



McLouth Steel RI/FS Update

Community Advisory Group Meeting

May 9, 2024



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Remedial Investigation / Feasibility Study (RI/FS)

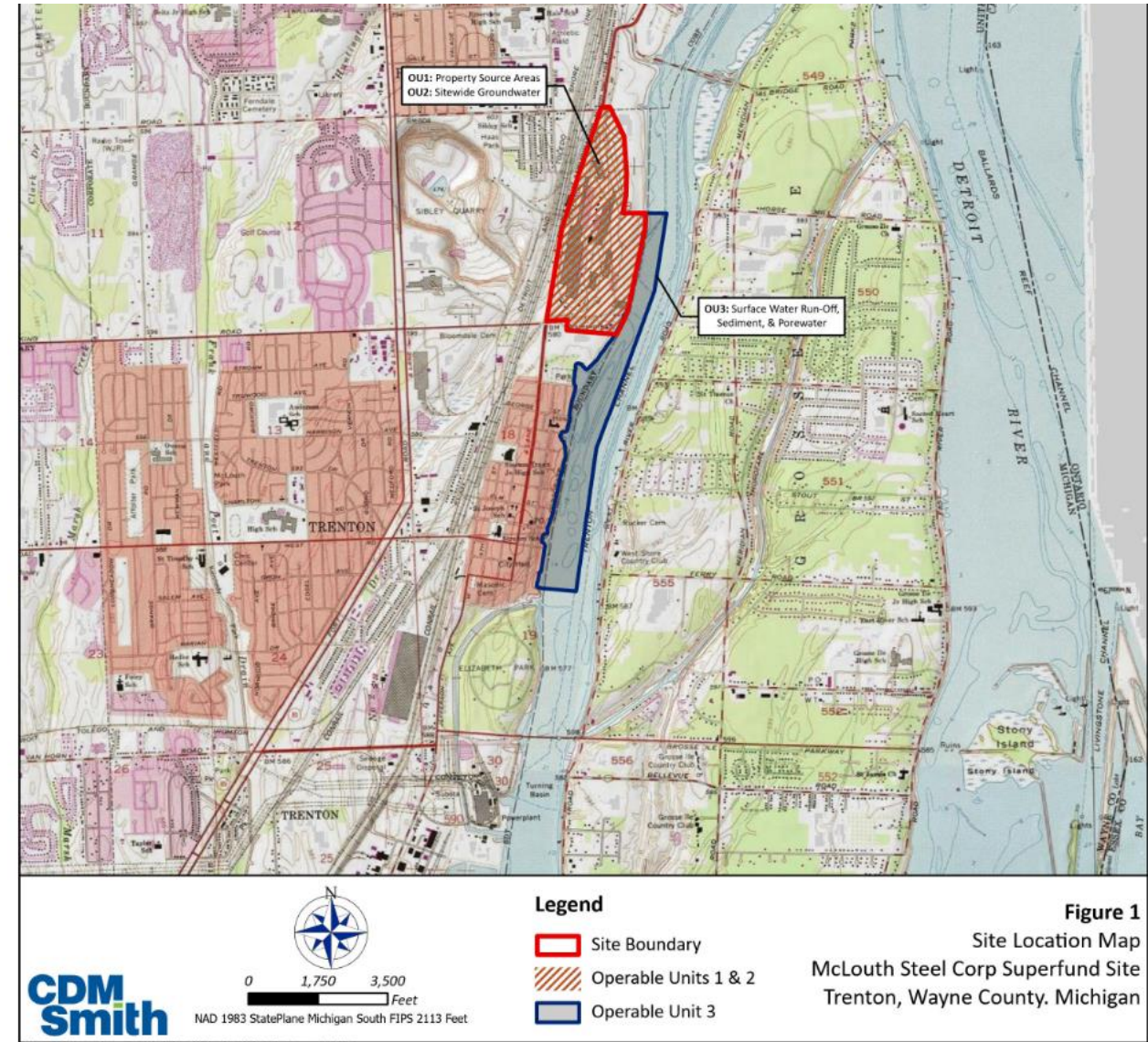
- A Remedial Investigation is being performed to collect information on the nature and extent of contamination at the former steel plant property.
- The goals of the RI are two-fold:
 - to provide enough detail to assess the risks posed by the site to human health and the environment, and
 - to enable evaluation of potential and appropriate remedial measures in the Feasibility Study .



