Appendix K

Indoor Air Sampling and Analysis Plan

UPPER MAKEFIELD RESPONSE
WASHINGTON CROSSING, PENNSYLVANIA

INDOOR AIR SAMPLING AND ANALYSIS PLAN (SAP)

Version 1.0

Prepared on Behalf of:
Energy Transfer LP

Prepared By:
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February 21, 2025

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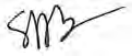
Reviewed by:	Sarah Burnett, PhD, CTEH		2/21/2025
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1.0 Introduction and Purpose

This Indoor Air Sampling and Analysis Plan (SAP) was prepared by CTEH, LLC (CTEH) on behalf of Energy Transfer LP (Energy Transfer) in relation to the Upper Makefield Response in Washington Crossing, Pennsylvania. A leak from a pipeline that transports refined petroleum products, including jet fuel, was identified in January 2025. The GPS coordinates for the approximate location of the release site (hereinafter referred to as Site) are: 40.271184, -74.875953. A map of the incident location is provided in Attachment A.

This SAP outlines a strategy for indoor air sampling in selected residences in the vicinity of the Site. This sampling program is designed based on technical guidance for vapor intrusion assessments published by the Pennsylvania Department of Environmental Protection (PA DEP)[1] and the United States Environmental Protection Agency (US EPA)[1].

The objectives of this indoor air sampling program are to:

1. Collect indoor air (IA) samples from discrete locations inside residences to evaluate potential impacts to indoor air related to the volatile constituents of refined petroleum products, including jet fuel; and
2. Collect outdoor air (OA) samples from discrete locations outside residences to evaluate the presence of these constituents in the ambient environment and the potential influence of these constituents on indoor air.

2.0 Health and Safety

Field personnel will review and adhere to the site-specific Health and Safety Plan (HASP). Sampling and field activities will only be conducted under weather and other conditions that do not create an unsafe working environment.

3.0 Data Quality Objectives

The data collected during sampling and field activities will be used to assess potential impacts to indoor air related to refined petroleum products, including jet fuel, and their potential constituents and to evaluate the potential impacts to human health related to these constituents.

[1] PA DEP. Land Recycling Program Technical Guidance Manual (TGM) Section IV: Vapor Intrusion into Buildings from Groundwater and Soil. 261-0300-101, March 2021.
[2] US EPA. OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air. OSWER Publication 9200.2-154, June 2015.

A strategic planning approach based on the scientific method will be employed for data collection activities, providing a systematic procedure to ensure that the type, quantity, and quality of data used in decision-making are appropriate for the intended application.

4.0 Air Sampling Strategy

4.1 Air Sampling Locations

Residences eligible for indoor air sampling will be selected based on the results of potable well water sampling conducted at the residence by Groundwater & Environmental Services, Inc. (GES) personnel. Specifically, residences will be eligible for indoor air sampling if water sampling results at the residence indicate detections of one or more volatile target analytes at a concentration above the Groundwater Statewide health standard vapor intrusion screening values (SV_{GW}) established by the PA DEP. Additional residences may be selected for indoor air sampling if light non-aqueous phase liquid (LNAPL) is present in the potable water well at the residence or at the request of Energy Transfer personnel.

At each eligible residence, air samples will generally be collected at a minimum of three locations:

1. On the lowest level of the residence (e.g., basement)
2. On the first floor of the residence
3. Outside (and near) the residence

If the lowest level and first floor of the residence are each less than 1,500 square feet, one air sample will be collected on each level. If either level is larger than 1,500 square feet, additional air samples may be collected. The air sample collected on the lowest level will be located in an area where vapors may be expected to enter or in an area with the greatest potential for vapor intrusion impact (e.g., near a preferential pathway, sump pump, or indoor well). The air sample collected on the first floor will be centrally located in an area of typical occupancy and/or high activity (e.g., living room or bedroom). The air sample collected outside the residence will be located in an area that is representative of ambient conditions outside the residence (e.g., backyard). Air samples will be collected in locations that minimize potential impacts from other sources of volatile organic compounds (VOCs).

4.2 Air Sampling Frequency

A minimum of two air sampling events will occur at each residence. The two air sampling events will occur at least 45 days apart. Both air sampling events should occur when the daily average outdoor temperature is at least 15 degrees Fahrenheit below the minimum indoor temperature in the occupied space and when the heating system is operating normally.

