FINAL
PRELIMINARY ASSESSMENT REPORT
FOR PERFLUORINATED COMPOUNDS
AT
PATRICK AIR FORCE BASE
BREVARD COUNTY, FLORIDA

Note: Throughout this report, there is a recurring erroneous statement indicating that wastewater from various sources at Patrick is sent "to the City of Cocoa's Dyal Water Treatment Plant". This statement is incorrect but was not caught prior to document finalization.
All wastewater from Patrick AFB flows to the City of Cocoa Beach Wastewater Treatment Facility. (The Dyal Water Treatment Plant is actually the drinking water treatment plant on the mainland. No waste is directed there).

Prepared for:

Air Force Civil Engineer Center
2261 Hughes Avenue, Suite 155
Lackland AFB, Texas 78236-9853

Contract No. FA8903-08-D-8772
Task Order 0065
CDRL A001A

September 2015

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TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

Page

TABLE OF CONTENTS (Continued)

Page

TABLE OF CONTENTS (Continued)

Page

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF ACRONYMS AND ABBREVIATIONS

AFB	Air Force Base
AFCEC	Air Force Civil Engineer Center
AFFF	aqueous film forming foam
Air Force	U.S. Air Force
ASR	aquifer storage and recovery
AST	aboveground storage tank
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EPA	Environmental Protection Agency
FDEP	Florida Department of Environmental Protection
FTA	Fire Training Area
HEF	high expansion foam
HGL	HydroGeoLogic, Inc.
µg/kg	microgram per kilogram
µg/L	microgram per liter
PA	Preliminary Assessment
PFOA	perfluorooctanoic acid
PFOS	pefluorooctane sulfonate
PFC	Perfluorinated Compounds
PHA	provisional health advisory
POC	point of contact
PWS	public water supply
RSSLs	risk-based soil screening levels
SES	SES Construction and Fuel Services
STP	Sewage Treatment Plant
USCT	underground storage collection tank

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1.0 INTRODUCTION

HydroGeoLogic, Inc. (HGL) has been contracted by the Air Force Civil Engineer Center (AFCEC) to perform preliminary assessment (PA) activities at multiple U.S. Air Force (Air Force) and Air National Guard Fire Training Areas (FTAs) and Non-FTAs to determine locations of potential environmental release of perfluorinated compounds (PFCs). Specifically, the HGL Team is to complete PA activities to determine potential releases of PFCs at 82 Air Force and Air National Guard installations from FTAs and other known and suspected releases of PFCs from Aqueous Film Forming Foam (AFFF) usage or storage areas. This work is being performed by HGL under the existing 4P Architecture and Engineering contract, Contract No. FA8903-08-D-8772, Task Order 0065.

HGL conducted activities associated with this PA at Patrick Air Force Base (AFB) during the week of May 26, 2015, in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 Preliminary Assessment processes. Patrick AFB is an Air Force Space Command installation located between Satellite Beach and Cocoa Beach in Brevard County, Florida (Figure 1.1). The installation is home to the 45th Space Wing which controls and operates Cape Canaveral Air Force Station.

1.1 BACKGROUND

PFCs are compounds used in the formulation of AFFF, which the Air Force 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 pefluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA), which can be found in the environment following an AFFF release, may present potential, non-carcinogenic risks to human health and the environment (Chang et al., 2014; Porter, 2011; Rak et al., 2009).

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

- MILSpec 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, 1977).

Based on Air Force performance testing results on AFFF, the Air Force Director of Civil Engineering, M.G. Goddard, in 1970 issued authorization for the Air Force to procure AFFF. No usage within the Air Force is documented or suspected prior to 1970.

1.2 PURPOSE AND OBJECTIVES

The purpose and objective of this PA is to identify locations at Patrick AFB where PFCs may have been released 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 may have been released into the environment at Patrick AFB (Table 1.1). Locations that are considered non-FTAs include, but are not limited to, hangars, fire stations, emergency response locations and any other locations where the potential exists for AFFF to have been released into the environment. This PA report also differentiates between locations that pose little or no potential threat to human health and the environment from locations that warrant further investigation.

Table 1.1
FTAs and Non-FTAs Identified for Potential AFFF Releases

Fire Training Areas
Former Fire Training Area 1
Former Fire Training Area 2
Non-Fire Training Areas
Hangars
Hangar 630
Hangar 647
Hangar 750
Hangar 751
Hangar 985
Hangar 985
Fire Stations
Fire Station (Building 810)
Other Spills and Releases
Fire Truck Rollover Area
Outfall 21 to Banana River
Building 705 [redacted]
Building 984
Building 676 – [redacted]

1.3 BASEWIDE ENVIRONMENTAL SETTING

1.3.1 Geology

Patrick AFB is situated on undifferentiated marine sands overlying the Pleistocene-age Anastasia Formation and Caloosahatchee Marl Formation; these three units comprise the surficial unconsolidated deposits in the area. Above the Caloosahatchee Marl Formation, the surficial deposits form a shallow unconfined aquifer. The Anastasia Formation is a discontinuous layer of undifferentiated sands with silt and shells that may not be present in this

area. The Caloosahatchee Marl Formation consists primarily of calcareous sandy clay deposits. Underlying the Caloosahatchee Marl Formation is the Tamiami Formation, which is made up of limestones, marls, silty sands, and clay. The Tamiami Formation forms a shallow bedrock aquifer. The marine sands, clays, and limestones of the Hawthorn Formation underlie the Tamiami Formation. Interspersed limestone layers form localized aquifers within the Hawthorn Formation. Beneath the Hawthorn Formation is the Floridan Aquifer, which is comprised of Ocala Formation limestone and extends to a depth of over 1,500 feet below mean sea level (Parsons Engineering Science, Inc., 1995).

1.3.2 Hydrogeologic Setting

The aquifer systems present in Brevard County include the surficial aquifer and the Floridan Aquifer. The surficial aquifer system is contained in undifferentiated Late Miocene, Pliocene, and Recent Pleistocene deposits. These deposits are composed primarily of medium to coarse quartz sand with coquina and shell occurring more frequently with increasing depths. The surficial aquifer is hydraulically separated from the underlying Floridan aquifer by sediments of the Hawthorn Formation of Miocene Age. The low permeability clays, silts, and marls of the Hawthorn Formation act as an aquitard between the surficial and the Floridan aquifer systems. The Floridan aquifer system consists of a series of highly permeable limestone formations, including the Ocala Formation and the Avon Park Limestone, both of Eocene age (SES, 2014).

The surficial aquifer contains groundwater under nonartesian conditions and is approximately 4 feet below ground surface (bgs). Water enters the aquifer through direct infiltration from percolation and rainwater. Groundwater in the zone of saturation of the surficial aquifer moves laterally toward canals or rivers at Patrick AFB. The groundwater in the surficial aquifer is typically classified by the Florida Department of Environmental Protection (FDEP) as Class G-II (less than 10,000 milligrams per liter total dissolved solids). Class G-II is defined as being able to supply water treatable for human consumption. However, the surficial aquifer is not used to supply potable water at Patrick AFB (SES, 2014).

Shallow groundwater flow at Patrick AFB generally follows surface topography and flows from the dune ridges east of the Base toward the Banana River along the west side of the Base. Groundwater in the Floridan aquifer is under artesian conditions and flows northeast in the vicinity of Patrick AFB. The water enters the aquifer near the center of the Florida peninsula and moves laterally toward the coasts. The Floridan aquifer is also classified by FDEP as Class G-II (SES, 2014).

Patrick AFB receives potable water from the City of Cocoa, whose water supply is from a combination of groundwater wells, aquifer storage and recovery (ASR) wells, and surface water. The City of Cocoa is located approximately 13 miles northwest from Patrick AFB. The groundwater is acquired from the intermediate and Floridan Aquifer from 48 groundwater wells located in east Orange County. The city also stores approximately 1 billion gallons of treated water 300 feet underground in ASR wells. An additional source of water is surface water from the Taylor Creek Reservoir. The City of Cocoa treats ground and surface water at the Dyal Water Treatment Plant. The groundwater, ASR water, and surface water are blended

for distribution and provided to Patrick AFB via underground piping. The water is further treated by Patrick AFB with the addition of chlorine and is distributed throughout Patrick AFB (Patrick AFB, 2013).

1.3.3 Hydrologic Setting

There are no natural drainage features at Patrick AFB. Surface water runoff at Patrick AFB either infiltrates the ground surface or is controlled by a series of drainage channels, manmade ditches, culverts, and canals. These structures form a drainage system at Patrick AFB that moves surface water westward to discharge points along the Banana River (SES, 2014).

The Banana River is a 31-mile long lagoon system that lies between Cape Canaveral and Merritt Island. Merritt Island is located west of the southern portion of the river and Cape Canaveral is located east of the northern portion of the river. Patrick AFB is situated along the eastern banks of the southern portion of the river. The river is part of the Indian River Lagoon system and has only one outlet to the Atlantic Ocean (Banana River, Florida, n.d.).

1.3.4 Ecological Receptors

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

Patrick AFB is located in Brevard County, Florida, and is surrounded by multiple wetlands and a Florida Habitat Conservation Area. These sensitive environments and the diversity of plants and animal species that inhabit them are considered primary ecological receptors for Patrick AFB (EDR, 2015c). Table 1.2 provides a list of endangered species for Brevard County that have the potential to inhabit the aforementioned sensitive environments.

Table 1.2
Endangered Species

BIRDS
Red-Cockaded Woodpecker
Piping Plover
Bald Eagle
Wood Stork
Florida Scrub Jay
PLANTS
Johnson's Seagrass
MAMMALS
West Indian (Florida) Manatee
Southeastern Beach Mouse
REPTILES
Loggerhead Sea Turtle
Leatherback Sea Turtle
Green Sea Turtle
Eastern Indigo Snake
Atlantic Salt Marsh Snake

1.4 PRELIMINARY ASSESSMENT METHODS

The performance of this PA included:

- Reviewing information and reports in the available Administrative Record.
- Reviewing documents related to Air Force use of AFFF.
- Conducting a PA visit at Patrick AFB.
- Conducting interviews with base environmental management personnel, Patrick AFB personnel, and aircraft hangar maintenance and operations personnel.
- Photographing locations where AFFF has been used.
- Performing an environmental data records search 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 hazard assessments within the PA will not be applicable.

1.5 REPORT ORGANIZATION

This PA report is organized as follows:

- Section 1.0, Introduction, includes a project overview, provides a basewide environmental setting, and describes the methods used to conduct the PA.
- Section 2.0, Fire Training Areas, describes the FTAs identified during the PA visit.
- Section 3.0, Non-Fire Training Areas, describes the non-FTAs identified during the PA visit.
- Section 4.0, Summary and Conclusions, summarizes conclusions for both FTAs and non-FTAs.
- Section 5.0, References, provides references consulted during the preparation of this PA report.
- Appendix A, Photo Documentation, provides photos taken during the PA visit.
- Appendix B, Field Documentation, provides the Potential Hazardous Waste Site Preliminary Assessment Forms.
- Appendix C, Records of Communications, provides records of all interviews conducted during the PA visit.

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FIGURE

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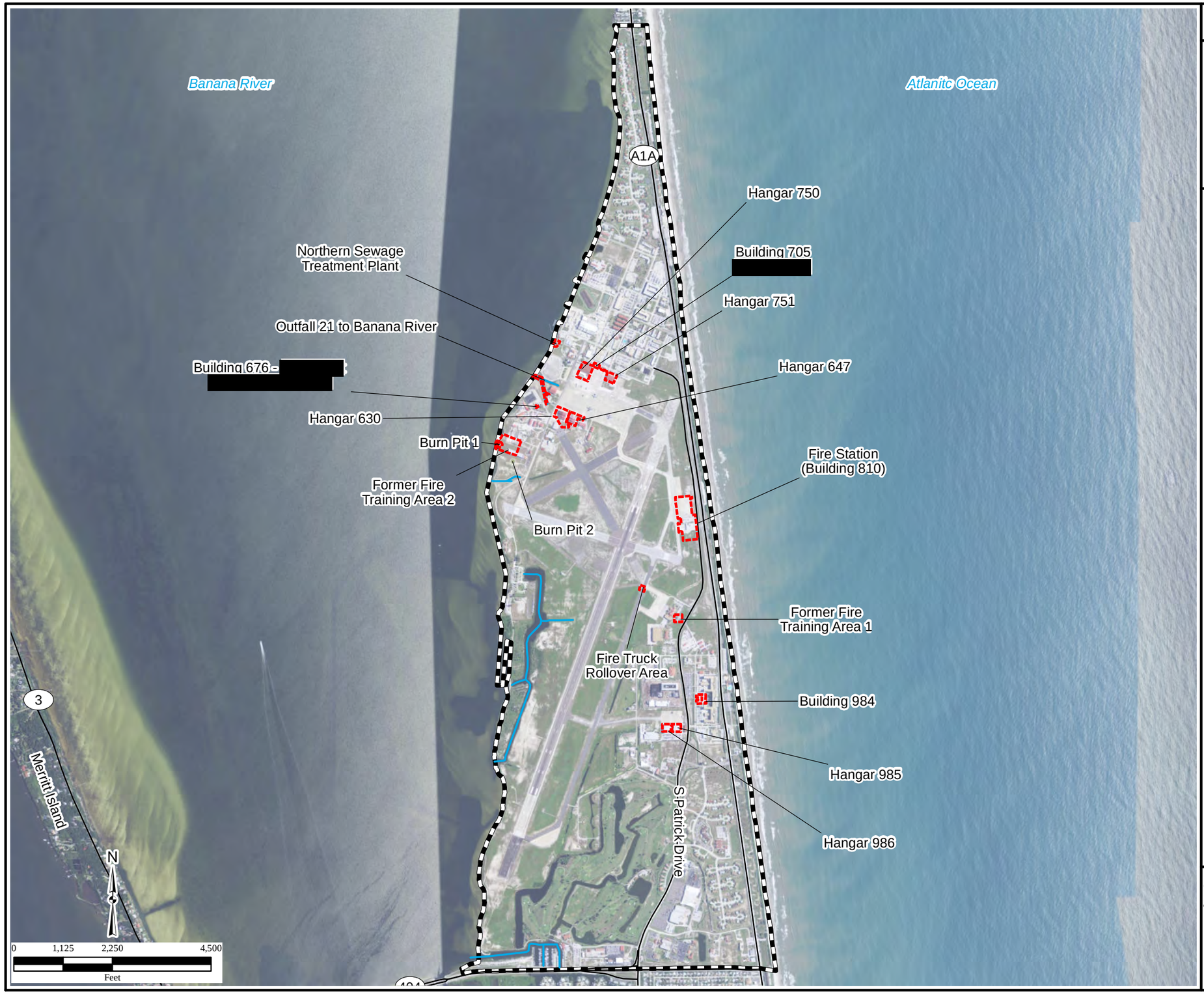
Figure 1.1
Patrick Air Force Base
Brevard County, Florida



Legend

- Street
- Surface Water
- Inferred Location Boundary
- Installation Boundary

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2.0 FIRE TRAINING AREAS

2.1 FORMER FIRE TRAINING AREA 1

2.1.1 Description and Operational History

Former FTA 1 (Site FT-21 [Solid Waste Management Unit #032]) was located along the eastern central portion of Patrick AFB, in the general location of Building 820 (Figure 1.1 and Figure 2.1). Former FTA 1 operated from 1950 to 1963 and was used for burning waste fuels (aviation gasoline, motor gasoline, and diesel), waste oils, halogenated and non-halogenated solvents during firefighting training exercises. The FTA consisted of approximately 0.25 acres with a shallow unlined depression in sandy soils into which combustible materials were placed and ignited during fire training activities (O'Brien & Gere Engineers, Inc., 1993). There was no evidence of previous fire training activities at the location of Former FTA 1 during the PA visit. The geographic coordinates of the former FTA are [redacted].

The Assistant Fire Chief was not aware of any AFFF releases at Former FTA 1 as the operational timeframe of the FTA was prior to his tenure as acting Assistant Fire Chief (Appendix C, Records of Communication). In addition, the operational timeframe of Former FTA 1 predates the use of AFFF by the Air Force; therefore, impact to the environmental media surrounding Former FTA 1 is unlikely.

Photographic documentation is provided in Appendix A.

2.1.2 Waste Characteristics

Not Applicable.

2.1.3 Pathway and Environmental Hazard Assessment

Not Applicable.

2.1.3.1 Groundwater Pathway

Not Applicable.

2.1.3.2 Surface Water Pathway

Not Applicable.

2.1.3.3 Soil and Air Exposure Pathways

Not Applicable.

2.2 FORMER FIRE TRAINING AREA 2

2.2.1 Description and Operational History

Former FTA 2 (Site FT-22) was located on the northwestern portion of Patrick AFB (Figure 1.1) and operated from 1963 to 1985. Former FTA 2 was used as a firefighting training area and consisted of a burn pit to which petroleum wastes and waste products from industrial solvents/degreasing operations were applied and ignited (URS, 2005). The pit was an unlined circular burn pit approximately 2 feet in depth and 150 feet in diameter that was used for igniting combustible wastes (Environmental Science and Engineering, Inc., 1988). The pit is bordered to the north, east, and south by lightly vegetated undeveloped areas and to the west by a concrete pathway/sidewalk followed by the Banana River (Figure 2.2). There was no evidence of previous fire training activities at the general area of burn pit 1 during the PA visit. The geographic coordinates of the central portion of Former FTA 2 are [redacted].

Photographic documentation is provided in Appendix A.

2.2.2 Waste Characteristics

The Assistant Fire Chief was not aware of fire training activities conducted at Former FTA 2 as the operational timeframe of the FTA was prior to his tenure as acting Assistant Fire Chief (Appendix C, Records of Communication). Based on the use of AFFF by the Air Force beginning in 1970, the potential exists for AFFF having been used to extinguish fires at Former FTA 2 during the operational period from 1970 through 1985.

2.2.3 Pathway and Environmental Hazard Assessment

A complete exposure pathway typically includes the following components: 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).

2.2.3.1 Groundwater Pathway

The basewide geologic and hydrogeologic settings are provided in Section 1.3. Groundwater in the general area of Former FTA 2 is assumed to follow the basewide shallow groundwater flow westward toward the Banana River. The Banana River is the closest surface water body and is located approximately 100 feet west of burn pit 1 and 374 feet west of burn pit 2. The potential presence of PFCs in groundwater at Former FTA 2 exists based on the operational time frames of the FTA.

Patrick AFB and surrounding off-base communities receive drinking water from the City of Cocoa, which acquires water from groundwater in the Floridan aquifer, ASR wells, and surface water as discussed in Section 1.3.2. The closest public water supply (PWS) well is located 4.56 miles southwest of Former FTA 2. The PWS well is part of the FL3050985 Palm Shores RV Park well system, a non-community public water system that serves a population of 25 residents (EDR, 2015a).

The combined on- and off-base population within a 4-mile radius from Former FTA 2 is approximately 20,379 residents (EDR, 2015b). The closest residential area is an on-base residential campground located approximately 2,604 feet south of Former FTA 2 (EDR, 2015b).

2.2.3.2 Surface Water Pathway

The topography in the general area of Former FTA 2 is relatively flat. As discussed in Section 1.3.3 there are no drainage features at Patrick AFB. However, based on the close proximity of the Banana River, surface water would likely flow west overland surface and discharge to the Banana River. The Banana River merges with the Indian River approximately 8.5 miles downstream (south) from the discharge point. The Indian River continues to flow in a northern direction over 15 miles (Geofin, 2015).

The Banana River is identified as a wetland and is classified as E1UBL: (E)-Esturaine, (1)-Subtidal, (UB)-Unconsolidated Bottom, (L)-Subtidal. Multiple wetlands are also identified 15 miles downstream of Former FTA 2 along the banks of the Banana River and Indian River (EDR, 2015c). Ingestion of surface water by wildlife at these wetlands is a potential pathway for ecological receptors. These wetlands are identified as an ecologically sensitive environment adjacent to the surface water migration pathway. The bodies of water encountered downstream of Former FTA 2 are known to be used for recreational fishing by residents or nearby communities, and could provide an exposure to humans through dermal contact and ingestion of fish (Banana River, Florida, n.d.).

Former FTA 2 is located within the 100-year flood zone (EDR, 2015c). There are no surface water intakes or downstream fisheries adjacent to the surface water migration path 15 miles downstream of the Former FTA 2 (EDR, 2015c; Geofin, 2015).

2.2.3.3 Soil and Air Exposure Pathways

The Former FTA 2 is an inactive FTA currently covered with light vegetation and no remnants of a burn pit. Former FTA 2 is not located within a restricted area and is accessible by all civilians and Patrick AFB personnel. There are no residents or workers on site. The closest building with workers is Building 9693, located approximately 294 feet northeast of burn pit 2. The potential exists for soil exposure to the workers at this building; however, direct contact by workers with soil associated with Former FTA 2 is not anticipated. Landscape workers who perform mowing at the Former FTA could potentially be exposed to soil through the emission of soil contaminants into the air as dust particles while mowing. The potential exists for soil exposure to burrowing animals. The closest residential area is an on-

base residential campground located approximately 2,604 feet south of Former FTA 2 (EDR, 2015b). Population details within a 4-mile radius are discussed in Section 2.2.3.1.

There are no daycare facilities or schools within a 200-foot radius of Former FTA 2. The closest school is Sea Park Elementary School, located approximately 2.9 miles south/southeast. The closest daycare is the Child Development Center located on base, approximately 1.5 miles southeast (EDR, 2015b).

FIGURES

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Figure 2.1
Former Fire Training Area 1
Patrick Air Force Base
Brevard County, Florida

Legend

- Storm Sewer Inlet
- Storm Sewer Pipeline
- Storm Sewer Culvert
- Storm Sewer Open Drainage
- Surface Water
- 699 Building Number
- Inferred Location Boundary
- Installation Boundary

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ArcGIS Online Imagery

HGL HydroGeoLogic, Inc.

Figure 2.2
Former Fire Training Area 2
Patrick Air Force Base
Brevard County, Florida

Legend

- Storm Sewer Inlet
- Storm Sewer Pipeline
- Storm Sewer Culvert
- Storm Sewer Open Drainage
- Surface Water
- 699 Building Number
- Inferred Location Boundary
- Installation Boundary

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HGL HydroGeoLogic, Inc

3.0 NON-FIRE TRAINING AREAS

3.1 HANGARS

Hangars at Patrick AFB either have deluge (water) fire suppression systems, or fixed foam fire suppression systems that are either AFFF or high expansion foam (HEF). The fire department staff and suppression system installers (or operation and maintenance staff) were interviewed for the types of systems that have been used historically and currently at each hangar. According to the Assistant Fire Chief, hangars are tested every two years and the foam is sampled annually. A flow test is performed during the testing and requires a system dump, but only with water. AFFF is not released during the testing process.

3.1.1 Hangar 630

3.1.1.1 Description and Operational History

Hangar 630 is located in the northwestern portion of Patrick AFB. The hangar is bordered to the north and west by restricted airfield ramps, to the east by grassy areas followed by Hangar 647, and to the south by grassy areas followed by Building 632 and Taxiway J (Figure 3.1). The geographic coordinates for Hangar 630 are [redacted].

Hangar 630 was constructed in 1964 and is currently equipped with an AFFF fire suppression system. The AFFF fire suppression system was installed in 1999 and was upgraded to a new AFFF fire suppression system in 2014. The hangar AFFF fire suppression system has always been supplied with 3% AFFF from an 800-gallon aboveground storage tank (AST) located in the hangar mechanical room (Appendix C, Records of Communication).

Photographic documentation is provided in Appendix A.

3.1.1.2 Waste Characteristics

In the event of a discharge from the fire suppression system, foam is discharged to the hangar floor and flows into the hangar floor drains. Prior to 1995, discharge into the hangar floor drains was directed to the Northern Sewage Treatment Plant (STP) and the effluent was released to the Banana River. Subsequent to 1995, discharge to the hangar floor drains flowed to the City of Cocoa's Dyal Water Treatment Plant. According to interviews with base personnel, a 30,000-gallon underground storage collection tank (USCT) was installed in June/July 2014 on the west/northwest side of Hangar 630. The USCT was installed to contain drainage from the floor drains of Hangars 630 and 647. The contents of the USCT are pumped out by a subcontractor for off-base disposal. The frequency at which the USCT is pumped out and disposed of is unknown (Appendix C, Records of Communication).

According to the Assistant Fire Chief, the fire suppression system was tripped in 1999 and AFFF was discharged inside the hangar. Approximately three feet of foam filled the inside of the hangar. The AFFF drained down the hangar floor drains where it would have been

pumped to the City of Cocoa's Dyal Water Treatment Plant. The Assistant Fire Chief could not recall the amount of AFFF discharged (Appendix C, Records of Communication).

The Fire System point of contact (POC) recalled another AFFF discharge at Hangar 630 that occurred in 2004. The AFFF fire suppression system was tripped due to a hurricane in the area and resulted in the discharge of AFFF into the hangar floor drains and outside the hangar doors. The AFFF that drained into the hangar floor drains would have been pumped to the City of Cocoa's Dyal Water Treatment Plant. The AFFF that flowed out the hangar doors infiltrated the ground surface at the grassy areas north of the hangar and drained into the storm sewer inlets. Drainage into the storm sewer inlets flows west via underground storm sewer pipelines and releases to a drainage canal through Outfall 21. The drainage canal is located approximately 470 feet west/northwest of the hangar. Outfall 21 is further discussed in Section 3.4.2. The Fire System POC was not aware of the amount of AFFF discharged in the hangar or outside of the hangar doors (Appendix C, Records of Communication).

In October 2013, SES Construction and Fuel Services (SES) performed an investigation to identify potential PFC usage areas and to select locations for further evaluation. Hangar 630 was identified as a location for further investigation based on several accidental AFFF discharges that occurred from 1998 to 2005. The discharges resulted in AFFF running out the hangar doors to the grassy areas north and south of the hangar. Some AFFF discharges reportedly flowed across the grass to storm sewer inlets leading to the drainage canal through Outfall 21 (SES, 2014). The SES investigation did not identify the discharges of AFFF that occurred from 1998 to 2005 and they were not confirmed during this PA visit, with the exception of those listed.

On April 30, 2014, four subsurface soil samples and three groundwater samples were collected from the grassy area north of the hangar and two surface soil samples, four subsurface soil samples, and four groundwater samples were collected from the grassy area south of the hangar. Additionally, two surface water and three sediment samples were collected from the drainage canal as part of the limited investigation (SES, 2014). The samples collected from the drainage canal are further discussed in Section 3.4.2.

Groundwater analytical results indicated that PFOA and PFOS were detected in all the groundwater samples collected in the grassy area north of the hangar. The PFOA and PFOS detections in all three groundwater samples were reported above the corresponding Environmental Protection Agency (EPA) provisional health advisory (PHA) values of 0.4 micrograms per liter (μg/L) and 0.2 μg/L, respectively. The subsurface soil analytical results indicated that PFOA was detected in two of the four samples and PFOS was detected in three of the four samples collected at the grassy area north of the hangar. The PFOA and PFOS detections were reported below their respective EPA risk-based soil screening levels (RSSLs) of 16,000 micrograms per kilogram (μg/kg) and 6,000 μg/kg (SES, 2014).

Analytical results for the soil samples (2 surface and 4 subsurface) collected in the grassy area south of the hangar indicated that PFOA was detected in two of the six soil samples collected and PFOS was detected in all six samples. All detected concentrations of PFOA and PFOS in soils were reported below the respective EPA RSSLs of 16,000 μg/kg and 6,000 μg/kg. The

groundwater analytical results indicated that PFOA and PFOS were detected in all four groundwater samples collected in the grassy area south of the hangar. None of the PFOA detections were reported above the EPA PHA value of 0.4 µg/L. However, the PFOS detections were all reported above the EPA PHA value of 0.2 µg/L (SES, 2014).

The SES investigation confirmed the presence of PFCs in the environmental media surrounding Hangar 630, specifically the grassy areas north and south of the hangar (SES, 2014).

3.1.1.3 Pathway and Environmental Hazard Assessment

A complete exposure pathway typically includes the following components: 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).

3.1.1.3.1 *Groundwater Pathway*

The basewide geologic and hydrogeologic settings are provided in Section 1.3. According to the SES investigation, groundwater in the general area of the hangar was gauged at depths ranging from 3.5 to 5 feet bgs. Groundwater flow is assumed to follow the basewide shallow groundwater flow westward toward the Banana River, approximately 1,042 feet west of the hangar. According to the SES investigation, the presence of PFCs was confirmed in the shallow groundwater underlying the area surrounding Hangar 630.

Patrick AFB and surrounding off-base communities receive drinking water from the City of Cocoa, which acquires water from groundwater in the Floridan aquifer, ASR wells, and surface water as discussed in Section 1.3.2. The closest PWS well is located 4.8 miles southwest of the hangar. The PWS well is part of the FL3050985 Palm Shores RV Park well system, a non-community public water system that serves a population of 25 residents (EDR, 2015a).

The combined on- and off-base population within a 4-mile radius from Hangar 630 is approximately 16,416 (EDR, 2015b). The closest residential area is an on-base residential campground located approximately 3,573 feet south of the hangar.

3.1.1.3.2 *Surface Water Pathway*

There are no natural drainage features at Patrick AFB as discussed in Section 1.3.3. Surface water runoff at Patrick AFB either infiltrates the ground surface or is controlled by a series of drainage channels, manmade ditches, culverts, and canals. Drainage from Hangar 630 follows the surface topography from east to west toward a drainage canal located approximately 440

feet west of the hangar. The drainage canal discharges at Outfall 21 to the Banana River which merges with the Indian River approximately 8.7 miles downstream (south) from the discharge point. The Indian River flows in a northern direction over 15 miles (Geofin, 2015).

The Banana River is identified as a wetland and is classified as E1UBL: (E)-Esturaine, (1)-Subtidal, (UB)-Unconsolidated Bottom, (L)-Subtidal. Multiple wetlands are also identified 15 miles downstream of the hangar along the banks of the Banana River and Indian River (EDR, 2015c). Ingestion of surface water by wildlife at these wetlands is a potential pathway for ecological receptors. These wetlands are identified as an ecologically sensitive environment potentially adjacent to the surface water migration pathway. Additionally, the Banana River and Indian River are known to be used for recreational activities including fishing and boating by residents or nearby communities, providing an exposure to humans through dermal contact and ingestion of fish (Banana River, Florida, n.d.).

Hangar 630 is not located within a flood plain and there are no surface water intakes or downstream fisheries adjacent to the surface water migration path 15 miles downstream of the hangar (EDR, 2015c; Geofin, 2015).

3.1.1.3.3 *Soil and Air Exposure Pathways*

According to the SES investigation, the presence of PFCs in the soil at Hangar 630 has been confirmed (SES, 2014). Hangar 630 is an active hangar located in a restricted area of the airfield and is accessible to authorized military personnel, the base fire department, and escorted guests. The number of workers at the hangar varies depending on the type of aircraft maintenance being performed. Although the potential exists for soil exposure to workers at the hangar, direct contact by workers with soil is not anticipated. There are no residents at the hangar. The closest residential area is 3,573 feet south of the hangar. Population details of the residential areas within a 4-mile radius are discussed in Section 3.1.1.3.1.

There are no daycare facilities or schools within a 200-foot radius of the hangar. The closest school is Sea Park Elementary School, located approximately 3.1 miles south/southeast of Hangar 630. The closest daycare is the Child Development Center located on base, approximately 1.5 miles south/southeast (EDR, 2015b).

3.1.2 Hangar 647

3.1.2.1 Description and Operational History

Hangar 647 is located in the northwestern portion of Patrick AFB. The hangar is bordered to the north by grassy areas and a restricted airfield ramp, to the east by grassy areas followed by Building 610, to the south by grassy areas and a parking area followed by Building 651, and to the west by grassy areas followed by Hangar 630 (Figure 3.1). The geographic coordinates for Hangar 647 are [redacted].

Hangar 647 is a fuel cell maintenance hangar that was constructed in 1970 and is currently equipped with an AFFF fire suppression system. The hangar is supplied with 3% AFFF from

a 2,000-gallon AST located in the hangar mechanical room (Appendix C, Records of Communication).

Photographic documentation is provided in Appendix A.

3.1.2.2 Waste Characteristics

In the event of a discharge from the fire suppression system, foam is discharged to the hangar floor and flows into the hangar floor drains. Prior to 1995, discharge into the hangar floor drains was directed to the Northern STP and the effluent was released to the Banana River. Subsequent to 1995, discharge to the hangar floor drains flowed to the City of Cocoa's Dyal Water Treatment Plant. According to interviews with base personnel, a 30,000-gallon USCT was installed in June/July 2014 on the west/northwest side of Hangar 630. The USCT was installed to collect drainage from the floor drains of Hangars 630 and 647. The contents of the USCT are pumped out by a subcontractor for off-base disposal. The frequency at which the USCT is pumped out and disposed of is unknown (Appendix C, Records of Communication).

The Fire System POC recalled an AFFF discharge at Hangar 647 that occurred in 2004. The AFFF fire suppression system was tripped due to a hurricane in the area and AFFF discharged into the hangar floor drains and outside the hangar doors. The AFFF that drained into the hangar floor drains would have flowed to the City of Cocoa's Dyal Water Treatment Plant. The AFFF that flowed out of the hangar doors infiltrated the ground surface at the grassy areas north of the hangar and drained into the storm sewer inlets. Drainage into the storm sewer inlets flows west via underground storm sewer pipelines and releases to a drainage canal through Outfall 21. The drainage canal is located approximately 720 feet west/northwest. Outfall 21 is further discussed in Section 3.4.2. The Fire System POC was not aware of the amount of AFFF discharged in the hangar or outside of the hangar doors.