McLouth Steel

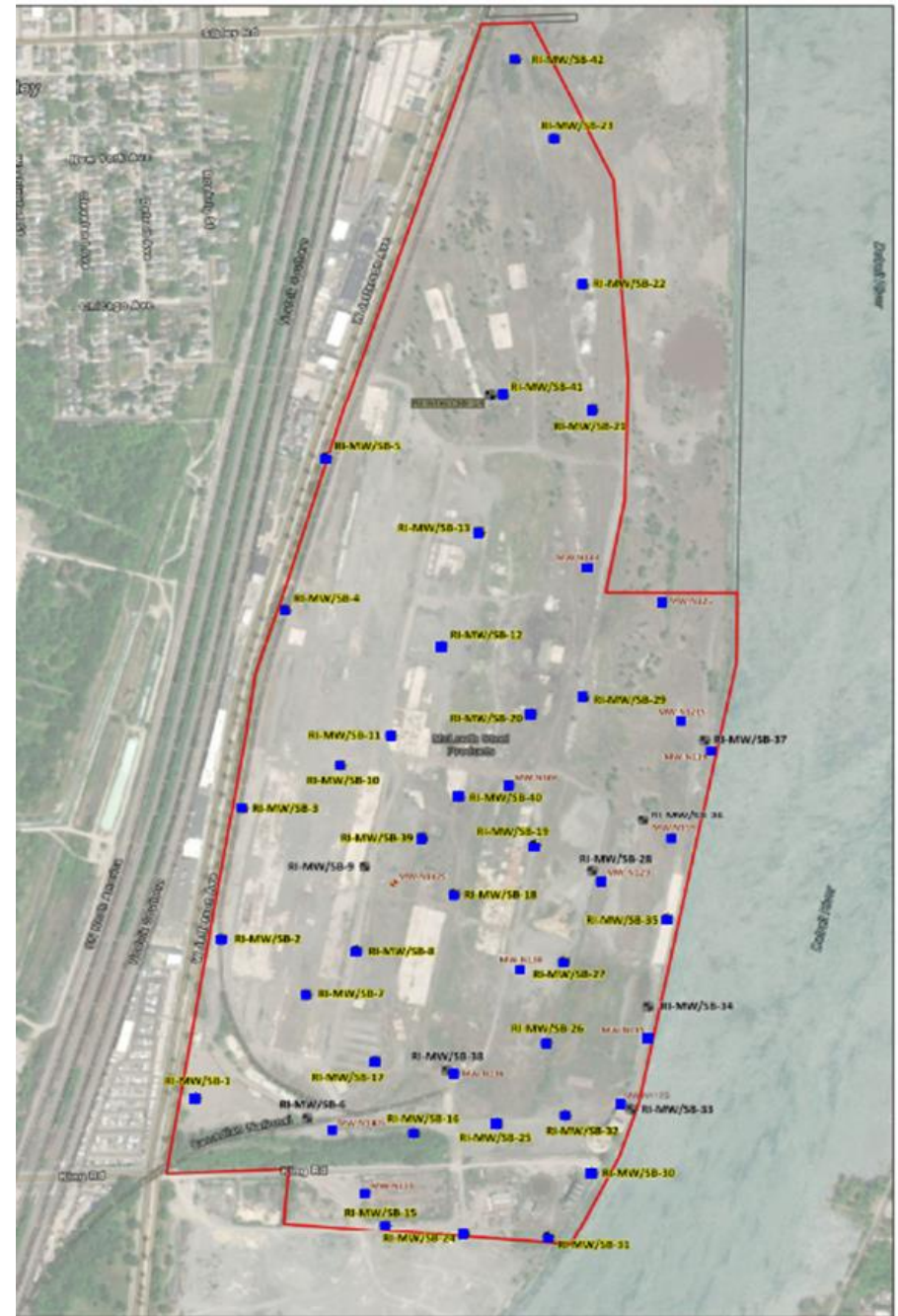
Three Operable Units

- Operable Unit 1 (OU1) – Source Areas
 - Releases to the land, fill materials, steel plant slag, etc.
- Operable Unit 2 (OU2) – Groundwater
 - Impacts to groundwater, assessment of site hydrogeology, evaluation groundwater discharge
- Operable Unit 3 (OU3)– Trenton Channel
 - Groundwater discharge to surface water, impacts to sediment and porewater



OU1 and OU2 - Investigation

- Work Completed
 - ✓ Soil borings/soil sampling
 - ✓ Monitoring well installation
 - ✓ Well development
 - ✓ Synoptic round of water level elevations
 - ✓ Groundwater sampling
 - ✓ Hydraulic testing of monitoring wells
 - ✓ Survey of new monitoring wells



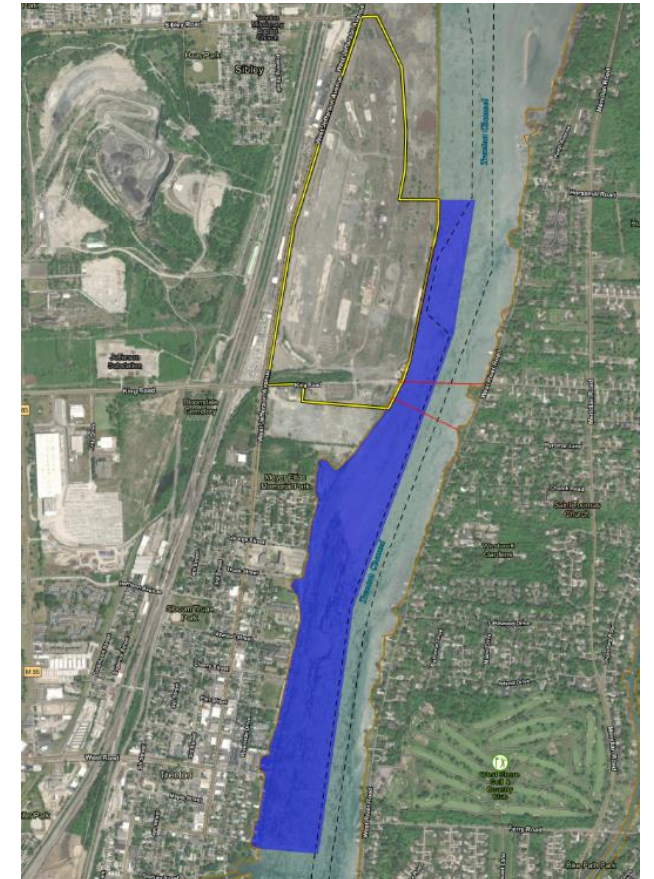
OU3 - Investigation

■ Work Completed

- ✓ Sediment Sampling by Ponar dredge and Vibracore
- ✓ Sediment Trap Sampling
- ✓ Surface Water Sampling

