Data Summary Report for Regional Surface Water and Sediment Sampling

Village of Hoosick Falls, Rensselaer County

July 2022

C.T. Male Associates

50 Century Hill Drive
Latham, NY 12110

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Acronyms

BEC	BEC Engineering and Geology, P.C.
bgs	below ground surface
C.T. Male	C.T. Male Associates
DUSR	Data Usability Summary Report
FD	field duplicate
FSP	Field Sampling Plan
MeFOSAA	n-Methyl perfluorooctanesulfonamidoacetic acid
mg/kg	milligrams per kilogram
N-EtFOSAA	N-ethyl perfluorooctanesulfonamidoacetic acid
ng/g	nanograms per gram
ng/L	nanograms per liter
NYSDEC	New York State Department of Environmental Conservation
OU	Operable Unit
PFAS	per- and polyfluoroalkyl substances
PFBA	perfluorobutanoic acid
PFBS	perfluorobutanesulfonic acid
PFHpA	perfluoroheptanoic acid
PFHxA	perfluorohexanoic acid
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonate
PFOSA / FOSA	perfluorooctanesulfonamide
PFPeA	perfluoropentanoic acid
PFTA / PFTeDA / PFTeA	perfluorotetradecanoic acid
QAPP	Quality Assurance Project Plan
RI	Remedial Investigation
TOC	total organic carbon

1 Introduction

The New York State Department of Environmental Conservation (NYSDEC) requested a scope of work for surface water and sediment sampling to supplement the Regional Air Deposition Study in the Hoosick Falls region to investigate the potential presence of per- and polyfluoroalkyl substances (PFAS). In response to this request, a Regional Surface Water and Sediment Sampling plan (Work Plan; C.T. Male/BEC, 2021c) was prepared and submitted to the NYSDEC. The Work Plan was approved by NYSDEC via email on November 24, 2021.

There were two objectives to the surface water and sediment sampling conducted under this scope:

- Characterize PFAS in the Hoosic River and its major tributaries in the region under baseflow conditions; and
- Conduct a screening-level evaluation of other surface water features (flowing tributaries, springs, ponds, lakes) within the region.

Sampling for these separate objectives was completed at different locations and times as described below.

1.1 Regional Baseflow Sampling

The Village of Hoosick Falls (the Village) lies within the Hoosic River Valley and is divided by the Hoosic River. Within the region, the Hoosic River generally flows from south to north and is fed by several tributaries of different sizes from the east and west (Figure 1). The Village and the current McCaffrey Street OU-01 lie entirely within the Browns Brook – Hoosic River subwatershed of the Middle Hoosic River watershed, as shown on Figure 1. Baseflow is the condition of a river or stream when its flow is at a relatively constant level and where contributions from groundwater discharges represent the highest proportion of total stream flow.

The regional baseflow sampling included collection of co-located sediment and surface water samples at ten locations, as shown on Figure 2 and Table 1. All sampling locations were situated outside of the current McCaffrey Street OU-01 boundary and within the Browns Brook - Hoosic River subwatershed (Figure 2). Sampling locations were distributed as follows:

- Two locations within the Hoosic River, one upstream (HR1) and one downstream (HR2) of McCaffrey Street OU-01;
- Locations in four tributaries to the east of the Hoosic River; and
- Locations in four tributaries to the west of the Hoosic River.

Baseflow conditions were evaluated based on regional rainfall data and nearby river gauge stations and in coordination with NYSDEC. All ten surface water samples were collected within a five-hour period on January 14, 2022, and sediment samples were collected between March 14 and 30, 2022.

1.2 Screening-level Sampling

As part of in-field vetting of parcels subject to soil sampling for the NYSDEC-approved *Supplemental Scope of Work, Regional Air Deposition Study* (C.T. Male/BEC, 2021b), observation and assessment of various surface water features was completed to establish potential surface water/sediment sampling locations on a screening-level basis in coordination with the NYSDEC. The Work Plan called for up to 16 sampling locations to include a variety of surface water features (ponds, lakes, streams, or springs). Ultimately, 13 locations were selected and sampled in consultation with the NYSDEC. The locations included five springs, six streams, and two spring-fed ponds, as shown on Figure 2 and Table 1. These locations were spread across several subwatersheds, including the Nipmoose Brook-Hoosic River, Browns Brook-Hoosic River, Walloomsac River, and Little White Creek subwatersheds, as shown on Figure 1, and, in some cases, were more than two miles from the Village boundary. Samples were collected from November 2021 to March 2022 as access and conditions allowed and do not necessarily represent baseflow conditions.

