



RELATIVE RISK SITE EVALUATION

Francis S Gabreski Airport, New York

Introduction

The Department of Defense (DoD) identified certain per- and polyfluoroalkyl substances (PFAS) as emerging contaminants of concern which affected installations across the Air Force. When the term "Air Force" is used in this fact sheet, it includes Air National Guard. Specifically, perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA), and perfluorobutanesulfonic acid (PFBS) are components of legacy Aqueous Film Forming Foam (AFFF) that the Air Force began using in the 1970s as a firefighting agent to extinguish petroleum fires. The U.S. Environmental Protection Agency (EPA) issued lifetime drinking water Health Advisories (HA) for PFOS and PFOA, and health-based regional screening levels for PFBS.

The Air Force has systematically evaluated potential AFFF releases on all Installations and former Installations. It began with the Preliminary Assessments, or PAs, that identified potential release areas. First responders, fire chiefs, and hangar staff were interviewed to determine where a release or a spill may have occurred on an Installation (for example, aircraft crash site or an accidental hangar AFFF release). Once the information in the PA was collected, we began Site Inspections, or SIs, to take soil and water samples and analyzed the media for PFAS compounds at the potential release areas. The intention of the SI was to determine if a release had occurred and to determine the impacts to soil and/or groundwater. At Gabreski Air National Guard Base (ANGB), an Expanded SI was also completed. The next step in the process is called the Relative Risk Site Evaluation, or RRSE, which is a tool used to sequence Sites/Installations to begin a Remedial Investigation, or RI. Air Force Installations are at the beginning of the more detailed investigative stage, the RI, to determine, where action is needed and to identify remedial technologies.

The Gabreski ANGB PFAS PA and SI can be found at the Air Force CERCLA Administrative Record (AR): <https://ar.afcec-cloud.af.mil/> Scroll to the bottom of the page and click on "Continue to site", then select Air National Guard (e.g., Active, ANG, BRAC), scroll down the Installation List and click on F Gabreski APT (Westhampton), NY, then enter the AR Number 473137 in the "AR #" field for the PA. For the SI, enter the AR Number 585861 (1 of 4). For the Expanded SI, enter 608530 (1 of 38). Then click "Search" at the bottom of the page. Click on the spy glass to view the document.

More information on the Air Force response to PFOS and PFOA can be found at: <https://www.afcec.af.mil/WhatWeDo/Environment/Perfluorinated-Compounds/>

Acronyms

AFFF - Aqueous Film Forming Foam

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

CHF – Contaminant Hazard Factor

DoD - Department of Defense

EPA – US Environmental Protection Agency

FTA – Fire Training Area

HA – Health Advisory

MPF – Migration Pathway Factor

PA – Preliminary Assessment

PFAS - Per-and polyfluoroalkyl substances

PFBS – Perfluorobutanesulfonic acid

PFOS - Perfluorooctane sulfonate

PFOA - Perfluorooctanoic acid

RF – Receptor Factor

RI – Remedial Investigation

RRSE – Relative Risk Site Evaluation

PRL - Potential Release Location

SI – Site Inspection



RELATIVE RISK SITE EVALUATION, cont.

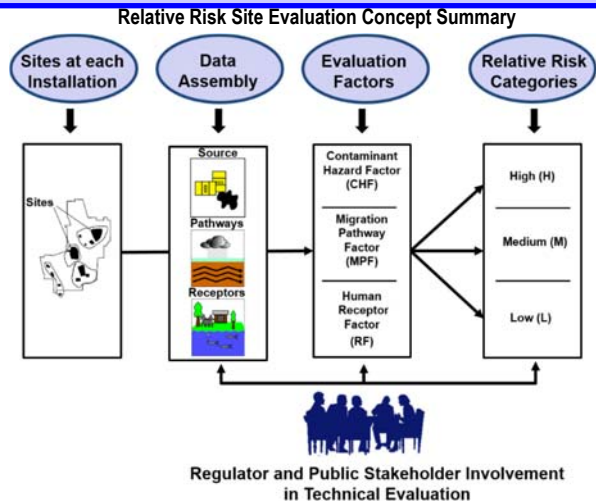


Q. What is the Relative Risk Site Evaluation (RRSE)?

A. RRSE is a methodology to sequence environmental restoration work used by the Department of Defense (DoD). The RRSE process is used to evaluate the relative risk posed by an environmental restoration site in relation to other sites. The DoD fundamental premise in site prioritization is "worst first," meaning the DoD Component shall address sites that pose a relatively greater potential risk to public safety, human health, or the environment before sites posing a lesser risk. Relative risk is not the sole factor in determining the sequence of environmental restoration work, but it is an important consideration in the priority setting process. The methodology is described in the DoD, Relative Risk Site Evaluation Primer, Summer 1997 Revised Edition: <https://denix.osd.mil/references/dod/policy-guidance/relative-risk-site-evaluation-primer/>

Q. What is the RRSE framework?

A. The RRSE framework provides a DoD-wide approach for evaluating the relative risk to human health and the environment posed by contamination present at sites. The **Relative Risk Site Evaluation Concept Summary** (shown in the figure) illustrates the selection of sites, evaluation of the site data using three evaluation factors, and placement into high, medium, and low categories. The relative risk site evaluation framework is based on information fundamental to risk assessment: sources, pathways, and receptors to sequence restoration work. The RRSE is not a baseline risk assessment or health assessment in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process. Regulators and public stakeholders in the environmental restoration process are provided the opportunity to participate in the process in accordance with the DoD Defense Environmental Restoration Program.



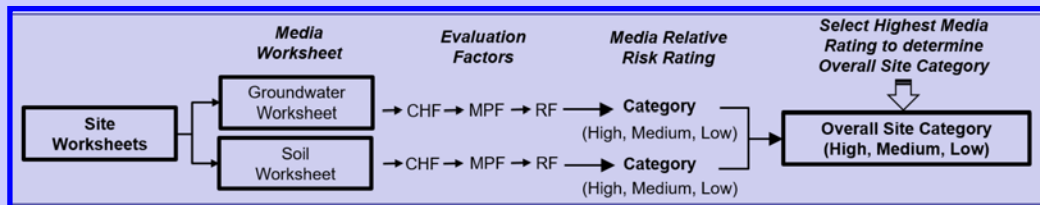
Sites at Each Installation

Q. What restoration sites are required to be evaluated in the RRSE process?

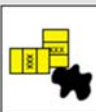


A. Restoration sites in CERCLA phases prior to remedy-in-place are evaluated in the process. Worksheets are developed for environmental media at each site. For consistency across all the Installations, only surface soil (0-1 foot deep) and groundwater media were evaluated in the RRSE.

The figure shows the process for a media to be evaluated using the contaminant hazard factor (CHF), the migration pathway factor (MPF), and the receptor factor (RF). Each media is scored to obtain a relative risk rating of High, Medium, or Low. The highest media rating determines the Overall Site Category.



Q. How is the Contaminant Hazard Factor (CHF) determined?



A. The Contaminant Hazard Factor (CHF) is determined by dividing the maximum level for a contaminant at each site by the approved screening values (i.e., comparison values). Contaminant concentration ratios are totaled to arrive at a Contaminant Hazard Factor (CHF). A CHF sum of greater than 100 earns a **Significant (High)** ranking. **Moderate (Medium)** is when the total is 2 to 100. **Minimal (Low)** is when a CHF is less than two.

FOR MORE INFORMATION

Air Force Civil Engineer Center
Environmental Restoration Program
www.afcec.af.mil

AFCEC CERCLA
Administrative Record (AR)
<https://ar.afcec-cloud.af.mil/>

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Q. How is the Migration Pathway Factor (MPF) determined?

A. The movement of contamination at a site is evaluated and assigned a Migration Pathway Factor (MPF) rating.



Ratings for MPFs are designated as: **evident**, **potential**, or **confined** (for High, Medium, and Low). **Evident** exposure means the contamination is at a point where exposure to humans or the environment can occur, such as at a drinking water well. **Potential** ratings are given to sites where exposure may happen. A **confined** rating is given to sites where a low possibility for exposure may occur.

Q. How is the Receptor Factor (RF) determined?



A. The Receptor Factor (RF) is determined by a receptor's, such as humans, potential to come into contact with contaminated media. RFs are designated as: identified, potential, or limited (**High, Medium, and Low**). **Identified** rating is given when receptors are in contact or threat of contact with contaminated media. **Potential** is given when receptor may contact contaminated media. **Limited** is given when there is little or no contact with contaminated media.

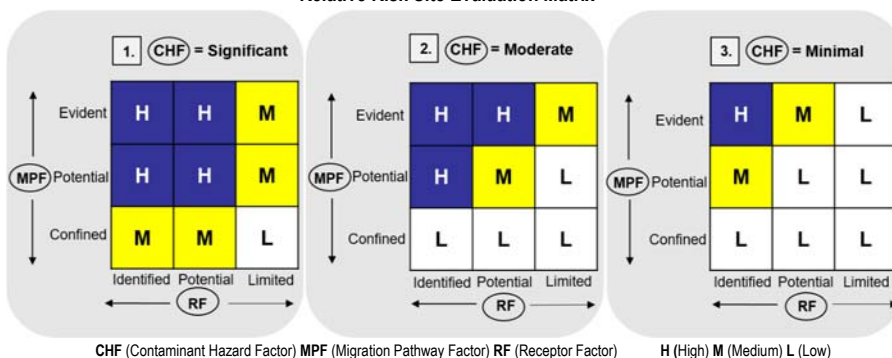
RELATIVE RISK SITE EVALUTION, cont.

Media Relative Risk Rating

Q. How is the media relative risk rating determined?

A. Use the chart to determine the relative risk rating for each media evaluated. Start by choosing the CHF result of the evaluation. If the CHF is **Significant**, use **box 1.**; if **Moderate**, use **box 2.**; if **Minimal**, use **box 3.** Then find the MPF and RF results and move to the square where the results meet. That square indicates the media relative risk rating. For example, if the CHF is **Significant** (go to **box 1.**), the MPF is **Potential** and the RF is **Identified**, then the rating is **High (H)**.

Relative Risk Site Evaluation Matrix



Overall Site Category

Q. How do I determine the Overall Site Category?

A. The highest relative risk media rating becomes the **Overall Site Category** for the site. For example, if a site has a groundwater relative risk rating of **High**, and soil relative risk rating of **Low**, then the Overall Site Category rating for the site is **High**.

Regulatory and Stakeholder Involvement

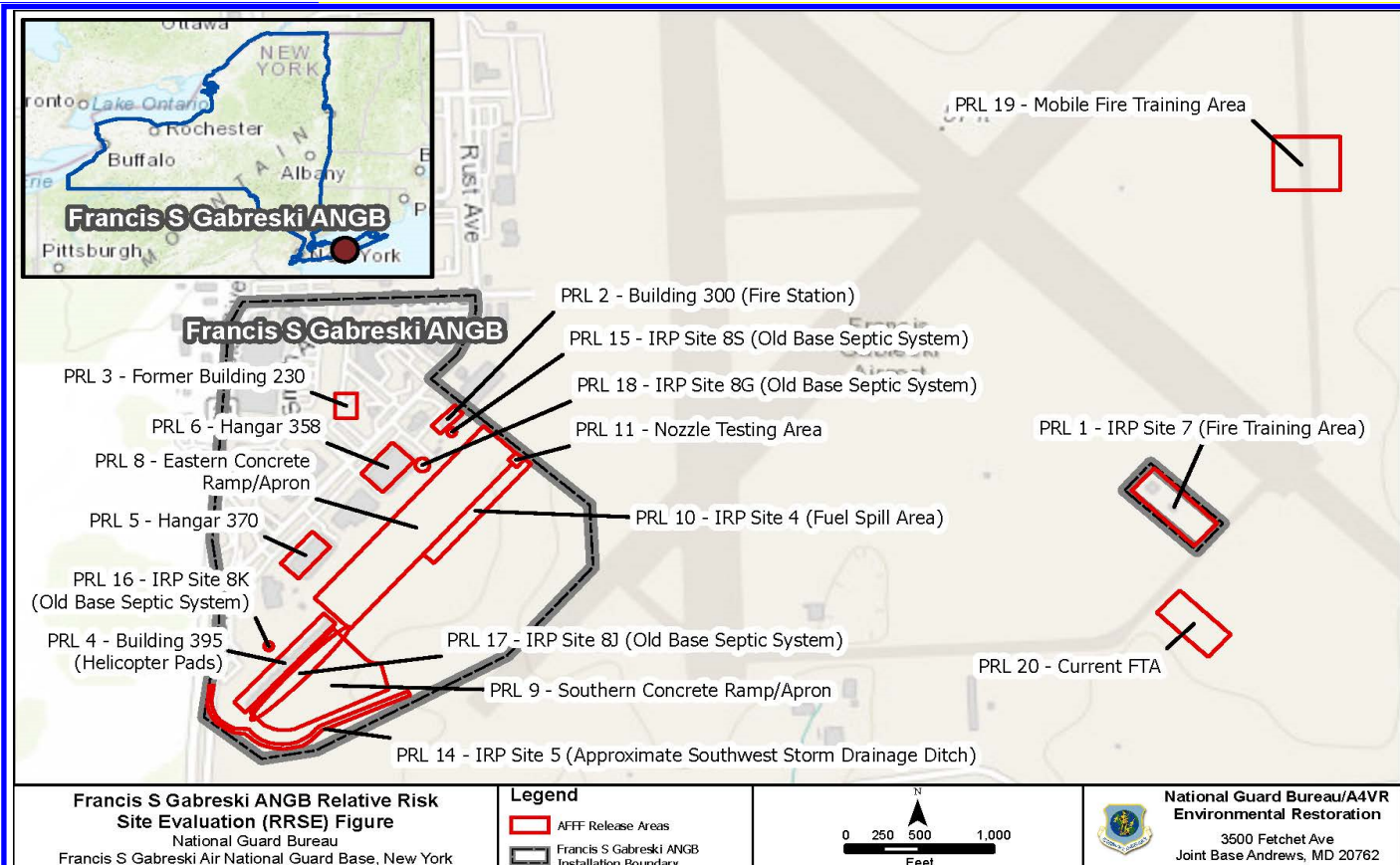
Q. How do I participate as Stakeholder?



