensitive Environments Located Along the Surface Water Migration Path: Migration Path Yes If Yes, Distance to Nearest Sensitive Environment: Miles Have Primary Sensitive Environments Been Identified:				
List All Wetlands:  Water Body  Wetlands and Waters of the US  Unknown	Frontage Miles Unknown		List All Sensi Water		nments: Flow (cfs)	Sensitive Environment Type	
	0 501	Exposure P					
Are People Occupying Residence or Attending School or Daycare on or Within 200 Feet of Area of Known or Suspected Contamination:  Yes No  If Yes, Enter Total Residential Population:  People	Number of Workers (  None  1-100  101-1,000  >1,000  Population Within 1 N  People	Onsite:	Have Terrest Within 200 F	Feet of Areas	Yes No	ents Been Identified on or or Suspected Contamination:  Environment:	
	10	0. Air Pathw					
Is There A Suspected Release to Air:  Yes  No  Enter The Population on or Within:  0.0-0.25 Mile	>			ments Locat	If Yes, How M	Acres  Miles of the Site	
>0.25 - 0.5 Mile >0.5 - 1.0 Mile		List All Sen	sitive Environ	nments With	nin 0.5 Mile o	of the Site	
>2.0 - 3.0 Mile		Distance Onsite 0 - 0.25 Mile >0.25 - 0.5 I	- -	ensitive Envir	onment Type/	/Wetlands Area (Acres)	
>3.0 - 4.0 Mile  Total within 4 Miles							

					Identificatio	n			
Potential Hazardous Waste Site P			Prelim	inary	State: CO		CERCLIS #:		
	Assessi			CERCLIS Disc	overy Date:				
		1. Ge	neral Site Info	rmation	l				
Name: Peterson Air F	orce Base (PAFB)		Street Add	ress: Platte	e Avenue & Po	wers Blvd			
City: Colorado Spings				State: CO	Zip Code: 80916	County: El Paso	Co Code:	Cong. Dist. CO-05	
Latitude:	Longitu	de:	Approxima	te Area of	Site:	Status of Si	te:	•	
39°49′13.01″ N	104°42	'24.00" W	0.	26	Acres (	Active	Not Specifie	ed	
			11,4	69	Sq. Ft.	Inactive	NA (GW Plu	ıme etc.)	
Site Name: Hangar 12	21				-				
Site Description: Han	gar 121 is on the no	rtheast side of the aircr	aft apron sout	h of Hanga	r 133. The fire	suppression	n system at	Hangar 121 uses a	
500-gallon tank of 3%	6 AFFF that was filled	d with approximately 45	0 gallons of m	naterial at t	he time of the	e site visit. D	uring the sit	te visit, remnants	
		ment booms, as menti							
•	• •	testing conducted at PA	•			•	_	•	
		his location. The fire su		-	tem at Hanga	r 121 operat	es in the sar	me manner as the	
system at Hangar 13:	3 with sprinkler head	ls running parallel to ov	erhead trusse	S.					
		2. Owne	er/Operator Ir	formation					
Owner: Peterson Air	Force Base		Operator:	Operator: Same As Owner					
Street Address: Platt	e Avenue & Powers	Blvd	Street Add	Street Address:					
City: Colorado Spings			Citv:	City:					
State: Colorado	Zip Code: 80916	Telephone: N/A	State:		Zip Code:	-	Telephone	):	
Type of Ownership:	1		Type of Ov	vnershin:			1		
Private	County		Private	mersing.	County				
	•		Federal Age	ncv	Municipal				
	ederal Agency Municipal		_	•	· ·				
Name: DOD Not Specified		Name:		Not Specified					
State	Other:	_	State		Other:				
Indian			Indian						
		3. Site	Evaluator Info	ormation					
Name of Evaluator: G	Greg Carlson	Agency/Organization	on: Aerostar SI	ES LLC	Date Prepare	ed: 05-16-16			
Street Address: 1006 Floyd Culler Court		City: Oak R	idge	State: TN					
Name of EPA or State	e Agency Contact: N/	'A	Street Add	ress: N/A					
City: N/A State: N/A				Telephone: N/A					
		4. Site Dis	position (for E	PA use onl	y)				
Emergency Response	Removal Assessmen					Signature:			
Emergency Response Removal Assessment Recommendation:		5252.IS INC	CERCLIS Recommendation: Higher Priority SI		3.6				
necommendation.	Yes			Lower Prior	•	Namo /Tun	od).		
	No No			NFRAP	ity Ji	Name (Typ	cuj.		
	INU					D 't'			
				RCRA		Position:			
Date:				Other					
			Date:			1			

Predominant Land Use Within 1 Mile of Site:		5. General Site Characteristics						
		Site Setting:	Years of Operation:					
		Urban	Beginning Year:					
(Industrial) Mining	Other Federal	Suburban						
Commercial <b>DOD</b>	Facility:	Rural	Ending Year: In Use					
Residential DOE								
Forest/Fields DOI	Other:		Unknown					
Agriculture								
Type of Site Operations (Circle All that Apply):			Waste Generated:					
Manufacturing (Must select a sub-catego	ory): Retail		Onsite					
Lumber and Wood Products	Recycling		Offsite					
Inorganic Chemicals	Junk/Salvage	e yard	Onsite and Offsite					
Plastic and/or Rubber Products	Municipal La	andfill						
Paints/Varnishes	Other Landfi	ill	Waste Deposition Authorized By:					
Industrial Organic Chemicals	DOD		Present Owner					
Agricultural Chemicals	DOE		Former Owner					
Miscellaneous Chemical Products	DOI		Present and Former Owner					
Primary Metals	Other Feder	al Facility:	Unauthorized					
Metal Coating, Plating, Engraving	<u>RCRA</u>		Unknown					
Metal Forging, Stamping		TSDF	Waste Accessible to the Public:					
Fabricated Structural Metal	Large (	Quantity Generator	Yes					
Electronic Equipment	Small (	Quantity Generator	No					
Mining (Must Select a Sub-Category):		Subtitle D						
Metals		Municipal	Distance to Nearest Dwelling					
Coal		Industrial	School or Workplace:					
Oil and Gas		"Converter"						
Non-Metallic Minerals		rotective Filer"	0.0 Miles					
		on or Late Filer"						
	Not Specifie	d						
	Other:							
	6. Waste Cha	racteristics Information						
		Table 1 for WC Score)						
Source Type Source Was	te Quantity (Include	Tier* General Type of Waste	e (Circle all that Apply)					
(Select all that apply)	Units)							
		Metals	Pesticides/Herbicides					
Landfill		Organics	Acids/Bases					
Surface Impoundment		Inorganics	Oily Waste					
Drums		Solvents	Municipal Waste					
Tanks and Non Drum Containers	<del></del>	Paints/Pigments	Mining Waste					
Chemical Waste Pile	<del></del>	Laboratory/Medical Was						
Scrap Metal or Junk Pile		Radioactive Waste	Other: AFFF					
Tailings Pile	<del></del>	Construction/Demolition	Waste					
Trash Pile (open drum)								
Land Treatment		Physical State of Waste	e as Deposited (Circle all that apply):					
Contaminated GW Plume								
Contaminated SW/Sediment		Solid						
Contaminated Soil		Sludge						
$\sim$	nknown	Powder						
No Sources	/ \/-l							
*C=Consultant, W=Wastestream, \	r=volume, A=Area	Gas						

	7. Groundwater P	athway			
Is Groundwater Used for Drinking Within 4 Miles	Is There a Suspected Release to Groundwater:	List Second Withdrawn		pulation Serv	ed by Ground Water
Yes	Yes		0.0-0.25 Mile		
If Yes, Distance to Nearest Drinking Well Miles	e to Nearest Drinking Well  Miles  Have Primary Target Drinking Water Wells Been Identified:			e	
Type of Drinking Water Wells Within 4	Yes		>0.5 - 1.0 Mile	2	
Miles (Circle Each that Applies)  Municipal	If Yes, Enter Primary Target Population		>1.0 - 2.0 Mile		
Private None	People		>2.0 - 3.0 Mile	2	
Depth to Shallowest Aquifer: <u>43-55 feet</u>	Nearest Designated Wellhead Protection Area:		>3.0 - 4.0 Mile		
Karst Terrain/Aquifer Present:	Underlies Site >0-4 Miles	Total within 4 Miles			
Yes	None Within 4 Miles				
	8. Surface Water F	athway			
Type of Surface Water Draining Site and 15	Miles Downstream:	Shortest O	verland Distar	nce From Any	Source to Surface Water:
Stream River Pond Bay Ocean Other	Lake				Feet Miles
Is There as Suspected Release to Surface Water:  Yes  No		Site is Located in:  Annual - 10 yr. Floodplain  >10 yr 100 yr. Floodplain  >100 yr 500 yr. Floodplain  > 500 yr. Floodplain			
Drinking Water Intake Located Along the Su	rface Water Migration Path:	List All Sec	ondary Drinkii		
Yes	ū	<u>Name</u>	Water Body	Flow (cfs)	Population Served
Have Primary Target Drinking Water Intakes  Yes If Yes, Dista  No40  If Yes, Enter Population Served By Target Into	nce to Nearest Drinking Water Intake _ Miles		   al Within 15 Mil		
Fisheries Located Along the Surface Water N			ondary Target		
	nce to Nearest Fishery: Miles	<u>Wate</u>	er Body/Fishery	Name	<u>Flow (cfs)</u>
Have Primary Target Fisheries <u>Been Id</u> entified: Yes No					
		1			

	8. Surface Wa	ter Pathwa	y (Continue	ed)				
Wetlands Located Along the Surface Water Migration Path:  Yes  No  Have Primary Target Wetlands Been Identified  Yes				Other Sensitive Environments Located Along the Surface Water Migration Path:  Migration Path  Yes If Yes, Distance to Nearest Sensitive  Environment: Miles				
List All Wetlands:  Water Body Wetlands and Waters of the US  The US  No  No  No  No  No  No  No  No  No  N	Frontage MilesUnknown		List All Ser	ary Sensitive Yes nsitive Enviro er Body 		Sensitive Environment Type		
	9. Soil I	Exposure P	athway					
Are People Occupying Residence or Attending School or Daycare on or Within 200 Feet of Area of Known or Suspected Contamination:  Yes No  If Yes, Enter Total Residential Population:  People	Number of Workers O  None 1-100  01-1,000 >1,000  Population Within 1 M  People	Insite:	Have Terre Within 200	Feet of Are	Yes	ents Been Identified on or or Suspected Contamination: Environment:		
	10	. Air Pathw	_					
Is There A Suspected Release to Air: Yes No Enter The Population on or Within: 0.0-0.25 Mile	>	Wetlands	Ves No	hin 4 Miles o	of the Site: If Yes, How N	Many Acres: 101Acres		
>0.25 - 0.5 Mile		Other Sens	sitive Enviro	nments Loca Yes	ated Within 4	Miles of the Site		
>0.5 - 1.0 Mile		List All Sen	sitive Enviro	onments Wit	thin 0.5 Mile o	of the Site		
>1.0 - 2.0 Mile		Distance Onsite 0 - 0.25 Mile >0.25 - 0.5 I		Sensitive Env	ironment Type	/Wetlands Area (Acres)		
>3.0 - 4.0 Mile		0.25	0					
Total within 4 Miles		1						

						Identification	n			
Potential I	Hazard	lous <b>V</b>	Waste Site I	Prelimi	nary	State: CO		CERCLIS #:	:	
	Ass	essm	ent Form	CERCLIS Discovery Date:						
			1. Gene	eral Site Inforr	nation	•				
Name: Peterson Air F	orce Base (P	AFB)		Street Addre	ss: Platte	Avenue & Po	wers Blvd			
City: Colorado Spings State					tate:	Zip Code: 80916	County: El Paso	Co Code:	Cong. Dist. CO-05	
Latitude:		Longitude		Approximate	Area of	Site:	Status of Si	te:	•	
38°49'22.47" N		104°42′36	.02" W	0.23		Acres C	Active	Not Specific	ed	
				10,082	<u>)</u>	Sq. Ft.	Inactive	NA (GW Plu	ume etc.)	
Site Name: Hangar 13	33			ļ				,	· · · · · · · · · · · · · · · · · · ·	
		the north	ern end of the parking	apron, just so	uth of Ha	ngar 140. Har	ngar 133 is h	ome to the	PAFB Aero Club	
and has a newly refitted AFFF system that uses an 800-gallon storage tank of 3% AFFF. At the time of the PA visit, the tank was filled to approximately 675 gallons. One 55-gallon plastic drum of Ansulite (3% AFFF) was found in the mechanical room during the PA visit. The system froze in 2011 or 2012 and released a small amount of AFFF into the mechanical room. The fire suppression system dispenses from a series of parallel sprinkler heads along the beams of the overhead trusses. There are no underwing cannons or other, more modern, dispensing systems at this facility.										
			2. Owner	Operator Info	ormation					
Owner: Peterson Air	Force Base			Operator: Sa	me As Ov	wner				
Street Address: Platt	e Avenue & I	Powers Blv	d	Street Addre						
			-							
City: Colorado Spings				City:						
State: Colorado	Zip Code: 8	0916	Telephone: N/A	State:		Zip Code:		Telephone	2:	
Type of Ownership:	l.			Type of Own	ership:			1		
Private	County			Private		County				
Federal Agency	Municipal			Federal Agenc	:y	Municipal				
Name: DOD	Not Specified	d		Name:	•	Not Specified				
State	Other:			State		Other:				
Indian	• tile			Indian		other:				
matan			2 Sito E	valuator Infor	mation					
Name of Fredrict or C	C					D-t- D	-I. OF 1C 1C			
Name of Evaluator: G	reg Carison		Agency/Organization	: Aerostar SES	LLC	Date Prepare	90: 05-16-16			
Street Address: 1006	Floyd Culler	Court		City: Oak Rid	ge		State: TN			
Name of EPA or State	Agency Con	tact: N/A		Street Addre	ss: N/A					
City: N/A			State: N/A	-		Telephone: N	I/A			
			4. Site Dispo	sition (for EP	A use onl	y)				
Emergency Response	Removal Ass	sessment	•	CERCLIS Reco			Signature:			
Recommendation:		· <del>-</del> ··•			igher Prior					
	Yes				ower Prior	-	Name (Typ	eq).		
	No				FRAP	-,	Ι			
					CRA		Position:			
Date:					ther		0310011.			
Date										
				Date:			1			

	5. Genera	al Site Characteristics		
Predominant Land Use Within 1 Mile of Site:		Site Setting:	Years of Operation:	
		Urban	Beginning Year:1941	
Industrial Mining	Other Federal	Suburban		
Commercial DOD	Facility:	Rural	Ending Year: In Use	
Residential DOE				
Forest/Fields DOI	Other:		Unknown	
Agriculture				
Type of Site Operations (Circle All that Apply	):	1	Waste Generated:	
Manufacturing (Must select a sub-cate			Onsite	
Lumber and Wood Products	Recycling		Offsite	
Inorganic Chemicals	Junk/Salvag	ge yard	Onsite and Offsite	
Plastic and/or Rubber Products	Municipal L	andfill		
Paints/Varnishes	Other Land	fill	Waste Deposition Authorized By:	
Industrial Organic Chemicals	DOD		Present Owner	
Agricultural Chemicals	DOE		Former Owner	
Miscellaneous Chemical Products	DOI		Present and Former Owner	
Primary Metals	Other Fede	ral Facility:	Unauthorized	
Metal Coating, Plating, Engraving	<u>RCRA</u>		Unknown	
Metal Forging, Stamping		TSDF	Waste Accessible to the Public:	
Fabricated Structural Metal	Large	Quantity Generator	Yes	
Electronic Equipment	Electronic Equipment Small Quantity Generator			
Mining (Must Select a Sub-Category):		Subtitle D		
Metals		Municipal	Distance to Nearest Dwelling	
Coal		Industrial	School or Workplace:	
Oil and Gas		"Converter"		
Non-Metallic Minerals		Protective Filer"	<u>0.0</u> Miles	
		lon or Late Filer"		
	Not Specifie	ed		
	Other:			
		aracteristics Information		
	·	A Table 1 for WC Score)		
	aste Quantity (Include	Tier* General Type of Wa	aste (Circle all that Apply)	
(Select all that apply)	Units)			
		Metals	Pesticides/Herbicides	
Landfill		Organics	Acids/Bases	
Surface Impoundment		Inorganics	Oily Waste	
Drums	<del></del>	Solvents	Municipal Waste	
Tanks and Non Drum Containers		Paints/Pigments	Mining Waste	
Chemical Waste Pile		Laboratory/Medical W		
Scrap Metal or Junk Pile		Radioactive Waste	Other: AFFF	
Tailings Pile		Construction/Demolit	ion waste	
Trash Pile (open drum)				
Land Treatment Contaminated GW Plume	<del></del>	Physical State of Wa	aste as Deposited (Circle all that apply):	
Contaminated GW Plume  Contaminated SW/Sediment		Solid		
Contaminated Sw/Sediment  Contaminated Soil				
	I Inknown	Sludge Powder		
	Unknown			
No Sources  *C=Consultant, W=Wastestream	. V=Volume. A=Area	Liquid Gas		
, is it is to determine the second control of the second control o		503		

