Information Session:
BASF North Works RCRA Cleanup
Wyandotte, MI

September 8, 2022

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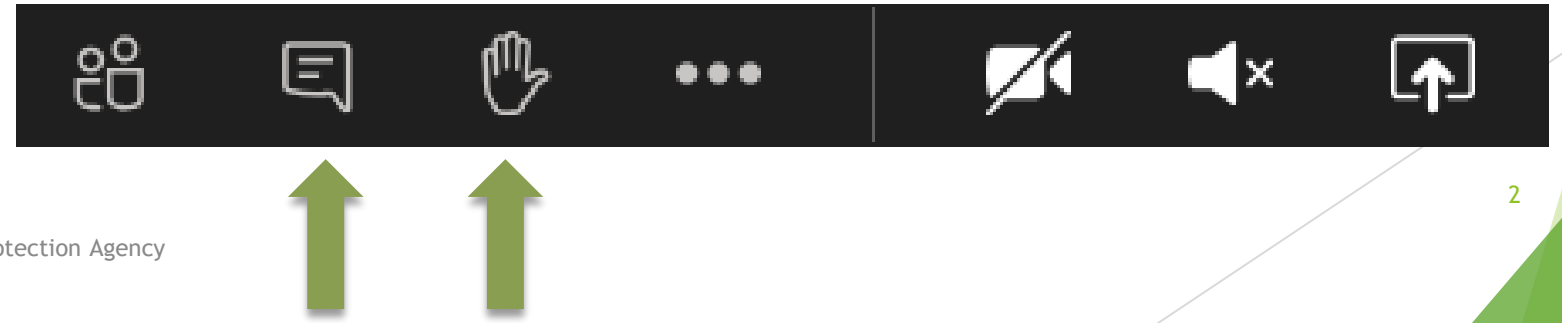
Housekeeping

- Please keep your microphone/phone muted unless speaking
- There will be time for questions after the presentation. At that time, if you wish to ask a question, please raise your hand or enter your name in the “chat” function and the moderator will call on you
- Cameras are optional
- This meeting is not being recorded
- Today's presentation will be later posted online



Agenda

- Opening Remarks
  - EPA Region 5 Regional Administrator Debra Shore
  - Congresswoman Debbie Dingell
- Cleanup Overview (EPA)
- Groundwater Contamination and Remediation (EPA)
- Drinking Water (EGLE)
- Q&A (EPA & EGLE)