In October 2013, SES performed an investigation to identify potential PFC usage areas and to select locations for further evaluation. Hangar 647 was identified as a location for further investigation based on several accidental discharges of AFFF that occurred from 1998 to 2005 (SES, 2014). The discharges resulted in AFFF flowing out the hangar doors to the grassy area north and south of the hangar. Some releases reportedly flowed across the grass to storm sewer inlets leading to the drainage canal through Outfall 21 (SES, 2014). The SES investigation did not identify the discharges of AFFF that occurred from 1998 to 2005 and they were not confirmed during this PA visit, with the exception of those listed.

On April 30, 2014, four subsurface soil samples and three groundwater samples were collected from the grassy area north of the hangar. Additionally, two surface water and two sediment samples were collected from the drainage canal as part of the investigation. The samples collected form the drainage canal are further discussed in Section 3.4.2, and the samples collected from the grassy area south of the hangar are discussed in Section 3.1.5.

Groundwater analytical results indicated that PFOA and PFOS were detected in all three collected groundwater samples. The PFOA and PFOS detections in all three groundwater samples were reported above the corresponding EPA PHA value of 0.4 μg/L and 0.2 μg/L,

respectively. The subsurface soil analytical results indicated that PFOA was detected in two of the four samples and PFOS was detected in three of the four samples. The PFOA and PFOS detections were reported below their respective EPA RSSLs of 16,000 µg/kg and 6,000 µg/kg (SES, 2014).

The SES investigation confirmed the presence of PFCs in the environmental media surrounding Hangar 647, specifically the grassy area north of the hangar (SES, 2014).

3.1.2.3 Pathway and Environmental Hazard Assessment

A complete exposure pathway typically includes the following components: 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).

3.1.2.3.1 *Groundwater Pathway*

The basewide geologic and hydrogeologic settings are provided in Section 1.3. According to the SES investigation, groundwater in the general area of the hangar was gauged at depths ranging from 4 to 5 feet bgs. Groundwater flow is assumed to follow the basewide shallow groundwater flow westward toward the Banana River, approximately 1,277 feet west of the hangar. According to the SES investigation, the shallow groundwater underlying the area surrounding Hangar 647 has been impacted by PFCs.

Patrick AFB and surrounding off-base communities receive drinking water from the City of Cocoa, which acquires water from groundwater in the Floridan aquifer, ASR wells, and surface water as discussed in Section 1.3.2. The closest PWS well is located 4.8 miles southwest of the hangar. The PWS well is part of the FL3050985 Palm Shores RV Park well system, a non-community public water system that serves a population of 25 residents (EDR, 2015a).

The combined on and off-base population within a 4-mile radius from Hangar 647 is approximately 16,416 (EDR, 2015b). The closest residential area is an on-base residential campground located approximately 3,569 feet south of the hangar.

3.1.2.3.2 *Surface Water Pathway*

There are no natural drainage features at Patrick AFB as discussed in Section 1.3.3. Surface water runoff at Patrick AFB either infiltrates the ground surface or is controlled by a series of drainage channels, manmade ditches, culverts, and canals. Drainage from Hangar 647 follows the surface topography from east to west toward a drainage canal at Outfall 21 located approximately 685 feet west of the hangar. The drainage canal discharges to the Banana River

which merges with the Indian River approximately 9.46 miles downstream (south) from the discharge point. The Indian River flows in a northern direction over 15 miles (Geofin, 2015).

The Banana River is identified as a wetland and is classified as E1UBL: (E)-Esturaine, (1)-Subtidal, (UB)-Unconsolidated Bottom, (L)-Subtidal. Multiple wetlands are also identified 15 miles downstream of the hangar along the banks of the Banana River and Indian River (EDR, 2015c). Ingestion of surface water by wildlife at these wetlands is a potential pathway for ecological receptors. These wetlands are identified as an ecologically sensitive environment potentially adjacent to the surface water migration pathway. Additionally, the Banana River and Indian River are known to be used for recreational activities including fishing and boating by residents or nearby communities, providing an exposure to humans through dermal contact and ingestion of fish (Banana River, Florida, n.d.).

Hangar 647 is not located within a flood plain and there are no surface water intakes or downstream fisheries adjacent to the surface water migration path 15 miles downstream of the hangar (EDR, 2015c; Geofin, 2015).

3.1.2.3.3 *Soil and Air Exposure Pathways*

The SES investigation confirmed the presence of PFCs in the soil at Hangar 647 (SES, 2014). Hangar 647 is an active hangar located in a restricted area of the airfield and is accessible to authorized military personnel, the base fire department, and escorted guests. The number of workers at the hangar varies depending on the type of aircraft maintenance being performed. Although the potential exists for soil exposure to workers at the hangar, direct contact by workers with soil is not anticipated. There are no residents at the hangar. The closest residential area is 3,569 feet south of the hangar. Population details of the residential areas within a 4-mile radius are discussed in Section 3.1.2.3.1.

There are no daycare facilities or schools within a 200-foot radius of Hangar 647. The closest school is Sea Park Elementary School, located approximately 3.0 miles south/southeast. The closest daycare is the Child Development Center located on base, approximately 1.5 miles south/southeast of the hangar (EDR, 2015b).

3.1.3 Hangar 750

3.1.3.1 Description and Operational History

Hangar 750 is located in the northern portion of Patrick AFB, southeast of the intersection of Rescue Road and Redstone Road. The hangar is bordered to the north by a parking lot, to the east and west by restricted airfield ramps, and to the south by grassy areas followed by the restricted airfield (Figure 3.2). The geographic coordinates for Hangar 750 are [redacted]

Hangar 750 was constructed in 1943 and was initially equipped with a wet fire sprinkler system. In 1999, Hangar 750 was retrofitted with an AFFF fire suppression system that operated until 2006. In 2006, the fire suppression system was retrofitted to an HEF system.

When the hangar was equipped with an AFFF fire suppression system, a 1,200-gallon AST charged with 3% AFFF supplied the hangar's fire suppression system via underground piping. The AST is stored at the Building 705 Pump House, which is located approximately 50 feet northeast of the hangar and also supplies Hangar 751 (Appendix C, Records of Communication). The Building 705 [redacted] is further discussed in Section 3.4.4.

The underground piping that supplied AFFF to Hangar 750 was capped off in 2006 prior to switching to the HEF fire suppression system. Hangar 750 is currently operating with an HEF fire suppression system that is supplied by an 800-gallon HEF AST located in the hangar mechanical room. Hangar 750 was not accessible during the PA visit.

Photographic documentation is provided in Appendix A.

3.1.3.2 Waste Characteristics

While the hangar included an AFFF fire suppression system, AFFF discharged from the system drained into the hangar floor drains, which flow via underground pipelines to a 30,000-gallon USCT. The USCT is located in the grassy area directly south of the hangar. According to interviews with personnel familiar with the long-term history of the hangar, the contents of the 30,000-gallon USCT have historically been pumped out to the surrounding ground surface or occasionally pumped out by a subcontractor using a vacuum truck and disposed of off base (Appendix C, Records of Communication).

In October 2013, SES performed an investigation to identify potential PFC usage areas and to select locations for further evaluation. Hangar 750 was identified as a location for further investigation based on an AFFF discharge that occurred in 2001. According to the investigation, approximately 1,200 gallons of AFFF concentrate was discharged from a supply tank at Hangar 750. The majority of the release was contained by the USCT; however, surface flow of AFFF over the tank area was observed (SES, 2014). However, according to interviews conducted for this PA, a 1,200-gallon AST located in Building 705 pump house supplied AFFF concentrate to Hangar 750. It appears that the discharge may have occurred from the supply tank located in the pump house and not in Hangar 750.

On April 30, 2014, SES collected five groundwater and eight soil samples (3 surface and 5 subsurface) from the grassy area surrounding the general location of the USCT. Groundwater analytical results indicated that PFOA and PFOS were detected in all the collected groundwater samples. The detected concentrations of PFOS in all five groundwater samples exceeded the PFOS EPA PHA value of 0.2 μg/L. The detected concentrations of PFOA were reported below the PFOA EPA PHA value of 0.4 μg/L (SES, 2014).

Surface soil analytical results indicated that PFOA and PFOS were detected in all three surface soil samples. The detected concentrations of PFOA and PFOS were reported below their respective EPA RSSLs of 16,000 μg/kg and 6,000 μg/kg. Subsurface analytical results indicated that PFOA was detected in only two of five subsurface soil samples and PFOS was detected in all five subsurface soil samples. The detections of PFOA and PFOS in subsurface

soil were reported below their respective EPA RSSLs of 16,000 µg/kg and 6,000 µg/kg (SES, 2014).

The SES investigation confirmed the presence of PFCs in the environmental media surrounding Hangar 750, specifically in the grassy area surrounding the USCT (SES, 2014).

3.1.3.3 Pathway and Environmental Hazard Assessment

A complete exposure pathway typically includes the following components: 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).

3.1.3.3.1 *Groundwater Pathway*

The basewide geologic and hydrogeologic settings are provided in Section 1.3. Groundwater in the general area of the hangar was detected at depths ranging from 4 to 5 feet bgs. Groundwater flow is assumed to follow the basewide shallow groundwater flow westward toward the Banana River, approximately 1,042 feet west. The SES investigation confirmed the presence of PFCs in the shallow groundwater underlying Hangar 750 (SES, 2014).

Patrick AFB and surrounding off-base communities receive drinking water from the City of Cocoa, which acquires water from groundwater in the Floridan aquifer, ASR wells, and surface water as discussed in Section 1.3.2. The closest PWS well is located 5.06 miles southwest of the hangar. The PWS well is part of the FL3050985 Palm Shores RV Park well system, a non-community public water system that serves a population of 25 residents (EDR, 2015a).

The combined on- and off-base population within a 4-mile radius from Hangar 750 is approximately 17,124 (EDR, 2015b). The closest residential area is located approximately 3,178 feet north of the hangar.

3.1.3.3.2 *Surface Water Pathway*

There are no natural drainage features at Patrick AFB as discussed in Section 1.3.3. Surface water runoff at Patrick AFB either infiltrates the ground surface or is controlled by a series of drainage channels, manmade ditches, culverts, and canals. Drainage from Hangar 750 will flow into the surrounding grassy areas and infiltrate the ground surface or possibly flow into the surrounding storm sewer inlets that discharge to the Banana River.

The Banana River merges with the Indian River approximately 9.2 miles downstream (south) from the discharge point. The Indian River flows in a northern direction over 15 miles (Geofin, 2015).

The Banana River is identified as a wetland and is classified as E1UBL: (E)-Esturaine, (1)-Subtidal, (UB)-Unconsolidated Bottom, (L)-Subtidal. Multiple wetlands are also identified 15 miles downstream of the hangar along the banks of the Banana River and Indian River (EDR, 2015c). Ingestion of surface water by wildlife at these wetlands is a potential pathway for ecological receptors. These wetlands are identified as an ecologically sensitive environment potentially adjacent to the surface water migration pathway. Additionally, the Banana River and Indian River are known to be used for recreational activities including fishing and boating by residents or nearby communities, providing an exposure to humans through dermal contact and ingestion of fish (Banana River, Florida, n.d.).

Hangar 750 is not located within a flood plain and there are no surface water intakes or downstream fisheries adjacent to the surface water migration path downstream of the hangar (EDR, 2015c).

3.1.3.3.3 *Soil and Air Exposure Pathways*

The SES investigation confirmed the presence of PFCs in soil at Hangar 750. Hangar 750 is an active hangar located in a restricted area of the airfield and is accessible to authorized military personnel, the base fire department, and escorted guests. The number of workers at the hangar varies depending on the type of aircraft maintenance being performed. Although the potential exists for soil exposure to workers at the hangar, direct contact by workers with soil is not anticipated. There are no residents at the hangar. The closest residential area is 3,178 feet north of the hangar. Population details of the residential areas within a 4-mile radius are discussed in Section 3.1.3.3.1.

There are no daycare facilities or schools within a 200-foot radius of Hangar 750. The closest school is Sea Park Elementary School, located approximately 3.3 miles south/southeast. The closest daycare is the Child Development Center located on base, approximately 1.7 miles south/southeast of the hangar (EDR, 2015b).

3.1.4 Hangar 751

3.1.4.1 Description and Operational History

Hangar 751 is located in the northern portion of Patrick AFB, south of the intersection of Falcon Avenue and Redstone Road. The hangar is bordered to the north by a parking lot followed by Redstone Road, to the east and west by restricted airfield ramps, and to the south by grassy areas followed by the restricted airfield (Figure 3.2). The geographic coordinates for Hangar 751 are [redacted].

Hangar 751 was constructed in 1945 and is currently equipped with an AFFF fire suppression system. The hangar is supplied 3% AFFF from a 1,200-gallon AST located in the Building

705 Pump House. The pump house is located approximately 430 feet west/northwest of the hangar (Appendix C, Records of Communication). The Building 705 Pump House is further discussed in Section 3.4.4.

AFFF discharged from the fire suppression system drains into the hangar floor drains, which flow via underground piping to a 30,000-gallon USCT where it is contained. The USCT is located in the grassy area directly south of Hangar 750 (Figure 3.2). According to interviews with personnel familiar with the long-term history of the hangar, the contents of the 30,000-gallon USCT have historically been pumped out to the surrounding ground surface above the USCT or occasionally pumped out by a subcontractor using a vacuum truck and disposed of off base.

Available documents do not indicate a release of AFFF to the environment surrounding Hangar 751. Releases at the 30,000-gallon USCT were discussed in Section 3.1.3. According to the Assistant Fire Chief, there have been no releases of AFFF associated with Hangar 751 (Appendix C, Records of Communication). Therefore, the environmental media surrounding Hangar 751 does not appear to have been impacted by PFCs.

Photographic documentation is provided in Appendix A.

3.1.4.2 Waste Characteristics

Not Applicable.

3.1.4.3 Pathway and Environmental Hazard Assessment

Not Applicable.

3.1.4.3.1 *Groundwater Pathway*

Not Applicable.

3.1.4.3.2 *Surface Water Pathway*

Not Applicable.

3.1.4.3.3 *Soil and Air Exposure Pathways*

Not Applicable.

3.1.5 Hangar 985

3.1.5.1 Description and Operational History

Hangar 985 is located in the east central portion of Patrick AFB. The hangar is bordered to the north by a restricted airfield ramp, to the east by Building 988 followed by South Patrick Drive, to the south by a parking lot, and to the west by Hangar 986 (Figure 3.3). The

geographic coordinates for Hangar 985 are [redacted]

Hangar 985 was constructed in 1953 and is currently equipped with an AFFF fire suppression system and four low level turrets charged with AFFF. The hangar is supplied 3% AFFF from an 800-gallon AST located in the hangar mechanical room. There is no containment system associated with Hangar 985. According to interviews with personnel familiar with the long-term history of the hangar, there have been no reported or documented releases of AFFF at Hangar 985 (Appendix C, Records of Communication).

There was no available documentation or evidence of an AFFF release to the environment from Hangar 985. Therefore, the environmental media surrounding Hangar 985 is not likely to be impacted by PFCs.

Photographic documentation is provided in Appendix A.

3.1.5.2 Waste Characteristics

Not Applicable.

3.1.5.3 Pathway and Environmental Hazard Assessment

Not Applicable.

3.1.5.3.1 *Groundwater Pathway*

Not Applicable.

3.1.5.3.2 *Surface Water Pathway*

Not Applicable.

3.1.5.3.3 *Soil and Air Exposure Pathways*

Not Applicable.

3.1.6 Hangar 986

3.1.6.1 Description and Operational History

Hangar 986 is located in the east central portion of Patrick AFB (Figure 1.1). The hangar is bordered to the north by a restricted airfield ramp, to the east by Hangar 985, to the south by a parking lot, and to the west by grassy areas and concrete areas with radar systems (Figure 3.3). The geographic coordinates for Hangar 986 are [redacted]

Hangar 986 was constructed in 1953 and is currently equipped with a deluge fire suppression system. According to the Assistant Fire Chief, the hangar has always been equipped with a deluge fire suppression system and has never been equipped with an AFFF fire suppression system. Interviews with personnel familiar with the long-term history of the hangar indicated that there have been no reported or documented releases of AFFF at Hangar 986 (Appendix C, Records of Communication).

Hangar 986 has never been equipped with an AFFF fire suppression system and there are no reported or documented releases of AFFF. Therefore, the environmental media surrounding Hangar 986 is not likely to have been impacted by PFCs.

Photographic documentation is provided in Appendix A.

3.1.6.2 Waste Characteristics

Not Applicable.

3.1.6.3 Pathway and Environmental Hazard Assessment

Not Applicable.

3.1.6.3.1 *Groundwater Pathway*

Not Applicable.

3.1.6.3.2 *Surface Water Pathway*

Not Applicable.

3.1.6.3.3 *Soil and Air Exposure Pathways*

Not Applicable.

3.2 FIRE STATIONS

3.2.1 Fire Station (Building 810)

3.2.1.1 Description and Operational History

The Patrick AFB Fire Station is identified as Building 810 and is located in the northwestern portion of Patrick AFB. The fire station is bordered to the north by a grassy area followed by a parking lot and the 800 airfield ramp, to the east by a parking lot followed by South Patrick Drive, to the south by a restricted airfield ramp followed by a grassy area with storm sewer open drainage systems, and to the west by restricted airfield and Taxiway A (Figure 3.4). The geographic coordinates for the fire station are [redacted].

Photographic documentation is provided in Appendix A.

3.2.1.2 Waste Characteristics

The fire station houses two fire engines (Fire Engine 9 and Fire Engine 4), two crash trucks (Crash Truck 6 and Crash Truck 5), and a foam trailer. The two fire engines have a foam capacity of 55 gallons each, Crash Truck 6 and Crash Truck 5 have foam capacities of 210 gallons and 500 gallons respectively, and the foam trailer has a foam capacity of 2,000 gallons. The crash trucks and fire engines are refilled at the fire station with AFFF that is stored at Building 984. According to the Assistant Fire Chief, there have been no releases of AFFF from the vehicles housed at the fire station including during refilling operations.

Time and distance testing is more commonly known as operational checks by the Patrick AFB Fire Department. Operational checks and flushing out of hoses with residual AFFF has been historically performed with the use of AFFF at the 800 airfield ramp and the grassy areas surrounding the fire station. The operational checks are performed daily and flushing out residual AFFF from hoses is conducted after a response requiring the use of AFFF. Releases of AFFF at the 800 ramp area would have likely evaporated or drained into the surrounding grassy areas, where AFFF would have infiltrated the ground surface. The Assistant Fire Chief indicated that during operational checks at the fire station, AFFF was released to the grassy areas northwest of the fire station near Building 804, to the grassy area west of Taxiway A, and south of the fire station. Releases of AFFF to these grassy areas would likely have infiltrated the ground surface. The Assistant Fire Chief was not aware of the volume of AFFF released during operational checks and the flushing out of hoses. As of 1999/2000, operational checks are no longer performed with the use of AFFF, but instead use only water at Taxiway Juliet (Appendix C, Records of Communication).

In October 2013, SES performed an investigation to identify potential PFC usage areas and to select locations for further evaluation. The fire station (Building 810) was identified as a location for further investigation based on the storage of AFFF near Building 804 and releases of AFFF to the grassy areas south of the fire station during operational checks. According to the site investigation, 5-gallon containers and 55-gallon drums of AFFF concentrated foaming agent were observed stacked on the grass around the storage building [redacted] west of the fire station. In addition, the grassy area south of the fire station had reportedly been used as a discharge area for fluids potentially containing AFFF residue from cleaning firefighting equipment (SES, 2014).

On April 30, 2014, one surface soil sample, two subsurface soil samples, and two groundwater samples were collected from the grassy area around the storage building. In addition, one surface soil sample, two subsurface soil samples, and two groundwater samples were collected in the grassy area south of the fire station. Groundwater analytical results indicated that PFOA and PFOS were detected in all four groundwater samples. The PFOA and PFOS detections in all four groundwater samples were reported above the corresponding EPA PHA value of 0.4 μg/L and 0.2 μg/L, respectively. The soil analytical results for the two surface soil samples and four subsurface soil samples indicated that PFOA and PFOS were detected in all of the soil samples. The PFOA and PFOS detections were reported below their

respective EPA RSSLs of 16,000 µg/kg and 6,000 µg/kg for all collected soil samples (SES, 2014).

The SES investigation confirmed the presence of PFC in the environmental media surrounding the fire station (Building 810), specifically the grassy area surrounding Building 804 and the grassy area south of the fire station.

3.2.1.3 Pathway and Environmental Hazard Assessment

A complete exposure pathway typically includes the following components: 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).

3.2.1.3.1 *Groundwater Pathway*

The basewide geologic and hydrogeologic settings are provided in Section 1.3. According to the SES investigation, groundwater in the general area of the fire station was detected at depths ranging from 3 to 4 feet bgs. Groundwater is assumed to follow the basewide shallow groundwater flow westward toward the Banana River, approximately 4,432 feet west. The SES investigation confirmed the presence of PFCs in the shallow groundwater underlying the areas south of the fire station and surrounding Building 804.

Patrick AFB and surrounding off-base communities receive drinking water from the City of Cocoa, which acquires water from groundwater in the Floridan aquifer, ASR wells, and surface water as discussed in Section 1.3.2. The closest PWS well is located 4.8 miles southwest of the fire station. The PWS well is part of the FL3050985 Palm Shores RV Park well system, a non-community public water system that serves a population of 25 residents (EDR, 2015a).

The combined on- and off-base population within a 4-mile radius from the fire station is approximately 16,357 (EDR, 2015b). The closest residential area is an on-base residential campground located approximately 3,791 feet west/southwest of the fire station.

3.2.1.3.2 *Surface Water Pathway*

There are no natural drainage features at Patrick AFB as discussed in Section 1.3.3. Surface water runoff at Patrick AFB either infiltrates the ground surface or is controlled by a series of drainage channels, manmade ditches, culverts, and canals. Drainage from the fire station flows west/northwest similar to the shallow groundwater in the vicinity of the fire station and infiltrates the surrounding grassy area or drains into storm sewer open drainage areas that discharge to the grassy area south of the fire station.

The fire station is not located within a flood plain and there are no surface water intakes or downstream fisheries adjacent to the surface water migration path downstream of the fire station (EDR, 2015c).

3.2.1.3.3 *Soil and Air Exposure Pathways*

The SES investigation confirmed the presence of PFCs in the soil surrounding the fire station. The Patrick AFB fire station is an active station located in the northeastern restricted area of the airfield and is accessible to authorized military personnel, the base fire department, and escorted guests. The number of workers at the fire station varies depending on the work shift. Although the potential exists for soil exposure to workers at the fire station, direct contact by workers with soil is not anticipated. Landscape workers who perform mowing at the area south of the fire station could potentially be exposed to soil through the emission of soil contaminants into the air as dust particles while mowing. There are no residents at the fire station. The closest residential area is 3,791 feet west of the fire station. Population details of the residential areas within a 4-mile radius are discussed in Section 3.2.1.3.1.

There are no daycare facilities or schools within a 200-foot radius of the fire station. The closest school is Sea Park Elementary School, located approximately 2.5 miles south of the fire station. The closest daycare is the Child Development Center located on base, approximately 4,714 feet south/southeast of the fire station (EDR, 2015b).

3.3 EMERGENCY RESPONSE

No emergency response or crash locations were identified at Patrick AFB during this PA.

3.4 OTHER SPILLS AND RELEASES

3.4.1 Fire Truck Rollover Area

3.4.1.1 Description and Operational History

According to the Assistant Fire Chief, a fire truck rolled over in 1997 within the Patrick AFB restricted airfield. The fire truck was turning onto Taxiway B from Taxiway E and rolled over releasing AFFF to the taxiway and surrounding grassy areas. The rollover area is bordered to the north, east, and south by taxiways and to the west by a grassy area (Figure 3.5). The approximate geographic coordinates for the incident are [redacted].

The rollover area was not accessible during the PA visit and no photographs were taken.

3.4.1.2 Waste Characteristics

In 1997, AFFF was released to the taxiway and most likely drained into the surrounding grassy areas. The AFFF would have evaporated on the taxiway or infiltrated the ground surface in the surrounding grassy areas. The Assistant Fire Chief was not aware of the fire truck foam capacity or the amount of AFFF released (Appendix C, Records of

Communication). The presence of PFCs at the grassy areas surrounding the rollover area is likely.

3.4.1.3 Pathway and Environmental Hazard Assessment

A complete exposure pathway typically includes the following components: 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).

3.4.1.3.1 *Groundwater Pathway*

The basewide geologic and hydrogeologic settings are provided in Section 1.3. Groundwater at the rollover area is assumed to follow the basewide shallow groundwater flow westward toward the Banana River. The Banana River is located approximately 3,071 feet west of the rollover area. The potential presence of PFCs in groundwater exists based on the potential for AFFF to have infiltrated the ground surface surrounding the rollover area.

Patrick AFB and surrounding off-base communities receive drinking water from the City of Cocoa, which acquires water from groundwater in the Floridan aquifer, ASR wells, and surface water as discussed in Section 1.3.2. The closest PWS well is located 4.5 miles southwest of the rollover area. The PWS well is part of the FL3050985 Palm Shores RV Park well system, a non-community public water system that serves a population of 25 residents (EDR, 2015a).

The combined on- and off-base population within a 4-mile radius from the rollover area is approximately 18,099 (EDR, 2015b). The closest residential area is an on-base residential campground located approximately 2,500 feet west/southwest.

3.4.1.3.2 *Surface Water Pathway*

There are no natural drainage features at Patrick AFB as discussed in Section 1.3.3. Surface water runoff at Patrick AFB either infiltrates the ground surface or is controlled by a series of drainage channels, manmade ditches, culverts, and canals. Drainage from the rollover area flows to the surrounding grassy areas and infiltrates the ground surface or travels over land surface and discharges to the storm sewer open drainage located approximately 210 feet southeast of the rollover area. Drainage that reaches the storm sewer open drainage will likely infiltrate the ground surface.

The rollover area is not located within a flood plain and there are no surface water intakes or downstream fisheries adjacent to the surface water migration path downstream of the rollover area (EDR, 2015c).

3.4.1.3.3 *Soil and Air Exposure Pathways*

The fire truck rollover occurred on an active taxiway within the restricted airfield. The rollover area is accessible to authorized military personnel, the base fire department, and escorted guests. There are no workers or residents located at the rollover area. The potential exists for soil exposure to burrowing animals. The closest residential area is 2,500 feet west of the rollover area. Population details of the residential areas within a 4-mile radius are discussed in Section 3.4.1.3.1.

There are no daycare facilities or schools within a 200-foot radius of the rollover area. The closest school is Sea Park Elementary School, located approximately 2.3 miles south of the rollover area. The closest daycare is the Child Development Center located on base, approximately 3,645 feet southeast of the rollover area (EDR, 2015b).

3.4.2 Outfall 21 to Banana River

3.4.2.1 Description and Operational History

Outfall 21 is located along the western boundary of Patrick AFB, approximately 440 feet west/northwest of Hangar 630 (Figure 1.1). The outfall is part of the drainage system at Patrick AFB and is potentially influenced by drainage from Hangars 630 and 647. Historical discharges of AFFF from the fire suppression systems at theses hangars flowed out of the hangars doors to the grassy areas and storm sewer inlets north of the hangars. The storm sewer pipelines release to the environment at the drainage canal through Outfall 21 (Figure 3.6). The geographic coordinates for the outfall are [redacted].

Photographic documentation is provided in Appendix A.

3.4.2.2 Waste Characteristics

Surface water runoff at Patrick AFB either infiltrates the ground surface or is controlled by a series of drainage channels, manmade ditches, culverts, and canals. These structures form a drainage system at Patrick AFB that moves surface water westward to discharge points along the Banana River (SES, 2014). As discussed in Sections 3.1.1 and 3.1.2, AFFF released from the hangar doors of Hangars 630 and 647 drained into the storm sewer inlets north of the hangar and released to the drainage canal through Outfall 21.

In October 2013, SES performed an investigation to identify potential PFC usage areas and to select locations for further evaluation. Hangar 630 was identified as a location for further investigation based on several accidental releases that occurred from 1998 to 2005. The discharges resulted in AFFF running out the hangar doors to the grassy areas north and south of the hangar. Some fluids reportedly ran across the grass to storm drains leading to the drainage canal.

On April 30, 2014, two surface water and three sediment samples were collected from the drainage canal as part of the investigation (SES, 2014). Analytical results indicated that PFOA and PFOS were detected in both of the surface water samples. The PFOA detections were reported below the EPA PHA value of 0.4 µg/L and the PFOS detections were reported above the EPA PHA value of 0.2 µg/L.

The sediment analytical results indicated that PFOA was detected in all three sediment samples and PFOS was detected in two of the three sediment samples. The PFOA and PFOS detections were reported below the respective EPA RSSLs of 16,000 µg/kg and 6,000 µg/kg. The SES investigation confirmed the presence of PFCs in the environmental media at the drainage canal.

3.4.2.3 Pathway and Environmental Hazard Assessment

A complete exposure pathway typically includes the following components: 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).

3.4.2.3.1 *Groundwater Pathway*

The basewide geologic and hydrogeologic settings are provided in Section 1.3. Groundwater flow at the shallow aquifer near the outfall is to the west toward Banana River. The Banana River is located approximately 690 feet west of the outfall release point.

Patrick AFB and surrounding off-base communities receive drinking water from the City of Cocoa, which acquires water from groundwater in the Floridan aquifer, ASR wells, and surface water as discussed in Section 1.3.2. The closest PWS well is located 4.8 miles southwest of the outfall. The PWS well is part of the FL3050985 Palm Shores RV Park well system, a non-community public water system that serves a population of 25 residents (EDR, 2015a).

The combined on- and off-base population within a 4-mile radius from Outfall 21 is approximately 15,414 (EDR, 2015c). The closest residential area is an on-base residential campground located approximately 3,835 feet south of the outfall.

3.4.2.3.2 *Surface Water Pathway*

There are no natural drainage features at Patrick AFB as discussed in Section 1.3.3. Surface water runoff at Patrick AFB either infiltrates the ground surface or is controlled by a series of drainage channels, manmade ditches, culverts, and canals. The outfall is located in the 100-

year flood zone. The SES investigation confirmed the presence of PFCs in the surface water at the drainage canal.

Surface water released to the drainage canal through Outfall 21 flows 530 feet northwest and is directed west for approximately 220 feet before releasing to the Banana River. The Banana River merges with the Indian River approximately 8.7 miles downstream (south) from the discharge point. The Indian River continues to flow in a northern direction over 15 miles (Geofin, 2015).

The Banana River is identified as a wetland and is classified as E1UBL: (E)-Estuarine, (1)-Subtidal, (UB)-Unconsolidated Bottom, (L)-Subtidal. Multiple wetlands are also identified 15 miles downstream of the outfall along the banks of the Banana River and Indian River (EDR, 2015c). Ingestion of surface water by wildlife at these wetlands is a potential pathway for ecological receptors. These wetlands are identified as an ecologically sensitive environment potentially adjacent to the surface water migration pathway. Additionally, the Banana River and Indian River are known to be used for recreational activities including fishing and boating by residents and nearby communities, providing an exposure pathway to humans through dermal contact and ingestion of fish (Banana River, Florida, n.d.).

There are no other surface water intakes or downstream fisheries adjacent to the surface water migration path downstream of the outfall (EDR, 2015c).

3.4.2.3.3 *Soil and Air Exposure Pathway*

The SES investigation confirmed the presence of PFCs in the sediment of the drainage canal. The outfall is currently active and discharges to a drainage canal. The well-vegetated location would preclude any fugitive dust emissions and potential exposures. The potential exists for soil exposure to burrowing animals along the banks of the drainage canal. There are no residents or workers at the outfall location. The closest residential area is located approximately 3,835 feet south of the outfall. Population details of the residential areas within a 4-mile radius are discussed in Section 3.4.2.3.1.

There are no daycare facilities or schools within a 200-foot radius of the site. The closest school is Sea Park Elementary School, located approximately 3.1 miles south of Outfall 21. The closest daycare is the Child Development Center located on base, approximately 1.6 miles southeast of the outfall (EDR, 2015b).

3.4.3 Northern Sewage Treatment Plant

3.4.3.1 Description and Operational History

The Northern STP is located on the northwestern portion of Patrick AFB. The STP is bordered to the north by Building 312 and grassy areas, to the east by Buildings 653 and 646, to the south by an unnamed access road and a lightly vegetated area, and to the west by the Banana River (Figure 3.7). The geographic coordinates of the Northern STP are [redacted]

The Northern STP was constructed in 1968 and served as the main STP for Patrick AFB before being decommissioned in February and March 1995. The STP treated domestic wastewater from the housing area, shops, barracks, mess hall, and office buildings. Effluent from the STP was discharged to the Banana River prior to being decommissioned. Since 1995, all wastewater generated at Patrick AFB is pumped to the City of Cocoa for treatment and disposal (Parsons, 1996).

Photographic documentation is provided in Appendix A.

3.4.3.2 Waste Characteristics

According to the Northern STP Lift Station Operator, AFFF was observed at the STP in 1994. The AFFF was from a hangar fire suppression system discharge that drained into the hangar floor drains and was then directed to the STP. The lift station operator was not aware of which hangar the discharge originated from or the amount of AFFF released. During high winds AFFF was observed to have been blown out to the surrounding areas of the STP (Appendix C, Records of Communication). The presence of PFCs in the surrounding grassy areas at the Northern STP exists.

3.4.3.3 Pathway and Environmental Hazard Assessment

A complete exposure pathway typically includes the following components: 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).

3.4.3.3.1 *Groundwater Pathway*

The basewide geologic and hydrogeologic settings are provided in Section 1.3. According to historical investigations, groundwater in the vicinity of the Northern STP is encountered at approximately 4 to 7 feet bgs. Groundwater flow in the general area of the Northern STP flows west toward Banana River, located approximately 55 feet to the west. The presence of PFCs in groundwater exists based on the release of AFFF to the surrounding area of the Northern STP.