■ Work Pending

- Bathymetric Survey of Trenton Channel (Water depths as well as any underwater features)



OU1 – Results – Draft Technical Memorandum

Tables:

- Table 1 – Soil Sample Detections and Exceedances Summary
- Table 2 – Soil Sample Detections and Exceedances – Polychlorinated Biphenyls
- Table 3 – Soil Sample Detections and Exceedances – Volatile Organic Compounds
- Table 4 – Soil Sample Detections and Exceedances – Semivolatile Organic Compounds
- Table 5 – Soil Sample Detections and Exceedances – Pesticides
- Table 6 – Soil Sample Detections and Exceedances – Dioxins/Furans
- Table 7 – Soil Sample Detections and Exceedances – Inorganics (Metals and Cyanide)
- Table 8 – Soil Sample Detections and Exceedances – Per- and Polyfluoroalkyl Substances
- Table 9 – Soil Sample Detections and Exceedances – Vertical Distribution
- Table 10 – Soil Sample Detections and Exceedances – Distribution Relative to Former Site Features

Location	RI-SB-01	RI-SB-01	RI-SB-01	RI-SB-02	RI-SB-02	RI-SB-02	RI-SB-02	RI-SB-03	RI-SB-03	RI-SB-03	RI-SB-04	RI-SB-04	RI-SB-04	RI-SB-05						
Sample #	RI-SB-01-0-0.5	RI-SB-01-1-2	RI-SB-01-4-5	RI-SB-02-0-0.5	RI-SB-02-1-2	RI-SB-02-4-5	RI-SB-02-1-2	RI-SB-03-0-0.5	RI-SB-03-1-2	RI-SB-03-3-4	RI-SB-04-0-0.5	RI-SB-04-1-2	RI-SB-04-5-6	RI-SB-05-0-0.5						
Start Depth	0	1	4	0	1	4	1	0	1	3	0	1	5	0						
End Depth	0.5	2	5	0.5	2	5	2	0.5	2	4	0.5	2	6	0.5						
Depth Unit	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft						
Sample Type	N	N	N	N	N	N	FD	N	N	N	N	N	N	N						
Parent Sample #							RI-SB-02-1-2													
Sample Date	8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/18/2023	8/18/2023	8/18/2023	8/29/2023	8/29/2023	8/29/2023	8/16/2023						
Method Group	Method	Analyte	CAS #	Soil PAL	Units															
014-McClouth_Inorg	SFAM01.1	Aluminum	7429-90-5	6900	mg/kg	20000 J	17000 J	3600 J	11000 J	4600 J	4400 J	4600 J	7300	5500	3400	8000 J	16000 J	16000 J	16000	
014-McClouth_Inorg	SFAM01.1	Antimony	7440-36-0	1.2	mg/kg	U	U	U	2.1 J*	22 J*	U	2.6 J*	2.1 J*	1.9 J*	U	U	U	U	U	
014-McClouth_Inorg	SFAM01.1	Arsenic	7440-38-2	0.68	mg/kg	1.3 J	0.97 J	5.6 J	2.4 J	5.6 J	6.7 J	2.5 J	3.4	6	2.6	1.8 J	1.9 J	1.3 J	2.7	
014-McClouth_Inorg	SFAM01.1	Barium	7440-39-3	288.6	mg/kg	180 J*	150 J*	100	140 J*	180 J*	910	330 J*	170	560	88	65	120	89	310	
014-McClouth_Inorg	SFAM01.1	Beryllium	7440-41-7	16	mg/kg	4.6 J	4.4 J	0.42 J	1.4 J	0.6 J	0.52 J	0.46 J	1.5	0.47	0.77	0.73 J	2 J	1 J	3.2	
014-McClouth_Inorg	SFAM01.1	Cadmium	7440-43-9	0.71	mg/kg	U	0.38 J	0.33 J	0.69	1.9	2	15	2.3	0.4 J	2	0.39 J	0.66	0.57		
014-McClouth_Inorg	SFAM01.1	Calcium	7440-70-2		mg/kg	130000	120000		78000	82000	U	U	68000	15000	3600	42000	210000 J*	150000	170000	
014-McClouth_Inorg	SFAM01.1	Chromium	7440-47-3	0.3	mg/kg	15 J*	84 J*	25 J*	57 J*	220 J*	96 J*	86 J*	60	130	44	150 J	490 J	260 J	560 J*	
014-McClouth_Inorg	SFAM01.1	Cobalt	7440-48-4	0.54	mg/kg	1.4 J*	0.91 J*	3 J*	3 J*	4.8 J*	7.6 J*	5.7 J*	4.6	7.7	18	3.9	2.7	4.4	3.6	
014-McClouth_Inorg	SFAM01.1	Copper	7440-50-8	51.8	mg/kg	U	U	92	51	210	830	180	210 J*	200 J*	160 J*	65	15	21	41	
