Meeting Minutes
Wurtsmith BCT Meeting
29 July 2020
Teleconference

Bay West Project No. J150073 | Meeting Date: Wednesday, 29 July 2020
Location: Teleconference | Meeting Time: 0900-1020 EST

MEETING ATTENDEES VIA TELECONFERENCE:

Dave Gibson	AFCEC	Lee Major	Cherokee Nation
Mark Weegar	Cherokee Nation	Andrea Keatley	MDHHS
Jeremiah Morse	AECOM	Puneet Vij	MDHHS
Paul Walz	Bay West	Dale Corsi	DLZ
Andrea Stawowy	Bay West	Dirk Pohlmann	Bay West
Charlie Bauer	EGLE- WRD – Bay City	Saamih Bashir	Wood
Mike Neller	EGLE- RRD – RRD Director, Lansing	Paula Bond	Aerostar
John Bradley	EGLE-RRD – Superfund Section, Lansing	Amanda Armbruster	EGLE- RRD – Bay City
Beth Place	EGLE-RRD – Superfund Section, Lansing		
Matt Baltusis	EGLE-RRD – Superfund Section, Lansing		
Brad Ermisch	EGLE-RRD – Compliance & Enforcement Section, Lansing		
David Kline	EGLE – RRD – Superfund Section Manager, Lansing		

The meeting was held via Skype. The meeting began at 0900 hours on 29 July 2020 and adjourned at 1020 hours. The meeting agenda is attached and posted to the Bay West Collaborative Website.

1. Opening Remarks

D. Gibson opened the meeting with a greeting and introductions. The meeting purpose was to discuss environmental restoration program work at the former Wurtsmith AFB.

2. Previous 24 June 2020 BCT Review

a. Just prior to the call B. Place forwarded EGLEs minor comments to the 24 June 2020 BCT Meeting Minutes. D. Gibson accepted all the edits. The minutes were posted as final to the Bay West Collaborative Website the same day. A copy was also placed in the Oscoda Township Library.

b. Action Items – EGLE

i. Review Wurtsmith UFP-QAPP and propose metrics that will be used for data quality assessment should QA/QC samples be collected by EGLE, including reconciliation if the agreed upon metrics are not achieved.

1. B. Place agreed to review the QAPP and the split sampling language. B. Place will draft a split sampling procedure for Air Force review and comment. The task is <u>not</u> to revise the QAPP. This task is in progress and should remain on the agenda.
2. B. Place asked if the Draft QAPP for CTS and MPTS will have an impact on the PFAS sampling? B. Place asked if the Bay West QAPP is the one, she should review. P. Bond stated that the 30 June 2020 QAPP covers CTS and MPTS system samples only. The Bay West QAPP is the correct one to review to address the split sampling process.

ii. Draft the CTS and MPTS Interim sampling plan or revised SRD.

1. T. Buckmaster is the lead on this task and he did not attend the call, or the previous two. C. Bauer stated that there is no update at this time, it is still being worked on. B. Place stated that the department is backlogged with requests. The hold-up is a

workload, new staff issue. B. Place will follow up after the meeting to get a timeline for the Air Force. D. Gibson asked if the Air Force should send EGLE the draft SRD. B. Place and C. Bauer both agreed it would be helpful.

2. Later in the meeting C. Bauer received an update from T. Buckmaster stating that the plan should be drafted before next month's BCT meeting. EGLE would still appreciate receiving the Air Force's proposed draft plan.

3. DOCUMENT SUBMISSION SCHEDULE AND STATUS

Only documents that have changed status since the previous BCT were discussed.

a. Draft 2017 LTM Annual Report (Bay West)
    i. Finalized 6 July 2020.
b. Draft 2018 LTM Annual Report (Bay West)
    i. Finalized 6 July 2020.
c. Draft 2018 PTS Annual Report (Bay West)
    i. Submitted for Air Force review 18 March 2020.
d. Draft Final SS-57 ESD (Bay West)
    i. EGLE concurred on 5 May 2020. Bay West will prepare a Draft Public Notice for Air Force review.
e. Draft SS-57 RA-C Report (Bay West)
    i. Posted to the Box.com on 6 July 2020, but EGLE didn't receive notice. Reposted on 16 July 2020, the 45-day review will start on 16 July 2020.
    ii. All future posts will be followed up with an email to EGLE to confirm receipt of the associated document.
f. Draft SS-17 Site Closure Technical Memorandum (Bay West)
    i. Site SS-17 Site Closure Memorandum will be posted to the Box.com after the Air Force comments are addressed.
g. Draft SS-72 Proposed Plan (Bay West)
    i. This document will be left on the agenda until a modification is processed which de-scopes this work from Bay West's contract.
h. Five-Year Review (Bay West)
    i. Document currently under Air Force review.
    ii. D. Gibson stated the Air Force has several bases with 5-Year Reviews underway, which complicates the review schedule/process, because of the required Air Force legal review. The Air Force is working on how to properly address PFAS in Five-Year Reviews.
i. VIAP Work Plan (Bay West / Wood)
    i. Submitted as final on 24 June 2020.
    ii. D. Gibson stated that the Air Force responses to EGLE comments will be added to the document for the record, they should be finalized soon.
    iii. B. Place asked if the Quarterly results have been received. D. Gibson stated the data has been evaluated and once it is reviewed it will be submitted to EGLE.
j. EE/CA MPTS (Aerostar)
    i. Currently under Air Force review.
k. MPTS/CTS UFP-QAAP (Aerostar)
    i. The QAPP was posted on 30 June 2020 for EGLE review. EGLE may need more time, as team members are getting internal authorization to access Box.com.

ii. B. Place stated the Operations and Maintenance Plan for CTS was posted on the Administrative Record, but EGLE was not notified. The Air Force commented that since it is a manual on how to operate the plant EGLE review was not necessary. In the future, the Air Force will let EGLE know when Operations and Maintenance Plans are posted. M. Neller asked if this was a new document or an updated one since CTS has been in operation for a while. P. Bond explained that Aerostar has been working on the manual since the system became operational, it was just posted as final. The O&M Manual covers the mechanical aspects of the system and the QAPP is focused on sampling.

l. 2019 Annual Reports (Bay West)
   i. LTM Annual Report is scheduled to be submitted to the Air Force in July 2020.
   ii. Systems Annual Report is scheduled to be submitted to the Air Force in August 2020.
   iii. PTS Annual Report is scheduled to be submitted to the Air Force in August 2020.