Patrick AFB and surrounding off-base communities receive drinking water from the City of Cocoa, which acquires water from groundwater in the Floridan aquifer, ASR wells, and surface water as discussed in Section 1.3.2. The closest PWS well is located approximately 5.1 miles southwest of the STP. The PWS well is part of the FL3050985 Palm Shores RV Park well system, a non-community public water system that serves a population of 25 residents (EDR, 2015a).

The combined on- and off-base population within a 4-mile radius from the Northern STP is approximately 15,877 (EDR, 2015c). The closest residential area is located approximately 2,949 feet north of the STP.

3.4.3.3.2 *Surface Water Pathway*

There are no natural drainage features at Patrick AFB as discussed in Section 1.3.3. Surface water runoff at Patrick AFB either infiltrates the ground surface or is controlled by a series of drainage channels, manmade ditches, culverts, and canals. Drainage from the Northern STP drains to the surrounding grassy areas and infiltrates the ground surface or drains over land surface to the Banana River, approximately 55 feet west of the Northern STP.

The Banana River merges with the Indian River approximately 9.1 miles downstream (south) from the discharge point. The Indian River continues to flow in a northern direction over 15 miles (Geofin, 2015).

The Banana River is identified as a wetland and is classified as E1UBL: (E)-Estuarine, (1)-Subtidal, (UB)-Unconsolidated Bottom, (L)-Subtidal. Multiple wetlands are also identified 15 miles downstream of the outfall along the banks of the Banana River and Indian River (EDR, 2015c). Ingestion of surface water by wildlife at these wetlands is a potential pathway for ecological receptors. These wetlands are identified as an ecologically sensitive environment potentially adjacent to the surface water migration pathway. Additionally, the Banana River and Indian River are known to be used for recreational activities including fishing and boating by residents and nearby communities, providing an exposure pathway to humans through dermal contact and ingestion of fish (Banana River, Florida, n.d.). The STP is located in the 100-year flood plain (EDR, 2015c).

There are no surface water intakes or downstream fisheries adjacent to the surface water migration path downstream of the STP (EDR, 2015c).

3.4.3.3.3 *Soil and Air Exposure Pathway*

The Northern STP is an inactive plant that is accessible to military personnel and civilians. There are no permanent workers at the STP; however, on occasion, lift station operators and landscapers are present at the STP. Although the potential exists for soil exposure to these workers, it is not anticipated that the workers will be in direct contact with the soil. The potential exists for soil exposure to burrowing animals. The closest residential area is located approximately 2,949 feet north of the STP. Population details of the residential areas within a 4-mile radius are discussed in Section 3.4.3.3.1.

There are no daycare facilities or schools within a 200-foot radius of the site. The closest school is Sea Park Elementary School, located approximately 3.4 miles south/southeast of the STP. The closest daycare is the Child Development Center located on base, approximately 1.8 miles southeast of the STP (EDR, 2015b).

3.4.4 Building 705 [redacted]

3.4.4.1 Description and Operational History

Building 705, [redacted] is located in the northwestern portion of Patrick AFB, southwest of the intersection of Delta Road and Redstone Road (Figure 3.2). The pump house is situated directly northeast of Hangar 750 and houses the pump system designed for mixing AFFF concentrate for distribution to the fire suppression systems at Hangars 750 and 751. The pump system includes a 1,200-gallon AST containing 3% AFFF. According to the Assistant Fire Chief, the underground piping from the pump house to Hangar 750 was capped at an unknown date. Currently the pump house only supplies AFFF to Hangar 751 (Appendix C, Records of Communication). The geographic coordinates for the pump house are [redacted]

Photographic documentation is provided in Appendix A.

3.4.4.2 Waste Characteristics

According to interviews with base personnel, there have been three releases of AFFF associated with the Building 705 Pump House. These releases include:

- August 2007 – there was a leak identified in the underground piping leading to Hangar 751. An unknown amount of AFFF released to the subsurface.
- 2008/2009 – there was a leak identified in the underground piping leading to Hangar 750. Approximately 800 gallons of AFFF released to the subsurface.
- 2012 – there was an accidental release of AFFF concentrate from the pump system in the pump house. Approximately 5 to 10 gallons released to the floor drains. Drainage into the floor drains would have been pumped to the City of Cocoa's Dyal Water Treatment Plant and released to the Banana River.

The interviewees were not aware of the exact locations of the releases in the underground piping leading to Hangars 750 and 751; however, they did indicate that the piping section where AFFF was released was replaced (Appendix C, Records of Communication).

In October 2013, SES performed an investigation to identify potential PFC usage areas and to select locations for further evaluation. Building 705 [redacted] was identified as a location for further investigation based on a release of AFFF that occurred in 2011. The release occurred during excavation activities in the general area of the pump house where a contractor accidently broke the underground AFFF pipeline between the pump house and Hangar 751. Approximately 800 to 1,000 gallons of AFFF concentrate was released to the environment. The exact location of the pipeline release was never identified and the entire pipeline was replaced.

On April 30, 2014, four groundwater samples and six soil samples (2 surface and 4 subsurface) were collected from the grassy area surrounding the pump house and the suspected area where the AFFF pipeline had broken. Groundwater analytical results detected PFOA and PFOS in all of the collected groundwater samples. The detected concentrations of PFOA and

PFOS were reported above the corresponding EPA PHA values of 0.4 µg/L and 0.2 µg/L. Soil analytical results indicated that PFOA and PFOS was detected in five of the six soil samples collected. The detected concentration of PFOA and PFOS were reported below their respective EPA RSSLs of 16,000 µg/kg and 6,000 µg/kg (SES, 2014).

The SES investigation confirmed the presence of PFCs in the environmental media surrounding Building 705.

3.4.4.3 Pathway and Environmental Hazard Assessment

A complete exposure pathway typically includes the following components: 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).

3.4.4.3.1 *Groundwater Pathway*

The basewide geologic and hydrogeologic settings are provided in Section 1.3. Groundwater in the area of the pump house was detected at depths ranging from 4 to 5 feet bgs (SES, 2014). Groundwater flow is assumed to follow the basewide shallow groundwater flow westward toward the Banana River, approximately 1,097 feet west. The SES investigation confirmed the presence of PFCs in the shallow groundwater underlying the area surrounding Building 705 and its associated pipelines.

Patrick AFB and surrounding off-base communities receive drinking water from the City of Cocoa, which acquires water from groundwater in the Floridan aquifer, ASR wells, and surface water as discussed in Section 1.3.2. The closest PWS well is located 5.1 miles southwest of the pump house. The PWS well is part of the FL3050985 Palm Shores RV Park well system, a non-community public water system that serves a population of 25 residents (EDR, 2015a).

The combined on- and off-base population within a 4-mile radius from the pump house is approximately 17,124 (EDR, 2015c). The closest residential area is located approximately 3,070 feet north of the pump house.

3.4.4.3.2 *Surface Water Pathway*

There are no natural drainage features at Patrick AFB as discussed in Section 1.3.3. Surface water runoff at Patrick AFB either infiltrates the ground surface or is controlled by a series of drainage channels, manmade ditches, culverts, and canals. Drainage from the pump house drains into the surrounding grassy areas and infiltrates the ground surface or into storm sewer inlets that release to the Banana River through storm sewer pipelines. However, discharges of

AFFF from Building 705 occurred in the subsurface and would have likely migrated into the shallow groundwater than follow the surface drainage into the grassy areas or storm sewer inlets.

Building 705 is not located within a flood plain and there are no surface water intakes or downstream fisheries adjacent to the surface water migration path downstream of the pump house (EDR, 2015c).

3.4.4.3.3 *Soil and Air Exposure Pathway*

The SES investigation confirmed the presence of PFCs in soil at the pump house. Building 705 is an [redacted] that is accessible to military personnel and civilians. There are no permanent workers at the pump house but workers do visit for occasional maintenance on the pump system. Although the potential exists for soil exposure to the occasional workers who visit the pump system, direct contact by workers with soil is not anticipated. There are no residents at the pump house. The closest residential area is 3,070 feet north of Building 705. Population details of the residential areas within a 4-mile radius are discussed in Section 3.4.4.3.1.

There are no daycare facilities or schools within a 200-foot radius of the pump house. The closest school is Sea Park Elementary School, located approximately 3.3 miles south/southeast of the pump house. The closest daycare is the Child Development Center located on base, approximately 1.7 miles south/southeast of the pump house (EDR, 2015b).

3.4.5 Building 984

3.4.5.1 Description and Operational History

Building 984 is located in the east central portion of Patrick AFB (Figure 1.1). The building is located directly east of West Tech Road and is surrounded by parking lots (Figure 3.8). The geographic coordinates for Building 984 are [redacted]

According to the Assistant Fire Chief, approximately twenty-five 55-gallon drums of 3% AFFF are stored at Building 984. The stored AFFF is used to refill fire engines and crash trucks at the fire station [redacted] There have been no reported or documented releases of AFFF at the storage area of Building 984. Therefore, the environmental media surrounding Building 984 would not be impacted by PFCs.

Photographic documentation is provided in Appendix A.

3.4.5.2 Waste Characteristics

Not Applicable.

3.4.5.3 Pathway and Environmental Hazard Assessment

Not Applicable.

3.4.5.3.1 *Groundwater Pathway*

Not Applicable.

3.4.5.3.2 *Surface Water Pathway*

Not Applicable.

3.4.5.3.3 *Soil and Air Exposure Pathways*

Not Applicable.

3.4.6 Building 676 – [redacted]

3.4.6.1 Description and Operational History

Building 676 is located in the northwestern portion of Patrick AFB, east of Outfall 21 (Figure 1.1 and Figure 3.9). The building [redacted] was initially equipped with a wet pipe fire suppression system. In January 2012, the fire suppression system was retrofitted to include an AFFF fire suppression system. A 200-gallon AST located in the mechanical room supplies the building with 3% AFFF. The geographic coordinates for Building 676 are [redacted].

According to the Fire Systems POC, there have been no reported or document releases of AFFF at the building. Therefore, the presence of PFCs in the environmental media surrounding Building 676 is not likely.

3.4.6.2 Waste Characteristics

Not Applicable.

3.4.6.3 Pathway and Environmental Hazard Assessment

Not Applicable.

3.4.6.3.1 *Groundwater Pathway*

Not Applicable.

3.4.6.3.2 *Surface Water Pathway*

Not Applicable.

3.4.6.3.3 *Soil and Air Exposure Pathways*

Not Applicable.

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FIGURES

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Figure 3.1
Hangars 630 and 647
Patrick Air Force Base
Brevard County, Florida

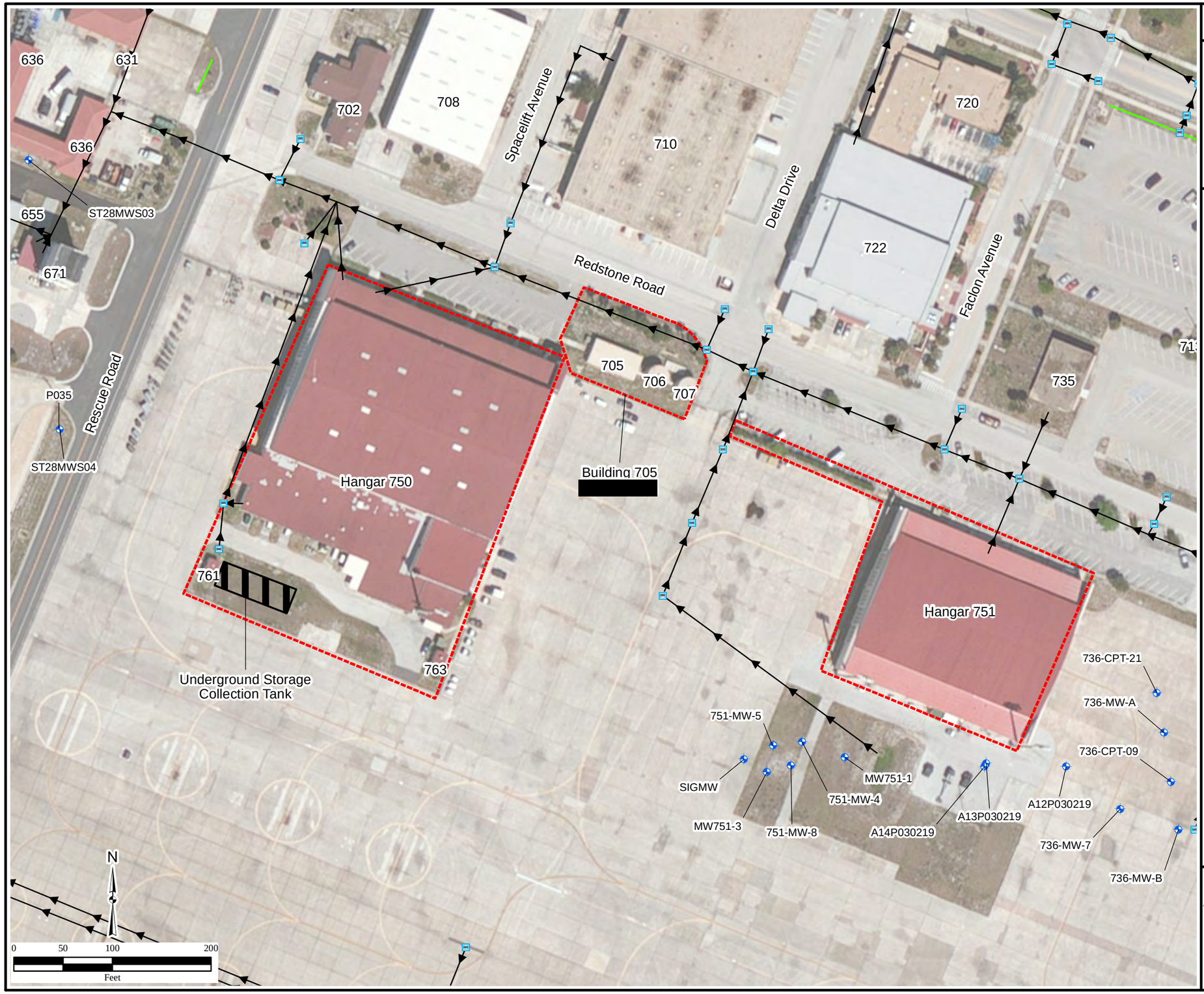
Legend

- Monitoring Well
- Storm Sewer Inlet
- Storm Sewer Pipeline
- Storm Sewer Culvert
- Storm Sewer Open Drainage
- 624 — Building Number
- Underground Storage Collection Tank
- Inferred Location Boundary

\\gst-srv-01\HGLGIS\PA_Sites\Patrick_AFB\PA_Report
(3-01)Hangar_630_647.mxd
7/31/2015 SS
Source: HGL, Patrick AFB
NAIP Online Imagery

HGL HydroGeoLogic, Inc.

Figure 3.2
Hangar 750, Hangar 751, and Building 705-[redacted]
Patrick Air Force Base
Brevard County, Florida



Legend

- Monitoring Well
- Storm Sewer Inlet
- Storm Sewer Pipeline
- Storm Sewer Open Drainage
- 708 — Building Number
- Underground Storage Collection Tank
- Inferred Location Boundary

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(3-02)Hangar_750_751_Building_705_PH.mxd
7/31/2015 SS
Source: HGL, Patrick AFB
Esri World Imagery

HGL HydroGeoLogic, Inc.

Figure 3.3
Hangar 985
Patrick Air Force Base
Brevard County, Florida

Legend

- Storm Sewer Inlet
- Storm Sewer Pipeline
- Storm Sewer Open Drainage
- 945 — Building Number
- Inferred Location Boundary
- Installation Boundary

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(3-03)Hangar_985.mxd
7/31/2015 SS
Source: HGL, Patrick AFB
ArcGIS Online Imagery

HGL HydroGeoLogic, Inc

Figure 3.4
Fire Station (Building 810)
Patrick Air Force Base
Brevard County, Florida

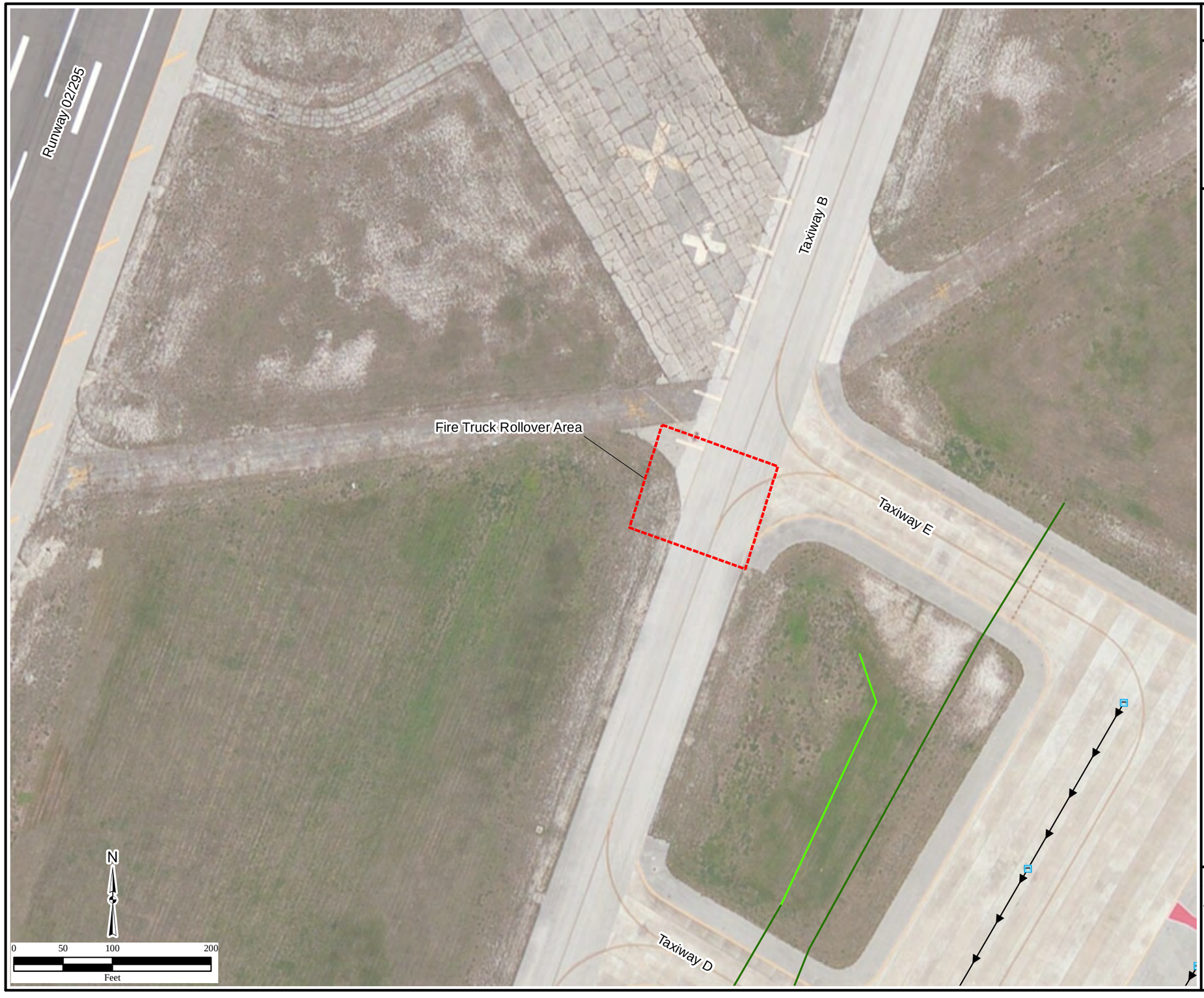
Legend

- Storm Sewer Inlet
- Storm Sewer Pipeline
- Storm Sewer Open Drainage
- 804 — Building Number
- Inferred Location Boundary
- Installation Boundary

\\gst-srv-01\HGLGIS\PA_Sites\Patrick_AFB\PA_Report
(3-04)Fire_Station_(Building_810).mxd
7/31/2015 SS
Source: HGL, Patrick AFB
ArcGIS Online Imagery

HGL HydroGeoLogic, Inc

Figure 3.5
Fire Truck Rollover Area
Patrick Air Force Base
Brevard County, Florida



Legend

- Storm Sewer Inlet
- Storm Sewer Pipeline
- Storm Sewer Culvert
- Storm Sewer Open Drainage
- Inferred Location Boundary

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(3-05)Fire_Truck_Rollover_Area.mxd
7/31/2015 SS
Source: HGL, Patrick AFB
ArcGIS Online Imagery

HGL HydroGeoLogic, Inc

Figure 3.6
Outfall 21 to Banana River
Patrick Air Force Base
Brevard County, Florida

Legend

- Monitoring Well
- Storm Sewer Inlet
- Storm Sewer Pipeline
- Storm Sewer Culvert
- Storm Sewer Open Drainage
- 688 — Building Number
- Inferred Location Boundary
- Installation Boundary

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7/31/2015 SS
Source: HGL, Patrick AFB
ArcGIS Online Imagery

HGL HydroGeoLogic, Inc

Figure 3.7
Northern Sewage Treatment Plant
Patrick Air Force Base
Brevard County, Florida

Legend

- Monitoring Well
- Storm Sewer Inlet
- Storm Sewer Pipeline
- Storm Sewer Culvert
- Storm Sewer Open Drainage
- 653 — Building Number
- Inferred Location Boundary
- Installation Boundary

\\gst-srv-01\HGLGIS\PA_Sites\Patrick_AFB\PA_Report
(3-07)Northern_Sewage_Treatment_Plant.mxd
7/31/2015 SS
Source: HGL, Patrick AFB
ArcGIS Online Imagery

HGL HydroGeoLogic, Inc.

Figure 3.8
Building 984
Patrick Air Force Base
Brevard County, Florida

Legend

- Storm Sewer Inlet
- Storm Sewer Pipeline
- Storm Sewer Culvert
- Storm Sewer Open Drainage
- Surface Water
- 984 Building Number
- Inferred Location Boundary
- Installation Boundary

\\Gst-srv-01\HGLGIS\PA_Sites\Patrick_AFB\PA_Report
(3-08)Building_984.mxd
9/17/2015 SS
Source: HGL, Patrick AFB
ArcGIS Online Imagery

HGL HydroGeoLogic, Inc

Figure 3.9
Building 676
[redacted]
Patrick Air Force Base
Brevard County, Florida

Legend

- Storm Sewer Inlet
- Storm Sewer Pipeline
- Storm Sewer Culvert
- Storm Sewer Open Drainage
- Surface Water
- 984 Building Number
- Inferred Location Boundary
- Installation Boundary

\\Gst-srv-01\HGLGIS\PA_Sites\Patrick_AFB\PA_Report
(3-09)Building_676.mxd
9/17/2015 SS
Source: HGL, Patrick AFB
ArcGIS Online Imagery

HGL HydroGeoLogic, Inc

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4.0 SUMMARY AND CONCLUSIONS

4.1 SUMMARY

4.1.1 Fire Training Areas

4.1.1.1 Fire Training Areas Closed Prior to 1970

FTAs that were closed prior to 1970 did not utilize AFFF and could not have been impacted by PFOA or PFOS from AFFF use. FTA 1 operated from 1950 to 1963, prior to the use of AFFF by the Air Force. Therefore, the environmental media surrounding FTA 1 could not have been impacted by PFCs.

4.1.1.2 Fire Training Areas Operational After 1970

Fire training activities were conducted at Former FTA 2 from 1963 to 1985 at an unlined burn pit associated with the FTA. Although the Assistant Fire Chief was not aware of fire training activities performed at the FTA, the potential exists for AFFF being used to extinguish fires between the years of 1970 through 1978.

The potential presence of PFCs in the environmental media at the burn pit is likely.

4.1.2 Non-Fire Training Areas

4.1.2.1 Hangars

Hangars 630, 647, 750, 751, and 985 are hangars that are currently equipped or have been equipped with AFFF fire suppression systems. There have been multiple releases of AFFF from Hangars 630, 647, 750, and 751 to the grassy areas surrounding the hangars, as discussed in their respective sections above. The SES investigation confirmed the presence of PFCs in the environmental media at Hangars 630, 647, and 750.

Although Hangar 751 is equipped with an AFFF fire suppression system and there have been reported releases of AFFF, a 30,000-gallon USCT located near Hangar 750 contained the releases. There are no reported or documented releases of AFFF to the area surrounding Hangar 751. Therefore, it is not likely that the environmental media surrounding Hangar 751 would have been impacted by PFCs.

Hangar 750 was initially equipped with a wet fire sprinkler system and in 1999 was retrofitted with an AFFF fire suppression system. The hangar operated with an AFFF fire suppression system until 2006 when it was retrofitted with an HEF fire suppression system. A 30,000-gallon USCT contained AFFF releases from the hangar; however, in 2001, an AFFF release was not fully captured by the USCT. Surface flow of AFFF on the ground surface over the USCT area was reported. The SES investigation confirmed the presence of PFCs in the environmental media surrounding the USCT at Hangar 750.

Hangar 985 is equipped with an AFFF fire suppression system; however, according to the Assistant Fire Chief, there have been no reported or documented releases of AFFF at the hangar. Therefore, it is not likely that the environmental media surrounding Hangar 985 would have been impacted by PFCs.

Hangar 986 is equipped with a deluge fire suppression system and has never been equipped with an AFFF fire suppression system. There have been no reported or document releases of AFFF at Hangar 986. Therefore, it is not likely that the environmental media surrounding the hangar would have been impacted by PFCs.

4.1.2.2 Fire Stations

Fire Station (Building 810) is the only fire station located at Patrick AFB. The grassy areas surrounding the fire station (Building 810) were historically used to perform operational checks by the Patrick AFB Fire Department. In addition, residual AFFF was flushed out of hoses at these grassy areas. The SES investigation confirmed the presence of PFCs in the soil and groundwater at the grassy areas north and south of the fire station.

4.1.2.3 Emergency Response

No emergency response or crash locations were identified within Patrick AFB during this PA.

4.1.2.4 Other Spills or Releases

As a result of a fire truck rollover, AFFF was released to the taxiway and most likely drained into the surrounding grassy areas. The AFFF would have evaporated on the taxiway and infiltrated the ground surface in the surrounding grassy areas. The potential presence of PFCs exists in the grassy areas surrounding the rollover area.

Outfall 21 is part of the drainage system at Patrick AFB and receives surface water drainage from Hangars 630 and 647. AFFF released from the hangar doors of Hangar 630 and 647 drained into the storm sewer inlets north of the hangars and released to the drainage canal through Outfall 21. The SES investigation confirmed the presence of PFCs in the surface water and sediment of the drainage canal at Outfall 21.

The Northern STP treated domestic wastewater from the housing area, shops, barracks, mess hall, and office buildings at Patrick AFB. In 1994, AFFF originating from a hangar release drained into the hangar floor drains and was directed to the STP. The STP lift station operator indicated that during high winds AFFF was blown from the STP out to the grassy areas surrounding the STP. The potential exists for the presence of PFCs in the grassy areas surrounding the Northern STP.

Building 705 [redacted] historically supplied AFFF to Hangar 750 and currently supplies AFFF to Hangar 751. There have been multiple releases of AFFF from the underground pipelines leading to the hangars, including the pump system located in Building 705 as

discussed in Section 3.4.4. The SES investigation confirmed the presence of PFCs in the environmental media (soil and groundwater) surrounding Building 705 [redacted].

Building 984 is used for storage of AFFF. According to the Assistant Fire Chief, approximately twenty-five 55-gallon drums of AFFF are stored in the building. There have been no reported or documented releases of AFFF at the storage area of Building 984. Therefore, it is not likely that the environmental media surrounding the building has been impacted by PFCs.

Building 676 [redacted] was equipped with an AFFF fire suppression system in January 2012. There are no reported or documented releases of AFFF at the building. Therefore, it is not likely that the environmental media surrounding the building have been impacted by PFCs.

4.2 CONCLUSIONS

Table 4.1 summarizes the findings from this PA report and presents possible future management decisions. The identified locations are categorized by "group" in Table 4.1 as follows:

- Group 1 – High mass of AFFF released and probability of groundwater contamination.
- Group 2 – Unknown mass or medium mass of AFFF released.
- Group 3 – Low mass of AFFF released.
- Group 4 – No AFFF released.

Based on the "group" designation and rationale for each location, recommendations are provided in Table 4.1. In accordance with the EPA CERCLA Preliminary Assessment and Site Inspections Guidance documents, each of the identified locations are either recommended for implement removal action due to imminent threat; close out of the location due to no release; initiate a Remedial Investigation; 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 due to a release or threatened release of hazardous substances (EPA, 1991).
- Close out or no further remedial action planned is defined as a disposition decision that further response under the Federal Superfund is not necessary (EPA, 1991).
- Remedial Investigation is defined as a field investigation to characterize the nature and extent of contamination at a release location. The Remedial Investigation supports development, evaluation, and selection of the appropriate response alternative (EPA, 1991).
- Site Inspection is defined as an investigation to collect and analyze waste and environmental samples to support an evaluation of an identified or potential contaminant release location (EPA, 1992).

Table 4.1
Preliminary Assessment Report Summary and Findings

Locations	Group	Rationale	Recommendation
Former Fire Training Area 1	4	• Operational period from 1950 to 1963. • Operational timeframe predates the use of AFFF by the Air Force in 1970.	
Former Fire Training Area 2	1	• Operational period from 1963 to 1985. • From 1970 to 1978, AFFF may have been used to extinguish fires at the burn pit during fire training activities. • Unknown amount of AFFF released at burn pit.	Initiate a Site Inspection
Hangar 630	3	• Equipped with an AFFF fire suppression system. • Supplied AFFF from 800-gallon AST with 3% AFFF. • AFFF released outside of the hangar doors and into the grassy areas north and south of the hangar. • Unknown amount of AFFF released to the grassy areas of the hangar. • The SES Investigation confirmed the presence of PFCs (PFOA and PFOS) in soil and groundwater at the grassy areas north and south of the hangar.	Initiate a Site Inspection
Hangar 647	3	• Equipped with an AFFF fire suppression system. • Supplied AFFF from 2,000-gallon AST with 3% AFFF. • AFFF released out of the hangar doors and into the grassy area • Unknown amount of AFFF released to the grassy areas of the hangar. • The SES investigation confirmed the presence of PFCs (PFOA and PFOS) in soil and groundwater at the grassy areas north and south of the hangar.	Initiate a Site Inspection
Hangar 750	3	• From 1999 to 2006, the fire suppression system was equipped with AFFF fire suppression system. • Supplied AFFF from 1,200-gallon AST with 3% AFFF in Building 705. • 2001 AFFF released from hangar fire suppression system and mostly contained by 30,000-gallon USCT. • AFFF observed in grassy area surrounding USCT. • The SES investigation confirmed the presence of PFCs (PFOA and PFOS) in soil and groundwater at the grassy areas surrounding the USCT.	Initiate a Site Inspection
Hangar 751	4	• Equipped with an AFFF fire suppression system. • Releases of AFFF contained in 30,000-gallon USCT. • 1,200-gallon AST charged with 3% AFFF housed at Building 705 [redacted] • No reported or documented release of AFFF to the environment surrounding the hangar.	Close-out with no additional investigation.

Table 4.1 (Continued)
Preliminary Assessment Report Summary and Findings

Locations	Group	Rationale	Recommendation
Hangar 985	4	• Currently equipped with AFFF fire suppression system. • Supplied AFFF from 800-gallon AST with 3% AFFF located in mechanical room. • No reported or documented releases of AFFF at the hangar.	Close-out with no additional investigation.
Hangar 986	4	• Currently equipped with a deluge fire suppression system • According to Assistant Fire Chief, hangar has never been equipped with an AFFF fire suppression system. • According to multiple interviewees, there have never been any reported or documented releases of AFFF.	Close-out with no additional investigation.
Fire Station (Building 810)	2	• Operational checks and flushing out hoses with residual AFFF conducted at the grassy areas east, south and west of the Fire Station. • Unknown amount of AFFF released during operational checks and flushing out of hoses. • The SES investigation confirmed the presence of PFCs (PFOA and PFOS) in soil and groundwater at the grassy areas where operational checks were performed.	Initiate a Site Inspection
Fire Truck Rollover	2	• In1997, a fire truck rolled over on Taxiway B at the Patrick AFB airfield. • According to Assistant Fire Chief, AFFF released from the fire truck. • Unknown amount of AFFF released to taxiway and potentially flowed into the surrounding grassy areas.	Initiate a Site Inspection
Outfall 21 to Banana River	3	• Releases of AFFF through the hangar doors of Hangar 630 and 647 drained into the storm sewer inlets and discharged to drainage canal through Outfall 21. • The SES investigation confirmed the presence of PFCs (PFOA and PFOS) in surface water and sediment sampled from drainage canal.	Initiate a Site Inspection
North Sewage Treatment Plant	3	• In 1994, AFFF released at an unknown hangar drained into hangar floor drains and drainage was directed to the Northern STP. • During high winds, AFFF was observed to have been blown onto the surrounding ground surface at the Northern STP. • Unknown amount of AFFF released to the ground surface.	Initiate a Site Inspection

Table 4.1 (Continued)
Preliminary Assessment Report Summary and Findings

Locations	Group	Rationale	Recommendation
Building 705 [redacted]	1	• In August 2007, AFFF released from underground pipeline leading to Hangar 751. Unknown amount of AFFF released. • In 2008/2009, AFFF released from underground pipeline leading to Hangar 750. Unknown amount of AFFF released. • In, 2011 AFFF released from pipeline leading to Hangar 751 that was accidently broken. Approximately 800 to 1,000 gallons released. • The SES investigation confirmed the presence of PFCs (PFOA and PFOS) in groundwater and soils at areas surrounding Building 705.	Initiate a Site Inspection
Building 984	4	• Stores approximately twenty-five 55-gallons drums of 3% AFFF. • No reported or documented releases of AFFF at storage area at Building 984.	Close-out of building with no additional investigation.
Building 676 – [redacted]	4	• In January 2012, building retrofitted from wet pipe fire suppression system to AFFF fire suppression system. • Supplied AFFF from 200-gallon AST with 3% AFFF located in mechanical room. • No reported or documented releases of AFFF at storage area at Building 676	Close-out with no additional investigation.