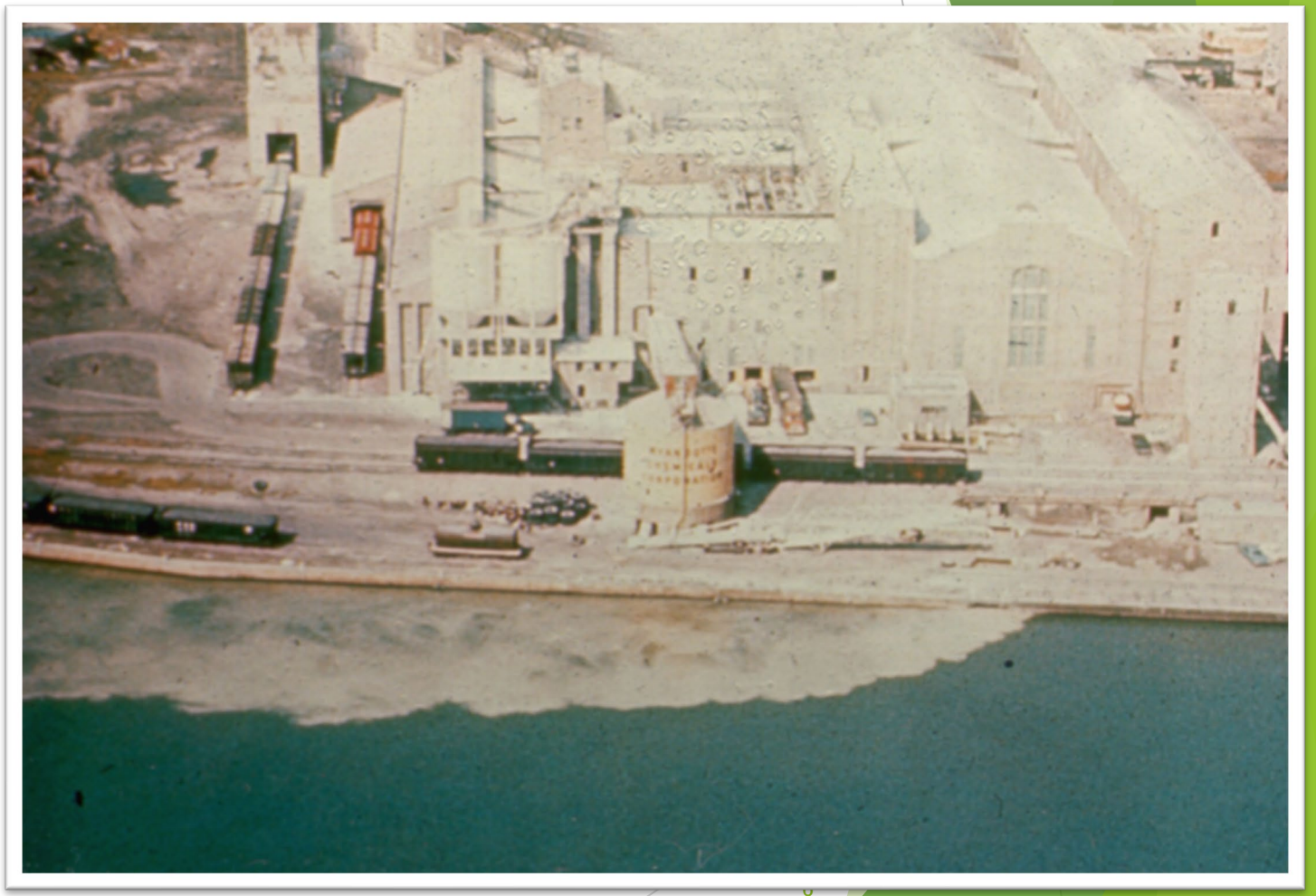
BASF North Works Facility

Site Background

- Industrial use since late 1800s
- Original marshland of the Detroit River drained and filled in the early 1900s
- Management of Hazardous Waste
- RCRA Cleanup (Corrective Action)

RCRA Corrective Action Process

- Site Investigation
- Interim Measures
- Evaluation of Remedial Alternatives
- Remedy Implementation
- Long Term Care
- Corrective Action



Site Investigations

- BASF has investigated the Site to identify contamination

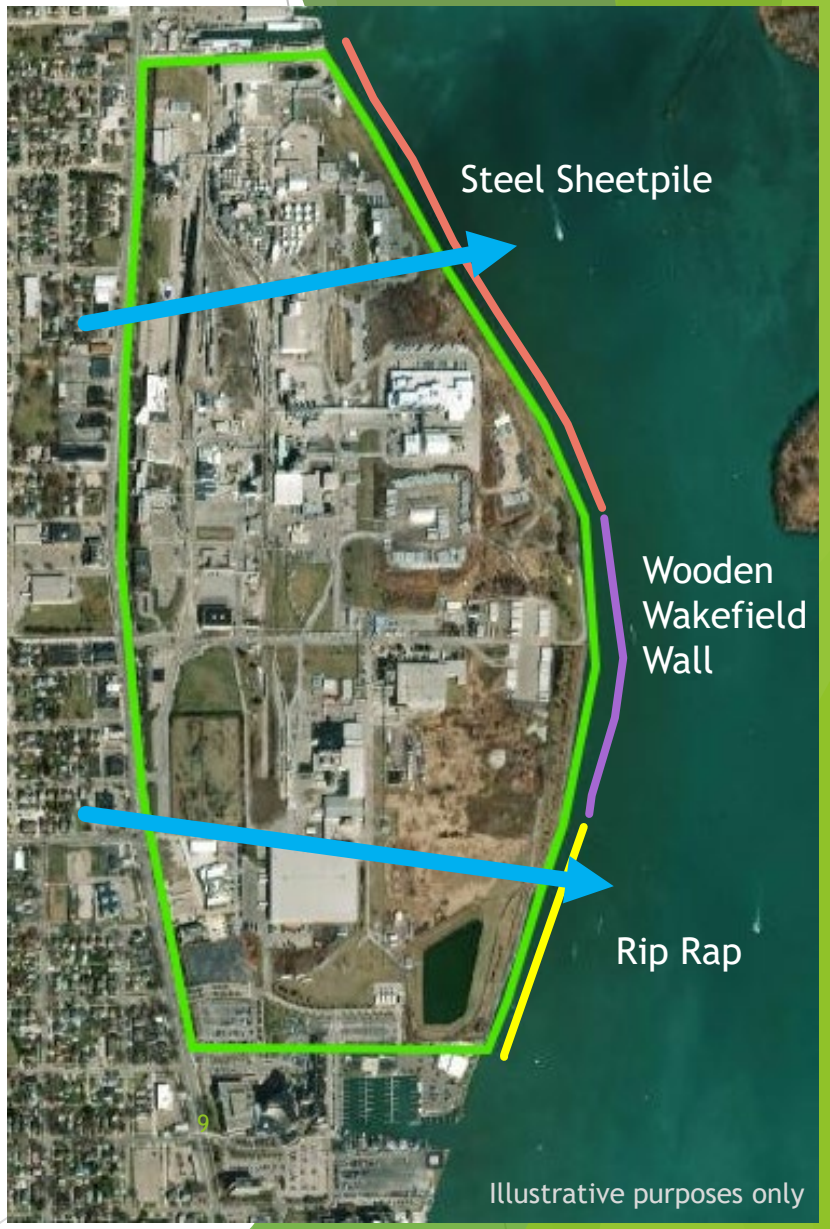
- Contaminants of Concern
  - Volatile Organic Compounds (VOCs)
  - Semi Volatile Organic Compounds (SVOCs)
  - Metals
  - Available cyanide
  - 4,4-dichlorodiphenyltrichloroethane (4,4-DDT)
  - High pH
  - PFAS