A. To offer opportunity to participate in RRSE, the Air Force announces a public comment period in your local newspaper. There is also opportunity to participate during installation Restoration Advisory Committees where active. Installation Restoration Advisory Committee meetings are also announced in your local newspaper.

Relative Risk Site Evaluation Summary Gabreski ANGB, NY

Overall Site Category	Site Name (Sites are shown on the map below and RRSE Worksheets are attached)
HIGH	PRL 1, PRL 2, PRL 3, PRL 4, PRL 5, PRL 6, PRL 8, PRL 9, PRL 10, PRL 11, PRL 14, PRL 15, PRL 16, PRL 17, PRL 18, PRL 19, PRL 20
MEDIUM	
LOW	



AFFF Area is another term for Potential Release Location (PRL)

Site Background Information			
Installation:	Francis S. Gabreski ANGB	Date:	9/20/2021
Location (State):	New York	Media Evaluated:	Groundwater, Soil
Site Name and ID:	Former FTA (IRP Site 7) - PRL 1	Phase of Execution (e.g., RI, Record of Decision (ROD)):	N/A
RPM's Name:	Bill Myer	Agreement Status (e.g., Federal Facility Agreement date signed):	N/A
OVERALL SITE CATEGORY: HIGH			

Site Summary	
Brief Site Description:	<p>PRL 1 (IRP 7) is a Former Fire Training Area (FTA) currently used by the ANG as a munitions storage area, and is separated from the main ANGB by approximately 130 ft, and is located NW of the taxiway on the SE side of the airport. It sits on a 10-inch thick concrete hard stand, approx. 400 ft long by 50 ft wide, and is bordered by a 10 ft wide asphalt apron. Firefighting training exercises were conducted by the USAF from 1943 to 1971, and ANG from 1971 to 1986. Originally an unlined pit encompassed one acre, but was paved with concrete hard stand upon transfer from USAF to ANG operations in 1971. A 50'x50'x1' berm was constructed to enclose the burn area in 1978. Waste fuels, solvents, and jet fuel were reportedly poured directly on the ground and ignited. The former FTA is located approximately 3,200 ft from the Suffolk County Water Authority's (SCWA) Meeting House Road drinking water well field that has PFAS impacts. AFFF and protein foam were used in firefighting exercises, although usage amounts are unknown. The concrete and a portion of the berm still remain. Firefighting training activities now take place SW of the former FTA off of ANG property.</p>
Brief Description of Pathways:	<p>Gabreski ANGB is located on a glacial outwash plain that slopes south, with depth to bedrock from 1500 to 1600 ft. It lies within a Special Groundwater Protection Area (SGPA) of Suffolk County, which are watershed recharge areas important for the maintenance of large volumes of high-quality groundwater. Also designated as a Critical Environmental Area, the goal is to protect the water supply. In 1978, the three aquifers beneath the base, were designated as Sole Source Aquifers. Soil borings confirmed the water bearing zone within the Upper Glacial Aquifer. This unconfined, shallow superficial aquifer, provides the majority of potable drinking water in the area. It consists of very porous and highly permeable coarse sands and gravels, generally 120 ft thick. Measured groundwater levels during the SI, varied from 5 ft below ground surface (bgs) in the southern portion of the Base to 40 ft at higher elevations, with a confirmed NW to SE general groundwater flow at PRL 1.</p> <p>PRL 1 is mostly concrete, so infiltration is probably minimal, with surface runoff to the grass or wooded areas surrounding the site. Infiltration with precipitation into the permeable soil is likely, and could then become part of the shallow groundwater system.</p>
Brief Description of Receptors:	<p>Known drinking water wells impacted with PFAS are located downgradient (SE), within a 4-mile radius, and there is also a strong possibility of impacted human receptors. The nearest public supply well field (Meetinghouse Rd.) is 0.6 miles SE, and hydraulically downgradient of Gabreski ANGB, and is impacted by PFAS. SCWA supplies drinking water to the Gabreski ANGB. Two SCWA well fields in the vicinity of Gabreski Airport have been impacted by Perfluorinated Alkyl Acids (PFAAs), Meetinghouse Road and Gus Guerrero. Meetinghouse Rd. wells 12A, 14, 17, 19 and 22 and Gus Guerrero well 1 are now on Granular Activated Carbon (GAC) filters to remove PFAAs.</p> <p>Surface soil receptors would have limited access to contaminated soil, such as commercial/industrial workers with special permission to be in a restricted area, as PRL 1 is surrounded by a security fence.</p>

Groundwater Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 1

AFFF Release Area #: AFFF 1

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios	
PFOS	220	0.04	5500.0	
PFOA	14	0.04	350.0	
PFBS	0.44	0.602	0.7	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	5850.7	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		H	
<u>Migratory Pathway Factor</u>				
Evident	Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)		H	
Potential	Contamination in the groundwater has moved beyond the source or insufficient information available to make a determination of Evident or Confined			
Confined	Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited (possibly due to geological structures or physical controls)			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
<u>Receptor Factor</u>				
Identified	Impacted drinking water well with detected contaminants or existing downgradient water supply well within 4 miles and groundwater is current source of drinking water (EPA Class I or IIA groundwater)		H	
Potential	Existing downgradient drinking water well beyond 4 miles with no contaminant detection(s) or no known drinking water wells downgradient and groundwater is currently or potentially usable for drinking water (i.e., EPA Class I or II groundwater) or other beneficial use (e.g., agricultural)			
Limited	No known water supply wells downgradient and groundwater is not considered potential drinking water source and is of limited beneficial use (Class III)			
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Groundwater Category			HIGH	

Soil Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 1

AFFF Release Area #: AFFF 1

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios	
PFOS	0.23	0.126	1.8	
PFOA	0.0038	0.126	0.0	
PFBS	0.00036	1.9	0.0	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	1.9	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		L	
Migratory Pathway Factor				
Evident	Analytical data or observable evidence that contamination is present at a point of exposure		H	
Potential	Contamination has moved beyond the source, could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined			
Confined	Low possibility for contamination to be present at or migrate to a point of exposure			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Receptor Factor				
Identified	Receptors identified that have access to contaminated soil			
Potential	Potential for receptors to have access to contaminated soil			
Limited	No potential for receptors to have access to contaminated soil		L	
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		L	
Soil Category			LOW	

Site Background Information			
Installation:	Francis S. Gabreski ANGB	Date:	9/20/2021
Location (State):	New York	Media Evaluated:	Groundwater, Soil
Site Name and ID:	Bldg 300- Fire Station - PRL 2	Phase of Execution (e.g., RI, Record of Decision (ROD)):	N/A
RPM's Name:	Bill Myer	Agreement Status (e.g., Federal Facility Agreement date signed):	N/A
OVERALL SITE CATEGORY: HIGH			

Site Summary	
Brief Site Description:	<p>Building 300 (PRL 2) was built in 1989. Approximately two pallets of 5-gallon AFFF buckets were stored within Building 300. An overhead fill system was present to transfer AFFF to vehicles. During the November 2015 PA site visit, Building 300 was under renovation, so fire department (FD) vehicles were stored in Building 395. An average of four foam-carrying trucks has been utilized by the FD through the years. No records of accidental AFFF releases at Building 300 exist. Any accidental or testing-related AFFF releases within the fire station may have been routed to the floor drains which discharge to an oil water separator (OWS) on the SE side of the building. The OWS eventually discharges into the sanitary sewer system, but prior to being connected to the sanitary sewer, the Gabreski ANGB had a base septic system. IRP Site 8S (PRL 15) was the old base septic system associated with Building 300.</p> <p>Monitoring wells were not installed at PRL 2, so the new groundwater monitoring well IRP8S-MW01 at IRP Site 8S - Old Base Septic System (PRL 15), downgradient of PRL 2, was used to evaluate groundwater at both PRLs. One groundwater sample was collected. Three soil borings were drilled to evaluate PRL 2 and three surface soil samples were collected between 0-1' bgs. No surface water or sediment samples were collected.</p> <p>No further sampling occurred at PRL 2 for the ESI.</p>
Brief Description of Pathways:	<p>Gabreski ANGB is located on a glacial outwash plain that slopes south, with depth to bedrock from 1500 to 1600 ft. It lies within a Special Groundwater Protection Area (SGPA) of Suffolk County, which are watershed recharge areas important for the maintenance of large volumes of high-quality groundwater. Also designated as a Critical Environmental Area, the goal is to protect the water supply. In 1978, the three aquifers beneath the base, were designated as Sole Source Aquifers. Soil borings confirmed the water bearing zone within the Upper Glacial Aquifer. This unconfined, shallow surficial aquifer, provides the majority of potable water in the area, consisting of very porous and highly permeable coarse sands and gravels, generally 120 ft thick. Measured groundwater levels during the SI varied from 5 ft bgs in the southern portion of the Base to 40 ft at higher elevations, with a NW to SE general groundwater flow at PRL 2.</p> <p>PRL 2 is a building, so infiltration is minimal, depending on the condition of the concrete. PRL 2 trench drains are connected to the storm sewer system, but previously to a Base septic system. At PRL 2 it appears some runoff leaving the building could migrate to grassy areas, and infiltrate with precipitation into the permeable soil to become part of the shallow groundwater system.</p>
Brief Description of Receptors:	<p>Known drinking water wells impacted with PFAS are located downgradient (SE), within a 4-mile radius, and there is also a strong possibility of impacted human receptors. The nearest public supply well field (Meetinghouse Rd.) is 0.6 miles SE, and hydraulically downgradient of Gabreski ANGB, and is impacted by PFAS. SCWA supplies drinking water to the Gabreski ANGB. Two SCWA well fields in the vicinity of Gabreski Airport have been impacted by Perfluorinated Alkyl Acids (PFAAs), Meetinghouse Road and Gus Guerrero. Meetinghouse Rd. wells 12A, 14, 17, 19 and 22 and Gus Guerrero well 1 are now on Granular Activated Carbon (GAC) filters to remove PFAAs.</p> <p>Surface soil receptors would have limited access to contaminated soil, such as commercial/industrial workers with special permission to be in a restricted area, as PRL 1 is surrounded by a security fence.</p>

Groundwater Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 2

AFFF Release Area #: AFFF 2

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios	
PFOS	1.5	0.04	37.5	
PFOA	0.13	0.04	3.2	
PFBS	0.15	0.602	0.2	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	41.0	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		M	
Migratory Pathway Factor				
Evident	Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)		H	
Potential	Contamination in the groundwater has moved beyond the source or insufficient information available to make a determination of Evident or Confined			
Confined	Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited (possibly due to geological structures or physical controls)			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Receptor Factor				
Identified	Impacted drinking water well with detected contaminants or existing downgradient water supply well within 4 miles and groundwater is current source of drinking water (EPA Class I or IIA groundwater)		H	
Potential	Existing downgradient drinking water well beyond 4 miles with no contaminant detection(s) or no known drinking water wells downgradient and groundwater is currently or potentially usable for drinking water (i.e., EPA Class I or II groundwater) or other beneficial use (e.g., agricultural)			
Limited	No known water supply wells downgradient and groundwater is not considered potential drinking water source and is of limited beneficial use (Class III)			
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Groundwater Category			HIGH	

