

Welcome

MPART PFAS Regional Informational Webinar Lansing Region

September 10, 2020

The Webinar will begin at 6:00 p.m.

Webinar Housekeeping



All lines are muted during the webinar.



We are recording this webinar

How to ask a question?



Submit your questions using the “**Q/A**” box in at the bottom of your screen.



Click the “hand” icon at the bottom of your screen.



Type *9 to raise your hand.

***9**

MPART PFAS Regional Informational Webinar

Lansing Region

September 10, 2020

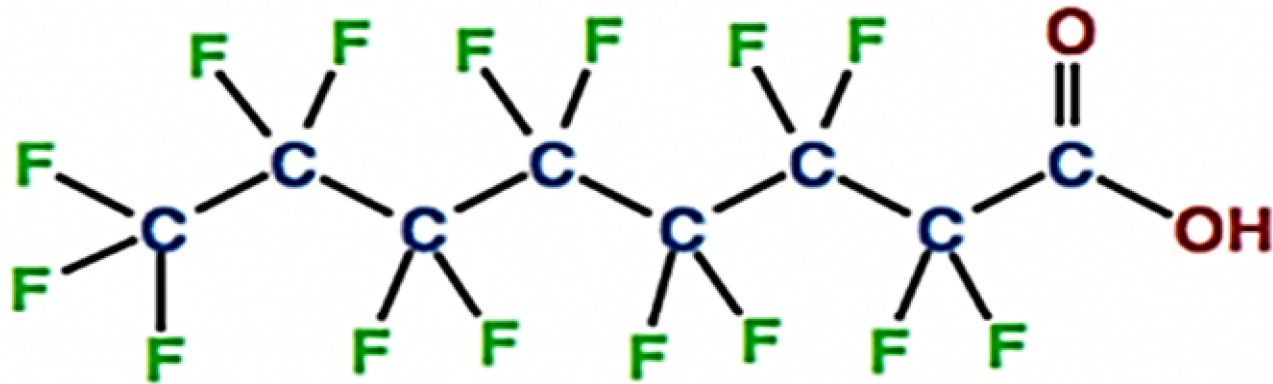
Steve Sliver, Executive Director
Michigan PFAS Action Response Team
(517) 290-2943
SliverS@Michigan.gov

Michigan PFAS Action Response Team (MPART)



- Executive Order 2019-03
- Unique Multi-Agency Approach
- Leads Coordination and Cooperation Among All Levels of Government
- Directs Implementation of State's Action Strategy

Per- and Polyfluoroalkyl Substances (PFAS)



PFOA - perfluorooctanoic acid

- **Strong Carbon-Fluorine Bonds**
- Surfactants
- Repel Water, Oil, Fat, and Grease
- Began Developing in 1940s
- 5,000 + Compounds Today

PFAS Uses



Aerospace



**Apparel and
Fabrics**



**Building and
Construction**



**Chemicals and
Pharmaceuticals**



Electronics



Oil, Gas, and Energy



Industrial



**Healthcare and
Hospitals**



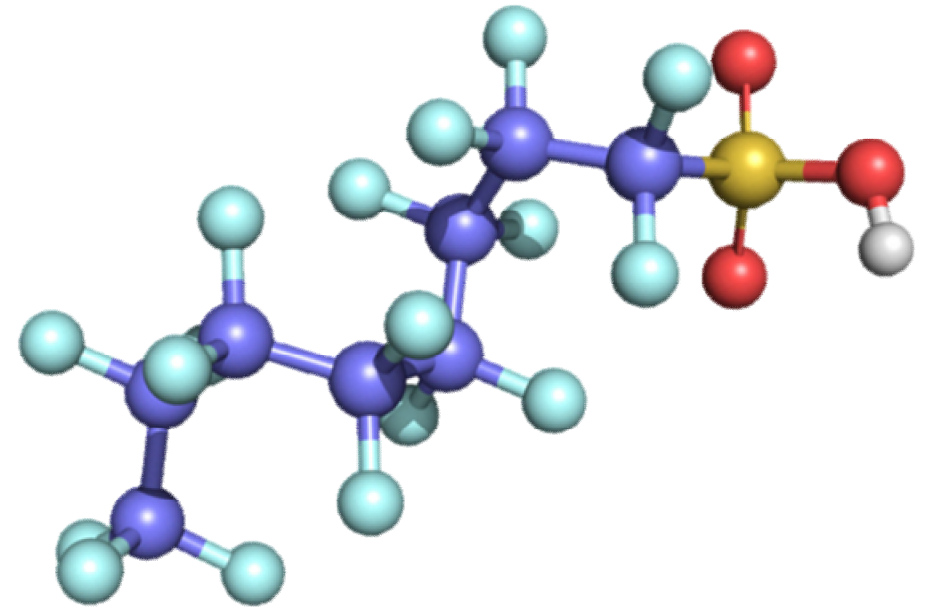
**Aqueous Film
Forming Foam**

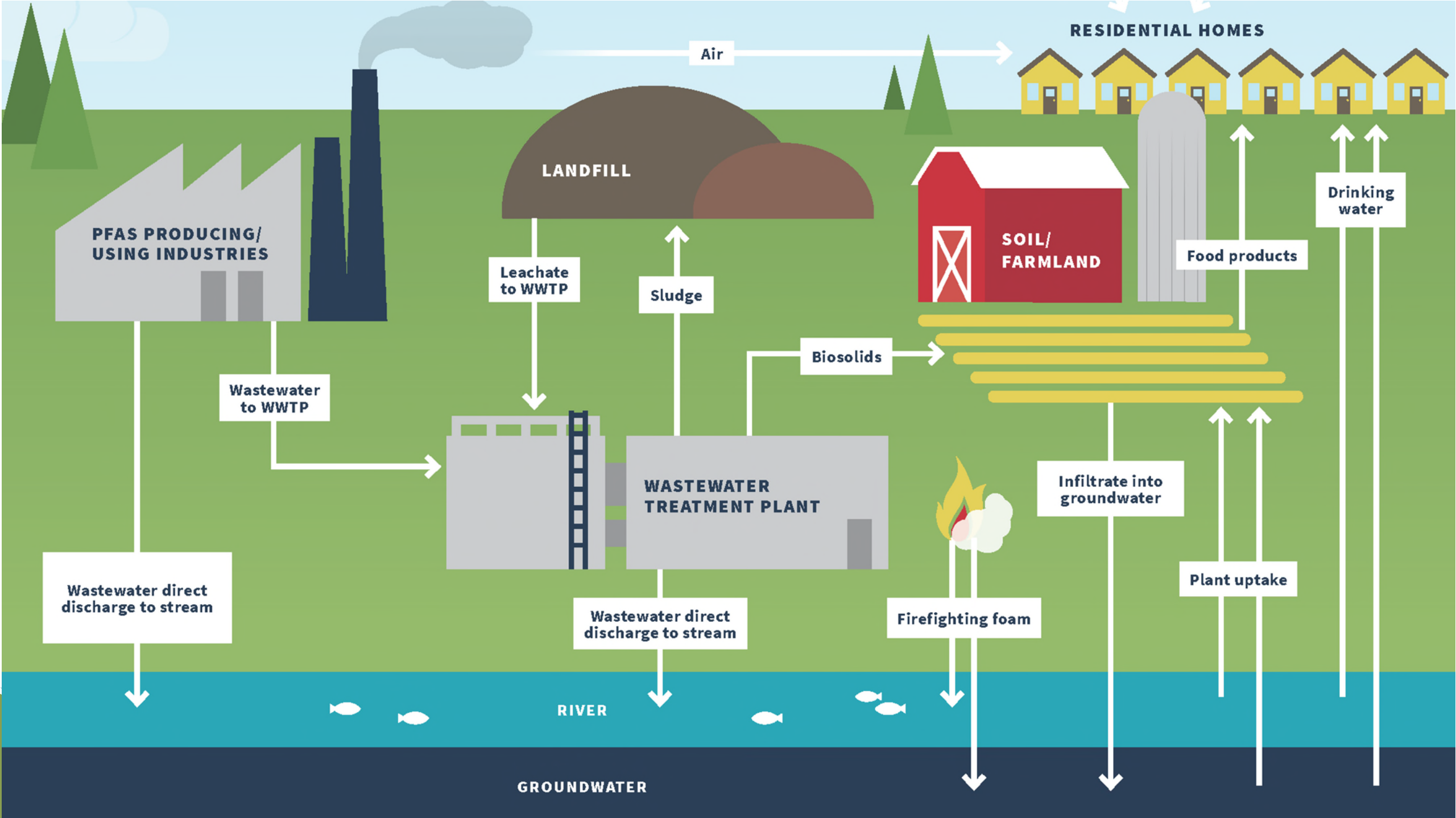


Food Packaging

Why the Concern?

