SCOPE OF WORK
QUALITATIVE HUMAN HEALTH EXPOSURE ASSESSMENT
TACONIC 136 COON BROOK ROAD, PETERSBURGH, NY 12138

The following is a scope of work summary for the preparation of a Qualitative Human Health Exposure Assessment (Part 2) for the Taconic facility located at 136 Coon Brook Road, Petersburgh, NY 12138.

The purpose of the Qualitative Human Health Exposure Assessment (QHHEA) Part 2 is to evaluate and document how people might be exposed to site-related contaminants, and to identify and characterize the potentially exposed population(s) now and under the reasonably anticipated future use of the site. The QHHEA will be conducted to meet the requirements of the New York State Department of Environmental Conservation (NYSDEC) – Division of Environmental Remediation DER-10 Technical Guidance for Site Investigation and Remediation, Appendix 3B, dated May 2010.

To evaluate if an exposure pathway exists, the exposure assessment must assess the quality, representativeness and adequacy of the available data. For instance, field data quality, laboratory data quality, and sampling designs need to be appropriate to meet data quality objectives (e.g., detection limits and minimum reporting limits must be appropriate for the evaluation of human exposures).

The scope of work for the QHHEA includes:

- Review of analytical results for surface water, sediment, groundwater, surface and subsurface soils. This will include assessment of the quality, representativeness and adequacy of the available data to ensure it meets data quality objectives and is appropriate for the evaluation of human exposures.

- Exposure assessment evaluation which includes:

    a) A description of the contaminant source(s) including the location of the contaminant release to the environment (any waste disposal area or point of discharge) or if the original source is unknown, the contaminated environmental medium (soil, indoor or outdoor air, biota, water) at the point of exposure;

    b) An explanation of the contaminant release and transport mechanisms to the exposed population;

    c) Identification of reasonably ascertainable potential exposure point(s) where actual or potential human contact with a contaminated medium may occur;

    d) Description(s) of the route(s) of exposure (i.e., ingestion, inhalation, dermal absorption including but not limited to direct contact with soil, potable water exposures, exposures through ingestion of food such as maple syrup, exposures through gardening in impacted soil, exposures via ingestion of livestock exposed to PFAS, ingestion of fish and exposures via swimming);

    e) A characterization of the receptor populations who may be exposed to contaminants at a point of exposure; and

f) A qualitative review of the effectiveness of on-going Interim Remedial Measures (i.e. public water treatment, residential POET systems, and residential water monitoring programs) in mitigating human exposures.

All documentation and results of a QHHEA Part 2 including a summary table as described in Appendix 3B will be submitted to the NYSDEC for review and comment.

1.0 SITE DESCRIPTION

The Taconic Plastics Facility comprises approximately 23.54 acres of property in a rural area, at the at the northernmost intersection of Coonbrook Road and State Route 22. The majority of the Site consists of developed area including buildings, paved surfaces, and stormwater management facilities. Non-developed portions of the Site consist of mowed lawn, ornamental landscaping, planted drainage swales, and woodlands. Site structures include the main manufacturing building, the attached administration building, and several other buildings for various operations.

Taconic manufactures polytetrafluoroethylene (PTFE) coated fabrics at this facility. The Site features nine structures related to manufacturing and three parking lots. The Site is currently an operating manufacturing facility.

The Site is bounded to the south by forested lands and residential lots, to the east by Route 22, to the west by Russell Road and Toad Point Road with extensive forested landscapes, and to the north by agricultural and forested lands. The Site is located in an area zoned for industrial use in the Town of Petersburgh. The area surrounding the Site is generally characterized as undeveloped.

The Site lies within the New England Uplands Physiographic Province of New York State (National Park Service, 2021). The New England Uplands Province extends north into Canada and is flanked by the Piedmont Plains to the south. The terrain is characterized by plateaus and narrow valleys. The Site itself is located on the west side of the Little Hoosic River Valley. The Little Hoosic River is abutted by the Taconic mountains to the east and by an upland area that raises up to Grafton Lakes and Graton State Park to the west. The Little Hoosic flows north before discharging to the Hoosic River, which flows north then west before its confluence with the Hudson River just north of Mecanicville.

