Former Wurtsmith Air Force Base (AFB)
Restoration Advisory Board (RAB) Meeting
1 November 2017
5:30 – 8:11 pm Eastern Daylight Time
Robert J. Parks Library
6010 N. Skeel Ave., Oscoda Township, MI 48750

Final Meeting Minutes

Members Present	**Organization**
Christina Bush	Michigan Department of Health and Human Services (MDHHS)
Tim Cummings	Oscoda Township
James Davis (Alternate)	Community Member
Bob Delaney	Michigan Department of Environmental Quality (MDEQ)
Irene Dunn (Alternate)	Community Member
Bill Gaines	Community Member
Martha Gottlieb (Alternate)	Community Member
Matt Hegwood	Community Member
Catherine Larive (Alternate – Acted for Joseph Maxwell)	Community Member
Arnie Leriche	Community Member
Chuck Lichon	District Health Department #2 (DHD2)
Matt Marrs	Air Force Civil Engineer Center (AFCEC)/CIBE
Tony Martoglio	U.S. Department of Agriculture Forest Service (USFS)
Ryan Mertz	Community Member
Jeff Moss	AuSable Township
Mike Munson	Oscoda-Wurtsmith Airport Authority (OWAA)
John Nordeen (Alternate)	Oscoda Township
Daniel O'Conner (Alternate)	Community Member
Joseph Plunkey	Community Member
Daniel Stock (Alternate)	Community Member
Jerry Schmidt	Community Member
Robert Tasior	Community Member
Aaron Weed (Alternate)	Community Member
Cathy Wusterbarth	Community Member
Members Absent	**Organization**
Joseph Maxwell*	Community Member
Other Attendees	**Organization**
Saamih Bashir	Wood
Paula Bond	Aerostar
Angelina Casarez	AFCEC Public Affairs
Greg Cole	Oscoda citizen Van Etten Lake
Dale Corsi	DLZ MDEQ Consultant
Amanda Gangawer	Galen Driscol (facilitation contractor)
Breanne Humphreys	Cherokee (Air Force Public Affairs contractor)
Mike Jury	MDEQ
Kory Larive	Oscoda citizen
Ryan Londrigan	MDEQ
Rosemary Nentwig	Wurtsmith Air Museum & Veterans Memorial
Bill Palmer	Oscoda Township Trustee
Brandon Sellers	United States Army Corps of Engineers
Stephen TerMaath	Chief, AFCEC Base Realignment and Closure (BRAC) Program Management Division
Devon Tasior	Oscoda citizen Van Etten Lake
Ken Vinstra	Oscoda citizen Van Etten Lake

Keith Wojahn	Not listed
Mark Weegar	Spec Pro Services (Air Force contractor)
Media Representatives	**Organization**
Ryan Clancy	WDET FM
Jenny Haglund	Oscoda Press
Facilitator	**Organization**
Tim Sueltenfuss	Galen Driscol (facilitation contractor)

* [Note: A communication error prevented Joseph Maxwell from attending through no fault of his own.]

Handouts in RAB Meeting Packets

Attachment 1: RAB agenda
Attachment 2: Air Force presentation slides
Attachment 3: Acronyms
Attachment 4: Air Force Perfluorooctanoic Acid (PFOA) and Perfluorooctyl Sulfonate (PFOS) snapshot
Attachment 5: Air Force BRAC program snapshot, former Wurtsmith AFB
Attachment 6: AFCEC RAB comment form
Attachment 7: Operating procedures adoption ballot
Attachment 9: Community co-chair election ballot
[Note: All attachments are listed below.]

Introductions

Welcome
Mr. Matt Marrs, Mr. Tim Sueltenfuss, all
Mr. Sueltenfuss, facilitator, called the RAB meeting to order at 5:30 pm and welcomed RAB members and others in attendance. He noted that more than 50% of community RAB members, more than 50% of government RAB members, and the Air Force co-chair were present (which defines a quorum in the draft operating procedures). Mr. Sueltenfuss commented that Ms. Catherine Larive, an alternate community RAB members, was acting on behalf of Mr. Joseph Maxwell, a primary community RAB member who was absent. Mr. Sueltenfuss introduced Mr. Matt Marrs, the Air Force co-chair and the BRAC environmental coordinator for the former Wurtsmith AFB. Mr. Marrs welcomed all attendees and suggested observing a moment of silence. He then asked the attendees to introduce themselves.

RAB members read the ground rules aloud and all members agreed to abide by these rules:

- Respect one another and maintain an atmosphere of open dialogue and exchange of ideas.
- Use our time together efficiently, wisely, and respectfully.
- Listen and remain open to differing points of view.
- Speak clearly and succinctly one person at a time; avoid interrupting others.
- Share information early, openly, and honestly.
- Maintain a propensity for progress: prepare, discuss, document, and move forward.
- Accurately and objectively relay to others the discussions that occur at board meetings.

Mr. Sueltenfuss reviewed the agenda for the meeting.

Air Force Senior Leader's Welcoming Remarks
Dr. Stephen TerMaath, Chief, BRAC Management Division
Dr. TerMaath introduced himself as Chief of the BRAC Management Division within the AFCEC Installations Directorate. He welcomed RAB members and attendees and expressed his gratitude for everyone's participation.

Elect Community Co-Chair

Introduction

Mr. Sueltenfuss and community co-chair candidates

Mr. Sueltenfuss reviewed the role of the community co-chair and announced that Mr. Robert Tasior and Mr. Arnie Leriche had previously expressed interest in this position. Mr. Sueltenfuss asked if any of the other primary community RAB members were interested in this position. No additional candidates volunteered. Community co-chair candidates Mr. Tasior and Mr. Leriche introduced themselves and described their interest in serving as the community co-chair.

Mr. Leriche

Mr. Leriche expressed his passion for the environmental restoration of the former Wurtsmith AFB and he shared that he began researching this issue three years ago. Mr. Leriche described his background working for the Environmental Protection Agency and noted the role he played in suggesting that the RAB be re-established. He shared his view that communications could be improved between the agencies and the community and he expressed his interest in serving as community co-chair.

Mr. Tasior

Mr. Tasior spoke about his love for the community and described his participation in numerous local organizations. He stressed that the people of this community deserve a clean environment and clean water. Mr. Tasior noted his record for getting things done and expressed his interest in serving as community co-chair.

Election Process and Vote

Mr. Sueltenfuss and RAB Community Members

Mr. Sueltenfuss asked the community RAB members if they wanted the community co-chair candidates to step outside so the remaining community RAB members could discuss their candidacy. No members expressed interest in doing so.

Mr. Sueltenfuss then described the process to elect the community co-chair. He referenced the RAB rule (Title 32, Code of Federal Regulations, Part 202) and stated that Part 202.6(b) states "The community co-chair shall be selected by the community RAB members." Mr. Sueltenfuss noted that primary community RAB members could vote and he pointed out that Ms. Larive could vote since she was acting on behalf of Mr. Maxwell. He noted a majority of voting members equates to five or more of the nine voting members. Mr. Sueltenfuss then reviewed the community co-chair election ballot and the voting members cast their votes.

Tally and Announcement

Mr. Sueltenfuss

Mr. Sueltenfuss tallied the ballots (reference Attachment 8 & 9) and stated that there were six votes for Mr. Leriche and three for Mr. Tasior. Mr. Sueltenfuss announced Mr. Leriche as the community co-chair and thanked Mr. Tasior for his willingness to serve in this role. Mr. Leriche commented that he had previously suggested having an alternate community co-chair but the Air Force had stated that the RAB rule did not address alternate community co-chairs. Mr. Leriche conveyed that he would nonetheless welcome input from Mr. Tasior moving forward.

Adopt Operating Procedures

Review and Seek Approval in Concept

Mr. Sueltenfuss

Mr. Sueltenfuss noted the RAB operating procedures are intended to guide RAB members, make the RAB an effective and functioning advisory board, and establish rules and guidelines to address common issues. He remarked that RAB members had an opportunity to discuss and provide feedback on the draft operating procedures during and after the 2 Aug and 19 Sep 2017 RAB orientations. Mr. Sueltenfuss commented that the agenda called for the RAB members to vote to approve the RAB operating procedures at this meeting and he asked if the RAB members were prepared to do so. Mr. Leriche

suggested that the RAB table this vote until a later meeting because he would like for the members to be able to review the procedures in more detail. Ms. Cathy Wusterbarth asked the Air Force to include revision dates on draft versions of the revised RAB operating procedures (reference Action Item 6 within Attachment 10). The RAB members agreed to table adoption of the operating procedures until the next meeting (reference Future Agenda Item 2 within Attachment 10).

Technical Updates

Participating Agency Updates

RAB Members

Mr. Leriche suggested that all stakeholder agencies involved in the RAB (not just the Air Force) provide technical updates at each meeting (reference Future Agenda Item 11 within Attachment 10). Mr. Sueltenfuss asked each government RAB member to provide a brief update.

AuSable Township

Mr. Jeff Moss, primary government RAB member representing AuSable Township

Mr. Moss mentioned he heard from constituents that advisories went out regarding well samples; however, the township has not received or seen these. Mr. Moss said it is possible that his staff may have received some information in the past couple of days, but he underscored his concern that he had no specific, personal knowledge of the advisories.

MDEQ

Mr. Bob Delaney, primary government RAB member representing MDEQ

Mr. Delaney stated MDEQ is performing remedial investigation work to bound the plumes and determine if any contaminants have migrated south of the river. He remarked that MDEQ has results from one plume and will be investigating additional plumes. Mr. Delaney noted MDEQ will be drilling next spring and working on a study of Per- and Polyfluoroalkyl Substances (PFASs) in foam on Van Etten Lake and the soils in the vicinity. He remarked that MDEQ also performed a vapor intrusion study on the former AFB, which focused on chlorinated solvents. Mr. Delaney reported that MDEQ completed a report on the channel study regarding the river road plumes' discharge. He added that he had provided this study to the Air Force. Mr. Delaney shared that MDEQ will conduct residential PFAS sampling if there is sufficient demand.