- Widespread
- Don't Break Down Easily – Hard to Get Rid of
- Bioaccumulative – Build Up in Our Bodies
- Some PFAS May Affect Health
- Lack of Information
- Lack of National Regulations







Surface Water Investigations

- Survey of Surface Water and Fish
- Foam
- Wastewater



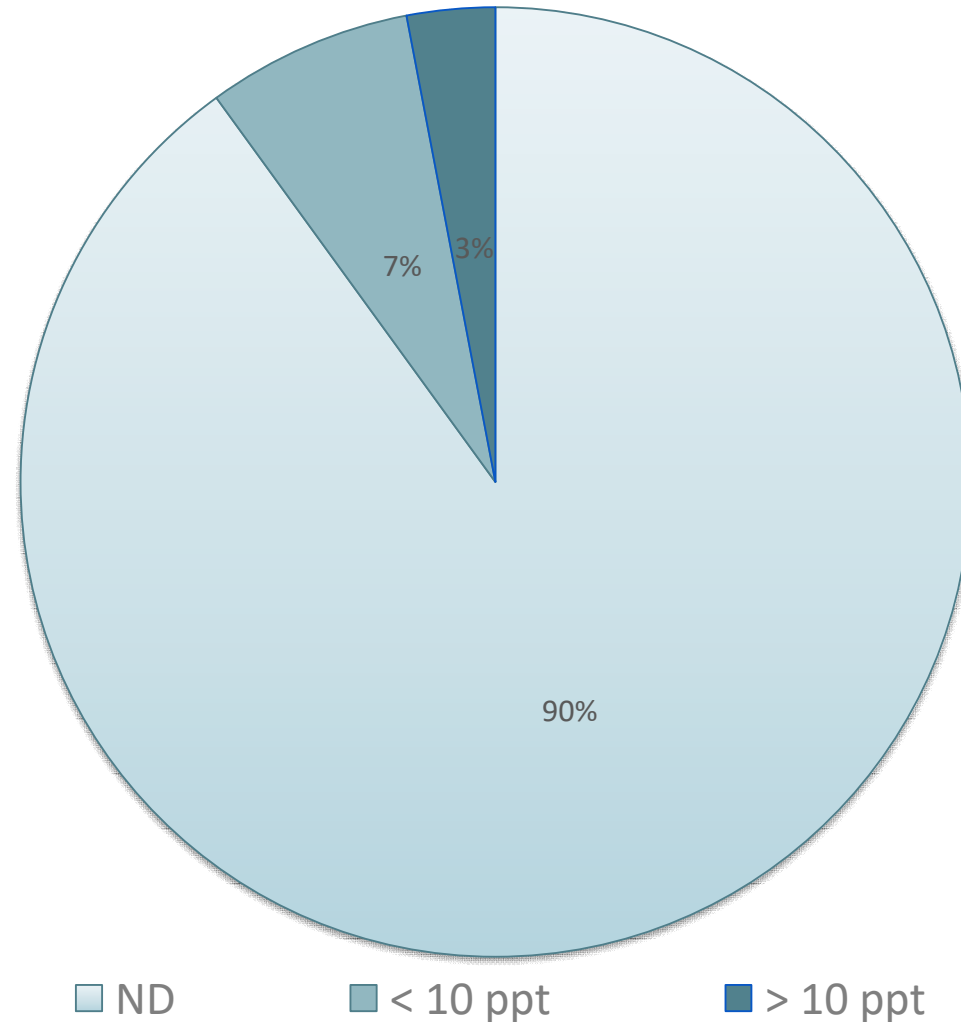
Public Water Supply Testing

- All Community Water Supplies (1,114)
- All Tribal Systems (17)
- Schools and Larger Day Cares (619)
- Additional Select Water Supplies
- Monitoring
 - All 65 Surface Water Systems
 - 61 Systems > 10 ppt Total PFAS

Total PFAS in MI Public Water Supplies

EPA Method 537 Rev 1.1

NEtFOSA	NMeFOSAA	PFBS
PFDA	PFDoA	PFHpA
PFHxS	PFHxA	PFNA
PFOS	PFOA	PFTA
PFTTrDA	PFUnA	





Drinking Water Standards

- No Federal Standards to Adopt
- Science Advisory Panel Report, December 2018
 - **70 ppt standard for PFOA/PFAS too high**
 - **Other PFAS should be considered**
- Michigan's Two-Step Approach
 - **Science Advisory Workgroup provided health-based values**
 - **EGLE promulgated standards in rule**

Michigan Drinking Water Standards

- Maximum Contaminant Levels (MCLs)
- August 3, 2020
- 2,700 water systems

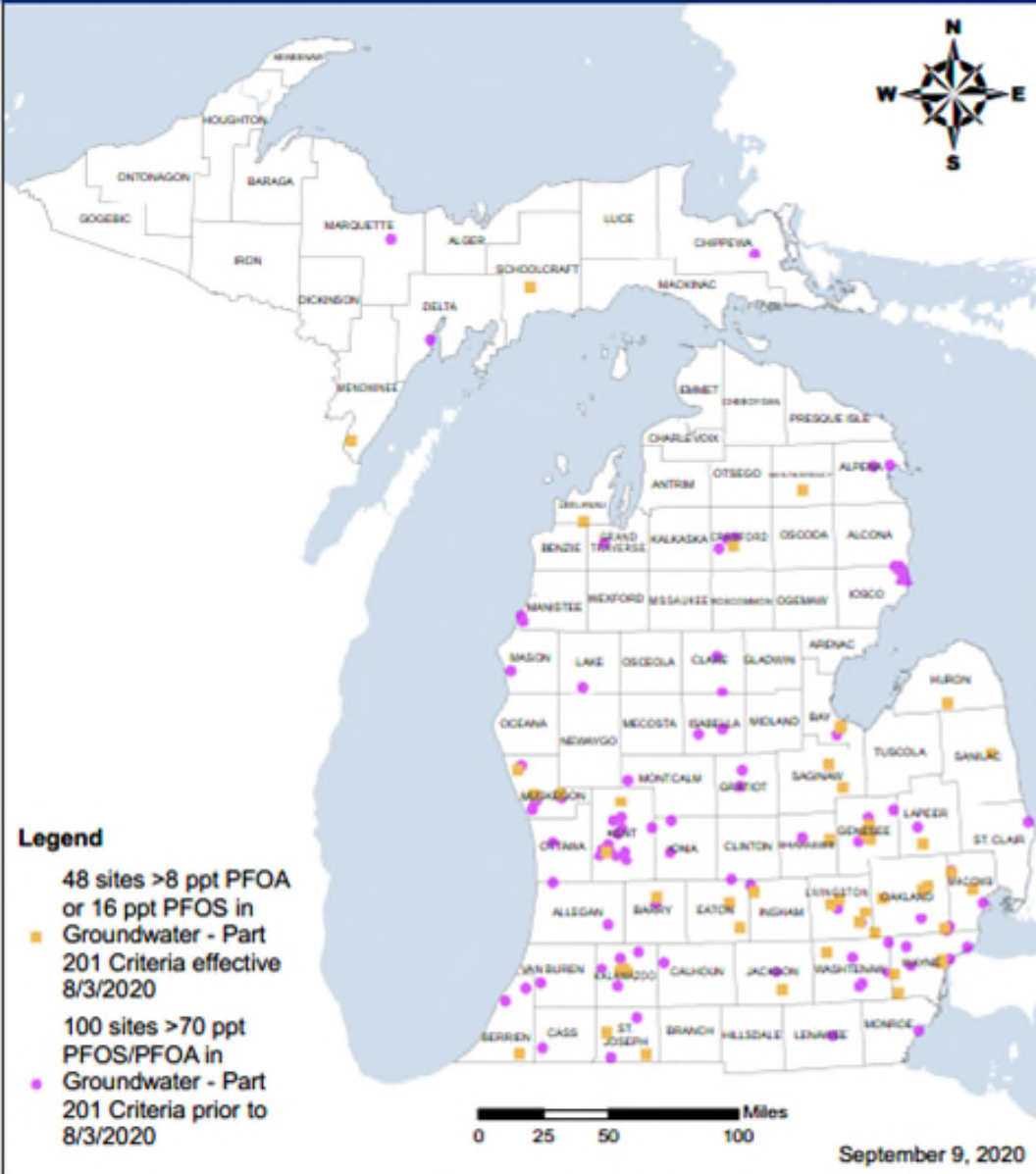
Compound	MCL	EPA Recommendation
PFNA	6 ppt	NA
PFOA	8 ppt	70 ppt combined
PFOS	16 ppt	
PFHxS	51 ppt	NA
GenX (HFPO-DA)	370 ppt	NA
PFBS	420 ppt	NA
PFHxA	400,000 ppt	NA

7 MCLs ≠ 7 Cleanup Criteria

- Groundwater cleanup criteria already in rule

Compound	Prior to 8/3/20	After 8/3/20
PFOA	70 ppt combined	8 ppt
PFOS		16 ppt

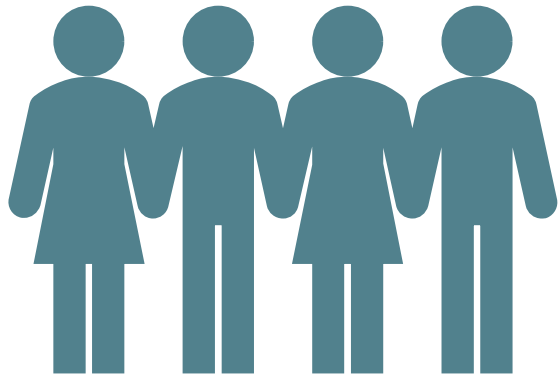
- Rulemaking necessary for other 5 MCLs to become groundwater cleanup criteria
- Important for how we define a PFAS site



PFAS Sites

- Exceed groundwater cleanup criteria
 - Expanded from 99 to 138 sites on August 3, 2020
- Prioritized Investigations Based on Known or Suspected Sources, Potential for Exposure
- Protect Drinking Water Pathway

Citizens Advisory Workgroup



- Residents From Impacted Communities
- Key Charges:
 - Recommend How to Engage and Empower Communities
 - Recommend How to Educate the General Public

PFAS and Health

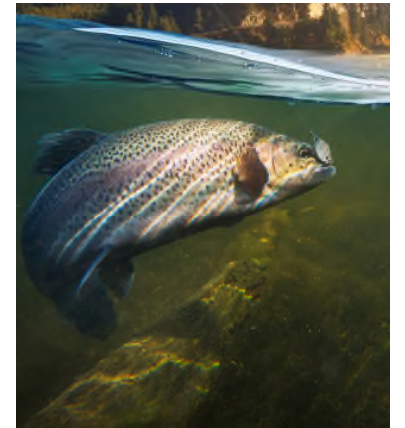
Rosa Jaiman, Toxicologist
Michigan Department of Health and Human Services
517-331-1049
JaimanR@Michigan.gov