Site Investigations

- Understanding of the Site has evolved over time
- Initial focus on potential source areas
  - BASF investigated Solid Waste Management Units and Areas of Concern
  - Remedy proposal focused on these distinct areas
- Extent of groundwater contamination pointed to additional sources requiring further investigation
  - Fill used in historic property development a continuous source of contamination to groundwater
  - Shoreline infrastructure not providing complete hydraulic containment
- Groundwater management needed on a site-wide basis

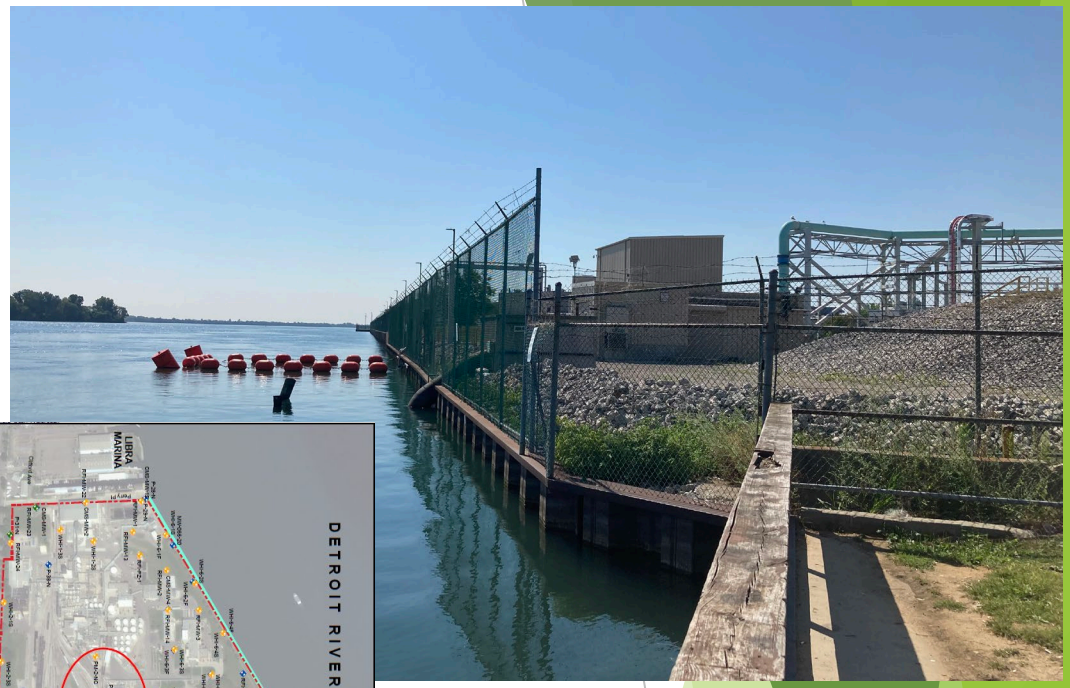
Groundwater

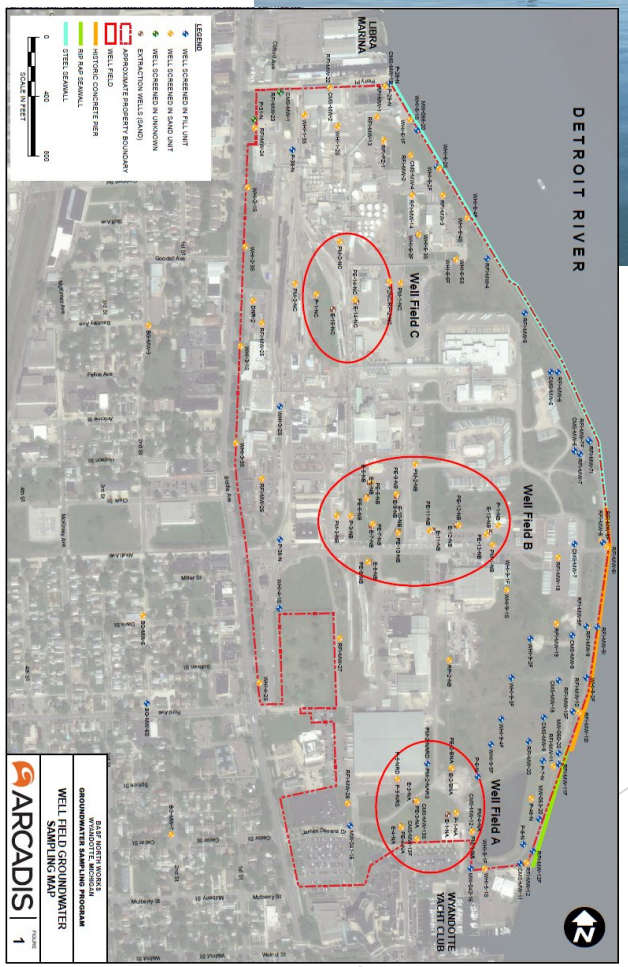
- Groundwater flows across the Site towards the Detroit River
- Underlying geology impacts the groundwater across the site
- The hydraulic conductivity - ability of water to pass through pores and fractured rock - varies widely
- Physical barriers along shoreline affect groundwater movement



