Presents

Stephen Petty & Scott Smith

Here to Provide Access to Our Data and Reports on Our Surface Soil and Water Data

&

To Take and Answer Your Questions

September 11, 2026

BURN EVENT – February 6, 2023

THANKS

- To you all for waiting so long and coming.
- Stephanie Stock – OAMF – for Providing the Resources for this Town Hall.
- Attorney Jon Conlin and his team at Cory Watson – Who funded and allowed this work to continue post 4/24 and make it public.
- Special Guest – Vivek Ramaswamy.

LOCATION FOR OUR DETAILED REPORT

- **Disclosed in U.S. Federal District Court for Northern Ohio – Judge Benita Y. Pearson – as attachments to filing on September 8, 2026 – Documents filed with Finley Daubert Motion - #117 – Exhibits E, G, H and I.**

- **Easier Way to Access: EES Group, Inc. Website:**

  - https://eesgroup.us/east-palestine-documents/

DOCUMENT DETAILS

Petty Report – April 6, 2026 – NS Criticisms – Sections 6 to 7 (pgs. 27 – 132).

Petty Report – May 29, 2026 – Latest EP Data and Plots – Sections 3 to 6 (pgs. 32-108).

Rosenfeld Report – May 29, 2026 – Plume Modeling – Figures ES-8 through ES-16 (pgs. 18-26).

Petty Deposition – June 23, 2026 – NS Cross Examination of Petty.

Petty/Smith September 11, 2026 Presentation.

DOCUMENT DETAILS

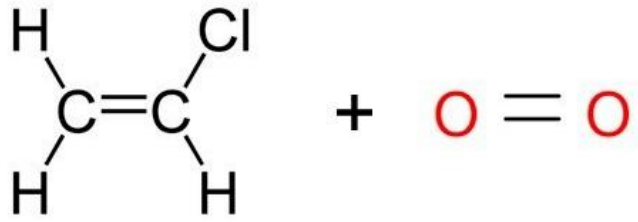
From train manifest the following chemicals were potentially released:

- **Benzene**
- **Butyl Acrylates**
- **Dipropylene Glycol**
- **Ethylene Glycol Monobutyl Ether**
- **Ethyl Hexyl Acrylate**
- **Fuel Additives (not specified)**
- **Isobutylene**
- **Petroleum Lube Oil**
- **Polyvinyl (i.e., PVC)**
- **Propylene Glycol**
- **Residue Lube Oil**
- **Vinyl Chloride.**

DOCUMENT DETAILS

From the burning of vinyl chloride (and PVC) the following chemicals were potentially released:

Vinyl Chloride/PVC + Air/Heat ➡



HCl (27,000 ppm);
CO_2 (58,100 ppm);
CO (9,500 ppm);
Phosgene (40 ppm);
Dioxins/Furans (ppb/ppt), VCM (trace)
&
Soot, Oxygen, Nitrogen, Argon, etc.

HCl + Moisture = Hydrochloric Acid

DOCUMENT DETAILS

Reports – Address Chronic Contaminants in the Surface Soils and Surface Waters (last months to years):

We Focused on PAHs – Polyaromatic Hydrocarbons and Dioxins/Furans.

Did Not Address Acute Contamination of the Air – Minutes or Hours after Burn – HCl gas/hydrochloric acid and phosgene (nerve agent) – respiratory tract affects. It was likely gone by time we arrived.

DOCUMENT DETAILS

Four (4) Independent Sets of PAH & Dioxin/Furan Data:

- **Data Set #1: Non-Petty Plaintiff Sampling Data – run through process and available in April 2023.**
- **Data Set #2: Petty Plaintiff Data – Raw data available in 2024, but Processed in 2026.**
- **Data Set #3: GEL Plaintiff Data – Processed in 2026.**
- **Date Set #4: Scott Smith Independent Data – Processed in 2026.**

RAW DATA PROCESSING

Rigorous Process Followed before any calculations, plots or plumes were made – *Likely best data available!*

Process (Expensive – >$100K and time consuming (months):

- **Lab (i.e., Eurofins – requested Level 4 reports (~1,000 pages vs Level 2 reports (~100 pages). Want all the QA/QC information available.**

- **Level 4 reports for all 4 data sets sent to independent QA/QC company in California to review all sampling and analytical details, correct missing details, reduce flags, and not accept data if not meeting their review criteria.**

QA/QC's DATA PROCESSING

For PAHs and Dioxin/Furans – Developed Composite Values and Compared with Cancer Screening Levels:

- **PAH's – Calculated Composite Value Knows and Benzo(a)Pyrene Equivalent (BaP_E). Cancer screening level used was 110 µg/kg (ppm).**

- **Dioxins/Furans: Calculated total TCDD toxic equivalence (TEQ). Cancer screening levels used was 4.8 ng/kg (ppt). Same value as recommended by NS contractor Arcadis.**

QA/QC's DATA PROCESSING

Values Higher than Cancer Screening Levels Means Something More Must be Done:

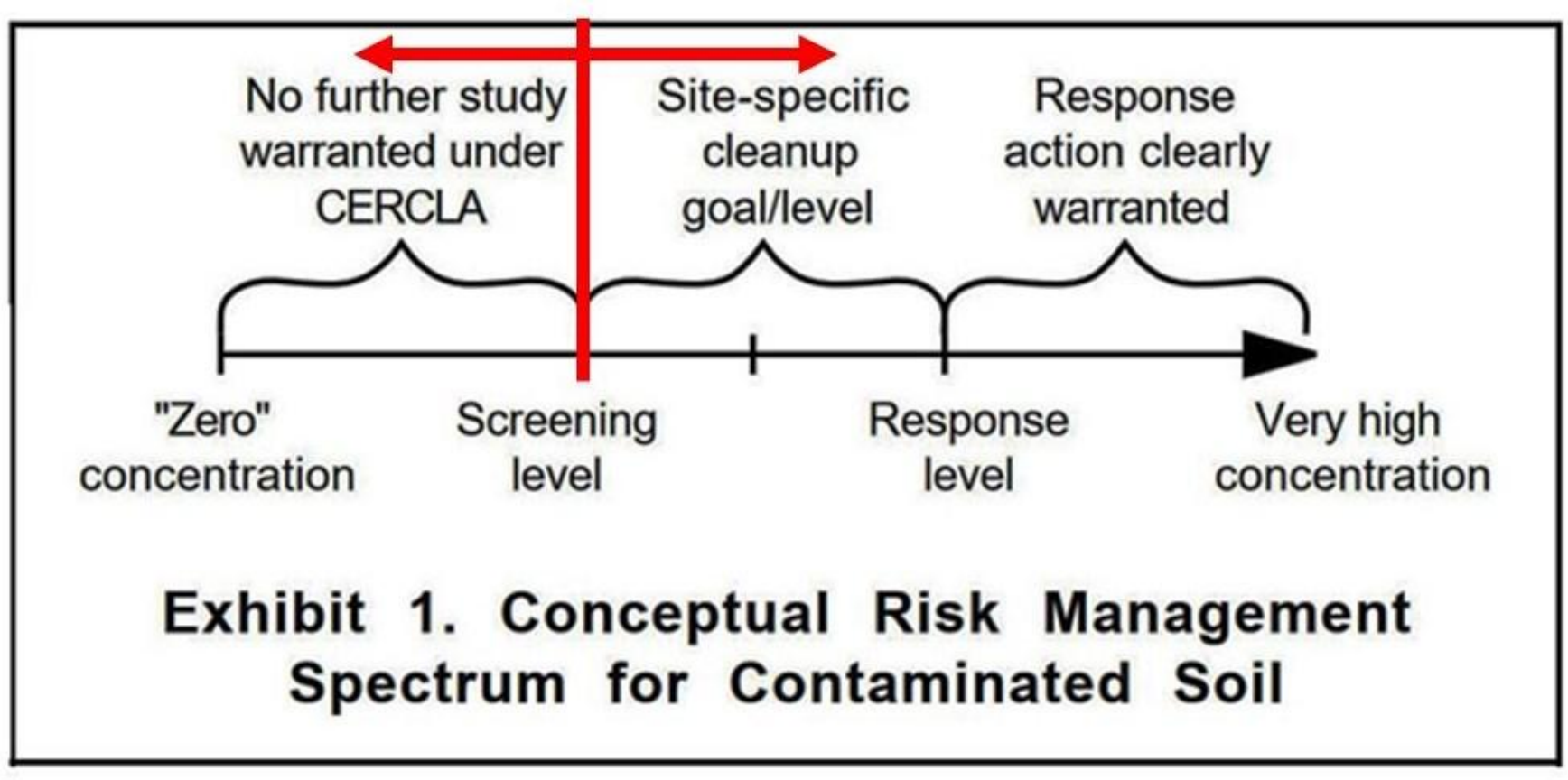


Exhibit 1. Conceptual Risk Management Spectrum for Contaminated Soil

EXAMPLE CALCULATION RESULTS

Figure 9-17: Soil BaP_E Calculation Results for Data Set #2 – Using 50% of DLs for DL Constituents