The Role of MDHHS/Local Public Health

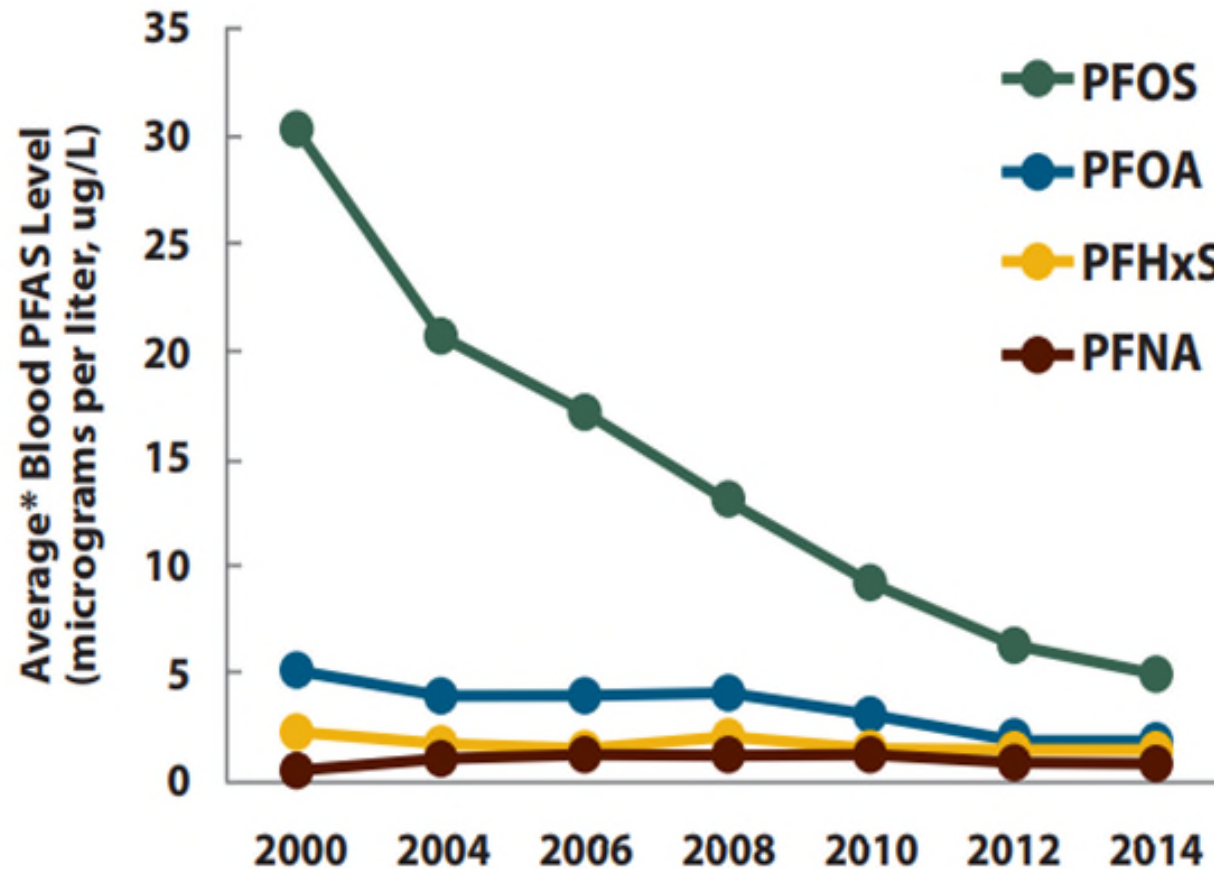
- Understand the health concerns facing your community
- Develop a plan to investigate and address health risks
 - EGLE leads the site investigation
 - MDHHS and the Local Health Department lead the public health planning and response
- Evaluate PFAS exposures to residents in the community
 - Recommend public health actions as needed

Exposure to PFAS Chemicals

- Drinking contaminated water
- Eating fish caught from water contaminated by PFAS
 - “Do Not Eat Fish” Advisories
- Incidental swallowing of contaminated soil or dust
- Eating food packaged in materials containing PFAS
- Using some consumer products
- PFAS absorption through skin is typically not a concern



Blood levels of the most common PFAS in people in the United States 2000-2014



* Average = geometric mean

Data Source: Centers for Disease Control and Prevention. Fourth Report on Human Exposure to Environmental Chemicals, Updated Tables, (January 2017).

Potential Associated Human Health Outcomes

PFOA and/or PFOS

- Lowering a woman's chance of getting pregnant
- Increasing the chance of high blood pressure in pregnant women
- Increasing the chance of thyroid disease*
- Increasing cholesterol levels
- Changing immune response
- Increasing chance of cancer, especially kidney and testicular cancers

* PFOA only

Regional Site Investigations

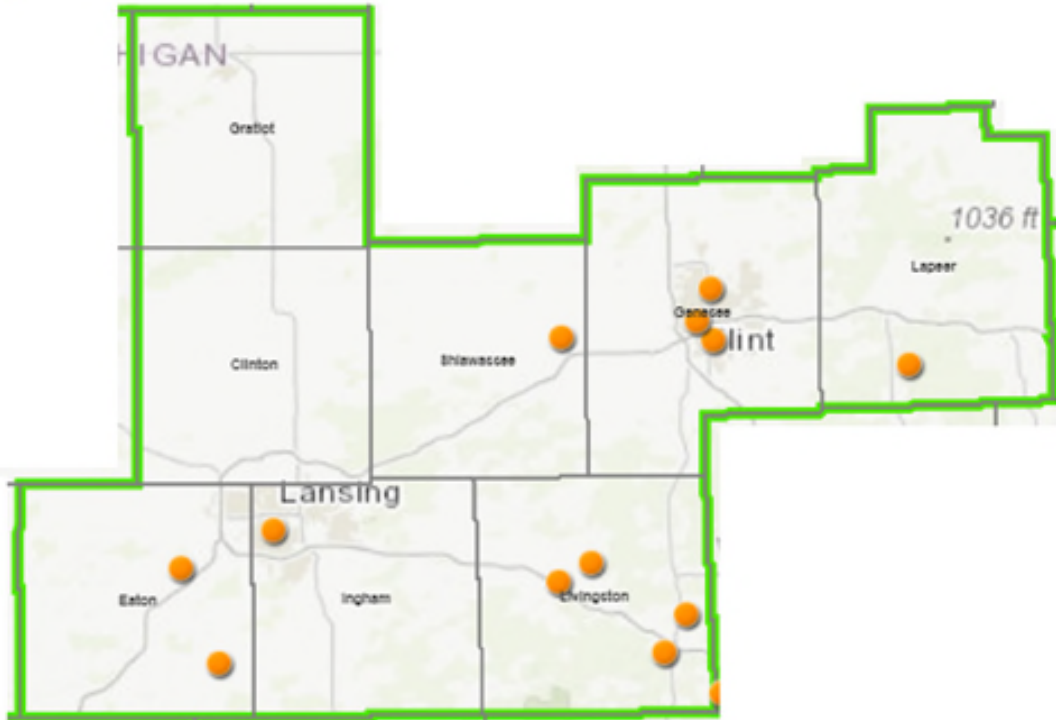
Stephanie Kammer

Water Resources Division, Emerging Pollutants Section

KammerS@Michigan.gov

517-897-1597

Regional PFAS Contact



Stephanie Kammer
Lansing District Office

KammerS@Michigan.gov

517-897-1597

Sites

- Eaton County
 - Eaton County Landfill
- Genesee County
 - Lockhart Chemical Company
 - RACER Hemphill Road Industrial Landfill
 - RACER Flint West
- Ingham County
 - Kent Cleaners
- Lapeer County
 - Metamora Landfill Superfund Site
- Livingston County
 - 1279 Rickett Road
 - Brighton Township Dump
 - Livingston County Airport
 - Livingston County Landfill
- Shiawassee County
 - Venice Park Recycling Disposal Facility

Eaton County Landfill
Northwest of East Gresham Highway and North
Hartel Road
Benton Township, Eaton County

Evin Maguire, EGLE

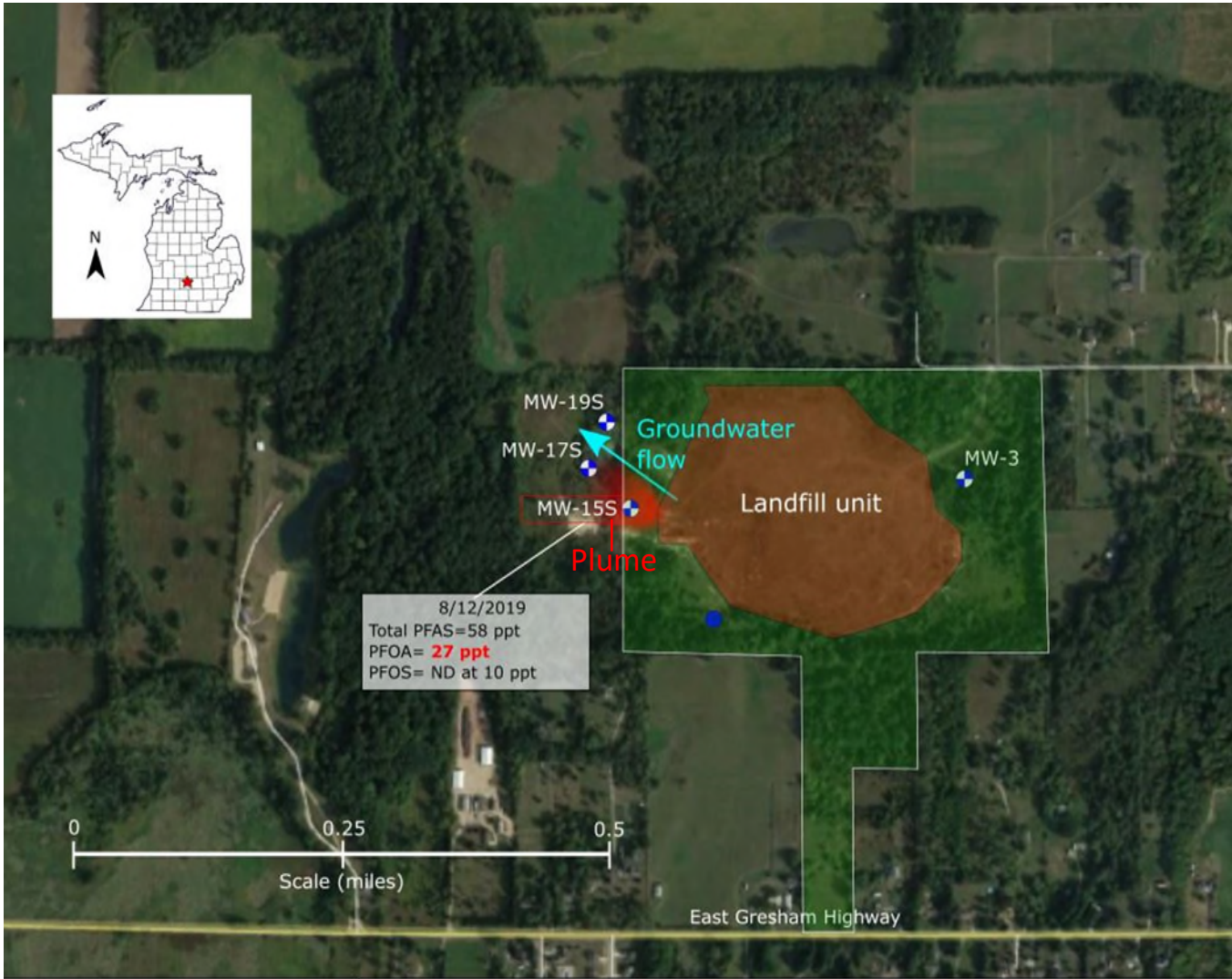
MaguireE@Michigan.gov

(517) 388-3525

Eaton County Landfill



- Closed Type II Municipal Solid Waste Landfill operated by Eaton County from 1971-1982.
- Northwest of the intersection of East Gresham Highway, and North Hartel Road, Benton Township
- Historical groundwater contamination in the late 1980's led EGLE to request PFAS sampling