014-McClouth_Inorg	SFAM01.1	CYANIDE	57-12-5	0.1	mg/kg	U	0.63	U	U	0.31 J	0.45 J	U	U	0.32 J	U	U	U	9.9 J*		
014-McClouth_Inorg	SFAM01.1	Iron	7439-89-6	6	mg/kg	U	U	U	U	37000 J	U	16000	34000	34000	34000 J*	98000 J*	12000 J	58000		
014-McClouth_Inorg	SFAM01.1	Lead	7439-92-1	280	mg/kg	U	13 J*	95 J*	40 J*	160 J*	730 J*	69 J*	89 J*	100 J*	80 J*	45 J*	15 J*	71 J*	380 J*	
014-McClouth_Inorg	SFAM01.1	Magnesium	7439-95-4	8000	mg/kg	13000 J*	14000 J*	550 J*	11000 J*	18000 J*	1500 J*	2800 J*	8900	1400	1200	6400 J	18000 J*	13000 J*	29000	
014-McClouth_Inorg	SFAM01.1	Manganese	7439-96-5	1	mg/kg	2300 J*	3300 J*	930 J*	1600 J*	3100 J*	1400 J*	1800 J*	1100 J*	1300 J*	260 J*	1800 J*	12000 J*	710 J*	8300	
014-McClouth_Inorg	SFAM01.1	Mercury	7439-97-6	0.05	mg/kg	U	U	0.026 J	U	0.09 J	0.34	0.14	0.35	0.77	1.2	U	U	U	0.082 J	
014-McClouth_Inorg	SFAM01.1	Nickel	7440-02-0	52	mg/kg	U	U	0.087 J	0.11 J	0.28 J	2	0.58	0.27 J	1.5	0.19 J	U	0.076 J	U	0.16 J	
014-McClouth_Inorg	SFAM01.1	Potassium	7440-09-7		mg/kg	1500 J*	1000 J*	U	720 J*	U	U	U	420 J	440	160 J	650	780	900	650	
014-McClouth_Inorg	SFAM01.1	Selenium	7782-49-2	0.4	mg/kg	2 J	1.7 J	U	0.75 J	U	4	U	2.6	U	U	U	U	U	0.95 J	
014-McClouth_Inorg	SFAM01.1	Silver	7440-22-4	0.1	mg/kg	U	U	0.087 J	0.11 J	0.28 J	2	0.58	0.27 J	1.5	0.19 J	U	0.076 J	U	0.16 J	
014-McClouth_Inorg	SFAM01.1	Sodium	7440-23-5		mg/kg	3100	470 J	77 J	260 J	140 J	180 J	120 J	590	520	480	180 J	500	400 J	1000	
014-McClouth_Inorg	SFAM01.1	Thallium	7440-28-0	0.078	mg/kg	U	U	U	0.071 J	U	U	U	0.044 J	U	U	U	0.05 J	U	0.073 J	U
014-McClouth_Inorg	SFAM01.1	Vanadium	7440-62-2	39	mg/kg	6.7 J*	20 J*	11 J*	19 J*	40 J*	20 J*	4.4 J*	7.5	13	10	15	290	6.1	150	
014-McClouth_Inorg	SFAM01.1	Zinc	7440-66-6	119.04	mg/kg	U	U	U	U	190 J*	530 J*	120 J*	130 J*	130 J*	52 J*	99 J*	56 J*	110 J*	610 J*	

Notes:
1. Identifies results that exceed the listed PAL value

Figures:

- Figure 1 – Site Location Map
- Figure 2 – Site Layout
- Figure 3 – Soil Boring Locations
- Figure 4 – Surface Soil PCBs
- Figure 5 – VOC: PCE/TCE in Soil
- Figure 6a – SVOC: Benzo(a)pyrene in Soil
- Figure 6b – SVOC: Naphthalene in Soil
- Figure 7 – Metals: Antimony in Soil
- Figure 8 – Metals: Arsenic in Soil
- Figure 9 – Metals: Barium in Soil
- Figure 10 – Metals: Cadmium in Soil
- Figure 11 – Metals: Total Chromium in Soil
- Figure 12 – Metals: Cobalt in Soil
- Figure 13 – Metals: Iron in Soil
- Figure 14 – Metals: Lead in Soil
- Figure 15 – Metals: Manganese in Soil
- Figure 16 – Metals: Mercury in Soil
- Figure 17 – Metals: Nickel in Soil
- Figure 18 – Metals: Vanadium in Soil
- Figure 19 – Metals: Zinc in Soil




OU1 Soil Investigations – Evaluations

- Concentrations compared to Project Action Limits - the lower of the following
 - Human Health Screening Criteria
 - MI EGLE Generic Criteria for Residential Soil
 - EPA Regional Screening Levels,
 - EPA Protection of groundwater
 - Ecological Screening Criteria
 - EPA Ecological Soil Screening Levels
 - EPA Region 4 Soil Screening Values
 - EPA Region 4 Soil Screening Values