1.3 Sampling Methods

Sediment and surface water samples were collected according to the methods specified in the approved Field Sampling Plan (FSP) (C.T. Male/BEC, 2020a) and submitted for laboratory analysis in accordance with the most recent Quality Assurance Project Plan (QAPP; C.T. Male/BEC, 2020b). Surface water samples were collected as grab samples and submitted for laboratory analysis of the NYSDEC list of 21 PFAS. Sediment samples were collected from three separate sampling intervals (0-2 inches, 2-12 inches, and 12-24 inches below ground surface (bgs)) using a three-inch outside diameter hardened steel split-spoon sampler. Each sample was submitted for laboratory analysis of the NYSDEC list of 21 PFAS and total organic carbon (TOC). No sediment was present at three screening-level sampling locations, and refusal before 24 inches was reached at two locations, as noted in Table 1.

2 Results

As stated above, this report includes analytical results for samples collected from 23 unique sampling locations (Figure 2 and Table 1). Physical descriptions of each sediment sample are included in Table 2.

Validated analytical results for regional baseflow surface water and sediment samples are included in Table 3A and Table 3B, respectively. Analytical results for screening-level surface water and sediment samples are included in Table 4A and Table 4B, respectively. These tables present PFAS results sorted by group (i.e., sulfonic acids, carboxylic acids, and sulfonamide acetic acids) and increasing carbon chain length order. PFAS that were not detected in any sample from the respective group are not included in the tables.

The results of validation of the laboratory analytical data are summarized in the Data Usability Summary Reports (DUSRs) and will be provided to NYSDEC under separate cover. The data validation was performed in accordance with the QAPP (C.T. Male/BEC, 2020b), NYSDEC requirements, and the requirements for development of DUSRs in Appendix 2B of DER-10, Technical Guidance for Site Investigations and Remediation. Analytical data were determined to be valid and usable as qualified for the purposes of the study with five exceptions. Of 2,045 analyses performed, five were rejected, for a

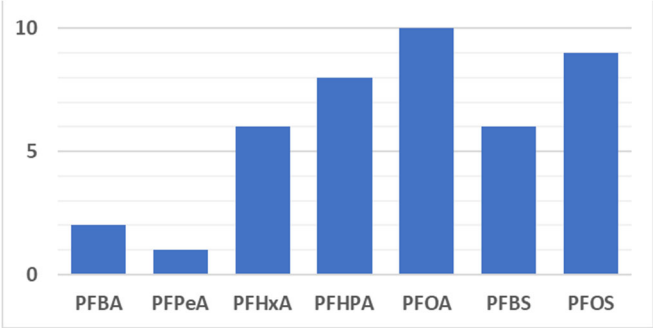
completeness of 99.9%. Three of the rejected results were for perfluorotetradecanoic acid (PFTA / PFTeDA / PFTeA), and one was for n-Methyl perfluorooctanesulfonamidoacetic acid (MeFOSAA). These PFAS were not detected in samples collected for this study. The final rejected result was for perfluorooctanesulfonamide (PFOSA / FOSA) (Table 4A), which was detected in two samples.

2.1 Regional Baseflow Sampling

As described in Section 1, the objective of the regional baseflow sampling was to characterize PFAS in the Hoosic River and its major tributaries in the region under baseflow conditions.

2.1.1 Surface Water

The data set includes ten surface water samples and one duplicate. All samples were analyzed for the NYSDEC list of 21 PFAS, and seven PFAS were detected (Table 3A). Perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) were the most frequently detected PFAS with the other PFAS detected less frequently (Graphic 1).



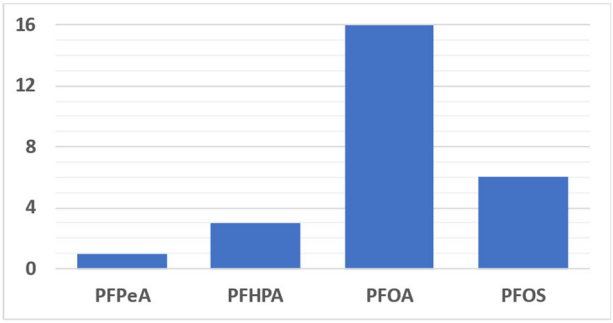
Graphic 1 Frequency of Detections in Surface Water (Baseflow)

PFOA concentrations in these surface water samples ranged from 5.4 ng/L to 74 ng/L, with the highest concentrations detected in tributaries to the east of the Hoosic River (Figure 3A). It is notable that the two lowest detections were from samples in the Hoosic River and that the concentration in the upstream sampling location (HR-1, 5.4 ng/L) is similar to the concentration in the downstream sampling location (HR-2, 8.3 ng/L; Figure 3A).