4. FIELD WORK UPDATE AND SCHEDULE

Bay West

a. FT-02 Carbon Change out
   i. The 20th GAC change out took place on 12 June 2020, 99 operational days since the last change out. The next changed out is tentatively scheduled for the week of 21 September 2020. Calgon carbon was the supplier for the last two change outs. Bay West is interested in comparing performance life with carbon from Cabot, the previous GAC supplier.

b. SS-57 RAWP Implementation
   i. The second injection took place 23-24 June 2020 and the third quarterly sampling event took place 20-28 July 2020.

c. FT-02 RAWP Implementation
   i. Bay West is working with the Air Force on a contract modification which is expected to be awarded in the next few weeks that will include removal of the concrete pad and transportation and disposal off-site. Once contract mod is awarded, Bay West will implement the FT-02 VOC source area RAWP. The goal is to complete the field work this calendar year.
      1. B. Place asked if the soil beneath the pad is impacted will the contaminants be captured by the treatment system? P. Walz explained that the approach is to treat the source area VOC impacts in groundwater. Any VOC impacted soil removed during IAB trench construction will be land farmed on site. J. Bradley asked for clarification because the point was brought up at the RAB if the soil beneath the pad has PFAS contamination will it be removed? P. Walz stated that soil removal is not part of the approved RAWP. Soil that does not need to be land farmed due to VOC impacts will be reused to backfill the IAB trenches. D. Pohlmann stated that the approved RAWP targets source area VOCs for treatment. PFAS are not target compounds for this effort. In the event PFAS groundwater concentrations increase during RAWP execution, they will be captured by the FT-02 PFOS/PFOS groundwater treatment system. Additionally, there is a line of transect wells between the planned IAB trenches and the purge wells that will be used to monitor changes in groundwater VOC and PFAS concentrations.

d. Engineered Wetlands Treatment System (EWTS)
   i. Due to seasonal fluctuations the iron and manganese exceeded the discharge criteria in June 2020. There were also manganese and iron exceedances in summers of 2015, 2018, and

2019. In the summer, the warm temperatures cause the ponds to go anaerobic which results in the dissolution of iron and manganese previously removed by the EWTS, particularly in Ponds 3 and 4.

ii. Bay West turned the EWTS off on 13 July 2020 and maintenance is presently underway. Maintenance is being performed in Ponds 2, 3, and 4.

1. Tree and brush removal around ponds.
2. Erroded areas on banks filled in with rock reomved from the ponds.
3. Ponds 3 and 4 impacted laterals will be cleared, rock used on the banks, and replaced with large washed stone.
4. Sludge measuremnets will be collected in Ponds 1 and 2.

e. Annual LTM groundwater monitoring

i. The RA-O LTM Annual sampling began in May 2020. Bay West will follow the approved 2019 Sampling Plan. Sites completed and remaining are listed on the agenda. FT-02 and OT-16 are the only sites remaining.

ii. B. Place asked about the timeframe for the FT-02 Annual RA-O groundwater monitoring event. P. Walz stated that Bay West is waiting for the award of the modification. After award the sampling will be scheduled, it is predicted to take place September/October 2020, Bay West will provide sampling dates to EGLE when the event is scheduled.

Bay West/Wood

f. VIAP Update

i. S. Bashir stated Q1 sampling was completed May/June 2020. The results have been submitted to the Air Force. The second quarter sampling is scheduled for the week of 24 August 2020.

Aerostar

g. Central Treatment System (CTS) Status

i. P. Bond stated the CTS is operating as designed, effluent results have not exceeded the SRD discharge criteria for PFOS or PFOA.

h. Mission Pump and Treatment System (MPTS) Status

i. P. Bond indicated the system is operating as designed, no significant O&M was performed in the last month, and no sampling exceedances.

ii. B. Place asked if the CTS and MPTS are sampling for the PFAS compounds with the new MCLs, and if they are below criteria. P. Bond stated that CTS and MPTS effluent samples are below criteria for 6 of the 7 compounds. The Gen X compound is not included in the analytical parameter list.

5. AIR FORCE UPDATES

a. LF-30/31 FS Status (FPM)

i. FPM sent EGLE a copy of the FS on 9 July 2020 for review. The Air Force has submitted the internal request for funding to advance the project from 30% to the final project.

b. OWAA 10 parcels

i. D. Gibson stated that the Air Force is working on the transfer of the 10 parcels to OWAA. The team is in place and once a current plan is established it will be shared.

c. MPTS EE/CA and Action Memorandum

i. The document was discussed previously in 3.j. It will be removed from the Agenda in this section and remain in the section 3.j.

d. Tentative schedule for the PFOS/PFOA RI, with milestones

i. D. Gibson stated they are working on a schedule and the goal is to have it prepared before the next BCT. A separate meeting will be held for the RA and RI.

e. RAB Update
   i. The RAB was held on 22 July 2020. The next meeting will be held mid-October 2020. M. Henry is the new co-chair, A. Leriche will continue as an active member.

f. Relative Risk Site Evaluation (RRSE) Training
   i. A slide show was presented by D. Gibson, it is attached to the meeting minutes. These slides will also be used for the next RAB meeting.
   ii. All RRSE worksheets will be posted to the Administrative Record and have a 30-day review period.
   iii. All sources will be investigated during the RI, and each source will have a Risk Assessment completed. D. Gibson stated that all Wurtsmith sites will be ranked "high". He does not see the worksheets changing the path of treatment. A briefing will be held very soon. EGLE will make comments during the public review period.

g. RI Meetings
   i. P. Bond is working on a schedule for meetings. If possible, a scooping meeting will be scheduled the week of 17 August 2020 to discuss risk assessment and preliminary information. The period of performance is short, and everything has to move quickly. The first documents produced will be the QAPP and the Proposed Plans for IRAs. B. Place will get back with P. Bond about the meeting dates prior to 10 August 2020. P. Bond commented that all meetings will be held via WebEx and figures and maps will be produced. M. Neller stated that EGLE has attended a few in person meetings, with social distancing being practiced. In person meetings can be considered if necessary. The Air Force has restricted travel, so they will not be able to attend any in person meetings in the near future.
   ii. P. Bond asked how she can get a copy of all the EGLE data. B. Place recommended using One Drive and doing a large data dump. P. Bond stated that any and all data will be appreciated. D. Gibson stated that the Air Force has standards for data, and it all needs to be evaluated to make sure it meets QAPP criteria. The lab reports will be necessary for this validation. If data does not meet QAPP standards it may still be used for qualitative purposes and used more as a guidance. B. Place asked if the Air Force was going to request a list of ARAR's. D. Gibson was unsure of the mechanism, but the Air Force will be requesting them.

6. EGLE RRD – SUPERFUND SECTION UPDATES

a. Other
   i. B. Place stated that EGLE is drafting reports to include data compiled from 2017 and 2018 investigations. Data has been presented at public meetings, but a formal report has not been drafted.

7. EGLE RRD – BAY CITY DISTRICT UPDATES

a. Kings Corner Road Dump – Known PFAS contamination site off Base.
   i. A. Armbruster informed the group the Township drafted a work plan, EGLE sent comments to the Township on the work plan but they have not responded.

b. Oscoda area sampling – Other areas where PFAS is being sampled off Base.
   i. A. Armbruster stated quarterly sampling was completed the week of 13 July 2020.

ii. The Oscoda area sampling refers to a group of wells installed from 2017 to 2018 off base to monitor PFAS plumes. The sites are all lumped into one group and contain wells in the areas of: Colbath, Oscoda High School (River Road), Smith Road and Kings Corner Dump.

8. EGLE WRD – UPDATES

a. SRD Update: Process to issue "replacement" SRD for CTS and MPTS
   i. T. Buckmaster is the lead and he was not on the call. Topic was discussed in the Action Items section ii.

b. Other – Surface water/fish sampling in area
   i. Brandon Armstrong provided an update at the PFAS coordination call in June 2020 and P. Vij provided the same update at the 21 July 2020 MPART Town Hall call.

c. Oscoda Township Wastewater Treatment Plan (WWTP) update
   i. C. Bauer confirmed that there is no change, the report is being drafted. Additional sampling is taking place at the WWTP.

9. MDHHS UPDATES

a. Residential Well sampling update
   i. P. Vij stated residential well sampling was completed at 272 locations. Not all results have been received but to date there are 92 locations that are non-detect, 83 locations had detections less than the MCLs, and 15 locations were higher than the comparison value. The team will be updated when data from all samples has been received.
   ii. B. Place asked if the residential well sampling data will be shared with the Air Force. A. Keatley stated that the request is still interpreted as a FOIA and it contains PII.
   iii. D. Corsi informed the group that the wash station was delivered to Oscoda Township last week and the water line has been run. It will be located near the boat launch and a 5 ft by 5 ft concrete pad will be completed next week. The wash station should be operational the first week of August.