Soil Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 2

AFFF Release Area #: AFFF 2

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
PFOS	0.97	0.126	7.7
PFOA	0.0048	0.126	0.0
PFBS	0.005	1.9	0.0
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	7.7
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		
CHF Value	CHF VALUE		M
Migratory Pathway Factor			
Evident	Analytical data or observable evidence that contamination is present at a point of exposure		H
Potential	Contamination has moved beyond the source, could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined		
Confined	Low possibility for contamination to be present at or migrate to a point of exposure		
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H
Receptor Factor			
Identified	Receptors identified that have access to contaminated soil		
Potential	Potential for receptors to have access to contaminated soil		
Limited	No potential for receptors to have access to contaminated soil		L
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		L
Soil Category			MEDIUM

Site Background Information			
Installation:	Francis S. Gabreski ANGB	Date:	9/21/2021
Location (State):	New York	Media Evaluated:	Groundwater, Soil
Site Name and ID:	Former Building 230 - PRL 3	Phase of Execution (e.g., RI, Record of Decision (ROD)):	N/A
RPM's Name:	Bill Myer	Agreement Status (e.g., Federal Facility Agreement date signed):	N/A
OVERALL SITE CATEGORY: HIGH			

Site Summary	
Brief Site Description:	<p>Building 230 was built in 1962 for vehicle maintenance and later demolished in 2012. A concrete parking area for mobility containers now covers the former building footprint. Building 230 was utilized for vehicle maintenance including the occasional maintenance of AFFF-carrying Fire department vehicles. They were no reports or records of accidental AFFF releases at Building 230. Information pertaining to floor drains in the former Building 230- Vehicle Maintenance was unavailable during the Preliminary Assessment. The Site is located northwest (upgradient) AOC 18 is located downgradient from AOC 3 - refer to Figure 7 of the ESI report. The PA recommended No Further Action, however, based on the Site Inspection (SI) results, sampling at PRL 3 was included in the Expanded SI.</p> <p>No sampling occurred at PRL 3 (AOC 3) during the SI.</p> <p>During the Expanded SI, two surface soil and two subsurface soil samples were collected. One groundwater well was installed and sampled on two occasions.</p>
Brief Description of Pathways:	<p>Gabreski ANGB is located on a glacial outwash plain that slopes south, with depth to bedrock from 1500 to 1600 ft. It lies within a Special Groundwater Protection Area (SGPA) of Suffolk County, which are watershed recharge areas important for the maintenance of large volumes of high-quality groundwater. Also designated as a Critical Environmental Area, the goal is to protect the water supply. In 1978, the three aquifers beneath the base, were designated as Sole Source Aquifers. Soil borings confirmed the water bearing zone within the Upper Glacial Aquifer. This unconfined, shallow surficial aquifer, provides the majority of potable water in the area, consisting of very porous and highly permeable coarse sands and gravels, generally 120 ft thick. Measured groundwater levels during the SI varied from 5 ft bgs in the southern portion of the Base to 40 ft at higher elevations, with a NW to SE general groundwater flow at PRL 2.</p> <p>PRL 3 is currently covered with concrete so infiltration is minimal, depending on the condition of the concrete. PRL 3 appears to have some runoff leaving the concrete area could migrate to grassy areas, and infiltrate with precipitation into the permeable soil to become part of the shallow groundwater system.</p>
Brief Description of Receptors:	<p>Known drinking water wells impacted with PFAS are located downgradient (SE), within a 4-mile radius, and there is also a strong possibility of impacted human receptors. The nearest public supply well field (Meetinghouse Rd.) is 0.6 miles SE, and hydraulically downgradient of Gabreski ANGB, and is impacted by PFAS. SCWA supplies drinking water to the Gabreski ANGB. Two SCWA well fields in the vicinity of Gabreski Airport have been impacted by Perfluorinated Alkyl Acids (PFAAs), Meetinghouse Road and Gus Guerrero. Meetinghouse Rd. wells 12A, 14, 17, 19 and 22 and Gus Guerrero well 1 are now on Granular Activated Carbon (GAC) filters to remove PFAAs.</p> <p>Surface soil receptors would have limited access to contaminated soil, such as commercial/industrial workers with special permission to be in a restricted area, as PRL 1 is surrounded by a security fence.</p>

Groundwater Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 3

AFFF Release Area #: AFFF 3

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios	
PFBS	0.009	0.602	0.0	
PFOS	0.093	0.04	2.3	
PFOA	0.025	0.04	0.6	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	3.0	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		M	
Migratory Pathway Factor				
Evident	Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)		H	
Potential	Contamination in the groundwater has moved beyond the source or insufficient information available to make a determination of Evident or Confined			
Confined	Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited (possibly due to geological structures or physical controls)			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Receptor Factor				
Identified	Impacted drinking water well with detected contaminants or existing downgradient water supply well within 4 miles and groundwater is current source of drinking water (EPA Class I or IIA groundwater)		H	
Potential	Existing downgradient drinking water well beyond 4 miles with no contaminant detection(s) or no known drinking water wells downgradient and groundwater is currently or potentially usable for drinking water (i.e., EPA Class I or II groundwater) or other beneficial use (e.g., agricultural)			
Limited	No known water supply wells downgradient and groundwater is not considered potential drinking water source and is of limited beneficial use (Class III)			
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Groundwater Category			HIGH	

Soil Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 3

AFFF Release Area #: AFFF 3

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios	
PFOS	0.0034	0.126	0.0	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	0.0	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		L	
Migratory Pathway Factor				
Evident	Analytical data or observable evidence that contamination is present at a point of exposure			
Potential	Contamination has moved beyond the source, could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined			
Confined	Low possibility for contamination to be present at or migrate to a point of exposure		L	
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		L	
Receptor Factor				
Identified	Receptors identified that have access to contaminated soil			
Potential	Potential for receptors to have access to contaminated soil			
Limited	No potential for receptors to have access to contaminated soil		L	
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		L	
Soil Category			LOW	

Site Background Information			
Installation:	Francis S. Gabreski ANGB	Date:	9/20/2021
Location (State):	New York	Media Evaluated:	Groundwater, Soil
Site Name and ID:	Bldg 395- Helicopter Pods - PRL 4	Phase of Execution (e.g., RI, Record of Decision (ROD)):	N/A
RPM's Name:	Bill Myer	Agreement Status (e.g., Federal Facility Agreement date signed):	N/A
OVERALL SITE CATEGORY: HIGH			

Site Summary	
Brief Site Description:	<p>The AFFF FSS at Building 395 was installed in 1998, but was never used, as portable AFFF units were used instead. The FSS was retrofitted to use high expansion foam (HEF) in 2012. Due to the ongoing construction at Building 300, FD vehicles are stored in Pod 3 of Building 395. During the November 2015 PA site visit, four of the trucks were carrying a combined 821 gallons of AFFF and a separate trailer was carrying 2,000 gallons of AFFF. There were no records of accidental AFFF releases at Building 395. Floor drains were not observed at Building 395; storm drains on the concrete apron along the southeast side of Building 395 discharge to the storm sewer system. Prior to being connected to the sanitary sewer, Gabreski ANGB had a base septic system, with IRP Site 8K (PRL 16) and IRP Site 8J (PRL 17), that were associated with Building 395. Even though groundwater monitoring wells were not installed at this PRL, the new monitoring wells SCR-MW01, SCR-MW02, and SCR-MW03 at the Southern Concrete Ramp/Apron (PRL 9) were used to evaluate potential groundwater</p>
Brief Description of Pathways:	<p>Gabreski ANGB is located on a glacial outwash plain that slopes south, with depth to bedrock from 1500 to 1600 ft, and lies within a Special Groundwater Protection Area (SGPA) of Suffolk County. SGPAs are watershed recharge areas important for the maintenance of large volumes of high-quality groundwater, and designated as a Critical Environmental Area, the goal is to protect the water supply. In 1978, the three aquifers beneath the base, were designated as Sole Source Aquifers. Soil borings confirmed the water bearing zone within the Upper Glacial Aquifer. This unconfined, shallow surficial aquifer, provides the majority of potable water in the area, consisting of very porous and highly permeable coarse sands and gravels, generally 120 ft thick. Measured groundwater levels during the SI varied from 5 ft bgs in the southern portion of the Base to 40 ft at higher elevations, with general flow at the Base toward the SE, but there are indications that the groundwater direction varies on base, with localized groundwater flow, around PRL's 4 and 9 in the SW portion of the base, flowing SW toward the Gus Guerra Wellfield (potentially due to wellfield pumping) approx. 400' SW of the base. PRL 4 sits upon high strength concrete, so infiltration is minimal, with surface runoff flowing to trench drains, or the grassy area SE of PRL 4 and infiltrating with precipitation into the permeable soils to become part of the shallow groundwater system.</p>
Brief Description of Receptors:	<p>Known drinking water wells impacted with PFAS are located downgradient (SE), within a 4-mile radius, and there is also a strong possibility of impacted human receptors. The nearest public supply well field (Meetinghouse Rd.) is 0.6 miles SE, and hydraulically downgradient of Gabreski ANGB, and is impacted by PFAS. SCWA supplies drinking water to the Gabreski ANGB. Two SCWA well fields in the vicinity of Gabreski Airport have been impacted by PFAAs, Meetinghouse Road and Gus Guerra. Meetinghouse Rd. wells 12A, 14, 17, 19 and 22 and Gus Guerra well 1 are now on GAC filters to remove PFAAs. The Meetinghouse Road well field is directly south of Gabreski Airport, and the Gus Guerra well field is SW of Gabreski Airport. Surface soil receptors would have limited access to contaminated soil due to it being underneath high strength concrete. Drilling went down approximately 1.0 feet before a surface soil sample was taken. This pathway is considered confined unless there is some sort of construction activities by commercial/industrial workers that would disturb the concrete.</p>

Groundwater Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 4

AFFF Release Area #: AFFF 4

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios	
PFOS	1.4	0.04	35.0	
PFOA	0.062	0.04	1.5	
PFBS	0.029	0.602	0.0	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	36.6	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		M	
<u>Migratory Pathway Factor</u>				
Evident	Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)		H	
Potential	Contamination in the groundwater has moved beyond the source or insufficient information available to make a determination of Evident or Confined			
Confined	Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited (possibly due to geological structures or physical controls)			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
<u>Receptor Factor</u>				
Identified	Impacted drinking water well with detected contaminants or existing downgradient water supply well within 4 miles and groundwater is current source of drinking water (EPA Class I or IIA groundwater)		H	
Potential	Existing downgradient drinking water well beyond 4 miles with no contaminant detection(s) or no known drinking water wells downgradient and groundwater is currently or potentially usable for drinking water (i.e., EPA Class I or II groundwater) or other beneficial use (e.g., agricultural)			
Limited	No known water supply wells downgradient and groundwater is not considered potential drinking water source and is of limited beneficial use (Class III)			
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Groundwater Category			HIGH	

Soil Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 4

AFFF Release Area #: AFFF 4

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios	
PFOS	0.0042	0.126	0.0	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	0.0	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		L	
Migratory Pathway Factor				
Evident	Analytical data or observable evidence that contamination is present at a point of exposure			
Potential	Contamination has moved beyond the source, could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined			
Confined	Low possibility for contamination to be present at or migrate to a point of exposure		L	
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		L	
Receptor Factor				
Identified	Receptors identified that have access to contaminated soil			
Potential	Potential for receptors to have access to contaminated soil			
Limited	No potential for receptors to have access to contaminated soil		L	
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		L	
Soil Category			LOW	

Site Background Information			
Installation:	Francis S. Gabreski ANGB	Date:	9/20/2021
Location (State):	New York	Media Evaluated:	Groundwater, Soil
Site Name and ID:	Hangar 370 - PRL 5	Phase of Execution (e.g., RI, Record of Decision (ROD)):	N/A
RPM's Name:	Bill Myer	Agreement Status (e.g., Federal Facility Agreement date signed):	N/A
OVERALL SITE CATEGORY: HIGH			

