ALEXANDER ROAD SOIL SAMPLING AND ANALYSIS PLAN

I. SCHUMANN AND COMPANY INCIDENT
BEDFORD, OHIO

Prepared for:

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1.0 INTRODUCTION AND BACKGROUND

I. Schumann & Co. retained the services of EnviroScience, Inc. (EnviroScience) on February 23, 2023 to provide environmental consulting services associated with an explosion that occurred at their Bedford, Ohio facility ("Facility") on February 20, 2023. The northern Facility boundary is adjacent to Alexander Road. Non-PFAS firefighting foam, dust and debris left the site via Outfall 001 and some sheet flow may have been conveyed north of the Facility towards Alexander Road during firefighting activities. Additionally, blast debris from the incident including but not limited to brick, metal, roofing material was recovered just north of the Facility towards Alexander Road. All blast debris was recovered as quickly as it could be done safely, and containerized in roll off boxes which is being managed in accordance with the site-specific Waste Management Plan.

As a result of the incident, some blast debris and firefighting water sheet flow migrated outside of the Facility particularly in the direction of the blast force (to the north). Following discussions with Ohio EPA, soil samples will be collected in the vicinity where these materials potentially migrated. A site map is provided in Attachment A. The intent of this Sampling and Analysis Plan (SAP) is to address the soil along the south side of Alexander Road and the north side of Alexander Road, adjacent to the Facility's northern boundary.

The sections below detail the sampling methodology and analysis to collect the soil samples. Results of the soil sampling will be compared to the appropriate screening criteria and background samples. Sampling off-site is contingent on receiving access from the property owner(s).

2.0 SOIL SAMPLING

2.1. SOIL SAMPLING RATIONALE AND LOCATIONS

Soil sampling in this SAP is proposed along Alexander Road immediately adjacent to the Facility for the specific purpose of addressing the following potential sources of impact from the incident:

- Firefighting water / stormwater runoff
- Blast debris and soot

This targeted SAP focuses on the immediate area along the Facility's northern property boundary for two reasons. First, this area is where the majority of the blast debris from the force of the explosion was deposited, as indicated by the destruction of the north wall of the building and as verified by personnel at the Facility on the day of and days following the explosion (including the cleanup contractor). Second, this area will address firefighting water / stormwater runoff on the north side of the building, which was observed by personnel at the Facility during the initial days following the explosion and prior to the earthen berm being constructed. Since this adjacent area along Alexander Road is known to have experienced the most significant physical impacts from the explosion, sampling in this targeted area represents the worst-case.

One soil sample will be collected per approximately every 5,000 square feet (sf) in each potentially impacted area. Based on one sample per 5,000 sf, there will be 11 samples collected on the north side of Alexander Road and 12 samples collected on the south side of Alexander Road.

Prior to accessing the locations north of Alexander Road, a site access agreement will be signed by the landowners.

A map of the proposed sampling locations is provided in Attachment A. Additionally, multiple background samples will be collected. Background locations will be determined in the field by the sampling team, with consideration to access and the level of certainty that such areas would have been unaffected by the incident. Additional sample locations may be added in a future round, if needed to further delineate any potential exceedances that are associated with the incident.

2.2. SOIL SAMPLING METHODOLOGY

The objective of the soil sampling is to identify any potential nearby soil impacts as a result of the incident that occurred at the Facility. Soil sampling will follow the below methodology to collect samples that are representative of the potentially impacted areas:

1. The potentially impacted areas will be divided into approximate 5,000-sf grids.
2. One discrete grab analytical sample will be collected from each grid for laboratory analysis. Sample location in each grid will be selected based on visual observations to target worst-case.
3. Once at the designated sample location, samplers will don fresh nitrile gloves and gather laboratory supplied sample containers. Gloves will be discarded after use at each location.
4. Discrete grab samples will be collected from surface soils (0-4”) within the identified areas using a pre-cleaned stainless steel or disposable scoop and placed into laboratory supplied containers.
5. All containers will be labeled with appropriate information and immediately placed in a cooler with wet ice and chilled to 4°C or below.
6. Sample coolers will be hand delivered to Eurofins Barberton, Ohio laboratory under chain-of-custody (COC) protocols.
7. Field decontamination is not anticipated to be required for soil sampling but any non-dedicated or disposable equipment used will be properly decontaminated using a surfactant between sampling locations to minimize the potential for cross-contamination.