Eaton County Landfill
E Gresham Highway
Pottersville, MI, 48876

- Sampled monitor well
- Sampled surface water
- exceeds drinking water standard
- property boundary (approx.)
- Groundwater flow direction
- ppt = parts per trillion
- ND= non-detect

- Sampled in August 2019
 - MW-15S had 27 ppt PFOA > 8 ppt cleanup criteria
- Contamination in the uppermost glacial aquifer, flow is to the northwest
- Previous investigations and routine monitoring since late 1980's
 - Previous contamination has not migrated laterally or vertically
 - Residential wells are unlikely to be impacted.
- Next Steps...
 - Resample to confirm results with lower detection limit
 - Add PFAS to routine monitoring plan in select wells.

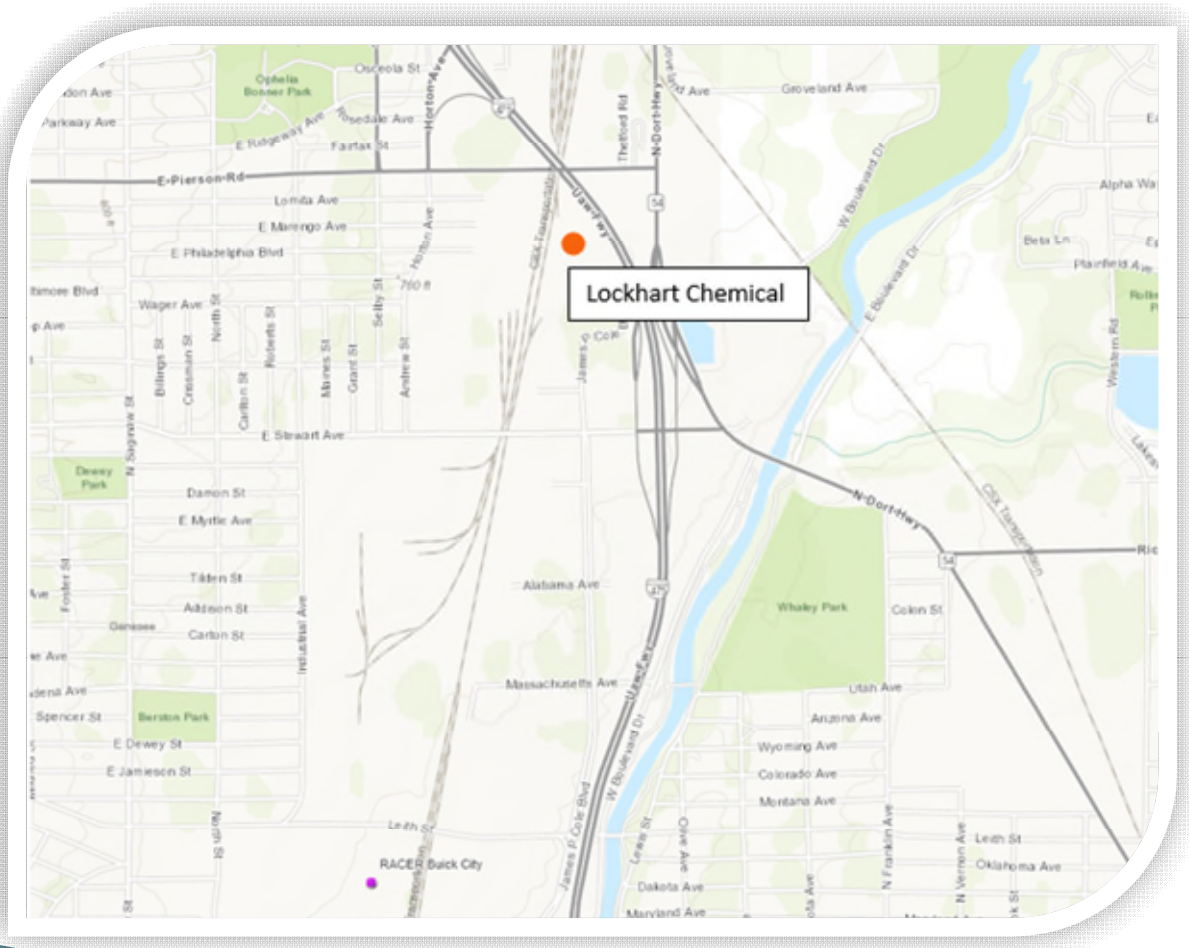
Lockhart Chemical Company
4302 James P. Cole Boulevard
Flint, Genesee County

David LaBrecque, EGLE

LabrecqueD@Michigan.gov

(517) 285-7889

Lockhart Chemical Company



- During investigation of the adjacent storm drain, on site wells were sampled for PFAS
- Groundwater flow is generally east toward the Flint River
- Previous evaluation of residential wells indicated little risk of exposure in the area

Lockhart Chemical Company



- EGLE staff will continue to work with the local health department to confirm if any potential risk to drinking water wells exists
- EGLE staff will continue to work with potentially responsible parties to address contamination at the site

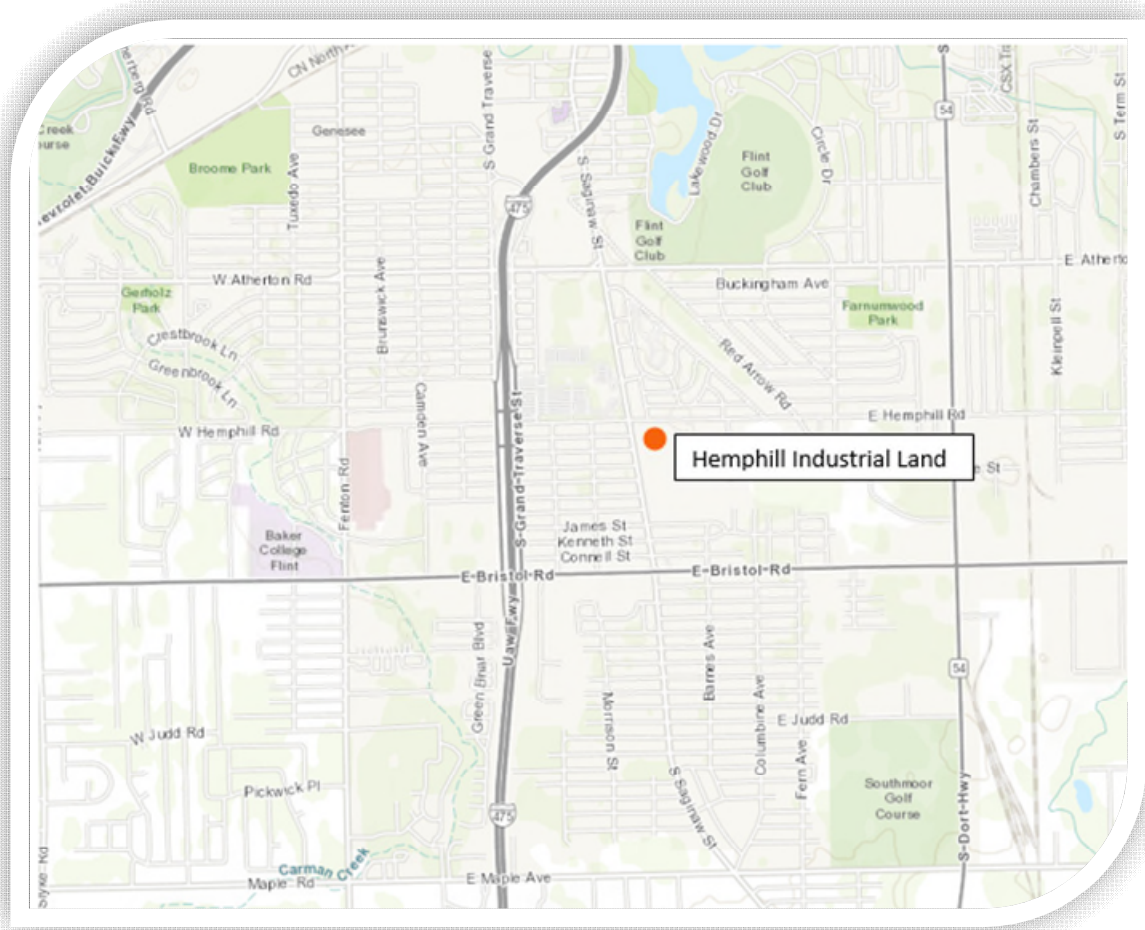
RACER Hemphill Road Industrial Landfill
Southeast corner of Saginaw and Hemphill Road
Burton, Genesee County

David LaBrecque, EGLE

LabrecqueD@Michigan.gov

(517) 285-7889

RACER Hemphill Road Industrial Landfill



- Due to historic use of the site, a subset of existing wells were sampled
- Shallow groundwater flow is to the east toward Schram Drain
- Some drinking wells are located to the east of Schram Drain