Mr. Delaney noted MDEQ was unable to drill seven wells due to a delay in obtaining USFS permits. Mr. Tony Martoglio explained that the USFS must follow the National Environmental Policy Act and other legislation regarding issuing special use permits and, at times, delays can result. Mr. Delaney affirmed that USFS staff members have worked well with MDEQ throughout this process. Mr. Martoglio offered to provide a briefing concerning the interaction between the USFS permitting process and the former Wurtsmith AFB environmental restoration program (reference Future Agenda Item 13 within Attachment 10).

OWAA

Mr. Michael Munson, primary government RAB member representing OWAA

Mr. Munson described a meeting between the Air Force and OWAA concerning the location of a Granular-Activated Carbon (GAC) filtration building, which will be installed in the future. Mr. Leriche asked if RAB members would be permitted to attend future meetings on the location of the GAC building. Mr. Tim Cummings decried the fact that a meeting occurred behind closed doors to discuss the location of the GAC building. He stated that, despite the fact that this topic impacts Oscoda Township, the Air Force had not invited him to participate.

Oscoda Township

Mr. Cummings, primary government RAB member representing Oscoda Township

Mr. Cummings had no additional updates.

DHD2

Mr. Chuck Lichon, primary government RAB member representing DHD2

Mr. Lichon stated DHD2 had changed providers for in-home filtration systems. He shared his personal experience installing and using this filtration system.

MDHHS

Ms. Christina Bush, primary government RAB member representing MDHHS

Ms. Bush stated MDHHS is currently evaluating drinking water testing results and will be sending out notices with this information. She added that, if Perfluorinated Compounds (PFCs) are detected, MDHHS will recommend that people not use the water for either drinking or cooking. Ms. Bush remarked that the state (MDEQ) will sample Van Etten Lake and she added that MDHHS toxicologists will coordinate with the Centers for Disease Control and Prevention as needed. She shared the difficulty of determining whether PFCs in blood samples are derived from the former AFB or other, non-Department of Defense sources. Ms. Bush described other PFC sites around the state and she noted MDHHS is currently developing a state-wide approach to address PFC contamination in a consistent fashion.

USFS

Mr. Martoglio, primary government RAB member representing USFS

Mr. Martoglio had no additional update.

Technical Updates (Continued

Air Force Environmental Information

Mr. Marrs, Air Force co-chair

Mr. Marrs provided a presentation (reference Attachment 2 slides 10-16). He described PFOS/PFOA and the Air Force's three-step approach in responding to the potential contamination of drinking water. He also described the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), which guides the Air Force's investigation and remediation activities. Mr. Marrs summarized the tiered-prioritization approach, which the Air Force uses to classify sites at which Aqueous Film-Forming Foam (AFFF) may have been released in the past. He then surveyed a brief history of environmental activities at the former AFB and provided a timeline of PFOS/PFOA sampling and remediation beginning in 2011.

Former Wurtsmith AFB Preliminary Assessment (PA)

Beth Flynn, Amec Foster Wheeler

Ms. Beth Flynn introduced Amec Foster Wheeler as the Air Force contractor that conducted the PA at the former AFB (reference Attachment 2 slides 17-23). She noted Amec Foster Wheeler completed the PA, which included interviewing former staff and reviewing the results of prior investigations to identify areas of potential AFFF releases. Ms. Flynn commented that a total of 21 sites were identified in the PA and she displayed a map of the base to show the locations of these sites. Mr. Leriche asked if these investigations/interviews with former AFB staff revealed any information regarding a practice of pre-coating a runway with either AFFF or another flame retardant prior to a potential crash incident. He also asked if Ms. Flynn heard of this practice at other Air Force facilities. Ms. Flynn said no interviewee mentioned this practice at the Former Wurtsmith AFB but she shared that she had heard of this practice being used at other facilities.

Mr. Bill Gaines expressed his frustration that figures in the briefing were not easily readable. He reiterated a previous request that RAB presenters properly orient attendees to maps and figures and ensure that they are easily viewable (reference Action Item 1 within Attachment 10). Ms. Cathy Wusterbarth requested that all presentations provided in RAB meetings be sent electronically to RAB members (reference Action Item 7 within Attachment 10).

Ms. Flynn continued describing the 21 sites, noting that differing amounts of AFFF may have been released in each area. Mr. Leriche requested that the Air Force provide information regarding the amount of AFFF that came onto the former AFB as well as the amount that was transmitted off the base. Dr. TerMaath stated that, regrettably, the Air Force does not possess this data and that the AFFF was produced by at least four or five manufacturers.

Ms. Flynn discussed the private well sampling at the former AFB from 2015 to 2017. She provided information on the PFOS/PFOA Site Inspection (SI) and displayed a map of 17 areas at which potential AFFF contamination was inspected. Ms. Flynn explained that a landfill was added as a site in fall 2016. A RAB member asked why a plane crash site was not investigated. Ms. Flynn stated the PA, which included researching records and personnel interviews, did not produce any record of that purported crash. Mr. Delaney asked if the Air Force would include the PA in the administrative record. Mr. Marrs responded that the Air Force would do so. [Note: After the meeting, he determined that the Information Repository (IR) at the Robert J. Parks Library would be a more appropriate location for this document.]

Ms. Flynn displayed a map to indicate the SI results (reference Attachment 2 slide 20). Mr. Delaney pointed out that the areas highlighted on the map identifying only PFOS and PFOA results. He cautioned attendees that other PFAS constituents could exist in these areas. Ms. Flynn said that 13 locations were above the Environmental Protection Agency's Lifetime Health Advisory (HA) for PFOS or PFOA in drinking water. She added that, for this reason, Areas 1, 2, and 15 were prioritized for investigation. Ms. Flynn noted the fire training area is also being investigated along with the current groundwater treatment system.

Ms. Flynn explained the Expanded Site Evaluation (ESE) [Revised Draft, Phase I, ESE Work Plan dated October 2017] and noted that Vertical Aquifer Sampling (VAS) is currently being performed in phase 1 areas. She commented that this VAS sampling gathers additional information on Tier 1 criteria and assists in defining the plume. Ms. Flynn noted that Clark's Marsh is downgradient and beyond the boundary of Fire Training Area 02 (FT-02) near Area 12. She stated that Clark's Marsh is not defined as part of the 17 sites because it is outside the boundary. Mr. Marrs stated that Clark's Marsh is not included in phase 1 but will be considered in future phases.

Mr. Moss shared that he was concerned about Clark's Marsh because an advisory cautions against eating the fish, yet the Air Force has not listed it as a priority site. Mr. Leriche shared his belief that any party that generates contamination must be responsible for ensuring health and welfare protections. He stated the 'welfare' protections include wildlife and the environment per CERCLA. He also expressed his view that the Air Force should prepare an environmental risk assessment for Clark's Marsh.

Dr. TerMaath explained that Clark's Marsh is downgradient from FT-02, the likely release site. He stated Clark's Marsh is part of the investigation because it is part of the FT-02 site (even though it is outside the base boundary). Dr. TerMaath noted the Air Force already installed a treatment system at the Fire Training Area to reduce offsite migration to Clark's Marsh. He explained that priority areas are selected based on the potential risk that contamination could find a pathway to drinking water. Dr. TerMaath stated the FT-02 GAC treatment system is addressing that risk and mitigating contamination before it reaches Clark's Marsh. He remarked that the Air Force emplaced this treatment system because a regulatory agency determined that contaminants existed within fish tissue from Clark's Marsh. The RAB members discussed contaminant toxicity and absorption in fish and humans.

Mr. Leriche noted that Clark's Marsh received contaminants from the Air Force at the Former Wurtsmith AFB for 30 years. He shared his view that Clark's Marsh is thus not only a receptor of contamination from FT-02 but also a release site. Dr. TerMaath responded that the purpose of the current treatment system is to cut off continued contaminant migration into Clark's Marsh. He noted that any attempt to remove contaminants in marsh sediment could damage the ecosystem.

Ms. Flynn went on to discuss the ESE in Areas 1, 2, and 15. She explained that the currently awarded GAC is to treat water captured in the general area from the POL yard to the Arrow Street/Base Ops Apron area. The proposed VAS step outs will help define the edges of the PFOS/PFOA plume and help determine additional needs for capture. Mr. Marrs stated the proposed GAC treatment facility will be able to treat up to 500 gallons per minute which is more capacity than necessary for APTS and BPTS. This is to allow for potential future expansion.

Fiscal Year 2018 (FY18) Project Update
Mr. Marrs, Air Force co-chair
Mr. Marrs provided a description, status, and projected completion date for the FY18 projects (reference Attachment 2 slides 24 and 25). He commented that the list will be updated as projects are added, and it will be presented at future RAB meetings.

Health Advisory Overview
Ms. Bush, MDHHS
Ms. Bush presented a briefing entitled "EPA's Lifetime HA for PFAS in Drinking Water and How MDHHS Uses It" (reference Attachment 11). She shared information regarding the differences between fish contamination and drinking water contamination and their implications for public health. Mr. Moss noted the last fish tissue testing occurred in 2013 and he shared his view that updated and expanded testing is required. He described the community concern about this issue and he volunteered to help Ms. Bush test the fish tissue in the other bodies of water in the community. Ms. Bush said that testing is a long process and will take some time to perform and obtain results. She also offered to send her presentation electronically to RAB members (reference Action Item 9 within Attachment 10).