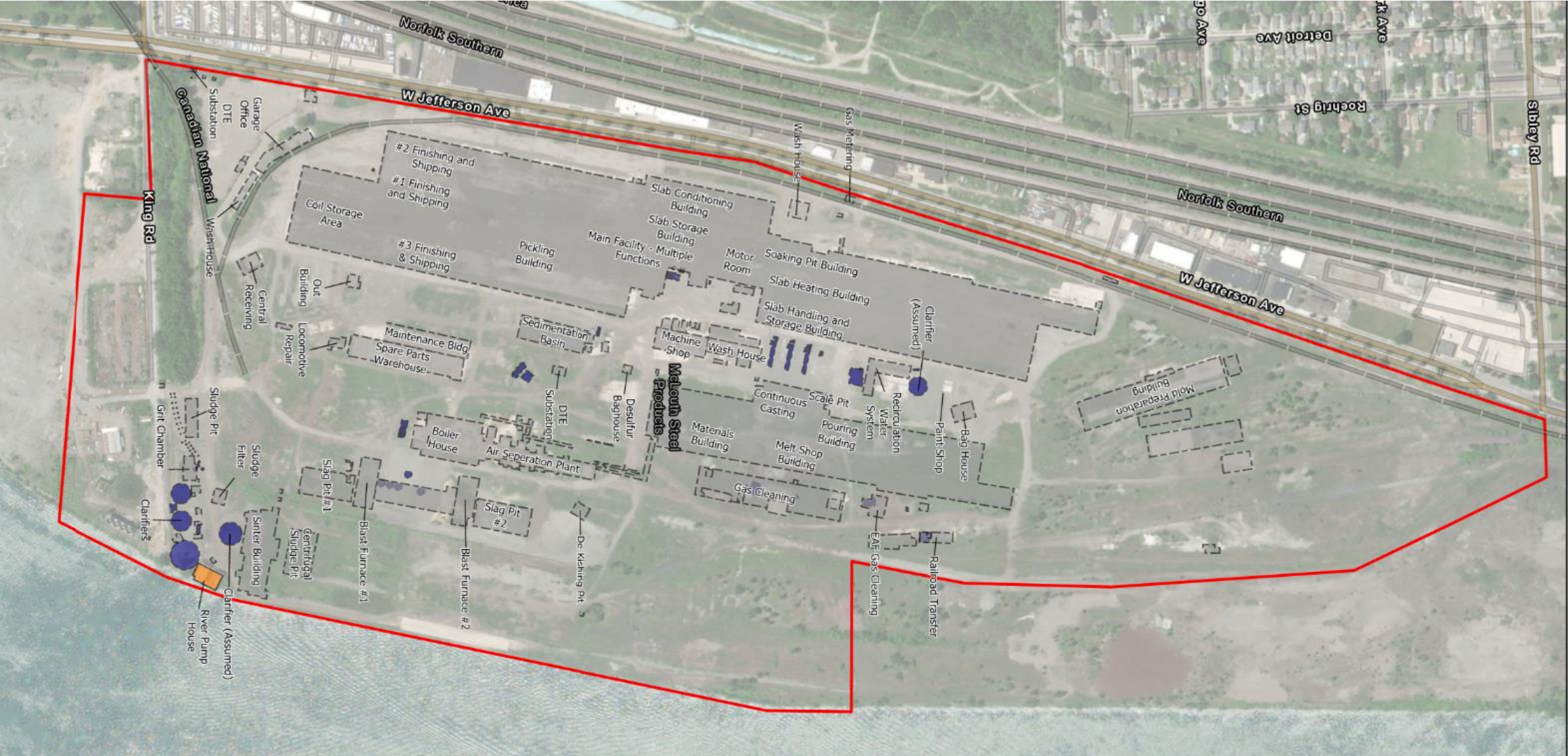
Constituent Distribution Figures –
Example Legend

Antimony (PAL: 1.2 mg/kg)