4.3 Target Analytes

Target analytes were based on the Short List of Petroleum Products in the Land Recycling Program Technical Guidance Manual established by the PA DEP. Specifically, all volatile parameters related to jet fuel, unleaded gasoline, and diesel fuel for which soil and/or water sampling are required, as outlined in the Short List of Petroleum Products, were selected as target analytes for air sampling. Hexane and cyclohexane were additionally selected based on their listing on the safety data sheet (SDS) for one of the products (unleaded gasoline) that traveled through the impacted pipeline.

Target analytes are the following VOCs: benzene, toluene, ethylbenzene, total xylenes (calculated by adding the concentrations of m&p-xylene and o-xylene), isopropylbenzene, methyl tert-butyl ether (MTBE; also known as methyl tertiary butyl ether), naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane (EDC), 1,2-dibromoethane (EDB; also known as ethylene dibromide), hexane, and cyclohexane.

4.4 Pre-Sampling Procedures

Residences eligible for indoor air sampling are predominately occupied by property owners and/or tenants. To minimize potential impacts from other sources of VOCs, the occupant should remove potential sources of VOCs (e.g., fuel containers, paints, cleaning products, personal care products, candles) from the air sampling location at least 24 hours prior to deployment of the air sample. Items can either be removed from the area or placed in a sealed container for temporary storage through the duration of the air sampling event.

On the day of air sample deployment, a pre-sampling survey will be conducted with the occupant. The pre-sampling survey will include a short questionnaire for the occupant, a visual assessment of accessible portions of the lowest level and first floor of the residence, an air monitoring assessment of accessible portions of the lowest level and first floor of the residence, and a barometric pressure assessment both inside and outside the building. The pre-sampling survey will include information about building-specific factors that could potentially influence the concentration of VOCs in indoor air. Specifically, the pre-sampling survey will include:

- Property owner and building occupant information;
- Building evaluation (i.e., building use/description and summary of potential vapor entry points);
- Building construction characteristics;
- Building features (e.g., condition of the floor slab, the presence of floor penetrations or cracks);
- Heating and ventilation systems;
- Items within the residence that could be potential sources of VOCs (e.g., fuel containers, paint cans, solvents, cleaning products, personal care products, candles);
- Occupant activities within the residence (e.g., smoking, painting, cleaning);

- Exterior building characteristics; and
- Items or occupant activities outside the residence that could be potential sources of VOCs (e.g., storage of fuel containers or paint cans, use of fuel-powered equipment such as a lawnmower).

In addition to the visual assessment, air monitoring will also be conducted in accessible portions of the lowest level and first floor of the residence to further identify any items within the residence that could be potential sources of VOCs. Air monitoring will be conducted using a RAE Systems by Honeywell ppbRAE 3000 instrument equipped with a photoionization detector (PID) and a 10.6 eV lamp (detection limit = 1 part per billion [ppb]).

An assessment of barometric pressure both inside and outside of the building will also be conducted, particularly in areas surrounding each sample collection location. Barometric pressure measurements will be collected using a Kestrel 5500 Weather Meter.

All instruments will be calibrated daily or per manufacturer recommendations. The information collected during the pre-sampling survey will be documented digitally and/or on the Indoor Air Assessment Form (Attachment B).

4.5 Air Sampling Procedures

After the pre-sampling survey has been completed, one air sample will be deployed at each of the locations outlined in Section 4.1. Each air sample will consist of a 1.4-liter evacuated canister with a 24-hour regulator.

Prior to air sample deployment, each canister will be inspected for damage, a leak test will be performed, and the initial pressure of the canister will be recorded. Air samples will be collected for a duration of approximately 24 hours at a height that is representative of the breathing zone (i.e., the canister inlet will be located four to six feet above the ground). At the end of the air sampling period, the final pressure of the canister will be recorded. Air samples will be labeled (see Section 6.1) and sent under chain-of-custody (see Section 6.2) to Pace Analytical National Center for Testing & Innovation (Pace) in Mt. Juliet, Tennessee (12065 Lebanon Rd, Mt. Juliet, TN 37122), a National Environmental Laboratory Accreditation Program (NELAP)-accredited laboratory.