The board members discussed various drinking water filtration systems. Ms. Bush shared her understanding that point of use reverse osmosis systems made by Culligan were not certified to filter PFOS/PFOA. She added that Aquasana is not a reverse osmosis system, but rather a charcoal system and is certified to filter PFOS/PFOA. Mr. Chuck Lichon added that Goyesar is the installation company for the new Aquasana filtration system. He stated the system filters for approximately six months and costs roughly $80.

Mr. Leriche suggested an action item for the Air Force to provide clarification to the RAB on the PFAS historical timeline, purpose, timelines, and locations of the GAC unit(s) [Arrow St and Benzene pump and treat systems] as well as the information being provided to the community about siting this facility (reference Action Item 10 within Attachment 10). He expressed his view that determining the GAC unit location is urgent. Mr. Leriche asked for the Air Force and MDEQ to inform RAB members about progress on this topic (even before the next RAB meeting).

Mr. Cummings expressed that more frequent communication is essential. He shared his opinion that RAB meetings should be held more frequently than the previously discussed quarterly timeframe. Mr. Cummings also added that communication should occur between RAB meetings. Mr. Gaines expressed his agreement and recommended conducting RAB meetings on a bi-monthly timeframe. Mr. Munson and numerous other RAB members expressed their support of bi-monthly RAB meetings.

The co-chairs stated they would speak with one another soon to discuss meeting frequency, propose a date for the next RAB meeting, review action items, and consider future agenda topics. Mr. Leriche and Mr. Marrs shared that they would remain in contact with the RAB members as they discuss these items.

Public Comment
Mr. Sueltenfuss invited any members of the public to make comments to the RAB but none elected to do so. Mr. Sueltenfuss noted the opportunity for public comment at RAB meetings is very important and will remain a standing agenda item at future RAB meetings.

Conclusion
Dr. TerMaath thanked everyone for their participation and he pointed out that this is one of the largest RABs within the Air Force BRAC program. He noted that this indicates the degree of public interest in the environmental restoration of the former AFB. Mr. Marrs then thanked the board members for their participation and he expressed appreciation for the attendees' interest. He noted that he will work with Air Force Public Affairs to keep everyone updated after each RAB meeting and provide information between meetings.

Mr. Leriche thanked everyone for their attendance and the energy they have devoted to this important topic. He reiterated that he would like to collaborate with Mr. Tasior on the direction and initiatives of the

RAB. Mr. Tasior concurred. Mr. Leriche asked that the Air Force to advise him when pertinent meetings are scheduled (even those he cannot attend). He asked the RAB members to review the draft operating procedures and send him any suggested revisions. Mr. Leriche noted there are many topics to address and questions to answer and he asked for input from all RAB members in prioritizing the work of the board.

Meeting Evaluation

Mr. Sueltenfuss

Mr. Sueltenfuss noted a RAB comment form was included in the RAB packets (reference Attachment 6). He encouraged all attendees to complete this form and also include any questions or suggested agendas topics they may have. [Note: A summary of completed comment forms is included as Attachment 12.]

The RAB Meeting adjourned at 8:11pm.

[Note: Final RAB meeting minutes will be housed on the AFCEC Wurtsmith site at http://www.afcec.af.mil/Home/BRAC/Wurtsmith.aspx and the Air Force official Administrative Record at http://afcec.publicadmin-record.us.af.mil/. A hardcopy of final RAB minutes will be placed in the IR at the Robert J. Parks Public Library. The AFCEC webpage http://www.afcec.af.mil/ is intended as a public site for accessing news and information about the organization.

ATTACHMENTS

Attachment 1: RAB agenda
Attachment 2: Air Force presentation slides
Attachment 3: Acronyms
Attachment 4: Air Force PFOS/PFOA Snapshot
Attachment 5: Air Force BRAC program snapshot, former Wurtsmith AFB
Attachment 6: AFCEC RAB comment form
Attachment 7: Operating procedures adoption ballot
Attachment 8: Community co-chair election summary sheet
Attachment 9: Community co-chair election ballots
Attachment 10: RAB Action items, future agenda items and future meetings
Attachment 11: MDHHS presentation slides
Attachment 12: Summary of completed RAB comment forms

RESTORATION ADVISORY BOARD (RAB) MEETING

DATE/TIME: Wed, 1 Nov 2017 5:30-7:45 p.m. EDT
LOCATION: Robert J. Parks Public Library, 6010 N. Skeel Ave., Oscoda, MI 48750
GROUND RULES:

1. Respect one another and maintain an atmosphere of open dialogue and exchange of ideas.
2. Use our time together efficiently, wisely, and respectfully.
3. Listen and remain open to each other's varying points of view.
4. Speak clearly and succinctly one person at a time; avoid interrupting others.
5. Share information early, openly, and honestly.
6. Maintain a propensity for progress: prepare, discuss, document, and move forward.
7. Accurately and objectively relay to others the discussions that occur at board meetings.

Topic	Purpose	Presenter	Time
	Introductions		
Welcome	• Air Force co-chair welcomes RAB members and attendees. • Participants introduce themselves and read ground rules. • Facilitator summarizes agenda.	Matt Marrs All Tim Sueltenfuss	5:30-5:40
Air Force Senior Leader's Welcoming Remarks	• Dr. Stephen TerMaath welcomes RAB members and attendees. • [Note: Dr. TerMaath is Chief, Base Realignment and Closure Program Management Division within the Air Force Civil Engineer Center's Installations Directorate.]	Dr. TerMaath	5:40-5:45
	Elect Community Co-Chair		
Introduction	• Community co-chair candidates introduce themselves and describe why they are interested in serving in this role.	Community Co-Chair candidates	5:45-5:50
Election Process	• Facilitator describes process to elect community co-chair.	Tim Sueltenfuss	5:50-5:55
Vote	• Community RAB members vote.	Community RAB members	5:55-6:00
Tally and Announcement	• Facilitator tallies votes and announces community co-chair.	Tim Sueltenfuss	6:00-6:05

Topic	Purpose	Presenter	Time
Adopt Operating Procedures			
Vote	• All primary community and government RAB members vote.	Tim Sueltenfuss	6:05-6:10
Adoption Process	• Air Force co-chair and community co-chair may sign operating procedures.	Co-chairs	6:10-6:15
BREAK			6:15-6:25
Technical Updates			
Fiscal Year 2018 Project Update	• Status update.	Matt Marrs	6:25-6:35
Health Advisory (HA) Overview	• Overview of Environmental Protection Agency's HA for perfluorooctyl sulfonate and perfluorooctanoic acid.	Chris Bush, MDHHS	6:35-7:00
RAB Business			
Meeting Minutes and Action Items	• Update status of previous meeting minutes. • Update status of current action items.	Tim Sueltenfuss	7:00-7:05
Schedule Next RAB Meeting	• Consider date for the next RAB meeting.	RAB members	7:05-7:10
Meeting Evaluation	• Evaluate elements of this meeting that worked well and elements that needs change. (Note: All attendees are encouraged to complete written meeting evaluation forms.)	All	7:10-7:15
Public Comment			
Public Comment	• Public participants provide three-minute verbal comments to the RAB. • [Note: Public participants may also choose to provide written comments.]	Public participants	7:15-7:30
Conclusion			
Air Force Senior Leader's Closing Remarks	• Dr. TerMaath provides closing remarks.	Dr. TerMaath	7:30-7:40
Conclusion	• Co-chairs offers closing remarks.	Co-chairs	7:40-7:45
RAB Meeting Adjourns			

Air Force Civil Engineer Center

Integrity - Service - Excellence

Restoration Advisory Board (RAB) Meeting

Former Wurtsmith Air Force Base

1 November 2017

Welcome and Introductions

Attachment 2

Former Wurtsmith AFB RAB Agenda

- Introductions
  - Ground Rules
  - Air Force Senior Leader Remarks
- Elect Community Co-Chair
- Adopt Operating Procedures

*** 10 min break ***

- AF Technical Updates
- MDHHS Presentation
- RAB Business
- Public Comment
- Conclusion

Attachment 2

Former Wurtsmith AFB RAB Ground Rules

1. **Respect one another and maintain an atmosphere of open dialogue and exchange of ideas.**
2. **Use our time together efficiently, wisely and respectfully.**
3. **Listen and remain open to differing points of view.**
4. **Speak clearly and succinctly one person at a time; avoid interrupting others.**
5. **Share information early, openly and honestly.**
6. **Maintain a propensity for progress: prepare, discuss, document and move forward.**
7. **Accurately and objectively relay to others the discussions that occur at board meetings.**

Attachment 2

Air Force Senior Leader Remarks

Attachment 2

Elect Community Co-Chair

Attachment 2

Former Wurtsmith AFB Community co-chair

COMMUNITY CO-CHAIR

- ✓ Coordinates with the Air Force Co-chair and other RAB members to prepare agenda prior to each RAB meeting
- ✓ Ensures community member participation is open and constructive
- ✓ Attends meetings and ensure community issues and concerns related to restoration are raised
- ✓ Assists with providing information to the public
- ✓ Reports back to the community
- ✓ Serves without compensation

- **Candidate introductions**
- **Voting process**
- **Vote**

Attachment 2

Operating Procedures

Attachment 2

Former Wurtsmith AFB Operating Procedures

Operating Procedures are intended to: Guide RAB members, make RAB an effective and functioning advisory board and establish rules and guidelines to address common issues

- **Approval in concept**
- **Air Force co-chair and community co-chair sign**

**** 10 min Break ****

Attachment 2

Former Wurtsmith AFB
What are PFOS/PFOA?

PFOS and PFOA are synthetic fluorinated organic compounds used in many industrial and consumer products, including: nonstick cookware, waterproof fabric, some food packaging and the firefighting agent Aqueous Film Forming Foam.