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APPENDIX A

PHOTO DOCUMENTATION

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Photo 1: View of Building 676 [redacted] facing west.

Photo 2: View of AFFF piping at the Building 676.

Photo 3: View of 200 gallon AST charge with 3% AFFF.

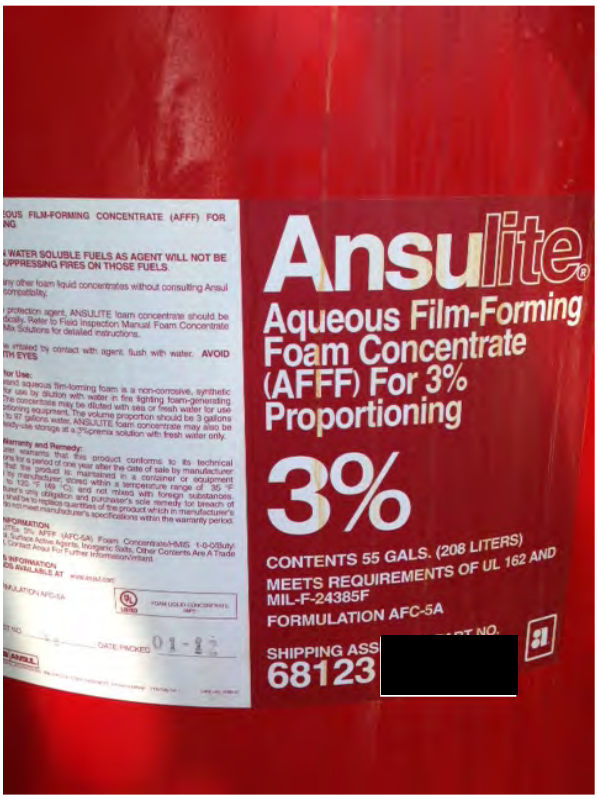

Photo 4: View of AFFF label on the AST.

Photo 1: View of Building 705.

Photo 2: View of 1,200 gallon AFFF tank at Building 705 that supplies Hangar 751.

Photo 3: View of AFFF label on AFFF AST at Building 705.


Photo 4: View of AFFF piping system at Building 705 that supplies Hangar 750.

Photo 1: View of AFFF stored at Building 984.

Photo 1: View of Current Fire Training Area.

Photo 1: View of Fire Station [redacted]

Photo 2: View of AFFF trailer located at the Fire Station.

Photo 1: View of former burn pit area at the Former Fire Training Area 2

Photo1: View of Hangar 630.

Photo 2: View of AFFF 800 gallon AST at Hangar 630 [redacted]

Photo 3: View of AFFF label on AST at Hangar 630.


Photo 4: View of AFFF pipelines in Hangar 630 [redacted]

Photo 5: View of AFFF pipeline in Hangar 630.

Photo 1: View of Hangar 647.

Photo 2: View of AFFF pipelines at Hangar 647.

Photo 3: View of 2,000 gallon AFFF AST at Hangar 647.

Photo 4: View of AFFF AST label at Hangar 647.

Photo 1: View of Hangar 750.

Photo 1: View of Hangar 751.

Photo 2: View of AFFF pipelines at Hangar 751.

Photo 1: View of Hangar 985.

Photo 2: View of low level AFFF turret at Hangar 985.

Photo 3: View of low level AFFF turret at Hangar 985.

Photo 4: View of AFFF fire suppression piping at Hangar 985.

Photo 5: View of 800 gallon AFFF AST [redacted] Hangar 985.

Photo 6: View of AFFF pump and pump controller at Hangar 985.

Photo 1: View of Hangar 986.

Photo 1: View of Northern Sewage Treatment Plant facing southwest.

Photo 2: View of Northern Sewage Treatment Plant facing west.

Photo 1: View of Outfall 21 facing northeast.

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APPENDIX B

FIELD DOCUMENTATION

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Potential Hazardous Waste Site Preliminary Assessment Form

Identification

State: | CERCLIS #:

CERCLIS Discovery Date:

1. General Site Information

Name: Building 676		Street Address: NA			
City:		State: FL	Zip Code:32925	County:Brevard	Co. Code:12009	Cong. Dist:8th
Latitude: [redacted]	Longitude: [redacted]	Approximate Area of Site: _____ Acres _____ Square Ft		Status of Site: ☑ Active ☐ Not Specified ☐ Inactive ☐ NA (GW plume, etc.)	

Site Name: Building 676

Site Description: Building 676 is located in the northwestern portion of Patrick AFB. The building is a fuel truck maintenance facility that was initially equipped with a wet pipe fire suppression system. In January 2012, the fire suppression system was retrofitted to an AFFF fire suppression system and a 200 gallon AST located in the mechanical room supplies the building with 3% AFFF.

2. Owner/Operator Information

Owner: Patrick AFB			Operator: Same as "owner"		
Street Address:			Street Address:		
City:			City:		
State: FL	Zip Code:32925	Telephone:	State:	Zip Code:	Telephone:

Type of Ownership:

☐ Private ☐ County
☑ Federal Agency ☐ Municipal
Name: _DOD___ ☐ Not Specified
☐ State ☐ Other_____
☐ Indian

Type of Ownership:

☐ Private ☐ County
☐ Federal Agency ☐ Municipal
Name: _____ ☐ Not Specified
☐ State ☐ Other_____
☐ Indian

3. Site Evaluator Information

Name of Evaluator: John Sandoval	Agency/Organization: HydroGeoLogic, Inc.	Date Prepared:07/06/15
Street Address:404 E. Ramsey Road, Ste. 210	City:San Antonio	State:Texas
Name of EPA or State Agency Contact:NA	Street Address:	
City:	State:	Telephone:

4. Site Disposition *(for EPA use only)*

Emergency Response/Removal Assessment Recommendation: ☐ Yes ☐ No Date: _____	CERCLIS Recommendation: ☐ Higher Priority SI ☐ Lower Priority SI ☐ NFRAP ☐ RCRA ☐ Other: _____ Date: _____	Signature: Name (typed): Position:

5. General Site Characteristics - NA

Predominant Land Use Within 1 Mile of Site (check all that apply):

- ☐ Industrial
- ☐ Commercial
- ☐ Residential
- ☐ Forest/Fields
- ☐ Agriculture
- ☐ Mining
- ☐ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility: _____
- ☐ Other _____

Site Setting:

- ☐ Urban
- ☐ Suburban
- ☐ Rural

Years of Operation:

Beginning Year _____

Ending Year _____

☐ Unknown

Type of Site Operations (check all that apply):

- ☐ Manufacturing (must check subcategory)
  - ☐ Lumber and Wood Products
  - ☐ Inorganic Chemicals
  - ☐ Plastic and/or Rubber Products
  - ☐ Paints, Varnishes
  - ☐ Industrial Organic Chemicals
  - ☐ Agricultural Chemicals
  - ☐ Miscellaneous Chemical Products
  - ☐ Primary Metals
  - ☐ Metal Coating, Plating, Engraving
  - ☐ Metal Forging, Stamping
  - ☐ Fabricated Structural Metal Products
  - ☐ Electronic Equipment
  - ☐ Other Manufacturing
- ☐ Mining
  - ☐ Metals
  - ☐ Coal
  - ☐ Oil and Gas
  - ☐ Non-metallic Minerals
- ☐ Retail
- ☐ Recycling
- ☐ Junk/Salvage Yard
- ☐ Municipal Landfill
- ☐ Other Landfill
- ☐ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility _____
- ☐ RCRA
  - ☐ Treatment, Storage, or Disposal
  - ☐ Large Quantity Generator
  - ☐ Small Quantity Generator
  - ☐ Subtitle D
    - ☐ Municipal
    - ☐ Industrial
  - ☐ "Converter"
  - ☐ "Protective Filer"
  - ☐ "Non-or Late Filer"
- ☐ Note Specified
- ☐ Other_____

Waste Generated:

- ☐ Onsite
- ☐ Offsite
- ☐ Onsite and Offsite

Waste Deposition Authorized By:

- ☐ Present Owner
- ☐ Former Owner
- ☐ Present & Former Owner
- ☐ Unauthorized
- ☐ Unknown

Waste Accessible to the Public:

- ☐ Yes
- ☐ No

Distance to Nearest Dwelling, School, or Workplace:

_____ Feet

6. Waste Characteristics Information - NA

(Refer to PA Table 1 for WC Score)

Source Type: (check all that apply)

	Source Waste Quantity: (include unit)	Tier*:
☐ Landfill	_____	____
☐ Surface Impoundment	_____	____
☐ Drums	_____	____
☐ Tanks and Non-Dum Containers	_____	____
☐ Chemical Waste Pile	_____	____
☐ Scrap Metal or Junk Pile	_____	____
☐ Tailings Pile	_____	____
☐ Trash Pile (open drum)	_____	____
☐ Land Treatment	_____	____
☐ Contaminated GW Plume (unidentified source)	_____	____
☐ Contaminated SW/Sediment (unidentified source)	_____	____
☐ Contaminated Soil	_____	____
☐ Other_____	_____	____
☐ No Sources		

*C=Constituent, W=Wastestream, V=Volume, A=Area

General Type of Waste (check all that apply):

- ☐ Metals
- ☐ Organics
- ☐ Inorganics
- ☐ Solvents
- ☐ Paints/Pigments
- ☐ Laboratory/Hospital Waste
- ☐ Radioactive Waste
- ☐ Construction/Demolition Waste
- ☐ Pesticides/Herbicides
- ☐ Acids/Bases
- ☐ Oily Waste
- ☐ Municipal Waste
- ☐ Mining Waste
- ☐ Explosives
- ☐ Other _____

Physical State of Waste as Deposited (check all that apply):

- ☐ Solid
- ☐ Sludge
- ☐ Powder
- ☐ Liquid
- ☐ Gas

7. Ground Water Pathway - NA

Is Ground Water Used for Drinking Within 4 Miles:

☐ Yes
☐ No

If Yes, Distance to nearest Drinking Well:

_____ Feet

Type of Drinking Water Wells Within 4 Miles
(check all that apply):

☐ Municipal
☐ Private
☐ None

Is There a Suspected Release to Ground Water[1]:

☐ Yes
☐ No

Have Primary Target Drinking Water Wells Been Identified:

☐ Yes
☐ No

If Yes, Enter Primary Target Population:

_____ People[3]

Depth to Shallowest Aquifer:

_____ Feet

Karst Terrain/Aquifer Present:

☐ Yes
☐ No

Nearest Designated Wellhead Protection Area[6]:

☐ Underlies Site
☐ >0-4 Miles
☐ None Within 4 Miles

List Secondary Target Population Served by Ground Water Withdrawn From:

0 - 1/4 Mile _____

>1/4 - 1/2 Mile _____

>1/2 - 1 Mile _____

>1 - 2 Mile _____

>2 - 3 Mile _____

>3 - 4 Mile _____

Total Within 4 Miles[4] _____

*Use population #s for PA Table 2

*Note nearest well for #5 on GW Pathway Scoresheet

8. Surface Water Pathway - NA

Type of Surface Water Draining Site and 15 Miles Downstream (check all that apply):

☐ Stream ☐ River ☐ Pond ☐ Lake
☐ Bay ☐ Ocean ☐ Other_____

Shortest Overland Distance From Any Source to Surface Water:

_____ Feet
_____ Miles

Is There a Suspected Release to Surface Water[1]:

☐ Yes
☐ No

Site is Located in:

☐ Annual - 10 yr Floodplain
☐ >10yr - 100yr Floodplain
☐ >100yr - 500yr Floodplain
☐ >500yr Floodplain

Drinking Water Intake Located Along the Surface Water Migration Path:

☐ Yes
☐ No

Have Primary Target Drinking Water Intakes Been Identified:

☐ Yes
☐ No

If Yes, Distance to Nearest Drinking Water Intake : _____ Miles[6]

If Yes, Enter Population Served by Target Intake:

_____ People[4]

List All Secondary Target Drinking Water Intakes:

Name:	Water Body:	Flow (cfs):	Population Served:
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Total within 15 Miles [4] _____

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[10]:

Water Body/ Fishery Name :	Flow (cfs):
_____	_____
_____	_____
_____	_____
_____	_____

8. Surface Water Pathway (continued)

Wetlands Located Along the Surface Water Migration Path:

☐ Yes
☐ No

Have Primary Target Wetlands Been Identified:

☐ Yes
☐ No

List All Wetlands:

Water Body :	Flow (cfs):	Frontage miles:
Ashumet Pond	_____	_____
_____	_____	_____
_____	_____	_____

Other Sensitive Environments Located Along the Surface Water Migration Path:

☐ Yes
☐ No

If Yes, Distance to Nearest Sensitive Environment:
_____ Miles

Have Primary Target Sensitive Environments Been Identified:

☐ Yes
☐ No

List All Sensitive Environments[11]:

Water Body :	Flow (cfs):	Sensitive Environment Type:
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

9. Soil Exposure Pathway - NA

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[2]

Number of Workers Onsite[4]:

☐ None
☐ 1 - 100
☐ 101 - 1,000
☐ > 1,000

Population Within 1 Mile:

_____People[7]

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[5]:

_____
_____
_____

*Refer to PA Table 7 for environment types

10. Air Pathway - NA

Is there a Suspected Release to Air[1]:

☐ Yes
☐ No

Enter Total Population on or Within:

Onsite _____

0-1/4 Mile _____

>1/4-1/2 Mile _____

>1/2-1 Mile _____

>1-2 Miles _____

>2-3 Miles _____

>3-4 Miles _____

Total Within 4 Miles [3-5] _____

Wetlands Located Within 4 Miles of the Site[6]:

☐ Yes
☐ No

If Yes, How Many Acres: _____ Acres

Other Sensitive Environments Located Within 4 Miles of the Site:

☐ Yes
☐ No

List All Sensitive Environments Within 1/2 Mile of the Site[6]:

Distance:	Sensitive Environment Type/Wetlands Area (acres):
Onsite	_____
0-1/4 Mile	_____
>1/4-1/2 Mile	_____

*Refer to PA Table 10 for calculations on air pathway exposures

[1-11] Refers to question number on the PA scoresheet for each particular pathway

Potential Hazardous Waste Site Preliminary Assessment Form

Identification

State: | CERCLIS #:

CERCLIS Discovery Date:

1. General Site Information

Name: Building 705 [redacted]	Street Address: NA				
City:	State: FL	Zip Code:32925	County:Brevard	Co. Code:12009	Cong. Dist:8th
Latitude: [redacted]	Longitude: [redacted]	Approximate Area of Site: ___ Acres _____ Square Ft	Status of Site: ☑ Active ☐ Not Specified ☐ Inactive ☐ NA (GW plume, etc.)		

Site Name: Building 705 Pump House

Site Description: Building 705 Pump House is located the northwestern portion of Patrick AFB, southwest of intersection of Delta Road and Redstone Road. The pump house is situated directly northeast of Hangar 750 and houses the pump system for mixing AFFF concentrate for distribution to the fire suppression systems to Hangar 750 and 751. The pump system contained a 1,200 gallon poly tank that supplied 3% AFFF to Hangars 750 and 751. According to the Assistant Fire Chief, the underground piping from the pump house to Hangar 750 was capped off at an unknown date. Currently the pump house only supplies AFFF to Hangar 751.

2. Owner/Operator Information

Owner: Patrick AFB			Operator: Same as "owner"		
Street Address:			Street Address:		
City:			City:		
State: FL	Zip Code:32925	Telephone:	State:	Zip Code:	Telephone:
Type of Ownership: ☐ Private ☑ Federal Agency Name: DOD ☐ State ☐ Indian ☐ County ☐ Municipal ☐ Not Specified ☐ Other_____			Type of Ownership: ☐ Private ☐ Federal Agency Name: _____ ☐ State ☐ Indian ☐ County ☐ Municipal ☐ Not Specified ☐ Other_____		

3. Site Evaluator Information

Name of Evaluator: John Sandoval	Agency/Organization: HydroGeoLogic, Inc.	Date Prepared:07/06/15
Street Address:404 E. Ramsey Road, Ste. 210	City:San Antonio	State:Texas
Name of EPA or State Agency Contact:NA	Street Address:	
City:	State:	Telephone:

4. Site Disposition *(for EPA use only)*

Emergency Response/Removal Assessment Recommendation: ☐ Yes ☐ No Date: _____	CERCLIS Recommendation: ☐ Higher Priority SI ☐ Lower Priority SI ☐ NFRAP ☐ RCRA ☐ Other: _____ Date: _____	Signature:
		Name (typed):
		Position:

5. General Site Characteristics

Predominant Land Use Within 1 Mile of Site (check all that apply):

- ☐ Industrial
- ☐ Commercial
- ☐ Residential
- ☐ Forest/Fields
- ☐ Agriculture
- ☐ Mining
- ☑ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility: _____
- ☐ Other _____

Site Setting:

- ☐ Urban
- ☐ Suburban
- ☑ Rural

Years of Operation:

Beginning Year __unknown__

Ending Year __present__

☑ Unknown

Type of Site Operations (check all that apply):

- ☐ Manufacturing (must check subcategory)
  - ☐ Lumber and Wood Products
  - ☐ Inorganic Chemicals
  - ☐ Plastic and/or Rubber Products
  - ☐ Paints, Varnishes
  - ☐ Industrial Organic Chemicals
  - ☐ Agricultural Chemicals
  - ☐ Miscellaneous Chemical Products
  - ☐ Primary Metals
  - ☐ Metal Coating, Plating, Engraving
  - ☐ Metal Forging, Stamping
  - ☐ Fabricated Structural Metal Products
  - ☐ Electronic Equipment
  - ☐ Other Manufacturing
- ☐ Mining
  - ☐ Metals
  - ☐ Coal
  - ☐ Oil and Gas
  - ☐ Non-metallic Minerals
- ☐ Retail
- ☐ Recycling
- ☐ Junk/Salvage Yard
- ☐ Municipal Landfill
- ☐ Other Landfill
- ☑ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility _____
- ☐ RCRA
  - ☐ Treatment, Storage, or Disposal
  - ☐ Large Quantity Generator
  - ☐ Small Quantity Generator
  - ☐ Subtitle D
    - ☐ Municipal
    - ☐ Industrial
  - ☐ "Converter"
  - ☐ "Protective Filer"
  - ☐ "Non-or Late Filer"
- ☐ Note Specified
- ☐ Other_____

Waste Generated:

- ☑ Onsite
- ☐ Offsite
- ☐ Onsite and Offsite

Waste Deposition Authorized By:

- ☑ Present Owner
- ☐ Former Owner
- ☐ Present & Former Owner
- ☐ Unauthorized
- ☐ Unknown

Waste Accessible to the Public:

- ☑ Yes
- ☐ No

Distance to Nearest Dwelling, School, or Workplace:

__100____ Feet

6. Waste Characteristics Information

(Refer to PA Table 1 for WC Score)

Source Type: (check all that apply)

Source Type	Source Waste Quantity: (include unit)	Tier*:
☐ Landfill	_____	____
☐ Surface Impoundment	_____	____
☐ Drums	_____	____
☐ Tanks and Non-Dum Containers	_____	____
☐ Chemical Waste Pile	_____	____
☐ Scrap Metal or Junk Pile	_____	____
☐ Tailings Pile	_____	____
☐ Trash Pile (open drum)	_____	____
☐ Land Treatment	_____	____
☐ Contaminated GW Plume (unidentified source)	_____	____
☐ Contaminated SW/Sediment (unidentified source)	_____	____
☐ Contaminated Soil	_____	____
☑ Other____AFFF_	_____	____
☐ No Sources		

*C=Constituent, W=Wastestream, V=Volume, A=Area

General Type of Waste (check all that apply):

- ☐ Metals
- ☐ Organics
- ☐ Inorganics
- ☐ Solvents
- ☐ Paints/Pigments
- ☐ Laboratory/Hospital Waste
- ☐ Radioactive Waste
- ☐ Construction/Demolition Waste
- ☐ Pesticides/Herbicides
- ☐ Acids/Bases
- ☐ Oily Waste
- ☐ Municipal Waste
- ☐ Mining Waste
- ☐ Explosives
- ☑ Other _____AFFF

Physical State of Waste as Deposited (check all that apply):

- ☐ Solid
- ☐ Sludge
- ☐ Powder
- ☑ Liquid
- ☐ Gas

7. Ground Water Pathway

Is Ground Water Used for Drinking Within 4 Miles:

☑ Yes
☐ No

If Yes, Distance to nearest Drinking Well:

5.1 miles

Type of Drinking Water Wells Within 4 Miles
(check all that apply):

☑ Municipal
☑ Private
☐ None

Is There a Suspected Release to Ground Water[1]:

☑ Yes
☐ No

Have Primary Target Drinking Water Wells Been Identified:

☑ Yes
☐ No

If Yes, Enter Primary Target Population:

25 People[3]

Depth to Shallowest Aquifer:

4-5 Feet

Karst Terrain/Aquifer Present:

☑ Yes
☐ No

Nearest Designated Wellhead Protection Area[6]:

☐ Underlies Site
☐ >0-4 Miles
☐ None Within 4 Miles

List Secondary Target Population Served by Ground Water Withdrawn From:

0 - 1/4 Mile _____

>1/4 - 1/2 Mile _____

>1/2 - 1 Mile _____

>1 - 2 Mile _____

>2 - 3 Mile _____

>3 - 4 Mile _____

Total Within 4 Miles[4] 17,124

*Use population #s for PA Table 2

*Note nearest well for #5 on GW Pathway Scoresheet

8. Surface Water Pathway

Type of Surface Water Draining Site and 15 Miles Downstream (check all that apply):

☐ Stream ☐ River ☐ Pond ☐ Lake
☐ Bay ☐ Ocean ☐ Other _

Shortest Overland Distance From Any Source to Surface Water:

1,097 Feet
_____ Miles

Is There a Suspected Release to Surface Water[1]:

☐ Yes
☑ No

Site is Located in:

☐ Annual - 10 yr Floodplain
☐ >10yr - 100yr Floodplain
☐ >100yr - 500yr Floodplain
☐ >500yr Floodplain

Drinking Water Intake Located Along the Surface Water Migration Path:

☐ Yes
☑ No

Have Primary Target Drinking Water Intakes Been Identified:

☐ Yes
☑ No

If Yes, Distance to Nearest Drinking Water Intake : _____ Miles[6]

If Yes, Enter Population Served by Target Intake:

_____ People[4]

List All Secondary Target Drinking Water Intakes:

Name:	Water Body:	Flow (cfs):	Population Served:

Total within 15 Miles [4] _____

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[10]:

Water Body/ Fishery Name :	Flow (cfs):

8. Surface Water Pathway (continued)

Wetlands Located Along the Surface Water Migration Path:

☐ Yes
☑ No

Have Primary Target Wetlands Been Identified:

☐ Yes
☑ No

List All Wetlands:

Water Body :	Flow (cfs):	Frontage miles:

Other Sensitive Environments Located Along the Surface Water Migration Path:

☐ Yes
☑ No

If Yes, Distance to Nearest Sensitive Environment: _____ feet

Have Primary Target Sensitive Environments Been Identified:

☐ Yes
☑ No

List All Sensitive Environments[11]:

Water Body :	Flow (cfs):	Sensitive Environment Type:

9. Soil Exposure 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[2]

Number of Workers Onsite[4]:

☐ None
☑ 1 - 100
☐ 101 - 1,000
☐ > 1,000

Population Within 1 Mile:

17,124 (4-miles)
People[7]

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[5]:

_____
_____
_____

*Refer to PA Table 7 for environment types

10. Air Pathway

Is there a Suspected Release to Air[1]:

☐ Yes
☑ No

Enter Total Population on or Within:

Onsite	_____
0-1/4 Mile	_____
>1/4-1/2 Mile	_____
>1/2-1 Mile	_____
>1-2 Miles	_____
>2-3 Miles	_____
>3-4 Miles	_____
Total Within 4 Miles [3-5]	17,124

Wetlands Located Within 4 Miles of the Site[6]:

☑ Yes
☐ No

If Yes, How Many Acres: unknown Acres

Other Sensitive Environments Located Within 4 Miles of the Site:

☑ Yes
☐ No

List All Sensitive Environments Within 1/2 Mile of the Site[6]:

Distance:	Sensitive Environment Type/Wetlands Area (acres):
Onsite	_____
0-1/4 Mile	Banana River
>1/4-1/2 Mile	_____

*Refer to PA Table 10 for calculations on air pathway exposures

[1-11] Refers to question number on the PA scoresheet for each particular pathway

Potential Hazardous Waste Site Preliminary Assessment Form

Identification

State: | CERCLIS #:

CERCLIS Discovery Date:

1. General Site Information

Name: Building 984		Street Address: NA			
City:		State: FL	Zip Code:32925	County:Brevard	Co. Code:12009	Cong. Dist:8th
Latitude: [redacted]	Longitude: [redacted]	Approximate Area of Site: _____ Acres _____ Square Ft		Status of Site: ☑ Active ☐ Not Specified ☐ Inactive ☐ NA (GW plume, etc.)	

Site Name: Building 984

Site Description: Building 984 is located in the eastern central portion of Patrick AFB. approximately 25 55-gallon drums of 3% AFFF are stored at Building 984. The excess AFFF is used to refill fire engines and crash trucks at the fire station (Building 810). There have been no reported or documented releases of AFFF at the storage area of Building 984.

2. Owner/Operator Information

Owner: Patrick AFB			Operator: Same as "owner"		
Street Address:			Street Address:		
City:			City:		
State: FL	Zip Code:32925	Telephone:	State:	Zip Code:	Telephone:

Type of Ownership:

☐ Private ☐ County
☑ Federal Agency ☐ Municipal
Name: _DOD_ ☐ Not Specified
☐ State ☐ Other_____
☐ Indian

Type of Ownership:

☐ Private ☐ County
☐ Federal Agency ☐ Municipal
Name: _____ ☐ Not Specified
☐ State ☐ Other_____
☐ Indian

3. Site Evaluator Information

Name of Evaluator: John Sandoval	Agency/Organization: HydroGeoLogic, Inc.	Date Prepared:07/06/15
Street Address:404 E. Ramsey Road, Ste. 210	City:San Antonio	State:Texas
Name of EPA or State Agency Contact:NA	Street Address:	
City:	State:	Telephone:

4. Site Disposition *(for EPA use only)*

Emergency Response/Removal Assessment Recommendation: ☐ Yes ☐ No Date: _____	CERCLIS Recommendation: ☐ Higher Priority SI ☐ Lower Priority SI ☐ NFRAP ☐ RCRA ☐ Other: _____ Date: _____	Signature: Name (typed): Position:

5. General Site Characteristics - NA

Predominant Land Use Within 1 Mile of Site (check all that apply):

- ☐ Industrial
- ☐ Commercial
- ☐ Residential
- ☐ Forest/Fields
- ☐ Agriculture
- ☐ Mining
- ☐ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility: _____
- ☐ Other _____

Site Setting:

- ☐ Urban
- ☐ Suburban
- ☐ Rural

Years of Operation:

Beginning Year _____

Ending Year _____

☐ Unknown

Type of Site Operations (check all that apply):

- ☐ Manufacturing (must check subcategory)
  - ☐ Lumber and Wood Products
  - ☐ Inorganic Chemicals
  - ☐ Plastic and/or Rubber Products
  - ☐ Paints, Varnishes
  - ☐ Industrial Organic Chemicals
  - ☐ Agricultural Chemicals
  - ☐ Miscellaneous Chemical Products
  - ☐ Primary Metals
  - ☐ Metal Coating, Plating, Engraving
  - ☐ Metal Forging, Stamping
  - ☐ Fabricated Structural Metal Products
  - ☐ Electronic Equipment
  - ☐ Other Manufacturing
- ☐ Mining
  - ☐ Metals
  - ☐ Coal
  - ☐ Oil and Gas
  - ☐ Non-metallic Minerals
- ☐ Retail
- ☐ Recycling
- ☐ Junk/Salvage Yard
- ☐ Municipal Landfill
- ☐ Other Landfill
- ☐ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility _____
- ☐ RCRA
  - ☐ Treatment, Storage, or Disposal
  - ☐ Large Quantity Generator
  - ☐ Small Quantity Generator
  - ☐ Subtitle D
    - ☐ Municipal
    - ☐ Industrial
  - ☐ "Converter"
  - ☐ "Protective Filer"
  - ☐ "Non-or Late Filer"
- ☐ Note Specified
- ☐ Other_____

Waste Generated:

- ☐ Onsite
- ☐ Offsite
- ☐ Onsite and Offsite

Waste Deposition Authorized By:

- ☐ Present Owner
- ☐ Former Owner
- ☐ Present & Former Owner
- ☐ Unauthorized
- ☐ Unknown

Waste Accessible to the Public:

- ☐ Yes
- ☐ No

Distance to Nearest Dwelling, School, or Workplace:

_____ Feet

6. Waste Characteristics Information - NA

(Refer to PA Table 1 for WC Score)

Source Type: (check all that apply)

	Source Waste Quantity: (include unit)	Tier*:
☐ Landfill	_____	____
☐ Surface Impoundment	_____	____
☐ Drums	_____	____
☐ Tanks and Non-Dum Containers	_____	____
☐ Chemical Waste Pile	_____	____
☐ Scrap Metal or Junk Pile	_____	____
☐ Tailings Pile	_____	____
☐ Trash Pile (open drum)	_____	____
☐ Land Treatment	_____	____
☐ Contaminated GW Plume (unidentified source)	_____	____
☐ Contaminated SW/Sediment (unidentified source)	_____	____
☐ Contaminated Soil	_____	____
☐ Other_____	_____	____
☐ No Sources		

*C=Constituent, W=Wastestream, V=Volume, A=Area

General Type of Waste (check all that apply):

- ☐ Metals
- ☐ Organics
- ☐ Inorganics
- ☐ Solvents
- ☐ Paints/Pigments
- ☐ Laboratory/Hospital Waste
- ☐ Radioactive Waste
- ☐ Construction/Demolition Waste
- ☐ Pesticides/Herbicides
- ☐ Acids/Bases
- ☐ Oily Waste
- ☐ Municipal Waste
- ☐ Mining Waste
- ☐ Explosives
- ☐ Other _____

Physical State of Waste as Deposited (check all that apply):

- ☐ Solid
- ☐ Sludge
- ☐ Powder
- ☐ Liquid
- ☐ Gas

7. Ground Water Pathway - NA

Is Ground Water Used for Drinking Within 4 Miles:

☐ Yes
☐ No

If Yes, Distance to nearest Drinking Well:

_____ Feet

Type of Drinking Water Wells Within 4 Miles
(check all that apply):

☐ Municipal
☐ Private
☐ None

Is There a Suspected Release to Ground Water[1]:

☐ Yes
☐ No

Have Primary Target Drinking Water Wells Been Identified:

☐ Yes
☐ No

If Yes, Enter Primary Target Population:

_____ People[3]

Depth to Shallowest Aquifer:

_____ Feet

Karst Terrain/Aquifer Present:

☐ Yes
☐ No

Nearest Designated Wellhead Protection Area[6]:

☐ Underlies Site
☐ >0-4 Miles
☐ None Within 4 Miles

List Secondary Target Population Served by Ground Water Withdrawn From:

0 - 1/4 Mile _____

>1/4 - 1/2 Mile _____

>1/2 - 1 Mile _____

>1 - 2 Mile _____

>2 - 3 Mile _____

>3 - 4 Mile _____

Total Within 4 Miles[4] _____

*Use population #s for PA Table 2

*Note nearest well for #5 on GW Pathway Scoresheet

8. Surface Water Pathway - NA

Type of Surface Water Draining Site and 15 Miles Downstream (check all that apply):

☐ Stream ☐ River ☐ Pond ☐ Lake
☐ Bay ☐ Ocean ☐ Other_____

Shortest Overland Distance From Any Source to Surface Water:

_____ Feet
_____ Miles

Is There a Suspected Release to Surface Water[1]:

☐ Yes
☐ No

Site is Located in:

☐ Annual - 10 yr Floodplain
☐ >10yr - 100yr Floodplain
☐ >100yr - 500yr Floodplain
☐ >500yr Floodplain

Drinking Water Intake Located Along the Surface Water Migration Path:

☐ Yes
☐ No

Have Primary Target Drinking Water Intakes Been Identified:

☐ Yes
☐ No

If Yes, Distance to Nearest Drinking Water Intake : _____ Miles[6]

If Yes, Enter Population Served by Target Intake:

_____ People[4]

List All Secondary Target Drinking Water Intakes:

Name:	Water Body:	Flow (cfs):	Population Served:
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Total within 15 Miles [4] _____

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[10]:

Water Body/ Fishery Name :	Flow (cfs):
_____	_____
_____	_____
_____	_____
_____	_____

8. Surface Water Pathway (continued)

Wetlands Located Along the Surface Water Migration Path:

☐ Yes
☐ No

Have Primary Target Wetlands Been Identified:

☐ Yes
☐ No

List All Wetlands:

Water Body :	Flow (cfs):	Frontage miles:
Ashumet Pond	_____	_____
_____	_____	_____
_____	_____	_____

Other Sensitive Environments Located Along the Surface Water Migration Path:

☐ Yes
☐ No

If Yes, Distance to Nearest Sensitive Environment:
_____ Miles

Have Primary Target Sensitive Environments Been Identified:

☐ Yes
☐ No

List All Sensitive Environments[11]:

Water Body :	Flow (cfs):	Sensitive Environment Type:
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

9. Soil Exposure Pathway - NA

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[2]

Number of Workers Onsite[4]:

☐ None
☐ 1 - 100
☐ 101 - 1,000
☐ > 1,000

Population Within 1 Mile:

_____People[7]

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[5]:

_____
_____
_____

*Refer to PA Table 7 for environment types

10. Air Pathway - NA

Is there a Suspected Release to Air[1]:

☐ Yes
☐ No

Enter Total Population on or Within:

Onsite _____

0-1/4 Mile _____

>1/4-1/2 Mile _____

>1/2-1 Mile _____

>1-2 Miles _____

>2-3 Miles _____

>3-4 Miles _____

Total Within 4 Miles [3-5] _____

Wetlands Located Within 4 Miles of the Site[6]:

☐ Yes
☐ No

If Yes, How Many Acres: _____ Acres

Other Sensitive Environments Located Within 4 Miles of the Site:

☐ Yes
☐ No

List All Sensitive Environments Within 1/2 Mile of the Site[6]:

Distance:	Sensitive Environment Type/Wetlands Area (acres):
Onsite	_____
0-1/4 Mile	_____
>1/4-1/2 Mile	_____

*Refer to PA Table 10 for calculations on air pathway exposures

[1-11] Refers to question number on the PA scoresheet for each particular pathway

Potential Hazardous Waste Site Preliminary Assessment Form

Identification

State: | CERCLIS #:

CERCLIS Discovery Date:

1. General Site Information

Name: Fire Station [redacted] | Street Address: NA

City: | State: FL | Zip Code:32925 | County:Brevard | Co. Code:12009 | Cong. Dist:8th

Latitude: [redacted] | Longitude: [redacted]

Approximate Area of Site: ___
___ Acres
_____ Square Ft

Status of Site:
☑ Active ☐ Not Specified
☐ Inactive ☐ NA (GW plume, etc.)