RACER Hemphill Road Industrial Landfill

FIGURE 3



- EGLE staff will continue to work with the local health department to confirm if any potential risk to drinking water wells exists
- EGLE staff will continue to work with potentially responsible parties to address contamination at the site

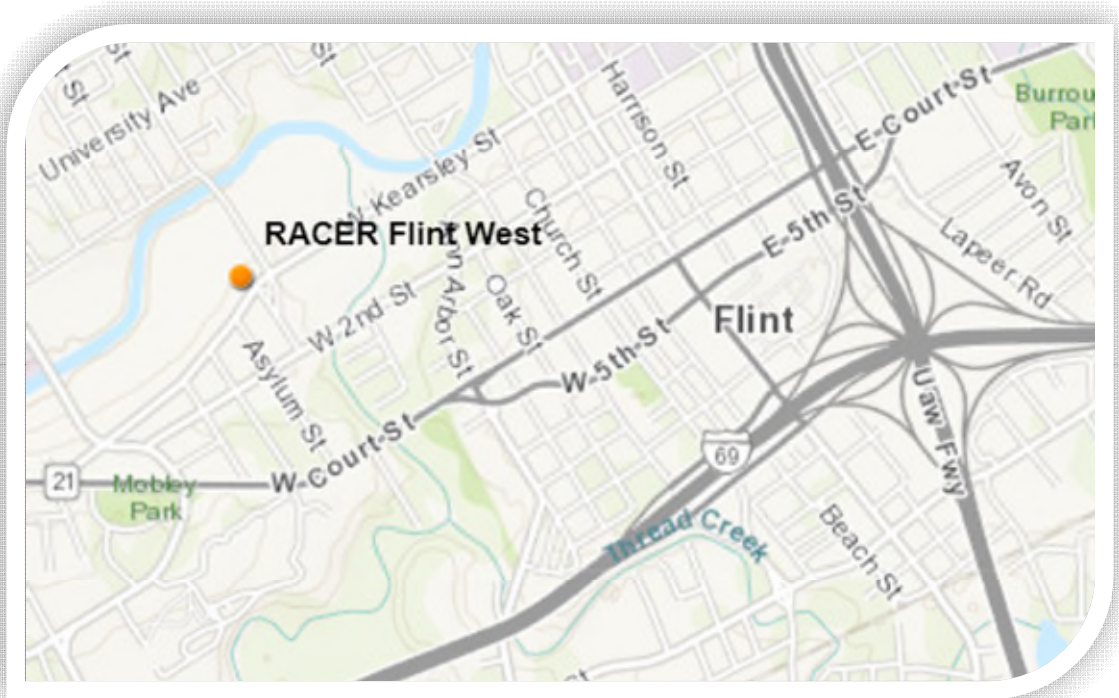
RACER Flint West
Glenwood Avenue and Stevenson Street
Flint, Genesee County

Shaun Shields, EGLE

ShieldsS5@Michigan.gov

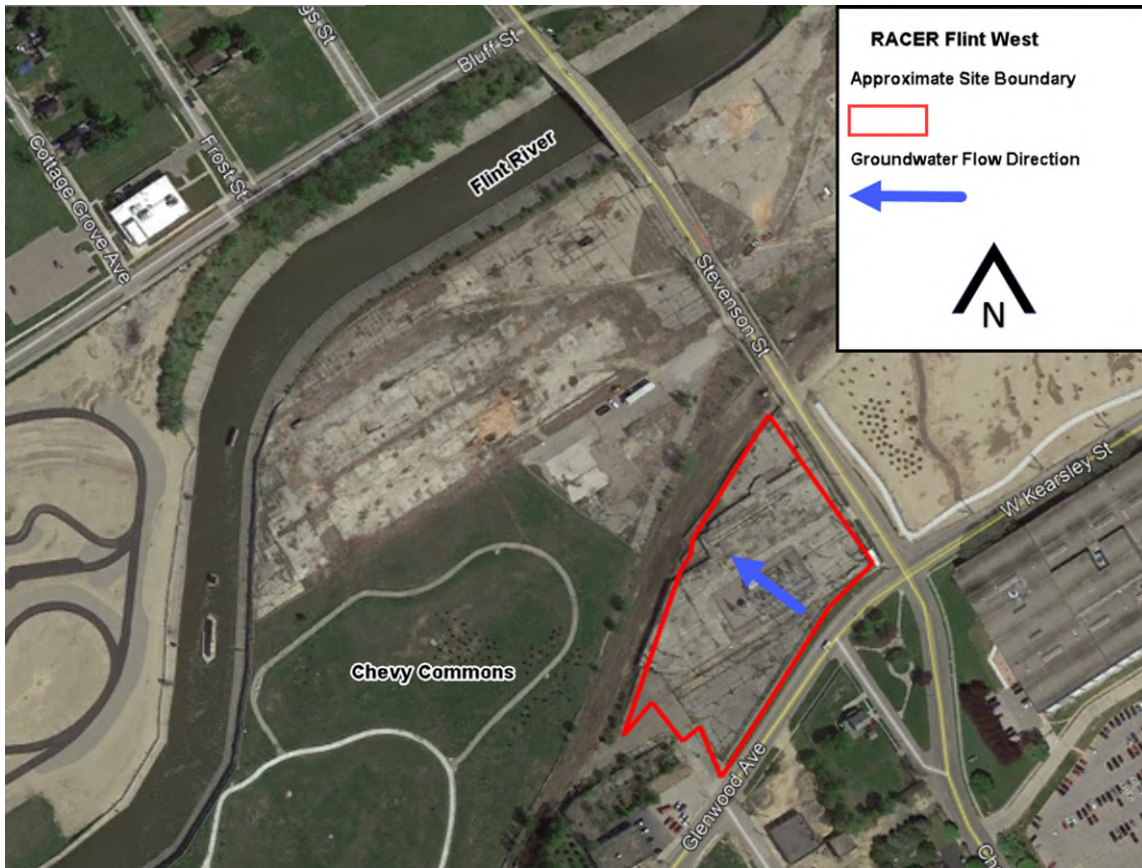
(517) 331-8950

RACER Flint West



- Northwest corner of Glenwood Avenue and Stevenson Street
- Site is part of former Chevrolet then GM AC Rochester/Delphi Flint West manufacturing facility, specifically Plant 9
- PFAS sampled due to historic manufacturing operations which included chrome plating
- EGLE is working to evaluate any off-site exposure pathways

RACER Flint West



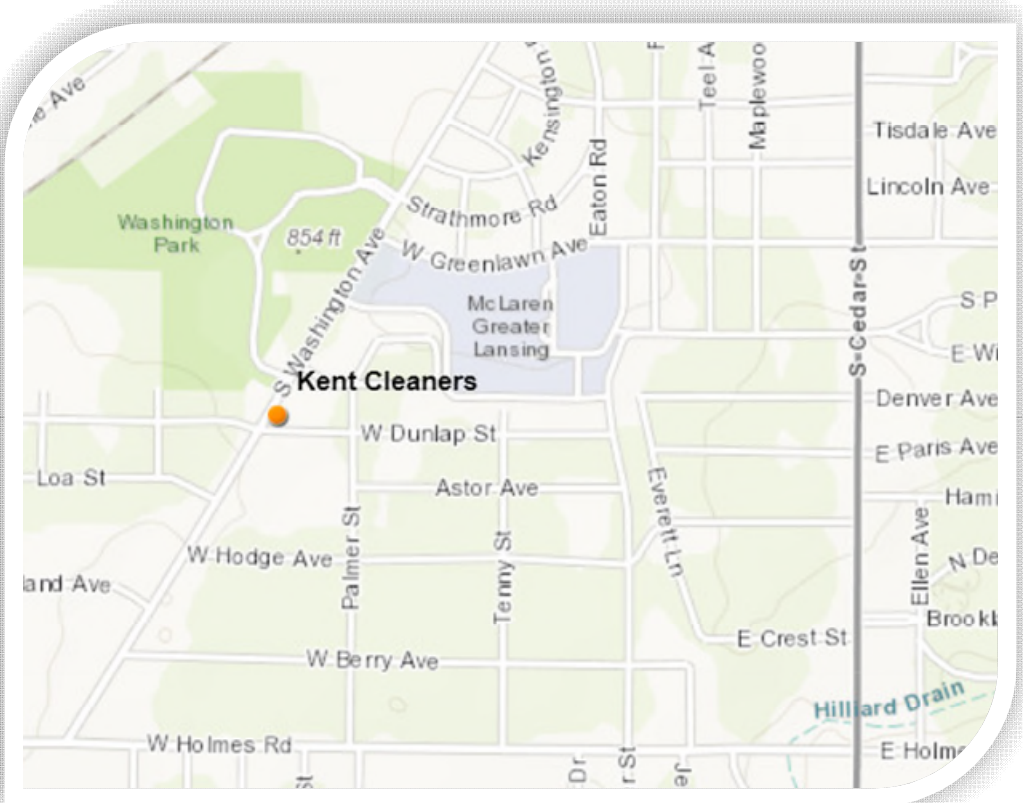
- Shallow groundwater flow is northwest towards the Flint River.
- Detected PFAS at site primarily PFOS and PFOA
 - Highest PFOS: 93 ppt
 - Highest PFOA: 12 ppt
- Future on-site PFAS sampling planned.
- Storm water and surface water sampling is planned to evaluate the extent of PFAS migration to the Flint River.