10. Next Meetings:

a. BCT – 26 August 2020 0900 – 1100 EST
b. BCT – 23 September 2020 0900 – 1100 EST

11. ACTION ITEMS:

a. EGLE
   i. B. Place will review the Wurtsmith UFP-QAPP and propose metrics for assessing data quality for split samples and corrective actions if metrics are not met.
   ii. Draft CTS and MPTS Interim sampling plan or revised SRD

Air Force Civil Engineer Center

Draft Final

Relative Risk Site Evaluation (RRSE) Former Wurtsmith AFB, Michigan

David Gibson
AFCEC/CIBE

Day Month Year

Meeting Purpose and Goals

- **Communicate Department of Defense (DoD) Relative Risk Site Evaluation (RRSE) purpose and process**
- **Communicate Installation RRSE results**
- **Capture your concerns**

Agenda

- **What is the Relative Risk Site Evaluation (RRSE)?**
- **What is the framework to complete the RRSE?**
- **What restoration sites are required to be evaluated in the RRSE process?**
  - How is the Contaminant Hazard Factor (CHF) determined?
  - How is the Migration Pathway Factor (MPF) determined?
  - How is the Receptor Factor (RF) determined?
- **How is the media relative risk rating determined?**
- **How do I determine the Overall Site Category?**
- **Relative Risk Evaluation Summary and Installation Map**
- **How do I participate as Stakeholder?**

What is the Relative Risk Site Evaluation (RRSE)?

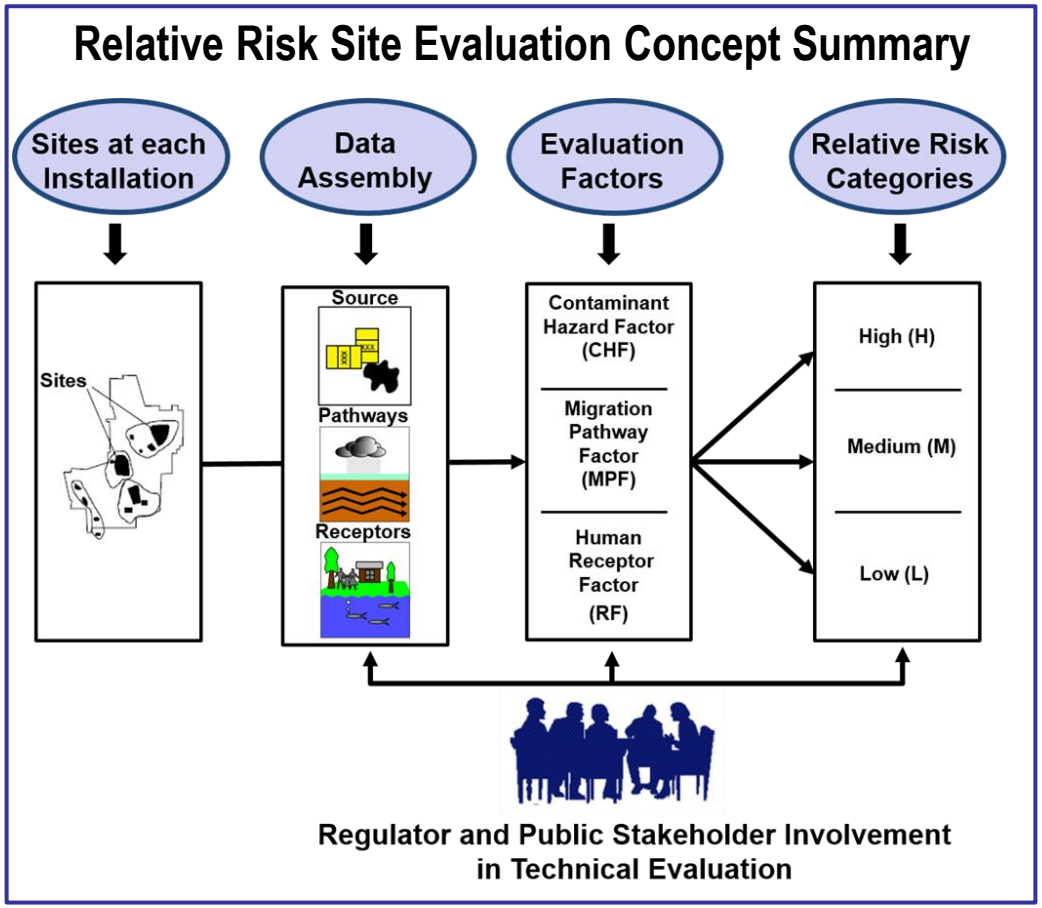
- **Used by the DoD as methodology to sequence environmental restoration work**
- **Used to evaluate the relative risk posed by an environmental restoration site in relation to other sites**
  - Considered important in the priority setting process but not sole factor
- **Described in the DoD, Relative Risk Site Evaluation Primer, Summer 1997 Revised Edition**

Goal of RRSE is to establish sequencing of sites with the premise of "worst first"

DoDM 4715.20, Defense Environmental Restoration Program (DERP), 9 Mar 2012, Incorporating Change 1, August 31, 2018; DoD, Relative Risk Site Evaluation Primer, Summer 1997 Revised Edition; https://www.denix.osd.mil/references/dod/policy-guidance/relative-risk-site-evaluation-primer/RRSE_Primer_Summer1997.pdf

What is the RRSE framework?

- **A DoD-wide approach for evaluating the relative risk to human health and the environment posed by contamination present at sites**
- **Based on information fundamental to risk assessment: sources, pathways, and receptors**

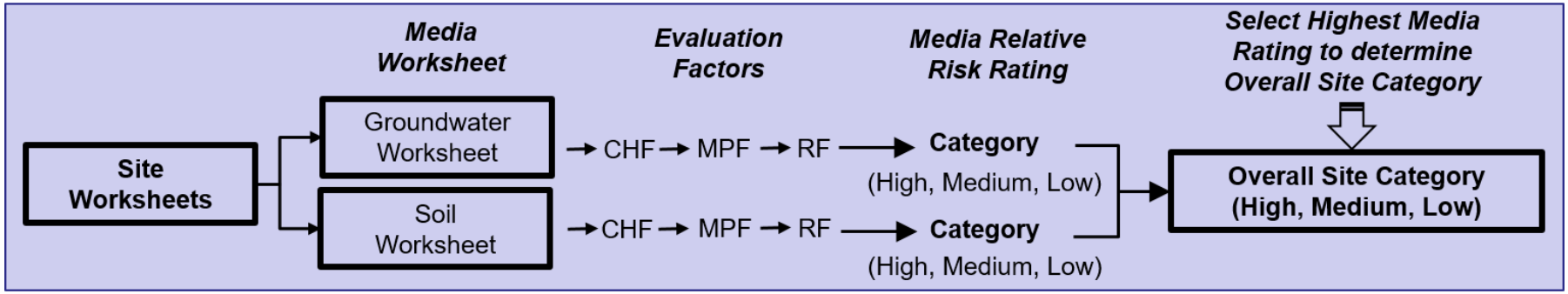


RRSE IS NOT A CERCLA RISK ASSESSMENT

DoD, Relative Risk Site Evaluation Primer, Summer 1997 Revised Edition CERCLA Comprehensive Environmental Response, Compensation, and Liability Act