Site Summary	
Brief Site Description:	<p>Hangar 370, located on the southern portion of the base, was equipped with an AFFF FSS from approximately 1998 until 2011, when the system was retrofitted for use of HEF. No records of accidental AFFF releases or system testing existed. AFFF for the FSS was supplied from a 300-gallon tank located in the boiler room of the hangar. Any AFFF releases within the boiler room would have been routed to the floor drain, and any releases within the main hangar likely entered the interior trench drain on the south side of the hangar. Floor and trench drains led to an OWS on the east side of the hangar which eventually discharges into the sanitary sewer system. Prior to 2003, any releases would have discharged to the base septic system (i.e., IRP Site 8 Subsites 8A through 8U); the specific Subsite discharge point for Hangar 370 is unknown.</p>
Brief Description of Pathways:	<p>Gabreski ANGB sits on a glacial outwash plain that slopes south, with bedrock 1500-1600 ft bgs and lies within a SGPA of Suffolk County. SGPAs are watershed recharge areas important for the maintenance of large volumes of high-quality groundwater, and designated as a Critical Environmental Area, the goal is to protect the water supply. In 1978, the three aquifers beneath the base, were designated as Sole Source Aquifers. Soil borings confirmed the water bearing zone within the Upper Glacial Aquifer. This unconfined, shallow surficial aquifer, provides the majority of potable water in the area, consisting of very porous and highly permeable coarse sands and gravels, generally 120 ft thick. Measured groundwater during the SI varied from 5 ft bgs in the southern portion of the Base to 40 ft at higher elevations, with general flow at the Base SE, but there are indications that the groundwater direction varies on base, with localized groundwater flow, around PRL 5 in the SW portion of the base, flowing SW toward the Gus Guerrero Wellfield (potentially due to wellfield pumping) ~400' SW of the base.</p> <p>PRL 5 sits on concrete, so infiltration is minimal, depending on the condition of the concrete. Trench drains are connected to the sanitary sewer system, but previously to a Base septic system. Runoff leaving the building could reach the grassy areas, and infiltrate with precipitation into the soil to become part of the shallow groundwater system.</p>
Brief Description of Receptors:	<p>Known drinking water wells impacted with PFAS are located downgradient (SE), within a 4-mile radius, and there is also a strong possibility of impacted human receptors. The nearest public supply well field (Meetinghouse Rd.) is 0.6 miles SE, and hydraulically downgradient of Gabreski ANGB, and is impacted by PFAS. Suffolk County Water Authority (SCWA) supplies drinking water to the Gabreski ANGB. Two SCWA well fields in the vicinity of Gabreski Airport have been impacted by PFAAs, Meetinghouse Road and Gus Guerrero. Meetinghouse Rd. wells 12A, 14, 17, 19 and 22 and Gus Guerrero well 1 are now on GAC filters to remove PFAAs. The Meetinghouse Road well field is directly south of Gabreski Airport, and the Gus Guerrero well field is SW of Gabreski Airport.</p>

Groundwater Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 5

AFFF Release Area #: AFFF 5

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios	
PFOS	0.33	0.04	8.3	
PFOA	0.029	0.04	0.7	
PFBS	0.0082	0.602	0.0	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	9.0	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		M	
Migratory Pathway Factor				
Evident	Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)		H	
Potential	Contamination in the groundwater has moved beyond the source or insufficient information available to make a determination of Evident or Confined			
Confined	Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited (possibly due to geological structures or physical controls)			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Receptor Factor				
Identified	Impacted drinking water well with detected contaminants or existing downgradient water supply well within 4 miles and groundwater is current source of drinking water (EPA Class I or IIA groundwater)		H	
Potential	Existing downgradient drinking water well beyond 4 miles with no contaminant detection(s) or no known drinking water wells downgradient and groundwater is currently or potentially usable for drinking water (i.e., EPA Class I or II groundwater) or other beneficial use (e.g., agricultural)			
Limited	No known water supply wells downgradient and groundwater is not considered potential drinking water source and is of limited beneficial use (Class III)			
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Groundwater Category			HIGH	

Soil Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 5

AFFF Release Area #: AFFF 5

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios	
PFOS	0.0045	0.126	0.0	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	0.0	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		L	
Migratory Pathway Factor				
Evident	Analytical data or observable evidence that contamination is present at a point of exposure			
Potential	Contamination has moved beyond the source, could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined		M	
Confined	Low possibility for contamination to be present at or migrate to a point of exposure			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		M	
Receptor Factor				
Identified	Receptors identified that have access to contaminated soil			
Potential	Potential for receptors to have access to contaminated soil			
Limited	No potential for receptors to have access to contaminated soil		L	
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		L	
Soil Category			LOW	

Site Background Information			
Installation:	Francis S. Gabreski ANGB	Date:	9/20/2021
Location (State):	New York	Media Evaluated:	Groundwater, Soil
Site Name and ID:	Hangar 358 - PRL 6	Phase of Execution (e.g., RI, Record of Decision (ROD)):	N/A
RPM's Name:	Bill Myer	Agreement Status (e.g., Federal Facility Agreement date signed):	N/A
OVERALL SITE CATEGORY: HIGH			

Site Summary	
Brief Site Description:	<p>Hangar 358 (PRL 6), located on the southern portion of the base, was equipped with an AFFF FSS from approximately 1998 until 2011, when the system was retrofitted for use of HEF, with no records of accidental AFFF releases or system testing existing. AFFF for the FSS was supplied from a 300-gallon tank located in the boiler room of the hangar. Any AFFF releases during testing or accidental release within the boiler room or main hangar would have been routed to the floor drains, and thereafter led to an OWS on the side of the hangar which eventually discharged into the sanitary sewer system. Prior to being connected to the sanitary sewer, the Gabreski ANGB had a base septic system. IRP Site 8G (PRL 18) was the old base septic system associated with Building 358.</p>
Brief Description of Pathways:	<p>Gabreski ANGB is located on a glacial outwash plain that slopes south, with depth to bedrock from 1500 to 1600 ft. It lies within a SGPA of Suffolk County, which are watershed recharge areas important for the maintenance of large volumes of high-quality groundwater. Also designated as a Critical Environmental Area, the goal is to protect the water supply. In 1978, the three aquifers beneath the base, were designated as Sole Source Aquifers. Soil borings confirmed the water bearing zone within the Upper Glacial Aquifer. This unconfined, shallow surficial aquifer, provides the majority of potable water in the area, consisting of very porous and highly permeable coarse sands and gravels, generally 120 ft thick. Measured groundwater levels during the SI varied from 5 ft bgs in the southern portion of the Base to 40 ft at higher elevations, with a NW to SE general groundwater flow at PRL 6.</p> <p>PRL 6 sits on concrete, so infiltration is minimal, depending on the condition of the concrete. Floor drains are connected to the sanitary sewer system, but previously to a Base septic system. Runoff leaving the building could reach the grassy areas, and infiltrate with precipitation into the soil to become part of the shallow groundwater system.</p>
Brief Description of Receptors:	<p>Known drinking water wells impacted with PFAS are located downgradient (SE), within a 4-mile radius, and there is also a strong possibility of impacted human receptors. The nearest public supply well field (Meetinghouse Rd.) is 0.6 miles SE, and hydraulically downgradient of Gabreski ANGB, and is impacted by PFAS. SCWA supplies drinking water to the Gabreski ANGB. Two SCWA well fields in the vicinity of Gabreski Airport have been impacted by PFAAs, Meetinghouse Road and Gus Guerrero. Meetinghouse Rd. wells 12A, 14, 17, 19 and 22 and Gus Guerrero well 1 are now on GAC filters to remove PFAAs. The Meetinghouse Road well field is directly south of Gabreski Airport, and the Gus Guerrero well field is SW of Gabreski Airport. Surface soil receptors would have only limited access to contaminated soil, such as commercial/industrial workers with special permission to be in a restricted area, as Hangar 358 is within the flightline security fence.</p>

Groundwater Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 6

AFFF Release Area #: AFFF 6

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios	
PFOS	1.7	0.04	42.5	
PFOA	0.092	0.04	2.3	
PFBS	0.075	0.602	0.1	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	44.9	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		M	
<u>Migratory Pathway Factor</u>				
Evident	Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)		H	
Potential	Contamination in the groundwater has moved beyond the source or insufficient information available to make a determination of Evident or Confined			
Confined	Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited (possibly due to geological structures or physical controls)			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
<u>Receptor Factor</u>				
Identified	Impacted drinking water well with detected contaminants or existing downgradient water supply well within 4 miles and groundwater is current source of drinking water (EPA Class I or IIA groundwater)		H	
Potential	Existing downgradient drinking water well beyond 4 miles with no contaminant detection(s) or no known drinking water wells downgradient and groundwater is currently or potentially usable for drinking water (i.e., EPA Class I or II groundwater) or other beneficial use (e.g., agricultural)			
Limited	No known water supply wells downgradient and groundwater is not considered potential drinking water source and is of limited beneficial use (Class III)			
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Groundwater Category			HIGH	

Soil Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 6

AFFF Release Area #: AFFF 6

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
PFOS	0.0072	0.126	0.1
PFOA	0.00023	0.126	0.0
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	0.1
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		
CHF Value	CHF VALUE		L
Migratory Pathway Factor			
Evident	Analytical data or observable evidence that contamination is present at a point of exposure		
Potential	Contamination has moved beyond the source, could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined		M
Confined	Low possibility for contamination to be present at or migrate to a point of exposure		
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		M
Receptor Factor			
Identified	Receptors identified that have access to contaminated soil		
Potential	Potential for receptors to have access to contaminated soil		
Limited	No potential for receptors to have access to contaminated soil		L
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		L
Soil Category			LOW

Site Background Information			
Installation:	Francis S. Gabreski ANGB	Date:	9/20/2021
Location (State):	New York	Media Evaluated:	Groundwater, Soil
Site Name and ID:	Eastern Concrete Ramp/Apron - PRL 8	Phase of Execution (e.g., RI, Record of Decision (ROD)):	N/A
RPM's Name:	Bill Myer	Agreement Status (e.g., Federal Facility Agreement date signed):	N/A
OVERALL SITE CATEGORY: HIGH			

Site Summary	
Brief Site Description:	There are no records of AFFF usage at the Eastern Concrete Ramp/Apron (PRL 8), but the possibility exists that it may have been impacted by AFFF due to the past presence of aircraft. Base personnel recounted AFFF usage adjacent to the ramp/apron. Stormwater runoff from the eastern ramp/apron, located next to Hangar 358 (PRL 6), Building 369, and Hangar 370 (PRL 5), enters drains on the southeast side of the ramp/apron and ultimately discharges to Outfall SDO-001 (PRL 12), south of the runways.
Brief Description of Pathways:	Gabreski ANGB is located on a glacial outwash plain that slopes south, with depth to bedrock from 1500 to 1600 ft. It lies within a SGPA of Suffolk County, which are watershed recharge areas important for the maintenance of large volumes of high-quality groundwater. Also designated as a Critical Environmental Area, the goal is to protect the water supply. In 1978, the three aquifers beneath the base, were designated as Sole Source Aquifers. Soil borings confirmed the water bearing zone within the Upper Glacial Aquifer. This unconfined, shallow surficial aquifer, provides the majority of potable water in the area, consisting of very porous and highly permeable coarse sands and gravels, generally 120 ft thick. Measured groundwater levels during the SI varied from 5 ft bgs in the southern portion of the Base to 40 ft at higher elevations, with a NW to SE general groundwater flow at the northern area of PRL 8, but localized groundwater flow at the SW end of PRL 8 flows SW toward the Gus Guerrera Wellfield (potentially due to wellfield pumping), ~400 ft SW of the base. PRL 8 sits on concrete, so infiltration is minimal, depending on the concrete condition. Stormwater catch basins are located along the southeast edge of the concrete apron and drains out to the stormwater outfall at AOC 12 Outfall SDO-001.
Brief Description of Receptors:	Known drinking water wells impacted with PFAS are located downgradient (SE), within a 4-mile radius, and there is also a strong possibility of impacted human receptors. The nearest public supply well field (Meetinghouse Rd.) is 0.6 miles SE, and hydraulically downgradient of Gabreski ANGB, and is impacted by PFAS. Suffolk County Water Authority (SCWA) supplies drinking water to the Gabreski ANGB. Two SCWA well fields in the vicinity of Gabreski Airport have been impacted by PFAAs, Meetinghouse Road and Gus Guerrera. Meetinghouse Rd. wells 12A, 14, 17, 19 and 22 and Gus Guerrera well 1 are now on GAC filters to remove PFAAs. The Meetinghouse Road well field is directly south of Gabreski Airport, and the Gus Guerrera well field is SW of Gabreski Airport. Surface soil receptors would have only limited access to contaminated soil, such as commercial/industrial workers with special permission to be in a restricted area, as the ECR is a restricted area within the flightline security fence.