Kent Cleaners
2911 S Washington Avenue, Lansing,
Ingham County

Kim Sakowski, EGLE
SakowskiK@Michigan.gov

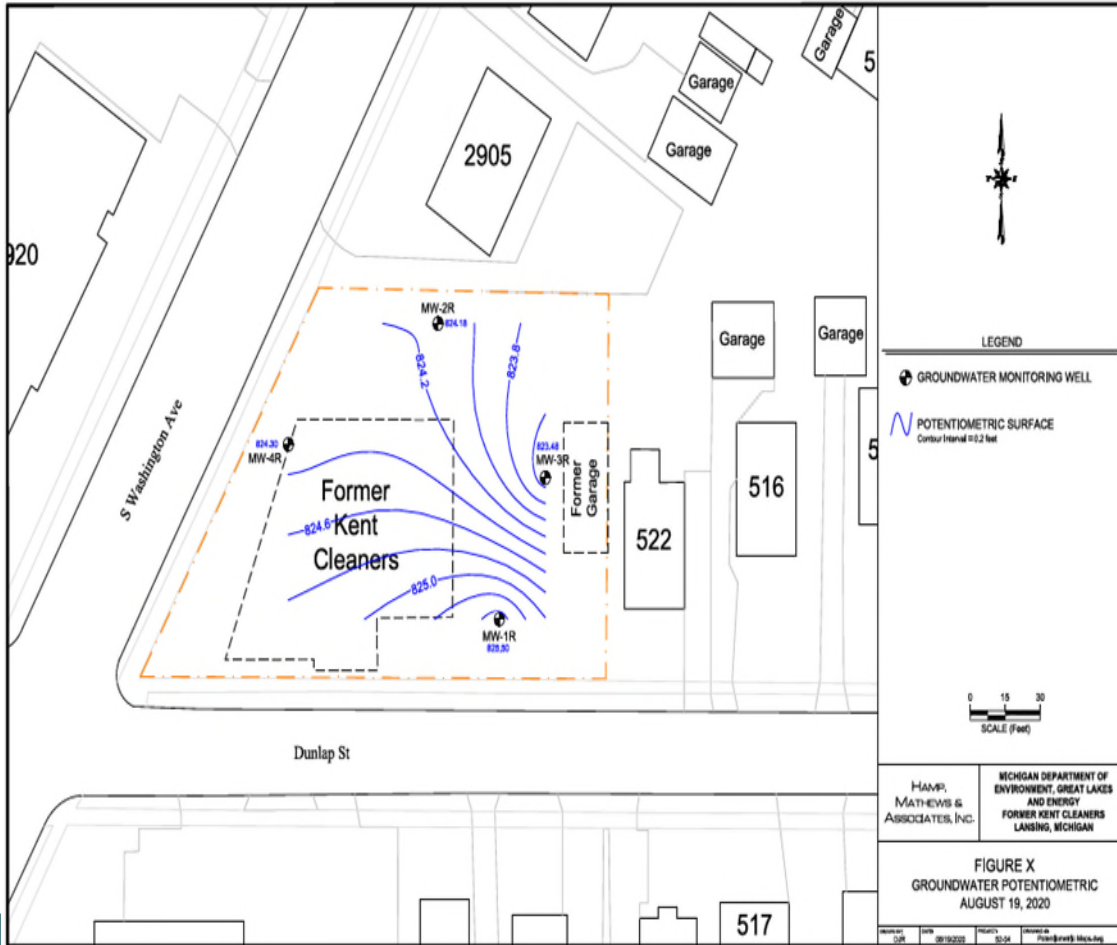
517-582-2219

Kent Cleaners



- Property used as a dry cleaner that conducted waterproofing led EGLE to sample groundwater for PFAS
- There has not been any identified off-site residential wells in the area

Kent Cleaners



- Groundwater is encountered 35 – 40 feet below ground surface
- Groundwater flow direction is generally east/northeast
- Highest PFOS detected was 13 ppt, highest PFOA detected was 20 ppt
- Next Steps: continue monitoring for the next two years

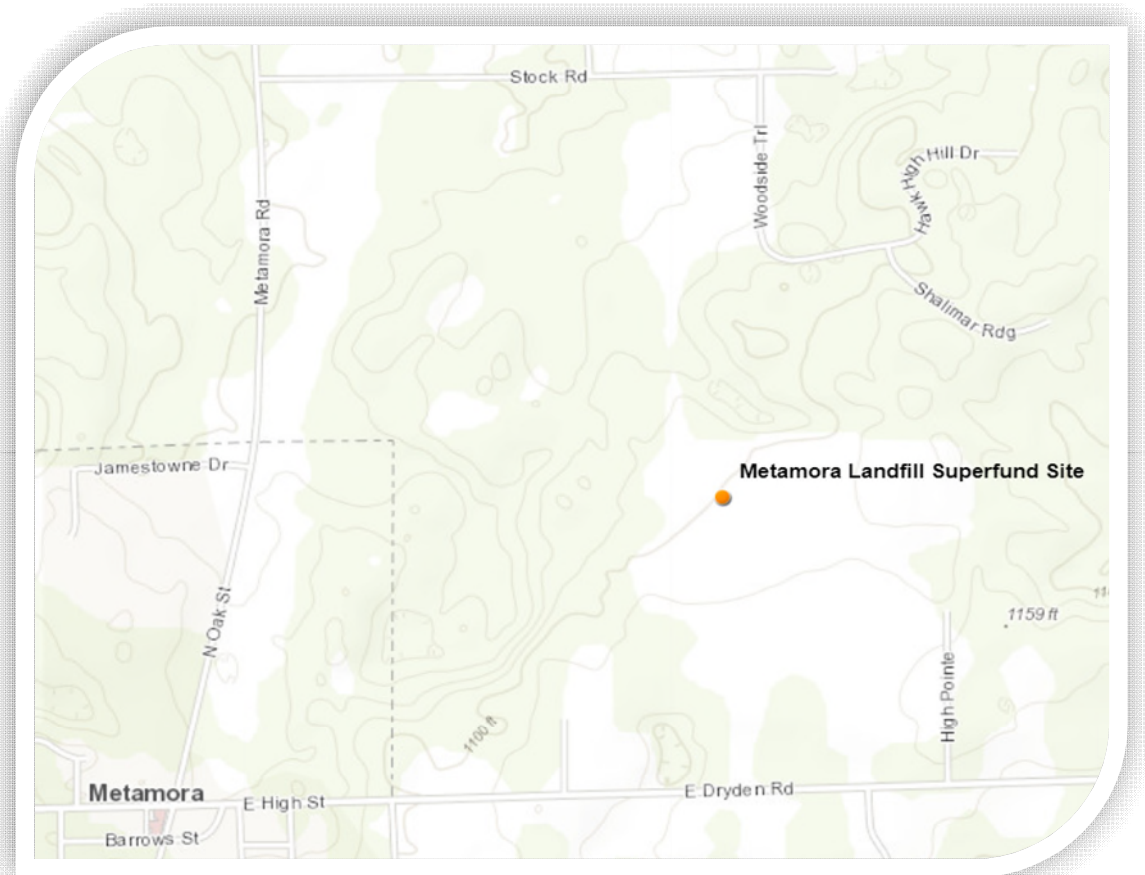
Metamora Landfill Superfund Site
1811 Dryden Road
Metamora Township, Lapeer County

Erik Martinson, EGLE

MartinsonE@Michigan.gov

517-285-3978

Metamora Landfill Superfund Site



- PFAS workplan was approved by EGLE and EPA in January 2020
 - PFAS samples were collected in April 2020
 - 18 samples were collected
 - 3 samples exceed PFOA criteria (8 ppt)

Metamora Landfill Superfund Site

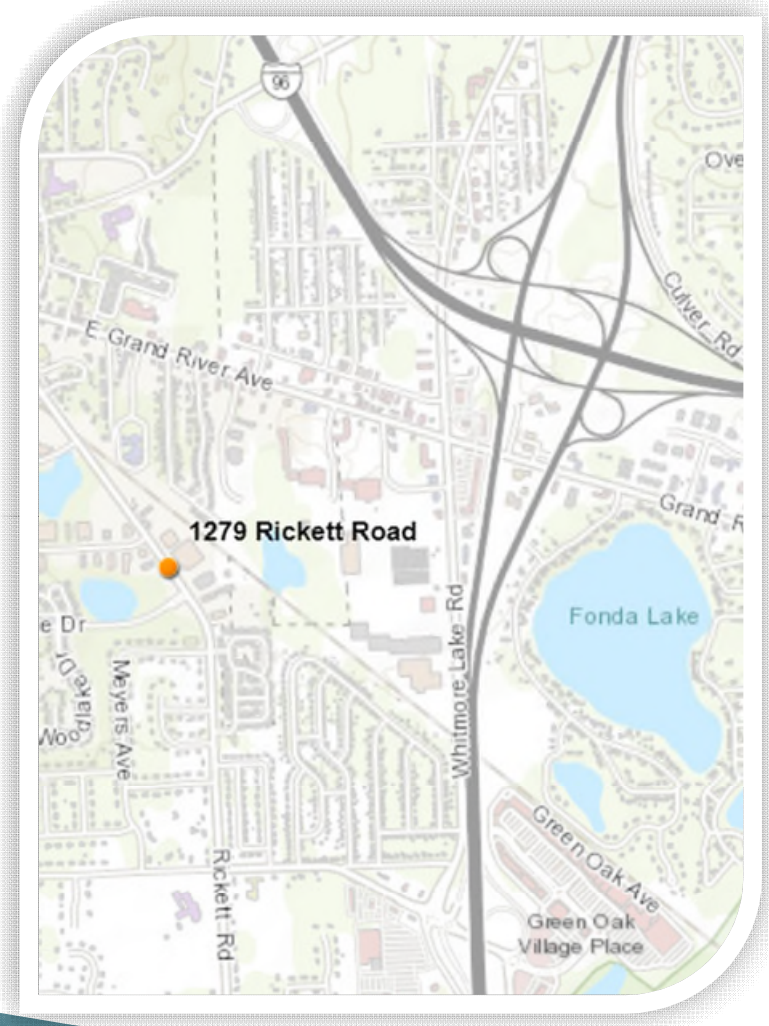


- Three aquifers present at the site
 - Shallow - predominant north to northeasterly flow
 - Intermediate - predominant northerly flow with a radial component
 - Bedrock - characterized by a predominant northerly flow
- Approximately 30 downgradient residents. EGLE will work with the local health department to determine if residential well sampling is necessary.