Site Name: Fire Station (Building 810)

Site Description: The Patrick AFB Fire Station is identified as Building 810 and is located in the northwestern portion of Patrick AFB. The fire station houses two fire engines (Fire Engine 9 and Fire Engine 4), two crash trucks (Crash Truck 6 and Crash Truck 5), and a foam trailer. The two fire engines have a foam capacity of 55 gallons each, Crash Truck 6 and Crash Truck 5 have foam capacities of 210 gallons and 500 gallons respectively, and the foam trailer has a foam capacity of 2,000 gallons. The crash trucks and fire engines are refilled at the fire station with excess AFFF that is stored at Building 984.

2. Owner/Operator Information

Owner: Patrick AFB			Operator: Same as "owner"		
Street Address:			Street Address:		
City:			City:		
State: FL	Zip Code:32925	Telephone:	State:	Zip Code:	Telephone:

Type of Ownership:

☐ Private
☑ Federal Agency
Name: DOD
☐ State
☐ Indian
☐ County
☐ Municipal
☐ Not Specified
☐ Other_____

Type of Ownership:

☐ Private
☐ Federal Agency
Name: _____
☐ State
☐ Indian
☐ County
☐ Municipal
☐ Not Specified
☐ Other_____

3. Site Evaluator Information

Name of Evaluator: John Sandoval	Agency/Organization: HydroGeoLogic, Inc.	Date Prepared:07/06/15
Street Address:404 E. Ramsey Road, Ste. 210	City:San Antonio	State:Texas
Name of EPA or State Agency Contact:NA	Street Address:	
City:	State:	Telephone:

4. Site Disposition *(for EPA use only)*

Emergency Response/Removal Assessment Recommendation:

☐ Yes
☐ No

Date: _____

CERCLIS Recommendation:

☐ Higher Priority SI
☐ Lower Priority SI
☐ NFRAP
☐ RCRA
☐ Other: _____
Date: _____

Signature:

Name (typed):

Position:

5. General Site Characteristics

Predominant Land Use Within 1 Mile of Site (check all that apply):

- ☐ Industrial
- ☐ Commercial
- ☐ Residential
- ☐ Forest/Fields
- ☐ Agriculture
- ☐ Mining
- ☑ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility: _____
- ☐ Other _____

Site Setting:

- ☐ Urban
- ☐ Suburban
- ☑ Rural

Years of Operation:

Beginning Year _____

Ending Year ___present

☑ Unknown

Type of Site Operations (check all that apply):

- ☐ Manufacturing (must check subcategory)
  - ☐ Lumber and Wood Products
  - ☐ Inorganic Chemicals
  - ☐ Plastic and/or Rubber Products
  - ☐ Paints, Varnishes
  - ☐ Industrial Organic Chemicals
  - ☐ Agricultural Chemicals
  - ☐ Miscellaneous Chemical Products
  - ☐ Primary Metals
  - ☐ Metal Coating, Plating, Engraving
  - ☐ Metal Forging, Stamping
  - ☐ Fabricated Structural Metal Products
  - ☐ Electronic Equipment
  - ☐ Other Manufacturing
- ☐ Mining
  - ☐ Metals
  - ☐ Coal
  - ☐ Oil and Gas
  - ☐ Non-metallic Minerals
- ☐ Retail
- ☐ Recycling
- ☐ Junk/Salvage Yard
- ☐ Municipal Landfill
- ☐ Other Landfill
- ☑ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility _____
- ☐ RCRA
  - ☐ Treatment, Storage, or Disposal
  - ☐ Large Quantity Generator
  - ☐ Small Quantity Generator
  - ☐ Subtitle D
    - ☐ Municipal
    - ☐ Industrial
  - ☐ "Converter"
  - ☐ "Protective Filer"
  - ☐ "Non-or Late Filer"
- ☐ Note Specified
- ☐ Other_____

Waste Generated:

- ☑ Onsite
- ☐ Offsite
- ☐ Onsite and Offsite

Waste Deposition Authorized By:

- ☑ Present Owner
- ☐ Former Owner
- ☐ Present & Former Owner
- ☐ Unauthorized
- ☐ Unknown

Waste Accessible to the Public:

- ☐ Yes
- ☑ No

Distance to Nearest Dwelling, School, or Workplace:

__on-site_____ Feet

6. Waste Characteristics Information

(Refer to PA Table 1 for WC Score)

Source Type: (check all that apply)

	Source Waste Quantity: (include unit)	Tier*:
☐ Landfill	_____	____
☐ Surface Impoundment	_____	____
☐ Drums	_____	____
☐ Tanks and Non-Dum Containers	_____	____
☐ Chemical Waste Pile	_____	____
☐ Scrap Metal or Junk Pile	_____	____
☐ Tailings Pile	_____	____
☐ Trash Pile (open drum)	_____	____
☐ Land Treatment	_____	____
☐ Contaminated GW Plume (unidentified source)	_____	____
☐ Contaminated SW/Sediment (unidentified source)	_____	____
☐ Contaminated Soil	_____	____
☑ Other____AFFF_	_____	____
☐ No Sources		

*C=Constituent, W=Wastestream, V=Volume, A=Area

General Type of Waste (check all that apply):

- ☐ Metals
- ☐ Organics
- ☐ Inorganics
- ☐ Solvents
- ☐ Paints/Pigments
- ☐ Laboratory/Hospital Waste
- ☐ Radioactive Waste
- ☐ Construction/Demolition Waste
- ☐ Pesticides/Herbicides
- ☐ Acids/Bases
- ☐ Oily Waste
- ☐ Municipal Waste
- ☐ Mining Waste
- ☐ Explosives
- ☑ Other _____AFFF

Physical State of Waste as Deposited (check all that apply):

- ☐ Solid
- ☐ Sludge
- ☐ Powder
- ☑ Liquid
- ☐ Gas

7. Ground Water Pathway

Is Ground Water Used for Drinking Within 4 Miles:

☑ Yes
☐ No

If Yes, Distance to nearest Drinking Well:

4.8 miles

Type of Drinking Water Wells Within 4 Miles (check all that apply):

☑ Municipal
☑ Private
☐ None

Is There a Suspected Release to Ground Water[1]:

☑ Yes
☐ No

Have Primary Target Drinking Water Wells Been Identified:

☑ Yes
☐ No

If Yes, Enter Primary Target Population:

25 People[3]

List Secondary Target Population Served by Ground Water Withdrawn From:

0 - 1/4 Mile	
>1/4 - 1/2 Mile	
>1/2 - 1 Mile	
>1 - 2 Mile	
>2 - 3 Mile	
>3 - 4 Mile	
Total Within 4 Miles[4]	16,537

*Use population #s for PA Table 2

*Note nearest well for #5 on GW Pathway Scoresheet

Depth to Shallowest Aquifer:

4-5 Feet

Karst Terrain/Aquifer Present:

☑ Yes
☐ No

Nearest Designated Wellhead Protection Area[6]:

☐ Underlies Site
☐ >0-4 Miles
☐ None Within 4 Miles

8. Surface Water Pathway

Type of Surface Water Draining Site and 15 Miles Downstream (check all that apply):

☐ Stream ☐ River ☐ Pond ☐ Lake
☐ Bay ☐ Ocean ☑ Other_storm sewer open drainage areas_

Shortest Overland Distance From Any Source to Surface Water:

700 Feet
_____ Miles

Is There a Suspected Release to Surface Water[1]:

☐ Yes
☑ No

Site is Located in:

☐ Annual - 10 yr Floodplain
☐ >10yr - 100yr Floodplain
☐ >100yr - 500yr Floodplain
☐ >500yr Floodplain

Drinking Water Intake Located Along the Surface Water Migration Path:

☐ Yes
☑ No

Have Primary Target Drinking Water Intakes Been Identified:

☐ Yes
☑ No

If Yes, Distance to Nearest Drinking Water Intake : _____ Miles[6]

If Yes, Enter Population Served by Target Intake:

_____ People[4]

List All Secondary Target Drinking Water Intakes:

Name:	Water Body:	Flow (cfs):	Population Served:

Total within 15 Miles [4] _____

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[10]:

Water Body/ Fishery Name :	Flow (cfs):

8. Surface Water Pathway (continued)

Wetlands Located Along the Surface Water Migration Path:

☐ Yes
☑ No

Have Primary Target Wetlands Been Identified:

☐ Yes
☑ No

List All Wetlands:

Water Body :	Flow (cfs):	Frontage miles:
_ _____	_____	_____
_____	_____	_____
_____	_____	_____

Other Sensitive Environments Located Along the Surface Water Migration Path:

☐ Yes
☑ No

If Yes, Distance to Nearest Sensitive Environment:
_____ feet

Have Primary Target Sensitive Environments Been Identified:

☐ Yes
☑ No

List All Sensitive Environments[11]:

Water Body :	Flow (cfs):	Sensitive Environment Type:
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

9. Soil Exposure 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[2]

Number of Workers Onsite[4]:

☐ None
☑ 1 - 100
☐ 101 - 1,000
☐ > 1,000

Population Within 1 Mile:

16,357 (4-miles)
People[7]

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[5]:

_____
_____
_____

*Refer to PA Table 7 for environment types

10. Air Pathway

Is there a Suspected Release to Air[1]:

☐ Yes
☑ No

Enter Total Population on or Within:

Onsite	_____
0-1/4 Mile	_____
>1/4-1/2 Mile	_____
>1/2-1 Mile	_____
>1-2 Miles	_____
>2-3 Miles	_____
>3-4 Miles	_____
Total Within 4 Miles [3-5]	16,357

Wetlands Located Within 4 Miles of the Site[6]:

☑ Yes
☐ No

If Yes, How Many Acres: unknown Acres

Other Sensitive Environments Located Within 4 Miles of the Site:

☑ Yes
☐ No

List All Sensitive Environments Within 1/2 Mile of the Site[6]:

Distance:	Sensitive Environment Type/Wetlands Area (acres):
Onsite	_____
0-1/4 Mile	Pacific Ocean
>1/4-1/2 Mile	_____

*Refer to PA Table 10 for calculations on air pathway exposures

[1-11] Refers to question number on the PA scoresheet for each particular pathway

Potential Hazardous Waste Site Preliminary Assessment Form

Identification

State: | CERCLIS #:

CERCLIS Discovery Date:

1. General Site Information

Name: Fire Truck Rollover Area		Street Address: NA			
City:		State: FL	Zip Code:32925	County:Brevard	Co. Code:12009	Cong. Dist:8th
Latitude: [redacted]	Longitude: [redacted]	Approximate Area of Site: ___ ___ Acres _____ Square Ft		Status of Site: ☐ Active ☐ Not Specified ☐ Inactive ☑ NA (GW plume, etc.)	

Site Name: Fire Truck Rollover Area

Site Description: A fire truck rolled overoccurred in 1997 within the Patrick AFB restricted airfield. The fire truck was turning onto Taxiway B from Taxiway E and rolled over releasing AFFF to the taxiway and surrounding grassy areas. The amount of AFFF released is unknown.

2. Owner/Operator Information

Owner: Patrick AFB			Operator: Same as "owner"		
Street Address:			Street Address:		
City:			City:		
State: FL	Zip Code:32925	Telephone:	State:	Zip Code:	Telephone:
Type of Ownership: ☐ Private ☐ County ☑ Federal Agency ☐ Municipal Name: _DOD_ ☐ Not Specified ☐ State ☐ Other_____ ☐ Indian			Type of Ownership: ☐ Private ☐ County ☐ Federal Agency ☐ Municipal Name: _____ ☐ Not Specified ☐ State ☐ Other_____ ☐ Indian		

3. Site Evaluator Information

Name of Evaluator: John Sandoval	Agency/Organization: HydroGeoLogic, Inc.	Date Prepared:07/06/15
Street Address:404 E. Ramsey Road, Ste. 210	City:San Antonio	State:Texas
Name of EPA or State Agency Contact:NA	Street Address:	
City:	State:	Telephone:

4. Site Disposition *(for EPA use only)*

Emergency Response/Removal Assessment Recommendation: ☐ Yes ☐ No Date: _____	CERCLIS Recommendation: ☐ Higher Priority SI ☐ Lower Priority SI ☐ NFRAP ☐ RCRA ☐ Other: _____ Date: _____	Signature: Name (typed): Position:

5. General Site Characteristics

Predominant Land Use Within 1 Mile of Site (check all that apply):

- ☐ Industrial
- ☐ Commercial
- ☐ Residential
- ☐ Forest/Fields
- ☐ Agriculture
- ☐ Mining
- ☑ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility: _____
- ☐ Other _____

Site Setting:

- ☐ Urban
- ☐ Suburban
- ☑ Rural

Years of Operation:

Beginning Year 1997

Ending Year NA

☐ Unknown

Type of Site Operations (check all that apply):

- ☐ Manufacturing (must check subcategory)
  - ☐ Lumber and Wood Products
  - ☐ Inorganic Chemicals
  - ☐ Plastic and/or Rubber Products
  - ☐ Paints, Varnishes
  - ☐ Industrial Organic Chemicals
  - ☐ Agricultural Chemicals
  - ☐ Miscellaneous Chemical Products
  - ☐ Primary Metals
  - ☐ Metal Coating, Plating, Engraving
  - ☐ Metal Forging, Stamping
  - ☐ Fabricated Structural Metal Products
  - ☐ Electronic Equipment
  - ☐ Other Manufacturing
- ☐ Mining
  - ☐ Metals
  - ☐ Coal
  - ☐ Oil and Gas
  - ☐ Non-metallic Minerals
- ☐ Retail
- ☐ Recycling
- ☐ Junk/Salvage Yard
- ☐ Municipal Landfill
- ☐ Other Landfill
- ☑ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility _____
- ☐ RCRA
  - ☐ Treatment, Storage, or Disposal
  - ☐ Large Quantity Generator
  - ☐ Small Quantity Generator
  - ☐ Subtitle D
    - ☐ Municipal
    - ☐ Industrial
  - ☐ "Converter"
  - ☐ "Protective Filer"
  - ☐ "Non-or Late Filer"
- ☐ Note Specified
- ☐ Other_____

Waste Generated:

- ☑ Onsite
- ☐ Offsite
- ☐ Onsite and Offsite

Waste Deposition Authorized By:

- ☑ Present Owner
- ☐ Former Owner
- ☐ Present & Former Owner
- ☐ Unauthorized
- ☐ Unknown

Waste Accessible to the Public:

- ☐ Yes
- ☑ No

Distance to Nearest Dwelling, School, or Workplace:

814 Feet

6. Waste Characteristics Information

(Refer to PA Table 1 for WC Score)

Source Type: (check all that apply)

Source Type	Source Waste Quantity: (include unit)	Tier*:
☐ Landfill	_____	____
☐ Surface Impoundment	_____	____
☐ Drums	_____	____
☐ Tanks and Non-Dum Containers	_____	____
☐ Chemical Waste Pile	_____	____
☐ Scrap Metal or Junk Pile	_____	____
☐ Tailings Pile	_____	____
☐ Trash Pile (open drum)	_____	____
☐ Land Treatment	_____	____
☐ Contaminated GW Plume (unidentified source)	_____	____
☐ Contaminated SW/Sediment (unidentified source)	_____	____
☐ Contaminated Soil	_____	____
☑ Other AFFF	_____	____
☐ No Sources		

*C=Constituent, W=Wastestream, V=Volume, A=Area

General Type of Waste (check all that apply):

- ☐ Metals
- ☐ Organics
- ☐ Inorganics
- ☐ Solvents
- ☐ Paints/Pigments
- ☐ Laboratory/Hospital Waste
- ☐ Radioactive Waste
- ☐ Construction/Demolition Waste
- ☐ Pesticides/Herbicides
- ☐ Acids/Bases
- ☐ Oily Waste
- ☐ Municipal Waste
- ☐ Mining Waste
- ☐ Explosives
- ☑ Other AFFF

Physical State of Waste as Deposited (check all that apply):

- ☐ Solid
- ☐ Sludge
- ☐ Powder
- ☑ Liquid
- ☐ Gas

7. Ground Water Pathway

Is Ground Water Used for Drinking Within 4 Miles:

☑ Yes
☐ No

If Yes, Distance to nearest Drinking Well:

4.5 miles

Type of Drinking Water Wells Within 4 Miles
(check all that apply):

☑ Municipal
☑ Private
☐ None

Is There a Suspected Release to Ground Water[1]:

☑ Yes
☐ No

Have Primary Target Drinking Water Wells Been Identified:

☑ Yes
☐ No

If Yes, Enter Primary Target Population:

25 People[3]

Depth to Shallowest Aquifer:

4-5 Feet

Karst Terrain/Aquifer Present:

☑ Yes
☐ No

Nearest Designated Wellhead Protection Area[6]:

☐ Underlies Site
☐ >0-4 Miles
☐ None Within 4 Miles

List Secondary Target Population Served by Ground Water Withdrawn From:

0 - 1/4 Mile _____

>1/4 - 1/2 Mile _____

>1/2 - 1 Mile _____

>1 - 2 Mile _____

>2 - 3 Mile _____

>3 - 4 Mile _____

Total Within 4 Miles[4] 18,099

*Use population #s for PA Table 2

*Note nearest well for #5 on GW Pathway Scoresheet

8. Surface Water Pathway

Type of Surface Water Draining Site and 15 Miles Downstream (check all that apply):

☐ Stream ☐ River ☐ Pond ☐ Lake
☐ Bay ☐ Ocean ☐ Other _

Shortest Overland Distance From Any Source to Surface Water:

2,270 Feet
_____ Miles

Is There a Suspected Release to Surface Water[1]:

☐ Yes
☑ No

Site is Located in:

☐ Annual - 10 yr Floodplain
☐ >10yr - 100yr Floodplain
☐ >100yr - 500yr Floodplain
☐ >500yr Floodplain

Drinking Water Intake Located Along the Surface Water Migration Path:

☐ Yes
☑ No

Have Primary Target Drinking Water Intakes Been Identified:

☐ Yes
☑ No

If Yes, Distance to Nearest Drinking Water Intake : _____ Miles[6]

If Yes, Enter Population Served by Target Intake:

_____ People[4]

List All Secondary Target Drinking Water Intakes:

Name:	Water Body:	Flow (cfs):	Population Served:

Total within 15 Miles [4] _____

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[10]:

Water Body/ Fishery Name :	Flow (cfs):

8. Surface Water Pathway (continued)

Wetlands Located Along the Surface Water Migration Path:

☐ Yes
☑ No

Have Primary Target Wetlands Been Identified:

☐ Yes
☑ No

List All Wetlands:

Water Body :	Flow (cfs):	Frontage miles:
_ _____	_____	_____
_____	_____	_____
_____	_____	_____

Other Sensitive Environments Located Along the Surface Water Migration Path:

☐ Yes
☑ No

If Yes, Distance to Nearest Sensitive Environment:
_____ feet

Have Primary Target Sensitive Environments Been Identified:

☐ Yes
☑ No

List All Sensitive Environments[11]:

Water Body :	Flow (cfs):	Sensitive Environment Type:
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

9. Soil Exposure 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[2]

Number of Workers Onsite[4]:

☑ None
☐ 1 - 100
☐ 101 - 1,000
☐ > 1,000

Population Within 1 Mile:

_18,099 (4-miles)
People[7]

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[5]:

_____
_____
_____

*Refer to PA Table 7 for environment types

10. Air Pathway

Is there a Suspected Release to Air[1]:

☐ Yes
☑ No

Enter Total Population on or Within:

Onsite _____

0-1/4 Mile _____

>1/4-1/2 Mile _____

>1/2-1 Mile _____

>1-2 Miles _____

>2-3 Miles _____

>3-4 Miles _____

Total Within 4 Miles [3-5] _18,099_____

Wetlands Located Within 4 Miles of the Site[6]:

☑ Yes
☐ No

If Yes, How Many Acres: _unknown__ Acres

Other Sensitive Environments Located Within 4 Miles of the Site:

☑ Yes
☐ No

List All Sensitive Environments Within 1/2 Mile of the Site[6]:

Distance:	Sensitive Environment Type/Wetlands Area (acres):
Onsite	_____
0-1/4 Mile	_Banana River_____
>1/4-1/2 Mile	_____

*Refer to PA Table 10 for calculations on air pathway exposures

[1-11] Refers to question number on the PA scoresheet for each particular pathway

Potential Hazardous Waste Site Preliminary Assessment Form

Identification

State: | CERCLIS #:

CERCLIS Discovery Date:

1. General Site Information

Name: Former Fire Training Area 1		Street Address: NA			
City:		State: FL	Zip Code:32925	County:Brevard	Co. Code:12009	Cong. Dist:8th
Latitude: [redacted]	Longitude: [redacted]	Approximate Area of Site: 0.25 Acres _____ Square Ft		Status of Site: ☐ Active ☐ Not Specified ☑ Inactive ☐ NA (GW plume, etc.)	

Site Name: Former Fire Training Area 1

Site Description: Former Fire Training Area (FTA) 1 (Site FT-21 [Solid Waste Mangement Unit #032]) was located along the eastern central portion of Patrick AFB, southeast of Building 820. The Former FTA was in operation from 1950 to 1963 and was used for burning waste fuels (Aviation gasoline, motor gasoline, and diesel), waste oils, halogenated and non-halogenated solvents during firefighting training exercises. The site consisted of approximately 0.25 acres with a shallow unlined depression in sandy soils into which combustible material were placed and ignited during fire training activities. The operational timeframe of the Former FTA was prior to the use of AFFF by the Air Force; therefore, impact to the environmental media surrounding the Former FTA is not possible.

2. Owner/Operator Information

Owner: Patrick AFB			Operator: Same as "owner"		
Street Address:			Street Address:		
City:			City:		
State: FL	Zip Code:32925	Telephone:	State:	Zip Code:	Telephone:

Type of Ownership: ☐ Private ☐ County ☑ Federal Agency ☐ Municipal Name: _DOD__ ☐ Not Specified ☐ State ☐ Other_____ ☐ Indian	Type of Ownership: ☐ Private ☐ County ☐ Federal Agency ☐ Municipal Name: _____ ☐ Not Specified ☐ State ☐ Other_____ ☐ Indian

3. Site Evaluator Information

Name of Evaluator: John Sandoval	Agency/Organization: HydroGeoLogic, Inc.	Date Prepared:07/06/15
Street Address:404 E. Ramsey Road, Ste. 210	City:San Antonio	State:Texas
Name of EPA or State Agency Contact:NA	Street Address:	
City:	State:	Telephone:

4. Site Disposition *(for EPA use only)*

Emergency Response/Removal Assessment Recommendation: ☐ Yes ☐ No Date: _____	CERCLIS Recommendation: ☐ Higher Priority SI ☐ Lower Priority SI ☐ NFRAP ☐ RCRA ☐ Other: _____ Date: _____	Signature: Name (typed): Position:

5. General Site Characteristics - NA

Predominant Land Use Within 1 Mile of Site (check all that apply):

- ☐ Industrial
- ☐ Commercial
- ☐ Residential
- ☐ Forest/Fields
- ☐ Agriculture
- ☐ Mining
- ☐ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility: _____
- ☐ Other _____

Site Setting:

- ☐ Urban
- ☐ Suburban
- ☐ Rural

Years of Operation:

Beginning Year _____

Ending Year _____

☐ Unknown

Type of Site Operations (check all that apply):

- ☐ Manufacturing (must check subcategory)
  - ☐ Lumber and Wood Products
  - ☐ Inorganic Chemicals
  - ☐ Plastic and/or Rubber Products
  - ☐ Paints, Varnishes
  - ☐ Industrial Organic Chemicals
  - ☐ Agricultural Chemicals
  - ☐ Miscellaneous Chemical Products
  - ☐ Primary Metals
  - ☐ Metal Coating, Plating, Engraving
  - ☐ Metal Forging, Stamping
  - ☐ Fabricated Structural Metal Products
  - ☐ Electronic Equipment
  - ☐ Other Manufacturing
- ☐ Mining
  - ☐ Metals
  - ☐ Coal
  - ☐ Oil and Gas
  - ☐ Non-metallic Minerals
- ☐ Retail
- ☐ Recycling
- ☐ Junk/Salvage Yard
- ☐ Municipal Landfill
- ☐ Other Landfill
- ☐ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility _____
- ☐ RCRA
  - ☐ Treatment, Storage, or Disposal
  - ☐ Large Quantity Generator
  - ☐ Small Quantity Generator
  - ☐ Subtitle D
    - ☐ Municipal
    - ☐ Industrial
  - ☐ "Converter"
  - ☐ "Protective Filer"
  - ☐ "Non-or Late Filer"
- ☐ Note Specified
- ☐ Other_____

Waste Generated:

- ☐ Onsite
- ☐ Offsite
- ☐ Onsite and Offsite

Waste Deposition Authorized By:

- ☐ Present Owner
- ☐ Former Owner
- ☐ Present & Former Owner
- ☐ Unauthorized
- ☐ Unknown

Waste Accessible to the Public:

- ☐ Yes
- ☐ No

Distance to Nearest Dwelling, School, or Workplace:

_____ Feet

6. Waste Characteristics Information - NA

(Refer to PA Table 1 for WC Score)

Source Type: (check all that apply)

	Source Waste Quantity: (include unit)	Tier*:
☐ Landfill	_____	____
☐ Surface Impoundment	_____	____
☐ Drums	_____	____
☐ Tanks and Non-Dum Containers	_____	____
☐ Chemical Waste Pile	_____	____
☐ Scrap Metal or Junk Pile	_____	____
☐ Tailings Pile	_____	____
☐ Trash Pile (open drum)	_____	____
☐ Land Treatment	_____	____
☐ Contaminated GW Plume (unidentified source)	_____	____
☐ Contaminated SW/Sediment (unidentified source)	_____	____
☐ Contaminated Soil	_____	____
☐ Other_____	_____	____
☐ No Sources		

*C=Constituent, W=Wastestream, V=Volume, A=Area

General Type of Waste (check all that apply):

- ☐ Metals
- ☐ Organics
- ☐ Inorganics
- ☐ Solvents
- ☐ Paints/Pigments
- ☐ Laboratory/Hospital Waste
- ☐ Radioactive Waste
- ☐ Construction/Demolition Waste
- ☐ Pesticides/Herbicides
- ☐ Acids/Bases
- ☐ Oily Waste
- ☐ Municipal Waste
- ☐ Mining Waste
- ☐ Explosives
- ☐ Other _____

Physical State of Waste as Deposited (check all that apply):

- ☐ Solid
- ☐ Sludge
- ☐ Powder
- ☐ Liquid
- ☐ Gas

7. Ground Water Pathway - NA

Is Ground Water Used for Drinking Within 4 Miles:

☐ Yes
☐ No

If Yes, Distance to nearest Drinking Well:

_____ Feet

Type of Drinking Water Wells Within 4 Miles
(check all that apply):

☐ Municipal
☐ Private
☐ None

Is There a Suspected Release to Ground Water[1]:

☐ Yes
☐ No

Have Primary Target Drinking Water Wells Been Identified:

☐ Yes
☐ No

If Yes, Enter Primary Target Population:

_____ People[3]

Depth to Shallowest Aquifer:

_____ Feet

Karst Terrain/Aquifer Present:

☐ Yes
☐ No

Nearest Designated Wellhead Protection Area[6]:

☐ Underlies Site
☐ >0-4 Miles
☐ None Within 4 Miles

List Secondary Target Population Served by Ground Water Withdrawn From:

0 - 1/4 Mile _____

>1/4 - 1/2 Mile _____

>1/2 - 1 Mile _____

>1 - 2 Mile _____

>2 - 3 Mile _____

>3 - 4 Mile _____

Total Within 4 Miles[4] _____

*Use population #s for PA Table 2

*Note nearest well for #5 on GW Pathway Scoresheet

8. Surface Water Pathway - NA

Type of Surface Water Draining Site and 15 Miles Downstream (check all that apply):

☐ Stream ☐ River ☐ Pond ☐ Lake
☐ Bay ☐ Ocean ☐ Other_____

Shortest Overland Distance From Any Source to Surface Water:

_____ Feet
_____ Miles

Is There a Suspected Release to Surface Water[1]:

☐ Yes
☐ No

Site is Located in:

☐ Annual - 10 yr Floodplain
☐ >10yr - 100yr Floodplain
☐ >100yr - 500yr Floodplain
☐ >500yr Floodplain

Drinking Water Intake Located Along the Surface Water Migration Path:

☐ Yes
☐ No

Have Primary Target Drinking Water Intakes Been Identified:

☐ Yes
☐ No

If Yes, Distance to Nearest Drinking Water Intake : _____ Miles[6]

If Yes, Enter Population Served by Target Intake:

_____ People[4]

List All Secondary Target Drinking Water Intakes:

Name:	Water Body:	Flow (cfs):	Population Served:
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Total within 15 Miles [4] _____

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[10]:

Water Body/ Fishery Name :	Flow (cfs):
_____	_____
_____	_____
_____	_____
_____	_____

8. Surface Water Pathway (continued)

Wetlands Located Along the Surface Water Migration Path:

☐ Yes
☐ No

Have Primary Target Wetlands Been Identified:

☐ Yes
☐ No

List All Wetlands:

Water Body :	Flow (cfs):	Frontage miles:
Ashumet Pond	_____	_____
_____	_____	_____
_____	_____	_____

Other Sensitive Environments Located Along the Surface Water Migration Path:

☐ Yes
☐ No

If Yes, Distance to Nearest Sensitive Environment:
_____ Miles

Have Primary Target Sensitive Environments Been Identified:

☐ Yes
☐ No

List All Sensitive Environments[11]:

Water Body :	Flow (cfs):	Sensitive Environment Type:
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

9. Soil Exposure Pathway - NA

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[2]

Number of Workers Onsite[4]:

☐ None
☐ 1 - 100
☐ 101 - 1,000
☐ > 1,000

Population Within 1 Mile:

_____People[7]

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[5]:

_____
_____
_____

*Refer to PA Table 7 for environment types

10. Air Pathway - NA

Is there a Suspected Release to Air[1]:

☐ Yes
☐ No

Enter Total Population on or Within:

Onsite _____

0-1/4 Mile _____

>1/4-1/2 Mile _____

>1/2-1 Mile _____

>1-2 Miles _____

>2-3 Miles _____

>3-4 Miles _____

Total Within 4 Miles [3-5] _____

Wetlands Located Within 4 Miles of the Site[6]:

☐ Yes
☐ No

If Yes, How Many Acres: _____ Acres

Other Sensitive Environments Located Within 4 Miles of the Site:

☐ Yes
☐ No

List All Sensitive Environments Within 1/2 Mile of the Site[6]:

Distance:	Sensitive Environment Type/Wetlands Area (acres):
Onsite	_____
0-1/4 Mile	_____
>1/4-1/2 Mile	_____

*Refer to PA Table 10 for calculations on air pathway exposures

[1-11] Refers to question number on the PA scoresheet for each particular pathway

Potential Hazardous Waste Site Preliminary Assessment Form

Identification

State: | CERCLIS #:

CERCLIS Discovery Date:

1. General Site Information

Name: Former Fire Training Area 2		Street Address: NA			
City:		State: FL	Zip Code:32925	County:Brevard	Co. Code:12009	Cong. Dist:8th
Latitude: [redacted]	Longitude: [redacted]	Approximate Area of Site: _____ Acres _____ Square Ft		Status of Site: ☐ Active ☐ Not Specified ☑ Inactive ☐ NA (GW plume, etc.)	