Any appreciable deviations from these procedures will be documented in digital data collection forms or field notebooks.

2.3. SOIL SAMPLING ANALYSIS

Samples will be analyzed by Eurofins for the following parameters, using the noted USEPA methods shown in Table 2-1:

Table 2-1. Methods with Containers, Preservation, and Holding Times.

Parameter	Analytical Method	Containers	Preservation	Maximum Holding Times
Metals – Zinc, Lead, and Cadmium	6020B	1 – 4oz soil jar	Unpreserved	6 Months
pH	SM 4500	1 – 4oz soil jar	Unpreserved	15 Minutes*

**pH data will be flagged from the lab as out of hold time*

Eurofins will provide Level II data packages for 100% of samples.

2.4. SOIL SAMPLE HANDLING AND DELIVERY PROCEDURES

Concurrent with sample collection, EnviroScience personnel will record the sample identification number (Sample ID), location, soil characteristics, and other relevant field data in digital field forms or field notebooks. Sample containers will be provided by Eurofins and all samples will be labelled with a unique Sample ID, date and time of sample collection, and the initials or name of the person collecting the sample. Samples will immediately be placed on ice in a cooler.

All samples will be hand delivered to Eurofins in Barberton, Ohio along with a completed laboratory-provided COC form verifying the sample identification, matrix, date and time of collection, and sample custody. COC procedures will be maintained from the time of sample collection until arrival at the laboratory to protect sample integrity. Transporting of samples to the laboratory will be done within a timeframe that ensures hold times are met. One copy of the COC record will be maintained by field personnel.

2.5. SOIL SAMPLING SCREENING CRITERIA

For initial screening purposes, soil sample concentrations will be compared to the United States EPA Regional Screening Levels (RSLs) for a Composite Worker with a target hazard quotient of one. The composite worker table is used because the Facility and surrounding properties are zoned Industrial. A zoning property map is provided in Attachment A. The current activities on the properties from which samples are being collected are commercial or light industrial use.

RSLs may be found on the EPA Website: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables

Below are the Composite Worker screening criteria for Zinc, Lead and Cadmium:

Table 2-2. Screening Values.

Parameter	Screening Value (mg/kg)
Zinc*	350,000
Lead**	800
Cadmium**	100

**Ingestion and Noncarcinogenic Screening Level*
*** Noncarcinogenic Screening Level*

These are conservative screening values. For reference, the OEPA Voluntary Action Program ("VAP") risk-based Single Chemical Generic Direct-Contact Soil Standard (GDCSS) for commercial / industrial properties for Zinc, Lead, and Cadmium are 1,000,000 mg/kg, 800 mg/kg, and 3,300 mg/kg, respectively.

If sample concentrations are all below the screening levels, soil sampling will be a one-time sampling event. If any parameters have exceedances, additional samples may be collected in the vicinity of the exceedance to confirm the initial concentration and/or better delineate the area. Depending on analytical concentrations, site-specific risk-based screening criteria may be developed. If remediation is required, remedial options for an area(s) where observed concentrations warrant remediation may include but not be limited to: excavation to remove soils, in-situ treatment, or capping.

3.0 QUALITY ASSURANCE/QUALITY CONTROL

The goal of QA/QC is to ensure samples are collected without the effects of accidental cross-contamination or systemic contamination and refers to the sampling and analysis procedures for generating defensible data. The following sections describe the procedures that will be performed to generate defensible data.

3.1. QA/QC SAMPLES

3.1.1. Duplicate Samples

Duplicate samples will be collected to evaluate the precision of the laboratory by collecting samples simultaneously from the same source under identical conditions; however, samples will be placed into separate containers by alternatively filling the standard sample containers and the duplicate sample containers until both are full. Each sample will be assigned its own unique sample ID so that the duplicate sample will be blind to the laboratory. Duplicate samples will be collected at a frequency of 10% (1 per 10) and will be analyzed for the same parameters as the standard samples.