1279 Rickett Road
Brighton, Livingston County

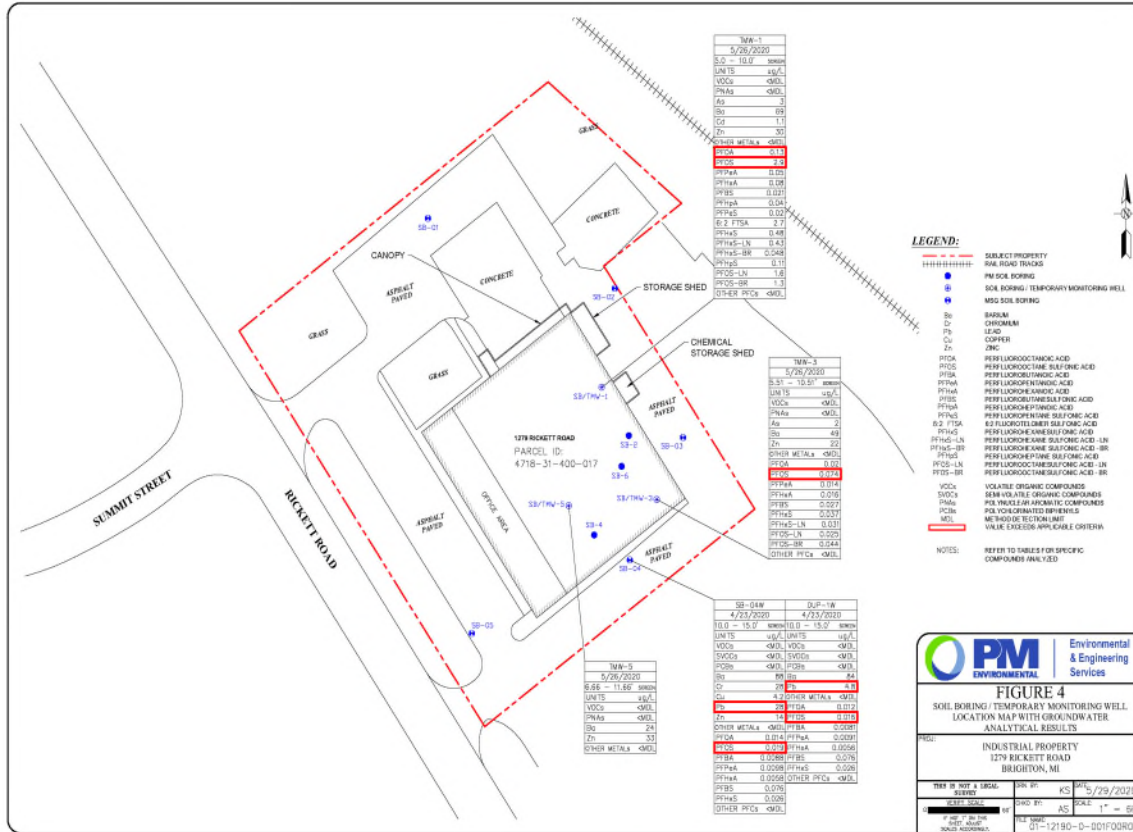
Rebecca Taylor, EGLE
TaylorR@Michigan.gov
517-284-5160

1279 Rickett Road



- The property has been occupied by various fluid coupling, fabrication, engineering, and metal coating and finishing operations from at least 1985 until 2020.
- A baseline environmental assessment (BEA) submitted to EGLE in August 2020 reported PFAS in the groundwater.

1279 Rickett Road



- In April and May 2020, four shallow groundwater samples were collected.
- The highest concentrations of PFAS are reported at 2,900 ppt PFOS and 130 ppt PFOA.
- No site-specific data on groundwater flow is available.
- Next Steps - identify residential wells for sampling in September or October 2020.

Brighton Township Dump
Corlett Drive, Brighton Township,
Livingston County

Rebecca Taylor, EGLE
TaylorR@Michigan.gov
517-284-5160

Brighton Township Dump



- Brighton Township dump accepted wastes in the 1960's into the early 1970's. EPA and EGLE removed drums and wastes disposed in a ravine and wetlands.
- Brighton Township works with EGLE under a consent decree. Groundwater use is restricted on the property.
- In May 2020, EGLE collected groundwater samples for PFAS analysis from 5 monitoring wells near the wetlands. PFAS is above criteria in 3 of 5 the monitoring wells sampled.

Brighton Township Dump

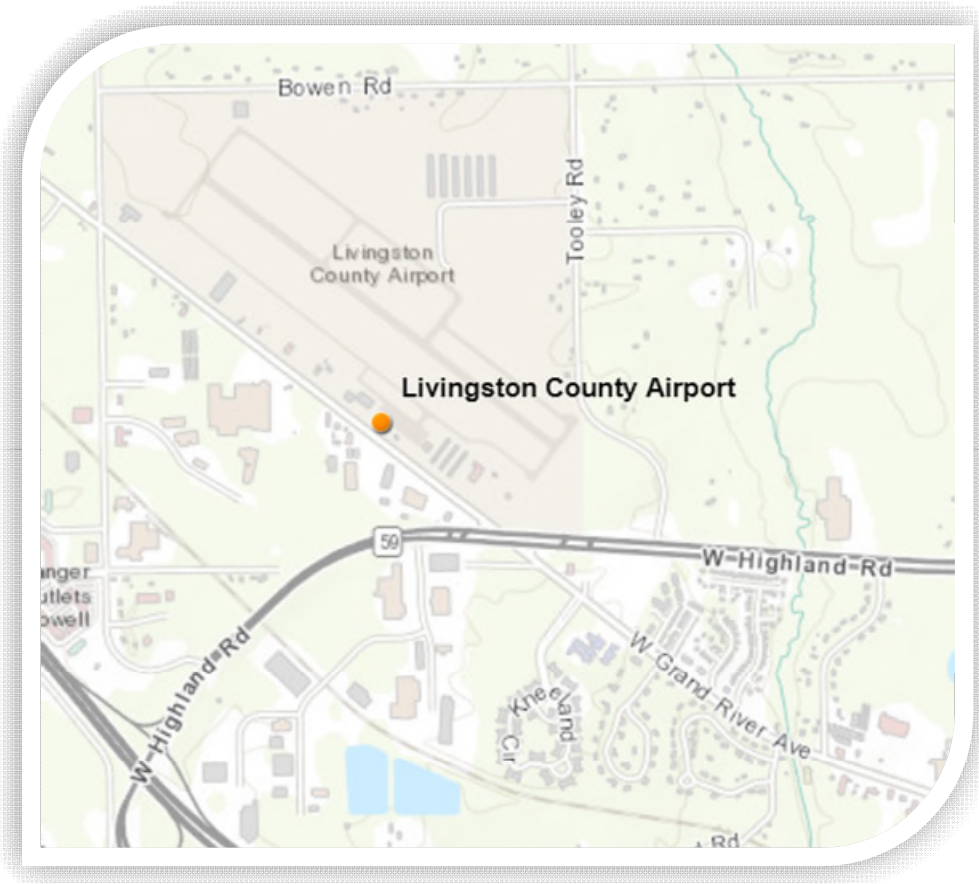


- Deeper groundwater flow is to the northwest. Shallow groundwater flow near the wetlands is variable but tends to flow east.
- Area residential wells draw water from sand layer below one or more clay layers. 10 residential wells near the dump were sampled for volatile organic compounds annually for 10 years – none detected.
- Next Steps: EGLE will sample additional groundwater monitoring wells at the dump in October 2020 to determine which residential wells should be sampled for PFAS.

Livingston County Airport
3359 County Airport Drive
Howell, Livingston County

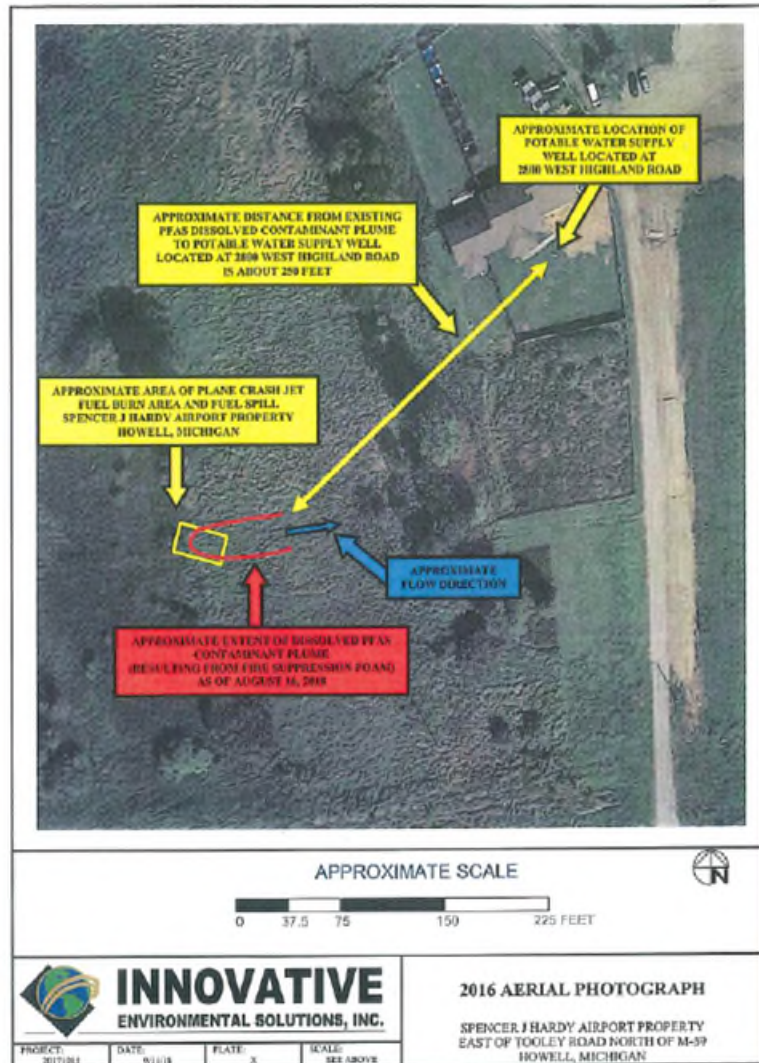
Rebecca Taylor, EGLE
TaylorR@Michigan.gov
517-284-5160

Livingston County Airport



- In 2018, a small jet crashed in a field beyond the runway. Foam was used to suppress the fire after the pilot was rescued.
- 540 cubic yards of jet-fuel contaminated soils and 6,650 gallons of contaminated groundwater removed and lawfully disposed.
- Shallow groundwater sampled for PFAS in 2018 did not exceed criteria at the time.