	7. Groundwater P	athway			
Is Groundwater Used for Drinking Within 4 Miles				pulation Serv	red by Ground Water
Yes	Yes				
No	No		0.0-0.25 Mile		<del></del>
If Yes, Distance to Nearest Drinking Well	Have Primary Target Drinking	1	>0.25 - 0.5 Mil	e	
Miles	Water Wells Been Identified: Yes		>0.5 - 1.0 Mile	2	
Type of Drinking Water Wells Within 4	No No		. 4 0 2 0 8 4 1 1		
Miles (Circle Each that Applies)  Municipal	If Yes, Enter Primary Target Population	>1.0 - 2.0 Mile		<del></del>	
Private None	_ <u>440,000</u> _ People		>2.0 - 3.0 Mile	2	
Depth to Shallowest Aquifer:	Nearest Designated Wellhead	1	>3.0 - 4.0 Mile	2	<del></del>
<u>43-55 feet</u>	Protection Area: Underlies Site	To	otal within 4 M	iles	
Karst Terrain/Aquifer Present: Yes	>0-4 Miles None Within 4 Miles				
No					
Type of Surface Water Draining Site and 15	8. Surface Water F		verland Distar	nce From Any	Source to Surface Water:
Type of Surface Water Draining Site and 15	villes Downstream.	Shortest O	verialiu Distai	ice From Any	Source to Surface Water.
Stream River Pond Bay Ocean Other	Lake				Feet Miles
Is There as Suspected Release to Surface Wa	iter:	Site is Loca	ited in:		
Yes			Annual	- 10 yr. Floodp	olain
No			>10 yr.	- 100 yr. Flood	plain
		>100 yr 500 yr. Floodplain			
Drinking Water Intake Located Along the Su	rface Water Migration Dath:	Lict All Soc	ondary Drinki	0 yr. Floodplai	
Yes	Tace water wilgration ratif.	LIST All Sec	Oliualy Dilliki	iig watei iiita	ikes.
No		Name	Water Body	Flow (cfs)	Population Served
Have Primary Target Drinking Water Intakes	Been Identified:				<del></del>
Yes If Yes, Dista	nce to Nearest Drinking Water Intake				
No <u>40</u>	_ Miles				
If Yes, Enter Population Served By Target Int	ake				
					<u>===</u>
		Tota	al Within 15 Mil	es	0
Fisheries Located Along the Surface Water N	Migration Path:	List All Sec	ondary Target	: Fisheries:	
Yes <b>No</b> If Yes, Dista	nce to Nearest Fishery:	Wate	er Body/Fishery	Name	Flow (cfs)
	Miles				
Have Primary Target Fisheries Been Identifie	ed:				
Yes <b>No</b>					

	8. Surface Wa	ter Pathwa	y (Continue	ed)			
Wetlands Located Along the Surface Water Migration Path:  Yes  No  No  No  Have Primary Torset Wetlands Been Identified				Other Sensitive Environments Located Along the Surface Water Migration Path: Migration Path			
Have Primary Target Wetlands Been Identified  Yes  No			Yes If Yes, Distance to Nearest Sensitive  No Environment: Miles  Have Primary Sensitive Environments Been Identified:				
List All Wetlands: <u>Water Body</u> <u>Flow (cfs)</u> Wetlands and Waters of the US  Unknown	<u>Frontage Miles</u> Unknown		List All Ser	Yes nsitive Environer Body		Sensitive Environment Type	
				<u>=</u>		<del></del>	
	9. Soil	Exposure Pa	athway				
Are People Occupying Residence or Attending School or Daycare on or Within 200 Feet of Area of Known or Suspected Contamination:  Yes  No  If Yes, Enter Total Residential Population:  People  People  9. Soil Exposure 1 Number of Workers Onsite:  None 1-100 101-1,000 >1,000 >1,000 Population Within 1 Mile:				Have Terrestrial Sensitive Environments Been Identified on or Within 200 Feet of Areas of Known or Suspected Contamination:  Yes  No  If Yes, List Each Terrestrial Sensitive Environment:			
	10	. Air Pathw			C.1. C':		
Is There A Suspected Release to Air: Yes  Enter The Population on or Within: 0.0-0.25 Mile	>	<	Yes No	hin 4 Miles o	If Yes, How N	101Acres	
>0.25 - 0.5 Mile		Other Sens	itive Enviro	Yes	ated Within 4	Miles of the Site	
>0.5 - 1.0 Mile		List All Sen	sitive Enviro	onments Wit	thin 0.5 Mile o	of the Site	
>1.0 - 2.0 Mile		<u>Distance</u> Onsite		Sensitive Env	ironment Type,	/Wetlands Area (Acres)	
>2.0 - 3.0 Mile  >3.0 - 4.0 Mile		0 - 0.25 Mile >0.25 - 0.5 N					
Total within 4 Miles							

### Identification **Potential Hazardous Waste Site Preliminary** State: CO CERCLIS #: **Assessment Form** CERCLIS Discovery Date: 1. General Site Information Name: Peterson Air Force Base (PAFB) Street Address: Platte Avenue & Powers Blvd City: Colorado Spings State: Zip Code: County: Co Code: Cong. Dist. CO 80916 El Paso CO-05 Latitude: Longitude: Approximate Area of Site: Status of Site: Active 38°49'26.50" N 104°42'40.44" W Not Specified Acres Inactive NA (GW Plume etc.) 40,100 Sq. Ft. Site Name: Hangar 140 Site Description: Building 140 is an aircraft hangar on the northeastern side of the aircraft apron. A Hi-Ex system was installed in 2007. Previously the system relied on water only for fire suppression. 2. Owner/Operator Information Owner: Peterson Air Force Base Operator: Same As Owner Street Address: Platte Avenue & Powers Blvd Street Address: ----City: Colorado Spings City: ----Zip Code: 80916 Telephone: N/A State: ----Zip Code: ----Telephone: ----State: Colorado Type of Ownership: Type of Ownership: Private County Private County ederal Agency Municipal Federal Agency Municipal Name: DOD Not Specified Not Specified Name: State State Other: \_ Other: \_ Indian Indian 3. Site Evaluator Information Name of Evaluator: Greg Carlson Agency/Organization: Aerostar SES LLC Date Prepared: 05-16-16 Street Address: 1006 Floyd Culler Court State: TN City: Oak Ridge Name of EPA or State Agency Contact: N/A Street Address: N/A Telephone: N/A City: N/A State: N/A 4. Site Disposition (for EPA use only) Emergency Response Removal Assessment **CERCLIS Recommendation:** Signature: **Higher Priority SI** Recommendation: Lower Priority SI Name (Typed): Yes No NFRAP **RCRA** Position: Other \_

M2027.0003 7/21/16

Date:

	5. Genera	al Site Characteristics	
Predominant Land Use Within 1 Mile of Site	:	Site Setting:	Years of Operation:
		Urban	Beginning Year: 1953
Industrial Mining	Other Federal	Suburban	
Commercial DOD	Facility:	Rural	Ending Year: In Use
Residential DOE			<u> </u>
Forest/Fields DOI	Other:		Unknown
Agriculture			
Type of Site Operations (Circle All that Apply	v):		Waste Generated:
Manufacturing (Must select a sub-cate			Onsite
Lumber and Wood Products	Recycling		Offsite
Inorganic Chemicals	Junk/Salvag	e vard	Onsite and Offsite
Plastic and/or Rubber Products	Municipal L	·	
Paints/Varnishes	Other Land		Waste Deposition Authorized By:
Industrial Organic Chemicals	DOD		Present Owner
Agricultural Chemicals	DOE		Former Owner
Miscellaneous Chemical Products	DOI		Present and Former Owner
		eal Cacility	Unauthorized
Primary Metals		ral Facility:	
Metal Coating, Plating, Engraving	<u>RCRA</u>	TCDE	Unknown
Metal Forging, Stamping	1	TSDF	Waste Accessible to the Public:
Fabricated Structural Metal	_	Quantity Generator	Yes
Electronic Equipment	Small	Quantity Generator	No
Mining (Must Select a Sub-Category):		Subtitle D	
Metals		Municipal	Distance to Nearest Dwelling
Coal		Industrial	School or Workplace:
Oil and Gas	_	"Converter"	
Non-Metallic Minerals		Protective Filer"	<u>0.0</u> Miles
		on or Late Filer"	
	Not Specifie	ed	
	Other:		
		aracteristics Information	
		A Table 1 for WC Score)	
	aste Quantity (Include	Tier* General Type of V	Vaste (Circle all that Apply)
(Select all that apply)	Units)		
		Metals	Pesticides/Herbicides
Landfill		Organics	Acids/Bases
Surface Impoundment		Inorganics	Oily Waste
Drums		Solvents	Municipal Waste
Tanks and Non Drum Containers		Paints/Pigments	Mining Waste
Chemical Waste Pile		Laboratory/Medical	l Waste Explosives
Scrap Metal or Junk Pile		Radioactive Waste	Other: AFFF
Tailings Pile		Construction/Demo	olition Waste
Trash Pile (open drum)			
Land Treatment		Physical State of \	Waste as Deposited (Circle all that apply):
Contaminated GW Plume			
Contaminated SW/Sediment		Solid	
Contaminated Soil		Sludge	
Other	Unknown	Powde	r
No Sources		Liquid	
*C=Consultant, W=Wastestrean	n, V=Volume, A=Area	Gas	
		l	

	7. Groundwater P	athway	
s Groundwater Used for Drinking Within 4	Is There a Suspected Release to	List Secondary Target Population S	erved by Ground Water
Ailes	Groundwater:	Withdrawn From:	•
Yes	Yes		
No	No	0.0-0.25 Mile	
If Yes, Distance to Nearest Drinking Well	Have Primary Target Drinking	>0.25 - 0.5 Mile	
Miles	Water Wells Been Identified:		
	Yes	>0.5 - 1.0 Mile	
Type of Drinking Water Wells Within 4	No		
Miles (Circle Each that Applies)	If Yes, Enter Primary Target	>1.0 - 2.0 Mile	
Municipal	Population	110 210 11110	<del></del>
Private	440,000 People	>2.0 - 3.0 Mile	
None	<del></del> r copic	72.0 3.0 WIIIC	
	Nearest Designated Wellhoad	>3.0 - 4.0 Mile	
Depth to Shallowest Aquifer: 43-55 feet	Nearest Designated Wellhead Protection Area:	75.0 4.0 IVIIIC	
<u>43-33 leet</u>	Underlies Site	Total within 4 Miles	
Varet Torrain / Aquifor Descents		Total Within 4 Miles	<u></u>
Karst Terrain/Aquifer Present:	>0-4 Miles None Within 4 Miles		
Yes	None within 4 wiles		
No			
Type of Surface Water Draining Site and 15	8. Surface Water P	•	
vne of Surface Water Draining Site and 15	Miles Downstream:	Shortest Overland Distance From A	Any Source to Surface Water
Type of Surface Water Braining Site and 15			
Stream River Pond	Lake	6,600_	
			Feet Miles
Stream River Pond Bay Ocean Other	Lake	1.25	
Stream River Pond Bay Ocean Other	Lake	1.25 Site is Located in:	Miles
Stream River Pond Bay Ocean Other	Lake	1.25	Miles
Stream River Pond Ocean Other  s There as Suspected Release to Surface Wa	Lake	1.25  Site is Located in:  Annual - 10 yr. Flo >10 yr 100 yr. Flo	Miles odplain
Stream River Pond Ocean Other Stream Suspected Release to Surface Wayes	Lake	Site is Located in:  Annual - 10 yr. Flo	Miles odplain
Stream River Pond Ocean Other Stream Suspected Release to Surface Wayes	Lake	1.25  Site is Located in:  Annual - 10 yr. Flo >10 yr 100 yr. Flo	Miles  odplain  oodplain  oodplain
Stream River Pond Ocean Other s There as Suspected Release to Surface Way	Lake ater:	1.25  Site is Located in:  Annual - 10 yr. Flo >10 yr 100 yr. Flo >100 yr 500 yr. Fl	Miles  odplain  oodplain  oodplain
Stream River Pond Ocean Other s There as Suspected Release to Surface Way	Lake ater:	1.25  Site is Located in:  Annual - 10 yr. Flo >10 yr 100 yr. Flo >100 yr 500 yr. Flo	Miles  odplain  oodplain  oodplain
Stream River Pond Other Stream Ocean Other Other Stream Ocean Other Other Other Ocean Other Othe	Lake ater:	1.25  Site is Located in:  Annual - 10 yr. Flo >10 yr 100 yr. Flo >100 yr 500 yr. Flo	Miles  odplain  oodplain  oodplain  olain  ntakes:
Stream River Pond Other Stream Ocean Other Other Stream Ocean Other Other Stream No Orinking Water Intake Located Along the Survey No No Orinking Water Intake Located Along the Survey No No No Other Stream No No Other Stream No Other Stre	rface Water Migration Path:	1.25  Site is Located in:  Annual - 10 yr. Flo >10 yr 100 yr. Flo >100 yr 500 yr. Flo ≥ 500 yr. Flood  List All Secondary Drinking Water I	Miles  odplain  oodplain  olain  ntakes:
Stream River Pond Other Stream Ocean Other Ocean Ocean Other Ocean Ocean Other Ocean	rface Water Migration Path:	Site is Located in:  Annual - 10 yr. Flo >10 yr 100 yr. Flo >100 yr 500 yr. Flo >500 yr. Flood  List All Secondary Drinking Water I	odplain podplain podplain podplain plain p
Stream River Pond Other Stream Ocean Other Ocean Other Stream Ocean Other Ocean Other Stream Ocean Other Ocean Ocean Other Ocean Oce	Lake  ater:  rface Water Migration Path:  Been Identified:	1.25  Site is Located in:  Annual - 10 yr. Flo  >10 yr 100 yr. Flo  >100 yr 500 yr. Flo  ≥ 500 yr. Flood  List All Secondary Drinking Water I  Name Water Body Flow (cfs	odplain podplain podplain plain ntakes:  Population Served
Stream Bay Ocean Other Ocean Other Stream Bay Ocean Other Other Other Other Other Ocean Other Ot	rface Water Migration Path:  s Been Identified: ance to Nearest Drinking Water Intake Miles	1.25  Site is Located in:  Annual - 10 yr. Flo >10 yr 100 yr. Flo >100 yr 500 yr. Flo ≥ 500 yr. Flood  List All Secondary Drinking Water I  Name Water Body Flow (cfs	odplain podplain podplain plain ntakes:  Population Served
Stream Bay Ocean Other Ocean Other Stream Bay Ocean Other Other Other Other Ocean Other Other Other Ocean Other Other Other Other Ocean Other Ot	rface Water Migration Path:  s Been Identified: ance to Nearest Drinking Water Intake Miles	1.25  Site is Located in:  Annual - 10 yr. Flo >10 yr 100 yr. Flo >100 yr 500 yr. Flo ≥ 500 yr. Flood  List All Secondary Drinking Water I  Name Water Body Flow (cfs	odplain podplain podplain polain ntakes:  Population Served
Stream Bay Ocean Other Ocean Other Stream Bay Ocean Other Other Other Other Ocean Other Other Other Ocean Other Other Other Other Ocean Other Ot	rface Water Migration Path:  s Been Identified: ance to Nearest Drinking Water Intake Miles	1.25  Site is Located in:  Annual - 10 yr. Flo >10 yr 100 yr. Flo >100 yr 500 yr. Flo > 500 yr. Flood  List All Secondary Drinking Water I  Name Water Body Flow (cfs	odplain podplain podplain polain ntakes:  Population Served
Stream River Pond Other Stream Ocean Ocean Ocean Other Stream Ocean	rface Water Migration Path:  s Been Identified: ance to Nearest Drinking Water Intake Miles	1.25  Site is Located in:  Annual - 10 yr. Flo >10 yr 100 yr. Flo >100 yr 500 yr. Flo >500 yr. Flood  List All Secondary Drinking Water I  Name Water Body Flow (cfs	odplain oodplain olain ntakes:  Population Served
Stream Bay Ocean Other Ocean Other SThere as Suspected Release to Surface Wayes No Orinking Water Intake Located Along the Surface Ves No Have Primary Target Drinking Water Intakes If Yes, Dista 40 If Yes, Enter Population Served By Target Intakes	rface Water Migration Path:  S Been Identified: ance to Nearest Drinking Water Intake Miles take	1.25	odplain podplain podplain ntakes:  Population Served 0
Stream River Pond Other Stream Ocean Ocean Ocean Ocean Other Stream Ocean Ocea	rface Water Migration Path:  S Been Identified: ance to Nearest Drinking Water Intake Miles take	1.25  Site is Located in:  Annual - 10 yr. Flo >10 yr 100 yr. Flo >100 yr 500 yr. Flo >500 yr. Flood  List All Secondary Drinking Water I  Name Water Body Flow (cfs	odplain oodplain oodplain ntakes:  Population Served 0
Stream Bay Ocean Other  SThere as Suspected Release to Surface Was Yes No Orinking Water Intake Located Along the Surface Primary Target Drinking Water Intakes If Yes, Dista 40 If Yes, Enter Population Served By Target Intakes If Yes, Intak	rface Water Migration Path:  S Been Identified: Ance to Nearest Drinking Water Intake Miles take  Migration Path:	1.25	odplain podplain podplain podplain polain ntakes:    Population Served         0
Stream Bay Ocean Other Stream Ocean Ocean Other Stream Ocean Ocean Other Stream Ocean Ocean Other Stream Ocean	rface Water Migration Path:  Been Identified: ance to Nearest Drinking Water Intake Miles take  Migration Path: ance to Nearest Fishery: Miles	1.25	Miles  odplain  oodplain  olain  ntakes:  Population Served  0  Flow (cfs)
Stream River Pond Other Stream Ocean Ocean Ocean Ocean Other Stream Ocean Ocea	rface Water Migration Path:  Been Identified: ance to Nearest Drinking Water Intake Miles take  Migration Path: ance to Nearest Fishery: Miles	1.25	Miles  odplain  odplain  odplain  ntakes:   Population Served     0  Flow (cfs)