Groundwater Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 8

AFFF Release Area #: AFFF 8

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios	
PFOS	2.2	0.04	55.0	
PFOA	0.29	0.04	7.2	
PFBS	0.016	0.602	0.0	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	62.3	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		M	
Migratory Pathway Factor				
Evident	Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)		H	
Potential	Contamination in the groundwater has moved beyond the source or insufficient information available to make a determination of Evident or Confined			
Confined	Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited (possibly due to geological structures or physical controls)			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Receptor Factor				
Identified	Impacted drinking water well with detected contaminants or existing downgradient water supply well within 4 miles and groundwater is current source of drinking water (EPA Class I or IIA groundwater)		H	
Potential	Existing downgradient drinking water well beyond 4 miles with no contaminant detection(s) or no known drinking water wells downgradient and groundwater is currently or potentially usable for drinking water (i.e., EPA Class I or II groundwater) or other beneficial use (e.g., agricultural)			
Limited	No known water supply wells downgradient and groundwater is not considered potential drinking water source and is of limited beneficial use (Class III)			
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Groundwater Category			HIGH	

Soil Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 8

AFFF Release Area #: AFFF 8

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios	
PFOS	0.0018	0.126	0.0	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	0.0	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		L	
Migratory Pathway Factor				
Evident	Analytical data or observable evidence that contamination is present at a point of exposure			
Potential	Contamination has moved beyond the source, could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined		M	
Confined	Low possibility for contamination to be present at or migrate to a point of exposure			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		M	
Receptor Factor				
Identified	Receptors identified that have access to contaminated soil			
Potential	Potential for receptors to have access to contaminated soil			
Limited	No potential for receptors to have access to contaminated soil		L	
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		L	
Soil Category			LOW	

Site Background Information			
Installation:	Francis S. Gabreski ANGB	Date:	9/20/2021
Location (State):	New York	Media Evaluated:	Groundwater, Soil
Site Name and ID:	Southern Concrete Ramp/Apron - PRL 9	Phase of Execution (e.g., RI, Record of Decision (ROD)):	N/A
RPM's Name:	Bill Myer	Agreement Status (e.g., Federal Facility Agreement date signed):	N/A
OVERALL SITE CATEGORY: HIGH			

Site Summary	
Brief Site Description:	<p>There were no records of AFFF usage, but the Southern Concrete Ramp/Apron may have been impacted by AFFF due to the past presence of aircraft. Base personnel recounted AFFF usage adjacent to the ramp/apron. Outfall SDO-002 (PRL13) receives discharges from the Southern Concrete Ramp/Apron.</p> <p>Co-located groundwater wells with PRL's 4 and 17.</p>
Brief Description of Pathways:	<p>Gabreski ANGB is located on a glacial outwash plain that slopes south, with depth to bedrock from 1500 to 1600 ft, and lies within a SGPA of Suffolk County. SGPAs are watershed recharge areas important for the maintenance of large volumes of high-quality groundwater, and designated as a Critical Environmental Area, the goal is to protect the water supply. In 1978, the three aquifers beneath the base, were designated as Sole Source Aquifers. Soil borings confirmed the water bearing zone within the Upper Glacial Aquifer. This unconfined, shallow surficial aquifer, provides the majority of potable water in the area, consisting of very porous and highly permeable coarse sands and gravels, generally 120 ft thick. Measured groundwater levels during the SI varied from 5 ft bgs in the southern portion of the Base to 40 ft at higher elevations, with general flow at the Base toward the SE, but there are indications that groundwater can vary on base, with localized groundwater flow, around PRL's 4 and 9 in the SW portion of the base, flowing SW toward the Gus Guerrera Wellfield (potentially due to wellfield pumping) ~400' SW of the base. PRL 8 sits on concrete, so infiltration is minimal, depending on the concrete condition. Runoff from the concrete has potential to infiltrate and become part of the groundwater system. Stormwater collection is located to the southeast and northeast of PRL 9 that drains towards PRL 13 at stormwater outfall SDO-002 and infiltrate to groundwater.</p>
Brief Description of Receptors:	<p>Known drinking water wells impacted with PFAS are located downgradient (SE), within a 4-mile radius, and there is also a strong possibility of impacted human receptors. The nearest public supply well field (Meetinghouse Rd.) is 0.6 miles SE, and hydraulically downgradient of Gabreski ANGB, and is impacted by PFAS. SCWA supplies drinking water to the Gabreski ANGB. Two SCWA well fields in the vicinity of Gabreski Airport have been impacted by PFAAs, Meetinghouse Road and Gus Guerrera. Meetinghouse Rd. wells 12A, 14, 17, 19 and 22 and Gus Guerrera well 1 are now on GAC filters to remove PFAAs. Gus The Meetinghouse Road well field is directly south of Gabreski Airport, and the Gus Guerrera well field is SW of Gabreski Airport. Surface soil receptors have limited access to contaminated soil, such as commercial/industrial workers with special permission to be in a restricted area, as the SCR is a restricted area, as it is within the flightline security fence.</p>

Groundwater Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 9

AFFF Release Area #: AFFF 9

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios	
PFOS	1.4	0.04	35.0	
PFOA	0.062	0.04	1.5	
PFBS	0.029	0.602	0.0	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	36.6	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		M	
Migratory Pathway Factor				
Evident	Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)		H	
Potential	Contamination in the groundwater has moved beyond the source or insufficient information available to make a determination of Evident or Confined			
Confined	Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited (possibly due to geological structures or physical controls)			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Receptor Factor				
Identified	Impacted drinking water well with detected contaminants or existing downgradient water supply well within 4 miles and groundwater is current source of drinking water (EPA Class I or IIA groundwater)		H	
Potential	Existing downgradient drinking water well beyond 4 miles with no contaminant detection(s) or no known drinking water wells downgradient and groundwater is currently or potentially usable for drinking water (i.e., EPA Class I or II groundwater) or other beneficial use (e.g., agricultural)			
Limited	No known water supply wells downgradient and groundwater is not considered potential drinking water source and is of limited beneficial use (Class III)			
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Groundwater Category			HIGH	

Soil Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 9

AFFF Release Area #: AFFF 9

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios	
PFOS	0.034	0.126	0.3	
PFOA	0.00098	0.126	0.0	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	0.3	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		L	
Migratory Pathway Factor				
Evident	Analytical data or observable evidence that contamination is present at a point of exposure			
Potential	Contamination has moved beyond the source, could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined		M	
Confined	Low possibility for contamination to be present at or migrate to a point of exposure			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		M	
Receptor Factor				
Identified	Receptors identified that have access to contaminated soil			
Potential	Potential for receptors to have access to contaminated soil			
Limited	No potential for receptors to have access to contaminated soil		L	
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		L	
Soil Category			LOW	

Site Background Information			
Installation:	Francis S. Gabreski ANGB	Date:	9/20/2021
Location (State):	New York	Media Evaluated:	Groundwater, Soil
Site Name and ID:	Fuel Spill Area (IRP Site 4) - PRL 10	Phase of Execution (e.g., RI, Record of Decision (ROD)):	N/A
RPM's Name:	Bill Myer	Agreement Status (e.g., Federal Facility Agreement date signed):	N/A
OVERALL SITE CATEGORY: HIGH			

Site Summary	
Brief Site Description:	<p>A fuel spill occurred in 1987 within the grassy area adjacent to the south edge of the Eastern Concrete Ramp/Apron (PRL 8). An unknown amount of fuel spilled at the site and the FD reportedly applied foam (unknown type) to the area. The flow of fuel, water and foam was stopped before entering nearby drains. The remainder of the spill on the concrete ramp/apron surface was allowed to evaporate and absorbent materials were placed along the outfall. An active biosparge system began operation in July 2009 to remediate benzene, toluene, ethylbenzene, and xyene (BTEX) concentrations in the shallow groundwater at PRL 10, with the remedial action-operations still ongoing.</p> <p>Even though groundwater monitoring wells were not installed at this PRL, the existing monitoring wells ECR-SW7 and ECR-SW10 at the Eastern Concrete Ramp/Apron (PRL 8) were used to evaluate potential groundwater impacts for this PRL</p>
Brief Description of Pathways:	<p>Gabreski ANGB is located on a glacial outwash plain that slopes south, with depth to bedrock from 1500 to 1600 ft. It lies within a SGPA of Suffolk County, which are watershed recharge areas important for the maintenance of large volumes of high-quality groundwater. Also designated as a Critical Environmental Area, the goal is to protect the water supply. In 1978, the three aquifers beneath the base, were designated as Sole Source Aquifers. Soil borings confirmed the water bearing zone within the Upper Glacial Aquifer. This unconfined, shallow surficial aquifer, provides the majority of potable water in the area, consisting of very porous and highly permeable coarse sands and gravels, generally 120 ft thick. Measured groundwater levels during the SI varied from 5 ft bgs in the southern portion of the Base to 40 ft at higher elevations, with a NW to SE general groundwater flow at the northern area of PRL 8, but localized groundwater flow at the SW end of PRL 8 flows SW toward the Gus Guerrero Wellfield (potentially due to wellfield pumping), ~400 ft SW of the base.</p> <p>PRL 10 is within a grassy area, so infiltration with precipitation into the permeable soils at the source was likely. It could then become part of the shallow groundwater system.</p>
Brief Description of Receptors:	<p>Known drinking water wells impacted with PFAS are located downgradient (SE), within a 4-mile radius, and there is also a strong possibility of impacted human receptors. The nearest public supply well field (Meetinghouse Rd.) is 0.6 miles SE, and hydraulically downgradient of Gabreski ANGB, and is impacted by PFAS. SCWA supplies drinking water to the Gabreski ANGB. Two SCWA well fields in the vicinity of Gabreski Airport have been impacted by PFAAs, Meetinghouse Road and Gus Guerrero. Meetinghouse Rd. wells 12A, 14, 17, 19 and 22 and Gus Guerrero well 1 are now on GAC filters to remove PFAAs. Gus. The Meetinghouse Road well field is directly south of Gabreski Airport, and the Gus Guerrero well field is SW of Gabreski Airport. Surface soil receptors have limited access to contaminated soil, such as commercial/industrial workers with special permission to be in a restricted area, as PRL 10 is a restricted area, as it is within the flightline security fence.</p>

Groundwater Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 10

AFFF Release Area #: AFFF 10

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios
PFOS	2.2	0.04	55.0
PFOA	0.29	0.04	7.2
PFBS	0.016	0.602	0.0

CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	62.3
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CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CHF Value	CHF VALUE	M
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Migratory Pathway Factor

Evident	Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)	H
Potential	Contamination in the groundwater has moved beyond the source or insufficient information available to make a determination of Evident or Confined	
Confined	Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited (possibly due to geological structures or physical controls)	
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).	H

Receptor Factor

Identified	Impacted drinking water well with detected contaminants or existing downgradient water supply well within 4 miles and groundwater is current source of drinking water (EPA Class I or IIA groundwater)	H
Potential	Existing downgradient drinking water well beyond 4 miles with no contaminant detection(s) or no known drinking water wells downgradient and groundwater is currently or potentially usable for drinking water (i.e., EPA Class I or II groundwater) or other beneficial use (e.g., agricultural)	
Limited	No known water supply wells downgradient and groundwater is not considered potential drinking water source and is of limited beneficial use (Class III)	
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).	H

Groundwater Category

HIGH

Soil Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 10

AFFF Release Area #: AFFF 10

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios	
PFOS	0.01	0.126	0.1	
PFOA	0.00021	0.126	0.0	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	0.1	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		L	
Migratory Pathway Factor				
Evident	Analytical data or observable evidence that contamination is present at a point of exposure			
Potential	Contamination has moved beyond the source, could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined		M	
Confined	Low possibility for contamination to be present at or migrate to a point of exposure			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		M	
Receptor Factor				
Identified	Receptors identified that have access to contaminated soil			
Potential	Potential for receptors to have access to contaminated soil			
Limited	No potential for receptors to have access to contaminated soil		L	
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		L	
Soil Category			LOW	

Site Background Information			
Installation:	Francis S. Gabreski ANGB	Date:	9/20/2021
Location (State):	New York	Media Evaluated:	Groundwater, Soil
Site Name and ID:	Nozzle Testing Area - PRL 11	Phase of Execution (e.g., RI, Record of Decision (ROD)):	N/A
RPM's Name:	Bill Myer	Agreement Status (e.g., Federal Facility Agreement date signed):	N/A
OVERALL SITE CATEGORY: HIGH			