Stormwater runoff from the Site is directed into a series of storm drains that collect in a series of catch basins before being conveyed via storm sewers to on-site ditches and swales. Stormwater for buildings 1 thru 5 is conveyed to an Unnamed Pond 3 off the Site, and then under Route 22 to the Little Hoosic River. Stormwater from paved areas of the complex associated with Buildings 6, 9, 10, and 11 are collected in catch basins and conveyed through storm sewers which discharge to a low-lying wetland area east of Building 10. The parking lot north of Coon Brook Road and the low-lying wetland area south of Building 10 drain through an Unnamed Stream and culvert under Route 22 to the Little Hoosic River. During heavy rain events, a minor component of stormwater overland flow discharges directly to Unnamed Stream 1.

2.0 CONCEPTUAL SITE MODEL

The analytical data presented in the Interim Investigation Deliverable report prepared by Parsons in February 2020 was reviewed to evaluate appropriate potential human exposure pathways for this Site. A preliminary Conceptual Site Model is presented in the Parsons report. Based on the surface water, sediment, groundwater including groundwater collected from production wells and residential wells, surface soil, and subsurface soil data collected from the Site and areas potentially downgradient of the Site, Table 1, the Exposure Assessment Summary was prepared. This table lists potential human receptors and exposure pathways those receptors may have in relation to exposure to Site media. The table highlights existing data and areas where data may need to be collected in the future. This table provides an overview of the current and potential exposures for the specific site that will be the basis of the Quantitative Human Health Exposure Assessment.

Table 1
Exposure Assessment Summary
Taconic
136 Coon Brook Road
Petersburgh, New York

Environmental Media & Exposure Route	Human Receptor	Exposure Assessment
Potential Human Exposures		
Surface soils		
Direct contact/incidental ingestion, infalation of fugitive dust - surface soils	Employee Trespasser/On-Site Visitor Landscaper	Human receptors may be exposed to constituents detected in surface soil including PFAS. Additional potential exposures to VOCs, SVOCs, pesticides, PCBs, and metals may be included if they are determined to be constituents of potential concern (COPCs). COPCs in each media will be determined based on concentration, frequency of detection, distribution, and comparison to background concentrations.
Direct contact/incidental ingestion, inhalation of fugitive dust - surface and subsurface soils	Construction/Utility Worker	Human receptors may be exposed to constituents detected in surface soil including PFAS. Additional potential exposures to VOCs, SVOCs, pesticides, PCBs, and metals may be included if they are determined to be constituents of potential concern (COPCs). COPCs in each media will be determined based on concentration, frequency of detection, distribution, and comparison to background concentrations.
Groundwater		
Ingestion of groundwater Dermal contact, inhalation in shower scenario	Local residents	Human receptors may be exposed to constituents detected in residential drinking water wells including PFAS and metals.
Direct contact groundwater	Employees	Human receptors may be exposed to constituents detected in production well groundwater including PFAS and metals.
Direct contact groundwater	Construction/Utility Worker	Human receptors may be exposed to constituents detected in shallow groundwater including PFAS and metals.
Indoor Air/Soil Gas		
Inhalation of indoor air	Employees	Indoor air is not considered a media of concern at this time.
Surface Water/Sediment		
Direct contact/incidential ingestion surface water while wading/swimming	Local residents	Human receptors may be exposed to constituents detected in surface water including PFAS in streams, ponds, and Little Hoosic River.
Direct contact/incidential ingestion sediment while wading/swimming	Local residents	Human receptors may be exposed to constituents detected in sediment including PFAS in streams, ponds, and Little Hoosic River. Additional COPCs may include VOCs, SVOCs, pesticides, and metals to be determined based on concentration, frequency of detection, distribution, and comparison to background concentrations.
Other media		
Ingestion of maple syrup	Local residents	Potential exposures to PFAS in maple syrup will be discussed qualitatively based on existing studies of maple syrup performed in Vermont and New York.
Gardening Ingestion of produce, direct contact with soil	Local residents	Further review of this pathway is recommended to determine if soil and/or groundwater used for watering in local farms and gardens have been affected by the Site If PFAS is in garden soil, potential concentrations in vegetables can be estimated or vegetables can be collected and analyzed.
Ingestion of live stock/chickens/milk	Local residents	Further review of this pathway is recommended to determine if soil/groundwater in local farms have been affected by the Site, collection of local meat and/or milk and analysis of tissue/milk is a possible way to determine if livestock have been affected.
Ingestion of fish	Local residents	Existing DEC data may be used to evaluate this pathway. Collection of local fish and analysis of fish tissue for PFAS may be recommended in the future if fish of edible size are in streams, ponds, and/or Little Hoosic River.