		8. Surface Wat	ter Pathwa	ay (Continu	ied)				
Wetlands Located A	Along the Surface Wa			Other Sen Migration	nsitive Enviro Path:	nments Locate	d Along the Surface Water		
Haya Brimary Targe	et Wetlands Been Ide			Migration Yes	Patn	If Voc Distanc	ce to Nearest Sensitive		
Have Pilliary raigo	et Wetlands Been Id:	entified	_	No		•	te to nearest Sensitive : Miles		
	No								
Li-4 All Matlander	INO			Have Primary Sensitive Environments Been Identified:					
List All Wetlands: Water Body	Flow (cfs)	Frontage Miles		 	res ensitive Envir	_	NO		
Water Body Wetlands and Waters of	Unknown	<u> </u>			Sensitive Environment Type				
the US	Ulikilowii	Unknown		<u> </u>	iter Body	Flow (cfs)	Sensitive Environment Type		
					<u></u>				
		9. Soil F	Exposure P	athway					
Are People Occupying R	Posidence or	Number of Workers Or		_	octrial Sensit	tive Environme	nts Been Identified on or		
Attending School or Day		Nullinel of Workers C.	Hone.				r Suspected Contamination:		
200 Feet of Area of Kno		None		VV101 = 0	01666517	203 UI MIOT 2	1 Juspected Contamination		
Contamination:	Wil of Suspection	1-100							
Yes		(101-1,000	`			Yes			
No		>1,000	•	No					
		•	If Yes, List Each Terrestrial Sensitive Environment:				Environment:		
If Yes, Enter Total Resid	lential Population:			,	Lucii	ti iui ec			
11 100, 2.1.0.	Citian Opener	Population Within 1 M	lile:						
	People	People							
			. Air Pathw						
Is There A Suspected Re			Wetlands		thin 4 Miles				
Yes	No	<b>&gt;</b>	<b>C</b>	Yes		If Yes, How M	•		
Enter The Population or	n or Within:		1	No			<u>101_</u> Acres		
0.0-0.25 Mile									
			Other Sens	sitive Envir			Miles of the Site		
>0.25 - 0.5 Mile	<u></u>				Yes		No		
>0.5 - 1.0 Mile			LI-+ All Cor	-!±!a Envir		·· O.E.Milo.o	Color City		
>0.3 - 1.0 IVINE			List All Sen	ISITIVE EIIVII	ronments vvi	ithin 0.5 Mile o	if the Site		
>1.0 - 2.0 Mile			<u>Distance</u>		Sansitive Fn	wironment Type/	/Wetlands Area (Acres)		
. 2.0 2.1			Onsite		Jensieve Lin	VIIOIIIICIIC 135C/	Wetianus Aica (Acies)		
>2.0 - 3.0 Mile			0 - 0.25 Mile	le .					
			>0.25 - 0.5						
>3.0 - 4.0 Mile			70.23 - 0.5 1	IVIIIC					
			1						
Total within 4 Mil	les		1						

						Identification	n		
Potential I	Hazard	ous V	Waste Site I	Prelimi	nary	State: CO		CERCLIS #	:
	Ass	essm	ent Form			CERCLIS Disc	overy Date:	1	
			1. Gene	eral Site Infori	mation	•			
Name: Peterson Air F	orce Base (P	AFB)		Street Addre	Street Address: Platte Avenue & Powers Blvd				
City: Colorado Spings Sta					State:	Zip Code: 80916	County: El Paso	Co Code:	Cong. Dist. CO-05
Latitude:		Longitude:		Approximate	e Area of	Site:	Status of Si	ite:	•
39°49′04.17″ N		104°42′07	.35" W	0.8	1	Acres C	Active	Not Specific	ed
				54,360	0	Sq. Ft.	Inactive	NA (GW Plu	ume etc.)
Site Name: Hangar 2:	10					1			· · · · · · · · · · · · · · · · · · ·
		ntrally loca	ited on the eastern sid	le of the aircra	aft apron s	south of Hang	ar 214. Han	gar 210 is a	two-bay hangar
with two independent AFFF fire suppression systems, one for each hangar bay. Bay 1 is on the south side of the building, and Bay 2 is on the north side. Each bay has two underwing cannons for foam dispersion. In late 2014 the system in Bay 2 tripped releasing AFFF into the hangar. According to Mr. Heimer, a steam cleaner near the manual release switch in the bay was being used and too much water got into the control panel causing the system to release. All of the foam that was released was contained within the hangar.									
			2. Owner	Operator Info	ormation				
Owner: Peterson Air	Force Base			Operator: Sa	ame As Ov	wner			
Street Address: Platt	e Avenue & F	Powers Blv	d	Street Addre					
			-						
City: Colorado Spings				City:					
State: Colorado	Zip Code: 80	0916	Telephone: N/A	State:		Zip Code:	-	Telephone	2:
Type of Ownership:				Type of Owr	nership:	II.		ı	
Private	County			Private		County			
Eederal Agency	Municipal			Federal Agend	CV	Municipal			
Name: DOD	Not Specified	d		Name:	-	Not Specified			
State	Other:			State		Other:			
Indian	• tile			Indian		<b>G</b> te			
matan			2 Sito E	valuator Infor	mation				
Name of Fredrict or C	C					D-t- B	-L OF 4C 4C		
Name of Evaluator: G	reg Carison		Agency/Organization	: Aerostar SES	LLC	Date Prepare	90: 05-16-16	1	
Street Address: 1006	Floyd Culler	Court		City: Oak Ric	dge		State: TN		
Name of EPA or State	Agency Con	tact: N/A		Street Addre	ess: N/A				
City: N/A			State: N/A	•		Telephone: N	N/A		
			4. Site Dispo	sition (for EP	A use onl	y)			
Emergency Response	Removal Ass	sessment	•	CERCLIS Rec			Signature:		
Recommendation:					ligher Prio				
	Yes				ower Prior	-	Name (Typ	ed):	
	No				IFRAP	-,	. ταιε (1 γρ	j.	
					CRA		Position:		
Date:					Other		i OsitiOII.		
Date									
				Date:			1		

	5. Genera	al Site Characteristics	
Predominant Land Use Within 1 Mile of Site	:	Site Setting:	Years of Operation:
		Urban	Beginning Year:1985
<b>Industrial</b> Mining	Other Federal	Suburban	
Commercial DOD	Facility:	Rural	Ending Year: In Use
Residential DOE			
Forest/Fields DOI	Other:		Unknown
Agriculture			
Type of Site Operations (Circle All that Apply	y):	1	Waste Generated:
Manufacturing (Must select a sub-cate			Onsite
Lumber and Wood Products	Recycling		Offsite
Inorganic Chemicals	Junk/Salvag	ge yard	Onsite and Offsite
Plastic and/or Rubber Products	Municipal L	andfill	
Paints/Varnishes	Other Land	fill	Waste Deposition Authorized By:
Industrial Organic Chemicals	DOD		Present Owner
Agricultural Chemicals	DOE		Former Owner
Miscellaneous Chemical Products	DOI		Present and Former Owner
Primary Metals	Other Fede	ral Facility:	Unauthorized
Metal Coating, Plating, Engraving	<u>RCRA</u>		Unknown
Metal Forging, Stamping		TSDF	Waste Accessible to the Public:
Fabricated Structural Metal	Large	Quantity Generator	Yes
Electronic Equipment	Small	Quantity Generator	No
Mining (Must Select a Sub-Category):		Subtitle D	
Metals		Municipal	Distance to Nearest Dwelling
Coal		Industrial	School or Workplace:
Oil and Gas		"Converter"	
Non-Metallic Minerals	"!	Protective Filer"	<u>0.0</u> Miles
	"N	Ion or Late Filer"	
	Not Specifie	ed	
	Other:		
	6. Waste Ch	aracteristics Information	
	(Refer to P	A Table 1 for WC Score)	
Source Type Source W	aste Quantity (Include	Tier* General Type of Wa	sste (Circle all that Apply)
(Select all that apply)	Units)		
		Metals	Pesticides/Herbicides
Landfill		Organics	Acids/Bases
Surface Impoundment		Inorganics	Oily Waste
Drums		Solvents	Municipal Waste
Tanks and Non Drum Containers		Paints/Pigments	Mining Waste
Chemical Waste Pile		Laboratory/Medical V	
Scrap Metal or Junk Pile		Radioactive Waste	Other: AFFF
Tailings Pile		Construction/Demolit	ion Waste
Trash Pile (open drum)			
Land Treatment		Physical State of Wa	aste as Deposited (Circle all that apply):
Contaminated GW Plume			
Contaminated SW/Sediment		Solid	
Contaminated Soil		Sludge	
Other	<u>Unknown</u>	Powder	
No Sources	- M Malaras A A	Liquid	
*C=Consultant, W=Wastestrean	n, v=voiume, A=Area	Gas	

	7. Groundwater Pa	athway	
s Groundwater Used for Drinking Within 4	Is There a Suspected Release to	List Secondary Target Population	Served by Ground Water
Miles	Groundwater:	Withdrawn From:	
Yes	Yes		
No	No	0.0-0.25 Mile	
If Yes, Distance to Nearest Drinking Well	Have Primary Target Drinking	>0.25 - 0.5 Mile	
Miles	Water Wells Been Identified:		
	Yes	>0.5 - 1.0 Mile	
ype of Drinking Water Wells Within 4	No		
Miles (Circle Each that Applies)	If Yes, Enter Primary Target	>1.0 - 2.0 Mile	
Municipal	Population	>1.0 2.0 WINC	
Private	440,000 People	>2.0 - 3.0 Mile	
	440;000 People	>2.0 - 3.0 Mile	
None		2.0 4.0 4.1 -	
Depth to Shallowest Aquifer:	Nearest Designated Wellhead	>3.0 - 4.0 Mile	
<u>43-55 feet</u>	Protection Area:		
	Underlies Site	Total within 4 Miles	<u></u>
Karst Terrain/Aquifer Present:	>0-4 Miles		
Yes	None Within 4 Miles		
No			
	8. Surface Water P	athway	
ype of Surface Water Draining Site and 15	Miles Downstream:	Shortest Overland Distance From	Any Source to Surface Water
Bay Ocean Other		0.15	Miles
There as Suspected Release to Surface Wa	nter:	Site is Located in:	
Yes		Annual - 10 yr. Fl	oodplain
No		>10 yr 100 yr. F	loodplain
		>100 yr 500 yr. F	loodplain
		> 500 yr. Flood	Inlain
			apiditi
Orinking Water Intake Located Along the Su	rface Water Migration Path:	List All Secondary Drinking Water	
Orinking Water Intake Located Along the Su Yes	rface Water Migration Path:	List All Secondary Drinking Water	
	rface Water Migration Path:	List All Secondary Drinking Water  Name Water Body Flow (cf	Intakes:
Yes			Intakes:
Yes No lave Primary Target Drinking Water Intakes		Name Water Body Flow (cf	Intakes:  S) Population Served
Yes No lave Primary Target Drinking Water Intakes	Been Identified:	Name Water Body Flow (cf	Intakes:  S) Population Served
Iave Primary Target Drinking Water Intakes  Yes  No  40	Been Identified: nce to Nearest Drinking Water Intake _ Miles	Name         Water Body         Flow (cf	Intakes:  S) Population Served
Iave Primary Target Drinking Water Intakes  Yes  No  40	Been Identified: nce to Nearest Drinking Water Intake _ Miles	Name         Water Body         Flow (cf	Intakes:  Solution Served
Iave Primary Target Drinking Water Intakes  Yes  No  40	Been Identified: nce to Nearest Drinking Water Intake _ Miles	Name         Water Body         Flow (cf	Intakes:
Have Primary Target Drinking Water Intakes  No40	Been Identified: nce to Nearest Drinking Water Intake _ Miles	Name         Water Body         Flow (cf	Intakes:  Solution Served
lave Primary Target Drinking Water Intakes  Yes If Yes, Dista 40  F Yes, Enter Population Served By Target Int	Been Identified: Ince to Nearest Drinking Water Intake _ Miles rake	Name Water Body Flow (cf	Intakes:
Alave Primary Target Drinking Water Intakes  Yes If Yes, Dista 40  F Yes, Enter Population Served By Target Intakes  isheries Located Along the Surface Water Market Population Surface Water	Been Identified: Ince to Nearest Drinking Water Intake Miles Take  Migration Path:	Name         Water Body         Flow (cf                               Total Within 15 Miles	Intakes:
Alave Primary Target Drinking Water Intakes  Yes If Yes, Dista 40  F Yes, Enter Population Served By Target Intakes  isheries Located Along the Surface Water Market Population Surface Water	Been Identified: Ince to Nearest Drinking Water Intake Miles Take  Alignation Path: Ince to Nearest Fishery:	Name   Water Body   Flow (cf	Population Served
Have Primary Target Drinking Water Intakes  Yes If Yes, Dista 40  f Yes, Enter Population Served By Target Intakes  Fisheries Located Along the Surface Water No  If Yes, Dista	Been Identified: Ince to Nearest Drinking Water Intake Miles Take  Aligration Path: Ince to Nearest Fishery:  Miles	Name   Water Body   Flow (cf	Population Served
Have Primary Target Drinking Water Intakes  Yes No 40  If Yes, Dista 40  If Yes, Enter Population Served By Target Intakes  Fisheries Located Along the Surface Water No If Yes, Dista  Have Primary Target Fisheries Been Identifie	Been Identified: Ince to Nearest Drinking Water Intake Miles Take  Aligration Path: Ince to Nearest Fishery:  Miles	Name Water Body Flow (cf Total Within 15 Miles  List All Secondary Target Fisheries Water Body/Fishery Name	Population Served
Alave Primary Target Drinking Water Intakes  Ves If Yes, Dista 40  F Yes, Enter Population Served By Target Intakes  isheries Located Along the Surface Water No  If Yes, Dista	Been Identified: Ince to Nearest Drinking Water Intake Miles Take  Aligration Path: Ince to Nearest Fishery:  Miles	Name   Water Body   Flow (cf	Population Served

	8. Surface Wat	er Pathwa	y (Continue	ed)				
Wetlands Located Along the Surface Water Migration Path:  Yes  No  Have Primary Target Wetlands Been Identified  Yes  No				Other Sensitive Environments Located Along the Surface Womigration Path: Migration Path Yes If Yes, Distance to Nearest Sensitive No Environment: Miles Have Primary Sensitive Environments Been Identified:				
List All Wetlands:  Water Body Flow (cfs)  Wetlands and Waters of the US  Unknown	Frontage MilesUnknown		List All Sensitive Environments:  Water Body Flow (cfs) Sensitive Environment T					
	9. Soil E	xposure Pa	thway					
Are People Occupying Residence or Attending School or Daycare on or Within 200 Feet of Area of Known or Suspected Contamination: Yes No  If Yes, Enter Total Residential Population: People	Number of Workers On  None 1-100 01-1,000 >1,000  Population Within 1 Mi	nsite:	Have Terre Within 200	Feet of Are	Yes No	ents Been Identified on or or Suspected Contamination:  Environment:		
		Air Pathw						
Is There A Suspected Release to Air: Yes No Enter The Population on or Within: 0.0-0.25 Mile	<b>&gt;</b>	<u> </u>	<b>Yes</b> No	hin 4 Miles o	If Yes, How N	<u>101_</u> Acres		
>0.25 - 0.5 Mile		Other Sens		Yes	ated Within 4	Miles of the Site		
>0.5 - 1.0 Mile		List All Sen	sitive Enviro	onments Wit	thin 0.5 Mile	of the Site		
>1.0 - 2.0 Mile >2.0 - 3.0 Mile		<u>Distance</u> Onsite 0 - 0.25 Mile >0.25 - 0.5 N		Sensitive Env	ironment Type	e/Wetlands Area (Acres)		
>3.0 - 4.0 Mile Total within 4 Miles								

						Identification	n		
Potential I			Waste Site	Prelim	inary	State: CO		CERCLIS #:	
	Ass	essm	ent Form			CERCLIS Disc	overy Date:	•	
			1. Gene	eral Site Info	rmation	•			
Name: Peterson Air Force Base (PAFB)  Street Address:						Avenue & Po	wers Blvd		
						Zip Code: 80916	County: El Paso	Co Code:	Cong. Dist. CO-05
Latitude:		Longitude:		Approxima	te Area of	Site:	Status of Si	te:	•
39°49′08.55″ N		104°42′13	.25" W	0.	.81	Acres C	Active	Not Specifie	ed
				35,3	63	Sq. Ft.	Inactive	NA (GW Plu	ıme etc.)
Site Name: Hangar 21	L4			· ·					
tank of 3% AFFF and t	two underwi	ng cannon	ted on the eastern sides for dispersion within	the hangar.	There is no	o overhead dis	spersion syst	em. At the	time of the PA
visit, there were approximately 1,100 gallons of AFFF concentrate stored in this tank. On an unknown date the system tripped, and a small amount of AFFF leaked out the hangar doors. The area in front of the hangar is paved with concrete in good condition. A drain leading to the main storm sewer trunk is northwest of the hangar, and the concrete is sloped in that direction.									
			2. Owner	/Operator Ir	nformation				
Owner: Peterson Air	Force Base			Operator:	Same As Ov	wner			
Street Address: Platt	e Avenue & F	Powers Blv	d	Street Add	ress:				
City: Colorado Spings				City:					
State: Colorado	Zip Code: 8	0916	Telephone: N/A	State:		Zip Code:	-	Telephone	2:
Type of Ownership:	1			Type of Ov	vnership:	-1		1	
Private	County			Private	County				
Eederal Agency	Municipal			Federal Age	ncy	Municipal			
Name: DOD	Not Specified	d		Name:					
State	Other:			State		Other:			
Indian				Indian					
			2 Sito F	valuator Inf	ormation				
Name of Fugluators C	rog Carlson					Data Branara	d. 05 16 16		
Name of Evaluator: G			Agency/Organization			Date Prepare			
Street Address: 1006	Floyd Culler	Court		City: Oak F	Ridge		State: TN		
Name of EPA or State	Agency Con	tact: N/A		Street Add	ress: N/A				
City: N/A State: N/A					Telephone: N	N/A			
			4. Site Dispo	sition ( <i>for E</i>	PA use onl	y)			
Emergency Response	Removal Ass	sessment	•		ecommend		Signature:		
Recommendation:					Higher Prio				
	Yes				Lower Prior	-	Name (Type	ed):	
	No				NFRAP	-,		٠	
					RCRA		Position:		
Date:					Other		i OsitiOII.		
Date				Date:	Juici				
				Date:			L		