EXAMPLE CALCULATION RESULTS

Figure 9-20: Soil BaP_E Calculation Results for Data Set #4 – Using 0 for DL Constituents

EXAMPLE CALCULATION RESULTS

Petty's Dioxin
Rd 1: (ND=1/2)

- >4.8 ng-TEQ/kg
- <4.8 ng-TEQ/kg

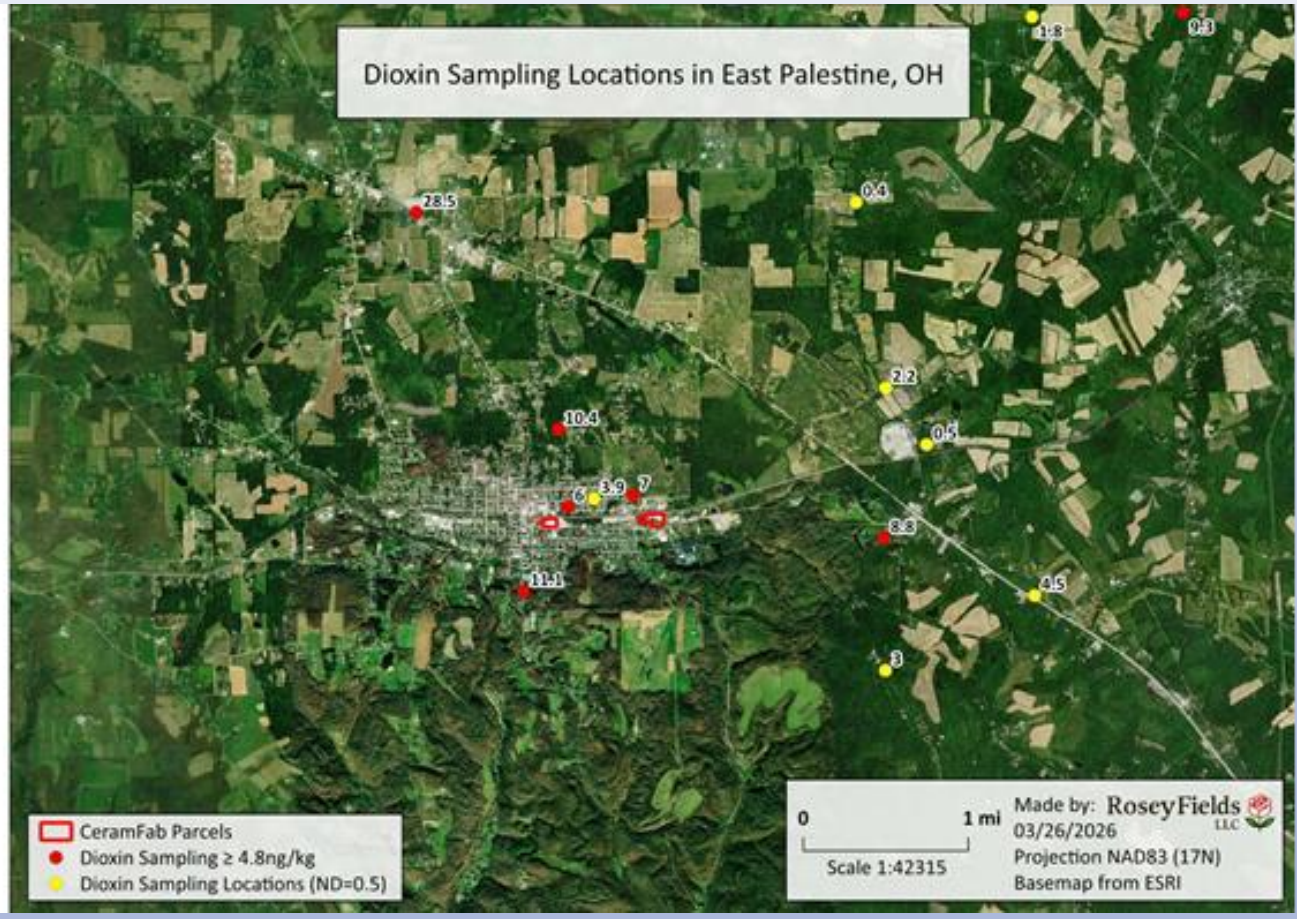


Figure 9-26: Plot of Soil TEQs Calculation Results for Data Set #1 – Using 50% of DLs for DL Constituents