Site Summary	
Brief Site Description:	<p>According to base personnel, FD personnel used to place a target in the grassy area on the south edge of the Eastern Concrete Ramp/Apron (PRL 8), directly across from Building 300 - Fire Station (PRL 2), to use in support of vehicle nozzle testing. It is unknown whether foam or water was used. Outfall SDO-001 receives discharges from the Nozzle Testing Area. There was no evidence of stressed vegetation noted during the November 2015 PA site visit.</p>
Brief Description of Pathways:	<p>Gabreski ANGB is located on a glacial outwash plain that slopes south, with depth to bedrock from 1500 to 1600 ft. It lies within a SGPA of Suffolk County, which are watershed recharge areas important for the maintenance of large volumes of high-quality groundwater. Also designated as a Critical Environmental Area, the goal is to protect the water supply. In 1978, the three aquifers beneath the base, were designated as Sole Source Aquifers. Soil borings confirmed the water bearing zone within the Upper Glacial Aquifer. This unconfined, shallow surficial aquifer, provides the majority of potable water in the area, consisting of very porous and highly permeable coarse sands and gravels, generally 120 ft thick. Measured groundwater levels during the SI varied from 5 ft bgs in the southern portion of the Base to 40 ft at higher elevations, with a NW to SE general groundwater flow at the northern area of PRL 8, but localized groundwater flow at the SW end of PRL 8 flows SW toward the Gus Guerrero Wellfield (potentially due to wellfield pumping), ~400 ft SW of the base. PRL 11 is within a grassy area, so infiltration with precipitation into the permeable soils at the source was likely. It could then become part of the shallow groundwater system.</p>
Brief Description of Receptors:	<p>Known drinking water wells impacted with PFAS are located downgradient (SE), within a 4-mile radius, and there is also a strong possibility of impacted human receptors. The nearest public supply well field (Meetinghouse Rd.) is 0.6 miles SE, and hydraulically downgradient of Gabreski ANGB, and is impacted by PFAS. SCWA supplies drinking water to the Gabreski ANGB. Two SCWA well fields in the vicinity of Gabreski Airport have been impacted by PFAAs, Meetinghouse Road and Gus Guerrero. Meetinghouse Rd. wells 12A, 14, 17, 19 and 22 and Gus Guerrero well 1 are now on GAC filters to remove PFAAs. The Meetinghouse Road well field is directly south of Gabreski Airport, and the Gus Guerrero well field is SW of Gabreski Airport. Surface soil receptors have limited access to contaminated soil, such as commercial/industrial workers with special permission to be in a restricted area, as PRL 11 is a restricted area, as it is within the flightline security fence.</p>

Groundwater Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 11

AFFF Release Area #: AFFF 11

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios	
PFOS	0.14	0.04	3.5	
PFOA	0.11	0.04	2.7	
PFBS	0.019	0.602	0.0	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	6.3	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		M	
Migratory Pathway Factor				
Evident	Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)		H	
Potential	Contamination in the groundwater has moved beyond the source or insufficient information available to make a determination of Evident or Confined			
Confined	Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited (possibly due to geological structures or physical controls)			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Receptor Factor				
Identified	Impacted drinking water well with detected contaminants or existing downgradient water supply well within 4 miles and groundwater is current source of drinking water (EPA Class I or IIA groundwater)		H	
Potential	Existing downgradient drinking water well beyond 4 miles with no contaminant detection(s) or no known drinking water wells downgradient and groundwater is currently or potentially usable for drinking water (i.e., EPA Class I or II groundwater) or other beneficial use (e.g., agricultural)			
Limited	No known water supply wells downgradient and groundwater is not considered potential drinking water source and is of limited beneficial use (Class III)			
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Groundwater Category			HIGH	

Soil Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 11

AFFF Release Area #: AFFF 11

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios	
PFOS	0.015	0.126	0.1	
PFOA	0.00034	0.126	0.0	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	0.1	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		L	
Migratory Pathway Factor				
Evident	Analytical data or observable evidence that contamination is present at a point of exposure			
Potential	Contamination has moved beyond the source, could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined		M	
Confined	Low possibility for contamination to be present at or migrate to a point of exposure			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		M	
Receptor Factor				
Identified	Receptors identified that have access to contaminated soil			
Potential	Potential for receptors to have access to contaminated soil			
Limited	No potential for receptors to have access to contaminated soil		L	
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		L	
Soil Category			LOW	

Site Background Information			
Installation:	Francis S. Gabreski ANGB	Date:	9/20/2021
Location (State):	New York	Media Evaluated:	Groundwater, Soil
Site Name and ID:	SW Storm Drainage Ditch - PRL 14	Phase of Execution (e.g., RI, Record of Decision (ROD)):	N/A
RPM's Name:	Bill Myer	Agreement Status (e.g., Federal Facility Agreement date signed):	N/A
OVERALL SITE CATEGORY: HIGH			

Site Summary	
Brief Site Description:	<p>PRL 14 (IRP Site 5) is a storm water drainage ditch that originates as a subsurface outfall on the SW side of Hangar 370 (PRL 5). Storm water travels SW via the ditch for approximately 280 ft before it goes below ground through a drainage culvert. The culvert resurfaces approx. 50 ft farther south and the ditch continues southwest for nearly 200 ft before flow is again directed below ground through a culvert. The second culvert extends another 450 ft to the south, resurfaces and continues east for approx. 550 ft, at which point the flow enters the base storm drain system. The flow eventually discharges to a dry ravine approx. 1500 ft SE of the PRL. The dry ravine discharges to Aspatuck Creek about 1000 ft further S-SE. The drainage receives rainwater from roof drains and runoff from paved areas in the SW portion of the base. NYSDEC approved site closure for IRP Site 5 in December 2010. PFAS sampling was not included in the investigation activities at IRP Site 5 which may have received AFFF-impacted stormwater from the Southern Concrete Ramp/Apron (PRL 9) and Building 395 – Helicopter Pods (PRL 4).</p>
Brief Description of Pathways:	<p>Gabreski ANGB is located on a glacial outwash plain that slopes south, with depth to bedrock from 1500 to 1600 ft, and lies within a SGPA of Suffolk County. SGPAs are watershed recharge areas important for the maintenance of large volumes of high-quality groundwater, and designated as a Critical Environmental Area, the goal is to protect the water supply. In 1978, the three aquifers beneath the base, were designated as Sole Source Aquifers. Soil borings confirmed the water bearing zone within the Upper Glacial Aquifer. This unconfined, shallow surficial aquifer, provides the majority of potable water in the area, consisting of very porous and highly permeable coarse sands and gravels, generally 120 ft thick. Measured groundwater levels during the SI varied from 5 ft bgs in the southern portion of the Base to 40 ft at higher elevations, with general flow at the Base toward the SE, but there are indications that groundwater can vary on base, with localized groundwater flow at PRL 14 in the SW portion of the base, flowing SW toward the Gus Guerrero Wellfield (potentially due to wellfield pumping) ~400' SW of the base.</p> <p>PRL 14 is a stormwater drainage ditch, and transports stormwater to PRL 13 where the stormwater can infiltrate into the soil and migrate to shallow groundwater.</p>
Brief Description of Receptors:	<p>Known drinking water wells impacted with PFAS are located downgradient (SE), within a 4-mile radius, and there is also a strong possibility of impacted human receptors. The nearest public supply well field (Meetinghouse Rd.) is 0.6 miles SE, and hydraulically downgradient of Gabreski ANGB, and is impacted by PFAS. SCWA supplies drinking water to the Gabreski ANGB. Two SCWA well fields in the vicinity of Gabreski Airport have been impacted by PFAAs, Meetinghouse Road and Gus Guerrero. Meetinghouse Rd. wells 12A, 14, 17, 19 and 22 and Gus Guerrero well 1 are now on GAC filters to remove PFAAs. Gus The Meetinghouse Road well field is directly south of Gabreski Airport, and the Gus Guerrero well field is SW of Gabreski Airport. Surface soil receptors have potential access to contaminated soil, such as commercial/industrial workers with controlled or restricted frequency of access. Part of PRL 14 is adjacent to a parking lot that is located outside of the flightline security fence.</p>

Groundwater Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 14

AFFF Release Area #: AFFF 14

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios	
PFOS	5.9	0.04	147.5	
PFOA	0.27	0.04	6.8	
PFBS	0.033	0.602	0.1	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	154.3	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		H	
<u>Migratory Pathway Factor</u>				
Evident	Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)		H	
Potential	Contamination in the groundwater has moved beyond the source or insufficient information available to make a determination of Evident or Confined			
Confined	Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited (possibly due to geological structures or physical controls)			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
<u>Receptor Factor</u>				
Identified	Impacted drinking water well with detected contaminants or existing downgradient water supply well within 4 miles and groundwater is current source of drinking water (EPA Class I or IIA groundwater)		H	
Potential	Existing downgradient drinking water well beyond 4 miles with no contaminant detection(s) or no known drinking water wells downgradient and groundwater is currently or potentially usable for drinking water (i.e., EPA Class I or II groundwater) or other beneficial use (e.g., agricultural)			
Limited	No known water supply wells downgradient and groundwater is not considered potential drinking water source and is of limited beneficial use (Class III)			
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Groundwater Category			HIGH	

Soil Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 14

AFFF Release Area #: AFFF 14

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios	
PFOS	0.018	0.126	0.1	
PFOA	0.00027	0.126	0.0	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	0.1	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		L	
Migratory Pathway Factor				
Evident	Analytical data or observable evidence that contamination is present at a point of exposure			
Potential	Contamination has moved beyond the source, could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined		M	
Confined	Low possibility for contamination to be present at or migrate to a point of exposure			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		M	
Receptor Factor				
Identified	Receptors identified that have access to contaminated soil			
Potential	Potential for receptors to have access to contaminated soil		M	
Limited	No potential for receptors to have access to contaminated soil			
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		M	
Soil Category			LOW	

Site Background Information			
Installation:	Francis S. Gabreski ANGB	Date:	9/20/2021
Location (State):	New York	Media Evaluated:	Groundwater, Soil
Site Name and ID:	Old Base Septic System - PRL 15 (IRP Site 8S)	Phase of Execution (e.g., RI, Record of Decision (ROD)):	N/A
RPM's Name:	Bill Myer	Agreement Status (e.g., Federal Facility Agreement date signed):	N/A
OVERALL SITE CATEGORY: HIGH			

Site Summary	
Brief Site Description:	IRP 8S is a portion of IRP 8, the Old Base Septic System, which is a composite of underground structures including cesspools, septic tanks, distribution boxes, oil/mud traps, and dry wells at numerous locations throughout the base. Most of the structures have been removed, while others have been abandoned in place. None of the septic system structures are still in use. Together, the individual structures (former and abandoned in place) make up the Old Base Septic System which includes 21 subsites, designated as Subsites 8A through 8U, based on the individual structures and subsystems that were identified. IRP Site 8S consisted of one septic tank and two cesspools which were abandoned in place in 2003. IRP Site 8S is associated with Building 300 – Fire Station (PRL 2).
Brief Description of Pathways:	Gabreski ANGB is located on a glacial outwash plain that slopes south, with depth to bedrock from 1500 to 1600 ft. It lies within a SGPA of Suffolk County, which are watershed recharge areas important for the maintenance of large volumes of high-quality groundwater. Also designated as a Critical Environmental Area, the goal is to protect the water supply. In 1978, the three aquifers beneath the base, were designated as Sole Source Aquifers. Soil borings confirmed the water bearing zone within the Upper Glacial Aquifer. This unconfined, shallow surficial aquifer, provides the majority of potable water in the area. It consists of very porous and highly permeable coarse sands and gravels, generally 120 ft thick. Measured groundwater levels during the SI, varied from 5 ft below ground surface (bgs) in the southern portion of the Base to 40 ft at higher elevations, with a confirmed NW to SE general groundwater flow at PRL 15, as shown on Figures 3-1 and 5-3. PRL 15 is within a grassy area, so infiltration with precipitation into the permeable soils at the source was likely. It could then become part of the shallow groundwater system. Stormwater catch basins are located along the southeast edge of the PRL and drains out to the stormwater outfall at AOC 12 Outfall SDO-001.
Brief Description of Receptors:	Known drinking water wells impacted with PFAS are located downgradient (SE), within a 4-mile radius, and there is also a strong possibility of impacted human receptors. The nearest public supply well field (Meetinghouse Rd.) is 0.6 miles SE, and hydraulically downgradient of Gabreski ANGB, and is impacted by PFAS. SCWA supplies drinking water to the Gabreski ANGB. Two SCWA well fields in the vicinity of Gabreski Airport have been impacted by PFAAs, Meetinghouse Road and Gus Guerrero. Meetinghouse Rd. wells 12A, 14, 17, 19 and 22 and Gus Guerrero well 1 are now on GAC filters to remove PFAAs. The Meetinghouse Road well field is directly south of Gabreski Airport, and the Gus Guerrero well field is SW of Gabreski Airport. Surface soil receptors have limited access to contaminated soil at PRL 15, such as firefighters, and/or commercial/ industrial workers with special permission to be in a restricted area. PRL 15 is a restricted area since it is adjacent to a concrete apron, and within the flightline security fence.