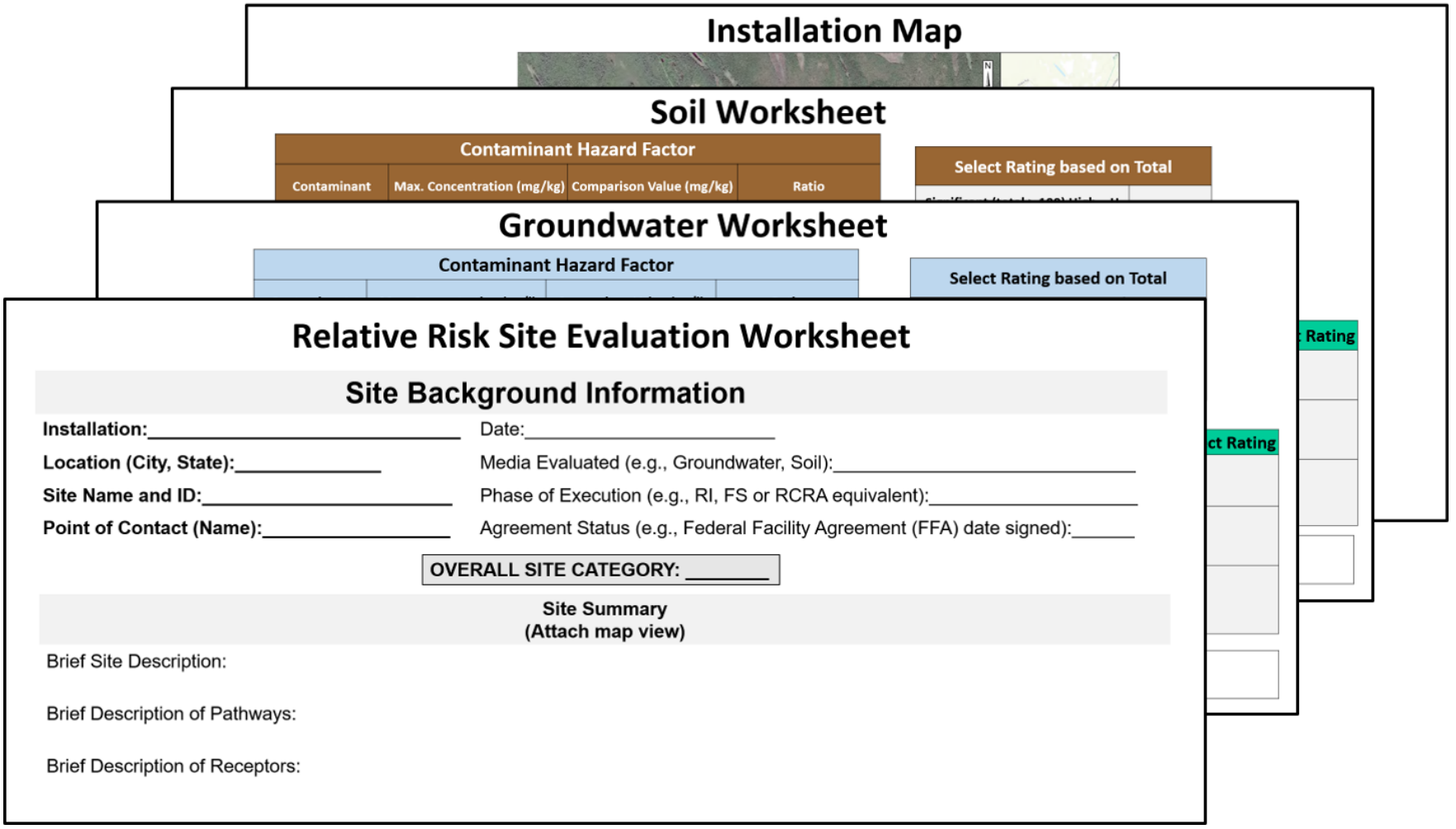
What restoration sites are required in the RRSE process?

- **Required for restoration sites in CERCLA phases prior to remedy-in-place**
- **Evaluated using Worksheets for environmental media (such as, groundwater and surface soil) at each site**
  - media lacking sufficient information to conduct a relative risk evaluation are assigned a "Not Evaluated" designation



DoD, Relative Risk Site Evaluation Primer, Summer 1997 Revised Edition

RRSE Worksheet Example



DoD, Relative Risk Site Evaluation Primer, Summer 1997 Revised Edition

Groundwater Worksheet Example

Groundwater Worksheet

Contaminant Hazard Factor			
Contaminant	**Max. Concentration (ug/l)**	**Comparison Value (ug/l)**	**Ratio**
PFOS	8.86	0.04	221.5
PFOA	2.26	0.04	56.5
PFBS	0.349	40	-
		Total Ratio	**278.0**

Select Rating based on Total	
Significant (total > 100) High – H	**H**
Moderate (total 2-100) – Medium – M	
Minimal (total <2) – Low – L	

Migration Pathway Factor (MPF)	Select Rating
Evident – High - H Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)	**H**
Potential – Medium - M Contamination in the groundwater has moved beyond the source or Insufficient information available to make a determination of Evident or Confined	
Confined – Low - L Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited	

Receptor Factor (RF)	Select Rating
Identified – High – H Impacted drinking water well above comparison value* or existing downgradient drinking water well within 4 miles per SI guidance	**H**
Potential – Medium - M No known drinking water wells downgradient and groundwater is currently or potentially usable for drinking water or source of water for other beneficial use	
Limited – Low - L No known drinking water wells downgradient; and groundwater is not considered to be potential source of drinking water and groundwater is of limited beneficial use	

Groundwater Category (High, Medium, Low)	**High**

DoD, Relative Risk Site Evaluation Primer, Summer 1997 Revised Edition

How is the Contaminant Hazard Factor (CHF) determined?

- **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)**
- **CHF ratings are designated by:**
  - High – CHF sum of greater than 100
  - Moderate – CHF sum of 2 to 100
  - Minimal – CHF sum is less than two

DoD, Relative Risk Site Evaluation Primer, Summer 1997 Revised Edition

How is the Migration Pathway Factor (MPF) determined?

- **Determined based on movement of contamination at a site**
- **Ratings for MPFs are designated as: evident, potential, or confined (for High, Medium, and Low)**
  - Evident - exposure to contamination is at a point where exposure to humans or the environment can occur, such as at a drinking water well
  - Potential - exposure to contaminant may occur at site
  - Confined - a low possibility for exposure may occur at the site