- **AFFF is widely used to extinguish petroleum fires at civilian and military airports across the U.S. The Air Force began using AFFF in 1970.**
- **In 2009, the Environmental Protection Agency issued provisional health advisories for PFOS and PFOA, followed by a lifetime HA.**
- **PFOS/PFOA are classified as emerging contaminants because:**
  - **☑ They have reasonable pathways to reach drinking water sources.**
  - **☑ They present a potential unacceptable risk to human health.**
  - **☑ Regulatory standards are evolving.**

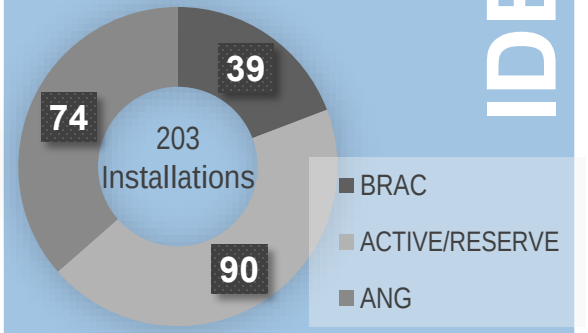
Attachment 2

Former Wurtsmith AFB
AF Response to PFOS/PFOA

The Air Force is using a three-step approach to assess the potential for PFOS/PFOA contamination of drinking water and respond appropriately.

IDENTIFY

- Determine potential AFFF releases
- Verify releases through sampling
- Determine if contaminant pathways to DW exist



95 % preliminary assessments complete

190 installations expected to require further site inspection

RESPOND

- PFOS/PFOA > HA, provide alternate DW supply
- PFOS/PFOA < HA, establish monitoring schedule
- Ongoing AF mitigation:
  - Bottled water
  - Whole-house filtration
  - Municipal water hookup
  - Alternate water supplies

18 Installations

$154.7M PFOS/PFOA actions to date investigations | mitigations

PREVENT

- Legacy AFFF disposal
- Transition to new AFFF
- Retrofit fire vehicles

173/176 Installations transitioned to new C6 AFFF

979,000 Gallons of legacy AFFF incinerated

15.7% Installations finished retrofitting vehicles with ecologic system kits

$4.7M ecologic system kits for fire vehicles

$10.8M Cost to date to replace & incinerate legacy AFFF in stockpiles & fire trucks

Attachment 2

Former Wurtsmith AFB
AF Response to PFOS/PFOA

Comprehensive Environmental Response, Compensation and Liability Act

The Air Force's investigation work and mitigation actions are guided by CERCLA, applicable state laws and the EPA's drinking water health advisory of 70 parts per trillion.

AFCEC is moving forward aggressively in accordance with the CERCLA process to identify, define and mitigate potential contamination.

The CERCLA process:

- ***Ensures thorough investigation work***
- ***Leads to proper and complete removal actions***
- ***Promotes accountability, community involvement and long-term protectiveness***

Attachment 2

Former Wurtsmith AFB
AF PFOS/PFOA Strategy

Programming for PFOS/PFOA is limited to groundwater sites unless there are state-promulgated standards for other media. The Air Force is using a tiered-prioritization approach to classify sites with suspected legacy AFFF releases.

PFOS/PFOA STRATEGY: TIERED PRIORITIZATION
TIER 1: An Air Force release linked to contamination found in receptor drinking water > HA.
TIER 2: An Air Force release linked to groundwater contamination > HA that will likely impact receptor drinking water.
TIER 3: An Air Force release linked to groundwater contamination > HA with no drinking water receptors.
***OTHER REQUIREMENTS**, such as: applicable State requirements, meet permit or intent of permit requirements, regulatory enforcement, administrative order.

Attachment 2

Former Wurtsmith AFB

Technical Updates

Attachment 2

Former Wurtsmith AFB Historical Overview

- Military use of Wurtsmith Air Force Base started in 1924 as Camp Skeel
- Base Closure process started in July 1991 when BRAC list was signed; first RAB operated 1994-2004
- Air Force IRP site list totals 90 sites, of which 69 are closed (non PFOS/PFOA)
- Landfills account for 5 of the 21 open sites (2 of the 21) are closed for VOCs but the restrictions remain for PFOS/PFOA
- Majority of site remedies are either pump and treat or natural attenuation for groundwater
- All Remedies are in place for the open sites and the current emphasis is optimizing those remedies to expedite closure

Attachment 2

Former Wurtsmith AFB PFOS/PFOA Timeline

2011
- MDEQ initiates PFAS sampling (groundwater, soil, sediment, fish tissue)

2012
- MDHHS issues "Do Not Eat Fish" advisory
- Base-wide screening

2013
- FT-02 focused feasibility study

2014
- Groundwater containment system contract awarded

2015
- Containment system begins operation
- AFCEC completes base records review/preliminary assessment

2016
- Residential well survey sampling (1st)
- SI field work complete

2017
- Residential well sampling (seasonal)
- (Begin expanded site evaluation
- Design new GAC PTS

Former Wurtsmith AFB Preliminary Assessment

Attachment 2

Former Wurtsmith AFB Private Well Sampling

2015/2016

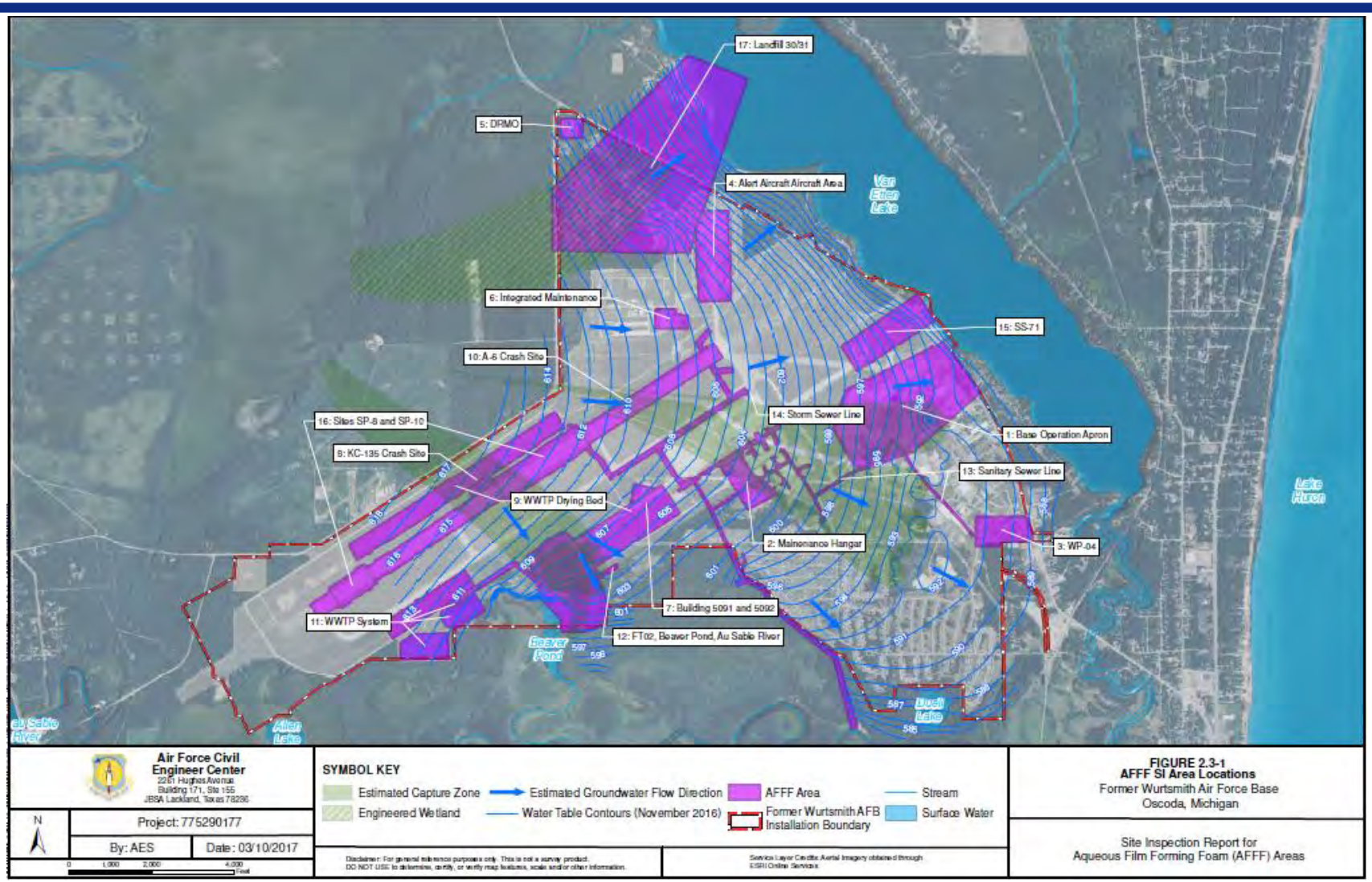
- Samples collected December 2015 and May/June 2016
- Sampled 52 Private wells and 2 public supply wells
- 1 detection above the Health Advisory (HA)
- Resident connected to City water supply

2017– Seasonal variations during peak pumping

- Samples collected August-September 2017
- Sampled 43 Private wells and 2 public supply wells
- 1 detection above the HA, resample showed results below HA
  - Well used for irrigation, not drinking water source