-  Exceed 50x PAL
-  Exceed 10x PAL
-  Exceed PAL
-  Below PAL
-  Not Detected

McLouth Steel – Former Site Layout and Features

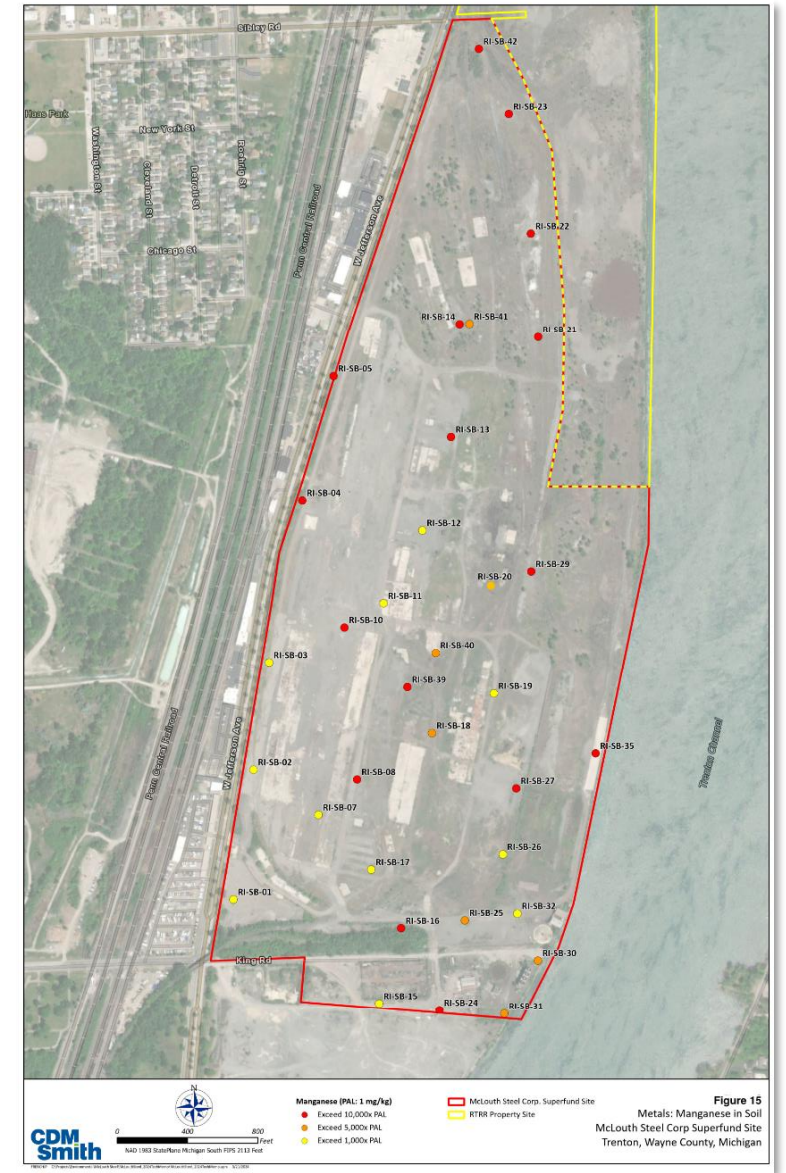