DoD, Relative Risk Site Evaluation Primer, Summer 1997 Revised Edition

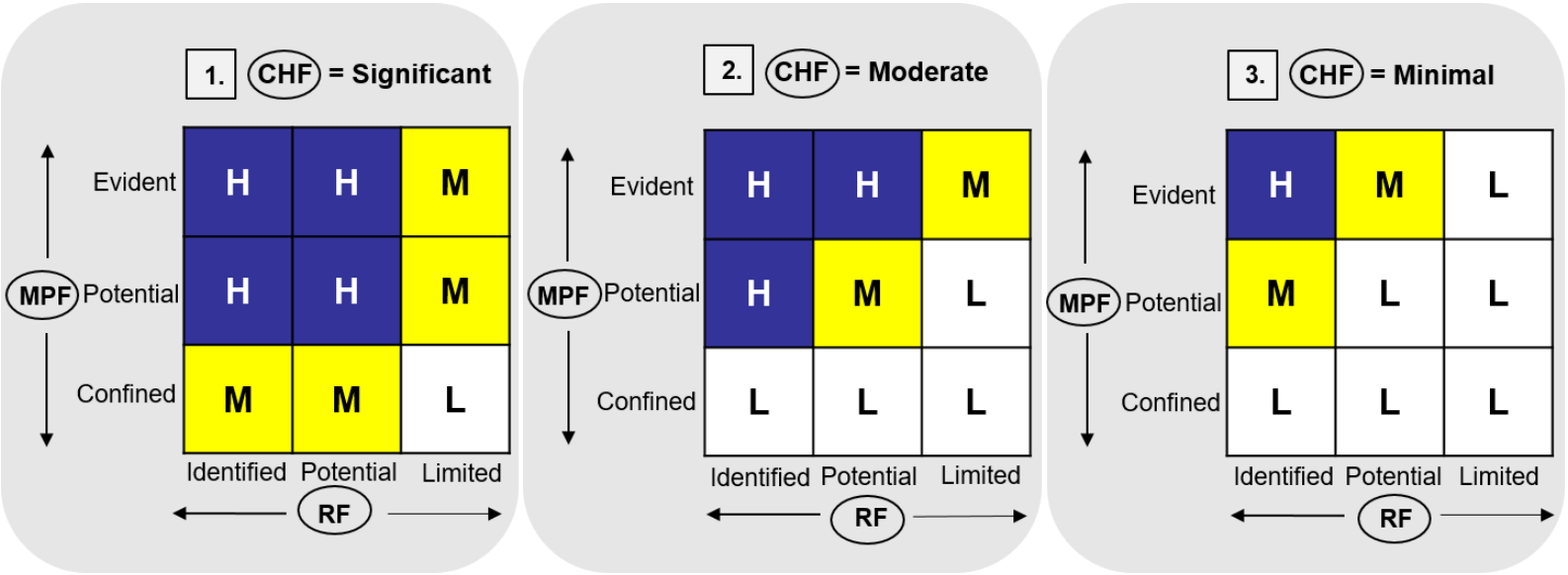
How is the Receptor Factor (RF) determined?

- **Determined by a receptor's potential to come into contact with contaminated media**
  - Groundwater Worksheet only evaluates Human as receptor
- **RFs are designated as: identified, potential, or limited (High, Medium, and Low)**
  - Identified – receptors are in contact or threat of contact with contaminated media
  - Potential – receptor may contact contaminated media
  - Limited – receptor has little or no contact with contaminated media

DoD, Relative Risk Site Evaluation Primer, Summer 1997 Revised Edition

How is the media relative risk rating determined?

- **Use the chart to determine the relative risk rating for each media evaluated**
  - Select box 1., 2.,or 3. based on the CHF result



  - Then find the MPF and RF results and move to the square where the results meet
    - That square indicates the media relative risk rating

CHF (Contaminant Hazard Factor) **MPF** (Migration Potential Factor) **RF** (Receptor Factor) **H** (High) **M** (Medium) **L** (Low)

DoD, Relative Risk Site Evaluation Primer, Summer 1997 Revised Edition

How do I determine the Overall Site Category?

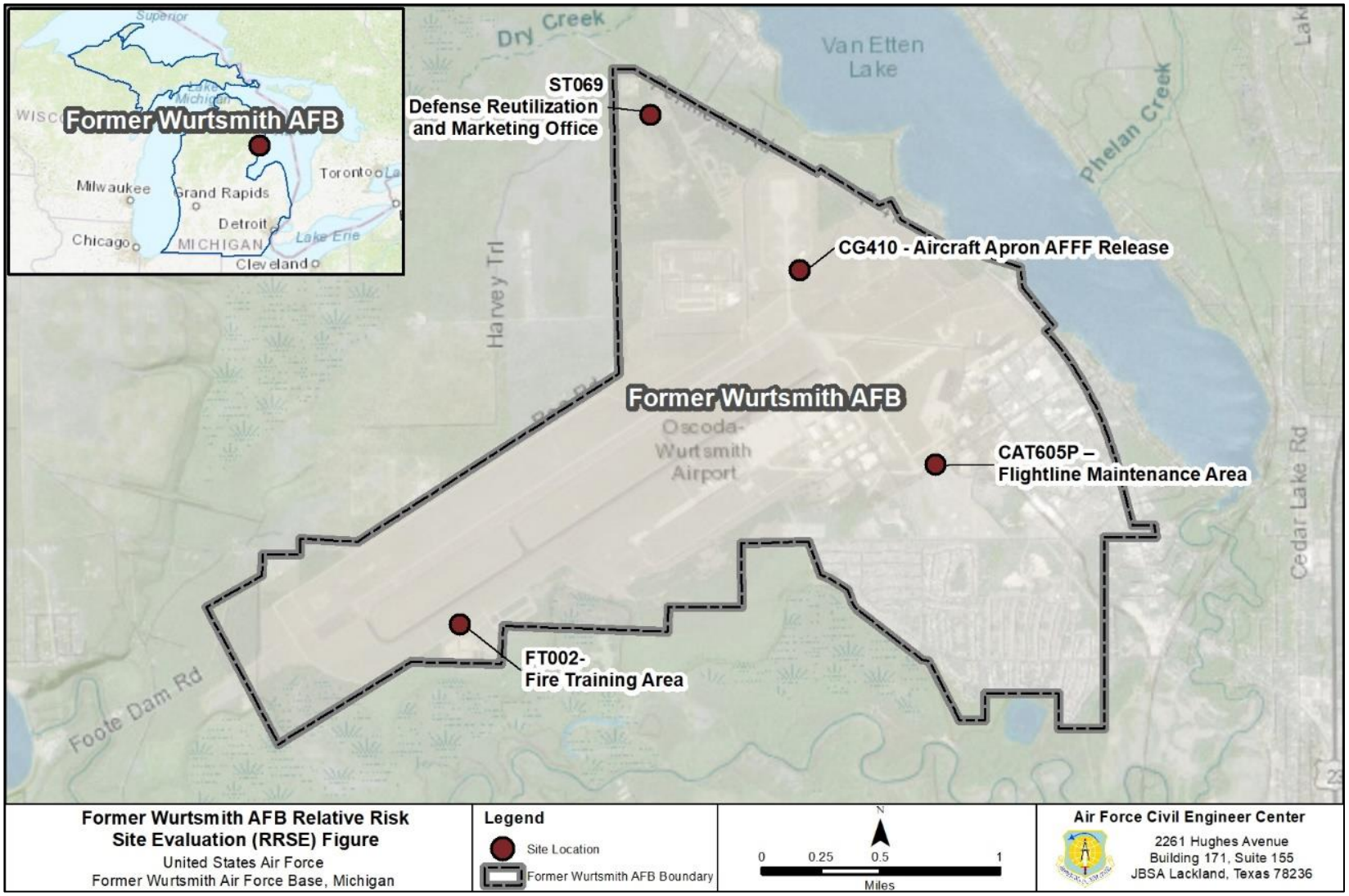
- **The highest relative risk media rating becomes the Overall Site Category for the site**
- **For example:**
  - If a site has a groundwater relative risk rating of High, and soil relative risk rating of Low
    - Then the Overall Site Category rating for the site is High

Relative Risk Evaluation Summary

- **Evaluated four sites in the RRSE**
  - All sites scored “High”

Former Wurtsmith AFB Sites in RRSE	OVERALL SITE CATEGORY		
	High	Medium	Low
ST069 - Defense Reutilization and Marketing Office	✓		
FT002 - Fire Training Area	✓		
CAT605P - Flightline Maintenance Area	✓		
CG410 - Aircraft Apron AFFF Release	✓		

Former Wurtsmith – Sites Location Map



How do I participate as Stakeholder?