		5. Genera	al Site Chara	cteristics	
Predominant Land Use Within 1	Mile of Site:		Site Setting		Years of Operation:
				Urban	Beginning Year:1987
Industrial M	lining (	Other Federal		Suburban	
Commercial	DOD F	acility:		Rural	Ending Year: In Use
Residential	DOE				
Forest/Fields	DOI Oth	er:			Unknown
Agriculture					
Type of Site Operations (Circle A	All that Apply):				Waste Generated:
Manufacturing (Must selec		Retail			Onsite
Lumber and Wood Produ	ucts	Recycling			Offsite
Inorganic Chemicals		Junk/Salvag	ge yard		Onsite and Offsite
Plastic and/or Rubber Prod	ducts	Municipal L	andfill		
Paints/Varnishes		Other Landf	fill		Waste Deposition Authorized By:
Industrial Organic Chemi	cals	DOD			Present Owner
Agricultural Chemicals	S	DOE			Former Owner
Miscellaneous Chemical Pro	oducts	DOI			Present and Former Owner
Primary Metals		Other Feder	ral Facility:		Unauthorized
Metal Coating, Plating, Eng	raving	RCRA	,		Unknown
Metal Forging, Stampir	ng	· <u></u> -	TSDF		Waste Accessible to the Public:
Fabricated Structural Me		Large	Quantity Gen	erator	Yes
Electronic Equipment		_	Quantity Gen		No
Mining (Must Select a Sub-Co	ateaorv):		Subtitle D		
Metals			Muni	cipal	Distance to Nearest Dwelling
Coal			Indus	strial	School or Workplace:
Oil and Gas			"Converter"		l Pill
Non-Metallic Minerals	S	"F	Protective File	r"	0.0 Miles
		"N	lon or Late Fil	er"	
		Not Specifie	ed		
		Other:			
		6. Waste Cha	aracteristics	Information	
		(Refer to PA	A Table 1 fo	· WC Score)	
Source Type	Source Waste Q	uantity (Include	Tier*	General Type of Waste (	Circle all that Apply)
(Select all that apply)	Uni	its)			
				Metals	Pesticides/Herbicides
Landfill				Organics	Acids/Bases
Surface Impoundment				Inorganics	Oily Waste
Drums				Solvents	Municipal Waste
Tanks and Non Drum Containers				Paints/Pigments	Mining Waste
Chemical Waste Pile				Laboratory/Medical Waste	Explosives
Scrap Metal or Junk Pile	Scrap Metal or Junk Pile				Other: AFFF
Tailings Pile	ailings Pile			Construction/Demolition W	Vaste
Trash Pile (open drum)					
Land Treatment				Physical State of Waste a	as Deposited (Circle all that apply):
Contaminated GW Plume					
Contaminated SW/Sediment				Solid	
Contaminated Soil				Sludge	
Other	Unkno	own		Powder	
No Sources				Liquid	
*C=Consultant, W	/=Wastestream, V=Vol	ume, A=Area		Gas	
			'		

	7. Groundwater P	athway		
Is Groundwater Used for Drinking Within 4	Is There a Suspected Release to	List Secondary Target Po	opulation Serve	ed by Ground Water
	· ·		opulation <b>5</b> 0110	a sy Greana rrate.
Miles	Groundwater:	Withdrawn From:		
Yes	Yes			
No	No	0.0-0.25 Mile	2	
If Van Dieterrante Nament Deielie - Wall	Harris Balancia Tarrest Balakina	>0.2F 0.FM	la.	
If Yes, Distance to Nearest Drinking Well	Have Primary Target Drinking	>0.25 - 0.5 Mi	ie	
<del></del> _ Miles	Water Wells Been Identified:			
	Yes	>0.5 - 1.0 Mil	e	
Type of Drinking Water Wells Within 4	No			
Miles (Circle Each that Applies)	If Yes, Enter Primary Target	>1.0 - 2.0 Mil	۵	
	, -	71.0 - 2.0 IVIII	C	
Municipal	Population			
Private	<u>440,000</u> People	>2.0 - 3.0 Mil	e	
None				
Depth to Shallowest Aquifer:	Nearest Designated Wellhead	>3.0 - 4.0 Mil	e	
<u>43-55 feet</u>	Protection Area:			
	Underlies Site	Total within 4 N	/liles	
Karst Terrain/Aquifer Present:	>0-4 Miles			
Yes	None Within 4 Miles			
No				
NO	8. Surface Water P	athway		
Type of Surface Water Draining Site and 15		•	nco From Any C	Source to Surface Water:
Type of Surface water Draining Site and 15	Miles Downstream.	Shortest Overland Dista	ince From Any 3	Source to Surface Water.
Stream River Pond	Lake		973 Fe	eet
Bay Ocean Other			0.18 N	/liles
Is There as Suspected Release to Surface W	ator	Site is Located in:		
	ater.			
Yes			ıl - 10 yr. Floodpl	
No		>10 yr.	- 100 yr. Floodpl	lain
		>100 yr	500 yr. Floodp	lain
		> 50	00 yr. Floodplain	
Drinking Water Intake Located Along the Su	urface Water Migration Path:	List All Secondary Drink		
	indee water wilgration ratio.	List All Secondary Brillik	ing water intak	
Yes				
No		Name Water Body	Flow (cfs)	Population Served
Have Primary Target Drinking Water Intakes	s Been Identified:			
Yes If Yes, Dista	ance to Nearest Drinking Water Intake			
No 40	Miles			
		<del></del>	<del></del>	
If Yes, Enter Population Served By Target In	take			
		Total Within 15 Mi	iles	0
Fisheries Located Along the Surface Water I	Migration Path:	List All Secondary Targe	t Fisheries:	
	ance to Nearest Fishery:	Water Body/Fisher		Flow (cfs)
	Miles			
Harris Balancia, Tanant St. L. C. B. 111 200				
Have Primary Target Fisheries Been Identification	ea:	<u>==</u>		
Yes No		<del></del>		

	8. Surface Wa	ter Pathwa	y (Continue	ed)		
Wetlands Located Along the Surface New Yes No Have Primary Target Wetlands Been Yes No	<	Migration Migration Yes	Path: Path	If Yes, Distan Environment	ed Along the Surface Water  ace to Nearest Sensitive  by Miles  as Been Identified:	
List All Wetlands: <u>Water Body</u> <u>Flow (cfs)</u> <u>Wetlands and Waters of</u> the US	Frontage Miles Unknown			Yes nsitive Environ er Body	onments: Flow (cfs)	Sensitive Environment Type
				<u> </u>		
	9. Soil	Exposure P	athway			
Are People Occupying Residence or Attending School or Daycare on or Withir 200 Feet of Area of Known or Suspected Contamination: Yes No  If Yes, Enter Total Residential Population: People	None   1-100   1-100	<b>)</b> ⁄ille:	If Yes, List	Feet of Are		ents Been Identified on or or Suspected Contamination:  Environment:
	10	). Air Pathw				
Is There A Suspected Release to Air: Yes No Enter The Population on or Within: 0.0-0.25 Mile	>	Wetlands	Located with Yes No	hin 4 Miles (	of the Site: If Yes, How N	Many Acres: 101Acres
>0.25 - 0.5 Mile		Other Sen	sitive Enviro	onments Loc Yes	ated Within 4	Miles of the Site
>0.5 - 1.0 Mile		List All Ser	sitive Enviro	onments Wi	thin 0.5 Mile o	of the Site
>1.0 - 2.0 Mile	<del></del>	<u>Distance</u> Onsite		Sensitive Env	vironment Type,	/Wetlands Area (Acres)
>2.0 - 3.0 Mile	<del></del>	0 - 0.25 Mil				
>3.0 - 4.0 Mile		>0.25 - 0.5	Mile			
Total within 4 Miles						

### Identification **Potential Hazardous Waste Site Preliminary** State: CO CERCLIS #: **Assessment Form CERCLIS Discovery Date:** 1. General Site Information Name: Peterson Air Force Base (PAFB) Street Address: Platte Avenue & Powers Blvd City: Colorado Spings State: Zip Code: County: Co Code: Cong. Dist. CO 80916 CO-05 El Paso Approximate Area of Site: Latitude: Longitude: Status of Site: 39°49'04.17" N 104°42'07.35" W Active Not Specified Acres NA (GW Plume etc.) 39,791 Sq. Ft. Inactive Site Name: Building 218, Fire Station #1 Site Description: Spray testing for the department's fire engines is done on the station ramp south of Building 218. This area is well- paved and in good condition, and all runoff is directed into the stormwater management system. During freezing weather, spray testing is conducted in the area of the volleyball court, which is to the south of the bay doors on the airport side of the station. Three crash trucks are stationed at PAFB. - Crash 6, a Rapid Intervention Vehicle (RIV) with a 56-gallon AFFF capacity; - Crash 4, a P-23 with a 420-gallon AFFF capacity; and - Crash 3, a P-23 with a 210-gallon AFFF capacity at Station 2. In addition to the three trucks, the Fire Department maintains a 1,000-gallon AFFF trailer and 600 gallons of ANSUL in drums stored at the main station. A transfer pump is used if AFFF needs to be loaded onto the fire trucks from the drums. A fourth truck, the old Crash 4 vehicle, is at the base motor pool awaiting disposal. 2. Owner/Operator Information Owner: Peterson Air Force Base Operator: Same As Owner Street Address: Platte Avenue & Powers Blvd Street Address: ----City: Colorado Spings City: ----State: Colorado Zip Code: 80916 Telephone: N/A State: ----Zip Code: ----Telephone: ----Type of Ownership: Type of Ownership: Private County Private County ederal Agency Municipal Federal Agency Municipal Name: <u>DOD</u> Not Specified Name: Not Specified State Other: \_ State Other: \_ Indian 3. Site Evaluator Information Name of Evaluator: Greg Carlson Agency/Organization: Aerostar SES LLC Date Prepared: 05-16-16 Street Address: 1006 Floyd Culler Court City: Oak Ridge State: TN Name of EPA or State Agency Contact: N/A Street Address: N/A City: N/A State: N/A Telephone: N/A 4. Site Disposition (for EPA use only) Emergency Response Removal Assessment **CERCLIS Recommendation:** Signature: Recommendation: **Higher Priority SI** Yes Lower Priority SI Name (Typed): No NFRAP

M2027.0003 7/21/16

Date:

Date:

**RCRA** 

Other \_\_

Position:

(Select all that apply)  Units)  Metals  Pesticides/Herbicides  Landfill  Organics  Acids/Bases  Inorganics  Oily Waste  Drums  Tanks and Non Drum Containers  Units)  Metals  Pesticides/Herbicides  Acids/Bases  Acids/Bases  Acids/Bases  Acids/Bases  Mining Waste		5. Genera	al Site Characteristics	
Urban   Beginning Year:   In Use   Residential   DOB   Facility:   Ending Year:   In Use   Residential   DOB   Agriculture   Ending Year:   In Use   Ending Year:   In Use   Residential   Ending Year:   In Use   Ending Year:   In Use   Ending Year:   In Use   Recipiling   Unknown   Reference   Ending Year:   In Use   In Use   Ending Year:	Predominant Land Use Within 1 Mile of S	Site:	Site Setting:	Years of Operation:
Residential DOE Agriculture  Type of Site Operations (Circle All that Apply):  Manufacturing Musts select a sub-category): Retail Inorganic Chemicals Junk/Salvage yard Uniforganic Chemicals Plastic and/or Rubber Products Points (April 1998): Agricultural Chemicals DOE Prosent Owner Former Owner Promer Owner Promary Metals DOE DOE Primary Metals DOE DOE Primary Metals DOE DOE Primary Metals DOE DOE Products Primary Metals DOE DOE DOE Products Primary Metals DOE			Urban	
Residential DOF Forest/Fields DOI Other:	<b>Industrial</b> Mining	Other Federal	Suburban	
Residential DOF Forest/Fields DOI Other:	Commercial DOD	Facility:	Rural	Ending Year: In Use
Agriculture  Nype of Site Operations (Circle All that Apply):    Manufacturina (Must select a sub-category):   Lumber and Wood Products   Recycling   Jun/Salvage yard   Onsite   Offsite     Manufacturina (Must select a sub-category):   Retail   Municipal Landfill     Plastic and/or Rubber Products   Municipal Landfill     Plastic and/or Rubber Products   Municipal Landfill     Agricultural Chemicals   ODE   Present Owner     Agricultural Chemicals   ODE   Present Owner     Primary Metals   ODE   Present Owner     Primary Metals   OTHER Facility:	Residential DOE			
Agriculture  Nype of Site Operations (Circle All that Apply):    Manufacturina (Must select a sub-category):   Lumber and Wood Products   Recycling   Jun/Salvage yard   Onsite   Offsite     Manufacturina (Must select a sub-category):   Retail   Municipal Landfill     Plastic and/or Rubber Products   Municipal Landfill     Plastic and/or Rubber Products   Municipal Landfill     Agricultural Chemicals   ODE   Present Owner     Agricultural Chemicals   ODE   Present Owner     Primary Metals   ODE   Present Owner     Primary Metals   OTHER Facility:	Forest/Fields DOI	Other:		Unknown
Manufacturing (Must select a sub-category):   Retail   Consiste and Offsite	Agriculture			
Manufacturing (Must select a sub-category):   Retail   Consiste and Offsite	Type of Site Operations (Circle All that Ap	oply):		Waste Generated:
Inorganic Chemicals   Junk/Salvage yard   Plastic and/or Rubber Products   Plastic and/or Rubber Products   Plastic Audifil   Other Landfill   Other Persent and Former Owner   Present and Former Owner   Present and Former Owner   Other Federal Facility:				Onsite
Plastic and/or Rubber Products Paints/Varnishes Other Landfill Other Federal Facility: Other Federal Facility: Metal Coating, Plating, Engraving Metal Coating, Stamping TSDF Large Quantity Generator Small Quantity Generator Small Quantity Generator Small Quantity Generator Small Quantity Generator Municipal Industrial Oil and Gas "Converter" Not Specified Other:   6. Waste Characteristics Information (Refer to PA Table 1 for WC Score)  Source Type Source Waste Quantity (Include Other:  6. Waste Characteristics Information (Refer to PA Table 1 for WC Score)  Source Type Source Waste Quantity (Include Other:  6. Waste Characteristics Information (Refer to PA Table 1 for WC Score)  Source Type Source Waste Quantity (Include Other:  6. Waste Characteristics Information (Refer to PA Table 1 for WC Score)  Source Type Source Waste Quantity (Include Other:  6. Waste Characteristics Information (Refer to PA Table 1 for WC Score)  Source Type Source Waste Quantity (Include Other:  6. Waste Characteristics Information (Refer to PA Table 1 for WC Score)  Source Type Source Waste (Circle all that Apply)  Metals Pesticides/Herbicides Organics Acidy/Bases Information Unity Plie Acidy Bases Other: AFFF  Solvents Mining Waste Laboratory/Medical Waste Contaminated Soil Other Unknown  Unknown  Present and Former Owner  Present and Former Owner  Present and Former Owner  Waste Accessible to the Public: Ves No  Waste Accessible to Public: Ves No  Waste Accessible to the Public: Ves No  Waste Accessible to the Public: Ves No  Waste Accessible to the Publi	Lumber and Wood Products	Recycling		Offsite
Paints/Varnishes   Other Landfill   DOD	Inorganic Chemicals	Junk/Salvag	ge yard	Onsite and Offsite
Industrial Organic Chemicals Agricultural Chemicals Agricultural Chemicals Agricultural Chemicals Miscellaneous Chemical Products Primary Metals Other Federal Facility: Present and Former Owner Unauthorized Unknown Metal Forging, Stamping Metal Forging, Stamping Fabricated Structural Metal Electronic Equipment Small Quantity Generator Mining (Must Select a sub-Category): Metals Coal Oil and Gas Oil and Gas Non-Metallic Minerals Non-Metallic Minerals Non-Metallic Minerals  Subscelled Other:  Source Type Source Waste Quantity (Include Individual Chemical Waste Characteristics Information (Refer to PA Table 1 for WC Score)  Source Type Source Waste Quantity (Include Increament Drums Cal Chemical Waste Pile Landfill L	Plastic and/or Rubber Products	Municipal L	andfill	
Agricultural Chemicals Miscellaneous Chemical Products DOI Primary Metals Other Federal Facility: Unusthorized Unushrorized Unushrorize	Paints/Varnishes	Other Land	fill	Waste Deposition Authorized By:
Miscellaneous Chemical Products Primary Metals Other Federal Facility:	Industrial Organic Chemicals	DOD		Present Owner
Primary Metals Metal Coating, Plating, Engraving Metal Forging, Stamping Fabricated Structural Metal Electronic Equipment Mining (Must Select a Sub-Category): Metals Coal Oil and Gas Non-Metallic Minerals Not Specified Other:  Source Type Source Waste Quantity (Include (Select all that apply) Units) Netals Surface Impoundment Units) Netals Surface Impoundment Non Drum Containers Chemical Waste Pile Scrap Metal or Junk Pile Tansk and Non Drum Containers Chemical Waste Pile Trash Pile (open drum) Land Treatment Contaminated SW/Sediment Co	Agricultural Chemicals	DOE		Former Owner
Metal Coating, Plating, Engraving Metal Forging, Stamping       RCFA       Unknown         Metal Forging, Stamping Fabricated Structural Metal Electronic Equipment Electronic Equipment All Electronic Equipment Small Quantity Generator       Small Quantity Generator       No         Mining (Must Select a Sub-Category):       Subtitle Distance to Nearest Dwelling School or Workplace:       Distance to Nearest Dwelling School or Workplace:         Oil and Gas       "Converter" Protective Filer" On Late Filer" Not Specified Other:	Miscellaneous Chemical Products	DOI		Present and Former Owner
Metal Forging, Stamping Fabricated Structural Metal Electronic Equipment Small Quantity Generator Mining (Must Select a Sub-Category):  Metals Coal Oil and Gas Non-Metallic Minerals Not Specified Other:    Councer Type   Source Waste Quantity (Include other)   Tier*	Primary Metals	Other Fede	ral Facility:	Unauthorized
Fabricated Structural Metal Electronic Equipment Small Quantity Generator Mining (Must Select a Sub-Category):  Metals Coal Oli and Gas Non-Metallic Minerals Non-Metallic Miner	Metal Coating, Plating, Engraving	<u>RCRA</u>		Unknown
Electronic Equipment  Mining (Must Select a Sub-Category):  Netals  Metals  Coal  Oil and Gas  Non-Metallic Minerals  Non-Metallic Minerals  Non-Metallic Minerals  Non-Metallic Minerals  Not Specified Other:    Not Specified Others	Metal Forging, Stamping		TSDF	Waste Accessible to the Public:
Mining (Must Select a Sub-Category):  Metals  Municipal  School or Workplace:  Converter  "Protective Filer"  Nor-Metallic Minerals  "Protective Filer"  Not Specified  Other:  "Nor or Late Filer"  Not Specified  Other:  "Source Waste Characteristics Information  (Refer to PA Table 1 for WC Score)  Source Type  Source Waste Quantity (Include  Select all that apply)  Units)  Metals  Pesticides/Herbicides  Metals  Pesticides/Herbicides  Organics  Acids/Bases  Surface Impoundment  Orums  Orums  Orums  Orums  Municipal  Metals  Pesticides/Herbicides  Organics  Acids/Bases  Non-Municipal  Metals  Pesticides/Herbicides  Organics  Acids/Bases  Non-Municipal  Metals  Pesticides/Herbicides  Organics  Acids/Bases  Non-Municipal  Metals  Pesticides/Herbicides  Organics  Acids/Bases  Solvents  Municipal  Metals  Pesticides/Herbicides  Organics  Acids/Bases  Acids/Bases  Acids/Bases  Municipal  Municipal  Metals  Pesticides/Herbicides  Organics  Acids/Bases  Acids/Bases  Acids/Bases  Solvents  Municipal  Municipal  Municipal  Moste  Explosives  Radioactive Waste  Construction/Demolition Waste  Explosives  Acids/Bases  Other:  AFFF  Construction/Demolition Waste  Explosives  Acids/Bases  Acids/Bases  Other:  AFFF  Construction/Demolition Waste  Fapinits/Pigments  Laboratory/Medical Waste  Explosives  Acids/Bases  Acids/Bases  Other:  AFFF  Construction/Demolition Waste  Fapinits/Pigments  Acids/Bases  Acids	Fabricated Structural Metal	Large	Quantity Generator	Yes
Metals Coal Oil and Gas Non-Metallic Minerals Non-Metallic Milerals Non-Milerals Non-Non-Milerals Non-Non-Netalteristic Information Non-Netallic Richards Non-Netal	Electronic Equipment	Small	Quantity Generator	No
Coal Oil and Gas Non-Metallic Minerals Non-Metallic More Waste Characteristics Information (Refer to PA Table 1 for WC Score)  Source Type (Select all that apply) Units) Metals Pesticides/Herbicides Metals Pesticides/Herbicides Metals Pesticides/Herbicides Norganics Organics Acids/Bases Organics Organics Oily Waste Organics Oily Waste Solvents Municipal Waste Paints/Pigments Mining Waste Laboratory/Medical Waste Explosives Scrap Metal or Junk Pile Taillings Pile Contaminated Sul Junk Pile Trash Pile (open drum) Land Treatment Contaminated GW Plume Contaminated SW/Sediment Contaminated SW/Sediment Unknown No Sources  Incorporation Solid Contaminated Swile Solid Solid Contaminated Swile Powder Liquid	Mining (Must Select a Sub-Category):		Subtitle D	
Oil and Gas Non-Metallic Minerals Non-Metal Maste Cheric Table 1 for WC Score)  Source Type Source Waste Quantity (Include Initial Source Waste Quantity (Include Initial Source Waste Quantity (Include Initial Source Waste (Circle all that Apply) Metals Pesticides/Herbicides Metals Pesticides/Herbicides Metals Pesticides/Herbicides Norganics Oily Waste Nonganics Oily Waste Oily Wast	Metals		Municipal	Distance to Nearest Dwelling
Non-Metallic Minerals  "Protective Filer" Not Specified Other:  Not Specified Other:  Source Type (Select all that apply)  Units)  Metals  Organics  Acids/Bases  Inorganics  Oily Waste  Oily Waste  Oily Waste  Oily Waste  Organics  Acids/Bases  Oily Waste  Other: AFFF  Oonstruction/Demolition Waste  Frash Pile (open drum)  Land Treatment  Contaminated GW Plume  Ontaminated SW/Sediment  Contaminated Soil  Other  Unknown  Ontaminated Soil  Other  Unknown  Ontaminated Soil  Other  Unknown  No Sources  Other  Liquid	Coal		Industrial	School or Workplace:
"Non or Late Filer" Not Specified Other:    Source Type	Oil and Gas		"Converter"	
Not Specified Other:    Contaminated Sw/Sediment   Contaminated Sw/Sediment	Non-Metallic Minerals	"[	Protective Filer"	0.0 Miles
Other:		"N	lon or Late Filer"	
G. Waste Characteristics Information (Refer to PA Table 1 for WC Score)  Source Type (Select all that apply)  Units)  Landfill  Surface Impoundment Drums  Tanks and Non Drum Containers Chemical Waste Pile  Scrap Metal or Junk Pile Trailings Pile Trash Pile (open drum) Land Treatment Contaminated SW/Sediment Contaminated SW/Sediment Contaminated Soil Other Unknown No Sources  Source Waste Quantity (Include Tier* General Type of Waste (Circle all that Apply)  Metals Pesticides/Herbicides Organics Acids/Bases Inorganics Organics Organics Organics Norganics Organics Organics Norganics Organics Organics Norganics Norganics Organics Norganics Norganics Organics Norganics Norgani		Not Specifie	ed	
Refer to PA Table 1 for WC Score		Other:		
Source Type (Select all that apply)  Units)  Metals Pesticides/Herbicides Organics Acids/Bases Inorganics Oily Waste Solvents Municipal Waste Paints/Pigments Mining Waste Laboratory/Medical Waste Explosives Scrap Metal or Junk Pile Tailings Pile Trash Pile (open drum) Land Treatment Contaminated SW/Sediment Contaminated SW/Sediment Contaminated SW/Sediment Contaminated Soil Ointaminated SW/Sediment No Sources  Solvents Municipal Waste Paints/Pigments Mining Waste Laboratory/Medical Waste Explosives Radioactive Waste Contaminated SW/Sediment Solid Sludge Powder Liquid		6. Waste Cha	aracteristics Information	
Metals Pesticides/Herbicides  Landfill Organics Acids/Bases Inorganics Oily Waste  Drums Solvents Municipal Waste  Paints/Pigments Mining Waste  Laboratory/Medical Waste Explosives  Radioactive Waste Other: AFFF  Construction/Demolition Waste  Trash Pile (open drum)  Land Treatment  Contaminated GW Plume  Contaminated SW/Sediment  Contaminated Soil  Other Unknown  No Sources  Metals Pesticides/Herbicides  Organics Acids/Bases Inorganics Oily Waste  Paints/Pigments Mining Waste  Laboratory/Medical Waste Explosives  Radioactive Waste Other: AFFF  Construction/Demolition Waste  Flysical State of Waste as Deposited (Circle all that apply):  Solid  Sludge Powder  Liquid		(Refer to P	A Table 1 for WC Score)	
Metals Pesticides/Herbicides  Landfill Organics Acids/Bases  Inorganics Oily Waste  Drums Solvents Municipal Waste  Paints/Pigments Mining Waste  Chemical Waste Pile Laboratory/Medical Waste Explosives  Scrap Metal or Junk Pile Radioactive Waste Other: AFFF  Tailings Pile Construction/Demolition Waste  Land Treatment Physical State of Waste as Deposited (Circle all that apply):  Contaminated GW Plume  Contaminated Sw/Sediment Solid  Contaminated Soil Other  Other Unknown Powder  Liquid		Waste Quantity (Include	Tier* General Type of W	Vaste (Circle all that Apply)
Landfill Organics Acids/Bases Surface Impoundment Inorganics Oily Waste Drums Solvents Municipal Waste Tanks and Non Drum Containers Paints/Pigments Mining Waste Chemical Waste Pile Laboratory/Medical Waste Explosives Scrap Metal or Junk Pile Radioactive Waste Other: AFFF Tailings Pile Construction/Demolition Waste Trash Pile (open drum) Land Treatment Physical State of Waste as Deposited (Circle all that apply): Contaminated GW Plume Contaminated Sw/Sediment Solid Contaminated Soil Plume Other Unknown Powder No Sources Liquid	(Select all that apply)	Units)		
Surface Impoundment Drums Solvents Municipal Waste Paints/Pigments Mining Waste Laboratory/Medical Waste Explosives Scrap Metal or Junk Pile Radioactive Waste Trash Pile (open drum) Land Treatment Contaminated GW Plume Contaminated SW/Sediment Contaminated Soil Other Unknown No Sources  Inorganics Oily Waste Municipal Waste Amunicipal Waste Explosives Affer Contaminated Colly Waste Contaminated Municipal Waste Explosives Contaminated Contaminated Physical State of Waste as Deposited (Circle all that apply): Solid Sludge Powder Liquid			Metals	Pesticides/Herbicides
Drums Solvents Municipal Waste Tanks and Non Drum Containers Chemical Waste Pile Laboratory/Medical Waste Explosives Scrap Metal or Junk Pile Tailings Pile Toush Pile (open drum) Land Treatment Contaminated GW Plume Contaminated SW/Sediment Contaminated Soil Other Unknown No Sources  Solvents Municipal Waste Paints/Pigments Mining Waste Explosives Contents Monicipal Waste  Paints/Pigments Mining Waste Explosives Contents Monicipal Waste Paints/Pigments Mining Waste Explosives  AffF Conter: AffF Construction/Demolition Waste  Physical State of Waste as Deposited (Circle all that apply): Solid Sludge Powder Liquid				·
Tanks and Non Drum Containers  Chemical Waste Pile  Laboratory/Medical Waste  Explosives  Radioactive Waste  Construction/Demolition Waste  Trash Pile (open drum)  Land Treatment  Contaminated GW Plume  Contaminated SW/Sediment  Contaminated Soil  Other  Unknown  No Sources  Paints/Pigments  Mining Waste  Explosives  Mining Waste  Explosives  AFFF  Construction/Demolition Waste  Physical State of Waste as Deposited (Circle all that apply):  Solid  Sludge  Powder  Liquid	·			·-
Chemical Waste Pile  Scrap Metal or Junk Pile  Tailings Pile  Construction/Demolition Waste  Trash Pile (open drum)  Land Treatment  Contaminated GW Plume  Contaminated SW/Sediment  Contaminated Soil  Other  Unknown  No Sources  Laboratory/Medical Waste  Explosives  Radioactive Waste  Other:  AFFF  Construction/Demolition Waste  Physical State of Waste as Deposited (Circle all that apply):  Solid  Sludge  Powder  Liquid	<del></del>			•
Scrap Metal or Junk Pile  Tailings Pile  Construction/Demolition Waste  Trash Pile (open drum)  Land Treatment  Contaminated GW Plume  Contaminated SW/Sediment  Contaminated Soil  Other  Unknown  No Sources  Radioactive Waste  Radioactive Waste  Physical State of Waste as Deposited (Circle all that apply):  Solid  Solid  Sludge  Powder  Liquid	Tanks and Non Drum Containers			_
Tailings Pile Construction/Demolition Waste  Trash Pile (open drum)  Land Treatment Physical State of Waste as Deposited (Circle all that apply):  Contaminated GW Plume Contaminated SW/Sediment Solid  Contaminated Soil Sludge  Other Unknown Powder  No Sources Liquid	Chemical Waste Pile			Waste Explosives
Trash Pile (open drum)  Land Treatment  Contaminated GW Plume  Contaminated SW/Sediment  Contaminated Soil  Contaminated Soil  Other  Unknown  No Sources  Physical State of Waste as Deposited (Circle all that apply):  Solid  Sludge  Powder  Liquid	<u></u>			
Land Treatment Physical State of Waste as Deposited (Circle all that apply):  Contaminated GW Plume Contaminated SW/Sediment Solid Contaminated Soil Sludge Other Unknown Powder No Sources Liquid			Construction/Demo	lition Waste
Contaminated GW Plume  Contaminated SW/Sediment  Contaminated Soil  Sludge  Other  Unknown  Powder  Liquid				
Contaminated SW/Sediment Solid  Contaminated Soil Sludge  Other Unknown Powder  No Sources Liquid			Physical State of V	Vaste as Deposited (Circle all that apply):
Contaminated Soil Sludge Other Unknown Powder No Sources Liquid		<del></del>		
Other     Unknown     Powder       No Sources     Liquid				
No Sources Liquid				
		Unknown		
'C=Collisuitant, w=wastestream, v=volume, A=Area Gas				
	- C=Consultant, w=Wastestr	eam, v=volume, A=Area	Gas	

	7. Groundwater P	athway	
s Groundwater Used for Drinking Within 4	Is There a Suspected Release to	List Secondary Target Population	Served by Ground Water
Miles	Groundwater:	Withdrawn From:	•
Yes	Yes		
No	No	0.0-0.25 Mile	
If Yes, Distance to Nearest Drinking Well	Have Primary Target Drinking	>0.25 - 0.5 Mile	
Miles	Water Wells Been Identified:		
	Yes	>0.5 - 1.0 Mile	
Type of Drinking Water Wells Within 4	No	70.3 1.0 1/11/2	
Miles (Circle <u>Each t</u> hat Applies)	If Yes, Enter Primary Target	>1.0 - 2.0 Mile	
Municipal Municipal	Population	71.0 2.0 WIIIC	
Private	440,000 People	>2.0 - 3.0 Mile	
None	440,000 People	>2.0 - 3.0 Wille	<del></del>
	Noncont Designated MACHES and	>3.0.4.0 Mile	
Depth to Shallowest Aquifer:	Nearest Designated Wellhead	>3.0 - 4.0 Mile	
<u>43-55 feet</u>	Protection Area:	Total within 4 8 4th -	
W 17 1/4 15 5	Underlies Site	Total within 4 Miles	
Karst Terrain/Aquifer Present:	>0-4 Miles		
Yes	None Within 4 Miles		
No	<u> </u>		
	8. Surface Water F	•	
ype of Surface Water Draining Site and 15	Miles Downstream:	Shortest Overland Distance From	Any Source to Surface Water:
Stream River Pond	Lake	1,245	5 Feet
Bay Ocean Other		0.24	Miles
s There as Suspected Release to Surface Wa	ater:	Site is Located in:	
Yes		Annual - 10 yr. Fl	oodplain
No		>10 yr 100 yr. F	loodplain
		>100 yr 500 yr. I	Floodplain
		> 500 yr. Floor	
Orinking Water Intake Located Along the Su	rface Water Migration Path:	List All Secondary Drinking Water	Intakes:
Yes			
No		Name Water Body Flow (c	fs) Population Served
lave Primary Target Drinking Water Intakes	Been Identified:		
Yes If Yes, Dista	nce to Nearest Drinking Water Intake		
No40	_ Miles		<u> </u>
f Yes, Enter Population Served By Target Int	ake		
		Total Within 15 Miles	0
isheries Located Along the Surface Water N	Aigration Path:	List All Secondary Target Fisherie	s:
	nce to Nearest Fishery:	Water Body/Fishery Name	Flow (cfs)
	Miles		
lave Primary Target Fisheries Be <u>en Id</u> entifie			
Yes No			
Yes <b>No</b>			

	8. Surface Wa	ter Pathwa	y (Continue	ed)		
Wetlands Located Along the Surface Yes No Have Primary Target Wetlands Been Yes No	<	Migration I Migration I Yes	Path: Path	If Yes, Distan Environment	ed Along the Surface Water  ace to Nearest Sensitive  t: Miles  as Been Identified:	
List All Wetlands: <u>Water Body</u> <u>Flow (cfs)</u> <u>Wetlands and Waters of</u> the US	Frontage Miles Unknown		List All Sen	Yes nsitive Envir er Body	onments: Flow (cfs)	Sensitive Environment Type
				<u> </u>		
	9. Soil I	Exposure P	athway			
Are People Occupying Residence or Attending School or Daycare on or Within 200 Feet of Area of Known or Suspected Contamination: Yes No  If Yes, Enter Total Residential Population People	None   1-100   1-100	<b>)</b> ⁄ille:	If Yes, List I	Feet of Are		ents Been Identified on or or Suspected Contamination:  Environment:
	10	). Air Pathw				
Is There A Suspected Release to Air: Yes No Enter The Population on or Within: 0.0-0.25 Mile		Wetlands I	Located with Yes No	hin 4 Miles	of the Site: If Yes, How N	Many Acres: 101Acres
>0.25 - 0.5 Mile		Other Sens		nments Loc Yes	ated Within 4	Miles of the Site
>0.5 - 1.0 Mile	<del></del>	List All Sen	sitive Enviro	onments Wi	thin 0.5 Mile o	of the Site
>1.0 - 2.0 Mile	<del></del>	<u>Distance</u> Onsite		Sensitive En	vironment Type,	/Wetlands Area (Acres)
>2.0 - 3.0 Mile		0 - 0.25 Mile				
>3.0 - 4.0 Mile	<del></del>	>0.25 - 0.5 [	Mile			
Total within 4 Miles						