Groundwater Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 15 AFFF Release Area #: AFFF 15

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios	
PFOS	1.5	0.04	37.5	
PFOA	0.13	0.04	3.2	
PFBS	0.15	0.602	0.2	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	41.0	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		M	
Migratory Pathway Factor				
Evident	Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)		H	
Potential	Contamination in the groundwater has moved beyond the source or insufficient information available to make a determination of Evident or Confined			
Confined	Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited (possibly due to geological structures or physical controls)			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Receptor Factor				
Identified	Impacted drinking water well with detected contaminants or existing downgradient water supply well within 4 miles and groundwater is current source of drinking water (EPA Class I or IIA groundwater)		H	
Potential	Existing downgradient drinking water well beyond 4 miles with no contaminant detection(s) or no known drinking water wells downgradient and groundwater is currently or potentially usable for drinking water (i.e., EPA Class I or II groundwater) or other beneficial use (e.g., agricultural)			
Limited	No known water supply wells downgradient and groundwater is not considered potential drinking water source and is of limited beneficial use (Class III)			
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Groundwater Category			HIGH	

Soil Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 15 AFFF Release Area #: AFFF 15

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios	
PFOS	0.14	0.126	1.1	
PFOA	0.00062	0.126	0.0	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	1.1	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		L	
Migratory Pathway Factor				
Evident	Analytical data or observable evidence that contamination is present at a point of exposure		H	
Potential	Contamination has moved beyond the source, could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined			
Confined	Low possibility for contamination to be present at or migrate to a point of exposure			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Receptor Factor				
Identified	Receptors identified that have access to contaminated soil			
Potential	Potential for receptors to have access to contaminated soil			
Limited	No potential for receptors to have access to contaminated soil		L	
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		L	
Soil Category			LOW	

Site Background Information			
Installation:	Francis S. Gabreski ANGB	Date:	9/29/2021
Location (State):	New York	Media Evaluated:	Groundwater, Soil
Site Name and ID:	Old Base Septic System (IRP 8K) - PRL 16	Phase of Execution (e.g., RI, Record of Decision (ROD)):	N/A
RPM's Name:	Bill Myer	Agreement Status (e.g., Federal Facility Agreement date signed):	N/A
OVERALL SITE CATEGORY: HIGH			

Site Summary	
Brief Site Description:	IRP 8K is a portion of IRP 8, the Old Base Septic System, which is a composite of underground structures including cesspools, septic tanks, distribution boxes, oil/mud traps, and dry wells at numerous locations throughout the base. Most of the structures have been removed, while others have been abandoned in place. None of the septic system structures are still in use. Together, the individual structures (former and abandoned in place) make up the Old Base Septic System which includes 21 subsites, designated as Subsites 8A through 8U, based on the individual structures and subsystems that were identified. IRP Site 8K consisted of one septic tank and three cesspools which were abandoned in place in 2003. IRP Site 8K is associated with Building 395 – Helicopter Pods (PRL 4).
Brief Description of Pathways:	Gabreski ANGB is located on a glacial outwash plain that slopes south, with depth to bedrock from 1500 to 1600 ft, and lies within a SGPA of Suffolk County. SGPAs are watershed recharge areas important for the maintenance of large volumes of high-quality groundwater, and designated as a Critical Environmental Area, the goal is to protect the water supply. In 1978, the three aquifers beneath the base, were designated as Sole Source Aquifers. Soil borings confirmed the water bearing zone within the Upper Glacial Aquifer. This unconfined, shallow surficial aquifer, provides the majority of potable water in the area, consisting of very porous and highly permeable coarse sands and gravels, generally 120 ft thick. Groundwater levels during the SI varied from 5 ft bgs in the southern portion of the Base to 40 ft at higher elevations, with general flow at the Base SE, but there are indications that groundwater can vary on base, with localized groundwater at PRL 16 in the SW portion of the base, flowing SW toward the Gus Guerrero Wellfield (potentially due to wellfield pumping) ~400' SW of the base. PRL 16 is mostly concrete. Surface runoff is most likely to the south or southeast into the grass area adjacent to the site, where it could infiltrate with precipitation and become part of the shallow groundwater system. In addition, the stormwater system captures stormwater and it infiltrates at the Stormwater System Ponds located to the northeast and northwest of PRL 16.
Brief Description of Receptors:	Known drinking water wells impacted with PFAS are located downgradient (SE), within a 4-mile radius, and there is also a strong possibility of impacted human receptors. The nearest public supply well field (Meetinghouse Rd.) is 0.6 miles SE, and hydraulically downgradient of Gabreski ANGB, and is impacted by PFAS. SCWA supplies drinking water to the Gabreski ANGB. Two SCWA well fields in the vicinity of Gabreski Airport have been impacted by PFAAs, Meetinghouse Road and Gus Guerrero. Meetinghouse Rd. wells 12A, 14, 17, 19 and 22 and Gus Guerrero well 1 are now on GAC filters to remove PFAAs. The Meetinghouse Road well field is directly south of Gabreski Airport, and the Gus Guerrero well field is SW of Gabreski Airport. Surface soil receptors have limited access to contaminated soil, such as commercial/industrial workers with special permission to be in a restricted area. PRL 16 is a restricted area, since it is adjacent to a concrete apron, and located within the flightline security fence.

Groundwater Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 16

AFFF Release Area #: AFFF 16

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios	
PFBS	0.0016	0.602	0.0	
PFOS	0.034	0.04	0.9	
PFOA	0.0064	0.04	0.2	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	1.0	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		L	
Migratory Pathway Factor				
Evident	Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)		H	
Potential	Contamination in the groundwater has moved beyond the source or insufficient information available to make a determination of Evident or Confined			
Confined	Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited (possibly due to geological structures or physical controls)			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Receptor Factor				
Identified	Impacted drinking water well with detected contaminants or existing downgradient water supply well within 4 miles and groundwater is current source of drinking water (EPA Class I or IIA groundwater)		H	
Potential	Existing downgradient drinking water well beyond 4 miles with no contaminant detection(s) or no known drinking water wells downgradient and groundwater is currently or potentially usable for drinking water (i.e., EPA Class I or II groundwater) or other beneficial use (e.g., agricultural)			
Limited	No known water supply wells downgradient and groundwater is not considered potential drinking water source and is of limited beneficial use (Class III)			
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Groundwater Category			HIGH	

Soil Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 16

AFFF Release Area #: AFFF 16

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios	
PFOS	0.0014	0.126	0.0	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	0.0	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		L	
Migratory Pathway Factor				
Evident	Analytical data or observable evidence that contamination is present at a point of exposure			
Potential	Contamination has moved beyond the source, could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined		M	
Confined	Low possibility for contamination to be present at or migrate to a point of exposure			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		M	
Receptor Factor				
Identified	Receptors identified that have access to contaminated soil			
Potential	Potential for receptors to have access to contaminated soil			
Limited	No potential for receptors to have access to contaminated soil		L	
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		L	
Soil Category			LOW	

Site Background Information			
Installation:	Francis S. Gabreski ANGB	Date:	9/21/2021
Location (State):	New York	Media Evaluated:	Groundwater, Soil
Site Name and ID:	Old Base Septic System (IRP 8J) - PRL 17	Phase of Execution (e.g., RI, Record of Decision (ROD)):	N/A
RPM's Name:	Bill Myer	Agreement Status (e.g., Federal Facility Agreement date signed):	N/A
OVERALL SITE CATEGORY: HIGH			

Site Summary	
Brief Site Description:	<p>IRP 8J is a portion of IRP 8, the Old Base Septic System, which is a composite of underground structures including cesspools, septic tanks, distribution boxes, oil/mud traps, and dry wells at numerous locations throughout the base. Most of the structures have been removed, while others have been abandoned in place. None of the septic system structures are still in use. Together, the individual structures (former and abandoned in place) make up the Old Base Septic System which includes 21 subsites, designated as Subsites 8A through 8U, based on the individual structures and subsystems that were identified. IRP Site 8J is still currently in use as part of the storm water drainage system. It was not included in closure inspections, and therefore specific structure information was not collected. When Site 8J operated as a part of the septic sewer system, it was associated with Building 395 – Helicopter Pods (PRL 4).</p> <p>Even though groundwater monitoring wells were not installed at this PRL, the new monitoring wells SCRMW01, SCR-MW02, and SCR-MW03 at the Southern Concrete Ramp/Apron (PRL 9) were used to evaluate potential groundwater impacts for this PRL.</p>
Brief Description of Pathways:	<p>Gabreski ANGB is located on a glacial outwash plain that slopes south, with depth to bedrock from 1500 to 1600 ft, and lies within a SGPA of Suffolk County. SGPAs are watershed recharge areas important for the maintenance of large volumes of high-quality groundwater, and designated as a Critical Environmental Area, the goal is to protect the water supply. In 1978, the three aquifers beneath the base, were designated as Sole Source Aquifers. Soil borings confirmed the water bearing zone within the Upper Glacial Aquifer. This unconfined, shallow surficial aquifer, provides the majority of potable water in the area, consisting of very porous and highly permeable coarse sands and gravels, generally 120 ft thick. Groundwater levels during the SI varied from 5 ft bgs in the southern portion of the Base to 40 ft at higher elevations, with general flow at the Base SE, but there are indications that groundwater can vary on base, with localized groundwater at PRL 17 in the SW portion of the base, flowing SW toward the Gus Guerrera Wellfield (potentially due to wellfield pumping) ~400' SW of the base.</p> <p>PRL 17 is mostly concrete, so infiltration is minimal, depending on the concrete condition. Surface runoff is most likely to the south or southeast, into the grass area adjacent to the site, where it could infiltrate with precipitation and become part of the shallow groundwater system.</p>
Brief Description of Receptors:	<p>Known drinking water wells impacted with PFAS are located downgradient (SE), within a 4-mile radius, and there is also a strong possibility of impacted human receptors. The nearest public supply well field (Meetinghouse Rd.) is 0.6 miles SE, and hydraulically downgradient of Gabreski ANGB, and is impacted by PFAS. SCWA supplies drinking water to the Gabreski ANGB. Two SCWA well fields in the vicinity of Gabreski Airport have been impacted by PFAAs, Meetinghouse Road and Gus Guerrera. Meetinghouse Rd. wells 12A, 14, 17, 19 and 22 and Gus Guerrera well 1 are now on GAC filters to remove PFAAs. Gus The Meetinghouse Road well field is directly south of Gabreski Airport, and the Gus Guerrera well field is SW of Gabreski Airport. Surface soil receptors have limited access to contaminated soil due to it being underneath concrete in which it needed to be drilled approximately 1.0 ft before actual soil was encountered. This pathway is considered confined unless there is some sort of construction activities by commercial/industrial workers that would disturb the concrete.</p>

Groundwater Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 17

AFFF Release Area #: AFFF 17

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios	
PFBS	0.029	0.602	0.0	
PFOS	1.4	0.04	35.0	
PFOA	0.062	0.04	1.5	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	36.6	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		M	
<u>Migratory Pathway Factor</u>				
Evident	Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)		H	
Potential	Contamination in the groundwater has moved beyond the source or insufficient information available to make a determination of Evident or Confined			
Confined	Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited (possibly due to geological structures or physical controls)			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
<u>Receptor Factor</u>				
Identified	Impacted drinking water well with detected contaminants or existing downgradient water supply well within 4 miles and groundwater is current source of drinking water (EPA Class I or IIA groundwater)		H	
Potential	Existing downgradient drinking water well beyond 4 miles with no contaminant detection(s) or no known drinking water wells downgradient and groundwater is currently or potentially usable for drinking water (i.e., EPA Class I or II groundwater) or other beneficial use (e.g., agricultural)			
Limited	No known water supply wells downgradient and groundwater is not considered potential drinking water source and is of limited beneficial use (Class III)			
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Groundwater Category			HIGH	

Soil Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 17

AFFF Release Area #: AFFF 17

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
PFOS	0.0031	0.126	0.0
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	0.0
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		
CHF Value	CHF VALUE		L
Migratory Pathway Factor			
Evident	Analytical data or observable evidence that contamination is present at a point of exposure		
Potential	Contamination has moved beyond the source, could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined		
Confined	Low possibility for contamination to be present at or migrate to a point of exposure		L
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		L
Receptor Factor			
Identified	Receptors identified that have access to contaminated soil		
Potential	Potential for receptors to have access to contaminated soil		
Limited	No potential for receptors to have access to contaminated soil		L
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		L
Soil Category			LOW

Site Background Information			
Installation:	Francis S. Gabreski ANGB	Date:	9/21/2021
Location (State):	New York	Media Evaluated:	Groundwater, Soil
Site Name and ID:	Old Base Septic System (IRP 8G) - PRL 18	Phase of Execution (e.g., RI, Record of Decision (ROD)):	N/A
RPM's Name:	Bill Myer	Agreement Status (e.g., Federal Facility Agreement date signed):	N/A
OVERALL SITE CATEGORY: HIGH			