Site Name: Former Fire Training Area 2

Site Description:Former FTA 2 (Site FT-22) consisted of two burn pits (Burn Pit 1 and Burn Pit 2) located on northwestern portion of Patrick AFB. Burn pit 1 was an unlined circular burn pit approximately 2 feet in depth and 150 feet in diameter. Combustible wastes were ignited in the burn pit from 1963 to 1978 and only uncontaminated fuels were used after 1978. The Assistant Fire Chief was not aware of fire training activities conducted at burn pit 1 (Appendix C, Records of Communication; Environmental Science and Engineering, Inc., 1988). Based on the use of AFFF by the Air Force in 1970, the potential exists for AFFF being used to extinguish fires during the operational period from 1970 through 1978.

Burn pit 2 is a lined pit with a concrete pad that was constructed and has been in operations since 1985. The new training facility was equipped with a water collection and treatment system. According to the Assistant Fire Chief, AFFF was used when fire training activities were performed and occasionally was accidentally over sprayed outside of the lined pit. Additionally, during high winds AFFF was blown to the ground surface surrounding the pit. The Assistant Fire Chief was not aware of the amounts of AFFF accidentally released to surrounding environment at burn pit 2. Fire training activities at the burn pit ceased around 2000/2001 (Appendix C, Records of Communication; Environmental Science and Engineering, Inc., 1988). The potential for PFC Contamination to the environmental media surrounding burn pit 2 exists based on accidental releases/overspray outside of the lined pit.

2. Owner/Operator Information

Owner: Patrick AFB			Operator: Same as "owner"		
Street Address:			Street Address:		
City:			City:		
State: FL	Zip Code:32925	Telephone:	State:	Zip Code:	Telephone:
Type of Ownership: ☐ Private ☑ Federal Agency Name: _DOD___ ☐ State ☐ Indian ☐ County ☐ Municipal ☐ Not Specified ☐ Other_____			Type of Ownership: ☐ Private ☐ Federal Agency Name: _____ ☐ State ☐ Indian ☐ County ☐ Municipal ☐ Not Specified ☐ Other_____		

3. Site Evaluator Information

Name of Evaluator: John Sandoval	Agency/Organization: HydroGeoLogic, Inc.	Date Prepared:07/06/15
Street Address:404 E. Ramsey Road, Ste. 210	City:San Antonio	State:Texas
Name of EPA or State Agency Contact:NA	Street Address:	
City:	State:	Telephone:

4. Site Disposition *(for EPA use only)*

Emergency Response/Removal Assessment Recommendation: ☐ Yes ☐ No Date: _____	CERCLIS Recommendation: ☐ Higher Priority SI ☐ Lower Priority SI ☐ NFRAP ☐ RCRA ☐ Other: _____ Date: _____	Signature: Name (typed): Position:

5. General Site Characteristics

Predominant Land Use Within 1 Mile of Site (check all that apply):

- ☐ Industrial
- ☐ Commercial
- ☐ Residential
- ☐ Forest/Fields
- ☐ Agriculture
- ☐ Mining
- ☑ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility: _____
- ☐ Other _____

Site Setting:

- ☐ Urban
- ☐ Suburban
- ☑ Rural

Years of Operation:

Beginning Year 1963

Ending Year 2001

☐ Unknown

Type of Site Operations (check all that apply):

- ☐ Manufacturing (must check subcategory)
  - ☐ Lumber and Wood Products
  - ☐ Inorganic Chemicals
  - ☐ Plastic and/or Rubber Products
  - ☐ Paints, Varnishes
  - ☐ Industrial Organic Chemicals
  - ☐ Agricultural Chemicals
  - ☐ Miscellaneous Chemical Products
  - ☐ Primary Metals
  - ☐ Metal Coating, Plating, Engraving
  - ☐ Metal Forging, Stamping
  - ☐ Fabricated Structural Metal Products
  - ☐ Electronic Equipment
  - ☐ Other Manufacturing
- ☐ Mining
  - ☐ Metals
  - ☐ Coal
  - ☐ Oil and Gas
  - ☐ Non-metallic Minerals
- ☐ Retail
- ☐ Recycling
- ☐ Junk/Salvage Yard
- ☐ Municipal Landfill
- ☐ Other Landfill
- ☑ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility _____
- ☐ RCRA
  - ☐ Treatment, Storage, or Disposal
  - ☐ Large Quantity Generator
  - ☐ Small Quantity Generator
  - ☐ Subtitle D
    - ☐ Municipal
    - ☐ Industrial
  - ☐ "Converter"
  - ☐ "Protective Filer"
  - ☐ "Non-or Late Filer"
- ☐ Note Specified
- ☐ Other_____

Waste Generated:

- ☑ Onsite
- ☐ Offsite
- ☐ Onsite and Offsite

Waste Deposition Authorized By:

- ☑ Present Owner
- ☐ Former Owner
- ☐ Present & Former Owner
- ☐ Unauthorized
- ☐ Unknown

Waste Accessible to the Public:

- ☑ Yes
- ☐ No

Distance to Nearest Dwelling, School, or Workplace:

290 Feet

6. Waste Characteristics Information

(Refer to PA Table 1 for WC Score)

Source Type: (check all that apply)

	Source Waste Quantity: (include unit)	Tier*:
☐ Landfill	_____	____
☐ Surface Impoundment	_____	____
☐ Drums	_____	____
☐ Tanks and Non-Dum Containers	_____	____
☐ Chemical Waste Pile	_____	____
☐ Scrap Metal or Junk Pile	_____	____
☐ Tailings Pile	_____	____
☐ Trash Pile (open drum)	_____	____
☐ Land Treatment	_____	____
☐ Contaminated GW Plume (unidentified source)	_____	____
☐ Contaminated SW/Sediment (unidentified source)	_____	____
☐ Contaminated Soil	_____	____
☑ Other AFFF	_____	____
☐ No Sources		

*C=Constituent, W=Wastestream, V=Volume, A=Area

General Type of Waste (check all that apply):

- ☐ Metals
- ☐ Organics
- ☐ Inorganics
- ☐ Solvents
- ☐ Paints/Pigments
- ☐ Laboratory/Hospital Waste
- ☐ Radioactive Waste
- ☐ Construction/Demolition Waste
- ☐ Pesticides/Herbicides
- ☐ Acids/Bases
- ☐ Oily Waste
- ☐ Municipal Waste
- ☐ Mining Waste
- ☐ Explosives
- ☑ Other AFFF

Physical State of Waste as Deposited (check all that apply):

- ☐ Solid
- ☐ Sludge
- ☐ Powder
- ☑ Liquid
- ☐ Gas

7. Ground Water Pathway - NA

Is Ground Water Used for Drinking Within 4 Miles:

☑ Yes
☐ No

If Yes, Distance to nearest Drinking Well:

4.56 Feet

Type of Drinking Water Wells Within 4 Miles
(check all that apply):

☑ Municipal
☑ Private
☐ None

Is There a Suspected Release to Ground Water[1]:

☑ Yes
☐ No

Have Primary Target Drinking Water Wells Been Identified:

☑ Yes
☐ No

If Yes, Enter Primary Target Population:

25 People[3]

Depth to Shallowest Aquifer:

4-5 Feet

Karst Terrain/Aquifer Present:

☑ Yes
☐ No

Nearest Designated Wellhead Protection Area[6]:

☐ Underlies Site
☐ >0-4 Miles
☐ None Within 4 Miles

List Secondary Target Population Served by Ground Water Withdrawn From:

0 - 1/4 Mile _____

>1/4 - 1/2 Mile _____

>1/2 - 1 Mile _____

>1 - 2 Mile _____

>2 - 3 Mile _____

>3 - 4 Mile _____

Total Within 4 Miles[4] 20,379

*Use population #s for PA Table 2
*Note nearest well for #5 on GW Pathway Scoresheet

8. Surface Water Pathway

Type of Surface Water Draining Site and 15 Miles Downstream (check all that apply):

☐ Stream ☑ River ☐ Pond ☐ Lake
☐ Bay ☐ Ocean ☐ Other_____

Shortest Overland Distance From Any Source to Surface Water:

100 Feet
_____ Miles

Is There a Suspected Release to Surface Water[1]:

☑ Yes
☐ No

Site is Located in:

☐ Annual - 10 yr Floodplain
☐ >10yr - 100yr Floodplain
☑ >100yr - 500yr Floodplain
☐ >500yr Floodplain

Drinking Water Intake Located Along the Surface Water Migration Path:

☐ Yes
☑ No

Have Primary Target Drinking Water Intakes Been Identified:

☐ Yes
☑ No

If Yes, Distance to Nearest Drinking Water Intake : _____ Miles[6]

If Yes, Enter Population Served by Target Intake:

_____ People[4]

List All Secondary Target Drinking Water Intakes:

Name:	Water Body:	Flow (cfs):	Population Served:

Total within 15 Miles [4] _____

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[10]:

Water Body/ Fishery Name :	Flow (cfs):

8. Surface Water Pathway (continued)

Wetlands Located Along the Surface Water Migration Path:

☑ Yes
☐ No

Have Primary Target Wetlands Been Identified:

☑ Yes
☐ No

List All Wetlands:

Water Body :	Flow (cfs):	Frontage miles:
Baznan River		

Other Sensitive Environments Located Along the Surface Water Migration Path:

☐ Yes
☑ No

If Yes, Distance to Nearest Sensitive Environment: _____ Miles

Have Primary Target Sensitive Environments Been Identified:

☑ Yes
☐ No

List All Sensitive Environments[11]:

Water Body :	Flow (cfs):	Sensitive Environment Type:
multiple wetlands		

9. Soil Exposure 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[2]

Number of Workers Onsite[4]:

☑ None
☐ 1 - 100
☐ 101 - 1,000
☐ > 1,000

Population Within 1 Mile:

20,379 People[7]

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[5]:

_____

*Refer to PA Table 7 for environment types

10. Air Pathway

Is there a Suspected Release to Air[1]:

☐ Yes
☑ No

Enter Total Population on or Within:

Onsite	_____
0-1/4 Mile	_____
>1/4-1/2 Mile	_____
>1/2-1 Mile	_____
>1-2 Miles	_____
>2-3 Miles	_____
>3-4 Miles	_____
Total Within 4 Miles [3-5]	20,379

Wetlands Located Within 4 Miles of the Site[6]:

☑ Yes
☐ No

If Yes, How Many Acres: unknown Acres

Other Sensitive Environments Located Within 4 Miles of the Site:

☑ Yes
☐ No

List All Sensitive Environments Within 1/2 Mile of the Site[6]:

Distance:	Sensitive Environment Type/Wetlands Area (acres):
Onsite	
0-1/4 Mile	Banana River
>1/4-1/2 Mile	multieple wetlands

*Refer to PA Table 10 for calculations on air pathway exposures

[1-11] Refers to question number on the PA scoresheet for each particular pathway

Potential Hazardous Waste Site Preliminary Assessment Form

Identification

State: | CERCLIS #:

CERCLIS Discovery Date:

1. General Site Information

Name: Hangar 630		Street Address: NA			
City:		State: FL	Zip Code:32925	County:Brevard	Co. Code:12009	Cong. Dist:8th
Latitude: [redacted]	Longitude: [redacted]	Approximate Area of Site: _____ Acres _____ Square Ft		Status of Site: ☑ Active ☐ Not Specified ☐ Inactive ☐ NA (GW plume, etc.)	

Site Name: Hangar 630

Site Description: Hangar 630 is located in the northwestern portion of Patrick AFB. Hangar 630 was constructed in 1964 and is currently equipped with an AFFF fire suppression system. The hangar is supplied with 3% AFFF from an 800 gallon AST located in the hangar mechanical room.

2. Owner/Operator Information

Owner: Patrick AFB			Operator: Same as "owner"		
Street Address:			Street Address:		
City:			City:		
State: FL	Zip Code:32925	Telephone:	State:	Zip Code:	Telephone:

Type of Ownership:

☐ Private ☐ County
☑ Federal Agency ☐ Municipal
Name: _DOD___ ☐ Not Specified
☐ State ☐ Other_____
☐ Indian

Type of Ownership:

☐ Private ☐ County
☐ Federal Agency ☐ Municipal
Name: _____ ☐ Not Specified
☐ State ☐ Other_____
☐ Indian

3. Site Evaluator Information

Name of Evaluator: John Sandoval	Agency/Organization: HydroGeoLogic, Inc.	Date Prepared:07/06/15
Street Address:404 E. Ramsey Road, Ste. 210	City:San Antonio	State:Texas
Name of EPA or State Agency Contact:NA	Street Address:	
City:	State:	Telephone:

4. Site Disposition *(for EPA use only)*

Emergency Response/Removal Assessment Recommendation: ☐ Yes ☐ No Date: _____	CERCLIS Recommendation: ☐ Higher Priority SI ☐ Lower Priority SI ☐ NFRAP ☐ RCRA ☐ Other: _____ Date: _____	Signature: Name (typed): Position:

5. General Site Characteristics

Predominant Land Use Within 1 Mile of Site (check all that apply):

- ☐ Industrial
- ☐ Commercial
- ☐ Residential
- ☐ Forest/Fields
- ☐ Agriculture
- ☐ Mining
- ☑ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility: _____
- ☐ Other _____

Site Setting:

- ☐ Urban
- ☐ Suburban
- ☑ Rural

Years of Operation:

Beginning Year 1964

Ending Year present

☐ Unknown

Type of Site Operations (check all that apply):

- ☐ Manufacturing (must check subcategory)
  - ☐ Lumber and Wood Products
  - ☐ Inorganic Chemicals
  - ☐ Plastic and/or Rubber Products
  - ☐ Paints, Varnishes
  - ☐ Industrial Organic Chemicals
  - ☐ Agricultural Chemicals
  - ☐ Miscellaneous Chemical Products
  - ☐ Primary Metals
  - ☐ Metal Coating, Plating, Engraving
  - ☐ Metal Forging, Stamping
  - ☐ Fabricated Structural Metal Products
  - ☐ Electronic Equipment
  - ☐ Other Manufacturing
- ☐ Mining
  - ☐ Metals
  - ☐ Coal
  - ☐ Oil and Gas
  - ☐ Non-metallic Minerals
- ☐ Retail
- ☐ Recycling
- ☐ Junk/Salvage Yard
- ☐ Municipal Landfill
- ☐ Other Landfill
- ☑ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility _____
- ☐ RCRA
  - ☐ Treatment, Storage, or Disposal
  - ☐ Large Quantity Generator
  - ☐ Small Quantity Generator
  - ☐ Subtitle D
    - ☐ Municipal
    - ☐ Industrial
  - ☐ "Converter"
  - ☐ "Protective Filer"
  - ☐ "Non-or Late Filer"
- ☐ Note Specified
- ☐ Other_____

Waste Generated:

- ☑ Onsite
- ☐ Offsite
- ☐ Onsite and Offsite

Waste Deposition Authorized By:

- ☑ Present Owner
- ☐ Former Owner
- ☐ Present & Former Owner
- ☐ Unauthorized
- ☐ Unknown

Waste Accessible to the Public:

- ☐ Yes
- ☑ No

Distance to Nearest Dwelling, School, or Workplace:

on-site Feet

6. Waste Characteristics Information

(Refer to PA Table 1 for WC Score)

Source Type: (check all that apply)

	Source Waste Quantity: (include unit)	Tier*:
☐ Landfill	_____	____
☐ Surface Impoundment	_____	____
☐ Drums	_____	____
☐ Tanks and Non-Dum Containers	_____	____
☐ Chemical Waste Pile	_____	____
☐ Scrap Metal or Junk Pile	_____	____
☐ Tailings Pile	_____	____
☐ Trash Pile (open drum)	_____	____
☐ Land Treatment	_____	____
☐ Contaminated GW Plume (unidentified source)	_____	____
☐ Contaminated SW/Sediment (unidentified source)	_____	____
☐ Contaminated Soil	_____	____
☑ Other AFFF	_____	____
☐ No Sources		

*C=Constituent, W=Wastestream, V=Volume, A=Area

General Type of Waste (check all that apply):

- ☐ Metals
- ☐ Organics
- ☐ Inorganics
- ☐ Solvents
- ☐ Paints/Pigments
- ☐ Laboratory/Hospital Waste
- ☐ Radioactive Waste
- ☐ Construction/Demolition Waste
- ☐ Pesticides/Herbicides
- ☐ Acids/Bases
- ☐ Oily Waste
- ☐ Municipal Waste
- ☐ Mining Waste
- ☐ Explosives
- ☑ Other AFFF

Physical State of Waste as Deposited (check all that apply):

- ☐ Solid
- ☐ Sludge
- ☐ Powder
- ☑ Liquid
- ☐ Gas

7. Ground Water Pathway - NA

Is Ground Water Used for Drinking Within 4 Miles:

☑ Yes
☐ No

If Yes, Distance to nearest Drinking Well:

4.8 miles

Type of Drinking Water Wells Within 4 Miles
(check all that apply):

☑ Municipal
☑ Private
☐ None

Is There a Suspected Release to Ground Water[1]:

☑ Yes
☐ No

Have Primary Target Drinking Water Wells Been Identified:

☑ Yes
☐ No

If Yes, Enter Primary Target Population:

25 People[3]

List Secondary Target Population Served by Ground Water Withdrawn From:

0 - 1/4 Mile _____

>1/4 - 1/2 Mile _____

>1/2 - 1 Mile _____

>1 - 2 Mile _____

>2 - 3 Mile _____

>3 - 4 Mile _____

Total Within 4 Miles[4] 16,416

Depth to Shallowest Aquifer:

4-5 Feet

Karst Terrain/Aquifer Present:

☑ Yes
☐ No

Nearest Designated Wellhead Protection Area[6]:

☐ Underlies Site
☐ >0-4 Miles
☐ None Within 4 Miles

*Use population #s for PA Table 2

*Note nearest well for #5 on GW Pathway Scoresheet

8. Surface Water Pathway

Type of Surface Water Draining Site and 15 Miles Downstream (check all that apply):

☐ Stream ☑ River ☐ Pond ☐ Lake
☐ Bay ☐ Ocean ☐ Other_____

Shortest Overland Distance From Any Source to Surface Water:

1,042 Feet
_____ Miles

Is There a Suspected Release to Surface Water[1]:

☑ Yes
☐ No

Site is Located in:

☐ Annual - 10 yr Floodplain
☐ >10yr - 100yr Floodplain
☑ >100yr - 500yr Floodplain
☐ >500yr Floodplain

Drinking Water Intake Located Along the Surface Water Migration Path:

☐ Yes
☑ No

Have Primary Target Drinking Water Intakes Been Identified:

☐ Yes
☑ No

If Yes, Distance to Nearest Drinking Water Intake : _____ Miles[6]

If Yes, Enter Population Served by Target Intake:

_____ People[4]

List All Secondary Target Drinking Water Intakes:

Name:	Water Body:	Flow (cfs):	Population Served:

Total within 15 Miles [4] _____

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[10]:

Water Body/ Fishery Name :	Flow (cfs):

8. Surface Water Pathway (continued)

Wetlands Located Along the Surface Water Migration Path:

☑ Yes
☐ No

Have Primary Target Wetlands Been Identified:

☑ Yes
☐ No

List All Wetlands:

Water Body :	Flow (cfs):	Frontage miles:
Baznan River		

Other Sensitive Environments Located Along the Surface Water Migration Path:

☑ Yes
☐ No

If Yes, Distance to Nearest Sensitive Environment:
1,042 feet

Have Primary Target Sensitive Environments Been Identified:

☑ Yes
☐ No

List All Sensitive Environments[11]:

Water Body :	Flow (cfs):	Sensitive Environment Type:
multiple wetlands		

9. Soil Exposure 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[2]

Number of Workers Onsite[4]:

☐ None
☑ 1 - 100
☐ 101 - 1,000
☐ > 1,000

Population Within 1 Mile:

16,416 (4 miles)
People[7]

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[5]:

*Refer to PA Table 7 for environment types

10. Air Pathway

Is there a Suspected Release to Air[1]:

☐ Yes
☑ No

Enter Total Population on or Within:

Onsite _____

0-1/4 Mile _____

>1/4-1/2 Mile _____

>1/2-1 Mile _____

>1-2 Miles _____

>2-3 Miles _____

>3-4 Miles _____

Total Within 4 Miles [3-5] 16,416

Wetlands Located Within 4 Miles of the Site[6]:

☑ Yes
☐ No

If Yes, How Many Acres: unknown Acres

Other Sensitive Environments Located Within 4 Miles of the Site:

☑ Yes
☐ No

List All Sensitive Environments Within 1/2 Mile of the Site[6]:

Distance:	Sensitive Environment Type/Wetlands Area (acres):
Onsite	
0-1/4 Mile	Banana River
>1/4-1/2 Mile	multieple wetlands

*Refer to PA Table 10 for calculations on air pathway exposures

[1-11] Refers to question number on the PA scoresheet for each particular pathway

Potential Hazardous Waste Site Preliminary Assessment Form

Identification

State: | CERCLIS #:

CERCLIS Discovery Date:

1. General Site Information

Name: Hangar 647		Street Address: NA			
City:		State: FL	Zip Code:32925	County:Brevard	Co. Code:12009	Cong. Dist:8th
Latitude: [redacted]	Longitude: [redacted]	Approximate Area of Site: ___ ___ Acres _____ Square Ft		Status of Site: ☑ Active ☐ Not Specified ☐ Inactive ☐ NA (GW plume, etc.)	

Site Name: Hangar 647

Site Description: Hangar 647 is located in the northwestern portion of Patrick AFB. Hangar 647 is a fuel cell maintenance hangar that was constructed in 1970 and is currently equipped with an AFFF fire suppression system. The hangar is supplied with 3% AFFF from a 2,000 gallon AST located in the hangar mechanical room.

2. Owner/Operator Information

Owner: Patrick AFB			Operator: Same as "owner"		
Street Address:			Street Address:		
City:			City:		
State: FL	Zip Code:32925	Telephone:	State:	Zip Code:	Telephone:
Type of Ownership: ☐ Private ☐ County ☑ Federal Agency ☐ Municipal Name: _DOD_ ☐ Not Specified ☐ State ☐ Other_____ ☐ Indian			Type of Ownership: ☐ Private ☐ County ☐ Federal Agency ☐ Municipal Name: _____ ☐ Not Specified ☐ State ☐ Other_____ ☐ Indian		

3. Site Evaluator Information

Name of Evaluator: John Sandoval	Agency/Organization: HydroGeoLogic, Inc.	Date Prepared:07/06/15
Street Address:404 E. Ramsey Road, Ste. 210	City:San Antonio	State:Texas
Name of EPA or State Agency Contact:NA	Street Address:	
City:	State:	Telephone:

4. Site Disposition *(for EPA use only)*

Emergency Response/Removal Assessment Recommendation:	CERCLIS Recommendation:	Signature:
☐ Yes ☐ No Date: _____	☐ Higher Priority SI ☐ Lower Priority SI ☐ NFRAP ☐ RCRA ☐ Other: _____ Date: _____	Name (typed): Position:

5. General Site Characteristics

Predominant Land Use Within 1 Mile of Site (check all that apply):

- ☐ Industrial
- ☐ Commercial
- ☐ Residential
- ☐ Forest/Fields
- ☐ Agriculture
- ☐ Mining
- ☑ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility: _____
- ☐ Other _____

Site Setting:

- ☐ Urban
- ☐ Suburban
- ☑ Rural

Years of Operation:

Beginning Year 1970

Ending Year present

☐ Unknown

Type of Site Operations (check all that apply):

- ☐ Manufacturing (must check subcategory)
  - ☐ Lumber and Wood Products
  - ☐ Inorganic Chemicals
  - ☐ Plastic and/or Rubber Products
  - ☐ Paints, Varnishes
  - ☐ Industrial Organic Chemicals
  - ☐ Agricultural Chemicals
  - ☐ Miscellaneous Chemical Products
  - ☐ Primary Metals
  - ☐ Metal Coating, Plating, Engraving
  - ☐ Metal Forging, Stamping
  - ☐ Fabricated Structural Metal Products
  - ☐ Electronic Equipment
  - ☐ Other Manufacturing
- ☐ Mining
  - ☐ Metals
  - ☐ Coal
  - ☐ Oil and Gas
  - ☐ Non-metallic Minerals
- ☐ Retail
- ☐ Recycling
- ☐ Junk/Salvage Yard
- ☐ Municipal Landfill
- ☐ Other Landfill
- ☑ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility _____
- ☐ RCRA
  - ☐ Treatment, Storage, or Disposal
  - ☐ Large Quantity Generator
  - ☐ Small Quantity Generator
  - ☐ Subtitle D
    - ☐ Municipal
    - ☐ Industrial
  - ☐ "Converter"
  - ☐ "Protective Filer"
  - ☐ "Non-or Late Filer"
- ☐ Note Specified
- ☐ Other_____

Waste Generated:

- ☑ Onsite
- ☐ Offsite
- ☐ Onsite and Offsite

Waste Deposition Authorized By:

- ☑ Present Owner
- ☐ Former Owner
- ☐ Present & Former Owner
- ☐ Unauthorized
- ☐ Unknown

Waste Accessible to the Public:

- ☐ Yes
- ☑ No

Distance to Nearest Dwelling, School, or Workplace:

on-site Feet

6. Waste Characteristics Information

(Refer to PA Table 1 for WC Score)

Source Type: (check all that apply)

Source Type	Source Waste Quantity: (include unit)	Tier*:
☐ Landfill	_____	____
☐ Surface Impoundment	_____	____
☐ Drums	_____	____
☐ Tanks and Non-Dum Containers	_____	____
☐ Chemical Waste Pile	_____	____
☐ Scrap Metal or Junk Pile	_____	____
☐ Tailings Pile	_____	____
☐ Trash Pile (open drum)	_____	____
☐ Land Treatment	_____	____
☐ Contaminated GW Plume (unidentified source)	_____	____
☐ Contaminated SW/Sediment (unidentified source)	_____	____
☐ Contaminated Soil	_____	____
☑ Other AFFF	_____	____
☐ No Sources		

*C=Constituent, W=Wastestream, V=Volume, A=Area

General Type of Waste (check all that apply):

- ☐ Metals
- ☐ Organics
- ☐ Inorganics
- ☐ Solvents
- ☐ Paints/Pigments
- ☐ Laboratory/Hospital Waste
- ☐ Radioactive Waste
- ☐ Construction/Demolition Waste
- ☐ Pesticides/Herbicides
- ☐ Acids/Bases
- ☐ Oily Waste
- ☐ Municipal Waste
- ☐ Mining Waste
- ☐ Explosives
- ☑ Other AFFF

Physical State of Waste as Deposited (check all that apply):

- ☐ Solid
- ☐ Sludge
- ☐ Powder
- ☑ Liquid
- ☐ Gas

7. Ground Water Pathway

Is Ground Water Used for Drinking Within 4 Miles:

☑ Yes
☐ No

If Yes, Distance to nearest Drinking Well:

4.8 miles

Type of Drinking Water Wells Within 4 Miles
(check all that apply):

☑ Municipal
☑ Private
☐ None

Is There a Suspected Release to Ground Water[1]:

☑ Yes
☐ No

Have Primary Target Drinking Water Wells Been Identified:

☑ Yes
☐ No

If Yes, Enter Primary Target Population:

25 People[3]

List Secondary Target Population Served by Ground Water Withdrawn From:

0 - 1/4 Mile _____

>1/4 - 1/2 Mile _____

>1/2 - 1 Mile _____

>1 - 2 Mile _____

>2 - 3 Mile _____

>3 - 4 Mile _____

Total Within 4 Miles[4] 16,416

*Use population #s for PA Table 2

*Note nearest well for #5 on GW Pathway Scoresheet

Depth to Shallowest Aquifer:

4-5 Feet

Karst Terrain/Aquifer Present:

☑ Yes
☐ No

Nearest Designated Wellhead Protection Area[6]:

☐ Underlies Site
☐ >0-4 Miles
☐ None Within 4 Miles

8. Surface Water Pathway

Type of Surface Water Draining Site and 15 Miles Downstream (check all that apply):

☐ Stream ☑ River ☐ Pond ☐ Lake
☐ Bay ☐ Ocean ☐ Other_____

Shortest Overland Distance From Any Source to Surface Water:

685 Feet
_____ Miles

Is There a Suspected Release to Surface Water[1]:

☑ Yes
☐ No

Site is Located in:

☐ Annual - 10 yr Floodplain
☐ >10yr - 100yr Floodplain
☐ >100yr - 500yr Floodplain
☐ >500yr Floodplain

Drinking Water Intake Located Along the Surface Water Migration Path:

☐ Yes
☑ No

List All Secondary Target Drinking Water Intakes:

Name:	Water Body:	Flow (cfs):	Population Served:

Total within 15 Miles [4] _____

Have Primary Target Drinking Water Intakes Been Identified:

☐ Yes
☑ No

If Yes, Distance to Nearest Drinking Water Intake : _____ Miles[6]

If Yes, Enter Population Served by Target Intake:

_____ People[4]

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[10]:

Water Body/ Fishery Name :	Flow (cfs):

8. Surface Water Pathway (continued)

Wetlands Located Along the Surface Water Migration Path:

☑ Yes
☐ No

Have Primary Target Wetlands Been Identified:

☑ Yes
☐ No

List All Wetlands:

Water Body :	Flow (cfs):	Frontage miles:
Baznan River		

Other Sensitive Environments Located Along the Surface Water Migration Path:

☑ Yes
☐ No

If Yes, Distance to Nearest Sensitive Environment:
1,280 feet

Have Primary Target Sensitive Environments Been Identified:

☑ Yes
☐ No

List All Sensitive Environments[11]:

Water Body :	Flow (cfs):	Sensitive Environment Type:
multiple wetlands		

9. Soil Exposure 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[2]

Number of Workers Onsite[4]:

☐ None
☑ 1 - 100
☐ 101 - 1,000
☐ > 1,000

Population Within 1 Mile:

16,416 (4 miles)
People[7]

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[5]:

*Refer to PA Table 7 for environment types

10. Air Pathway

Is there a Suspected Release to Air[1]:

☐ Yes
☑ No

Enter Total Population on or Within:

Onsite	
0-1/4 Mile	
>1/4-1/2 Mile	
>1/2-1 Mile	
>1-2 Miles	
>2-3 Miles	
>3-4 Miles	
Total Within 4 Miles [3-5]	16,416

Wetlands Located Within 4 Miles of the Site[6]:

☑ Yes
☐ No

If Yes, How Many Acres: unknown Acres

Other Sensitive Environments Located Within 4 Miles of the Site:

☑ Yes
☐ No

List All Sensitive Environments Within 1/2 Mile of the Site[6]:

Distance:	Sensitive Environment Type/Wetlands Area (acres):
Onsite	
0-1/4 Mile	Banana River
>1/4-1/2 Mile	multieple wetlands

*Refer to PA Table 10 for calculations on air pathway exposures

[1-11] Refers to question number on the PA scoresheet for each particular pathway

Potential Hazardous Waste Site Preliminary Assessment Form

Identification

State: | CERCLIS #:

CERCLIS Discovery Date:

1. General Site Information

Name: Hangar 750		Street Address: NA			
City:		State: FL	Zip Code:32925	County:Brevard	Co. Code:12009	Cong. Dist:8th
Latitude: [redacted]	Longitude: [redacted]	Approximate Area of Site: ___ Acres _____ Square Ft		Status of Site: ☑ Active ☐ Not Specified ☐ Inactive ☐ NA (GW plume, etc.)	

Site Name: Hangar 750

Site Description: Hangar 750 is located in the northern portion of Patrick AFB, southeast of the intersection of Rescue Road and Redstone Road. Hangar 750 was constructed in 1943 and was initially equipped with a wet fire sprinkler system. In 2000, Hangar 750 was retrofitted with an AFFF fire suppression system and operated until 2007. In 2007, the fire suppression system was retrofitted to a HEF system. When the hangar was equipped with an AFFF fire suppression system, a 1,200 gallon poly AST charged with 3% AFFF supplied the hangar via underground piping.