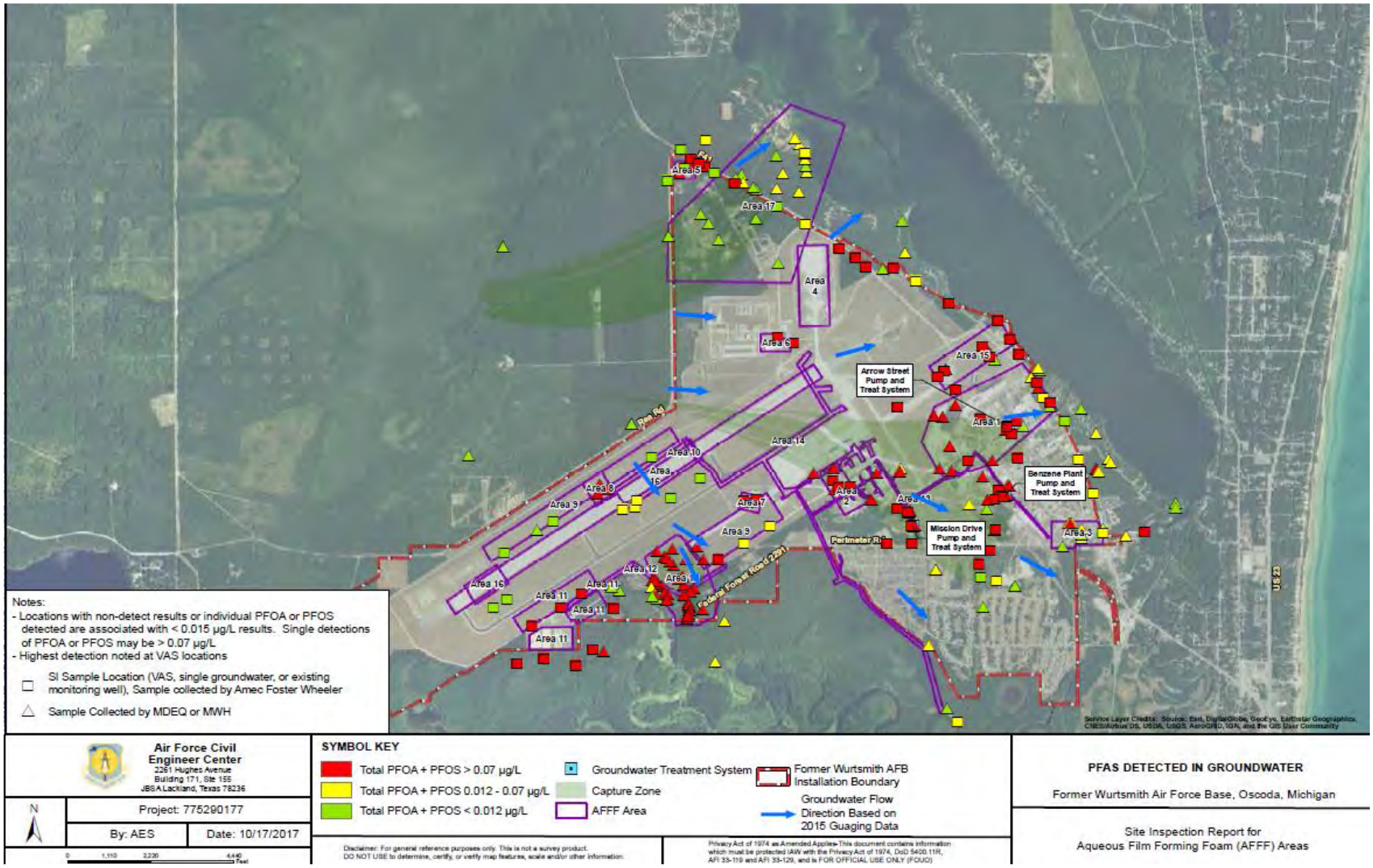
Attachment 2

Former Wurtsmith AFB Site Inspection



Attachment 2

Former Wurtsmith AFB Site Inspection Results



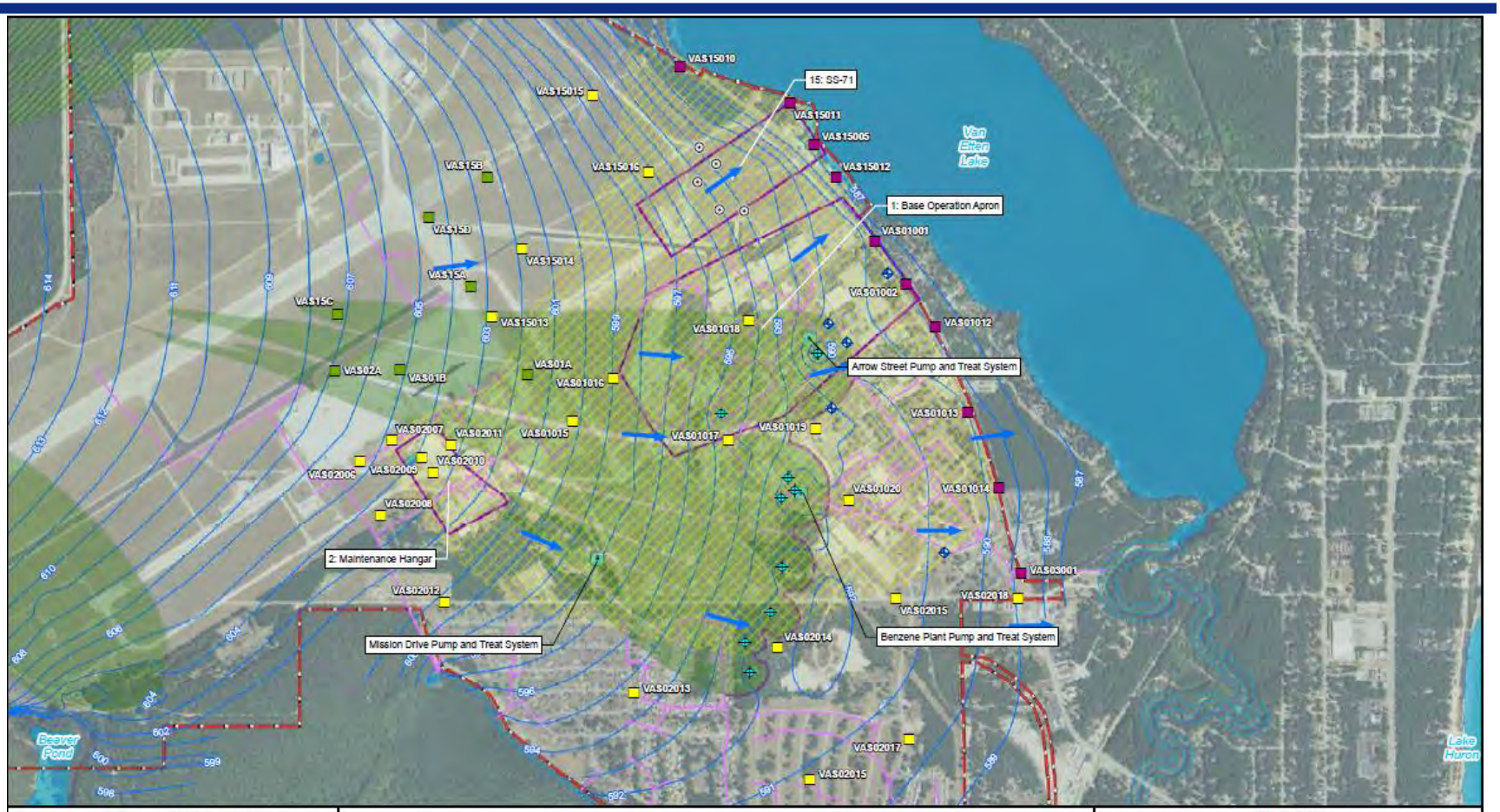
Attachment 2

Former Wurtsmith AFB
Expanded Site Evaluation: Phase 1 Areas

SI Area	Name	Rationale
1,15, 2	BOA, SS-71, Maintenance Hangar(s), WP-04	▪ PFOA and PFOS detected above HA in 2 downgradient private water wells; extent of plume not defined. ▪ VAS and monitoring well sampling indicates portions of plumes captured by Arrow Street; Benzene, and Mission Drive extraction system; however, capture and vertical extent at total depth of upper aquifer not defined.
12	FT-02	▪ Pump and Treat system reducing offsite migration to Clarks Marsh. ▪ Additional data needed to better define capture of plume to below HA for optimization of system.