3.1.2. Matrix Spike/Matrix Spike Duplicate Samples

Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples will be collected to evaluate the precision and accuracy of the laboratory by collecting samples simultaneously from the same source under identical conditions; however, samples will be placed into separate containers by alternatively filling the standard sample containers and the MS/MSD sample containers until all containers are full. Each sample will be assigned its own unique sample ID, but samples will be clearly identified as MS/MSD samples on the chain of custody (COC) so that the laboratory can spike the MS/MSD

samples with an analyte of interest. MS/MSD samples will be collected at a frequency of 5% (1 per 20) and will be analyzed for the same parameters as the standard samples.

3.1.3. Split Samples

Split samples are samples that are collected from the same location and divided among two or more laboratories to provide an inter-laboratory or inter-organization comparison. If necessary, split samples will be collected using sampling procedures described in Section 2.2 of this plan. Split samples are not anticipated but may be collected if requested by Ohio EPA or other third party stakeholders.

3.1.4. QA/QC Sample Frequency Summary

Table 3-1 summarizes the QA/QC Field Sample Frequency.

Table 3-1. QA/QC Field Samples and Frequency

QA/QC Field Sample Frequency	
Sample/Blank Type	**Frequency**
Duplicate Sample	10% (1 per 10)
Matrix Spike/Matrix Spike Duplicate Samples	5% (1 per 20)
Split Samples	May be collected at the discretion of the Ohio EPA or other 3rd party stakeholder as requested

3.2. LABORATORY QA/QC

All field and QA/QC samples will be submitted to Eurofins, a NELAP accredited laboratory. Internal laboratory QC checks may include but not be limited to:

- Method Blank – Extraction solvent spiked with surrogate and handled exactly as sample extracts to monitor contamination during sample handling.
- Laboratory Control Sample – Method blank spike with calibration solution and handled exactly as sample extracts to monitor the accuracy of the laboratory.
- Laboratory Control Sample Duplicate – Second method blank spike with calibration solution and handled exactly as sample extracts to measure the precision of the laboratory.
- MS/MSD measure the precision and accuracy of the lab using the field sample media.

Laboratory QA/QC will be conducted in accordance with relevant state and federal guidance documents.

4.0 FIELD VARIANCES

Every effort will be made to follow the Soil Sampling and Analysis Plan as presented. However, as conditions in the field may change, it may become necessary to implement minor modifications to sampling as presented in this plan. If deviations are deemed appropriate and necessary by

field personnel, any modifications to the approved Sampling and Analysis Plan will be documented in digital forms or field notebooks.

5.0 REPORTING

Laboratory reports will be provided to OEPA within seven days of receiving the laboratory reports. Details of all work conducted, including sampling locations, methods, results, and conclusions, will be compiled into a final report for submission to I. Schumann and Company, which will also be shared with the Ohio EPA. Additionally, concise data summaries will be delivered to the landowners who had their property sampled on the north side of Alexander Road.

6.0 HEALTH AND SAFETY

6.1. HEALTH AND SAFETY PLAN

EnviroScience is committed to the health and safety of its employees and has developed the *Health Safety and Environment Plan, Hazards and Risk Minimization Policies* (HASP) to ensure employees will be provided with a safe work environment. Policies set out in the HASP will be followed for this sampling effort and are applicable to all EnviroScience personnel.

The HASP provides EnviroScience personnel with safety guidelines, risk minimization and guidance if an accident does occur while working.

In addition to guidelines covered in the HASP, all personnel must adhere to all federal, state and local safety laws and regulations. EnviroScience personnel are also required to follow any HASP or other safety requirements developed by I. Schumann and Company.

6.2. DAILY SAFETY BRIEFING

Anticipated Hazard Assessment (AHA), also known as Hazard Identification or Job Safety Analysis is the term given to identifying risks to health and safety during field work and documenting the control measures taken to manage those risks. AHA forms are to be completed prior to field work and discussed during each daily safety briefing. At any time if conditions change, all work must stop and the AHA must be amended and reviewed to address the change.

This task should be shared among the entire field crew, giving all members of the team the opportunity to address specific safety issues, cover topics of concern, and to maintain a more dynamically safe work environment. All employees are given the responsibility and authority to stop work when employees believe that a situation exists that places them, their coworker(s), contracted personnel, or the public at risk or in danger.

Attachment A

Maps

Proposed Soil Sampling Locations. Oakwood ER.

