



# U.S. Environmental Protection Agency

## Safe Drinking Water Act

- Every five years the Unregulated Contaminant Monitoring Rule requires EPA to issue a list of 30 unregulated contaminants to be monitored by public water systems.
- The third Unregulated Contaminant Monitoring Rule was issued on May 2, 2012 which required monitoring for 30 contaminants (28 chemicals (including Perfluorinated Compounds PFCs) and two viruses). This monitoring provides a basis for future public health decisions.
- The 30 contaminants are collected from all Public Water Systems serving more than 10,000 people plus 800 representative Public Water Systems serving fewer than 10,000 people from January 2013 through December 2015.

# Where are PFCs found?

## PFCs = PFAS/PFOA

### Surface Treatment

- Carpet Protector
- Fabric/upholstery protector
- Apparel and leather protector
- Protective products for consumer applications



### Paper and Packaging Protectors

- Food packaging
- Paper products



### Performance Chemicals

- Fire Extinguishing foam concentrates
- Mining and oil surfactants
- Electroplating and etching bath surfactants
- Household additives
- Chemical intermediates
- Coatings and Coating Additives
- Carpet spot cleaners
- Insecticides raw materials



# National Guard Bureau Drinking Water Program 2016 DATA CALL

- Identify drinking water source at every training facility, camp, fort and armory.
- Identify water sources that have analyzed their water for PFCs or have submitted samples as part of U.S. EPA third Unregulated Contaminant Monitoring Rule.
- Identify potential areas of PFC use such as firefighting training sites or historic fire incidents.





# Michigan Army National Guard

## Construction and Facilities Management Office - Environmental Section

- Identified drinking water sources for all installations in Michigan.
- Investigated potential PFC containing materials, fire training and historic fire incidents. Identified historic Fire Crash/Rescue training site at the Grayling Army Air Field.
- Collected five PFC samples from ongoing TCE cleanup operation at Grayling Army Air Field. Analytical problem made sample data questionable.
- Collected ten additional samples at same and additional TCE monitoring wells.
- Detected PFCs in some of the samples. Decision was made to set 20 wells along fence line to determine extent of PFCs. Groundwater samples were collected at same depth of residential wells, half way between first sample and the top of the groundwater and at the top of groundwater or water table.