### Identification **Potential Hazardous Waste Site Preliminary** State: CO CERCLIS #: **Assessment Form CERCLIS Discovery Date:** 1. General Site Information Name: Peterson Air Force Base (PAFB) Street Address: Platte Avenue & Powers Blvd City: Colorado Spings State: Zip Code: County: Co Code: Cong. Dist. CO 80916 El Paso CO-05 Latitude: Longitude: Approximate Area of Site: Status of Site: 38°48′25.25″ N 104°40'52.24" W Active Not Specified Acres Inactive NA (GW Plume etc.) 6,357 Sq. Ft. Site Name: Building 2032, Fire Station #2 Site Description: Spray testing for the department's fire engines is done on the station ramp east and north of Building 2032. This area is wellpaved but not in good condition, with a graveled area next to it. Crash 3, a P-23 with a 210-gallon AFFF capacity is stationed at Station 2 2. Owner/Operator Information Owner: Peterson Air Force Base Operator: Same As Owner Street Address: Platte Avenue & Powers Blvd Street Address: ----City: Colorado Spings City: ----Zip Code: 80916 Telephone: N/A State: ----Zip Code: ----Telephone: ----State: Colorado Type of Ownership: Type of Ownership: Private County Private County ederal Agency Municipal Federal Agency Municipal Name: DOD Not Specified Not Specified Name: State Other: State Other: \_ Indian Indian 3. Site Evaluator Information Name of Evaluator: Greg Carlson Agency/Organization: Aerostar SES LLC Date Prepared: 05-16-16 Street Address: 1006 Floyd Culler Court State: TN City: Oak Ridge Name of EPA or State Agency Contact: N/A Street Address: N/A Telephone: N/A City: N/A State: N/A 4. Site Disposition (for EPA use only) Emergency Response Removal Assessment **CERCLIS Recommendation:** Signature: **Higher Priority SI** Recommendation: Lower Priority SI Yes Name (Typed): Nο NFRAP **RCRA** Position: Other \_

M2027.0003 7/21/16

Date:

		5. Genera	al Site Chara	cteristics	
Predominant Land Use Within 1	Mile of Site:		Site Setting	:	Years of Operation:
				Urban	Beginning Year: 1996
(Industrial) M	ining Oth	ner Federal		Suburban	
Commercial	<b>Faci</b>	lity:		Rural	Ending Year: In Use
Residential	OOE				
Forest/Fields	DOI Other:				Unknown
Agriculture					
Type of Site Operations (Circle A	II that Apply):		I		Waste Generated:
Manufacturing (Must selec		Retail			Onsite
Lumber and Wood Produ	icts	Recycling			Offsite
Inorganic Chemicals		Junk/Salvag	ge yard		Onsite and Offsite
Plastic and/or Rubber Prod	ducts	Municipal L	andfill		
Paints/Varnishes		Other Land	fill		Waste Deposition Authorized By:
Industrial Organic Chemic	cals	DOD			Present Owner
Agricultural Chemicals	· ;	DOE			Former Owner
Miscellaneous Chemical Pro	oducts	DOI			Present and Former Owner
Primary Metals		Other Fede	ral Facility:		Unauthorized
Metal Coating, Plating, Engi	raving	RCRA	,		Unknown
Metal Forging, Stampin	_		TSDF		Waste Accessible to the Public:
Fabricated Structural Me	=	Large	Quantity Gen	erator	Yes
Electronic Equipment		_	Quantity Gen		No
Mining (Must Select a Sub-Co			Subtitle D		
Metals			Muni	cipal	Distance to Nearest Dwelling
Coal			Indus	•	School or Workplace:
Oil and Gas			"Converter"		
Non-Metallic Minerals	;	"ו	Protective File	er"	0.0 Miles
		"N	lon or Late Fil	er"	
		Not Specifie	ed		
		Other:			
		6. Waste Cha	aracteristics	Information	<u>'</u>
		(Refer to P	A Table 1 fo	r WC Score)	
Source Type	Source Waste Qua			General Type of Waste (	(Circle all that Apply)
(Select all that apply)	Units	)			
				Metals	Pesticides/Herbicides
Landfill				Organics	Acids/Bases
Surface Impoundment				Inorganics	Oily Waste
Drums				Solvents	Municipal Waste
Tanks and Non Drum Containers				Paints/Pigments	Mining Waste
Chemical Waste Pile				Laboratory/Medical Waste	e Explosives
Scrap Metal or Junk Pile				Radioactive Waste	Other: AFFF
Tailings Pile				Construction/Demolition V	Vaste
Trash Pile (open drum)					
Land Treatment				Physical State of Waste	as Deposited (Circle all that apply):
Contaminated GW Plume					
Contaminated SW/Sediment				Solid	
Contaminated Soil				Sludge	
Other	Unknow	n		Powder	
No Sources				Liquid	
*C=Consultant, W	/=Wastestream, V=Volum	e, A=Area		Gas	

	7. Groundwater P	atiiway			
s Groundwater Used for Drinking Within 4	Is There a Suspected Release to	List Secondary Target Population S	erved by Ground Water		
/iles	Groundwater:	Withdrawn From:			
Yes	Yes				
No	No	0.0-0.25 Mile			
If Yes, Distance to Nearest Drinking Well	Have Primary Target Drinking	>0.25 - 0.5 Mile			
Miles	Water Wells Been Identified:				
	Yes	>0.5 - 1.0 Mile			
ype of Drinking Water Wells Within 4	No	7 0.5 1.0 Mile			
Miles (Circle <u>Each t</u> hat Applies)		>1.0 - 2.0 Mile			
	If Yes, Enter Primary Target	>1.0 - 2.0 IVIIIe	<del></del>		
Municipal	Population	20.2044			
Private	<u>440,000</u> People	>2.0 - 3.0 Mile			
None		4			
Depth to Shallowest Aquifer:	Nearest Designated Wellhead	>3.0 - 4.0 Mile			
<u>43-55 feet</u>	Protection Area:				
	Underlies Site	Total within 4 Miles			
Karst Terrain/Aquifer Present:	>0-4 Miles				
Yes	None Within 4 Miles				
No					
	8. Surface Water F	Pathway			
ype of Surface Water Draining Site and 15	Miles Downstream:	Shortest Overland Distance From A	Any Source to Surface Water		
Stream River Pond	Lake	4,140	Feet		
Bay Ocean Other		0.78	Miles		
s There as Suspected Release to Surface Wa	ater:	Site is Located in:			
Yes		Annual - 10 yr. Flo	odplain		
No		>10 yr 100 yr. Flo			
	No				
		>100 vr 500 vr. Fl	oodplain		
		>100 yr 500 yr. Fl			
Drinking Water Intake Located Along the Su	rface Water Migration Path	> 500 yr. Flood	plain		
Orinking Water Intake Located Along the Su	rface Water Migration Path:		plain		
Yes	rface Water Migration Path:	> 500 yr. Flood List All Secondary Drinking Water I	plain ntakes:		
Yes		> 500 yr. Flood List All Secondary Drinking Water I Name Water Body Flow (cfs	plain ntakes:  Population Served		
Yes No Have Primary Target Drinking Water Intakes	Been Identified:	Soo yr. Flood List All Secondary Drinking Water I  Name Water Body Flow (cfs	plain ntakes:  Population Served		
Yes No Have Primary Target Drinking Water Intakes Yes If Yes, Dista	: Been Identified: ance to Nearest Drinking Water Intake	List All Secondary Drinking Water I  Name Water Body Flow (cfs	plain ntakes:  Population Served		
Yes No Have Primary Target Drinking Water Intakes Yes If Yes, Dista	s Been Identified: ance to Nearest Drinking Water Intake _ Miles	List All Secondary Drinking Water I  Name Water Body Flow (cfs	plain ntakes:  Population Served		
Yes No Have Primary Target Drinking Water Intakes Yes If Yes, Dista	s Been Identified: ance to Nearest Drinking Water Intake _ Miles	List All Secondary Drinking Water I  Name Water Body Flow (cfs	plain ntakes:  Population Served		
Yes No Have Primary Target Drinking Water Intakes Yes If Yes, Dista	s Been Identified: ance to Nearest Drinking Water Intake _ Miles	S 500 yr. Flood	plain ntakes:  Population Served		
Yes No Have Primary Target Drinking Water Intakes Yes If Yes, Dista	s Been Identified: ance to Nearest Drinking Water Intake _ Miles	List All Secondary Drinking Water I  Name Water Body Flow (cfs	plain ntakes:  Population Served		
Have Primary Target Drinking Water Intakes  Yes  No  40  f Yes, Enter Population Served By Target Into  ————	s Been Identified: ance to Nearest Drinking Water Intake _ Miles take	List All Secondary Drinking Water I  Name Water Body Flow (cfs Total Within 15 Miles	plain ntakes:  Population Served 0		
Have Primary Target Drinking Water Intakes  Yes  No  40  f Yes, Enter Population Served By Target Intakes  Fisheries Located Along the Surface Water Mater M	is Been Identified: ance to Nearest Drinking Water Intake _ Miles take Migration Path:	List All Secondary Target Fisheries:	plain ntakes:  Population Served 0		
Have Primary Target Drinking Water Intakes  Yes  No  40  f Yes, Enter Population Served By Target Intakes  Fisheries Located Along the Surface Water Mater M	s Been Identified: ance to Nearest Drinking Water Intake _ Miles take	List All Secondary Drinking Water I  Name Water Body Flow (cfs Total Within 15 Miles	plain ntakes:  Population Served 0		
Have Primary Target Drinking Water Intakes  Yes  No  40  f Yes, Enter Population Served By Target Intakes  Fisheries Located Along the Surface Water Mater M	is Been Identified: ance to Nearest Drinking Water Intake _ Miles take Migration Path:	List All Secondary Target Fisheries:	Population Served		
Have Primary Target Drinking Water Intakes  Yes  No  40  f Yes, Enter Population Served By Target Intakes  Fisheries Located Along the Surface Water Mater M	Been Identified: ance to Nearest Drinking Water Intake Miles take  Migration Path: mice to Nearest Fishery: Miles	Soo yr. Flood   List All Secondary Drinking Water I   Name   Water Body   Flow (cfs                           Total Within 15 Miles   List All Secondary Target Fisheries:   Water Body/Fishery Name	Population Served		
Have Primary Target Drinking Water Intakes  Yes If Yes, Dista No 40  f Yes, Enter Population Served By Target Intakes  Fisheries Located Along the Surface Water No If Yes, Dista	Been Identified: ance to Nearest Drinking Water Intake Miles take  Migration Path: mice to Nearest Fishery: Miles	Soo yr. Flood	Population Served 0 Flow (cfs)		

	8. Surface Wat	ter Pathway	(Continue	d)		
Wetlands Located Along the Surfa Yes No Have Primary Target Wetlands Boy No	N N	Other Sensitive Environments Located Along the Surface Water Migration Path: Migration Path Yes If Yes, Distance to Nearest Sensitive No Environment: Miles Have Primary Sensitive Environments Been Identified:				
List All Wetlands:  Water Body Flow (cfs  Wetlands and Waters of the US  Unknown		L	List All Sen	Yes sitive Enviro er Body - -	_	Sensitive Environment Type
	9. Soil E	xposure Pat	thway			
Are People Occupying Residence or Attending School or Daycare on or W 200 Feet of Area of Known or Suspect Contamination:  Yes  No  If Yes, Enter Total Residential Populat  People	tion:    None   1-100   1-100	lile:	f Yes, List E	Feet of Area		ents Been Identified on or or Suspected Contamination:  Environment:
		. Air Pathwa				
Is There A Suspected Release to Air: Yes Enter The Population on or Within: 0.0-0.25 Mile	No	<i></i>	Yes No		If Yes, How M	101Acres
>0.25 - 0.5 Mile		Otner Sensi		nments Loca Yes		Miles of the Site
>0.5 - 1.0 Mile		List All Sensi	itive Enviro	nments Wit	thin 0.5 Mile o	of the Site
>1.0 - 2.0 Mile	(	<u>Distance</u> Onsite	-	Sensitive Env	ironment Type/	/Wetlands Area (Acres)
>2.0 - 3.0 Mile		0 - 0.25 Mile >0.25 - 0.5 M	ile .			
>3.0 - 4.0 Mile  Total within 4 Miles		1				

						Identificatio	n			
Potential I			Waste Site	Prelim	inary	State: CO		CERCLIS #:		
	Ass	essm	ent Form			CERCLIS Disc	overy Date:			
1. General Site Information										
Name: Peterson Air Force Base (PAFB) Stree					ress: Platte	Avenue & Po	wers Blvd			
						Zip Code: 80916	County: El Paso	Co Code:	Cong. Dist. CO-05	
Latitude:		Longitude	:	Approxima	te Area of	Site:	Status of Si	te:	•	
38°48′40.09″ N		104°41′41	.18" W	2	.41	Acres C	Active	Not Specifie	ed	
				104,	927	Sq. Ft.	Inactive	NA (GW Plu	me etc.)	
Site Name: Detention	n Pond #3			<u> </u>				<u> </u>	•	
Site Description: Pon	d #3 is in the	southern	portion of PAFB betwe	een the aircr	aft taxiway	and the golf o	ourse. Pond	3 is a lined	detention pond	
			r from the industrializ						·	
•	•			•	•					
			ull, it will dispense wa						ii tile westerii side	
of the secondary pon	d. Both outf	alls show e	vidence of use. Water	r from Pond	#3 is used t	o irrigate the	adjacent gol	f course.		
			2. Owner	/Operator I						
Owner: Peterson Air	Force Base			Operator: Same As Owner						
Street Address: Platt	e Avenue &	Powers Blv	rd	Street Address:						
City: Colorado Spings				City:						
State: Colorado	Zip Code: 8	30916	Telephone: N/A	State:		Zip Code:		Telephone	::	
Type of Ownership:	I.		<u> </u>	Type of Ov	vnership:	1		I .		
Private	County			Private	County					
Federal Agency	Municipal			Federal Age	ncv	Municipal				
Name: DOD	Not Specifie	vd.		_	•	•				
					lame: Not Specified					
State 	Other:			State		Other:				
Indian				Indian						
			3. Site E	valuator Inf	ormation					
Name of Evaluator: G	ireg Carlson		Agency/Organization	n: Aerostar S	ES LLC	Date Prepare	ed: 05-16-16			
Street Address: 1006	Floyd Culler	Court		City: Oak F	Ridge	•	State: TN			
Name of EPA or State	Agency Cor	ntact: N/A		Street Add	ress: N/A		•			
City: N/A State: N/A					Telephone: N	N/A				
			4. Site Disp	osition ( <i>for L</i>	PA use onl	۷)				
Emergency Response	Removal As	caccment			ecommend		Signature:			
0 , 1	RemovarAs	550551110111		CERCLIS RE			Signature.			
Recommendation:	V				Higher Prio	-	, / <del>-</del>	1)		
	Yes				Lower Prior	ity SI	Name (Typ	ed):		
	No				NFRAP					
					RCRA		Position:			
Date:					Other					
				Date:						

	5. Gener	al Site Characteristics	
Predominant Land Use Within 1 Mil	e of Site:	Site Setting:	Years of Operation:
		Urban	Beginning Year:1979
Industrial Minin	g Other Federal	Suburban	
Commercial DOD		Rural	Ending Year: In Use
Residential DOE			
Forest/Fields DOI	Other:		Unknown
Agriculture			
Type of Site Operations (Circle All th	at Apply):		Waste Generated:
Manufacturing (Must select a			Onsite
Lumber and Wood Products	Recycling		Offsite
Inorganic Chemicals	Junk/Salvag	ge yard	Onsite and Offsite
Plastic and/or Rubber Products	Municipal L	andfill	
Paints/Varnishes	Other Land	fill	Waste Deposition Authorized By:
Industrial Organic Chemicals	DOD		Present Owner
Agricultural Chemicals	DOE		Former Owner
Miscellaneous Chemical Produc	ts DOI		Present and Former Owner
Primary Metals	Other Fede	ral Facility:	Unauthorized
Metal Coating, Plating, Engravin	ig <u>RCRA</u>		Unknown
Metal Forging, Stamping		TSDF	Waste Accessible to the Public:
Fabricated Structural Metal	Large	Quantity Generator	Yes
Electronic Equipment	Small	Quantity Generator	No
Mining (Must Select a Sub-Categ	ory):	Subtitle D	
Metals		Municipal	Distance to Nearest Dwelling
Coal		Industrial	School or Workplace:
Oil and Gas		"Converter"	
Non-Metallic Minerals	II .	Protective Filer"	<u>0.27</u> Miles
	"\	Ion or Late Filer"	
	Not Specific	ed	
	Other:		
		aracteristics Information	
		A Table 1 for WC Score)	
	ource Waste Quantity (Include	Tier* General Type of	Waste (Circle all that Apply)
(Select all that apply)	Units)		
		Metals	Pesticides/Herbicides
Landfill		Organics	Acids/Bases
Surface Impoundment	<del></del>	Inorganics	Oily Waste
Drums	<del></del>	Solvents	Municipal Waste
Tanks and Non Drum Containers	<del></del>	Paints/Pigments	Mining Waste
Chemical Waste Pile	<del></del>	Laboratory/Medic	
Scrap Metal or Junk Pile		Radioactive Waste	
Tailings Pile		Construction/Dem	olition Waste
Trash Pile (open drum)			
Land Treatment		Physical State of	Waste as Deposited (Circle all that apply):
Contaminated GW Plume			
Contaminated SW/Sediment		Solid	_
Contaminated Soil		Sludge	
Other	Unknown	Powd	
No Sources *C-Consultant W-Wa	astestream, V=Volume, A=Area	Liquid	
C-Consultant, W-We	iscoarcam, v-voiume, A-Arca	Gas	