Proposed Soil Sample Locations

Proposed Soil Sample Area

0 25 50 100 Meters

0 50 100 200 300 Feet

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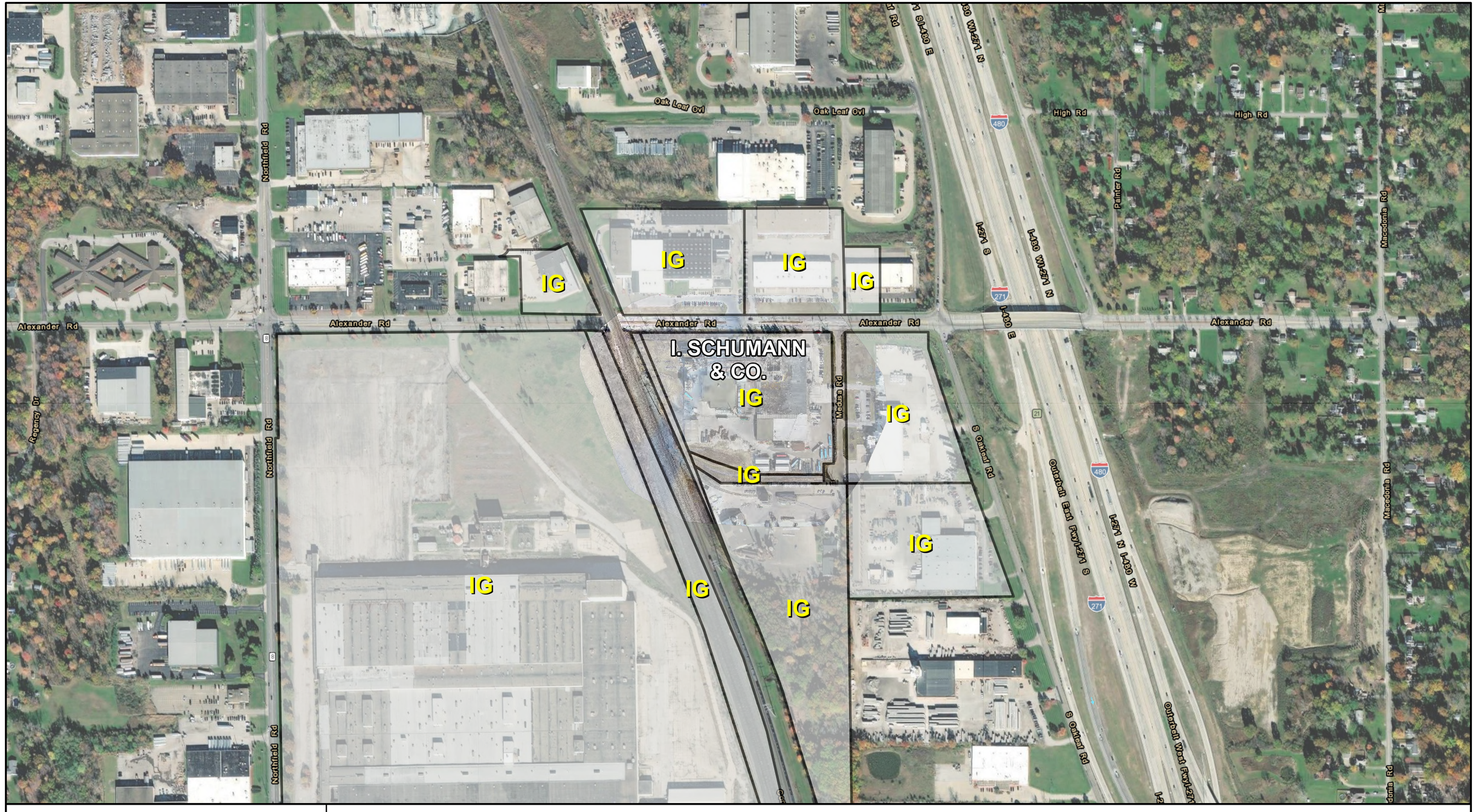
Date: 4/14/2023



Zoning Codes of I. Schumann & Co. Property and Adjacent Parcels. Oakwood ER.

Adjacent Parcels

IG - Industrial General Zoning Use

0 100 200 400 Meters

0 250 500 1,000 Feet

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Date: 4/13/2023