North



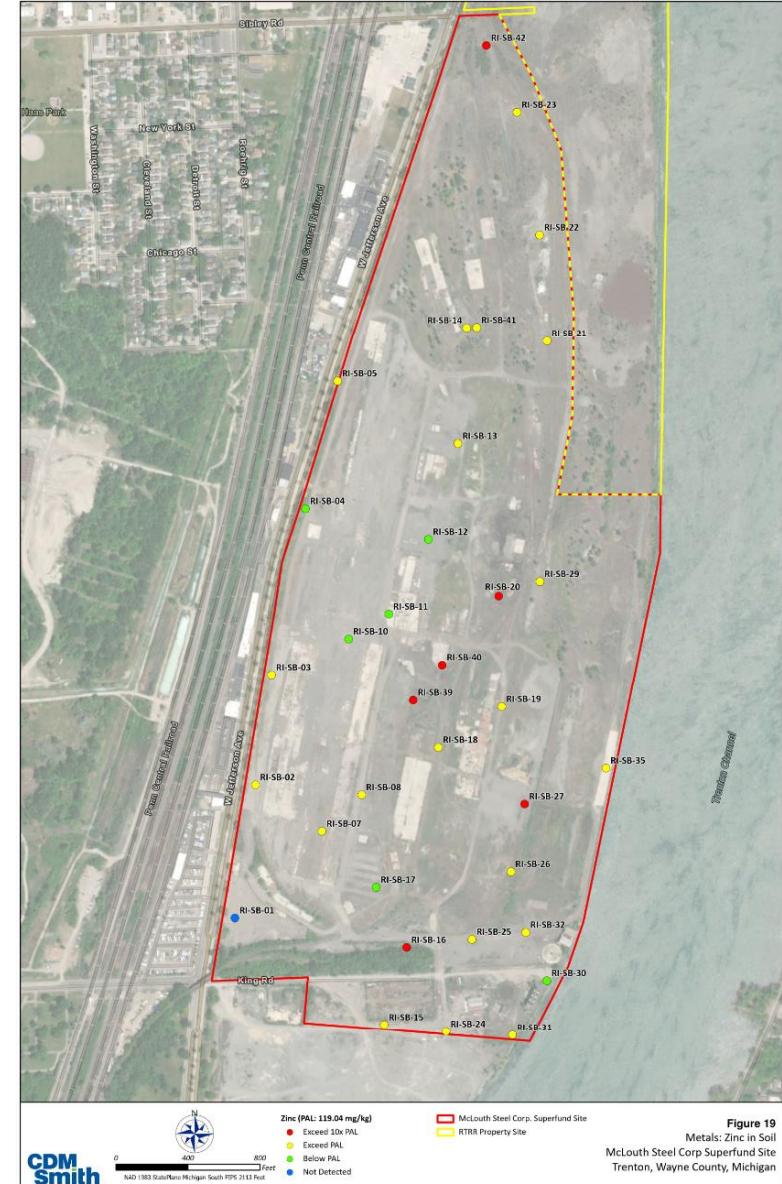
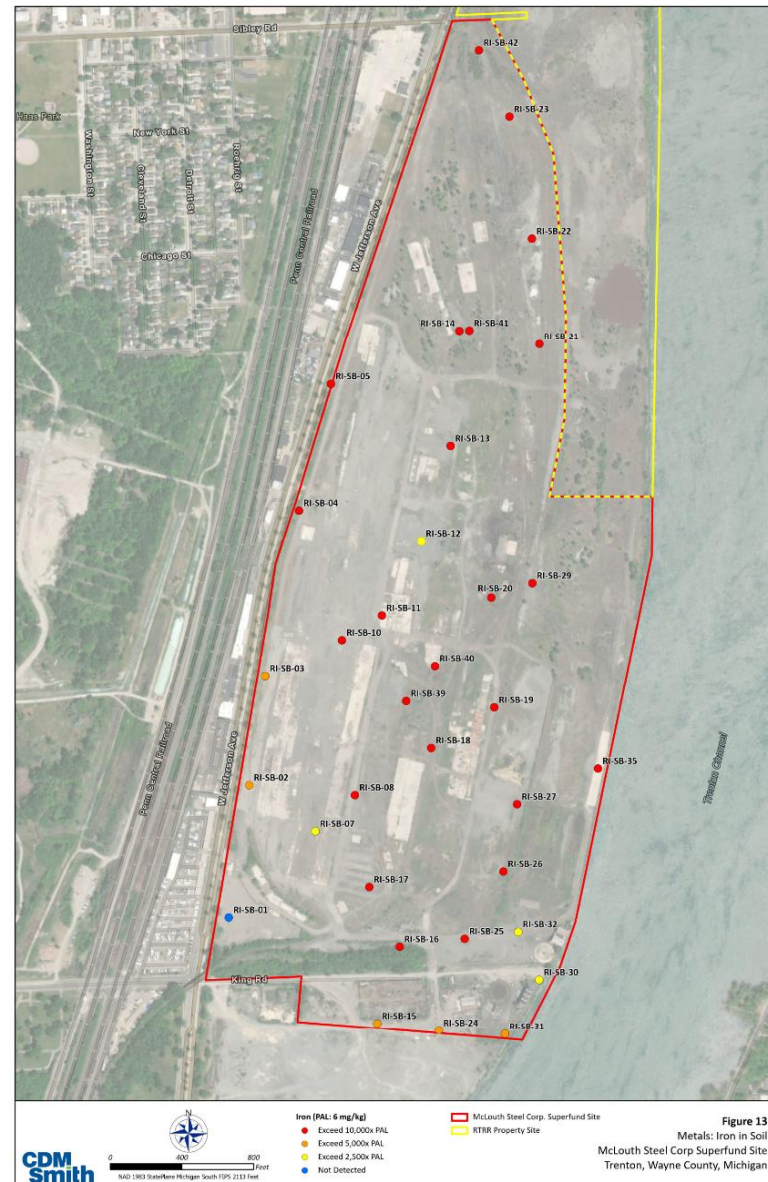
Constituent Distribution - CVOCs, Naphthalene and B(a)P