4.6 Post-Sampling Procedures

After the air sampling period, a post-sampling survey will be conducted with the occupant. The post-sampling survey will include a visual assessment of accessible portions of the lowest level and first floor of the residence, an air monitoring assessment of accessible portions of the lowest level and first floor of the residence, and a barometric pressure assessment both inside and outside the building. The post-sampling survey will be conducted in the same manner as the pre-sampling survey and will provide

information about specific factors that may have influenced the concentration of VOCs in indoor air during the air sampling period.

The information collected during the post-sampling survey will be documented digitally and/or on the Indoor Air Assessment Form (Attachment B).

4.7 Analytical Methods

Air samples will be analyzed by Pace using US EPA Method TO-15 for the target analytes outlined in Section 4.3, as outlined in **Table 1**.

Table 1. Analytical Method

Analyte	Media	Method
Select VOCs*	Evacuated canister (1.4 L)	US EPA Method TO-15+

* Benzene, toluene, ethylbenzene, m&p-xylene, o-xylene, isopropylbenzene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, hexane, and cyclohexane

\+ Benzene, naphthalene, 1,2-dichloroethane, and 1,2-dibromoethane will be analyzed using US EPA Method TO-15 in Selective Ion Monitoring (SIM) mode.

5.0 Analysis of Air Sampling Results

5.1 Screening Levels

Indoor air sampling results will be compared to the Indoor air Statewide health standard vapor intrusion screening values (SV_{IA})[3] established by the PA DEP and/or the Vapor Intrusion Screening Levels (VISL) for residential exposure established by the US EPA[4], which are equivalent to the US EPA Regional Screening Levels (RSL) for Resident Air. Specifically, indoor air sampling results will be compared to 1) 1/10 of the PA DEP Residential SV_{IA} and/or 2) the US EPA RSL for Resident Air (TR = 1E-06, THQ = 1.0; the lower of the carcinogenic or non-carcinogenic value), as outlined in Section IV of the Land Recycling Program Technical Guidance Manual (TGM) published by the PA DEP. Target analytes and their respective laboratory method detection limits (MDL), laboratory reporting limits (RL), Residential SV_{IA}s, and Resident Air RSLs are outlined in **Table 2**.

[3] PA DEP. Vapor Intrusion Screening Value Tables, Version 2.1. October 2022.

[4] US EPA. Vapor Intrusion Screening Level (VISL) Calculator, Version 3.5.1. 2016.

Table 2. Target Analytes, Detection Limits, and Screening Levels

Analyte	CAS Number	MDL (µg/m³)	RL (µg/m³)	PA DEP Residential SV_{IA} (µg/m³)	1/10 PA DEP Residential SV_{IA} (µg/m³)	US EPA Resident Air RSL (µg/m³)
Benzene+	71-43-2	0.0623	0.1278	3.1	0.31	0.36
Toluene	108-88-3	0.4897	1.8834	5,200	520	5,200
Ethylbenzene	100-41-4	0.3373	0.8671	9.7	0.97	1.1
m&p-Xylene	1330-20-7	0.7544	1.7342	100*	10	100*
o-Xylene	95-47-6	0.3845	0.8671			100
Isopropylbenzene	98-82-8	0.3549	0.9832	420	42	420
Methyl tert-butyl ether	1634-04-4	0.2929	0.7207	94	9.4	11
Naphthalene+	91-20-3	0.1298	0.2094	0.72	0.072	0.083
1,2,4-Trimethylbenzene	95-63-6	0.4550	0.9816	63	6.3	63
1,3,5-Trimethylbenzene	108-67-8	0.4187	0.9816	63	6.3	63
1,2-Dichloroethane+	107-06-2	0.0283	0.0809	0.94	0.094	0.11
1,2-Dibromoethane+	106-93-4	0.0963	0.1538	0.041	0.0041	0.0047
Hexane	110-54-3	0.5040	2.2206	730	73	730
Cyclohexane	110-82-7	0.5854	0.6888	6,300	630	6,300

µg/m³ = micrograms per cubic meter
+ Analyte will be analyzed using US EPA Method TO-15 in Selective Ion Monitoring (SIM) mode.
* The PA DEP Residential SV_{IA} for total xylenes (CAS Number 1330-20-7) is 100 µg/m³. The concentration of total xylenes will be calculated by adding the concentrations of m&p-xylene and o-xylene. The US EPA Resident Air RSL for m-xylene and p-xylene are each 100 (not combined).