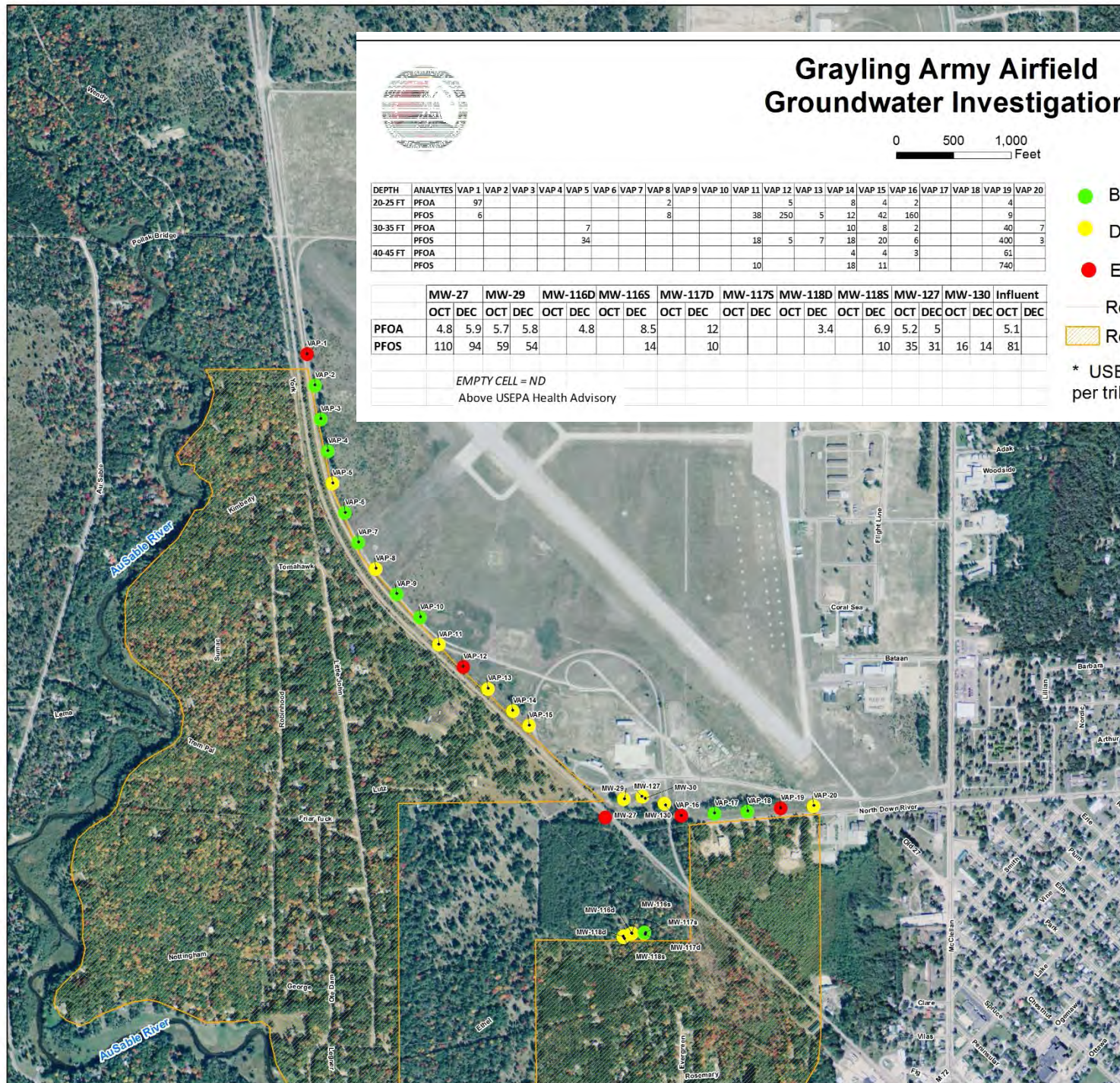


20 - wells installed along fence line

60 - groundwater samples collected

29 - samples positive for PFCs

5 - exceed U. S. EPA health advisory



### Grayling Army Airfield Groundwater Investigation

DEPTH	ANALYTES	VAP 1	VAP 2	VAP 3	VAP 4	VAP 5	VAP 6	VAP 7	VAP 8	VAP 9	VAP 10	VAP 11	VAP 12	VAP 13	VAP 14	VAP 15	VAP 16	VAP 17	VAP 18	VAP 19	VAP 20	
		20-25 FT	PFOA	97						2	8			38	250	5	12	42	160			9
	PFOA	6													10	8	2				40	7
30-35 FT	PFOA					7															400	3
	PFOA					34						18	5	7	18	20	6				61	
40-45 FT	PFOA														4	4	3				740	
	PFOA											10			18	11						

	MW-27		MW-29		MW-116D		MW-116S		MW-117D		MW-117S		MW-118D		MW-118S		MW-127		MW-130		Influent	
	OCT	DEC	OCT	DEC	OCT	DEC	OCT	DEC	OCT	DEC	OCT	DEC	OCT	DEC	OCT	DEC	OCT	DEC	OCT	DEC	OCT	DEC
PFOA	4.8	5.9	5.7	5.8	4.8		8.5		12				3.4		6.9		5.2	5			5.1	
PFOA	110	94	59	54			14		10						10		35	31	16	14	81	

EMPTY CELL = ND  
Above USEPA Health Advisory

- Below Detection Limit
  - Detected but under USEPA Health Advisory\*
  - Exceeds USEPA Health Advisory\*
  - Road/Streets
  - Residential Private Water Supply
- \* USEPA Health Advisory for PFC = 70 parts per trillion



## Next Actions



- Michigan Army National Guard notified National Guard Bureau, state agencies and local health department of analytical results of PFC samples collected along fence line.
- National Guard Bureau fast tracked funds to sample all wells on camp and start investigation of PFCs in July of 2017.
- Michigan Army National Guard, in consultation with other state and local agencies supports sampling all drinking water wells between the Grayling Army Air Field and the Au Sable River.