EXAMPLE CALCULATION RESULTS

Figure 9-31: Plot of Soil TEQs for Data Set #4 – Using 0 for DL Constituents

EXAMPLE PLUME MODEL RESULTS

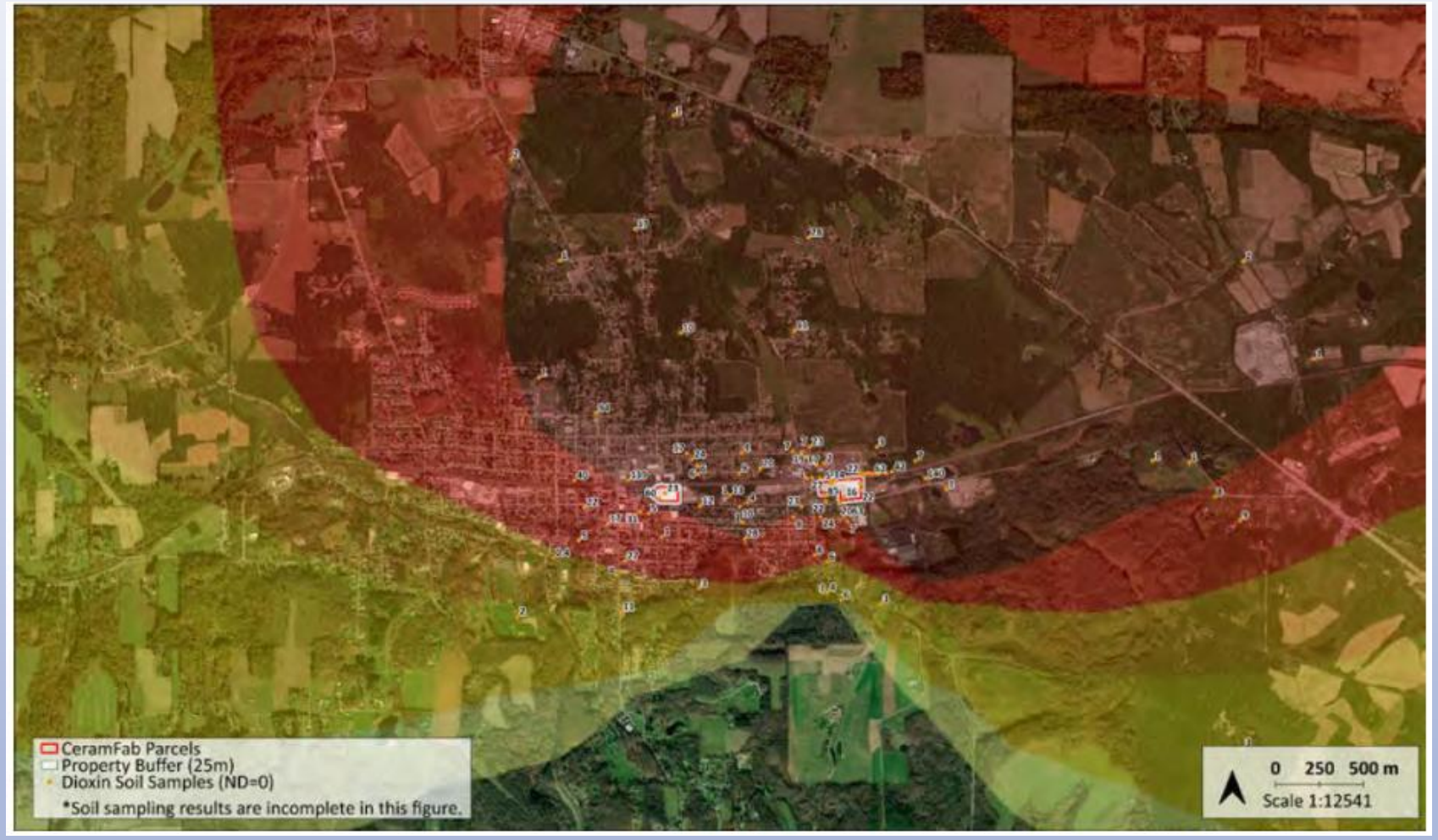


Figure ES-11: Line Source Modeled With KOHEASTP7 Met Station

EXAMPLE PLUME MODEL RESULTS

Table ES-13: Area Source Modeled With KOHEASTP7 Met Station

	Area Source Modeled With KOHEASTP7 Met Station					
	Dioxin Deposition (ng-TEQ/m²) in Top Kg of Soil	Dioxin Deposition Diluted to 0.5 Inch of Soil (ng-TEQ/kg)	Dioxin Deposition Diluted to 1 Inch of Soil (ng-TEQ/kg)	BAP Equivalents (ug-BaP_{eq}/m²)	BAP Equivalents Diluted to 0.5 Inch of Soil (ug-BaP_{eq}/m²)	BAP Equivalents (ug-BaP_{eq}/m²) Diluted to 1 Inch of Soil
	1	0.04	0.02	10	0.5	0.2
	4.8	0.2	0.1	49	2.2	1.1
	22.5	1.0	0.5	230	10.2	5.1
	50	2.2	1.1	512	22.6	11.3
	>150	>6.6	>3.3	>1535	>67.7	>33.9

Figure ES-13: Volume Source Modeled With KPABEAVE2 Met Station Key

EXAMPLE PLUME MODEL RESULTS

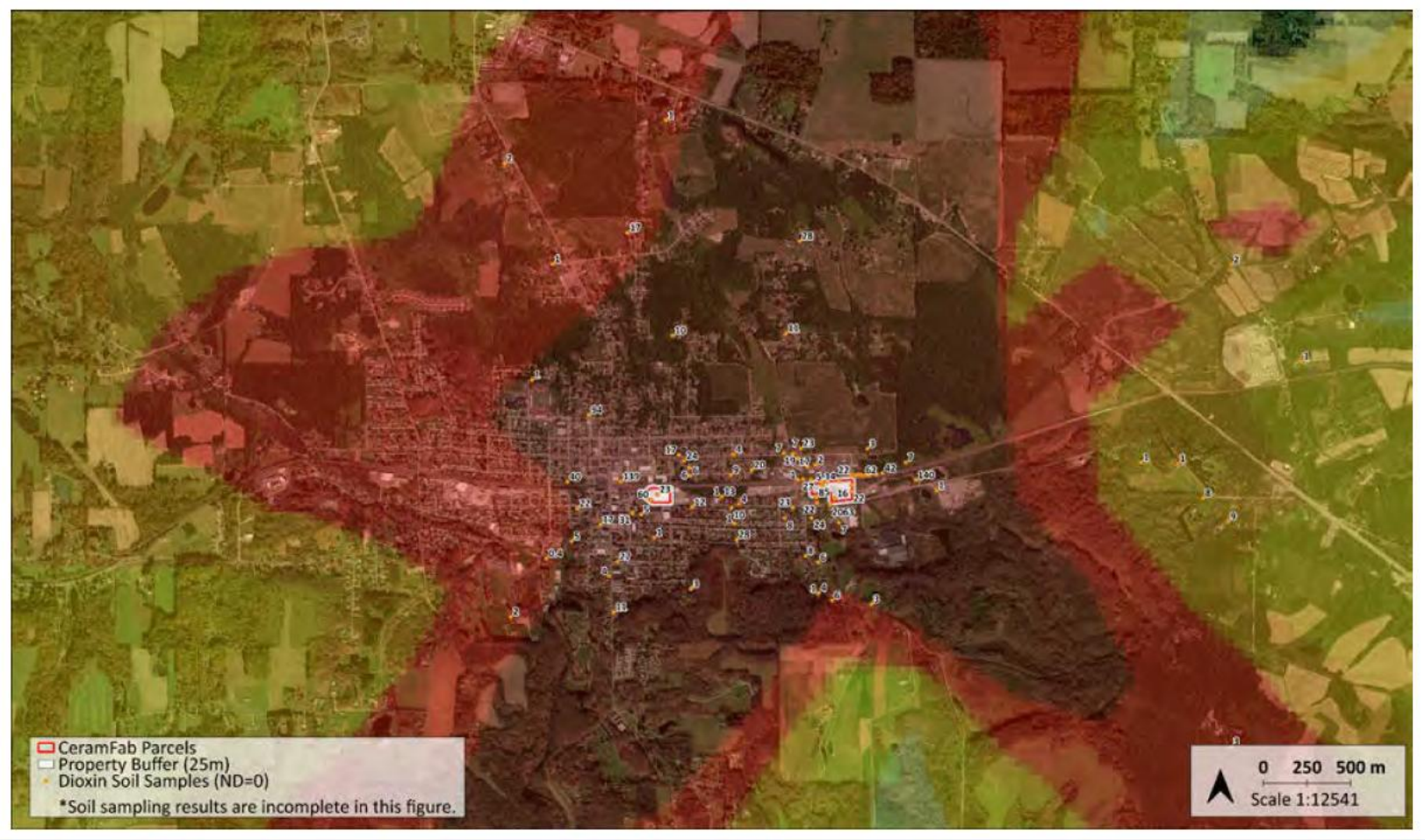


Figure ES-13: Volume Source Modeled With KPABEAVE2 Met Station

EXAMPLE PLUME MODEL RESULTS

Table ES-11: Volume Source Modeled With KOHEASTP7 Met Station

	Volume Source Modeled With KOHEASTP7 Met Station					
	Dioxin Deposition (ng-TEQ/m²) in Top Kg of Soil	Dioxin Deposition Diluted to 0.5 Inch of Soil (ng-TEQ/kg)	Dioxin Deposition Diluted to 1 Inch of Soil (ng-TEQ/kg)	BAP Equivalents (ug-BaP_{eq}/m²)	BAP Equivalents Diluted to 0.5 Inch of Soil (ug-BaP_{eq}/m²)	BAP Equivalents (ug-BaP_{eq}/m²) Diluted to 1 Inch of Soil
	4.8	0.2	0.1	49	2.2	1.1
	22.5	1.0	0.5	230	10.2	5.1
	50	2.2	1.1	512	22.6	11.3
	100	4.4	2.2	1023	45.1	22.6
	>150	>6.6	>3.3	>1535	>67.7	>33.9

Figure ES-11: Line Source Modeled With KOHEASTP7 Met Station Key

NS SAMPLING – BACKGROUND UNDER ACTUAL PLUME

Actual Wind Direction(s) vs Evacuation Zone During February 6, 2023 Burn

(Analysis by Stephen Petty, September 11, 2024)

Output:

Actual Directions (& % Time)

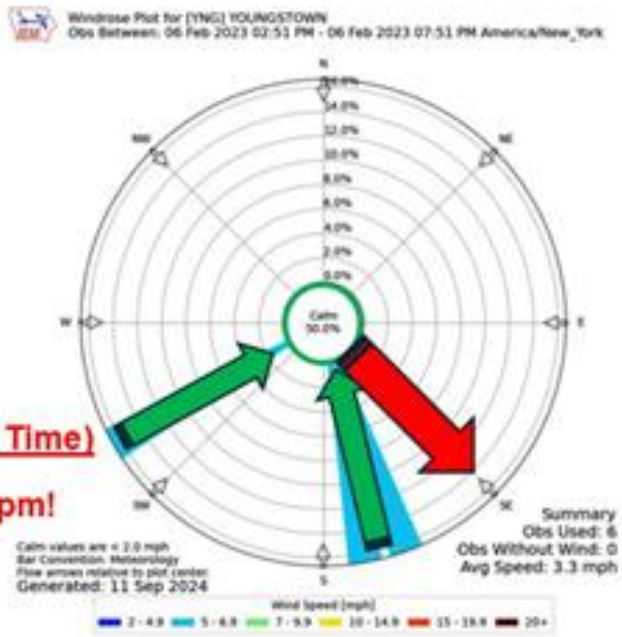
Calm – 50%

From South/SE – 32%

From SW/W – 18%

NS/Aracdis/EPA Directions (& % Time)

From NW to SE – In am, but not pm!