Livingston County Airport



- Groundwater from two of the 14 sampling locations exceed current criteria for PFAS.
- Groundwater flow is easterly towards the North Branch of the Shiawassee River.
- One residential well is between the spill site and the river.
- Next Steps: EGLE will request Livingston County Airport to voluntarily perform additional evaluation work. EGLE will evaluate if the residential well closest to the spill area is at risk for PFAS contamination.

Livingston County Landfill
Northwest of East Barron and Fisher Road
Howell Township, Livingston County

Evin Maguire

MaguireE@Michigan.gov

(517) 388-3525

Livingston County Landfill



- Closed Type II Municipal Solid Waste Landfill owned and operated by Livingston County from 1972-1989.
- Located ~3 miles north of Howell in Howell Township.
- Previous contamination in the 1980's led EGLE to request PFAS sampling.
- EGLE gets routine semiannual groundwater monitoring reports from the county.



- PFAS Sampling in May 2019
 - PFOA at 9 ppt in MW-4S, exceeding cleanup criteria of 8 ppt.
 - Proximity of residential wells was a concern
- County sampled residential wells in October 2019
 - 14 wells sampled, none were above criteria
 - 1 well had PFAS detections, > lab reporting limits
 - Livingston County has been providing bottled water to 3 residences.
- Next steps...
 - Residential well sampling in September 2020 – 15 wells.
 - Resample monitor wells.

<p>Livingston County Landfill Barron Road Howell, MI, 48843</p>	<p> Sampled monitor well Sampled residential well between ND and MCL Groundwater flow direction xxx = exceeds drinking water standard ND= non-detect ppt = parts per trillion </p>	<p> property boundary (approx.) EGLE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY </p>
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Venice Park Recycling Disposal Facility
9536 East Lennon Road
Venice Township, Shiawassee County

Evin Maguire

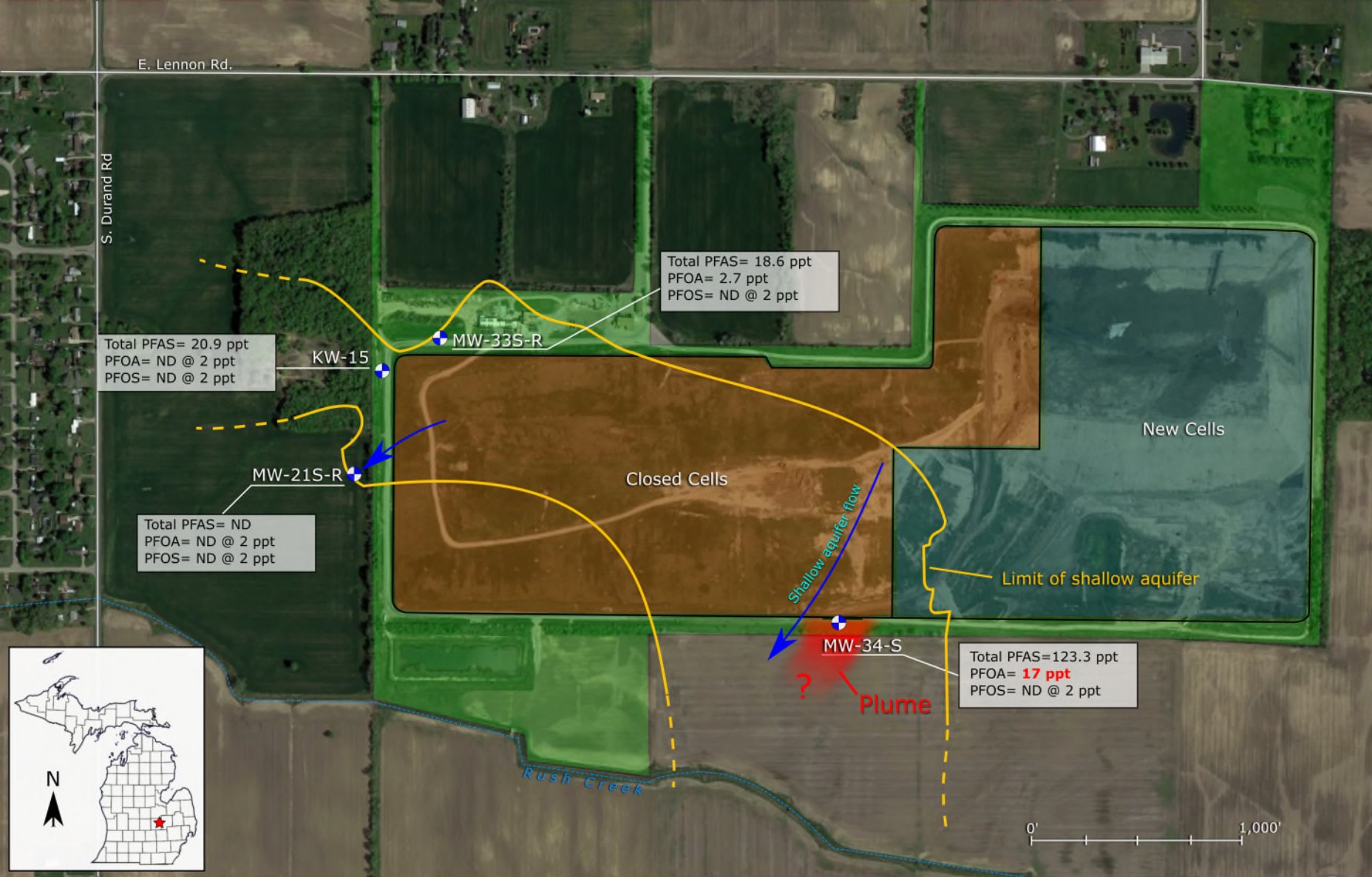
MaguireE@Michigan.gov

(517) 388-3525

Venice Park Recycling Disposal Facility



- Active Type II Municipal Solid Waste Landfill at 9536 E Lennon Rd.
- Located in Venice Township, 2 miles west of Lennon, in Venice Twp.
- Owned and operated by Waste Management (WM) since 1991
- Historical contamination.
- EGLE gets quarterly monitoring reports from WM.



- Previous investigation in the early 90's on the west side.
 - Concluded no residential wells were contaminated
- PFAS sampling event in November 2019
 - 17 ppt PFOA discovered in MW-34S, exceeding the 8 ppt criteria.
- 2 shallow glacial aquifers underlain by thick clay
- Next Steps...
 - Work with WM to develop plan to investigate and delineate contamination



Venice Park Landfill
9536 E Lennon Rd.
Lennon, MI, 48449

Monitor wells sampled	Old, closed waste cells (unlined)	xxx = exceeds drinking water standard	Limit of shallow, impacted aquifer
Property Boundary	Modern waste cells (lined)	ppt = parts per trillion	Shallow aquifer flow direction
		ND= non-detect	



Site Leads Contact Information

Lockhart Chemical Company
RACER Hemphill Road Industrial Landfill
Paul Bucholtz
BucholtzP@Michigan.gov
(517) 243-7574

Eaton County Landfill
Livingston County Landfill
Venice Park Recycling Disposal Facility
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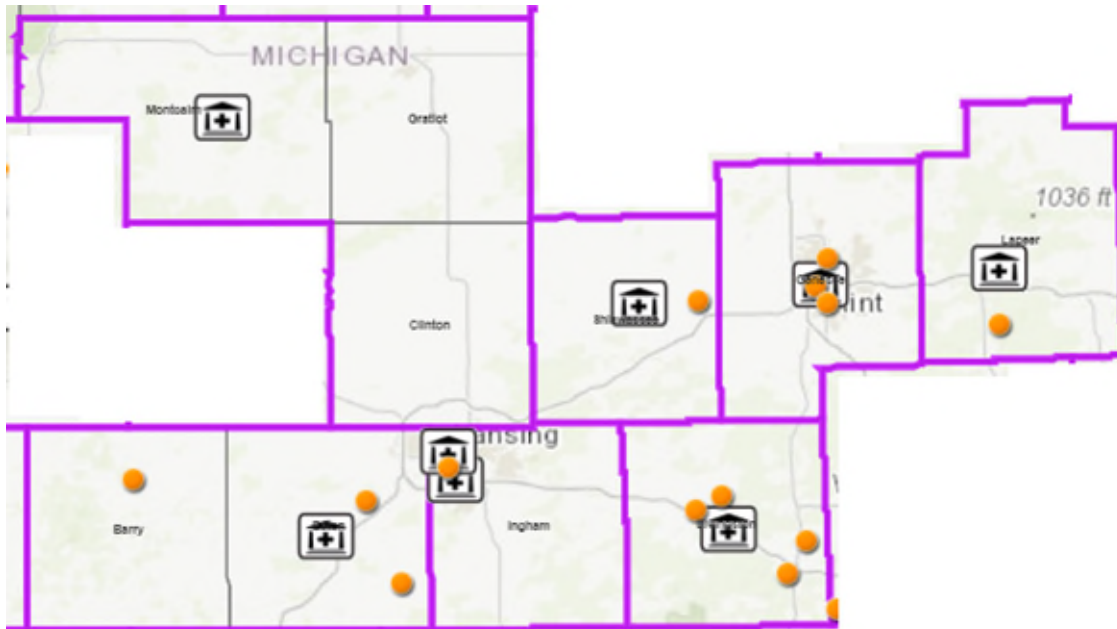
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(517) 331-8950

1279 Rickett Road
Brighton Township Dump
Livingston County Airport
Rebecca Taylor, EGLE
TaylorR@Michigan.gov
517-284-5160



Local Health Departments



- **Barry-Eaton District Health Department**
517-543-2430
- **Ingham County Health Department**
517-887-4300
- **Genesee County Health Department**
810-257-3612
- **Lapeer County Health Department**
810-245-5827
- **Livingston County Health Department**
517-546-9850
- **Mid-Michigan District Health Department**
989-831-5237
- **Shiawassee County Health Department**
989-743-2355

Questions

MICHIGAN PFAS ACTION RESPONSE TEAM (MPART)

www.Michigan.gov/PfasResponse



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY



THANK YOU!

We will share the slides and a recording and closed-captioned copy of today's conversation via email and on our website in the next few days.