2. Owner/Operator Information

Owner: Patrick AFB			Operator: Same as "owner"		
Street Address:			Street Address:		
City:			City:		
State: FL	Zip Code:32925	Telephone:	State:	Zip Code:	Telephone:

Type of Ownership:

☐ Private ☐ County
☑ Federal Agency ☐ Municipal
Name: DOD ☐ Not Specified
☐ State ☐ Other_____
☐ Indian

Type of Ownership:

☐ Private ☐ County
☐ Federal Agency ☐ Municipal
Name: _____ ☐ Not Specified
☐ State ☐ Other_____
☐ Indian

3. Site Evaluator Information

Name of Evaluator: John Sandoval	Agency/Organization: HydroGeoLogic, Inc.	Date Prepared:07/06/15
Street Address:404 E. Ramsey Road, Ste. 210	City:San Antonio	State:Texas
Name of EPA or State Agency Contact:NA	Street Address:	
City:	State:	Telephone:

4. Site Disposition *(for EPA use only)*

Emergency Response/Removal Assessment Recommendation: ☐ Yes ☐ No Date: _____	CERCLIS Recommendation: ☐ Higher Priority SI ☐ Lower Priority SI ☐ NFRAP ☐ RCRA ☐ Other: _____ Date: _____	Signature: Name (typed): Position:

5. General Site Characteristics

Predominant Land Use Within 1 Mile of Site (check all that apply):

- ☐ Industrial
- ☐ Commercial
- ☐ Residential
- ☐ Forest/Fields
- ☐ Agriculture
- ☐ Mining
- ☑ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility: _____
- ☐ Other _____

Site Setting:

- ☐ Urban
- ☐ Suburban
- ☑ Rural

Years of Operation:

Beginning Year 1943

Ending Year present

☐ Unknown

Type of Site Operations (check all that apply):

- ☐ Manufacturing (must check subcategory)
  - ☐ Lumber and Wood Products
  - ☐ Inorganic Chemicals
  - ☐ Plastic and/or Rubber Products
  - ☐ Paints, Varnishes
  - ☐ Industrial Organic Chemicals
  - ☐ Agricultural Chemicals
  - ☐ Miscellaneous Chemical Products
  - ☐ Primary Metals
  - ☐ Metal Coating, Plating, Engraving
  - ☐ Metal Forging, Stamping
  - ☐ Fabricated Structural Metal Products
  - ☐ Electronic Equipment
  - ☐ Other Manufacturing
- ☐ Mining
  - ☐ Metals
  - ☐ Coal
  - ☐ Oil and Gas
  - ☐ Non-metallic Minerals
- ☐ Retail
- ☐ Recycling
- ☐ Junk/Salvage Yard
- ☐ Municipal Landfill
- ☐ Other Landfill
- ☑ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility _____
- ☐ RCRA
  - ☐ Treatment, Storage, or Disposal
  - ☐ Large Quantity Generator
  - ☐ Small Quantity Generator
  - ☐ Subtitle D
    - ☐ Municipal
    - ☐ Industrial
  - ☐ "Converter"
  - ☐ "Protective Filer"
  - ☐ "Non-or Late Filer"
- ☐ Note Specified
- ☐ Other_____

Waste Generated:

- ☑ Onsite
- ☐ Offsite
- ☐ Onsite and Offsite

Waste Deposition Authorized By:

- ☑ Present Owner
- ☐ Former Owner
- ☐ Present & Former Owner
- ☐ Unauthorized
- ☐ Unknown

Waste Accessible to the Public:

- ☐ Yes
- ☑ No

Distance to Nearest Dwelling, School, or Workplace:

on-site Feet

6. Waste Characteristics Information

(Refer to PA Table 1 for WC Score)

Source Type: (check all that apply)

Source Type	Source Waste Quantity: (include unit)	Tier*:
☐ Landfill	_____	____
☐ Surface Impoundment	_____	____
☐ Drums	_____	____
☐ Tanks and Non-Dum Containers	_____	____
☐ Chemical Waste Pile	_____	____
☐ Scrap Metal or Junk Pile	_____	____
☐ Tailings Pile	_____	____
☐ Trash Pile (open drum)	_____	____
☐ Land Treatment	_____	____
☐ Contaminated GW Plume (unidentified source)	_____	____
☐ Contaminated SW/Sediment (unidentified source)	_____	____
☐ Contaminated Soil	_____	____
☑ Other AFFF	_____	____
☐ No Sources		

*C=Constituent, W=Wastestream, V=Volume, A=Area

General Type of Waste (check all that apply):

- ☐ Metals
- ☐ Organics
- ☐ Inorganics
- ☐ Solvents
- ☐ Paints/Pigments
- ☐ Laboratory/Hospital Waste
- ☐ Radioactive Waste
- ☐ Construction/Demolition Waste
- ☐ Pesticides/Herbicides
- ☐ Acids/Bases
- ☐ Oily Waste
- ☐ Municipal Waste
- ☐ Mining Waste
- ☐ Explosives
- ☑ Other AFFF

Physical State of Waste as Deposited (check all that apply):

- ☐ Solid
- ☐ Sludge
- ☐ Powder
- ☑ Liquid
- ☐ Gas

7. Ground Water Pathway

Is Ground Water Used for Drinking Within 4 Miles:

☑ Yes
☐ No

If Yes, Distance to nearest Drinking Well:

5.06 miles

Type of Drinking Water Wells Within 4 Miles
(check all that apply):

☑ Municipal
☑ Private
☐ None

Is There a Suspected Release to Ground Water[1]:

☑ Yes
☐ No

Have Primary Target Drinking Water Wells Been Identified:

☑ Yes
☐ No

If Yes, Enter Primary Target Population:

25 People[3]

List Secondary Target Population Served by Ground Water Withdrawn From:

0 - 1/4 Mile _____

>1/4 - 1/2 Mile _____

>1/2 - 1 Mile _____

>1 - 2 Mile _____

>2 - 3 Mile _____

>3 - 4 Mile _____

Total Within 4 Miles[4] 17,124

*Use population #s for PA Table 2

*Note nearest well for #5 on GW Pathway Scoresheet

Depth to Shallowest Aquifer:

4-5 Feet

Karst Terrain/Aquifer Present:

☑ Yes
☐ No

Nearest Designated Wellhead Protection Area[6]:

☐ Underlies Site
☐ >0-4 Miles
☐ None Within 4 Miles

8. Surface Water Pathway

Type of Surface Water Draining Site and 15 Miles Downstream (check all that apply):

☐ Stream ☑ River ☐ Pond ☐ Lake
☐ Bay ☐ Ocean ☐ Other_____

Shortest Overland Distance From Any Source to Surface Water:

1,042 Feet
_____ Miles

Is There a Suspected Release to Surface Water[1]:

☐ Yes
☑ No

Site is Located in:

☐ Annual - 10 yr Floodplain
☐ >10yr - 100yr Floodplain
☐ >100yr - 500yr Floodplain
☐ >500yr Floodplain

Drinking Water Intake Located Along the Surface Water Migration Path:

☐ Yes
☑ No

Have Primary Target Drinking Water Intakes Been Identified:

☐ Yes
☑ No

If Yes, Distance to Nearest Drinking Water Intake : _____ Miles[6]

If Yes, Enter Population Served by Target Intake:

_____ People[4]

List All Secondary Target Drinking Water Intakes:

Name:	Water Body:	Flow (cfs):	Population Served:

Total within 15 Miles [4] _____

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[10]:

Water Body/ Fishery Name :	Flow (cfs):

8. Surface Water Pathway (continued)

Wetlands Located Along the Surface Water Migration Path:

☐ Yes
☑ No

Have Primary Target Wetlands Been Identified:

☐ Yes
☑ No

List All Wetlands:

Water Body :	Flow (cfs):	Frontage miles:
_ _____	_____	_____
_____	_____	_____
_____	_____	_____

Other Sensitive Environments Located Along the Surface Water Migration Path:

☐ Yes
☑ No

If Yes, Distance to Nearest Sensitive Environment:
_____ feet

Have Primary Target Sensitive Environments Been Identified:

☐ Yes
☑ No

List All Sensitive Environments[11]:

Water Body :	Flow (cfs):	Sensitive Environment Type:
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

9. Soil Exposure 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[2]

Number of Workers Onsite[4]:

☐ None
☑ 1 - 100
☐ 101 - 1,000
☐ > 1,000

Population Within 1 Mile:

17,124 (4 miles)
People[7]

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[5]:

_____
_____
_____

*Refer to PA Table 7 for environment types

10. Air Pathway

Is there a Suspected Release to Air[1]:

☐ Yes
☑ No

Enter Total Population on or Within:

Onsite _____

0-1/4 Mile _____

>1/4-1/2 Mile _____

>1/2-1 Mile _____

>1-2 Miles _____

>2-3 Miles _____

>3-4 Miles _____

Total Within 4 Miles [3-5] 17,124

Wetlands Located Within 4 Miles of the Site[6]:

☑ Yes
☐ No

If Yes, How Many Acres: unknown Acres

Other Sensitive Environments Located Within 4 Miles of the Site:

☑ Yes
☐ No

List All Sensitive Environments Within 1/2 Mile of the Site[6]:

Distance:	Sensitive Environment Type/Wetlands Area (acres):
Onsite	_____
0-1/4 Mile	Banana River
>1/4-1/2 Mile	multieple wetlands

*Refer to PA Table 10 for calculations on air pathway exposures

[1-11] Refers to question number on the PA scoresheet for each particular pathway

Potential Hazardous Waste Site Preliminary Assessment Form

Identification

State: | CERCLIS #:

CERCLIS Discovery Date:

1. General Site Information

Name: Hangar 751		Street Address: NA			
City:		State: FL	Zip Code:32925	County:Brevard	Co. Code:12009	Cong. Dist:8th
Latitude: [redacted]	Longitude: [redacted]	Approximate Area of Site: ___ ___ Acres _____ Square Ft		Status of Site: ☑ Active ☐ Not Specified ☐ Inactive ☐ NA (GW plume, etc.)	

Site Name: Hangar 751

Site Description: Hangar 751 is located in the northern portion of Patrick AFB, south of the intersection of Falcon Avenue and Redstone Road. Hangar 751 was constructed in 1945 and is currently equipped with an AFFF fire suppression system. The hangar is supplied 3% AFFF from a 1,200 gallon poly AST that is located in the Building 705 Pump House. There was no available documentation or evidence of an AFFF release to the environment from the containment system at Hangar 751.

2. Owner/Operator Information

Owner: Patrick AFB			Operator: Same as "owner"		
Street Address:			Street Address:		
City:			City:		
State: FL	Zip Code:32925	Telephone:	State:	Zip Code:	Telephone:

Type of Ownership:

☐ Private ☐ County
☑ Federal Agency ☐ Municipal
Name: _DOD___ ☐ Not Specified
☐ State ☐ Other_____
☐ Indian

Type of Ownership:

☐ Private ☐ County
☐ Federal Agency ☐ Municipal
Name: _____ ☐ Not Specified
☐ State ☐ Other_____
☐ Indian

3. Site Evaluator Information

Name of Evaluator: John Sandoval	Agency/Organization: HydroGeoLogic, Inc.	Date Prepared:07/06/15
Street Address:404 E. Ramsey Road, Ste. 210	City:San Antonio	State:Texas
Name of EPA or State Agency Contact:NA	Street Address:	
City:	State:	Telephone:

4. Site Disposition *(for EPA use only)*

Emergency Response/Removal Assessment Recommendation: ☐ Yes ☐ No Date: _____	CERCLIS Recommendation: ☐ Higher Priority SI ☐ Lower Priority SI ☐ NFRAP ☐ RCRA ☐ Other: _____ Date: _____	Signature: Name (typed): Position:

5. General Site Characteristics - NA

Predominant Land Use Within 1 Mile of Site (check all that apply):

- ☐ Industrial
- ☐ Commercial
- ☐ Residential
- ☐ Forest/Fields
- ☐ Agriculture
- ☐ Mining
- ☐ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility: _____
- ☐ Other _____

Site Setting:

- ☐ Urban
- ☐ Suburban
- ☐ Rural

Years of Operation:

Beginning Year _____

Ending Year _____

☐ Unknown

Type of Site Operations (check all that apply):

- ☐ Manufacturing (must check subcategory)
  - ☐ Lumber and Wood Products
  - ☐ Inorganic Chemicals
  - ☐ Plastic and/or Rubber Products
  - ☐ Paints, Varnishes
  - ☐ Industrial Organic Chemicals
  - ☐ Agricultural Chemicals
  - ☐ Miscellaneous Chemical Products
  - ☐ Primary Metals
  - ☐ Metal Coating, Plating, Engraving
  - ☐ Metal Forging, Stamping
  - ☐ Fabricated Structural Metal Products
  - ☐ Electronic Equipment
  - ☐ Other Manufacturing
- ☐ Mining
  - ☐ Metals
  - ☐ Coal
  - ☐ Oil and Gas
  - ☐ Non-metallic Minerals
- ☐ Retail
- ☐ Recycling
- ☐ Junk/Salvage Yard
- ☐ Municipal Landfill
- ☐ Other Landfill
- ☐ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility _____
- ☐ RCRA
  - ☐ Treatment, Storage, or Disposal
  - ☐ Large Quantity Generator
  - ☐ Small Quantity Generator
  - ☐ Subtitle D
    - ☐ Municipal
    - ☐ Industrial
  - ☐ "Converter"
  - ☐ "Protective Filer"
  - ☐ "Non-or Late Filer"
- ☐ Note Specified
- ☐ Other_____

Waste Generated:

- ☐ Onsite
- ☐ Offsite
- ☐ Onsite and Offsite

Waste Deposition Authorized By:

- ☐ Present Owner
- ☐ Former Owner
- ☐ Present & Former Owner
- ☐ Unauthorized
- ☐ Unknown

Waste Accessible to the Public:

- ☐ Yes
- ☐ No

Distance to Nearest Dwelling, School, or Workplace:

_____ Feet

6. Waste Characteristics Information - NA

(Refer to PA Table 1 for WC Score)

Source Type: (check all that apply)

Source Waste Quantity: (include unit)

Tier*:

- ☐ Landfill _____ ____
- ☐ Surface Impoundment _____ ____
- ☐ Drums _____ ____
- ☐ Tanks and Non-Dum Containers _____ ____
- ☐ Chemical Waste Pile _____ ____
- ☐ Scrap Metal or Junk Pile _____ ____
- ☐ Tailings Pile _____ ____
- ☐ Trash Pile (open drum) _____ ____
- ☐ Land Treatment _____ ____
- ☐ Contaminated GW Plume (unidentified source) _____ ____
- ☐ Contaminated SW/Sediment (unidentified source) _____ ____
- ☐ Contaminated Soil _____ ____
- ☐ Other_____ _____ ____
- ☐ No Sources

*C=Constituent, W=Wastestream, V=Volume, A=Area

General Type of Waste (check all that apply):

- ☐ Metals
- ☐ Organics
- ☐ Inorganics
- ☐ Solvents
- ☐ Paints/Pigments
- ☐ Laboratory/Hospital Waste
- ☐ Radioactive Waste
- ☐ Construction/Demolition Waste
- ☐ Pesticides/Herbicides
- ☐ Acids/Bases
- ☐ Oily Waste
- ☐ Municipal Waste
- ☐ Mining Waste
- ☐ Explosives
- ☐ Other _____

Physical State of Waste as Deposited (check all that apply):

- ☐ Solid
- ☐ Sludge
- ☐ Powder
- ☐ Liquid
- ☐ Gas

7. Ground Water Pathway - NA

Is Ground Water Used for Drinking Within 4 Miles:

☐ Yes
☐ No

If Yes, Distance to nearest Drinking Well:

_____ miles

Type of Drinking Water Wells Within 4 Miles
(check all that apply):

☐ Municipal
☐ Private
☐ None

Is There a Suspected Release to Ground Water[1]:

☐ Yes
☐ No

Have Primary Target Drinking Water Wells Been Identified:

☐ Yes
☐ No

If Yes, Enter Primary Target Population:

_____ People[3]

Depth to Shallowest Aquifer:

_____ Feet

Karst Terrain/Aquifer Present:

☐ Yes
☐ No

Nearest Designated Wellhead Protection Area[6]:

☐ Underlies Site
☐ >0-4 Miles
☐ None Within 4 Miles

List Secondary Target Population Served by Ground Water Withdrawn From:

0 - 1/4 Mile _____

>1/4 - 1/2 Mile _____

>1/2 - 1 Mile _____

>1 - 2 Mile _____

>2 - 3 Mile _____

>3 - 4 Mile _____

Total Within 4 Miles[4] _____

*Use population #s for PA Table 2

*Note nearest well for #5 on GW Pathway Scoresheet

8. Surface Water Pathway - NA

Type of Surface Water Draining Site and 15 Miles Downstream (check all that apply):

☐ Stream ☐ River ☐ Pond ☐ Lake
☐ Bay ☐ Ocean ☐ Other_____

Shortest Overland Distance From Any Source to Surface Water:

_____ Feet
_____ Miles

Is There a Suspected Release to Surface Water[1]:

☐ Yes
☐ No

Site is Located in:

☐ Annual - 10 yr Floodplain
☐ >10yr - 100yr Floodplain
☐ >100yr - 500yr Floodplain
☐ >500yr Floodplain

Drinking Water Intake Located Along the Surface Water Migration Path:

☐ Yes
☐ No

Have Primary Target Drinking Water Intakes Been Identified:

☐ Yes
☐ No

If Yes, Distance to Nearest Drinking Water Intake : _____ Miles[6]

If Yes, Enter Population Served by Target Intake:

_____ People[4]

List All Secondary Target Drinking Water Intakes:

Name:	Water Body:	Flow (cfs):	Population Served:
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Total within 15 Miles [4] _____

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[10]:

Water Body/ Fishery Name :	Flow (cfs):
_____	_____
_____	_____
_____	_____
_____	_____

8. Surface Water Pathway (continued) - NA

Wetlands Located Along the Surface Water Migration Path:

☐ Yes
☐ No

Have Primary Target Wetlands Been Identified:

☐ Yes
☐ No

List All Wetlands:

Water Body :	Flow (cfs):	Frontage miles:
_____	_____	_____
_____	_____	_____
_____	_____	_____

Other Sensitive Environments Located Along the Surface Water Migration Path:

☐ Yes
☐ No

If Yes, Distance to Nearest Sensitive Environment:
_____ feet

Have Primary Target Sensitive Environments Been Identified:

☐ Yes
☐ No

List All Sensitive Environments[11]:

Water Body :	Flow (cfs):	Sensitive Environment Type:
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

9. Soil Exposure Pathway - NA

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[2]

Number of Workers Onsite[4]:

☐ None
☐ 1 - 100
☐ 101 - 1,000
☐ > 1,000

Population Within 1 Mile:

_____People[7]

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[5]:

_____
_____
_____

*Refer to PA Table 7 for environment types

10. Air Pathway

Is there a Suspected Release to Air[1]:

☐ Yes
☐ No

Enter Total Population on or Within:

Onsite _____

0-1/4 Mile _____

>1/4-1/2 Mile _____

>1/2-1 Mile _____

>1-2 Miles _____

>2-3 Miles _____

>3-4 Miles _____

Total Within 4 Miles [3-5] _____

Wetlands Located Within 4 Miles of the Site[6]:

☐ Yes
☐ No

If Yes, How Many Acres: _____ Acres

Other Sensitive Environments Located Within 4 Miles of the Site:

☐ Yes
☐ No

List All Sensitive Environments Within 1/2 Mile of the Site[6]:

Distance:	Sensitive Environment Type/Wetlands Area (acres):
Onsite	_____
0-1/4 Mile	_____
>1/4-1/2 Mile	_____

*Refer to PA Table 10 for calculations on air pathway exposures

[1-11] Refers to question number on the PA scoresheet for each particular pathway

Potential Hazardous Waste Site Preliminary Assessment Form

Identification

State: | CERCLIS #:

CERCLIS Discovery Date:

1. General Site Information

Name: Hangar 985		Street Address: NA			
City:		State: FL	Zip Code:32925	County:Brevard	Co. Code:12009	Cong. Dist:8th
Latitude: [redacted]	Longitude: [redacted]	Approximate Area of Site: ___ ___ Acres _____ Square Ft		Status of Site: ☑ Active ☐ Not Specified ☐ Inactive ☐ NA (GW plume, etc.)	

Site Name: Hangar 985

Site Description: Hangar 985 is located in the eastern central portion of Patrick AFB. Hangar 985 was constructed in 1953 and is currently equipped with an AFFF fire suppression system and four low level turrets. The hangar is supplied 3% AFFF from an 800 gallon AST located in the hangar mechanical room. There is no containment system associated with Hangar 985. There have been no reported or documented releases of AFFF at Hangar 985 .

2. Owner/Operator Information

Owner: Patrick AFB			Operator: Same as "owner"		
Street Address:			Street Address:		
City:			City:		
State: FL	Zip Code:32925	Telephone:	State:	Zip Code:	Telephone:

Type of Ownership:

☐ Private ☐ County
☑ Federal Agency ☐ Municipal
Name: _DOD_ ☐ Not Specified
☐ State ☐ Other_____
☐ Indian

Type of Ownership:

☐ Private ☐ County
☐ Federal Agency ☐ Municipal
Name: _____ ☐ Not Specified
☐ State ☐ Other_____
☐ Indian

3. Site Evaluator Information

Name of Evaluator: John Sandoval	Agency/Organization: HydroGeoLogic, Inc.	Date Prepared:07/06/15
Street Address:404 E. Ramsey Road, Ste. 210	City:San Antonio	State:Texas
Name of EPA or State Agency Contact:NA	Street Address:	
City:	State:	Telephone:

4. Site Disposition *(for EPA use only)*

Emergency Response/Removal Assessment Recommendation: ☐ Yes ☐ No Date: _____	CERCLIS Recommendation: ☐ Higher Priority SI ☐ Lower Priority SI ☐ NFRAP ☐ RCRA ☐ Other: _____ Date: _____	Signature: Name (typed): Position:

5. General Site Characteristics - NA

Predominant Land Use Within 1 Mile of Site (check all that apply):

- ☐ Industrial
- ☐ Commercial
- ☐ Residential
- ☐ Forest/Fields
- ☐ Agriculture
- ☐ Mining
- ☐ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility: _____
- ☐ Other _____

Site Setting:

- ☐ Urban
- ☐ Suburban
- ☐ Rural

Years of Operation:

Beginning Year _____

Ending Year _____

☐ Unknown

Type of Site Operations (check all that apply):

- ☐ Manufacturing (must check subcategory)
  - ☐ Lumber and Wood Products
  - ☐ Inorganic Chemicals
  - ☐ Plastic and/or Rubber Products
  - ☐ Paints, Varnishes
  - ☐ Industrial Organic Chemicals
  - ☐ Agricultural Chemicals
  - ☐ Miscellaneous Chemical Products
  - ☐ Primary Metals
  - ☐ Metal Coating, Plating, Engraving
  - ☐ Metal Forging, Stamping
  - ☐ Fabricated Structural Metal Products
  - ☐ Electronic Equipment
  - ☐ Other Manufacturing
- ☐ Mining
  - ☐ Metals
  - ☐ Coal
  - ☐ Oil and Gas
  - ☐ Non-metallic Minerals
- ☐ Retail
- ☐ Recycling
- ☐ Junk/Salvage Yard
- ☐ Municipal Landfill
- ☐ Other Landfill
- ☐ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility _____
- ☐ RCRA
  - ☐ Treatment, Storage, or Disposal
  - ☐ Large Quantity Generator
  - ☐ Small Quantity Generator
  - ☐ Subtitle D
    - ☐ Municipal
    - ☐ Industrial
  - ☐ "Converter"
  - ☐ "Protective Filer"
  - ☐ "Non-or Late Filer"
- ☐ Note Specified
- ☐ Other_____

Waste Generated:

- ☐ Onsite
- ☐ Offsite
- ☐ Onsite and Offsite

Waste Deposition Authorized By:

- ☐ Present Owner
- ☐ Former Owner
- ☐ Present & Former Owner
- ☐ Unauthorized
- ☐ Unknown

Waste Accessible to the Public:

- ☐ Yes
- ☐ No

Distance to Nearest Dwelling, School, or Workplace:

_____ Feet

6. Waste Characteristics Information - NA

(Refer to PA Table 1 for WC Score)

Source Type: (check all that apply)

	Source Waste Quantity: (include unit)	Tier*:
☐ Landfill	_____	____
☐ Surface Impoundment	_____	____
☐ Drums	_____	____
☐ Tanks and Non-Dum Containers	_____	____
☐ Chemical Waste Pile	_____	____
☐ Scrap Metal or Junk Pile	_____	____
☐ Tailings Pile	_____	____
☐ Trash Pile (open drum)	_____	____
☐ Land Treatment	_____	____
☐ Contaminated GW Plume (unidentified source)	_____	____
☐ Contaminated SW/Sediment (unidentified source)	_____	____
☐ Contaminated Soil	_____	____
☐ Other_____	_____	____
☐ No Sources		

*C=Constituent, W=Wastestream, V=Volume, A=Area

General Type of Waste (check all that apply):

- ☐ Metals
- ☐ Organics
- ☐ Inorganics
- ☐ Solvents
- ☐ Paints/Pigments
- ☐ Laboratory/Hospital Waste
- ☐ Radioactive Waste
- ☐ Construction/Demolition Waste
- ☐ Pesticides/Herbicides
- ☐ Acids/Bases
- ☐ Oily Waste
- ☐ Municipal Waste
- ☐ Mining Waste
- ☐ Explosives
- ☐ Other _____

Physical State of Waste as Deposited (check all that apply):

- ☐ Solid
- ☐ Sludge
- ☐ Powder
- ☐ Liquid
- ☐ Gas

7. Ground Water Pathway - NA

Is Ground Water Used for Drinking Within 4 Miles:

☐ Yes
☐ No

If Yes, Distance to nearest Drinking Well:

_____ miles

Type of Drinking Water Wells Within 4 Miles
(check all that apply):

☐ Municipal
☐ Private
☐ None

Is There a Suspected Release to Ground Water[1]:

☐ Yes
☐ No

Have Primary Target Drinking Water Wells Been Identified:

☐ Yes
☐ No

If Yes, Enter Primary Target Population:

_____ People[3]

Depth to Shallowest Aquifer:

_____ Feet

Karst Terrain/Aquifer Present:

☐ Yes
☐ No

Nearest Designated Wellhead Protection Area[6]:

☐ Underlies Site
☐ >0-4 Miles
☐ None Within 4 Miles

List Secondary Target Population Served by Ground Water Withdrawn From:

0 - 1/4 Mile _____

>1/4 - 1/2 Mile _____

>1/2 - 1 Mile _____

>1 - 2 Mile _____

>2 - 3 Mile _____

>3 - 4 Mile _____

Total Within 4 Miles[4] _____

*Use population #s for PA Table 2

*Note nearest well for #5 on GW Pathway Scoresheet

8. Surface Water Pathway - NA

Type of Surface Water Draining Site and 15 Miles Downstream (check all that apply):

☐ Stream ☐ River ☐ Pond ☐ Lake
☐ Bay ☐ Ocean ☐ Other_____

Shortest Overland Distance From Any Source to Surface Water:

_____ Feet
_____ Miles

Is There a Suspected Release to Surface Water[1]:

☐ Yes
☐ No

Site is Located in:

☐ Annual - 10 yr Floodplain
☐ >10yr - 100yr Floodplain
☐ >100yr - 500yr Floodplain
☐ >500yr Floodplain

Drinking Water Intake Located Along the Surface Water Migration Path:

☐ Yes
☐ No

Have Primary Target Drinking Water Intakes Been Identified:

☐ Yes
☐ No

If Yes, Distance to Nearest Drinking Water Intake : _____ Miles[6]

If Yes, Enter Population Served by Target Intake:

_____ People[4]

List All Secondary Target Drinking Water Intakes:

Name:	Water Body:	Flow (cfs):	Population Served:
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Total within 15 Miles [4] _____

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[10]:

Water Body/ Fishery Name :	Flow (cfs):
_____	_____
_____	_____
_____	_____
_____	_____

8. Surface Water Pathway (continued) - NA

Wetlands Located Along the Surface Water Migration Path:

☐ Yes
☐ No

Have Primary Target Wetlands Been Identified:

☐ Yes
☐ No

List All Wetlands:

Water Body :	Flow (cfs):	Frontage miles:
_____	_____	_____
_____	_____	_____
_____	_____	_____

Other Sensitive Environments Located Along the Surface Water Migration Path:

☐ Yes
☐ No

If Yes, Distance to Nearest Sensitive Environment:
_____ feet

Have Primary Target Sensitive Environments Been Identified:

☐ Yes
☐ No

List All Sensitive Environments[11]:

Water Body :	Flow (cfs):	Sensitive Environment Type:
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

9. Soil Exposure Pathway - NA

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[2]

Number of Workers Onsite[4]:

☐ None
☐ 1 - 100
☐ 101 - 1,000
☐ > 1,000

Population Within 1 Mile:

_____People[7]

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[5]:

_____
_____
_____

*Refer to PA Table 7 for environment types

10. Air Pathway

Is there a Suspected Release to Air[1]:

☐ Yes
☐ No

Enter Total Population on or Within:

Onsite _____

0-1/4 Mile _____

>1/4-1/2 Mile _____

>1/2-1 Mile _____

>1-2 Miles _____

>2-3 Miles _____

>3-4 Miles _____

Total Within 4 Miles [3-5] _____

Wetlands Located Within 4 Miles of the Site[6]:

☐ Yes
☐ No

If Yes, How Many Acres: _____ Acres

Other Sensitive Environments Located Within 4 Miles of the Site:

☐ Yes
☐ No

List All Sensitive Environments Within 1/2 Mile of the Site[6]:

Distance:	Sensitive Environment Type/Wetlands Area (acres):
Onsite	_____
0-1/4 Mile	_____
>1/4-1/2 Mile	_____

*Refer to PA Table 10 for calculations on air pathway exposures

[1-11] Refers to question number on the PA scoresheet for each particular pathway

Potential Hazardous Waste Site Preliminary Assessment Form

Identification

State: | CERCLIS #:

CERCLIS Discovery Date:

1. General Site Information

Name: Hangar 986		Street Address: NA			
City:		State: FL	Zip Code:32925	County:Brevard	Co. Code:12009	Cong. Dist:8th
Latitude: [redacted]	Longitude: [redacted]	Approximate Area of Site: ___ ___ Acres _____ Square Ft		Status of Site: ☑ Active ☐ Not Specified ☐ Inactive ☐ NA (GW plume, etc.)	

Site Name: Hangar 986

Site Description: Hangar 986 is located in the eastern central portion of Patrick AFB. Hangar 986 was constructed in 1953 and is currently equipped with a deluge fire suppression system. The hangar has always been equipped with a deluge fire suppression system and has never been equipped with an AFFF fire suppression system.