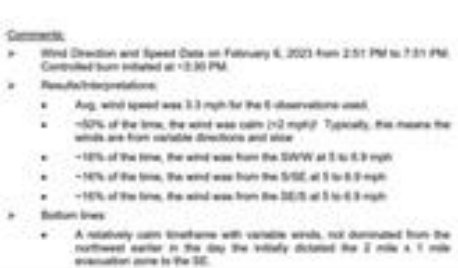


Figure 6-2: Petty Illustration of Wind Directions – Evacuated to Wrong Direction wrt Wind Changes in Afternoon of February 6, 2023

From Whistleblower: Feb-2023

This Racoon was Dead within 10 Minutes of Walking on the Sulphur Run Creek Bank

Stephen Petty Summary Dioxin Background

Sample #	Date	Lat.	Long.	Total TEQ using 50% DLs (pg/g)	Total TEQ using 0% DLs (pg/g)
LK-11	12/21/2023	40.473993	-81.986376	2.3	2.3
LK-12	12/21/2023	40.474012	-81.986323	2.4	2.4
LK-13	12/21/2023	40.474024	-81.986427	2.2	2.2
LK-14	12/21/2023	40.474026	-81.986417	2.0	2.0
LK-15	12/21/2023	40.474041	-81.986390	2.5	2.5
LK-16	12/21/2023	40.474060	-81.986335	2.6	2.6
Count or #				**16**	**16**
Minimum Value				**1.5**	**1.5**
Maximum Value				**2.7**	**2.7**
Average or Mean				**2.3**	**2.3**
Standard Deviation				**0.3**	**0.3**
# of Samples ≥ 4.8 ng/kg (NS/Arcadis Screening Value - pg. 31 of Sampling Report)				**0**	**0**
% of Samples ≥ 4.8 ng/kg (NS/Arcadis Screening Value - pg. 31 of Sampling Report)				**0.00%**	**0.00%**

For the 16 background soil Dioxin/Furan TEQ sample values, the average value reported was 2.3 ng/kg using 50% of the detection limit (DL) values; the average was 2.3 ng/kg for Dioxin/Furan TEQ sample values using zero for DL values.

As shown in Figure 9-24 dioxin TEQ background samples were taken ~81 miles to the west/southwest of CaramFab facility in the Lower Killbock Creek Wildlife Area:

NS SAMPLING – BACKGROUND SAMPLES UNDER ACTUAL PLUME

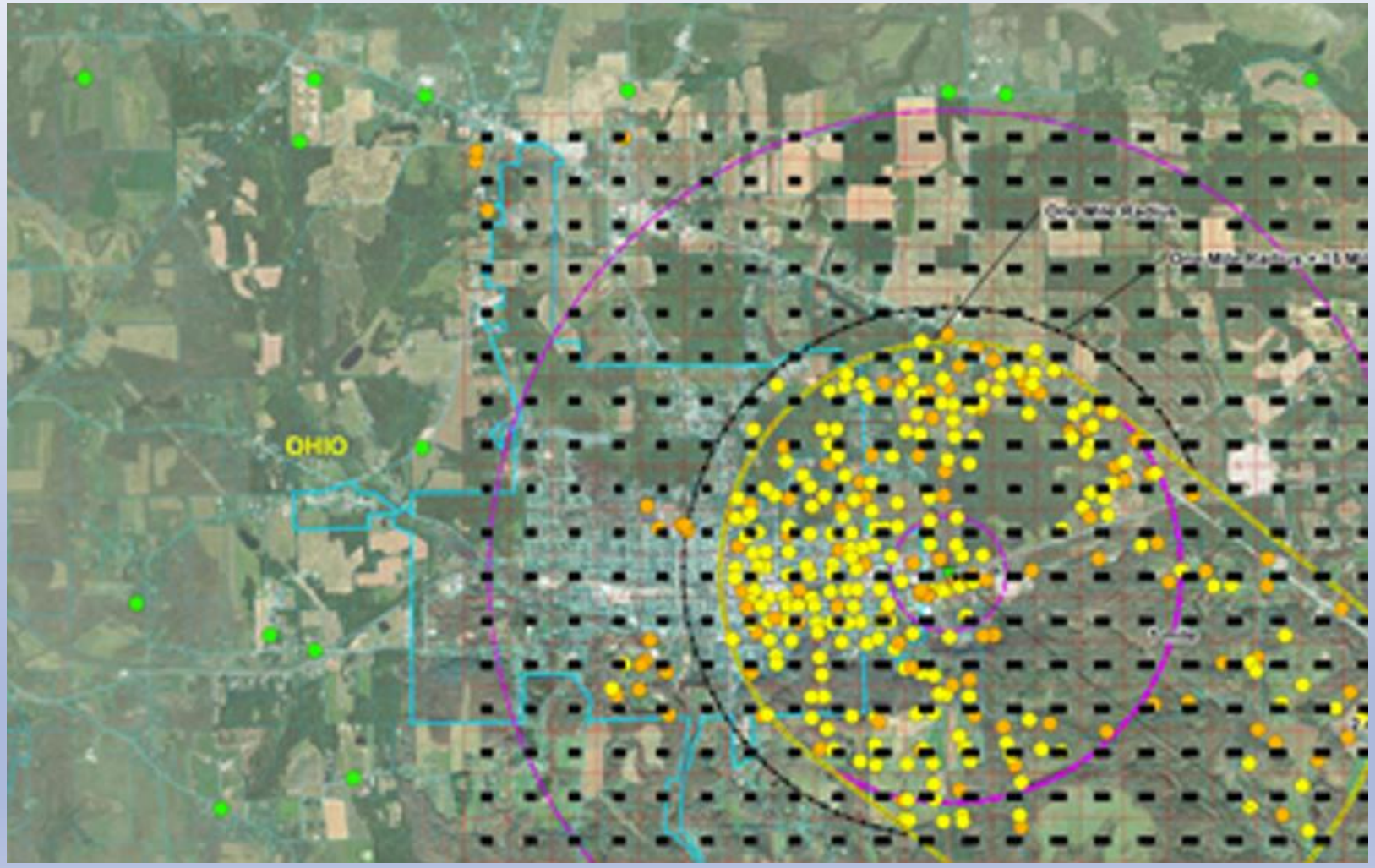
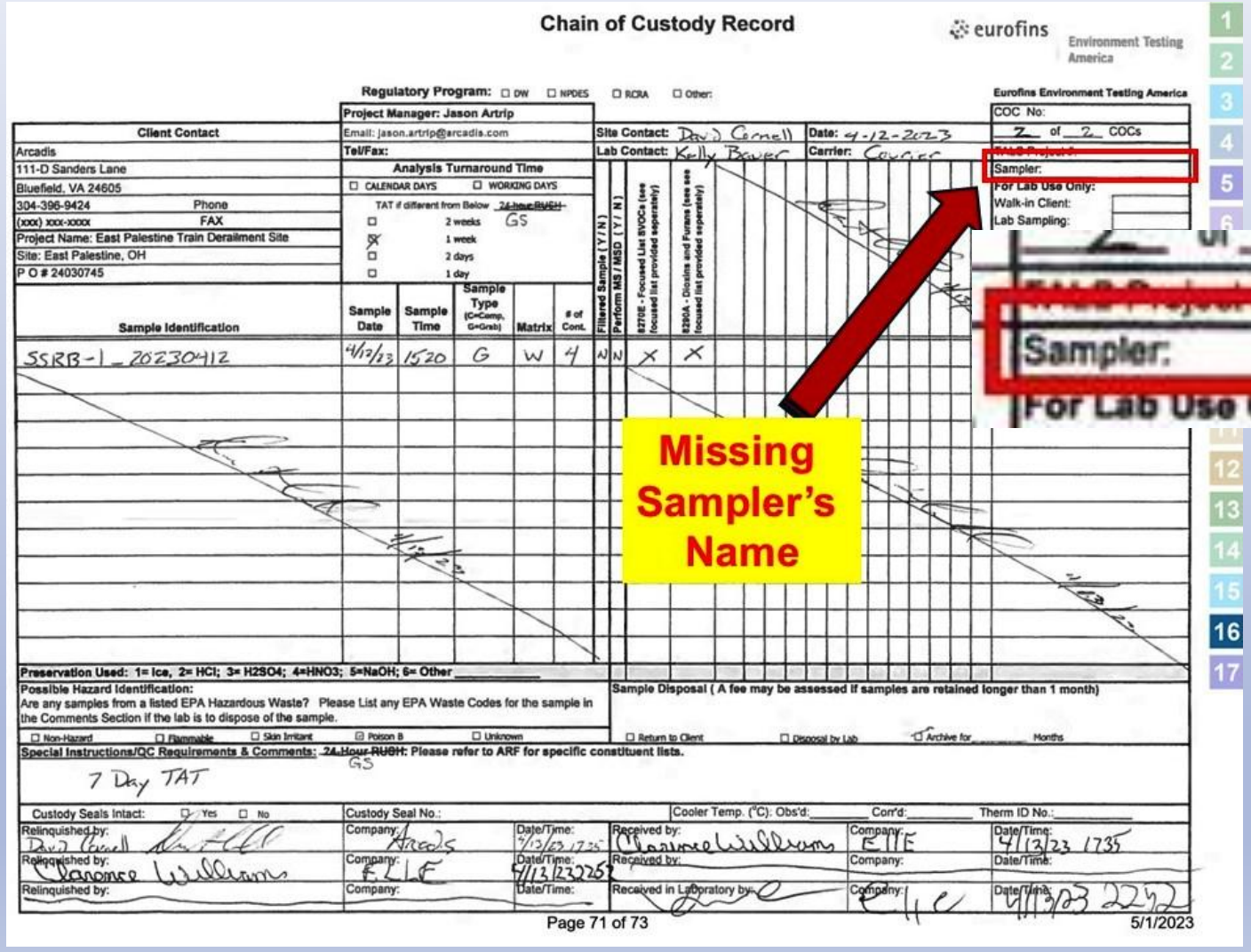