- **Public Notice issued on [INSERT Public Notice Date]**
  - 30 day comment period
- **Provide your comments to:**
  - Air Force Installation Mission Support Center, Public Affairs
    - 1-866-725-7617 or 210-925-0956
    - AFIMSC.PA.workflow@us.af.mil
    - [INSERT Installation contact]
- **Provide your comments during our meeting**

RRSE Worksheets are located on the AFCEC CERCLA Administrative Record (AR) https://ar.afcec-cloud.af.mil/

Back Up

Former Wurtsmith AFB

RRSE Worksheets

Sites ST069, FT002, CAT605P, and CG410

RRSE Worksheet – Site ST069

Site Background Information			
Installation:	Former Wurtsmith AFB	**Date:**	7/9/2020
State:	Michigan	**Media Evaluated**	Groundwater
Site Name and ID:	Defense Reutilization and Marketing Office (DRMO) ST069	**Phase of Execution (e.g., RI, Record of Decision (ROD)**	Remedial Investigation (RI)
BEC's Name:	David Gibson	**Agreement Status (Federal Facility Agreement date signed)**	Not Applicable

OVERALL SITE CATEGORY: HIGH

	Site Summary
Brief Site Description:	Former Wurtsmith AFB is located in Oscoda, Michigan. Wurtsmith officially closed in June 1993. Site inspections were conducted from 2015 through 2020 to investigate an aqueous film forming foam (AFFF) storage area at DRMO for potential PFOS, PFOA, and PFBS contamination. A landfill was also investigated. PFOS and PFOA tested above the USEPA lifetime health advisory in groundwater. No surface soil samples were collected at the DRMO; therefore, surface soils were not evaluated in the RRSE.
Brief Description of Pathways:	The principal aquifer at the Installation is comprised of unconfined, poorly graded sand and gravel underlain by a silty clay. A groundwater divide runs diagonally across the Installation from northwest to southeast. South of the divide, groundwater flows towards the Au Sable River, and north of the divide groundwater flows toward Van Etten Creek and Van Etten Lake. Groundwater at ST069 flows to the northeast towards Van Etten Lake. Potential migration pathways to drinking water may exist at the site.
Brief Description of Receptors:	Drinking water wells are located within one mile downgradient of the site.

RRSE Worksheet – Site ST069, cont.

Groundwater Worksheet

Contaminant Hazard Factor			
Contaminant	Max. Concentration (ug/l)	Comparison Value (ug/l)	Ratio
PFOS	74.1	0.04	1852.50
PFOA	3.52	0.04	88.00
PFBS	0	40	0.00
		Total Ratio	1940.50

Select Rating based on Ratio	
Significant (>100) - H	H
Moderate (2-100) - M	
Mimimal (<2) - L	

Migration Pathway Factor	
Evident – High - H Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)	
Potential – Medium - M Contamination in the groundwater has moved beyond the source or Insufficient information available to make a determination of Evident or Confined	M
Confined – Low - L Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited	

Receptor Factor	
Identified – High – H Impacted drinking water well above comparison value* or existing downgradient drinking water well within 4 miles per SI guidance where groundwater is current source of drinking water	H
Potential – Medium – M 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 or source of water for other beneficial use	
Limited – Low – L No known drinking water wells downgradient, or groundwater is not considered to be potential source of drinking water and groundwater is of limited beneficial use (i.e., EPA Class III groundwater)	

Groundwater Category	High

RRSE Worksheet – Site ST069, cont.

Soil Worksheet

Surface soil were not sampled during the Site Inspection

Contaminant Hazard Factor			
Contaminant	Max. Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio
PFOS	0	0.126	0.00
PFOA	0	0.126	0.00
PFBS	0	130	0.00
		Total Ratio	0.00

Select Rating based on Total	
Significant (>100) - H	
Moderate (2-100) - M	
Mimimal (<2) - L	

Migration Pathway Factor	
Evident – High - H Analytical data or observable evidence that contamination is present at point of exposure in soil (e.g., bare soil)	
Potential – Medium - M Contamination has moved beyond the source, could move but is not moving appreciably, or insufficient information to make a determination of Evident or Confined	
Confined – Low - L Contamination unlikely to migrate (e.g., due to physical cover such as asphalt cover)	

Receptor Factor	
Identified – High – H Identified receptors with access to contaminated soil	
Potential – Medium – M Potential receptors with access to contaminated soil or insufficient data for Identified or Limited	
Limited – Low – L No potential for receptors have access to contaminated soil	

Soil Category	Not Evaluated

RRSE Worksheet – FT002

Site Background Information			
Installation:	Former Wurtsmith AFB	**Date:**	7/9/2020
Location (State):	Michigan	**Media Evaluated:**	Groundwater, Soil
Site Name and ID:	Fire Training Area FT002	**Phase of Execution (e.g., RI, Record of Decsion)**	Remedial Investigation (RI)
BEC's Name:	David Gibson	**Agreement Status (Federal Facility Agreement date signed)**	Not Applicable

OVERALL SITE CATEGORY: HIGH

Site Summary	
Brief Site Description:	Former Wurtsmith AFB is located in Oscoda, Michigan. Wurtsmith officially closed in June 1993. Site inspections were conducted from 2012 through 2020 to investigate aqueous film forming foam (AFFF) areas at the former fire training area for potential PFOS, PFOA, and PFBS contamination at site FT002. Other areas investigated included Clark's Marsh and the former wastewater treatment plant lagoon and seepage beds. PFOS and PFOA tested above the USEPA lifetime health advisory in groundwater and PFOS tested above the screening level in surface soils at Site FT002. In 2015 a groundwater treatment system began operating at the former fire training area to intercept PFOS and PFOA migration to Clark's Marsh.
Brief Description of Pathways:	The principal aquifer at the Installation is comprised of unconfined, poorly graded sand and gravel underlain by a silty clay. A groundwater divide runs diagonally across the Installation from northwest to southeast. South of the divide, groundwater flows towards the Au Sable River, and north of the divide groundwater flows toward Van Etten Creek and Van Etten Lake. Groundwater at FT002 flows to the south-southeast towards Clark's March and the Au Sable River. Potential migration pathways to drinking water may exist at the site. Surface soils above the screening level are potentially accessible.
Brief Description of Receptors:	Drinking water wells are located within one mile downgradient of the site. Surface soils are accessible to potential receptors.

RRSE Worksheet – FT002, cont.

Groundwater Worksheet

Contaminant Hazard Factor				
Contaminant	Max. Concentration (ug/l)	Comparison Value (ug/l)	Ratio	
PFOS	600	0.04	15000.00	Select Rating based on Ratio
PFOA	210	0.04	5250.00	Significant (>100) - H: H
PFBS	0	40	0.00	Moderate (2-100) - M:
		Total Ratio	20250.00	Mimimal (<2) - L:

Migration Pathway Factor	
Evident – High - H Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)	H
Potential – Medium - M Contamination in the groundwater has moved beyond the source or Insufficient information available to make a determination of Evident or Confined	
Confined – Low - L Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited	

Receptor Factor	
Identified – High – H Impacted drinking water well above comparison value* or existing downgradient drinking water well within 4 miles per SI guidance where groundwater is current source of drinking water	H
Potential – Medium – M 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 or source of water for other beneficial use	
Limited – Low – L No known drinking water wells downgradient, or groundwater is not considered to be potential source of drinking water and groundwater is of limited beneficial use (i.e., EPA Class III groundwater)	

Groundwater Category	High

RRSE Worksheet – FT002, cont.