Constituent Distribution - PCBs, Lead and Manganese

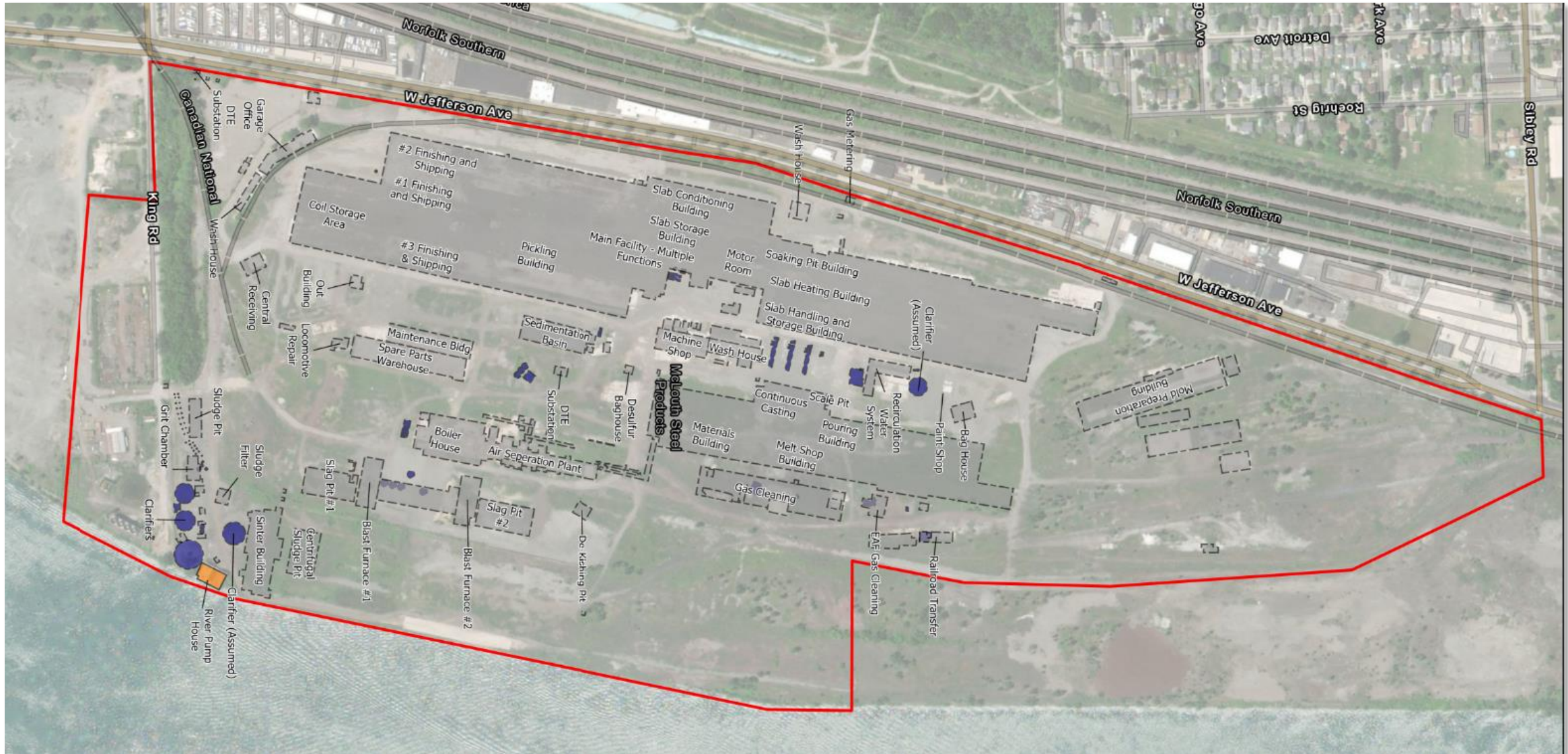


Constituent Distribution - Antimony, Iron and Zinc



McLouth Steel – Former Site Layout and Features

North





Work in Progress

- Validation of laboratory data
- Preparation of Technical Memoranda
- Identification of data gaps and recommendations for Year 2 Field Work

What's Next – General Schedule

- 2nd Quarter 2024 – Technical Memoranda
- Summer/Fall 2024 - Year 2 Field Work
- 4th Quarter 2024 / 1st Quarter 2025 – Evaluation of Year 2 Data
- Spring 2025 – Prepare and initiate Groundwater Monitoring Program
- Spring 2025 – Bedrock Aquifer Need Assessment
- Summer 2025 – Preparation of RI/FS



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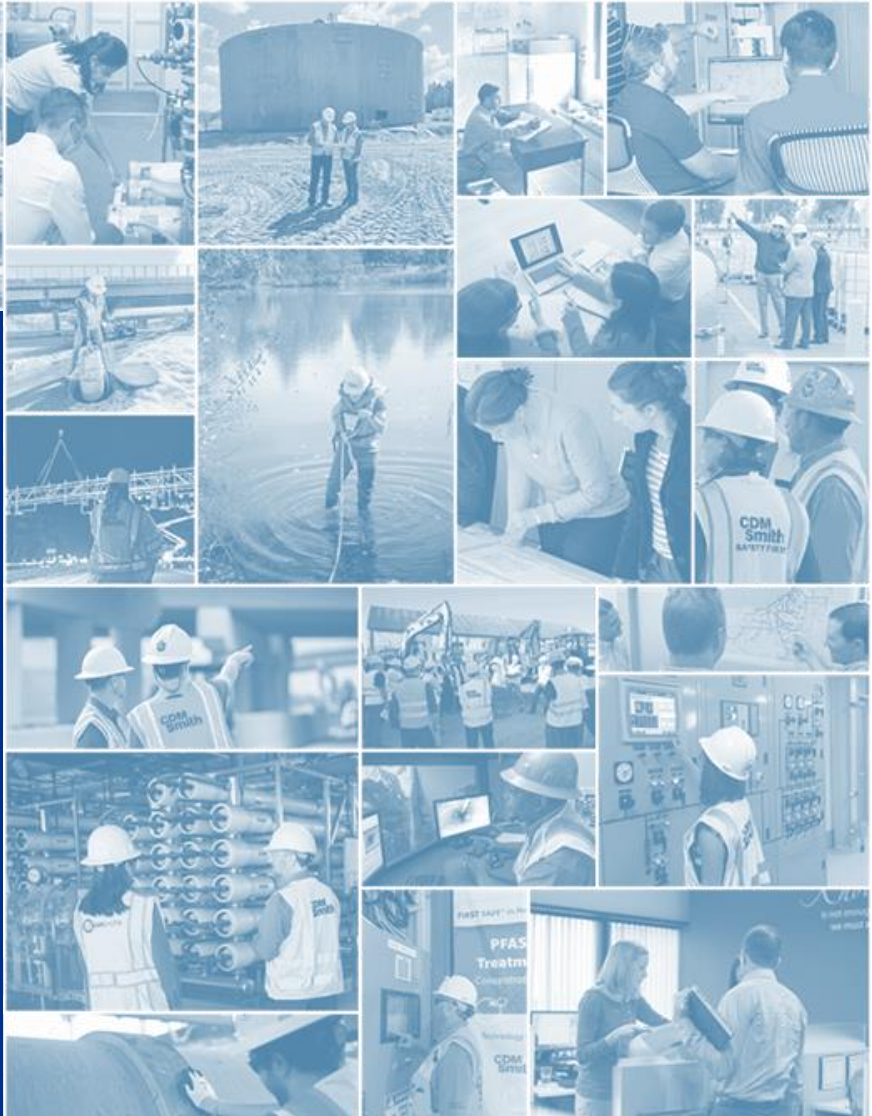


Thank you for your interest

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