Figure 6-7: Green Dots Background – NS/Arcadis Sampling Locations (Exhibit 88, Figure 1, pg. 70) – Note Background Locations Still Mostly to West and North

NS SAMPLING – INCOMPLETE CHAIN OF CUSTODY'S (COCS)



Chain of Custody Record

eurofins Environment Testing America

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Eurofins Environment Testing America

Client Contact: Arcadis, 111-D Sanders Lane, Bluefield, VA 24605, 304-396-9424 Phone, (xxx) xxx-xxxx FAX

Project Manager: Jason Artrip

Email: jason.artrip@arcadis.com

Tel/Fax:

Site Contact: David Cornell Date: 4-12-2023

Lab Contact: Kelly Brewer Carrier: Courier

COC No: 2 of 2 COCs

Project Name: East Palestine Train Derailment Site

Site: East Palestine, OH

P O # 24030745

Analysis Turnaround Time

☐ CALENDAR DAYS ☐ WORKING DAYS

TAT if different from Below ~~24-hour RUSH~~ GS

☐ 2 weeks

☒ 1 week

☐ 2 days

☐ 1 day

Sampler:

For Lab Use Only:

Walk-in Client:

Lab Sampling:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	8270E - Focused List SVOCs (see focused list provided seperately)	8290A - Dioxins and Furans (see see focused list provided seperately)
SSRB-1_20230412	4/12/23	1520	G	W	4	N	N	X	X

Missing Sampler's Name

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☒ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for Months

Special Instructions/QC Requirements & Comments: ~~24-Hour RUSH~~: Please refer to ARF for specific constituent lists.

GS

7 Day TAT

Custody Seals Intact: ☐ Yes ☐ No

Custody Seal No.:

Cooler Temp. (°C): Obs'd: Corr'd: Therm ID No.:

	Company	Date/Time		Company	Date/Time
Relinquished by: David Cornell	Arcadis	4/13/23 1735	Received by: Clarence Williams	ELE	4/13/23 1735
Relinquished by: Clarence Williams	ELE	4/13/23 2252	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time: 4/13/23 2252

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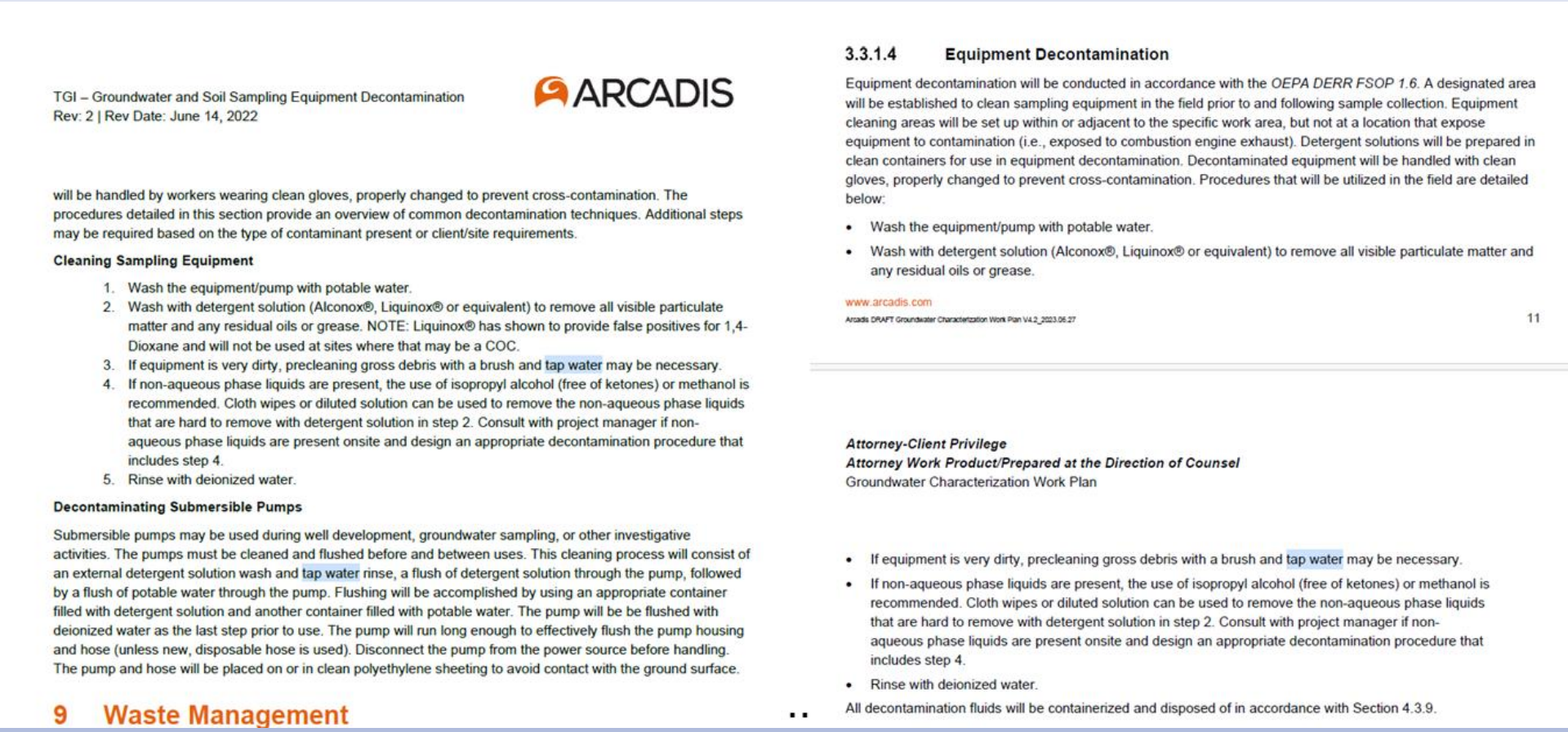
Figure 6-17: Arcadis's CoC – No Sampler is Listed – Blank – One of Many