Soil Worksheet

Use sample results from 0 to 2 feet below ground surface.

Contaminant Hazard Factor			
Contaminant	**Max. Concentration (mg/kg)**	**Comparison Value (mg/kg)**	**Ratio**
PFOS	0.38	0.126	3.02
PFOA	0	0.126	0.00
PFBS	0	130	0.00
		Total Ratio	3.02

Select Rating based on Total	
Significant (>100) - H	
Moderate (2-100) - M	M
Mimimal (<2) - L	

Migration Pathway Factor	
Evident – High - H Analytical data or observable evidence that contamination is present at point of exposure in soil (e.g., bare soil)	H
Potential – Medium - M Contamination has moved beyond the source, could move but is not moving appreciably, or insufficient information to make a determination of Evident or Confined	
Confined – Low - L Contamination unlikely to migrate (e.g., due to physical cover such as asphalt cover)	

Receptor Factor	
Identified – High – H Identified receptors with access to contaminated soil	
Potential – Medium – M Potential receptors with access to contaminated soil or insufficient data for Identified or Limited	M
Limited – Low – L No potential for receptors have access to contaminated soil	

Soil Category	High

RRSE Worksheet – CAT605P

Site Background Information			
Installation:	Former Wurtsmith AFB	**Date:**	7/9/2020
State:	Michigan	**Media Evaluated:**	Groundwater, Soil
Site Name and ID:	Flightline Maintenance Area CAT605P	**Phase of Execution (e.g., RI, Record of Decision (ROD)**	Remedial Investigation (RI)
BEC's Name:	David Gibson	**Agreement Status (Federal Facility Agreement date signed)**	Not Applicable

OVERALL SITE CATEGORY: HIGH

Site Summary	
Brief Site Description:	Former Wurtsmith AFB is located in Oscoda, Michigan. Wurtsmith officially closed in June 1993. Site inspections were conducted from 2015 through 2020 to investigate aqueous film forming foam (AFFF) areas including a former engine test cell, former base operation apron which includes three former fire stations, a former maintenance hangar, and former fire station and vehicle operations for potential PFOS, PFOA, and PFBS contamination. PFOS and PFOA tested above the USEPA lifetime health advisory in groundwater and PFOS tested above the screening level in surface soils at Site CAT605P. The Mission Street groundwater treatment system was upgraded in 2019 to meet the surface water discharge criteria for PFOS and PFOA.
Brief Description of Pathways:	The principal aquifer at the Installation is comprised of unconfined, poorly graded sand and gravel underlain by a silty clay. A groundwater divide runs diagonally across the Installation from northwest to southeast. South of the divide, groundwater flows towards the Au Sable River, and north of the divide groundwater flows toward Van Etten Creek and Van Etten Lake. Groundwater at CAT605P flows to the southeast. Potential migration pathways to drinking water may exist at the site. Surface soils above the screening level are potentially accessible.
Brief Description of Receptors:	Drinking water wells are located within one mile downgradient of the site. Surface soils are accessible to potential receptors.

RRSE Worksheet – CAT605P, cont.

Groundwater Worksheet

Contaminant Hazard Factor			
Contaminant	Max. Concentration (ug/l)	Comparison Value (ug/l)	Ratio
PFOS	171000	0.04	4275000
PFOA	3.74	0.04	93.50
PFBS	0	40	0.00
		Total Ratio	4275093.50

Select Rating based on Ratio	
Significant (>100) - H	H
Moderate (2-100) - M	
Mimimal (<2) - L	

Migration Pathway Factor	
Evident – High - H Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)	H
Potential – Medium - M Contamination in the groundwater has moved beyond the source or Insufficient information available to make a determination of Evident or Confined	
Confined – Low - L Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited	

Receptor Factor	
Identified – High – H Impacted drinking water well above comparison value* or existing downgradient drinking water well within 4 miles per SI guidance where groundwater is current source of drinking water	H
Potential – Medium – M 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 or source of water for other beneficial use	
Limited – Low – L No known drinking water wells downgradient, or groundwater is not considered to be potential source of drinking water and groundwater is of limited beneficial use (i.e., EPA Class III groundwater)	

Groundwater Category	High

RRSE Worksheet – CAT605P, cont.

Soil Worksheet

Use sample results from 0-2 ft. below ground surface

Contaminant Hazard Factor			
Contaminant	**Max. Concentration (mg/kg)**	**Comparison Value (mg/kg)**	**Ratio**
PFOS	0.483	0.126	3.83
PFOA	0	0.126	0.00
PFBS	0	130	0.00
		Total Ratio	3.83

Select Rating based on Total	
Significant (>100) - H	
Moderate (2-100) - M	M
Mimimal (<2) - L	

Migration Pathway Factor	
Evident – High - H Analytical data or observable evidence that contamination is present at point of exposure in soil (e.g., bare soil)	H
Potential – Medium - M Contamination has moved beyond the source, could move but is not moving appreciably, or insufficient information to make a determination of Evident or Confined	
Confined – Low - L Contamination unlikely to migrate (e.g., due to physical cover such as asphalt cover)	

Receptor Factor	
Identified – High – H Identified receptors with access to contaminated soil	
Potential – Medium – M Potential receptors with access to contaminated soil or insufficient data for Identified or Limited	M
Limited – Low – L No potential for receptors have access to contaminated soil	

Soil Category	High

RRSE Worksheet – CG410

Site Background Information			
Installation:	Former Wurtsmith AFB	**Date:**	7/9/2020
State:	Michigan	**Media Evaluated**	Groundwater
Site Name and ID:	Aircraft Apron AFFF Release CG410	**Phase of Execution (e.g., RI, Record of Decision)**	Remedial Investigation (RI)
BEC's Name:	David Gibson	**Agreement Status (Federal Facility Agreement date signed)**	Not Applicable

OVERALL SITE CATEGORY: HIGH

Site Summary	
Brief Site Description:	Former Wurtsmith AFB is located in Oscoda, Michigan. Wurtsmith officially closed in June 1993. Site inspections were conducted from 2015 through 2020 to investigate aqueous film forming foam (AFFF) areas including a former alert aircraft area and integrated maintenance area for potential PFOS, PFOA, and PFBS contamination. PFOS and PFOA tested above the USEPA lifetime health advisory in groundwater at Site CG410. Surface soils tested below the screening level; therefore, surface soils were not evaluated in the RRSE. In 2018, one private drinking water well tested above the USEPA lifetime health advisory for PFOS/PFOA and the home was connected to the public water supply. Other drinking water wells are sampled to monitor for PFOS/PFOA above the USEPA lifetime health advisory. The Central Treatment System was constructed in 2018 to treat PFOS and PFOA in groundwater captured by the Arrow and Benzene extraction wells in order to meet surface water discharge criteria.
Brief Description of Pathways:	The principal aquifer at the Installation is comprised of unconfined, poorly graded sand and gravel underlain by a silty clay. A groundwater divide runs diagonally across the Installation from northwest to southeast. South of the divide, groundwater flows towards the Au Sable River, and north of the divide groundwater flows toward Van Etten Creek and Van Etten Lake. Groundwater at CG410 flows to the east/northeast towards Van Etten Lake. Migration pathways to drinking water may exist at the site.
Brief Description of Receptors:	Drinking water wells are located within one quarter mile downgradient of the site. In 2018, one private drinking water well tested above the USEPA lifetime health advisory for PFOS/PFOA and the home was connected to the public water supply. Other drinking water wells are sampled to monitor for PFOS/PFOA above the USEPA lifetime health advisory.