	7. Groundwater P	athway		
s Groundwater Used for Drinking Within 4	Is There a Suspected Release to	List Secondary Target Population Se	erved by Ground Water	
Miles	Groundwater:	Withdrawn From:	•	
Yes	Yes			
No	No	0.0-0.25 Mile		
If Yes, Distance to Nearest Drinking Well	Have Primary Target Drinking	>0.25 - 0.5 Mile		
Miles	Water Wells Been Identified:			
	Yes	>0.5 - 1.0 Mile		
Type of Drinking Water Wells Within 4	No			
Miles (Circle <u>Each</u> that Applies)	If Yes, Enter Primary Target	>1.0 - 2.0 Mile		
Municipal	Population			
Private	_ <u>440,000</u> People	>2.0 - 3.0 Mile		
None	_ <u> </u>	2.0 3.0		
Depth to Shallowest Aquifer:	Nearest Designated Wellhead	>3.0 - 4.0 Mile		
43-55 feet	Protection Area:			
<u> 35</u>	Underlies Site	Total within 4 Miles		
Karst Terrain/Aquifer Present:	>0-4 Miles	l otal mann mes		
Yes	None Within 4 Miles			
No	None Within 4 Wiles			
NO	8. Surface Water P	Dathway.		
Type of Surface Water Draining Site and 15			ny Cource to Curface Water	
Type of Surface water Draining Site and 15	villes Downstream.	Shortest Overland Distance From A	ny source to surface water.	
Stream River Pond	Lake	0.0	Feet	
Stream River Pond  Bay Ocean Other	Lake			
bay occan other	<del></del>	0.0	Miles	
<u> </u>			_ Miles	
s There as Suspected Release to Surface Wa	eter:	Site is Located in:	-	
s There as Suspected Release to Surface Wa	eter:	Site is Located in:  Annual - 10 yr. Floo	dplain	
s There as Suspected Release to Surface Wa	ater:	Site is Located in:  Annual - 10 yr. Floo >10 yr 100 yr. Floo	dplain odplain	
s There as Suspected Release to Surface Wa	ater:	Site is Located in:  Annual - 10 yr. Floo >10 yr 100 yr. Floo >100 yr 500 yr. Floo	dplain odplain odplain	
s There as Suspected Release to Surface Wa		Site is Located in:  Annual - 10 yr. Floo  >10 yr 100 yr. Floo  >100 yr 500 yr. Floo  >500 yr. Floodp	dplain odplain odplain lain	
s There as Suspected Release to Surface Wa		Site is Located in:  Annual - 10 yr. Floo >10 yr 100 yr. Floo >100 yr 500 yr. Floo	dplain odplain odplain lain	
s There as Suspected Release to Surface War		Site is Located in:  Annual - 10 yr. Floo  >10 yr 100 yr. Floo  >100 yr 500 yr. Floo  > 500 yr. Floodp  List All Secondary Drinking Water In	odplain odplain odplain lain	
S There as Suspected Release to Surface War Yes No  Drinking Water Intake Located Along the Surface No	rface Water Migration Path:	Site is Located in:  Annual - 10 yr. Floo  >10 yr 100 yr. Floo  >100 yr 500 yr. Floo  >500 yr. Floodp	dplain odplain odplain lain	
s There as Suspected Release to Surface War Yes No  Drinking Water Intake Located Along the Surface Ves No  Have Primary Target Drinking Water Intakes	rface Water Migration Path: Been Identified:	Site is Located in:  Annual - 10 yr. Floo	odplain odplain odplain lain	
There as Suspected Release to Surface Was Yes No  Drinking Water Intake Located Along the Surface No  Have Primary Target Drinking Water Intakes If Yes, Dista	rface Water Migration Path: Been Identified: nce to Nearest Drinking Water Intake	Site is Located in:  Annual - 10 yr. Floo	dplain odplain odplain lain itakes:  Population Served	
Trinking Water Intake Located Along the Sures No	rface Water Migration Path:  Been Identified:  Ince to Nearest Drinking Water Intake  Miles	Site is Located in:  Annual - 10 yr. Floo	dplain odplain odplain lain itakes:  Population Served	
There as Suspected Release to Surface Was Yes No  Drinking Water Intake Located Along the Surface No  Have Primary Target Drinking Water Intakes If Yes, Dista	rface Water Migration Path:  Been Identified:  Ince to Nearest Drinking Water Intake  Miles	Site is Located in:   Annual - 10 yr. Floor	dplain odplain odplain lain itakes:  Population Served	
Trinking Water Intake Located Along the Surface Water Intake Located Along the Surface No Surface Water Intake Surface Water Intakes No Surface Water No Surface Water Intakes No Surface Water No Surf	rface Water Migration Path:  Been Identified:  Ince to Nearest Drinking Water Intake  Miles	Site is Located in:   Annual - 10 yr. Floor	dplain odplain odplain lain takes:  Population Served	
Trinking Water Intake Located Along the Sures No	rface Water Migration Path:  Been Identified:  Ince to Nearest Drinking Water Intake  Miles	Site is Located in:   Annual - 10 yr. Floor	dplain odplain odplain lain takes:  Population Served	
There as Suspected Release to Surface Was No  Drinking Water Intake Located Along the Surface No  Have Primary Target Drinking Water Intakes If Yes, Distance No  1 Yes No  1 Yes No  40  1 Yes, Enter Population Served By Target Intakes No  440,000 est. People	rface Water Migration Path:  Been Identified: Ince to Nearest Drinking Water Intake Miles Ake	Site is Located in:   Annual - 10 yr. Floor	dplain odplain odplain lain ntakes:  Population Served	
There as Suspected Release to Surface Water Intake Located Along the Surface Primary Target Drinking Water Intakes  No  16 Yes No 16 Yes, Distance No 17 Yes, Enter Population Served By Target Intakes 18 Yes, Enter Population Served By Target Intakes 19 Yes, Enter Population Served By Target Inta	rface Water Migration Path:  Been Identified: Ince to Nearest Drinking Water Intake Miles Take  Migration Path:	Site is Located in:   Annual - 10 yr. Floor	dplain odplain odplain lain ntakes:  Population Served	
There as Suspected Release to Surface Water Intake Located Along the Surface Primary Target Drinking Water Intakes  No  16 Yes No 16 Yes, Distance No 17 Yes, Enter Population Served By Target Intakes 18 Yes, Enter Population Served By Target Intakes 19 Yes, Enter Population Served By Target Inta	rface Water Migration Path:  Been Identified: Ince to Nearest Drinking Water Intake Miles Ake	Site is Located in:   Annual - 10 yr. Floor	dplain odplain odplain lain ntakes:  Population Served	
There as Suspected Release to Surface Water Intake Located Along the Surface Primary Target Drinking Water Intakes  No	rface Water Migration Path:  Been Identified: Ince to Nearest Drinking Water Intake Miles Take  Migration Path: Ince to Nearest Fishery:	Site is Located in:   Annual - 10 yr. Floor	Population Served  Population Served  0	
There as Suspected Release to Surface Water Intake Located Along the Surface Primary Target Drinking Water Intakes  No  16 Yes No 16 Yes, Distance No 17 Yes, Enter Population Served By Target Intakes 18 Yes, Enter Population Served By Target Intakes 19 Yes, Enter Population Served By Target Inta	rface Water Migration Path:  Been Identified: Ince to Nearest Drinking Water Intake Miles Take  Migration Path: Ince to Nearest Fishery:	Site is Located in:  Annual - 10 yr. Floor >10 yr 100 yr. Floor >100 yr 500 yr. Floor > 500 yr. Floodp  List All Secondary Drinking Water In  Name Water Body Flow (cfs) Total Within 15 Miles  List All Secondary Target Fisheries: Water Body/Fishery Name	dplain odplain odplain lain  takes:  Population Served  0  Flow (cfs)	
There as Suspected Release to Surface Water Intake Located Along the Surface Primary Target Drinking Water Intakes  No	rface Water Migration Path:  Been Identified: Ince to Nearest Drinking Water Intake Miles Take  Migration Path: Ince to Nearest Fishery:	Site is Located in:  Annual - 10 yr. Floor >10 yr 100 yr. Floor >100 yr 500 yr. Floor > 500 yr. Floodp  List All Secondary Drinking Water Ir  Name Water Body Flow (cfs) Total Within 15 Miles  List All Secondary Target Fisheries: Water Body/Fishery Name	dplain odplain odplain lain  ttakes:  Population Served 0  Flow (cfs)	

8. Surface Water Pathway (Continued)							
Wetlands Located Along the Surface Water Migration Path:  Yes  No  Have Primary Target Wetlands Been Identified			Other Sensitive Environments Located Along the Surface Water Migration Path: Migration Path Yes If Yes, Distance to Nearest Sensitive				
Yes			No			t: Miles	
No			Have Prima		Environment	ts Been Identified:	
List All Wetlands:	5 · A41			Yes		No	
<u>Water Body</u> <u>Flow (cfs)</u> Wetlands and Waters of Unknown	Frontage Miles		List All Sensitive Environments:  Water Body Flow (cfs) Sensitive Environment Type				
Wetlands and Waters of Unknown the US	Unknown		wat	<u>er Bouy</u>	FIOW (CIS)	sensitive Environment Type	
		•		<u></u>			
		•	<del></del>	<u></u>			
	0.6-:1	F		<u></u>			
Are Decade Occupying Decidence or	•	Exposure P		atuial Canait	ius Fauireans	onto Doon Idontified on or	
Attending School or Daycare on or With	Are People Occupying Residence or Attending School or Daycare on or Within		Have Terrestrial Sensitive Environments Been Identified on or Within 200 Feet of Areas of Known or Suspected Contamination:				
200 Feet of Area of Known or Suspecter							
Contamination: Yes	1-100 101-1,000	•			Yes		
No	>1,000			(	No		
	1,000		If Yes. List	Each Terrest		Environment:	
If Yes, Enter Total Residential Populatio	n:						
	Population Within 1 N	Mile:					
People	People						
	10	0. Air Pathw	ay				
Is There A Suspected Release to Air:							
Yes	$\circ$		Yes		If Yes, How N	Many Acres:	
Enter The Population on or Within:  0.0-0.25 Mile			No			101Acres	
>0.25 - 0.5 Mile		Other Sens	sitive Enviro	onments Loc Yes	ated Within 4	Miles of the Site	
>0.5 - 1.0 Mile		List All Sen	sitive Envir	onments Wi	thin 0.5 Mile	of the Site	
>1.0 - 2.0 Mile		<u>Distance</u> Onsite		Sensitive Env	vironment Type	e/Wetlands Area (Acres)	
>2.0 - 3.0 Mile		0 - 0.25 Mile	e				
		>0.25 - 0.5 1					
>3.0 - 4.0 Mile							
Total within 4 Miles							

			Identification							
Potential Hazardous Waste Site Preliminary				State: CO		CERCLIS #:				
Assessment Form						CERCLIS Disc	overy Date:	•		
			1. Gen	eral Site Info	rmation					
Name: Peterson Air Force Base (PAFB)					Street Address: Platte Avenue & Powers Blvd					
City: Colorado Spings			Ļ	State: CO	Zip Code: 80916	County: El Paso	Co Code:	Cong. Dist. CO-05		
Latitude:	Long	gitude:		Approxima	te Area of	Site:	Status of Si	te:		
38°48′59.12″ N	104	- °41'46.	.39" W	137	137 Acres Active Not Specified			ed		
				5,98	4,255 Sq.	Ft. Inactive NA (GW P			ıme etc.)	
Site Name: PAFB Golf	f Course and Forn	mer Lea	ach Field			-		•	· · · · · · · · · · · · · · · · · · ·	
			till in use, and the gra	ss for the fai	rwavs is ma	aintained with	water from	Pond #3. th	ne primary	
drainage point for the Leach Field at PAFB w served as a final poin	e industrial portion vas active from 19 t to which all inde	on of P 956 un ustrial	AFB. Water from Pon til 1978. Two differen runoff was routed. In intervening years, the	d #3 is not tr It years for tl 1978 the ind	eated for A ne terminat dustrial run	FFF. ion of use are off from PAFE	e listed in the B was connec	e 1989 RI. TI	The former he Leach Field	
			2. Owner	/Operator Ir	nformation					
Owner: Peterson Air	Force Base									
Street Address: Platt		orc Bly	d	Operator: Same As Owner Street Address:						
Street Address. Flatt	e Avenue & Fow	CI3 DIV	u	Street Aud	11 €33					
City: Colorado Spings				City						
State: Colorado	Zip Code: 80916	6	Telephone: N/A	City: State:		Zip Code:		Telephone	·	
State. Colorado	Zip Code. 80916	0	relephone. N/A	State		Zip Code	-	гетерпопе	;	
Type of Ownership: Type of					vnership:					
Private	County			Private		County				
Eederal Agency	Municipal			Federal Age	ncy	Municipal				
Name: <u>DOD</u>	Not Specified			Name:		Not Specified				
State	Other:			State		Other:				
Indian				Indian						
3. Site Evaluator Information										
Name of Evaluator: G	reg Carlson		Agency/Organization	ı: Aerostar Sl	ES LLC	Date Prepare	ed: 05-16-16			
Street Address: 1006	Floyd Culler Cou	rt		City: Oak F	Ridge	<u>l</u>	State: TN			
Name of EPA or State Agency Contact: N/A  Street Address: N/A										
City: N/A State: N/A				Telephone: N/A						
			4. Site Dispo	osition (for E	PA use onl	v)				
Emergency Response	Removal Assessi	ment		_	ecommenda		Signature:			
Emergency Response Removal Assessment CEI Recommendation:				Higher Prio						
necommentation.	Yes				Lower Prior	-	Name (Typ	eq).		
					NFRAP	ity Ji	Ivaille (Typ	euj.		
No						Dooit!				
Data					RCRA		Position:			
Date:				Data	Other					
				Date:						

5. General Site Characteristics							
Predominant Land Use Within 1 I	Mile of Site:	Si	te Setting:	Years of Operation:			
			Urban		977		
<b>Industrial</b> Mi	ning Other F	ederal	Suburban				
	Facility:		Rural	Ending Year: In Use	e		
	OE .						
	OI Other:			Unknown			
Agriculture							
Type of Site Operations (Circle Al	I that Apply):	l		Waste Generated:			
Manufacturing (Must select		Retail		Onsite			
Lumber and Wood Produc		Recycling		Offsite			
Inorganic Chemicals		Junk/Salvage y	ard	Onsite and Offsite	:e		
Plastic and/or Rubber Produ	ucts	Municipal Land	lfill				
Paints/Varnishes		Other Landfill		Waste Deposition Authorize	ed Bv:		
Industrial Organic Chemica	als	DOD		Present Owner			
Agricultural Chemicals		DOE		Former Owner			
Miscellaneous Chemical Prod	ducts	DOI		Present and Former C	Owner		
Primary Metals		Other Federal	Facility:	Unauthorized			
Metal Coating, Plating, Engra		RCRA		Unknown			
Metal Forging, Stamping	•		TSDF	Waste Accessible to the	e Public:		
Fabricated Structural Met		Large Qu	antity Generator	Yes	c . aae.		
Electronic Equipment		_	antity Generator	No			
Mining (Must Select a Sub-Ca	teaory):		ubtitle D				
Metals	tege.yy.		Municipal	Distance to Nearest D	)welling		
Coal			Industrial	School or Workpla	ū		
Oil and Gas		"C	onverter"	Series of trempie			
Non-Metallic Minerals			tective Filer"	>0.5 N	Miles		
		"Non	or Late Filer"				
		Not Specified					
		Other:					
			cteristics Information				
	(1	Refer to PA T	able 1 for WC Score)				
Source Type	Source Waste Quantit			of Waste (Circle all that Apply)			
(Select all that apply)	Units)						
			Metals	Pesticides/Herbici	ides		
Landfill			Organics	Acids/Bases			
Surface Impoundment			Inorganics	Oily Waste			
Drums			Solvents	Municipal Waste			
Tanks and Non Drum Containers			Paints/Pigment	ts Mining Waste			
Chemical Waste Pile	Chemical Waste Pile			Laboratory/Medical Waste Explosives			
Scrap Metal or Junk Pile			Radioactive Wa	Radioactive Waste Other: AFFF			
Tailings Pile			Construction/D	Demolition Waste			
Trash Pile (open drum)							
Land Treatment			Physical State	e of Waste as Deposited (Circle all that a	pply):		
Contaminated GW Plume							
Contaminated SW/Sediment			Sol	·lid			
Contaminated Soil			Slu	Sludge			
Other	Unknown		Po	owder			
No Sources			Liq	quid			
*C=Consultant, W=	-Wastestream, V=Volume, A	-Area	Ga	is			
			•				

	7. Groundwater P	athway			
s Groundwater Used for Drinking Within 4	Is There a Suspected Release to	List Secondary Target Population Se	erved by Ground Water		
Miles	Groundwater:	Withdrawn From:	,		
Yes	Yes				
No	No	0.0-0.25 Mile			
If Yes, Distance to Nearest Drinking Well	Have Primary Target Drinking	>0.25 - 0.5 Mile			
Miles	Water Wells Been Identified:				
	Yes	>0.5 - 1.0 Mile			
Type of Drinking Water Wells Within 4	No				
Miles (Circle Each that Applies)	If Yes, Enter Primary Target	>1.0 - 2.0 Mile			
Municipal	Population	71.0 2.0 1/1110			
Private	440,000 People	>2.0 - 3.0 Mile			
None		72.0 - 3.0 Wille			
	Nearest Designated Wellhood	>3.0 - 4.0 Mile			
Depth to Shallowest Aquifer: 43-55 feet	Nearest Designated Wellhead	23.0 - 4.0 Wille			
<u>45-55 feet</u>	Protection Area:	Total within 4 Miles			
Kanat Tanasia / Amaifan Danasata	Vnderlies Site >0-4 Miles	Total Within 4 Miles	<del></del>		
Karst Terrain/Aquifer Present:					
Yes	None Within 4 Miles				
No					
	8. Surface Water P				
Type of Surface Water Draining Site and 15	Miles Downstream:	Shortest Overland Distance From A	any Source to Surface Water:		
Stream River Pond	Lake	>1,000 Feet >0.25 Miles			
Bay Ocean Other					
s There as Suspected Release to Surface Wa	iter:	Site is Located in:			
Yes		Annual - 10 yr. Floodplain			
No		>10 yr 100 yr. Floodplain >100 yr 500 yr. Floodplain			
		> 500 yr. Floodplain			
Drinking Water Intake Located Along the Su	rface Water Migration Path:	List All Secondary Drinking Water I	ntakes:		
Yes					
No		Name Water Body Flow (cfs)	Population Served		
Have Primary Target Drinking Water Intakes	Been Identified:				
Yes If Yes, Dista	nce to Nearest Drinking Water Intake				
No40	_ Miles				
f Yes, Enter Population Served By Target Int	ake				
		Total Within 15 Miles0			
Fisheries Located Along the Surface Water N	Migration Path:	List All Secondary Target Fisheries:			
	nce to Nearest Fishery:	Water Body/Fishery Name Flow (cfs)			
	Miles				
Have Primary Target Fisheries Been Identifie	ed:				
Have Primary Target Fisheries Been Identifie	ed:				
	d:				