It is important to note that the MDLs of some target analytes are higher than the respective screening levels. Specifically, the MDLs for naphthalene and 1,2-dibromoethane are above 1/10 of the Residential SV_{IA} and above the Resident Air RSL.

5.2 Data Analysis

Validated air sampling results will be used to evaluate the potential impacts to indoor air related to refined petroleum products, including jet fuel, and their potential constituents. Indoor air sampling results will be reviewed for the presence/absence of target analytes and, if a target analyte is detected, the concentration of that analyte will be compared to relevant screening levels, as outlined in Section 5.1.

If air sampling results indicate that concentrations of target analytes are below their respective screening levels in both indoor air samples, no further action will be required, and the second air sampling event will occur at least 45 days later.

If air sampling results indicate that the concentration of a target analyte exceeds its respective screening level in an indoor air sample, results from the two indoor air samples will be compared to each other and

to outdoor air sampling results to evaluate the presence of the constituent in the ambient environment and the potential influence of the constituent on indoor air sampling results. The second air sampling event will occur at least 45 days later.

If it is determined that vapor intrusion is the likely source of the detections (rather than potential influence from other sources of VOCs or outdoor air), additional site investigation(s), including but not limited to additional sampling, may be performed.

Prior to data validation (see Section 7.3), preliminary air sampling results issued by the laboratory will be provided to Energy Transfer personnel, who will share the results verbally and in writing with individual property owners. Sharing preliminary sampling results will enable property owners to receive their air sampling results in a timelier manner, rather than waiting for data validation to be completed before sharing air sampling results. If any issues with data quality are identified during data validation, Energy Transfer personnel will notify the individual property owner.

6.0 Sampling Labeling and Handling

6.1 Labeling

Air samples will be clearly labeled with the following information:

- Unique sample identification, including UMPA (Upper Makefield, PA)
- Sample type – IA/OA (indoor air/outdoor air)
- Start/stop date
- Start/stop time
- Start/stop pressure

The unique sample designation will include the following: four-letter site prefix, two-digit month, two-digit day, sample type (IA or OA), and three-digit numerical designation.

6.2 Handling

Samples will be collected using laboratory-supplied, certified clean evacuated canisters and labeled with sample identification number and sample date. Laboratory chain-of-custody (COC) will contain sample identification number, sample date, analysis and methodology requested, and time of sample collection. Custody seals will be placed on each sample container, if necessary, and chain-of-custody procedures will be maintained from the time of sample collection until arrival at the laboratory to protect sample integrity. Shipping or transport of samples to the laboratory will be done within a timeframe to meet the recommended holding times (i.e., 30 days from collection to preparation; 5 days from preparation to analysis).

Nitrile gloves will be worn by sampling personnel and changed between activities at each discrete sample collection location. Previously worn nitrile gloves will be discarded in appropriate waste receptacles with other personal protective equipment (PPE).

7.0 Quality Assurance

This sampling program, including both air monitoring and air sampling, will be carried out in conjunction with a well-defined quality assurance (QA) program. The QA program refers to the sampling, analysis, and data validation procedures for generating valid and defensible data. The types of quality control (QC) measures and samples that will be conducted are outlined below.

7.1 Field Calibration

Air monitoring instruments used in the field as part of this sampling program will consist of PIDs and handheld data collection devices such as tablets/smartphones. PID instruments will be maintained and calibrated daily in accordance with manufacturer recommendations and instructions. Operators of each instrument are responsible for maintaining (including proper battery charge) and operating the equipment such that it conforms to manufacturer specifications.

7.2 Laboratory Quality Assurance

Laboratory QC procedures will be conducted in a manner consistent with relevant state and federal regulatory guidance. Deliverables will contain the supporting documentation necessary for data validation. Internal laboratory QC checks will include method blanks, matrix spike/matrix spike duplicate (MS/MSD) samples, surrogate samples, calibration standards, and laboratory control standards (LCS).

7.3 Data Verification/Validation

Third-party data verification/validation will be performed by Environmental Standards, Inc. Data verification/validation will include, at a minimum, sample holding times, accuracy, precision, contamination of laboratory method blanks, and surrogate compound recovery. Accuracy will be determined by evaluating LCS and MS recovery. Precision will be determined by evaluating laboratory duplicate samples.