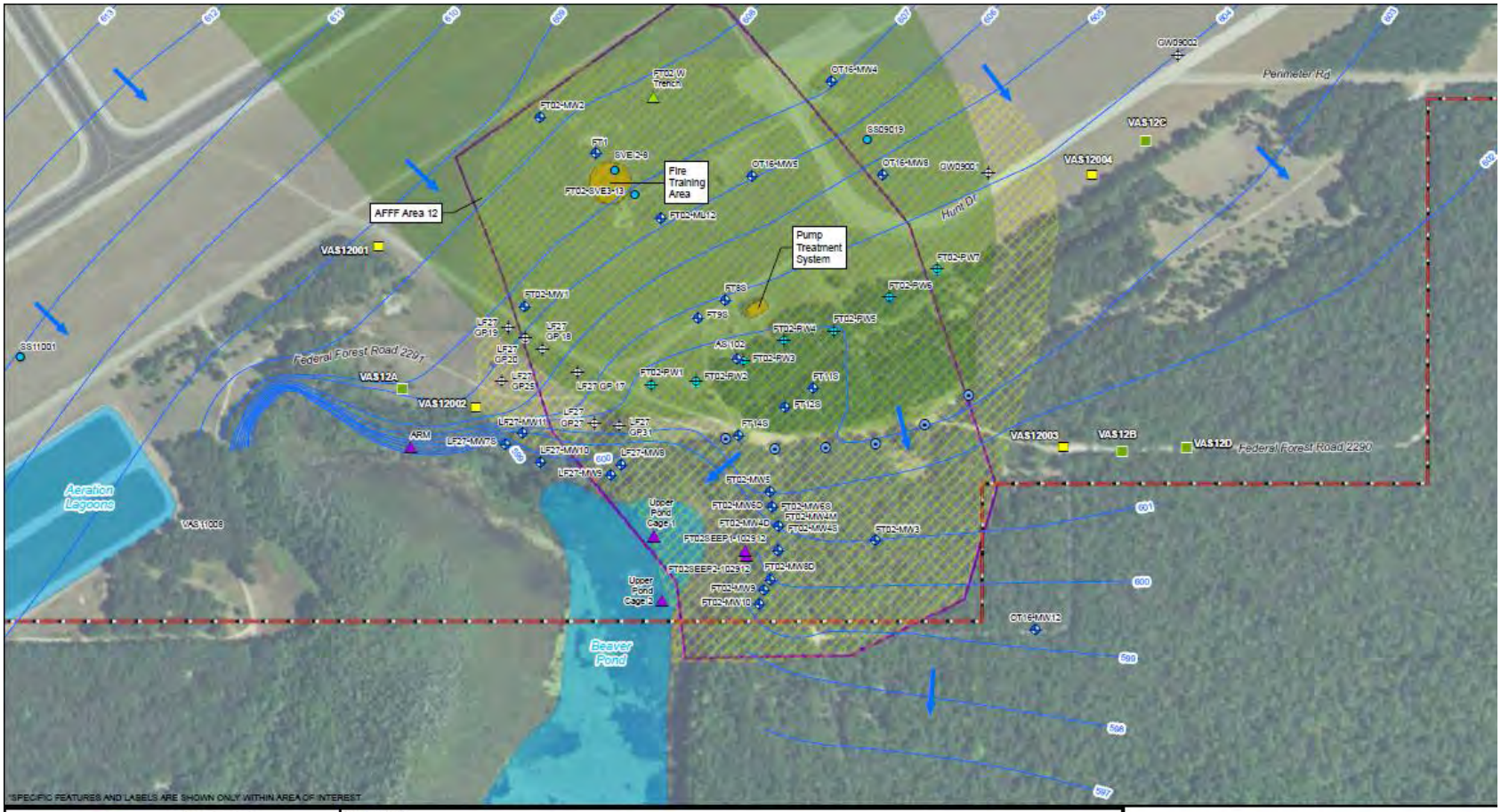
Attachment 2

Former Wurtsmith AFB
ESE: Areas 1,2 & 15



Attachment 2

Former Wurtsmith AFB
ESE: Area 12



Attachment 2

Former Wurtsmith AFB
FY18 Projects

PROJECT	DESCRIPTION	CURRENT STATUS	PROJECTED COMPLETION	STATUS CHANGE NOTES
New GAC treatment system *Aerostar	New treatment system will combine the Arrow Street and Benzene Plant influent streams and treat PFOS/PFOA using GAC treatment	Design on hold	October 2018	The location of the new system is under review following Oscoda Township and OWAA request for an alternate location.
Expanded Site Evaluation *AmecFW	ESE sampling will gather additional data to build on initial site inspection work. ESE work will define plume locations, potential movement and understand plume fate	Began sampling at areas 12 & 2 October 9-16. Sampling projected to take 6-7 weeks.	Phase 1: July 2019	
LF030/31 remedy enhancements	Incorporating recommendations from complex site investigation	Program development: pending funding	TBD	
Mission Street Influent/ Effluent monitoring	Influent/ Effluent monitoring for mission street PTS	Program development: pending funding	TBD	

Attachment 2

Former Wurtsmith AFB FY18 Projects cont.

PROJECT	DESCRIPTION	CURRENT STATUS	PROJECTED COMPLETION	STATUS CHANGE NOTES
Mission Street discharge mitigation	PTS Discharge Mitigation for PFOS/PFOA above surface water discharge limit	Program development: pending funding	TBD	
Remedial Action, Operation and Monitoring * Bay West	Central Region Performance Based Remediation. Ongoing remedial operations, monitoring, optimization, site closures and five-year review	Ongoing	Bay West contract completion: June 2021 (follow-on PBR)	
LF30/31 Hydraulic Gradient Control	Hydraulic Gradient Control to Prevent Leachate Migration. Feasibility study for phytoremediation	Program development: pending funding	TBD	
Remedial Action Site SS072 * Bay West PBR	Full-scale Enhanced Bioremediation implementation to treat PCE contamination	Ongoing	Initial injection following system construction, plus every 2 years	

Attachment 2

Health Advisory Overview

Attachment 2

RAB Business

Attachment 2
Attachment 2

Former Wurtsmith AFB RAB Business

- 19 Sep 2017 RAB orientation meeting minutes finalized
- Recommend date for next RAB meeting
- Meeting evaluation cards

Attachment 2

Public Comment

Attachment 2

Conclusion & Adjournment

Attachment 2

AIR FORCE ACRONYM LIST: WURTSMITH RAB

AF – Air Force

AFB – Air Force Base

AFCEC – Air Force Civil Engineer Center

AFFF – Aqueous Film Forming Foam

AFIMSC – Air Force Installation and Mission Support Center

AR – Administrative Record

ATSDR – Agency for Toxic Substances and Disease Registry

BCT – BRAC Cleanup Team

BEC – BRAC Environmental Coordinator

BRAC – Base Realignment and Closure

CERCLA – Comprehensive Environmental Response, Compensation and Liability Act

DERP – Defense Environmental Restoration Program

DoD – Department of Defense

DSMOA – Defense and State Memorandum of Agreement

EA – Environmental Assessment

EC – Emerging Contaminant

EIS – Environmental Impact Statement

EPA – Environmental Protection Agency

ERP – Environmental Restoration Program

ERD – Enhanced Reductive Dechlorination

ESE — Extended Site Evaluation

FAQs – Frequently Asked Questions

FOUO – For Official Use Only

FTA – Fire Training Area

GAC – Granulated Activated Carbon

GW – Groundwater

HA – Health Advisory

IR – Information Repository

IRP – Installation Restoration Program

LHA – Lifetime Health Advisory

LUC – Land Use Control

MDEQ – Michigan Department of Environmental Quality

MDHHS – Michigan Department of Health and Human Services

MMRP – Military Munitions Response Program

NEPA – National Environmental Policy Act

OP – Operating Procedures

PA – Preliminary Assessment

PFCs – Perfluorinated Compounds

PFOS/PFOA – Perfluorooctanesulfonic and Perfluorooctanoic Acids

PM – Project Manager

POL – Petroleum, Oil and Lubricant

PPB – Parts per Billion

PPT – Parts per Trillion

PTS – Pump and Treat Systems

RAB – Restoration Advisory Board

RAO – Remedial Action Objectives

RI – Remedial Investigation

ROD – Record of Decision

SC – Site Closure

SI – Site Inspection

TCE – Trichloroethene or Trichloroethylene

TRC – Technical Review Committee

VI – Vapor Intrusion

VOCs – Volatile Organic Compounds

WBT – Whole Base Transfer

Air Force PFOS/PFOA Snapshot

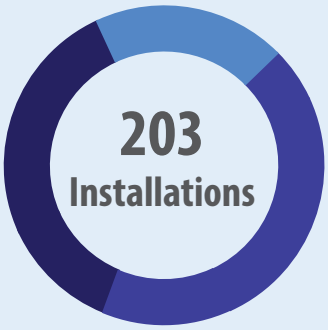
Perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) are synthetic fluorinated organic chemicals that were used in many industrial and consumer products such as nonstick cookware, stain-resistant fabric and carpet, some food packaging and specialized foam.

Commonly grouped with other synthetic fluorinated chemicals using the umbrella term Perfluorinated Compounds — or PFCs — PFOS and PFOA are the only two compounds of this group with established Environmental Protection Agency health advisories for drinking water.

Significant Information

- In 1970, the Air Force began using the firefighting agent Aqueous Film Forming Foam, or AFFF, which contained both PFOS and PFOA.
- AFFF is the most efficient extinguishing method for petroleum-based fires and is widely used across the firefighting industry, to include all commercial airports, to protect people and property.
- On May 19, 2016, the Environmental Protection Agency established a lifetime health advisory (LHA) level of 70 parts per trillion for PFOS and/or PFOA in drinking water. The health advisory is non-regulatory and not enforceable; however, under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) it is used in the absence of standards to determine an acceptable level of PFOS/PFOA in drinking water.