NS SAMPLING – USE OF PLASTIC BAGS – A NO-NO

Figures 6-15 & 6-16: Arcadis's Soil Sampling Protocol – First, Place Soil Samples in Plastic Bags and then in Glass Jars (Exhibit 88, pgs. 130 and 110)

NS SAMPLING – DIRTY TOOLS – TAP WATER v DISTILLED WATER



TGI – Groundwater and Soil Sampling Equipment Decontamination
Rev: 2 | Rev Date: June 14, 2022

ARCADIS

will be handled by workers wearing clean gloves, properly changed to prevent cross-contamination. The procedures detailed in this section provide an overview of common decontamination techniques. Additional steps may be required based on the type of contaminant present or client/site requirements.

Cleaning Sampling Equipment

1. Wash the equipment/pump with potable water.
2. Wash with detergent solution (Alconox®, Liquinox® or equivalent) to remove all visible particulate matter and any residual oils or grease. NOTE: Liquinox® has shown to provide false positives for 1,4-Dioxane and will not be used at sites where that may be a COC.
3. If equipment is very dirty, precleaning gross debris with a brush and tap water may be necessary.
4. If non-aqueous phase liquids are present, the use of isopropyl alcohol (free of ketones) or methanol is recommended. Cloth wipes or diluted solution can be used to remove the non-aqueous phase liquids that are hard to remove with detergent solution in step 2. Consult with project manager if non-aqueous phase liquids are present onsite and design an appropriate decontamination procedure that includes step 4.
5. Rinse with deionized water.

Decontaminating Submersible Pumps

Submersible pumps may be used during well development, groundwater sampling, or other investigative activities. The pumps must be cleaned and flushed before and between uses. This cleaning process will consist of an external detergent solution wash and tap water rinse, a flush of detergent solution through the pump, followed by a flush of potable water through the pump. Flushing will be accomplished by using an appropriate container filled with detergent solution and another container filled with potable water. The pump will be be flushed with deionized water as the last step prior to use. The pump will run long enough to effectively flush the pump housing and hose (unless new, disposable hose is used). Disconnect the pump from the power source before handling. The pump and hose will be placed on or in clean polyethylene sheeting to avoid contact with the ground surface.

9 Waste Management

3.3.1.4 Equipment Decontamination

Equipment decontamination will be conducted in accordance with the *OEPA DERR FSOP 1.6*. A designated area will be established to clean sampling equipment in the field prior to and following sample collection. Equipment cleaning areas will be set up within or adjacent to the specific work area, but not at a location that expose equipment to contamination (i.e., exposed to combustion engine exhaust). Detergent solutions will be prepared in clean containers for use in equipment decontamination. Decontaminated equipment will be handled with clean gloves, properly changed to prevent cross-contamination. Procedures that will be utilized in the field are detailed below:

- Wash the equipment/pump with potable water.
- Wash with detergent solution (Alconox®, Liquinox® or equivalent) to remove all visible particulate matter and any residual oils or grease.

www.arcadis.com
Arcadis DRAFT Groundwater Characterization Work Plan V4.2_2023.06.27 11

Attorney-Client Privilege
Attorney Work Product/Prepared at the Direction of Counsel
Groundwater Characterization Work Plan

- If equipment is very dirty, precleaning gross debris with a brush and tap water may be necessary.
- If non-aqueous phase liquids are present, the use of isopropyl alcohol (free of ketones) or methanol is recommended. Cloth wipes or diluted solution can be used to remove the non-aqueous phase liquids that are hard to remove with detergent solution in step 2. Consult with project manager if non-aqueous phase liquids are present onsite and design an appropriate decontamination procedure that includes step 4.
- Rinse with deionized water.

All decontamination fluids will be containerized and disposed of in accordance with Section 4.3.9.

Figure 6-14: Arcadis's Soil Sampling Protocol – Use Tap Water to Clean Tools (Exhibit 36)

UNIQUE SCOTT SMITH RESULTS

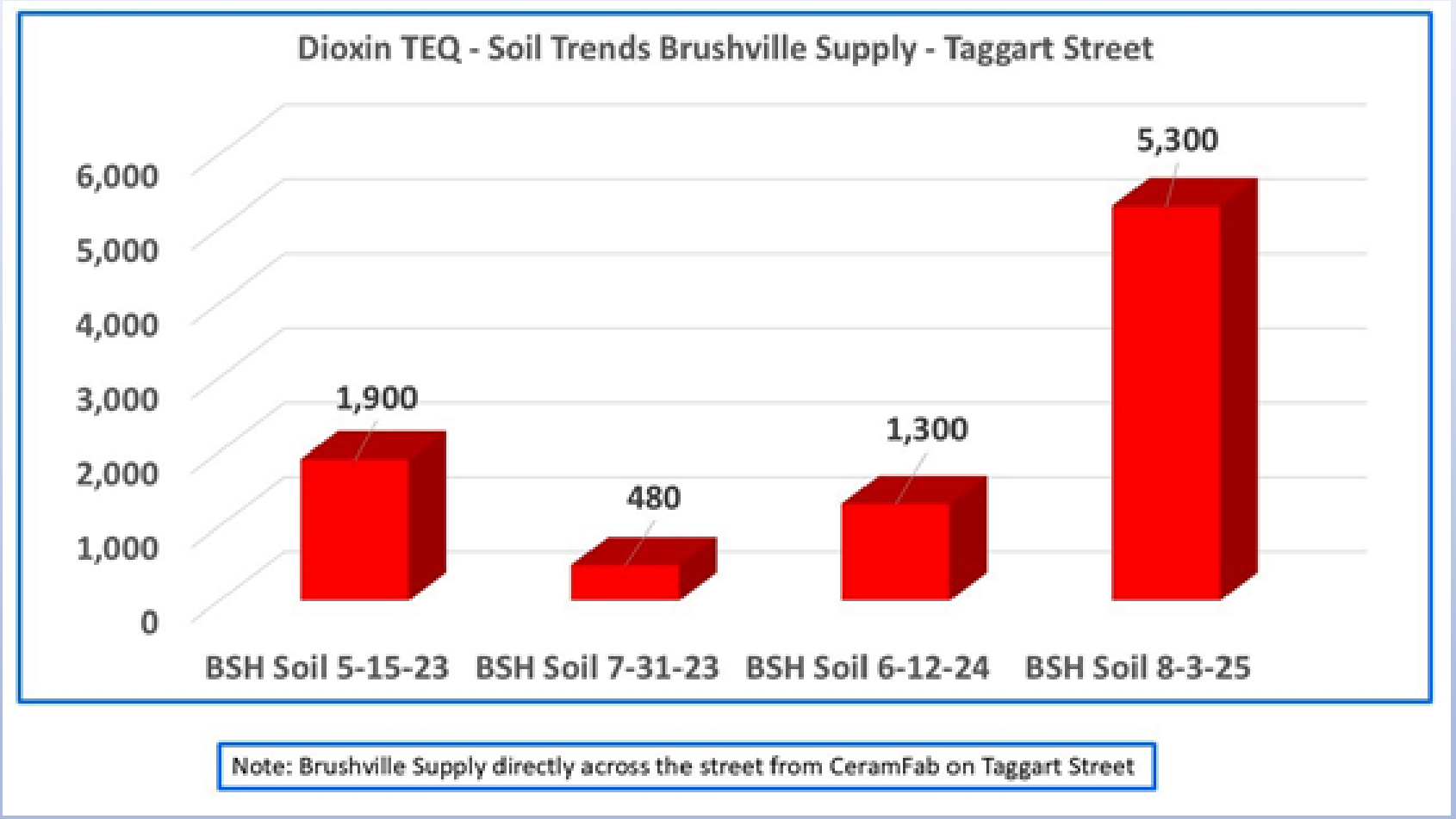
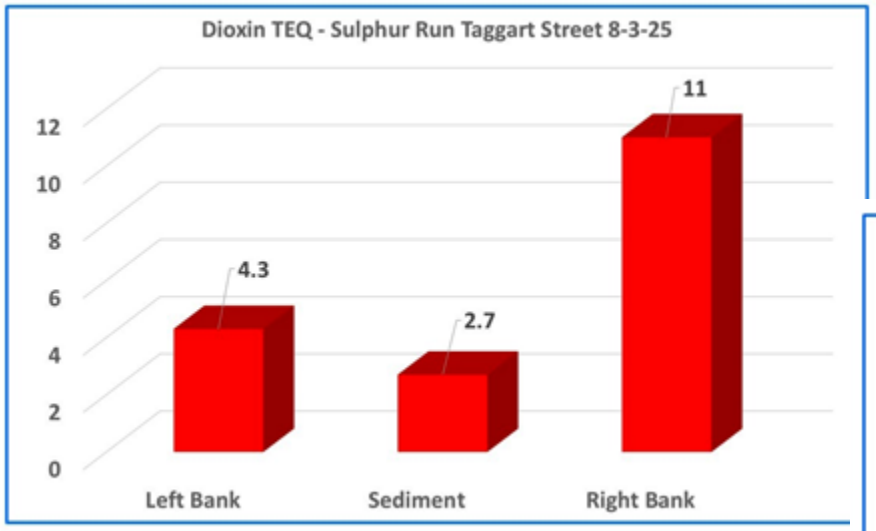