Level IV data validation will be performed on 100% of the samples. The components of data verification/validation are summarized in **Table 3**.

Table 3. Summary of Data Verification/Validation Levels

Data Verification/ Validation Level	Definition
Level 1	Sample data reporting only
Level 2	Complete QC, including data blanks, spikes, duplicates (including matrix spike duplicates), laboratory control samples, relative percent difference (RPD), and percent recovery
Level 3	Items listed in Level 2 plus QC limits and QA batch cross-reference table
Level 4	Items listed in Levels 2 and 3, including sample raw data and chromatograms

8.0 Waste Disposal

Used PPE will be containerized and collected at the designated on-site waste staging area. All waste produced on-site will be managed and disposed of in a manner consistent with regulatory guidelines and requirements.

9.0 Records Management

Records management refers to the procedures for generating, controlling, and archiving project-specific records and records of field activities. Project records, particularly those that are anticipated to be used as evidentiary data, directly support current or ongoing technical studies and activities, and provide historical evidence needed for later reviews and analyses, will be legible, identifiable, retrievable, and protected against damage, deterioration, and loss on a centralized electronic database. Handwritten records will be written in indelible ink. Records may include, but are not limited to, the following: bound field notebooks on pre-numbered pages, sample collection forms, personnel qualification and training forms, sample location maps, equipment maintenance and calibration forms, chain-of custody forms, maps and drawings, transportation and disposal documents, reports issued as a result of the work, procedures used, correspondences, and any deviations from the procedural records. Documentation errors will be corrected by drawing a single line through the error so that it remains legible and writing the correction adjacent to the error; the change will be initialed by the responsible individual, along with the date of change.