2. Owner/Operator Information

Owner: Patrick AFB			Operator: Same as "owner"		
Street Address:			Street Address:		
City:			City:		
State: FL	Zip Code:32925	Telephone:	State:	Zip Code:	Telephone:

Type of Ownership: ☐ Private ☐ County ☑ Federal Agency ☐ Municipal Name: _DOD_ ☐ Not Specified ☐ State ☐ Other_____ ☐ Indian	Type of Ownership: ☐ Private ☐ County ☐ Federal Agency ☐ Municipal Name: _____ ☐ Not Specified ☐ State ☐ Other_____ ☐ Indian

3. Site Evaluator Information

Name of Evaluator: John Sandoval	Agency/Organization: HydroGeoLogic, Inc.	Date Prepared:07/06/15
Street Address:404 E. Ramsey Road, Ste. 210	City:San Antonio	State:Texas
Name of EPA or State Agency Contact:NA	Street Address:	
City:	State:	Telephone:

4. Site Disposition *(for EPA use only)*

Emergency Response/Removal Assessment Recommendation: ☐ Yes ☐ No Date: _____	CERCLIS Recommendation: ☐ Higher Priority SI ☐ Lower Priority SI ☐ NFRAP ☐ RCRA ☐ Other: _____ Date: _____	Signature: Name (typed): Position:

5. General Site Characteristics - NA

Predominant Land Use Within 1 Mile of Site (check all that apply):

- ☐ Industrial
- ☐ Commercial
- ☐ Residential
- ☐ Forest/Fields
- ☐ Agriculture
- ☐ Mining
- ☐ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility: _____
- ☐ Other _____

Site Setting:

- ☐ Urban
- ☐ Suburban
- ☐ Rural

Years of Operation:

Beginning Year _____

Ending Year _____

☐ Unknown

Type of Site Operations (check all that apply):

- ☐ Manufacturing (must check subcategory)
  - ☐ Lumber and Wood Products
  - ☐ Inorganic Chemicals
  - ☐ Plastic and/or Rubber Products
  - ☐ Paints, Varnishes
  - ☐ Industrial Organic Chemicals
  - ☐ Agricultural Chemicals
  - ☐ Miscellaneous Chemical Products
  - ☐ Primary Metals
  - ☐ Metal Coating, Plating, Engraving
  - ☐ Metal Forging, Stamping
  - ☐ Fabricated Structural Metal Products
  - ☐ Electronic Equipment
  - ☐ Other Manufacturing
- ☐ Mining
  - ☐ Metals
  - ☐ Coal
  - ☐ Oil and Gas
  - ☐ Non-metallic Minerals
- ☐ Retail
- ☐ Recycling
- ☐ Junk/Salvage Yard
- ☐ Municipal Landfill
- ☐ Other Landfill
- ☐ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility _____
- ☐ RCRA
  - ☐ Treatment, Storage, or Disposal
  - ☐ Large Quantity Generator
  - ☐ Small Quantity Generator
  - ☐ Subtitle D
    - ☐ Municipal
    - ☐ Industrial
  - ☐ "Converter"
  - ☐ "Protective Filer"
  - ☐ "Non-or Late Filer"
- ☐ Note Specified
- ☐ Other_____

Waste Generated:

- ☐ Onsite
- ☐ Offsite
- ☐ Onsite and Offsite

Waste Deposition Authorized By:

- ☐ Present Owner
- ☐ Former Owner
- ☐ Present & Former Owner
- ☐ Unauthorized
- ☐ Unknown

Waste Accessible to the Public:

- ☐ Yes
- ☐ No

Distance to Nearest Dwelling, School, or Workplace:

_____ Feet

6. Waste Characteristics Information - NA

(Refer to PA Table 1 for WC Score)

Source Type: (check all that apply)

	Source Waste Quantity: (include unit)	Tier*:
☐ Landfill	_____	____
☐ Surface Impoundment	_____	____
☐ Drums	_____	____
☐ Tanks and Non-Dum Containers	_____	____
☐ Chemical Waste Pile	_____	____
☐ Scrap Metal or Junk Pile	_____	____
☐ Tailings Pile	_____	____
☐ Trash Pile (open drum)	_____	____
☐ Land Treatment	_____	____
☐ Contaminated GW Plume (unidentified source)	_____	____
☐ Contaminated SW/Sediment (unidentified source)	_____	____
☐ Contaminated Soil	_____	____
☐ Other_____	_____	____
☐ No Sources		

*C=Constituent, W=Wastestream, V=Volume, A=Area

General Type of Waste (check all that apply):

- ☐ Metals
- ☐ Organics
- ☐ Inorganics
- ☐ Solvents
- ☐ Paints/Pigments
- ☐ Laboratory/Hospital Waste
- ☐ Radioactive Waste
- ☐ Construction/Demolition Waste
- ☐ Pesticides/Herbicides
- ☐ Acids/Bases
- ☐ Oily Waste
- ☐ Municipal Waste
- ☐ Mining Waste
- ☐ Explosives
- ☐ Other _____

Physical State of Waste as Deposited (check all that apply):

- ☐ Solid
- ☐ Sludge
- ☐ Powder
- ☐ Liquid
- ☐ Gas

7. Ground Water Pathway - NA

Is Ground Water Used for Drinking Within 4 Miles:

☐ Yes
☐ No

If Yes, Distance to nearest Drinking Well:

_____ miles

Type of Drinking Water Wells Within 4 Miles
(check all that apply):

☐ Municipal
☐ Private
☐ None

Is There a Suspected Release to Ground Water[1]:

☐ Yes
☐ No

Have Primary Target Drinking Water Wells Been Identified:

☐ Yes
☐ No

If Yes, Enter Primary Target Population:

_____ People[3]

Depth to Shallowest Aquifer:

_____ Feet

Karst Terrain/Aquifer Present:

☐ Yes
☐ No

Nearest Designated Wellhead Protection Area[6]:

☐ Underlies Site
☐ >0-4 Miles
☐ None Within 4 Miles

List Secondary Target Population Served by Ground Water Withdrawn From:

0 - 1/4 Mile _____

>1/4 - 1/2 Mile _____

>1/2 - 1 Mile _____

>1 - 2 Mile _____

>2 - 3 Mile _____

>3 - 4 Mile _____

Total Within 4 Miles[4] _____

*Use population #s for PA Table 2

*Note nearest well for #5 on GW Pathway Scoresheet

8. Surface Water Pathway - NA

Type of Surface Water Draining Site and 15 Miles Downstream (check all that apply):

☐ Stream ☐ River ☐ Pond ☐ Lake
☐ Bay ☐ Ocean ☐ Other_____

Shortest Overland Distance From Any Source to Surface Water:

_____ Feet
_____ Miles

Is There a Suspected Release to Surface Water[1]:

☐ Yes
☐ No

Site is Located in:

☐ Annual - 10 yr Floodplain
☐ >10yr - 100yr Floodplain
☐ >100yr - 500yr Floodplain
☐ >500yr Floodplain

Drinking Water Intake Located Along the Surface Water Migration Path:

☐ Yes
☐ No

Have Primary Target Drinking Water Intakes Been Identified:

☐ Yes
☐ No

If Yes, Distance to Nearest Drinking Water Intake : _____ Miles[6]

If Yes, Enter Population Served by Target Intake:

_____ People[4]

List All Secondary Target Drinking Water Intakes:

Name:	Water Body:	Flow (cfs):	Population Served:
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Total within 15 Miles [4] _____

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[10]:

Water Body/ Fishery Name :	Flow (cfs):
_____	_____
_____	_____
_____	_____
_____	_____

8. Surface Water Pathway (continued) - NA

Wetlands Located Along the Surface Water Migration Path:

☐ Yes
☐ No

Have Primary Target Wetlands Been Identified:

☐ Yes
☐ No

List All Wetlands:

Water Body :	Flow (cfs):	Frontage miles:
_____	_____	_____
_____	_____	_____
_____	_____	_____

Other Sensitive Environments Located Along the Surface Water Migration Path:

☐ Yes
☐ No

If Yes, Distance to Nearest Sensitive Environment:
_____ feet

Have Primary Target Sensitive Environments Been Identified:

☐ Yes
☐ No

List All Sensitive Environments[11]:

Water Body :	Flow (cfs):	Sensitive Environment Type:
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

9. Soil Exposure Pathway - NA

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[2]

Number of Workers Onsite[4]:

☐ None
☐ 1 - 100
☐ 101 - 1,000
☐ > 1,000

Population Within 1 Mile:

_____People[7]

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[5]:

_____
_____
_____

*Refer to PA Table 7 for environment types

10. Air Pathway

Is there a Suspected Release to Air[1]:

☐ Yes
☐ No

Enter Total Population on or Within:

Onsite _____

0-1/4 Mile _____

>1/4-1/2 Mile _____

>1/2-1 Mile _____

>1-2 Miles _____

>2-3 Miles _____

>3-4 Miles _____

Total Within 4 Miles [3-5] _____

Wetlands Located Within 4 Miles of the Site[6]:

☐ Yes
☐ No

If Yes, How Many Acres: _____ Acres

Other Sensitive Environments Located Within 4 Miles of the Site:

☐ Yes
☐ No

List All Sensitive Environments Within 1/2 Mile of the Site[6]:

Distance:	Sensitive Environment Type/Wetlands Area (acres):
Onsite	_____
0-1/4 Mile	_____
>1/4-1/2 Mile	_____

*Refer to PA Table 10 for calculations on air pathway exposures

[1-11] Refers to question number on the PA scoresheet for each particular pathway

Potential Hazardous Waste Site Preliminary Assessment Form

Identification

State: | CERCLIS #:

CERCLIS Discovery Date:

1. General Site Information

Name: Northern Sewage Treatment Plant		Street Address: NA			
City:		State: FL	Zip Code:32925	County:Brevard	Co. Code:12009	Cong. Dist:8th
Latitude: [redacted]	Longitude: [redacted]	Approximate Area of Site: ___ Acres _____ Square Ft		Status of Site: ☐ Active ☐ Not Specified ☑ Inactive ☐ NA (GW plume, etc.)	

Site Name: Northern Sewage Treatment Plant

Site Description: The Northern STP is located on the northwestern portion of Patrick AFB. The Northern STP was constructed in 1968 and had served as the main STP for Patrick AFB before being decommissioned during February and March 1995. The STP treated domestic wastewater from the housing area, shops, barracks, mess hall, and office buildings. Effluent from the STP was discharged to the Banana River prior to being decommissioned. Beginning in 1995 all wastewater generated at Patrick AFB is pumped to the City of Cocoa for treatment and disposal.

2. Owner/Operator Information

Owner: Patrick AFB			Operator: Same as "owner"		
Street Address:			Street Address:		
City:			City:		
State: FL	Zip Code:32925	Telephone:	State:	Zip Code:	Telephone:

Type of Ownership: ☐ Private ☑ Federal Agency Name: DOD ☐ State ☐ Indian ☐ County ☐ Municipal ☐ Not Specified ☐ Other_____	Type of Ownership: ☐ Private ☐ Federal Agency Name: _____ ☐ State ☐ Indian ☐ County ☐ Municipal ☐ Not Specified ☐ Other_____

3. Site Evaluator Information

Name of Evaluator: John Sandoval	Agency/Organization: HydroGeoLogic, Inc.	Date Prepared:07/06/15
Street Address:404 E. Ramsey Road, Ste. 210	City:San Antonio	State:Texas
Name of EPA or State Agency Contact:NA	Street Address:	
City:	State:	Telephone:

4. Site Disposition *(for EPA use only)*

Emergency Response/Removal Assessment Recommendation: ☐ Yes ☐ No Date: _____	CERCLIS Recommendation: ☐ Higher Priority SI ☐ Lower Priority SI ☐ NFRAP ☐ RCRA ☐ Other: _____ Date: _____	Signature: Name (typed): Position:

5. General Site Characteristics

Predominant Land Use Within 1 Mile of Site (check all that apply):

- ☐ Industrial
- ☐ Commercial
- ☐ Residential
- ☐ Forest/Fields
- ☐ Agriculture
- ☐ Mining
- ☑ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility: _____
- ☐ Other _____

Site Setting:

- ☐ Urban
- ☐ Suburban
- ☑ Rural

Years of Operation:

Beginning Year 1968

Ending Year 1995

☐ Unknown

Type of Site Operations (check all that apply):

- ☐ Manufacturing (must check subcategory)
  - ☐ Lumber and Wood Products
  - ☐ Inorganic Chemicals
  - ☐ Plastic and/or Rubber Products
  - ☐ Paints, Varnishes
  - ☐ Industrial Organic Chemicals
  - ☐ Agricultural Chemicals
  - ☐ Miscellaneous Chemical Products
  - ☐ Primary Metals
  - ☐ Metal Coating, Plating, Engraving
  - ☐ Metal Forging, Stamping
  - ☐ Fabricated Structural Metal Products
  - ☐ Electronic Equipment
  - ☐ Other Manufacturing
- ☐ Mining
  - ☐ Metals
  - ☐ Coal
  - ☐ Oil and Gas
  - ☐ Non-metallic Minerals
- ☐ Retail
- ☐ Recycling
- ☐ Junk/Salvage Yard
- ☐ Municipal Landfill
- ☐ Other Landfill
- ☑ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility _____
- ☐ RCRA
  - ☐ Treatment, Storage, or Disposal
  - ☐ Large Quantity Generator
  - ☐ Small Quantity Generator
  - ☐ Subtitle D
    - ☐ Municipal
    - ☐ Industrial
  - ☐ "Converter"
  - ☐ "Protective Filer"
  - ☐ "Non-or Late Filer"
- ☐ Note Specified
- ☐ Other_____

Waste Generated:

- ☑ Onsite
- ☐ Offsite
- ☐ Onsite and Offsite

Waste Deposition Authorized By:

- ☑ Present Owner
- ☐ Former Owner
- ☐ Present & Former Owner
- ☐ Unauthorized
- ☐ Unknown

Waste Accessible to the Public:

- ☐ Yes
- ☑ No

Distance to Nearest Dwelling, School, or Workplace:

on site Feet

6. Waste Characteristics Information

(Refer to PA Table 1 for WC Score)

Source Type: (check all that apply)

Source Type	Source Waste Quantity: (include unit)	Tier*:
☐ Landfill	_____	____
☐ Surface Impoundment	_____	____
☐ Drums	_____	____
☐ Tanks and Non-Dum Containers	_____	____
☐ Chemical Waste Pile	_____	____
☐ Scrap Metal or Junk Pile	_____	____
☐ Tailings Pile	_____	____
☐ Trash Pile (open drum)	_____	____
☐ Land Treatment	_____	____
☐ Contaminated GW Plume (unidentified source)	_____	____
☐ Contaminated SW/Sediment (unidentified source)	_____	____
☐ Contaminated Soil	_____	____
☑ Other AFFF	_____	____
☐ No Sources		

*C=Constituent, W=Wastestream, V=Volume, A=Area

General Type of Waste (check all that apply):

- ☐ Metals
- ☐ Organics
- ☐ Inorganics
- ☐ Solvents
- ☐ Paints/Pigments
- ☐ Laboratory/Hospital Waste
- ☐ Radioactive Waste
- ☐ Construction/Demolition Waste
- ☐ Pesticides/Herbicides
- ☐ Acids/Bases
- ☐ Oily Waste
- ☐ Municipal Waste
- ☐ Mining Waste
- ☐ Explosives
- ☑ Other AFFF

Physical State of Waste as Deposited (check all that apply):

- ☐ Solid
- ☐ Sludge
- ☐ Powder
- ☑ Liquid
- ☐ Gas

7. Ground Water Pathway

Is Ground Water Used for Drinking Within 4 Miles:

☑ Yes
☐ No

If Yes, Distance to nearest Drinking Well:

5.08 miles

Type of Drinking Water Wells Within 4 Miles (check all that apply):

☑ Municipal
☑ Private
☐ None

Is There a Suspected Release to Ground Water[1]:

☑ Yes
☐ No

Have Primary Target Drinking Water Wells Been Identified:

☑ Yes
☐ No

If Yes, Enter Primary Target Population:

25 People[3]

List Secondary Target Population Served by Ground Water Withdrawn From:

0 - 1/4 Mile _____

>1/4 - 1/2 Mile _____

>1/2 - 1 Mile _____

>1 - 2 Mile _____

>2 - 3 Mile _____

>3 - 4 Mile _____

Total Within 4 Miles[4] 15,877

*Use population #s for PA Table 2

*Note nearest well for #5 on GW Pathway Scoresheet

Depth to Shallowest Aquifer:

4-5 Feet

Karst Terrain/Aquifer Present:

☑ Yes
☐ No

Nearest Designated Wellhead Protection Area[6]:

☐ Underlies Site
☐ >0-4 Miles
☐ None Within 4 Miles

8. Surface Water Pathway

Type of Surface Water Draining Site and 15 Miles Downstream (check all that apply):

☐ Stream ☑ River ☐ Pond ☐ Lake
☐ Bay ☐ Ocean ☐ Other _

Shortest Overland Distance From Any Source to Surface Water:

55 Feet
_____ Miles

Is There a Suspected Release to Surface Water[1]:

☑ Yes
☐ No

Site is Located in:

☐ Annual - 10 yr Floodplain
☐ >10yr - 100yr Floodplain
☑ >100yr - 500yr Floodplain
☐ >500yr Floodplain

Drinking Water Intake Located Along the Surface Water Migration Path:

☐ Yes
☑ No

Have Primary Target Drinking Water Intakes Been Identified:

☐ Yes
☑ No

If Yes, Distance to Nearest Drinking Water Intake : _____ Miles[6]

If Yes, Enter Population Served by Target Intake:

_____ People[4]

List All Secondary Target Drinking Water Intakes:

Name:	Water Body:	Flow (cfs):	Population Served:

Total within 15 Miles [4] _____

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[10]:

Water Body/ Fishery Name :	Flow (cfs):

8. Surface Water Pathway (continued)

Wetlands Located Along the Surface Water Migration Path:

☑ Yes
☐ No

Have Primary Target Wetlands Been Identified:

☑ Yes
☐ No

List All Wetlands:

Water Body :	Flow (cfs):	Frontage miles:
Banana River		

Other Sensitive Environments Located Along the Surface Water Migration Path:

☑ Yes
☐ No

If Yes, Distance to Nearest Sensitive Environment: _____ feet

Have Primary Target Sensitive Environments Been Identified:

☐ Yes
☑ No

List All Sensitive Environments[11]:

Water Body :	Flow (cfs):	Sensitive Environment Type:
multiple wetlands		

9. Soil Exposure 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[2]

Number of Workers Onsite[4]:

☐ None
☑ 1 - 100
☐ 101 - 1,000
☐ > 1,000

Population Within 1 Mile:

15,877 (4-miles)
People[7]

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[5]:

_____
_____
_____

*Refer to PA Table 7 for environment types

10. Air Pathway

Is there a Suspected Release to Air[1]:

☐ Yes
☑ No

Enter Total Population on or Within:

Onsite	_____
0-1/4 Mile	_____
>1/4-1/2 Mile	_____
>1/2-1 Mile	_____
>1-2 Miles	_____
>2-3 Miles	_____
>3-4 Miles	_____
Total Within 4 Miles [3-5]	15,877

Wetlands Located Within 4 Miles of the Site[6]:

☑ Yes
☐ No

If Yes, How Many Acres: unknown Acres

Other Sensitive Environments Located Within 4 Miles of the Site:

☑ Yes
☐ No

List All Sensitive Environments Within 1/2 Mile of the Site[6]:

Distance:	Sensitive Environment Type/Wetlands Area (acres):
Onsite	_____
0-1/4 Mile	Banana River
>1/4-1/2 Mile	_____

*Refer to PA Table 10 for calculations on air pathway exposures

[1-11] Refers to question number on the PA scoresheet for each particular pathway

Potential Hazardous Waste Site Preliminary Assessment Form

Identification

State: | CERCLIS #:

CERCLIS Discovery Date:

1. General Site Information

Name: Outfall 21 to Banana River		Street Address: NA			
City:		State: FL	Zip Code:32925	County:Brevard	Co. Code:12009	Cong. Dist:8th
Latitude: [redacted]	Longitude: [redacted]	Approximate Area of Site: ___ ___ Acres _____ Square Ft		Status of Site: ☑ Active ☐ Not Specified ☐ Inactive ☐ NA (GW plume, etc.)	

Site Name: Outfall 21 to Banana River

Site Description: Outfall 21 is located along the western boundary of Patrick AFB approximately 440 feet west/northwest of Hangar 630. The outfall is part of the drainage system at Patrick AFB and is potentially influenced by drainage from Hangars 630 and 647. Historical discharge of AFFF from the fire suppression systems at theses hangars flowed out of the hangars doors to the grassy areas and storm sewer inlets north of the hangars. These storm sewer inlets release to the environment at the drainage canal through Outfall 21.

2. Owner/Operator Information

Owner: Patrick AFB			Operator: Same as "owner"		
Street Address:			Street Address:		
City:			City:		
State: FL	Zip Code:32925	Telephone:	State:	Zip Code:	Telephone:

Type of Ownership: ☐ Private ☐ County ☑ Federal Agency ☐ Municipal Name: _DOD__ ☐ Not Specified ☐ State ☐ Other_____ ☐ Indian	Type of Ownership: ☐ Private ☐ County ☐ Federal Agency ☐ Municipal Name: _____ ☐ Not Specified ☐ State ☐ Other_____ ☐ Indian

3. Site Evaluator Information

Name of Evaluator: John Sandoval	Agency/Organization: HydroGeoLogic, Inc.	Date Prepared:07/06/15
Street Address:404 E. Ramsey Road, Ste. 210	City:San Antonio	State:Texas
Name of EPA or State Agency Contact:NA	Street Address:	
City:	State:	Telephone:

4. Site Disposition *(for EPA use only)*

Emergency Response/Removal Assessment Recommendation: ☐ Yes ☐ No Date: _____	CERCLIS Recommendation: ☐ Higher Priority SI ☐ Lower Priority SI ☐ NFRAP ☐ RCRA ☐ Other: _____ Date: _____	Signature: Name (typed): Position:

5. General Site Characteristics

Predominant Land Use Within 1 Mile of Site (check all that apply):

- ☐ Industrial
- ☐ Commercial
- ☐ Residential
- ☐ Forest/Fields
- ☐ Agriculture
- ☐ Mining
- ☑ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility: _____
- ☐ Other _____

Site Setting:

- ☐ Urban
- ☐ Suburban
- ☑ Rural

Years of Operation:

Beginning Year: unknown

Ending Year: present

☐ Unknown

Type of Site Operations (check all that apply):

- ☐ Manufacturing (must check subcategory)
  - ☐ Lumber and Wood Products
  - ☐ Inorganic Chemicals
  - ☐ Plastic and/or Rubber Products
  - ☐ Paints, Varnishes
  - ☐ Industrial Organic Chemicals
  - ☐ Agricultural Chemicals
  - ☐ Miscellaneous Chemical Products
  - ☐ Primary Metals
  - ☐ Metal Coating, Plating, Engraving
  - ☐ Metal Forging, Stamping
  - ☐ Fabricated Structural Metal Products
  - ☐ Electronic Equipment
  - ☐ Other Manufacturing
- ☐ Mining
  - ☐ Metals
  - ☐ Coal
  - ☐ Oil and Gas
  - ☐ Non-metallic Minerals
- ☐ Retail
- ☐ Recycling
- ☐ Junk/Salvage Yard
- ☐ Municipal Landfill
- ☐ Other Landfill
- ☑ DOD
- ☐ DOE
- ☐ DOI
- ☐ Other Federal Facility _____
- ☐ RCRA
  - ☐ Treatment, Storage, or Disposal
  - ☐ Large Quantity Generator
  - ☐ Small Quantity Generator
  - ☐ Subtitle D
    - ☐ Municipal
    - ☐ Industrial
  - ☐ "Converter"
  - ☐ "Protective Filer"
  - ☐ "Non-or Late Filer"
- ☐ Note Specified
- ☐ Other_____

Waste Generated:

- ☑ Onsite
- ☐ Offsite
- ☐ Onsite and Offsite

Waste Deposition Authorized By:

- ☑ Present Owner
- ☐ Former Owner
- ☐ Present & Former Owner
- ☐ Unauthorized
- ☐ Unknown

Waste Accessible to the Public:

- ☐ Yes
- ☑ No

Distance to Nearest Dwelling, School, or Workplace:

80 Feet

6. Waste Characteristics Information

(Refer to PA Table 1 for WC Score)

Source Type: (check all that apply)

Source Type	Source Waste Quantity: (include unit)	Tier*:
☐ Landfill	_____	____
☐ Surface Impoundment	_____	____
☐ Drums	_____	____
☐ Tanks and Non-Dum Containers	_____	____
☐ Chemical Waste Pile	_____	____
☐ Scrap Metal or Junk Pile	_____	____
☐ Tailings Pile	_____	____
☐ Trash Pile (open drum)	_____	____
☐ Land Treatment	_____	____
☐ Contaminated GW Plume (unidentified source)	_____	____
☐ Contaminated SW/Sediment (unidentified source)	_____	____
☐ Contaminated Soil	_____	____
☑ Other AFFF	_____	____
☐ No Sources		

*C=Constituent, W=Wastestream, V=Volume, A=Area

General Type of Waste (check all that apply):

- ☐ Metals
- ☐ Organics
- ☐ Inorganics
- ☐ Solvents
- ☐ Paints/Pigments
- ☐ Laboratory/Hospital Waste
- ☐ Radioactive Waste
- ☐ Construction/Demolition Waste
- ☐ Pesticides/Herbicides
- ☐ Acids/Bases
- ☐ Oily Waste
- ☐ Municipal Waste
- ☐ Mining Waste
- ☐ Explosives
- ☑ Other AFFF

Physical State of Waste as Deposited (check all that apply):

- ☐ Solid
- ☐ Sludge
- ☐ Powder
- ☑ Liquid
- ☐ Gas

7. Ground Water Pathway

Is Ground Water Used for Drinking Within 4 Miles:

☑ Yes
☐ No

If Yes, Distance to nearest Drinking Well:

_4.5___ miles

Type of Drinking Water Wells Within 4 Miles
(check all that apply):

☑ Municipal
☑ Private
☐ None

Is There a Suspected Release to Ground Water[1]:

☑ Yes
☐ No

Have Primary Target Drinking Water Wells Been Identified:

☑ Yes
☐ No

If Yes, Enter Primary Target Population:

_25__ People[3]

Depth to Shallowest Aquifer:

_4-5___ Feet

Karst Terrain/Aquifer Present:

☑ Yes
☐ No

Nearest Designated Wellhead Protection Area[6]:

☐ Underlies Site
☐ >0-4 Miles
☐ None Within 4 Miles

List Secondary Target Population Served by Ground Water Withdrawn From:

0 - 1/4 Mile _____

>1/4 - 1/2 Mile _____

>1/2 - 1 Mile _____

>1 - 2 Mile _____

>2 - 3 Mile _____

>3 - 4 Mile _____

Total Within 4 Miles[4] 15,414

*Use population #s for PA Table 2

*Note nearest well for #5 on GW Pathway Scoresheet

8. Surface Water Pathway

Type of Surface Water Draining Site and 15 Miles Downstream (check all that apply):

☐ Stream ☑ River ☐ Pond ☐ Lake
☐ Bay ☐ Ocean ☑ Other _drainage canal

Shortest Overland Distance From Any Source to Surface Water:

_on-site__ Feet
_____ Miles

Is There a Suspected Release to Surface Water[1]:

☑ Yes
☐ No

Site is Located in:

☐ Annual - 10 yr Floodplain
☐ >10yr - 100yr Floodplain
☑ >100yr - 500yr Floodplain
☐ >500yr Floodplain

Drinking Water Intake Located Along the Surface Water Migration Path:

☐ Yes
☑ No

Have Primary Target Drinking Water Intakes Been Identified:

☐ Yes
☑ No

If Yes, Distance to Nearest Drinking Water Intake : _____ Miles[6]

If Yes, Enter Population Served by Target Intake:

_____ People[4]

List All Secondary Target Drinking Water Intakes:

Name:	Water Body:	Flow (cfs):	Population Served:
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Total within 15 Miles [4] _____

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[10]:

Water Body/ Fishery Name :	Flow (cfs):
_____	_____
_____	_____
_____	_____
_____	_____

8. Surface Water Pathway (continued)

Wetlands Located Along the Surface Water Migration Path:

☑ Yes
☐ No

Have Primary Target Wetlands Been Identified:

☑ Yes
☐ No

List All Wetlands:

Water Body :	Flow (cfs):	Frontage miles:
Banana River		

Other Sensitive Environments Located Along the Surface Water Migration Path:

☑ Yes
☐ No

If Yes, Distance to Nearest Sensitive Environment: _____ feet

Have Primary Target Sensitive Environments Been Identified:

☐ Yes
☑ No

List All Sensitive Environments[11]:

Water Body :	Flow (cfs):	Sensitive Environment Type:
multiple wetlands		

9. Soil Exposure 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[2]

Number of Workers Onsite[4]:

☑ None
☐ 1 - 100
☐ 101 - 1,000
☐ > 1,000

Population Within 1 Mile:

15,414 (4-miles)
People[7]

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[5]:

_____
_____
_____

*Refer to PA Table 7 for environment types

10. Air Pathway

Is there a Suspected Release to Air[1]:

☐ Yes
☑ No

Enter Total Population on or Within:

Onsite	_____
0-1/4 Mile	_____
>1/4-1/2 Mile	_____
>1/2-1 Mile	_____
>1-2 Miles	_____
>2-3 Miles	_____
>3-4 Miles	_____
Total Within 4 Miles [3-5]	15,414

Wetlands Located Within 4 Miles of the Site[6]:

☑ Yes
☐ No

If Yes, How Many Acres: unknown Acres

Other Sensitive Environments Located Within 4 Miles of the Site:

☑ Yes
☐ No

List All Sensitive Environments Within 1/2 Mile of the Site[6]:

Distance:	Sensitive Environment Type/Wetlands Area (acres):
Onsite	_____
0-1/4 Mile	Banana River
>1/4-1/2 Mile	_____

*Refer to PA Table 10 for calculations on air pathway exposures

[1-11] Refers to question number on the PA scoresheet for each particular pathway

APPENDIX C

RECORDS OF COMMUNICATION

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HGL HydroGeoLogic, Inc Exceeding Expectations	**Date:05/26/15** **Time:0852**	**COMMUNICATION RECORD**

Name of Base, State: Patrick AFB, Brevard County, Florida	
Interviewer: John Sandoval	
Organization: HGL	**Phone: 210-348-8778**
Position/role on this project: Field Team Lead	**Email: jsandoval@hgl.com**
Interviewee: Bill Paine	
Organization: Patrick AFB Personnel	**Phone:**
Position/Job Title: Lift Station Operator	**Email:**
How Long in this Position?	
How long at this Base in current and previous positions?	
Have you held similar positions at other bases?	
Which bases?	
How long?	
Discussion:	

Northern Sewage Treatment Plant (STP [redacted]

- North STP been in operation since 1994.
- There was an AFFF release that occurred from a Hangar and discharged to the floor drains.
- Did not know when AFFF was released or what hangar the release occurred at.
- Discharge from the Northern STP to the City of Cocoa Beach Dyal Water Treatment Plant, where it is ultimately released at Banana River.

HGL HydroGeoLogic, Inc Exceeding Expectations	Date:05/27/15 Time:0900	**COMMUNICATION RECORD**

Name of Base, State: Patrick AFB, Brevard County, Florida	
Interviewer: John Sandoval	
Organization: HGL	**Phone: 210-348-8778**
Position/role on this project: Field Team Lead	**Email: jsandoval@hgl.com**
Interviewee: Dallas More	
Organization: Patrick AFB Fire Department	**Phone:**
Position/Job Title: Assistant Fire Chief	**Email:**
How Long in this Position? March 1998	
How long at this Base in current and previous positions?	
Have you held similar positions at other bases?	
Which bases?	
How long?	

Discussion:

Building 984:

- AFFF Storage

Hangar 750

- Constructed in 1943; Unable to access during PA visit.
- Initially equipped with AFFF fire suppression system and retrofitted to HEF in 2006.
- 1999 AFFF release at hangar. System tripped and 3 feet of foam filled the hangar. Unknown amount of AFFF released.
- 3% AFFF

Time and Distance Testing and Flushing out hoses:

- Known as Ops Check
- Conducted at 800 ramp and fire station
- Discharged at South, west, and north areas of fire station.
- 1999/2000 Ops Check was no longer conducted with AFFF
- Water is now used for OPS checks at Taxiway Juliet

Fire Station

- Fire Engine 9
  - Holds 55-gallons of AFFF 3%
- Fire Engine 4
  - Holds 55-gallons of AFFF 3%
- 2,000 gallon AFFF Trailer
- Crash Truck 6
  - 210 gallons of AFFF 3%
- Crash Truck 5
  - 500 gallons of AFFF 3%

Hangar 985

- Constructed in 1953.

Discussion:

- No containment system
- Equipped with an AFFF system (3% AFFF) including four low level turrets in 2003.
- Has an 800 gallon AFFF AST [redacted]
- No reported or documented releases of AFFF.

Hangar 986

- Constructed in 1953
- Equipped with a Deluge System.
- Hangar has never been equipped with an AFFF fire suppression system.
- No reported or documented releases of AFFF.

Building 705

- Constructed in 1999.
- [redacted] formerly supplied Hangar 750
- Supplies AFFF to Hangar 751
- Contains 1,200 gallon AFFF poly tank
- AFFF pipelines that supplied Hangar 750 were capped off in 2006.

Former Fire Training Area 2.

- Was not aware of former burn pit
- FTA no longer used; FTA activities ceased around 2000/2001.

Hangar 630

- Constructed in 1964.
- Equipped with an AFFF fire suppression system in 1999.
- In 2003, the AFFF fire suppression system was upgraded.
- 800 gallon AFFF (3%) AST in MEC room
- AFFF suppression system tripped and hangar was filled with 3 feet of AFFF.
- Timeframe and amount of AFFF released unknown.

Hangar 647

- Constructed in 1970.
- [redacted]
- Equipped with an AFFF fire suppression system in 1999.
- [redacted] contains 2,000 gallon AFFF AST.

Fire Truck Rollover

- Rollover occurred in 1997.
- AFFF spilled out of the fire truck onto Taxiway Echo and Taxiway Bravo.
- Unknown amount of AFFF released.

Excess AFFF is stored at Building 984. Approximately 25 55-gallon drums stored at Building 984.
Hangar systems are tested annually and the foam is sampled.
Every two years the systems are dumped. Only water is dumped not AFFF.

Discussion:

Hangar 751

- Currently equipped with an AFFF fire suppression system.
- 1,200 gallon AFFF poly AST supplies hangar with AFFF.
- 1,200 gallon AST located in Building 705 [redacted].
- AFFF system installed in 1999.

HGL HydroGeoLogic, Inc Exceeding Expectations	Date:05/27/15 Time:0900	**COMMUNICATION RECORD**

Name of Base, State: Patrick AFB, Brevard County, Florida	
Interviewer: John Sandoval	
Organization: HGL	**Phone: 210-348-8778**
Position/role on this project: Field Team Lead	**Email: jsandoval@hgl.com**
Interviewee: Darren Schubert, Charlie Roy, George Robbins	
Organization:	**Phone:**
Position/Job Title:	**Email:**
How Long in this Position?	
How long at this Base in current and previous positions?	
Have you held similar positions at other bases?	
Which bases?	
How long?	

Discussion:

Hangar 750:

- Initially equipped with wet system prior to 2000
- Retrofitted to 3% AFFF in 2000 and operated until 2006.
- In 2006, fire suppression system was retrofitted to HEF.
- Fire suppression system is currently charged with HEF.

Building 705

- Building 705 [redacted] historically pumped AFFF to Hangars 750 and 751 via underground piping.
- AFFF was accidently released in 2012 at Building 705 to the floor drains. Approximately 5 to 10 gallons of AFFF was released.
- There was a leak in the underground piping to Hangar 751 in 2008/2009. Approximately 800 gallons of AFFF was released to the subsurface.
- Pipelines from Building 705 to Hangar 750 were capped off in 2006.
- August 2007 there was a leak in the underground piping to Hangar 751. Unknown amount of AFFF released. Leak occurred where piping was about to go into Hangar 751.

Hangar 751:

- Equipped with an AFFF fire suppression system.
- 1,200 gallon AFFF poly tank is located in pump house [redacted]
- Building 705 still pumps AFFF to Hangar 751.

Every two years Hangars 750 and 751 fire suppression systems were dumped to the hangar floor drains and discharged to a 30,000 UST located south of Hangar 750. Contents of the 30,000 UST have been pumped out to the ground surface surrounding the UST. Alternately, the contents are pumped out by a subcontractor using a Vacuum truck and disposed off-base.

Discussion:

Hangar 630:

- 2004 there was a release of AFFF at the hangar due to a natural disaster (Hurricane) that tripped the system. Unknown amount of AFFF released out of the hangar doors.

Hangar 647:

- Accidental AFFF Release in 2009. Approximately 440 gallons released to the hangar floor and out to the parking apron in front of the Hangar.

Underground containment tank installed in June/July 2014 to collect discharge from Hangar 630 and 647. Underground tank is pumped out by subcontractors and disposed off-base.

Hangar 985 and 986

- No reported or documented releases of AFFF.

Building 676

- A [redacted] Facility that was initially equipped with a wet pipe fire suppression system. In January 2012, the system was retrofitted with an AFFF fire suppression system.
- No reported or documented release of AFFF.

HGL HydroGeoLogic, Inc Exceeding Expectations	Date:05/26/15 Time:0810	**COMMUNICATION RECORD**

Name of Base, State: Patrick AFB, Brevard County, Florida	
Interviewer: John Sandoval	
Organization: HGL	**Phone: 210-348-8778**
Position/role on this project: Field Team Lead	**Email: jsandoval@hgl.com**
Interviewee: John Langett	
Organization: AFCEC	**Phone:**
Position/Job Title: Patrick AFB RPM	**Email:**
How Long in this Position?	
How long at this Base in current and previous positions?	
Have you held similar positions at other bases?	
Which bases?	
How long?	
Discussion:	

- Reviewed sites from previous investigations.
- Mr. Langett confirmed that all information provided in the previous PFC Investigation is correct.
- Groundwater is not used as drinking water.
- Drinking water for Patrick AFB is purchased from the City of Cocoa.
- Indicated that there was a FTA PFC Investigation conducted in 2011.
- There are no current Fire Training Areas.
- AFFF releases from hangars drain to the hangar floor drains and releases to the Y-Drainage Ditch. The drainage ditch releases to Banana River.

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