IDENTIFY



39 BRAC
90 Active Duty/Reserve
74 Air National Guard

95%
Preliminary Assessment Reports Complete

190 Installations
Expected to Require Further Site Inspection

RESPOND

18
Installations

Ongoing Air Force Drinking Water Mitigation:

- Bottled water
- Whole-house filtration
- Municipal water supply hookup
- Alternate water supplies

$154.7M PFOS/PFOA Actions to date investigations | mitigations

BRAC
K.I. Sawyer
March
Pease
Plattsburgh
Wurtsmith

ACTIVE/RESERVE
Dover
Eielson
Ellsworth
Fairchild
JB Cape Cod
JB McGuire-Dix-Lakehurst
Mountain Home
New Boston
Peterson
Wright-Patterson

ANG
Horsham
Toledo
Gabreski

PREVENT

173/176
Installations transitioned to new C6 AFFF

$4.7M
Cost for ecologic system kits for fire vehicles

15.7%
Installations finished retrofitting vehicles with ecologic system kits

979,000
Gallons of legacy AFFF incinerated

$10.8M
Cost to date to replace and incinerate legacy AFFF in stockpiles and fire trucks

Attachment 4

Current as of 12 October 2017

1-866-725-7617 • (210) 925-0956 • afcec.pa@us.af.mil • www.afcec.af.mil

Installations Status Update

On-base Drinking Water Mitigation

1. Mountain Home AFB, ID
Two on-base drinking water wells tested above the LHA; wells taken offline and bottled water provided

2. New Boston AFS, NH
One on-base drinking water well above LHA; well taken offline.

3. Wright-Patterson AFB, OH
Two on-base drinking water wells tested above the LHA; wells taken offline and filtration systems installed

Off-base Drinking Water Mitigation

4. Dover AFB, DE
One off-base residential well result above LHA; filtration system provided

5. Ellsworth AFB, SD
One off-base residential well result above LHA; connected to base water supply

6. Fairchild AFB, WA
Two municipal wells tested above LHA; wells taken offline. 58 off-base residential wells tested above LHA; bottled water provided

7. Former K.I. Sawyer AFB, MI
One residential well tested above LHA; bottled water provided

8. Former March ARB, CA
Two off-base residential wells tested above the LHA; providing alternate drinking water source; one municipal well shut off

9. Former Pease AFB, NH
One public well shut off; filtration systems installed at 4 residences; 1 residence provided bottled water

10. Former Plattsburgh AFB, NY
Three off-base residences provided filtration systems; 1 off-base residence provided bottled water

11. Former Wurtsmith AFB, MI
One off-base residence connected to municipal water supply

12. Gabreski ANGB, NY
County wells tested above LHA; AF negotiating a cooperative agreement with Suffolk County; One residential well tested above LHA; ANG took over providing bottled water from the city to the residence

13. JB Cape Cod, MA
17 residential wells and one public water supply well tested above LHA; 74 off-base residences provided bottled water, 13 filtration systems installed

14. Peterson AFB, CO
Addressing concerns of local drinking water purveyors. 31 municipal wells tested above LHA; wells taken offline, 5 back on line with treatment systems. 83 private wells tested, 39 tested above LHA; 67 off-base locations provided bottled water; 26 residences provided filtration systems

15. Toledo ANG, OH
One off-base residential well above LHA; ANG provided bottled water and working with county on a cooperative agreement to hook the residence up to municipal water

Both On-base and Off-base Drinking Water Mitigation

16. Eielson AFB, AK
On-base drinking water well taken offline. 169 off-base wells tested above LHA; 163 filtration systems installed, remaining residences provided bottled water

17. Horsham ANG, PA
Under Administrative Order. Two on-base drinking water wells tested above the LHA; temporary carbon filtration installed and bottled water provided. 59 off-base private wells and five municipal wells tested above the LHA. Currently providing alternate water sources to surrounding townships while carbon filtration systems are constructed

18. JB McGuire-Dix-Lakehurst, NJ
Two on-base backup wells tested above the LHA; wells taken offline. Three off-base wells above LHA; 3 filtration systems installed. Evaluating connection to municipal water lines as permanent solution

Other Mitigation Actions

19. Barnes ANGB, MA
Two municipal wells tested above LHA; wells taken offline. One private well tested above LHA. State providing alternate water source to 3 off-base residences

20. Burlington ANG, VT
Non-drinking water (agricultural) water leachate at off-site private well tested above the LHA; State installed carbon filtration treatment

21. Former Chanute AFB, IL
Non-drinking water: leachate being treated for discharge to wastewater treatment plant

22. Joe Foss Field, SD
10 public wells above LHA; Alternate water supply provided by other public wells

23. Martinsburg ANG, WV
One municipal well above LHA taken offline; AF negotiating a cooperative agreement; pending legal review

24. Former Mather AFB, CA
Non-drinking water: effluent from pump and treat system being treated prior to re-injection near private wells

25. New Castle ANG, DE
11 municipal wells tested above LHA

26. Stewart ANG, NY
City of Newburgh drinking water reservoir above LHA. AF negotiating a cooperative agreement; pending legal review

Attachment 4

Current as of 12 October 2017

AIR FORCE BRAC PROGRAM SNAPSHOT
FORMER WURTSMITH AFB

Wurtsmith Air Force Base, Michigan, served primarily as a combat crew and bomber training base from 1923 through its closure in June 1993 under Base Realignment and Closure legislation. The Air Force is committed to transparency and working with Michigan regulators and community stakeholders to protect human health and promote environmental awareness and economic opportunities for sustainable development.

EMERGING CONTAMINANTS: PFOS/PFOA

Perfluorinated compounds are a class of synthetic fluorinated organic compounds used in many industrial and consumer products — to include aqueous film forming foam used by commercial industries and the armed services to extinguish petroleum-based fires. In 1970, the Air Force began using Aqueous Film Forming Foam, which contains perfluorooctanesulfonic and perfluorooctanoic acids, or PFOS and PFOA, to extinguish petroleum fires to protect people and property.

On May 19, 2016, the Environmental Protection Agency established lifetime health advisory levels of 70 parts per trillion for PFOA and PFOS in drinking water. These two compounds are classified as emerging contaminants due to evolving regulatory standards.

The Air Force is using a comprehensive approach – identify, respond, prevent – to assess potential risk to drinking water, on and off installations, and respond appropriately.

AIR FORCE RESPONSE TO PFOS/PFOA AT WURTSMITH

The Air Force is committed to protecting human health on and around the former base and is working with regulators and community leaders to identify drinking water exposures above the EPA HA and address concerns.

The Air Force's investigation work and mitigation actions are guided by the Comprehensive Environmental Response, Compensation and Liability Act, or CERCLA, applicable state laws and the EPA's drinking water HA.

WURTSMITH AFB QUICK FACTS

4,354 | **274**

Acres Transferred | Acres Remaining

$77.31M
Cost-to-Date

→

$92.2 M
Cost-to-Complete

Redevelopment Supports...

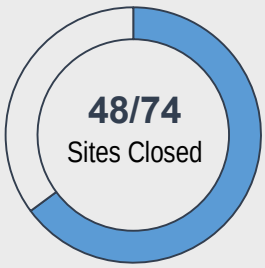
440+
Private businesses and public agencies

1,300
New jobs created

700
Privately owned residential homes

2020
Anticipated Whole Base Transfer date

Restoration Highlights:



- **555.7M** gallons of contaminated groundwater processed through pump and treat systems in 2016
- Implemented an engineered wetland system to effectively and sustainably treat landfill discharges (low-cost)
- **1,100** cubic yards of contaminated soil excavated, treated and backfilled to complete fuel cleanup at a KC-135 crash site
- Employed In-situ chemical injectionsto remediate chlorinated solvents in soil and groundwater, accelerating cleanup and site closures.

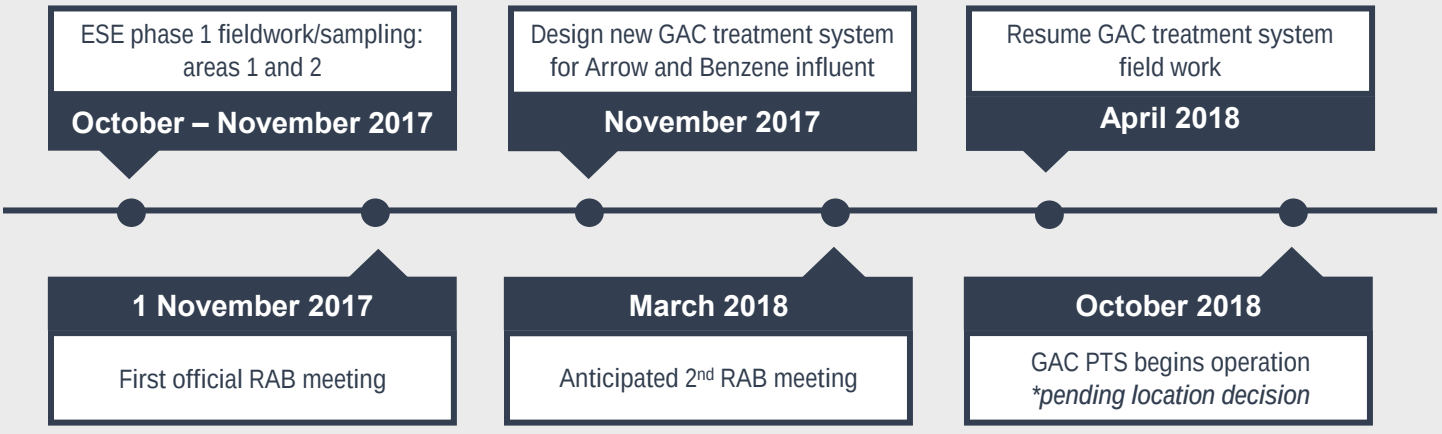
PFOS/PFOA Investigation

Preliminary Assessment (PA) Base-wide records review identifies fire training areas, crash sites and areas AFFF was stored, used or potentially released.	• AFCEC completed the PA in January 2016; 17 potential AFFF release areas were identified.
Site Inspection (SI) Groundwater, surface water, soil and sediment sampling is conducted for verification of presence or absence of PFOS/PFOA. If potential pathways exist to drinking water, AFCEC tests public water systems and private wells. Expanded Site Evaluation, or ESE, sampling can take place following initial SI work.	• AFCEC completed SI field work in 2016; SI sampling confirmed PFOS/PFOA contamination at 13 areas. SI fieldwork included 209 groundwater samples, 60 surface and/or subsurface soil samples, 14 sediment, five process water and four surface water samples. • AFCEC will conduct ESE sampling to define plume locations, potential movement and understand plume fate. ESE sampling will begin in fall 2017 for four priority areas.