Figure 9-42: Dioxin TEQ Values with Time for the Brushville Supply Location Across Taggart Street from the CeramFab Facility

UNIQUE SCOTT SMITH RESULTS



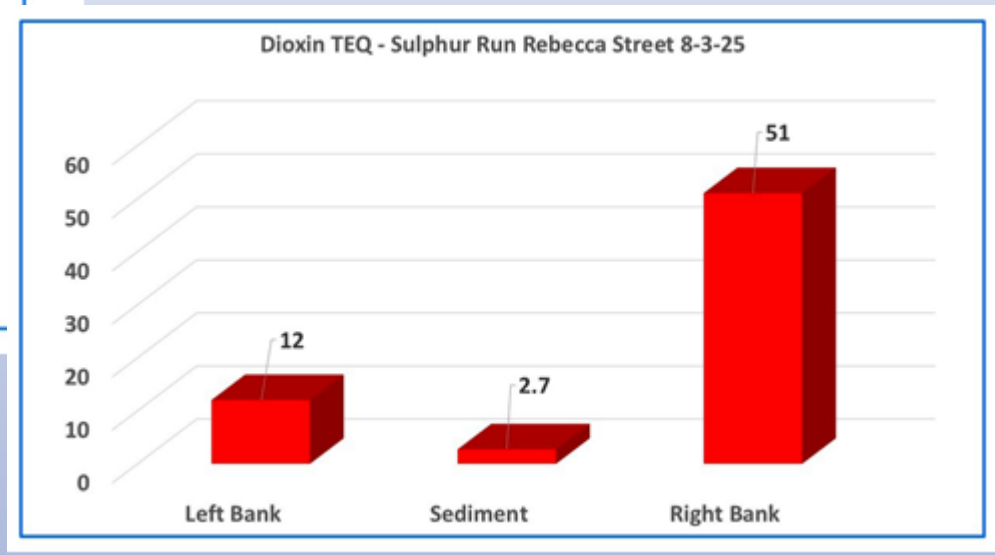
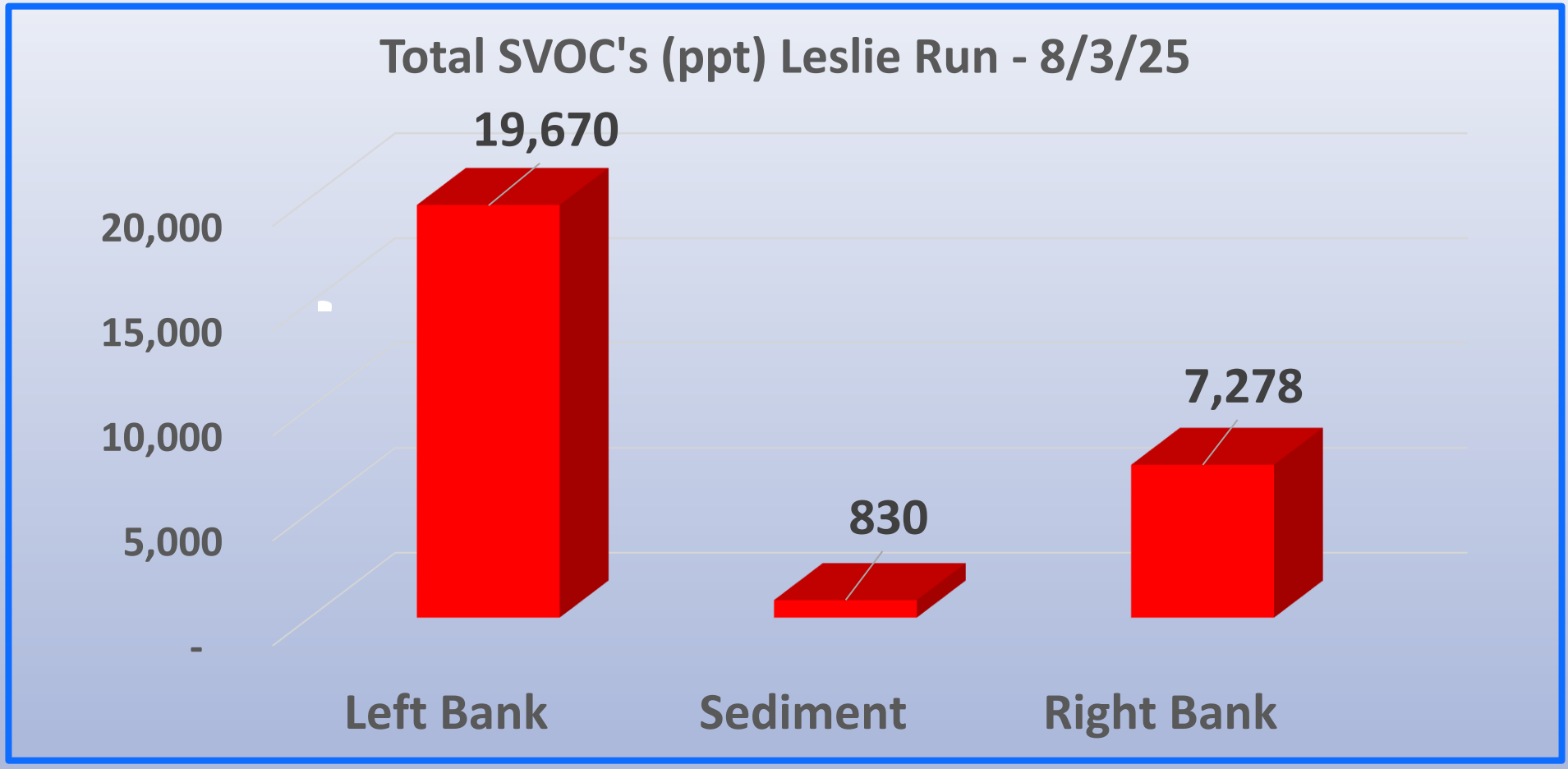