# Questions / Information

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# Grayling Army Airfield Groundwater Investigation



## PFC Analytical Results

- Below Detection Limit
- Detected but under USEPA Health Advisory\*
- Exceeds USEPA Health Advisory\*

- Road/Streets
- Residential Private Water Supply



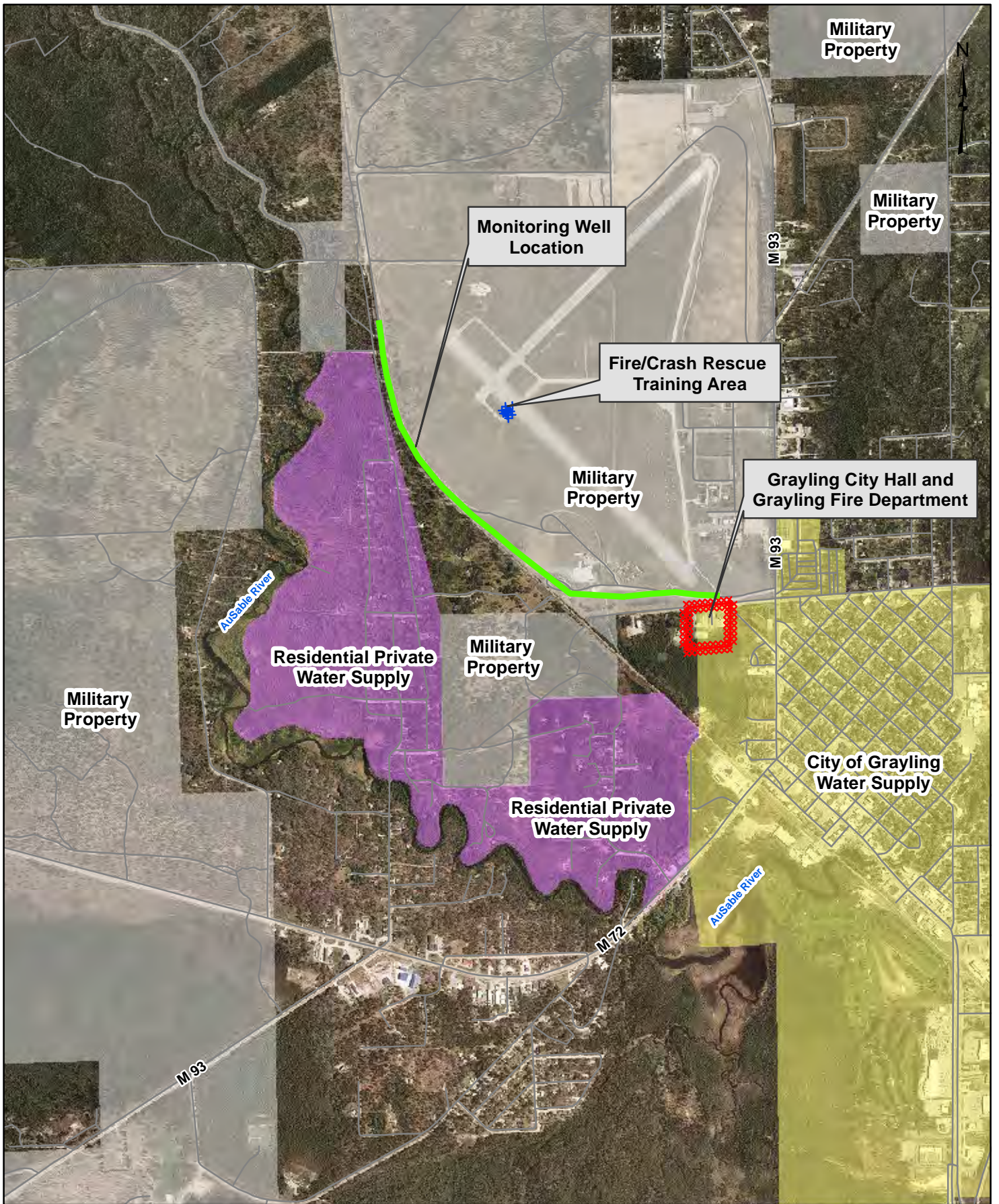
May 18, 2017

\* USEPA Health Advisory for PFC = 70 parts per trillion

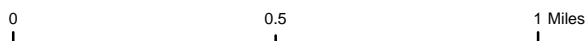








## Grayling Army Airfield Groundwater Investigation



989-344-6179  
MIARNG-CG-ENV  
16 MAY 2017  
Public\_Meeting