RRSE Worksheet – CG410, cont.

Groundwater Worksheet

Contaminant Hazard Factor					
Contaminant	Max. Concentration (ug/l)	Comparison Value (ug/l)	Ratio		
PFOS	2.37	0.04	59.25	Select Rating based on Ratio	
PFOA	0.0729	0.04	1.82	Significant (>100) - H	
PFBS	0	40	0.00	Moderate (2-100) - M	M
		Total Ratio	61.07	Mimimal (<2) - L	

Migration Pathway Factor	
Evident – High - H Analytical data or direct observation indicates that contamination in the groundwater has moved to a point of exposure (e.g., well)	H
Potential – Medium - M Contamination in the groundwater has moved beyond the source or Insufficient information available to make a determination of Evident or Confined	
Confined – Low - L Analytical data or direct observation indicates that the potential for contaminant migration from the source via groundwater is limited	

Receptor Factor	
Identified – High – H Impacted drinking water well above comparison value* or existing downgradient drinking water well within 4 miles per SI guidance where groundwater is current source of drinking water	H
Potential – Medium – M 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 or source of water for other beneficial use	
Limited – Low – L No known drinking water wells downgradient, or groundwater is not considered to be potential source of drinking water and groundwater is of limited beneficial use (i.e., EPA Class III groundwater)	

Groundwater Category	High

RRSE Worksheet – CG410, cont.

Soil Worksheet

Use sample results from 0-2 ft. below ground surface

Contaminant Hazard Factor				
Contaminant	Max. Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio	
PFOS	0	0.126	0.00	Select Rating based on Total
PFOA	0	0.126	0.00	Significant (>100) - H
PFBS	0	130	0.00	Moderate (2-100) - M
		Total Ratio	0.00	Mimimal (<2) - L

Migration Pathway Factor	
Evident – High - H Analytical data or observable evidence that contamination is present at point of exposure in soil (e.g., bare soil)	
Potential – Medium - M Contamination has moved beyond the source, could move but is not moving appreciably, or insufficient information to make a determination of Evident or Confined	
Confined – Low - L Contamination unlikely to migrate (e.g., due to physical cover such as asphalt cover)	

Receptor Factor	
Identified – High – H Identified receptors with access to contaminated soil	
Potential – Medium – M Potential receptors with access to contaminated soil or insufficient data for Identified or Limited	
Limited – Low – L No potential for receptors have access to contaminated soil	

Soil Category	Not Evaluated


AIR FORCE CIVIL ENGINEER CENTER

29 July 2020

BCT Teleconference – Agenda

Wurtsmith AFB, Oscoda, MI

1. Air Force Opening Remarks/General Business Discussion

2. Previous BCT Meeting – 24 June 2020

a. Meeting Minutes – comments/approval

b. Action Items - EGLE

i. Review Wurtsmith UFP-QAPP and propose metrics for assessing data quality for split samples and corrective actions if metrics are not met.

ii. Draft CTS and MPTS Interim sampling plan or revised SRD.

3. Document Submission Schedule and Status

Document	Date submitted to EGLE	EGLE Review Status	Comments
Bay West			
Draft 2017 LTM Annual Report	11-21-18	Comments Rec'd 3/25/20	Submitted as final 6 July 2020
Draft 2018 LTM Annual Report	4-4-19	Comments Rec'd 3/25/20	Submitted as final 6 July 2020
Draft 2018 PTS Annual Report			Submitted to Air Force on 3/18/20
Draft Final SS-57 ESD	1-9-20		Received EGLE Concurrence on 05 May. Preparing Public Notice regarding document availability.
Draft SS-57 RA-C Report			Draft approved by Air Force. Was posted on Bay West's box.com account for EGLE review on 7/7/20.
Draft SS-17 Site Closure Tech Memo.			Will be posted on Bay West's box.com account for EGLE review after final Air Force comments are addressed.
Draft SS-72 Proposed Plan			Under Air Force review
Draft Five-Year Review			Submitted to Air Force on 3/23/20
Bay West / Wood			
VIAP Work Plan			Final VIAP Work Plan submitted 24 June 2020
Aerostar			
EE/CA MPTS			Under Air Force Review – anticipated public review period to begin July 2020
MPTS/CTS UFP-QAPP			Under Air Force Review – expected submittal to EGLE July 2020
Bay West - To be submitted			
Draft 2019 LTM Annual Report			Scheduled for submittal to Air Force in July 2020.
Draft 2019 Systems Annual Report			Scheduled for submittal to Air Force in August 2020.
Draft 2019 PTS Annual Report			Scheduled for submittal to Air Force in August 2020.

4. Field Work Update and Schedule

Bay West

a. FT-02 Carbon change out event was completed on 12 June 2020, approximately 99 operational days since the last change out. Next change out tentatively scheduled for the week of 21 September 2020.
b. SS-57 RAWP Implementation – The second injection was completed 23-24 June 2020. Quarterly performance monitoring sampling was completed the week of 20 July 2020.
c. FT-02 RAWP Implementation – Air Force Contract modification for the transportation and disposal of the concrete pad after it has been demolished is in process. Work will be scheduled once modification is awarded.
d. Engineered Wetlands Treatment System (EWTS)
   - Iron and manganese concentrations above treatment objectives detected in June 2020.
   - Both iron and manganese concentrations have the potential for concentration exceedances during the summer (e.g., 2015, 2018 and 2019).
   - EWTS was turned off on 13 July 2020 for maintenance work in Ponds 2, 3, and 4.
   - Scope of work is to fill rodent holes in Pond 2 berm, tree removal, and clean influent and effluent laterals in Ponds 3 and 4.
e. Annual RA-O groundwater monitoring began in May 2020. The previously approved 2019 Sampling Plan is being followed. 2020 IRP sites completed: LF-27, LF-30/31, OT-24, SS-05, SS-06, SS-08, SS-21, SS-72, SS-71, SS-57 and WP-04. 2020 remaining sites: FT-02 and OT-16.

Bay West/Wood

f. VIAP Update – Q1 field work started 4 May 2020 and was completed on 28 May 2020. 17 soil gas borings were installed and sampled. 25 vapor pins were installed in Building 5306 and sampled. Q2 sampling event is scheduled to start on 24 August 2020.

Aerostar

g. Central GAC Treatment System (CTS) Status
h. Mission Pump and Treat System (MPTS) Status

5. Air Force Updates

a. LF-30/31 FFS status update on RTCs for LNAPL FFS and the LF-30/31 30% Drainage Design.
b. OWAA 10 parcels
c. Mission Street EE/CA and Action Memorandum.
d. Tentative schedule for the PFAS RI, with milestones.
e. RAB Update
f. Relative Risk Site Evaluation (RRSE) Training

6. EGLE RRD - Superfund Section Updates

a. Other – RAB topics

7. EGLE RRD - Bay City District Updates

a. Kings Corner Road Dump - Known PFAS contamination site off Base.
b. Oscoda area sampling – Other areas where PFAS is being sampled off Base.

8. EGLE WRD Updates

a. SRD Update: Process to issue a "replacement" SRD for CTS and MPTS.
b. Other – Surface water/fish sampling in area
c. Oscoda Township Wastewater Treatment Plant Update: status of additional PFOS/PFOA sampling; actions related to PFOS/PFOA discharges to groundwater

9. MDHHS Updates

a. Residential Well sampling update

10. Schedule Next BCT Meeting

a. 26 August 2020 teleconference 0900-1100 ES