Site Summary	
Brief Site Description:	IRP 8G is a portion of IRP 8, the Old Base Septic System, which is a composite of underground structures including cesspools, septic tanks, distribution boxes, oil/mud traps, and dry wells at numerous locations throughout the base. Most of the structures have been removed, while others have been abandoned in place. None of the septic system structures are still in use. Together, the individual structures (former and abandoned in place) make up the Old Base Septic System which includes 21 subsites, designated as Subsites 8A through 8U, based on the individual structures and subsystems that were identified. IRP Site 8G consisted of one septic tank, two cesspools, and one distribution box which were abandoned in place in 2003. IRP Site 8G is associated with Building/Hangar 358 (PRL 6).
Brief Description of Pathways:	Gabreski ANGB is located on a glacial outwash plain that slopes south, with depth to bedrock from 1500 to 1600 ft. It lies within a SGPA of Suffolk County, which are watershed recharge areas important for the maintenance of large volumes of high-quality groundwater. Also designated as a Critical Environmental Area, the is goal to protect the water supply. In 1978, the three aquifers beneath the base, were designated as Sole Source Aquifers. Soil borings confirmed the water bearing zone within the Upper Glacial Aquifer. This unconfined, shallow surficial aquifer, provides the majority of potable water in the area. It consists of very porous and highly permeable coarse sands and gravels, generally 120 ft thick. Measured groundwater levels during the SI, varied from 5 ft below ground surface (bgs) in the southern portion of the Base to 40 ft at higher elevations, with a confirmed NW to SE general groundwater flow at PRL 18, as shown on Figures 3-1 and 5-2. PRL 18 is within a grassy area, adjacent to the concrete apron, so infiltration with precipitation into the permeable soils at the source was likely. It could then become part of the shallow groundwater system.
Brief Description of Receptors:	Known drinking water wells impacted with PFAS are located downgradient (SE), within a 4-mile radius, and there is also a strong possibility of impacted human receptors. The nearest public supply well field (Meetinghouse Rd.) is 0.6 miles SE, and hydraulically downgradient of Gabreski ANGB, and is impacted by PFAS. SCWA supplies drinking water to the Gabreski ANGB. Two SCWA well fields in the vicinity of Gabreski Airport have been impacted by PFAAs, Meetinghouse Road and Gus Guerrero. Meetinghouse Rd. wells 12A, 14, 17, 19 and 22 and Gus Guerrero well 1 are now on GAC filters to remove PFAAs. The Meetinghouse Road well field is directly south of Gabreski Airport, and the Gus Guerrero well field is SW of Gabreski Airport. Surface soil receptors have limited access to contaminated soil, such as commercial/industrial workers with special permission to be in a restricted area. PRL 18 is a restricted area since it is adjacent to both Hangar 358 and a concrete apron, and located within the flightline security fence.

Groundwater Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 18

AFFF Release Area #: AFFF 18

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios	
PFBS	0.18	0.602	0.3	
PFOS	4.7	0.04	117.5	
PFOA	0.27	0.04	6.8	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	124.5	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		H	
<u>Migratory Pathway Factor</u>				
Evident	Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)		H	
Potential	Contamination in the groundwater has moved beyond the source or insufficient information available to make a determination of Evident or Confined			
Confined	Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited (possibly due to geological structures or physical controls)			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
<u>Receptor Factor</u>				
Identified	Impacted drinking water well with detected contaminants or existing downgradient water supply well within 4 miles and groundwater is current source of drinking water (EPA Class I or IIA groundwater)		H	
Potential	Existing downgradient drinking water well beyond 4 miles with no contaminant detection(s) or no known drinking water wells downgradient and groundwater is currently or potentially usable for drinking water (i.e., EPA Class I or II groundwater) or other beneficial use (e.g., agricultural)			
Limited	No known water supply wells downgradient and groundwater is not considered potential drinking water source and is of limited beneficial use (Class III)			
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Groundwater Category			HIGH	

Soil Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 18

AFFF Release Area #: AFFF 18

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios	
PFBS	0.00072	1.9	0.0	
PFOS	1.7	0.126	13.5	
PFOA	0.0042	0.126	0.0	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	13.5	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		M	
<u>Migratory Pathway Factor</u>				
Evident	Analytical data or observable evidence that contamination is present at a point of exposure		H	
Potential	Contamination has moved beyond the source, could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined			
Confined	Low possibility for contamination to be present at or migrate to a point of exposure			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
<u>Receptor Factor</u>				
Identified	Receptors identified that have access to contaminated soil			
Potential	Potential for receptors to have access to contaminated soil			
Limited	No potential for receptors to have access to contaminated soil		L	
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		L	
Soil Category			MEDIUM	

Site Background Information			
Installation:	Francis S. Gabreski ANGB	Date:	9/21/2021
Location (State):	New York	Media Evaluated:	Groundwater, Soil
Site Name and ID:	Mobile Fire Training Area - PRL 19	Phase of Execution (e.g., RI, Record of Decision (ROD)):	N/A
RPM's Name:	Bill Myer	Agreement Status (e.g., Federal Facility Agreement date signed):	N/A
OVERALL SITE CATEGORY: HIGH			

Site Summary	
Brief Site Description:	<p>PRL 19 is located to the northeast, off ANG property. The Site is partial asphalt/concrete and partially grassy vegetated surface. The Site is utilized for mobile fire training. No site description was provided in the ESI as to frequency and dates of usage. During the ESI, three surface soil, four subsurface soil and two groundwater samples were collected. Upgradient and downgradient sampling occurred in groundwater at GB-OB-MW07 (upgradient) and MW-1 (downgradient, Canine Kennels).</p>
Brief Description of Pathways:	<p>Gabreski ANGB is located on a glacial outwash plain that slopes south, with depth to bedrock from 1500 to 1600 ft. It lies within a SGPA of Suffolk County, which are watershed recharge areas important for the maintenance of large volumes of high-quality groundwater. Also designated as a Critical Environmental Area, the is goal to protect the water supply. In 1978, the three aquifers beneath the base, were designated as Sole Source Aquifers. Soil borings confirmed the water bearing zone within the Upper Glacial Aquifer. This unconfined, shallow surficial aquifer, provides the majority of potable water in the area. It consists of very porous and highly permeable coarse sands and gravels, generally 120 ft thick.</p> <p>PRL 19 has grassy vegetation where the fire training is assumed to occur. Discharge of AFFF to the ground will infiltrate and migrate to impact groundwater.</p>
Brief Description of Receptors:	<p>Known drinking water wells impacted with PFAS are located downgradient (SE), within a 4-mile radius, and there is also a strong possibility of impacted human receptors. The nearest public supply well field (Meetinghouse Rd.) is 0.6 miles SE, and hydraulically downgradient of Gabreski ANGB, and is impacted by PFAS. SCWA supplies drinking water to the Gabreski ANGB. Two SCWA well fields in the vicinity of Gabreski Airport have been impacted by PFAAs, Meetinghouse Road and Gus Guerrero. Meetinghouse Rd. wells 12A, 14, 17, 19 and 22 and Gus Guerrero well 1 are now on GAC filters to remove PFAAs. Gus The Meetinghouse Road well field is directly south of Gabreski Airport, and the Gus Guerrero well field is SW of Gabreski Airport. Surface soil receptors have limited access to contaminated soil, such as commercial/industrial workers with special permission to be in a restricted area. PRL 18 is a restricted area since it is adjacent to both Hangar 358 and a concrete apron, and located within the flightline security fence.</p>

Groundwater Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 19

AFFF Release Area #: AFFF 19

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios	
PFBS	0.024	0.602	0.0	
PFOS	0.01	0.04	0.2	
PFOA	0.11	0.04	2.7	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	3.0	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		M	
Migratory Pathway Factor				
Evident	Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)			
Potential	Contamination in the groundwater has moved beyond the source or insufficient information available to make a determination of Evident or Confined		M	
Confined	Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited (possibly due to geological structures or physical controls)			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		M	
Receptor Factor				
Identified	Impacted drinking water well with detected contaminants or existing downgradient water supply well within 4 miles and groundwater is current source of drinking water (EPA Class I or IIA groundwater)		H	
Potential	Existing downgradient drinking water well beyond 4 miles with no contaminant detection(s) or no known drinking water wells downgradient and groundwater is currently or potentially usable for drinking water (i.e., EPA Class I or II groundwater) or other beneficial use (e.g., agricultural)			
Limited	No known water supply wells downgradient and groundwater is not considered potential drinking water source and is of limited beneficial use (Class III)			
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Groundwater Category			HIGH	

Soil Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 19

AFFF Release Area #: AFFF 19

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios	
PFOS	0.00061	0.126	0.0	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	0.0	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		L	
Migratory Pathway Factor				
Evident	Analytical data or observable evidence that contamination is present at a point of exposure			
Potential	Contamination has moved beyond the source, could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined		M	
Confined	Low possibility for contamination to be present at or migrate to a point of exposure			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		M	
Receptor Factor				
Identified	Receptors identified that have access to contaminated soil			
Potential	Potential for receptors to have access to contaminated soil		M	
Limited	No potential for receptors to have access to contaminated soil			
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		M	
Soil Category			Low	

Site Background Information			
Installation:	Francis S. Gabreski ANGB	Date:	9/21/2021
Location (State):	New York	Media Evaluated:	Groundwater
Site Name and ID:	Current Fire Training Area - PRL 20	Phase of Execution (e.g., RI, Record of Decision (ROD)):	N/A
RPM's Name:	Bill Myer	Agreement Status (e.g., Federal Facility Agreement date signed):	N/A
OVERALL SITE CATEGORY: HIGH			

Site Summary	
Brief Site Description:	PRL 20 is the current Fire Training Area and is located offbase, south of PRL 1. The area is flat and partially covered by fractured concrete. There is limited information in the PA, SI and ESI regarding the frequency, AFFF use, and history of the site.
Brief Description of Pathways:	<p>Gabreski ANGB is located on a glacial outwash plain that slopes south, with depth to bedrock from 1500 to 1600 ft. It lies within a SGPA of Suffolk County, which are watershed recharge areas important for the maintenance of large volumes of high-quality groundwater. Also designated as a Critical Environmental Area, the is goal to protect the water supply. In 1978, the three aquifers beneath the base, were designated as Sole Source Aquifers. Soil borings confirmed the water bearing zone within the Upper Glacial Aquifer. This unconfined, shallow surficial aquifer, provides the majority of potable water in the area. It consists of very porous and highly permeable coarse sands and gravels, generally 120 ft thick.</p> <p>PRL 20 has grassy vegetation where the fire training is assumed to occur. If AFFF was discharged to the ground, contaminants will infiltrate and migrate to impact groundwater.</p>
Brief Description of Receptors:	<p>Known drinking water wells impacted with PFAS are located downgradient (SE), within a 4-mile radius, and there is also a strong possibility of impacted human receptors. The nearest public supply well field (Meetinghouse Rd.) is 0.6 miles SE, and hydraulically downgradient of Gabreski ANGB, and is impacted by PFAS. Suffolk County Water Authority (SCWA) supplies drinking water to the Gabreski ANGB. Two SCWA well fields in the vicinity of Gabreski Airport have been impacted by PFAAs, Meetinghouse Road and Gus Guerrero. Meetinghouse Rd. wells 12A, 14, 17, 19 and 22 and Gus Guerrero well 1 are now on GAC filters to remove PFAAs. The Meetinghouse Road well field is directly south of Gabreski Airport, and the Gus Guerrero well field is SW of Gabreski Airport.</p> <p>Surface soil receptors have limited access to contaminated soil, however fire fighters will be exposed during routine training events.</p>

Groundwater Worksheet

Installation: Francis S. Gabreski ANGB

Site ID: PRL 20

AFFF Release Area #: AFFF 20

Contaminant	Maximum Concentration (ug/L)	Comparison Value (ug/L)	Ratios	
PFBS	0.24	0.602	0.4	
PFOS	4.7	0.04	117.5	
PFOA	6.8	0.04	170.0	
CHF Scale	CHF Value	Contamination Hazard Factor (CHF)	287.9	
CHF > 100	H (High)	$CHF = \sum \frac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$		
100 > CHF > 2	M (Medium)			
2 > CHF	L (Low)			
CHF Value	CHF VALUE		H	
<u>Migratory Pathway Factor</u>				
Evident	Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)		H	
Potential	Contamination in the groundwater has moved beyond the source or insufficient information available to make a determination of Evident or Confined			
Confined	Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited (possibly due to geological structures or physical controls)			
Migratory Pathway Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
<u>Receptor Factor</u>				
Identified	Impacted drinking water well with detected contaminants or existing downgradient water supply well within 4 miles and groundwater is current source of drinking water (EPA Class I or IIA groundwater)		H	
Potential	Existing downgradient drinking water well beyond 4 miles with no contaminant detection(s) or no known drinking water wells downgradient and groundwater is currently or potentially usable for drinking water (i.e., EPA Class I or II groundwater) or other beneficial use (e.g., agricultural)			
Limited	No known water supply wells downgradient and groundwater is not considered potential drinking water source and is of limited beneficial use (Class III)			
Receptor Factor	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).		H	
Groundwater Category			HIGH	