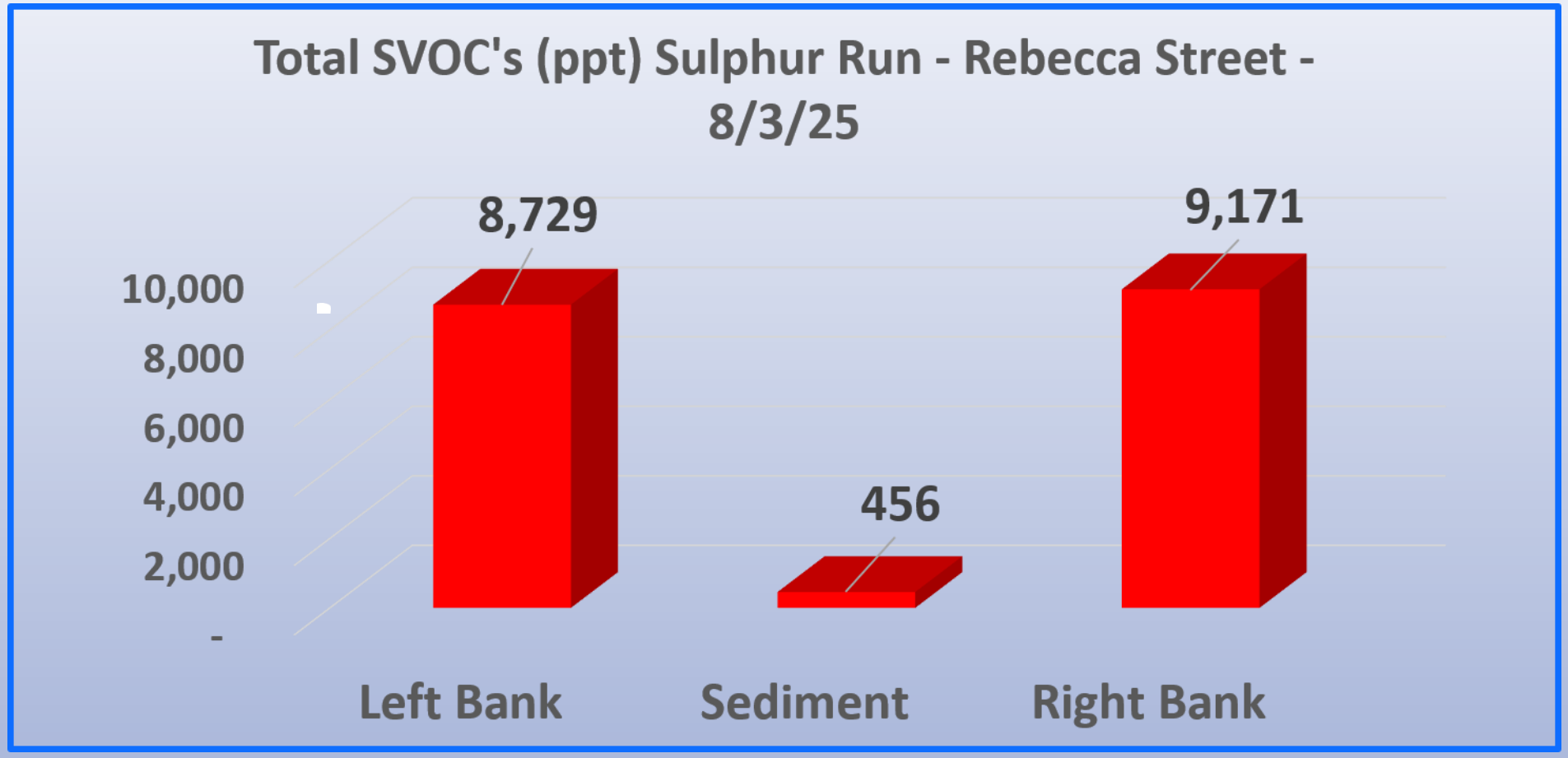
Figure 9-44 & 9-45: Dioxin TEQ Values in Sulfur Run Sediments vs. the Left and Right Side Banks at Taggart Street/Rebecca Street in East Palestine, OH

UNIQUE SCOTT SMITH RESULTS



Semi-volatile organic compounds (SVOCs) are chemicals that can be absorbed through inhalation, skin contact, or ingestion of dust. Exposure symptoms can include immediate effects like eye, nose, and throat irritation, headaches, dizziness, and nausea, as well as long-term risks such as damage to the liver, kidneys, and central nervous system, and potential links to cancer and endocrine disruption.

UNIQUE SCOTT SMITH RESULTS



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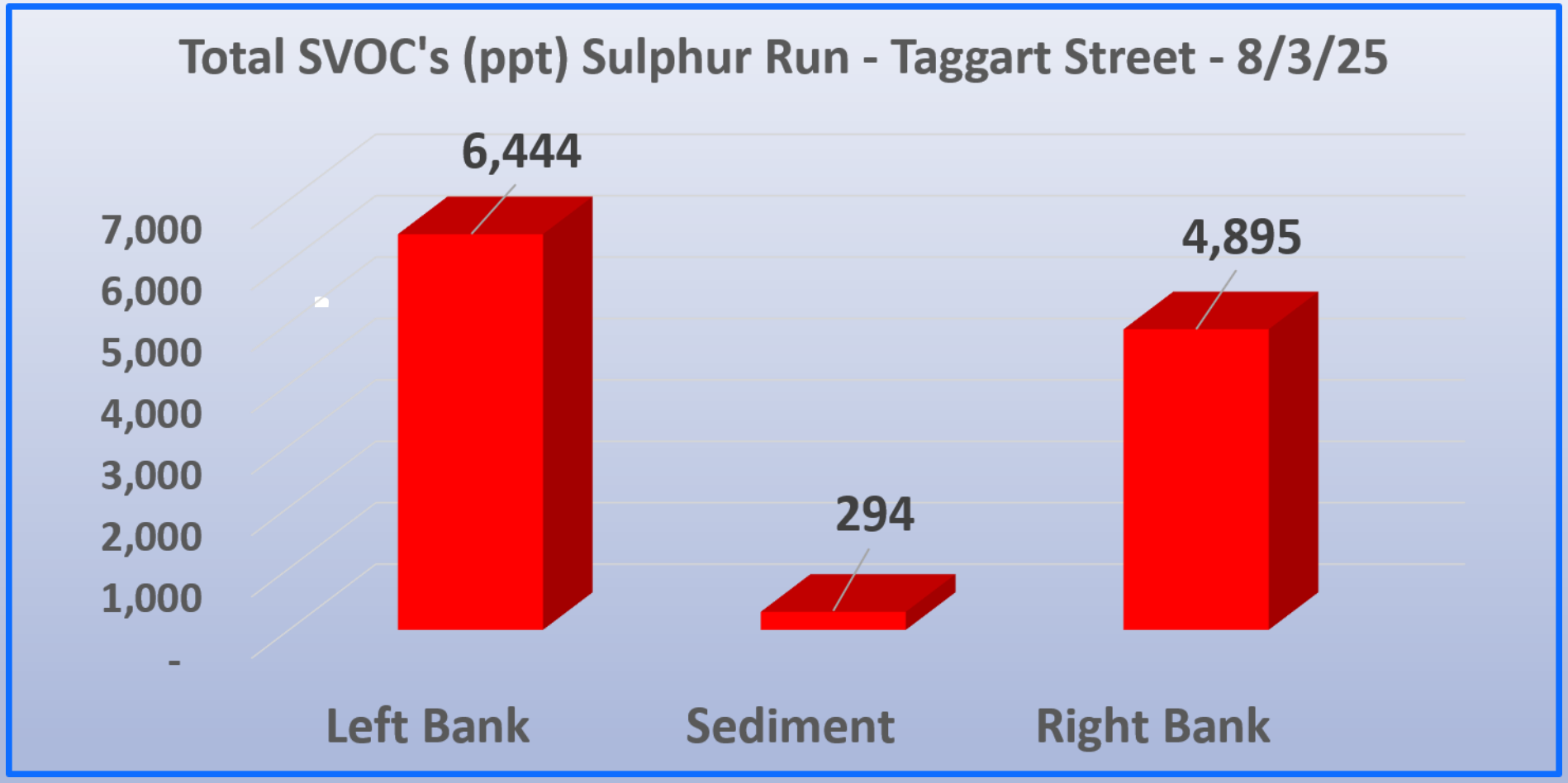

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THANK YOU

Questions