Attachment A: Site Location

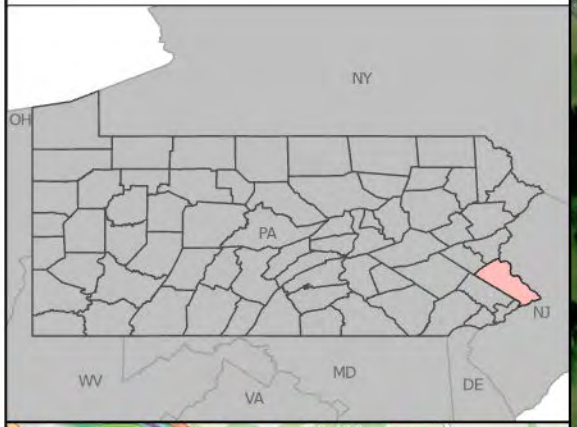
CTEH®

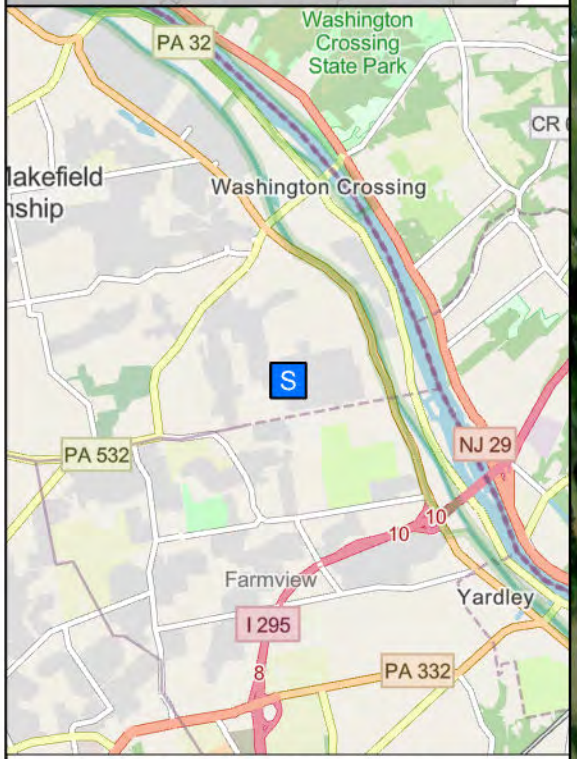
Upper Makefield Response

Incident Location

Washington Crossing, PA | Bucks County

PROJ-051861





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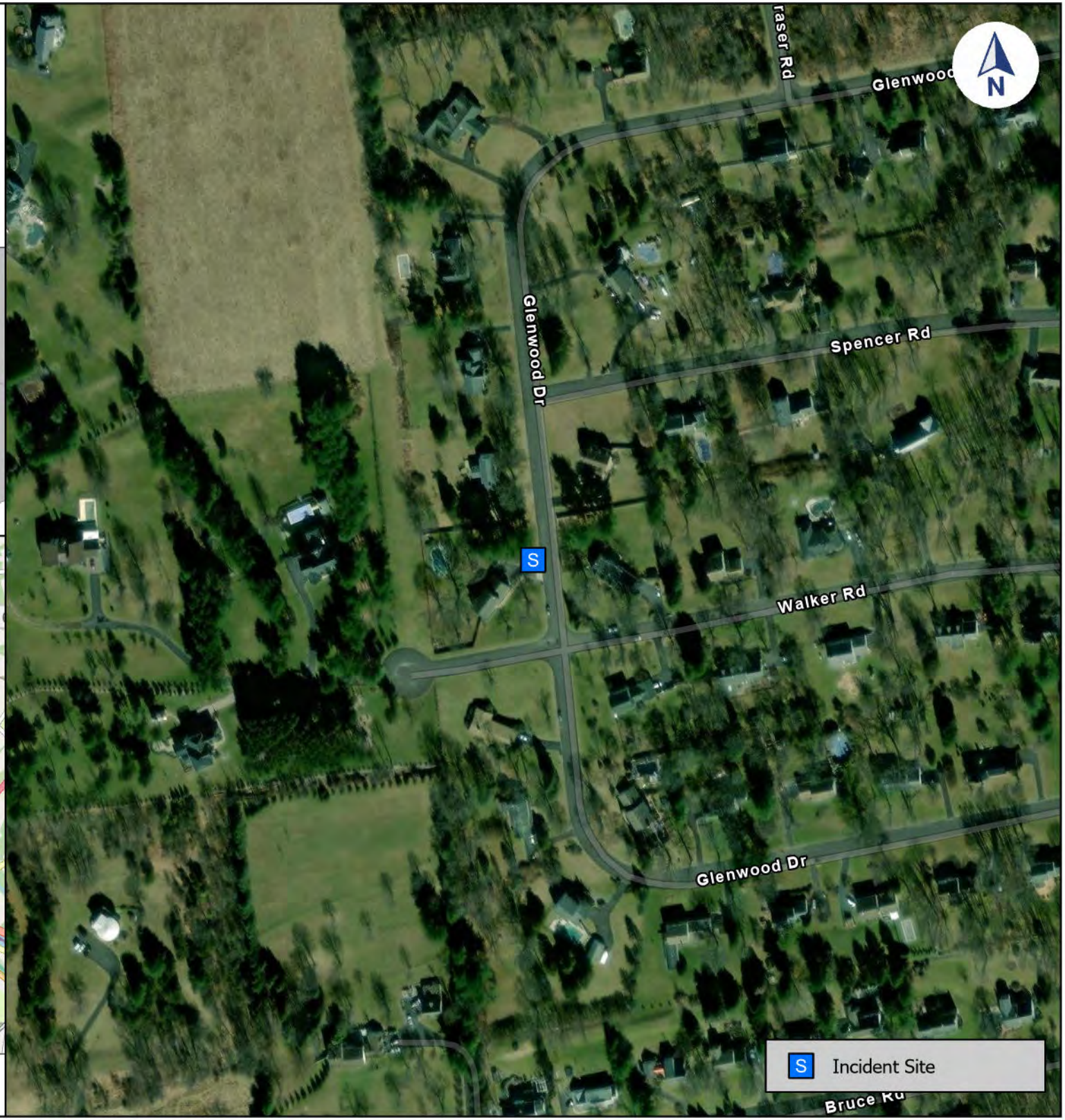

Attachment B: Indoor Air Assessment Form

Indoor Air Assessment Form

Preparer Name and Affiliation: _____ Date/Time: _____

Email: _____ Phone Number: _____

Part 1: Property Owner and Building Occupant Information

Property Owner/Landlord Information (☐ Check if same as occupant)

Name(s): _____ Interviewed: ☐ Yes ☐ No

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Phone: _____ Email: _____

Occupant Information

Name(s): _____ Interviewed: ☐ Yes ☐ No

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Phone: _____ Email: _____

Number of occupants at this location: _____ Age range: _____

Part 2: Building Evaluation

Building Use ☐ Residential ☐ Commercial ☐ Other (specify: _____)