Existing Groundwater Controls

- Systems and structures in place limit groundwater entering the Detroit River
  - Groundwater extraction system
  - Steel seawall





Targeted Groundwater Interim Action

- **Priority**: Targeted actions that can start soon to minimize the contaminated groundwater entering the Detroit River while comprehensive measures are finalized

- **Current Status:** Developing interim action design plans

- **Next Steps:**
  - BASF to finalize design plans
  - EPA review and approval
  - BASF to begin construction

Comprehensive Groundwater Interim Measure

- **Priority:** Prevent all contaminated groundwater from entering the Detroit River
  - Physical barrier for entire downgradient perimeter
  - Groundwater treatment
- **Current Status:** BASF submitted Interim Measure proposals
- **Next Steps:** EPA Selection of Interim Measure
  - BASF to prepare final design
  - EPA review and approval
  - BASF to begin construction

Implementation Schedule and Next Steps

Illustrative purposes only

Implementation Schedule and Next Steps

- Targeted Groundwater Interim Action

Illustrative purposes only

Implementation Schedule and Next Steps

- Targeted Groundwater Interim Action
- Comprehensive Groundwater Interim Measure

Implementation Schedule and Next Steps

- Targeted Groundwater Interim Action
- Comprehensive Groundwater Interim Measure
- Site-Wide Final Remedy

MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

- Tracy Kecskemeti, Materials Management Division
- Stephanie Johnson, Drinking Water and Environmental Health Division

Eat Safe Fish Guidelines - Detroit River
Michigan.gov/EatSafeFish

Fish Species	Chemicals causing MI Serving Guideline	Fish Size	MI Servings/Month
Bullhead	PCBs	Any	2
Carp, Catfish, White (Silver) Bass	PCBs, Dioxins	Any	Limited
Freshwater Drum, Largemouth Bass, Smallmouth Bass	PCBs	Any	Limited
Northern Pike	Dioxins, Mercury	Any	1
Rock Bass, Yellow Perch	PCBs	Any	4
Suckers	PCBs	<14”	2
Suckers	PCBs	14-18”	6/year
Suckers	PCBs	>18”	Limited
Walleye	PCBs, Dioxins	Any	6/year

Wyandotte Drinking Water Plant

- Conventional treatment plant, not designed to remove PFAS
- Single intake
  - 42 in diameter pipe
  - Approximately 1,500 ft off river shore
  - Approximately 20 ft under water

Wyandotte Drinking Water Plant

- 15 PFAS samples in 2019
- Two detections in raw water
  - July 2019 sample 2 ppt PFOS
  - August 2019 sample 49 ppt PFOS (MCL=16 ppt)
- One detection in treated water
  - August 2019 sample 26 ppt PFOS
- Moved to weekly samples for the remainder of 2019, all non-detect

Wyandotte Drinking Water Plant

- 2021 bi-monthly raw PFAS samples non-detect
- 2022 weekly raw PFAS samples (April-Sept)
  - April sample PFOA & PFOS (2-5 ppt), PFOSA (42-95 ppt)
  - PFOSA detect notable, looking into, further sampling planned
  - All other samples non-detect
- City is monitoring PFAS under new rule
  - Monthly PFAS, VOC and mercury samples all non-detect (raw and treated)

C2R2 Grant
(Consolidation and Contamination Risk Reduction)

- Systems eligible to apply with a contaminant result greater than 50% of a maximum contaminant level (MCL)
- Awarded funds in December 2021 to replace filter media with granular activated carbon (GAC) to provide another public health protection barrier.
- Due to lack of recent PFAS detections, the City is evaluating whether to move forward with the media replacement.
- EGLE continues to monitor sampling results and is working with the City to evaluate treatment options

Questions?

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- Stephanie Johnson, EGLE Drinking Water, johnsons18@michigan.gov