	8. Surface Water	Pathway (Continued)
Wetlands Located Along the Surface V Yes No Have Primary Target Wetlands Been I Yes No List All Wetlands:	· ·	Other Sensitive Environments Located Along the Surface Water Migration Path: Migration Path Yes If Yes, Distance to Nearest Sensitive Environment: Miles Have Primary Sensitive Environments Been Identified: Yes No
Water Body Flow (cfs) Wetlands and Waters of Unknown the US	Frontage Miles Unknown	List All Sensitive Environments:  Water Body Flow (cfs) Sensitive Environment Type
	9 Soil Evn	posure Pathway
Are People Occupying Residence or Attending School or Daycare on or Within 200 Feet of Area of Known or Suspected Contamination: Yes No  If Yes, Enter Total Residential Population: People	Number of Workers Onsit  None 1-100 101-1,000 >1,000  Population Within 1 Miles People	Have Terrestrial Sensitive Environments Been Identified on or Within 200 Feet of Areas of Known or Suspected Contamination:  Yes No If Yes, List Each Terrestrial Sensitive Environment:
		ir Pathway
Is There A Suspected Release to Air:  Yes  No  Enter The Population on or Within:  0.0-0.25 Mile	>	etlands Located within 4 Miles of the Site:  Yes  If Yes, How Many Acres:
>0.25 - 0.5 Mile	Otl	ther Sensitive Environments Located Within 4 Miles of the Site  Yes  No
>0.5 - 1.0 Mile	List	st All Sensitive Environments Within 0.5 Mile of the Site
>1.0 - 2.0 Mile >2.0 - 3.0 Mile		stance Sensitive Environment Type/Wetlands Area (Acres) asite
>3.0 - 4.0 Mile	>0.	.25 - 0.5 Mile

# Appendix D Aerostar SES LLC March 2016 Peterson Air Force Base Site Visit Notes

### **Peterson AFB PA Site Visit**

### **Personnel:**

• Brian Odom <u>bodom@specproenv.com</u> (478)397-4906 ASL Project Manager

• Greg Carlson <u>gcarlson@specproenv.com</u> (865) 368-3112

ASL Field Operations

• Ron Porter <u>Ronald.porter@noblis.org</u>

Noblis

• Fred Brooks Frederick.brooks@us.af.mil (719) 556-6100

**Environmental Element Chief** 

• Sharon Stone <u>Sharon.stone@us.af.mil</u> (719) 554-5819

ERA Program Manager

• Sylvette Rivera sylvette.rivera-eliza@us.af.mil (719) 556-1410

Environmental Engineer

### **General Notes**

The Peterson AFB Preliminary Assessment was conducted March 23-24, 2016. Peterson Air Force Base (PAFB) shares facilities with the Colorado Springs Municipal Airport. The delineating line between the two facilities is Taxiway Bravo. Runways are shared between the two facilities with the city of Colorado Springs retaining ownership.

Drinking water for the PAFB is supplied by the city of Colorado Springs. The facility has never had a wastewater treatment plant (WWTP). There is a register of public and private wells for the area available to the public. This register is primarily concerned with water rights management, which is of concern in the area.

Colorado, as a state, has conducted some PFC sampling in the area already. These results were provided to ASL during the visit.

Sylvette Rivera (CEIE) is the environmental engineer on staff responsible for the stormwater management system at PAFB. The stormwater system is divided into three management units: North, East, and Central. The central unit encompasses the majority of the working facilities at PAFB and drains to Pond #3, which is a lined detention pond at the southern end of the facility. Pond #3 does have a spillway leading to an unlined overflow area. The northern unit flows to Detention Pond #2, also known as Sand Creek. The eastern unit drains to the Peterson East detention pond as well as outfalls. Six outfalls are sampled on a quarterly basis for NPDES permitting purposes. Of these outfalls, the majority of the drainage from the facility goes to Outfall #4.

Buildings of concern in the central section of the facility are Hangars 140, 133, 126, 130, 123, 122, 121, 119, and 214 along with Building 216 which is the current Fire Station. The eastern unit has one building of concern, Building 2032, which is a newly constructed fire station. The northern unit primarily consists of family housing and has never had any buildings or facilities with AFFF. Two areas of concern that are not within PAFB boundaries are the current and former fire training areas (FTAs). These are ERP sites 08 and 05 respectively.

Drainage from all of the hangars on the facility goes to a 146,000-gallon underground storage tank (UST) near Building 210. On the northeastern side of the tank, an exit pipe flows to an oil water separator that treats the water from the UST before releasing it to the sanitary sewer.

The Civil Engineering group at PAFB is responsible for spill response and the testing of all AFFF systems. Currently there are five AFFF systems installed at PAFB. Hangar 121 has a 500 gallon tank of 3% AFFF, Hangar 133 has an 800 gallon tank of 3% AFFF, Hangar 140 has an 800 gallon tank of 3% AFFF, Hangar 210 has two 1,100 gallon tanks of 3% AFFF and Hangar 214 has one 2,000 gallon tank of 3% AFFF.

During work on the public side of the airfield, personnel must be escorted by an airport representative or base personnel that take the airport's training class. This person will be allowed to escort a maximum of 5 people at one time.

Groundwater in the area of PAFB is at approximately 100 feet below ground surface (BGS).

## Fire Department Visit March 23, 2016 at 1330

- Craig Powell
  Assistant Fire Chief (Training Officer)
- Burke Ferrin <u>burke.ferrin@us.af.mil</u> Assistant Fire Chief for Operations

Assistant Chief Craig Powell is the training officer for PAFB Fire Department. Assistant Chief Burke Ferrin is the Assistant Chief for Operations for the PAFB Fire Department.

According to Chief Powell, the current FTA was installed in the early 1990s and has a liner. AFFF has been used at the FTA twice since the beginning of his tenure in 2005, and during both instances of use, all AFFF was contained within the lined portion of the pit.

Spray testing for the department's fire engines is done on the station ramp south of Building 218. This area is well paved and in good condition, with all runoff being directed into the stormwater management system. During freezing weather, spray testing is conducted in the area of the volleyball court which is to the south of the bay doors on the airport side of the station.

A second fire station was built in 1996 on the eastern side of the installation to enable quicker response times. This is Building 2032.

According to Assistant Chief Ferrin, the system installed in Building 140 is High Expansion Foam (HEF) and was installed in approximately 2007. Prior to that the fire suppression system in that building relied exclusively on water. Base plumbing maintains the plumbing related systems for all of the fire suppression systems while base utilities maintain the electrical and mechanical portions of the fire suppression systems.

The systems that are installed in Hangar 210 and Hangar 214 recently tripped and dispensed through the underwing nozzles. The system at Hangar 214 was rebuilt by Western States Fire Protection Company 12-13 years ago.

Three crash trucks are currently stationed at PAFB. They are

• Crash 6, a Rapid Intervention Vehicle (RIV) with a 56-gallon AFFF capacity;

- Crash 4, a P-23 with a 420-gallon AFFF capacity; and
- Crash 3, a P-23 with a 210-gallon AFFF capacity at Station 2.

In addition to the three trucks the Fire Department maintains a 1,000-gallon AFFF trailer and 600 gallons of ANSUL in drums stored at the main station. A transfer pump is used in the event that AFFF needs to be loaded onto the fire trucks from the drums. A fourth truck, the old Crash 4 vehicle, is currently at the base motor pool awaiting disposition.

## **Emergency Response**

The only emergency response reported during the PA visit was the Mooney crash, which occurred on December 23, 2010. A Mooney aircraft is a small single prop airplane that can carry up to four passengers. The crash occurred just north of runway 17L and foam was applied. The total volume of foam applied is unknown because the P-23 that responded to the crash had a stuck valve and was not metering properly at the time. According to Assistant Chief Powell, who looked up the report in the PAFB incident logs, at least 100 gallons of AFFF were released.

Other incidents involving the use of foam may have occurred; however, records of such incidents were not available.

### Base Utilities, Interview conducted on 03-24-2016

John Heimer, PAFB Utilities (Wastewater)

Mr. Heimer has been at PAFB since 2009, working in the wastewater portion of base utilities. He will be providing us with access to all the hangars of interest during the day's tour of facilities with AFFF systems installed. Hangars to be visited include 119, 121, 133, 210, and 214. During the initial interview with Mr. Heimer he stated that Hangar 140 has a Hi-Ex system, and it has never had any other type of foam suppression system installed.

When interviewed in detail about the sewer system at PAFB Mr. Heimer stated that PAFB has an industrial sewer system which functions as a collection system. The primary sewer trunk runs parallel to the flightline and begins near Hangar 140 before ending near Hangar 210 and emptying into the 146,000 gallon UST. This UST empties into a 3 stage OWS before discharging to the sanitary sewer.

Mr. Heimer is also responsible for the testing and maintenance of the foam suppression systems installed at PAFB. During conversation he pointed out that prior to testing he seals any apparent gaps in the hangar doors, thus forcing all foam that is expended into the drains installed at each hangar. These drains tie into the main sewer trunk that empties into the UST near Hangar 210. During the tour, a recently tested system still had containment boom laid out following the test. Mr. Heimer conducts system tests once every 5 years for each system. All hangars have been tested twice since 2009. During one test on October 6, 2015 a small amount of foam leaked onto the apron in front of Hangar 214.

# **Building 140**

Building 140 is an aircraft hangar on the northeastern side of the aircraft apron. A Hi-Ex system was installed in 2007. Previously the system relied on water only for fire suppression.

### Hangar 133

Hangar 133 is on the northern end of the parking apron, just south of Hangar 140. Hangar 133 is home to the PAFB Aero Club, and has a newly refitted AFFF system that utilizes an 800 gallon storage tank of 3% AFFF. At the time of the PA visit, the tank was filled to approximately 675 gallons. One 55 gallon plastic drum of Ansulite (3% AFFF) was found in the mechanical room during the PA visit. The system froze in 2011 or 2012 and released a small amount of AFFF into the mechanical room. The fire suppression

system dispenses from a series of sprinkler heads that run in parallel along the beams of the overhead trusses. There are no underwing cannons or other, more modern, dispensing systems at this facility.

### Hangar 121

Hangar 121 is on the northeast side of the aircraft apron south of Hangar 133. The fire suppression system at Hangar 121 uses a 500-gallon tank of 3% AFFF that was filled with approximately 450 gallons of material at the time of the site visit. During the site visit, remnants of a previous test were apparent. Containment booms, as mentioned previously by Mr. Heimer, were still present. Though not fully inflated at the time of the visit, it was apparent that testing conducted at PAFB is done in a manner to prevent releases to the environment. There have been no recorded accidental releases at this location. The fire suppression dispersion system at Hangar 121 operates in the same manner as the system at Hangar 133 with sprinkler heads running parallel to overhead trusses.

### Hangar 119

Hangar 119 formerly had an AFFF system but it has since been converted to a wet system. Remaining on site are the pumps and a 300 gallon tank with a small volume of residual AFFF in the bottom. No further information on this building was available.

### Hangar 214

Hangar 214 is centrally located on the eastern side of the aircraft apron. The fire suppression system consists of a 2,000 gallon tank of 3% AFFF and two underwing cannons for dispersion within the hangar. There is no overhead dispersion system. At the time of the PA visit there were approximately 1,100 gallons of AFFF concentrate stored in this tank. On an unknown date the system tripped, and a small amount of AFFF leaked out the hangar doors. The area in front of the hangar is paved with concrete in good condition. A drain leading to the main storm sewer is northwest of the hangar and the concrete is sloped in that direction.

### Hangar 210

Hangar 210 is centrally located on the eastern side of the aircraft apron south of Hangar 214. Hangar 210 is a two bay hangar with two independent AFFF fire suppression systems, one for each hangar bay. Bay 1 is on the south side of the building, Bay 2 is on the north side. Each bay has two underwing cannons for foam dispersion. In late 2014 the system in Bay 2 tripped releasing AFFF into the hangar. According to Mr. Heimer a steam cleaner near the manual release switch in the bay was being used and too much water got into the control panel causing the system to release. All of the foam that was released was contained within the hangar.

### Pond 3

Pond 3 is in the southern portion of PAFB between the aircraft taxiway and the golf course. Pond 3 is a lined detention pond that receives the majority of the stormwater from PAFB. Adjacent to the southwest of detention pond #3 is an unlined overflow pond. In the event that Pond #3 gets to full, it will dispense water through Outfall #4 into the overflow pond. Outfall #5 is on the western side of the secondary pond. Both outfalls show evidence of use. Water from Pond #3 is used to irrigate the adjacent golf course.

# **Current FTA**

The current FTA, which is in the northern portion of the facility, is a lined fire training pit with an aircraft mockup in the center. The fires used for training activities are generated with propane, and water is used to extinguish training fires. This FTA was installed in the early 1990's. Two instances of AFFF use were reported by Assistant Chief Powell since the beginning of his tenure, however all dispensed foam was contained within the lined pit. Water generated from training activities is pumped into an enclosed holding tank on the southern side of the training area. This holding tank used to have a sediment separator and OWS associated with it though these have since been removed. The holding tank is occasionally

drained into the sanitary sewer system but the occurrence of such events is rare. Several empty ANSUL AFFF drums were observed on site. Assistant Chief Powell stated that these drums were triple rinsed before being stored at this location.

### Site 5

Site 5 (FT002) is a former fire training area near the end of Runway 31 and the golf course. The FTA was active from the 1960's through 1977 and consisted of a shallow unlined burn pit. Originally at the same elevation as the golf course, the area has been filled in some areas to provide for the installation of the taxiways and runway. The FTA followed standard operating procedures of the time by having a shallow burn pit excavated and burning JP-4, waste oils, and solvents for training fires.

### Site 8

Site 8 is a former fire training area, also known as Rapier Area 6, along the southeastern boundary of PAFB. Site 8 (FT003) consisted of two areas, a burn pit and a drainage area for water from a collocated OWS. Site 8 was active from 1977 to 1989. The site was decommissioned to allow for the expansion of the Colorado Springs Municipal Airport. In accordance with standard practice at the time JP-4, waste oils, and solvents were burned in the pit to create training fires.

### **Building 2032, Fire Station #2**

Fire Station #2 is in the eastern portion of PAFB. One truck, Crash 3, is stationed at this facility to enable rapid response to runway incidents. Details of Crash 3 can be found in the section reporting on the interview with fire department personnel. Spray testing is conducted on the eastern side of the building over the concrete areas along the road leading to the airfield.

### Information received during Draft PA comment period

The following information was provided by Jeff Bohn during the comment period on the Draft Preliminary Assessment for Perfluorinated Compounds at Peterson Air Force Base. The information provided was integrated into the Final Preliminary Assessment for Perfluorinated Compounds at Peterson Air Force Base where applicable.

Here are some things to consider, having read the report;

- -We abandoned use of the Site 8 pit in late 1991/early 1992 -- I used this pit for fires during that time.
- -The new pit became fully operational in 1991/92.
- -The new pit was originally a hydrocarbon fuel pit that was converted in 1999 to propane. We burnt a lot of fuel from '92 to '94 when I was there.
- -We used foam during pit fires when it was a hydrocarbon pit -- many more than twice.
- -We trained approximately 19 civilian Colorado airports' firefighters for four or five years; about 600 to 800 firefighters including area DOD. Not a lot of foam was used as it made the fires hard to relight -- but there was a fair amount used.
- -The civilian airport firefighters used the base's foam with the Centennial Airport's Titan trucks.
- -There is/was a fuel/water separator at the pit and the water separated was into the sanitary sewer.
- -Firefighters did foam checks on the apron, but they also did foam checks down by Bldg. 104 -- it was very common for firefighters to irrigate wildlife in that area.
- -The fire department sent foam use reports to AFCESA. There is a record of use for the past decade.
- -I am not seeing in the report where the foam in the hangars or the fire station is post-2002 era foam, or if we are still in custody of that foam.

My information is based on being stationed here from Sept. 13, 1991 to April 1994. I was a firefighter here -- assistant chief to be precise. I worked operations from my arrival until I deployed in June 1992. I returned from Saudi Arabia in October 1992 and worked operations for a short time until I became the assistant chief for fire prevention. I was an EET member with the training chief -- Cindy Litteral. That's the person you need to talk with.

As far as using AFFF twice on the pit ... I fought fire on the old pit in '91, and I fought fire in the new pit when it became active in '92. Even though my primary duty was fire inspector, we still had to perform fires to maintain our certifications as well as our Prime BEEF qualifications – I put foam on the fires multiple times in the years I was here.

# Sites that will move on to the SI phase of the CERCLA process

- 1) Site 5
- 2) Site 8
- 3) Fire Station No. 1 (focusing on the volleyball court area)
- Pond 3
- 5) Golf Course and Former Leach Field
- 6) Building 2032, Fire Station #2