If the property is commercial or industrial, describe the business use(s):

_____

_____

Building Details and Description

Number of units: _____ Square feet: _____ Heat source: _____

Construction year: _____ Insulation type: _____

Basement/lowest level depth below grade (feet): _____

Indicate source(s) of water supply (e.g., drinking, irrigation) and type(s) of sewage disposal:

Water supply: ☐ Public water ☐ Drilled well ☐ Driven well ☐ Dug well

Sewage disposal: ☐ Public sewer ☐ Septic tank ☐ Leach well ☐ Dry well

Proximity to roads, heavily trafficked areas, or industrial facilities: ☐ Near ☐ Moderate ☐ Far

General cleanliness and condition of indoor spaces: ☐ Poor ☐ Moderate ☐ Exceptional

Indicate the number of floors and general use of each floor beginning with the lowest level:

_____

_____

_____

_____

Kitchen

Type of cooking appliance: ☐ Gas ☐ Electric ☐ Other: _____

Presence of range hood above stove: ☐ No ☐ Yes ☐ N/A

Laundry Room

Presence of laundry products (e.g., detergents, fabric softeners, bleach): ☐ No ☐ Yes

Presence of cleaning products (e.g., household cleaners, air freshener spray): ☐ No ☐ Yes

Outdoor Areas

Presence of fire/burn pits, fireplaces, grills, or stoves: ☐ No ☐ Yes

Presence of storage tanks (e.g., for gasoline, propane): ☐ No ☐ Yes

Notes

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Observed Basement Characteristics

Occupancy of basement/lowest level	☐ Full time	☐ Occasionally	☐ Almost never	
Bedrooms in basement/lowest level	☐ Yes ☐ No	If yes, are the bedrooms occupied regularly? ☐ Yes ☐ No		
Basement type	☐ Full	☐ Partial	☐ Slab	☐ Other
Floor materials	☐ Concrete	☐ Dirt	☐ Stone	☐ Other
If concrete floor:	☐ Unsealed	☐ Sealed	Sealed with:	
Floor covering	☐ Uncovered	☐ Covered	Covered with:	
Cracks in floor/foundation?	☐ Yes ☐ No	If yes, describe _____		
Foundation walls	☐ Poured	☐ Block	☐ Stone	☐ Other
Basement finish	☐ Unfinished	☐ Finished	☐Partially finished	
Basement moisture	☐ Wet	☐ Damp	☐ Seldom damp	☐ Moldy
Sump pump present	☐ Yes ☐ No	If yes, was water present? ☐ Yes ☐ No		
Crawl spaces present	☐ Yes ☐ No	If yes, describe the crawl space floor conditions (e.g., earth, concrete) and construction (walls, use, connectivity to building, etc.) and illustrate location on the attached grid plans. _____ _____ _____ _____ _____		
Have there been any building additions?	☐ Yes ☐ No	Describe addition construction, including how it ties to the existing floor plan (footings, slab connectivity, etc.). Illustrate locations of additions on the attached grid plans. _____ _____ _____ _____ _____		

Thickness of the concrete floor slab in the lowest level(s) (inches): _____

Soil type present beneath the building: _____

Is there evidence of saturated or high moisture conditions beneath the floor slab? ☐ Yes ☐ No

If yes, explain:

_____

_____

_____

_____

Heating, Venting, Air Conditioning, or Other Building Controls

Type of heating system(s) used in the building: (Check all that apply)

☐Hot air circulation ☐Space heaters ☐ Electric baseboard ☐ In-floor heating

☐Heat pump ☐Steam radiation ☐ Wood stove ☐Hot water baseboard

☐Wood-burning fireplace ☐Electric fireplace ☐Radiant floor ☐Outdoor wood boiler

☐ Other (specify): _____

Primary type: _____

Primary type of fuel used:

☐ Natural gas ☐ Fuel oil ☐ Kerosene ☐ Electric

☐ Propane ☐ Solar ☐ Wood ☐ Coal

If hot water tank present, indicate fuel source: _____

Boiler/furnace location: ☐ Basement ☐ Outdoors ☐ Main floor ☐ Other: _____

Type of air conditioning: ☐ Central air ☐ Window units ☐ Open windows ☐ No mechanical system

Is outside replacement (make-up) air provided for combustion appliances? ☐ Yes ☐ No

If no, explain:

_____

_____

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_____

Are there air distribution ducts present? ☐ Yes ☐ No

Describe the type of mechanical ventilation systems used within or for the building (e.g., air-to-air exchanges, HVAC). Indicate whether the interior spaces of the building use separate ventilation systems and/or controls. Provide information on any existing building mitigation system (e.g., radon mitigation system, passive venting systems). If available, provide information on air exchange rates for any existing mechanical ventilation systems currently in use.