Protecting Drinking Water Sources

Drinking Water Sampling Sampling is conducted to determine whether drinking water is impacted by PFOS/PFOA stemming from base mission activities.	• In Dec 2015/May 2016, AFCEC conducted private well sampling between the base, Van Etten Lake and Van Etten Creek, sampling 54 residential wells and two municipal wells. AFCEC resampled both municipal wells and 43 private wells Aug-Sep 2017.
Mitigation If sample concentrations exceed the EPA HA, the Air Force immediately provides an alternate drinking water source and takes measures to target the source and reduce risk.	• One private well exceeded HA during the first round of sampling. The Air Force provided bottled water and then connected the residence to a municipal supply. • In April 2015, AFCEC installed a pump and treat system at FT-02 to prevent further contamination of Clark's Marsh and the Au Sable River.

NEXT STEPS



The BRAC Program Management Division at AFCEC oversees environmental remediation and property transfer for the Air Force at 40 installations across 21 states to achieve recovery of asset value, early property disposal and early environmental resolution. To date, the program has transferred 97 percent of its 88,250 acre portfolio back to local communities.

For more information contact AFCEC/PA: 1-866-725-7617 | (210) 925-0956 | afcec.pa@us.af.mil | www.afcec.af.mil

Air Force Civil Engineer Center
Restoration Advisory Board
Comment Form

Former Wurtsmith AFB
Restoration Advisory Board Meeting
November 1, 2017

Thank you for serving on the Restoration Advisory Board for the former Wurtsmith AFB. Your service and participation is a key component in the restoration process. Your feedback will help us improve future RAB orientations, training sessions and meetings. Please take a moment to complete this short comment form. Leave completed forms at your seat at the end of the meeting or return to a member of AFIMSC Public Affairs. Thank you!

INSTRUCTIONS

Below is a guide for rating the effectiveness of the RAB orientation. Check the corresponding box that best describes your feelings about each statement listed:

MEETING EVALUATION

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Agenda content was comprehensive and relevant.	☐	☐	☐	☐	☐
Presenters were effective.	☐	☐	☐	☐	☐
Satisfied with meeting venue and set-up.	☐	☐	☐	☐	☐
Overall, the meeting was worthwhile.	☐	☐	☐	☐	☐

OVERALL FEEDBACK

STRENGTHS What is the idea/topic you heard during the orientation that you found the most valuable and/or would like to discuss more?	

OVERALL FEEDBACK

STRENGTHS What did you like best about the orientation?	
I**MPROVEMENTS** What did you like least about the orientation?	
I**MPROVEMENTS** What topics would you like to see discussed at future RAB orientations and training sessions? What specific topics do you think would be helpful to have training sessions on?	
ADDITIONAL COMMENTS Please leave any additional questions here regarding RAB processes and rules and/or the ongoing restoration activities at Wurtsmith.	

Do you wish to adopt the Former Wurthsmith AFB Restoration Advisory Board Operating Procedures? Please place a check mark ✓ next to your selection.

☐ Yes

☐ No

Do you wish to adopt the Former Wurthsmith AFB Restoration Advisory Board Operating Procedures? Please place a check mark ✓ next to your selection.

☐ Yes

☐ No

Do you wish to adopt the Former Wurthsmith AFB Restoration Advisory Board Operating Procedures? Please place a check mark ✓ next to your selection.

☐ Yes

☐ No

Do you wish to adopt the Former Wurthsmith AFB Restoration Advisory Board Operating Procedures? Please place a check mark ✓ next to your selection.

☐ Yes

☐ No

Do you wish to adopt the Former Wurthsmith AFB Restoration Advisory Board Operating Procedures? Please place a check mark ✓ next to your selection.

☐ Yes

☐ No

Former Wurtsmith Air Force Base (AFB)
Restoration Advisory Board (RAB) Meeting

Community Co-chair Election Summary Sheet

1 November 2017
5:30 – 8:11 pm Eastern Daylight Time
Robert J. Parks Library
6010 N. Skeel Ave., Oscoda Township, MI 48750

RAB Members who voted in election:

Joseph Plunkey

Catherine Larive (alternate community member representing Joseph Maxwell)

Cathy Wusterbarth

Matthew Hegwood

Ryan Mertz

Robert Tasior

William 'Bill' Gaines

Jerry Schmidt

Arnie Leriche

Please place a check mark ✓ next to your selection for the Former Wurthsmith AFB Restoration Advisory Board Community Co-Chair or write in the name of the candidate of your choice.

☐ Robert Tasior

☒ Arnie Leriche

☐ _____

Please place a check mark ✓ next to your selection for the Former Wurthsmith AFB Restoration Advisory Board Community Co-Chair or write in the name of the candidate of your choice.

☐ Robert Tasior

☒ Arnie Leriche

☐ _____

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☐ _____

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☐ _____

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☑ Arnie Leriche

☐ _____

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☒ Robert Tasior

☐ Arnie Leriche

☐ _____

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☑ Robert Tasior

☐ Arnie Leriche

☐ _____

Please place a check mark ✓ next to your selection for the Former Wurthsmith AFB Restoration Advisory Board Community Co-Chair or write in the name of the candidate of your choice.

☒ Robert Tasior

☐ Arnie Leriche

☐ _____

Former Wurtsmith AFB Restoration Advisory Board Action Item Tracker
OPEN ACTION ITEMS
Updated as of 11/1/17

No.	Date Created	Action Item	Comments/Resolution	Status	Owner	Due Date
1	2-Aug-17	Properly orient attendees to maps and figures when they are presented at RAB meetings and ensure that they are easily viewable.		Open	All presenters	Ongoing
2	2-Aug-17	When presenters discuss the EPA's Heath Advisory for PFOS/PFOA or other regulatory standards, indicate what environmental media they are talking about (ex: groundwater, surface water, soil, air, etc.)		Open	All presenters	Ongoing
3	2-Aug-17	When presenters discuss PFOS/PFOA levels, convert all measurements into parts per trillion.		Open	All presenters	Ongoing
4	19-Sep-17	At each RAB meeting the Air Force will update RAB members about which documents have been added to the AR since the last meeting.		Open	Air Force (M. Marrs)	Ongoing
5	19-Sep-17	The RAB should request that the next MDHHS public meeting be held in coordination with the November RAB meeting. So if the RAB is scheduled for November 1, the MDHHS should be held on November 2.		Proposed for Closure	Air Force	2-Nov-17
6	1-Nov-17	Include revision date on draft operating procedures.		Open	Air Force (M. Marrs)	Ongoing
7	1-Nov-17	Send meeting presentations electronically to RAB members.		Open	Air Force	Ongoing
9	1-Nov-17	Send MDHHS presentation to RAB members electronically.		Open	MDHHS (C. Bush)	Before next RAB
10	1-Nov-17	Clarify for RAB members the PFAS historical timeline, purpose, schedules, and locations of the GAC unit(s) [Arrow St and Benzene pump and treat systems]. Describe the information the Air Force has provided to the community about siting the GAC unit(s).		Open	Air Force (M. Marrs)	Before next RAB meeting

EPA's Lifetime Health Advisory for PFAS in Drinking Water and How MDHHS Uses It

November 1, 2017 RAB Meeting for Former Wurtsmith AFB

Christina Bush, MDHHS

Attachment 11

Outline of presentation

- EPA’s numbers
- Other states’ numbers
- MDHHS decision process at sites
- ATSDR’s “Site Categorization” tool
- The last word?

The LTHA

- 70 ng/L = 70 ppt
- Applies to PFOA and PFOS alone/in combination
- Critical effects = developmental (rodent studies)
- Other effects
  - Animal studies: liver, kidney toxicity
  - Human studies: cholesterol, immune system, thyroid, preeclampsia, reproductive, developmental, some cancers
- No other PFAS have LTHAs
- Where does DEQ's "Rule 57" number of 12 ppt for PFOS come from?

What about other states?

- Some higher, some lower
- Uncertainties
  - Lab animal genetics vs. human populations' genetics
  - What effects in animals could happen in humans?
  - Do effects on cells mean that harm to systems will result?

MDHHS decision process

- Conceptual Site Model is key
- Downgradient from known/suspected source?
- Detections? Exceedances?
- Rationale for “do not use for drinking/cooking” when <70 ppt
- POU (under sink) vs POE (whole house) filters
- Why is skin contact OK?
- Why is city water OK?

ATSDR's "Site Categorization" tool

- Considerations - Human exposure? Environmental data? Drinking water concentrations? Mitigating?
- Cat. 1 = PFOA+PFOS exceed LTHA, people exposed
- Cat. 2 = PFOA+PFOS exceed LTHA, people not exposed
- Cat. 3 = PFOA+PFOS don't exceed LTHA, other PFAS exceed 70 ppt
- Cat. 4 = PFOA+PFOS don't exceed 70 ppt, neither do other PFAS
- Cat. 5 = Exposure could happen but no drinking water data
- Cat. 6 = No drinking water exposure

The last word?

- Science continues to evolve
- Understanding of sites evolves

RAB Survey Feedback Summary

1 Nov 17 Wurtsmith RAB meeting

Meeting evaluation					
	Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**
Agenda content was comprehensive and relevant.		**1**		**8**	
Presenters were effective.			**1**	**6**	**2**
Satisfied with meeting venue and set-up.			**2**	**5**	**2**
Overall, the meeting was worthwhile.				**7**	**2**

Strengths	Improvements
Facilitation	**Clearer responses to questions**
Respect	**Meeting frequency and timeliness**
Good information provided	**Member participation**

Requests/Comments:

1. Agency updates at future meetings
2. Would like for each RAB member to provide more input into discussions
3. Frequency of meetings: monthly or some type of update in between quarterly
4. Updates on prior “closed meetings” between agencies
5. Timing not realistic
6. Long term goals
7. Possible phone line, travel may be difficult
8. Do away with formal break time