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Summary of Potential Vapor Entry Points

Earthen floors or incompetent (e.g., damaged, cracked) floor slabs in lowest level of building ☐ Yes ☐ No

Sumps (unsealed) ☐ Yes ☐ No

Large utility penetrations through floor and/or walls with exposure to sub-surface soils ☐ Yes ☐ No

Crawl spaces with earthen floors or incompetent floor conditions ☐ Yes ☐ No

Other (describe) ☐ Yes ☐ No

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Grid Plots

Floor Plan for Basement or Lowest Level

Describe floor plan, locate potential vapor entry points (e.g., cracks, utility ports, drains), and, if applicable, identify sample locations and locations of potential sources of VOCs. Indicate North direction.

Floor Plan for First Floor (Above Basement)

Describe floor plan and, if applicable, identify sample locations and locations of potential sources of VOCs. Indicate North direction.

Outdoor Grid Plot

Sketch the area outside the building and identify outdoor air sample locations. If applicable, provide information on locations of potential sources of VOCs, spills, wells, and septic system. Indicate wind direction and speed. Indicate North direction.

Part 3: Indoor Air Quality Survey

Complete this section if indoor air sampling is conducted (use grids in Part 1 to identify sampling locations).

Is there an attached garage?	☐ Yes ☐ No	
Are there petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, car)?	☐ Yes ☐ No	If so, specify:
Has the building ever had a fire?	☐ Yes ☐ No	If so, when:
Is a kerosene or unvented gas space heater present?	☐ Yes ☐ No	If so, where and type:
Is there a fireplace or wood-burning stove inside the residence?	☐ Yes ☐ No	If so, where and type:
Is there smoking in the building?	☐ Yes ☐ No	If so, what type and how frequently:
Are there candles, incense sticks, or air fresheners (sprays or plug-ins) present?	☐ Yes ☐ No	If so, where and type:
Have cleaning products been used recently?	☐ Yes ☐ No	If so, when and type:
Have cosmetic products been used recently?	☐ Yes ☐ No	If so, when and type:
Has painting/staining been done in the last 6 months?	☐ Yes ☐ No	If so, where and when:
Has any remodeling or construction occurred in the last 6 months?	☐ Yes ☐ No	If so, where and when:
Is there new carpet, drapes, or other textiles?	☐ Yes ☐ No	If so, where and when:
Have air fresheners been used recently?	☐ Yes ☐ No	If so, where and when:
Is there a clothes dryer?	☐ Yes ☐ No	If yes, is it vented outside? ☐ Yes ☐ No
Are there odors in the building?	☐ Yes ☐ No	If yes, describe:
Do any of the building occupants use solvents at work?	☐ Yes ☐ No	If yes, what type(s):

Do any of the building occupants regularly use or work at a dry-cleaning service?	☐ Yes ☐ No	If yes, indicate how frequently:
Presence of hobby materials (e.g., craft supplies, glues, paints)?	☐ Yes ☐ No	If so, what and where:
Presence of pest control products (e.g., insecticides, rodenticides)	☐ Yes ☐ No	If yes, where and type:
Are there pets in the residence?	☐ Yes ☐ No	If yes, type:
Are there pets outside the residence?	☐ Yes ☐ No	If yes, type:
Presence of water damage, water leaks, or visible mold?	☐ Yes ☐ No	If yes, where:

Product Inventory Form

Make and model of air monitoring instrument used: _____

Instrument serial number: _____

List specific products identified in the building that have the potential to affect indoor air quality:

Location	Product Description*	Comments	Instrument Reading and Units

* Describe the condition of the product containers as Unopened (UO), Used (U), or Deteriorated (D). Include photographs of product containers, as appropriate, to document products and ingredients.