Detected PFOS concentrations in these surface water samples ranged from 0.54 ng/L to 1.5 ng/L (Figure 3B). It is notable that the highest detected PFOS concentration was from the Hoosic River sample location upstream of the Village (Figure 3B).

2.1.2 Sediment

The data set includes 29 sediment samples and two duplicates at ten locations at three depth intervals. Note that a 12- to 24-inch sample was not collected at UBE1 due to refusal at 6 inches (Table 1). All sediment samples were analyzed for the NYSDEC list of 21 PFAS and four different PFAS were detected (Table 3B). PFOA and PFOS were the most frequently detected PFAS with the other PFAS detected less frequently (Graphic 2). No PFAS were detected in 38% of the sediment samples (i.e., 11 of 29 samples). Additionally, no PFAS were detected in



Graphic 2 Frequency of Detections in Sediment (Baseflow)

the three sediment samples collected within two of the eastern tributaries: Woods Brook (WB1) and Browns Brook (BB1) (Table 3B; Figure 4B).

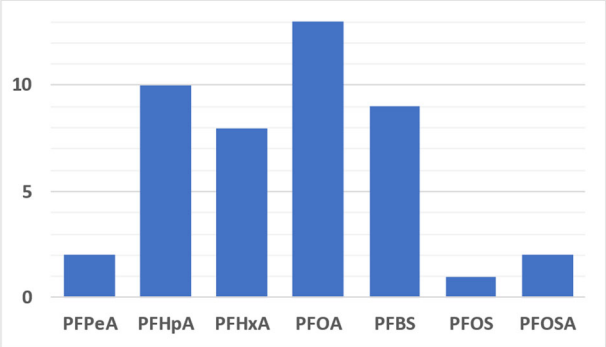
Detected PFOA concentrations in these sediment samples ranged from 0.30 ng/g to 8.1 ng/g, with the two highest concentrations detected at the same location in an unnamed tributary to the east of the Hoosic River (UBE3; Figure 4A). One of the six samples collected from the Hoosic River yielded detectable concentrations of PFOA (0.44 ng/g at HR2).

Detected PFOS concentrations in these sediment samples ranged from 0.8 ng/g to 1.3 ng/g, with the highest concentration detected at the downstream Hoosic River sample location (HR2; Figure 4B). It is notable that no PFOS was detected in samples collected from six of the ten sampling locations. PFOS in sediment was detected in 50% (i.e., three of six) of the sediment samples collected from within the Hoosic River while being detected in less than 15% (i.e., three of 23) of the sediment samples collected from tributaries that discharge into the Hoosic River. This correlates with detected PFOS in sediment concentrations in the Hoosic River being higher than those in the associated tributaries (Section 2.1.1).

2.2 Screening-level Sampling

2.2.1 Surface Water

The screening-level data set includes 13 surface water samples and two duplicates. All samples were analyzed for the NYSDEC list of 21 PFAS, and seven PFAS were detected (Table 4A; Graphic 3).



Graphic 3 Frequency of Detections in Surface Water (Screening)

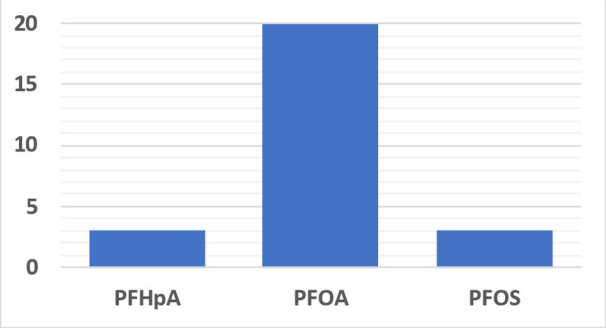
PFOA concentrations in surface water ranged from 2.8 ng/L in a sample collected from a stream to the west of the Village (W14; Figure 5A) to 350 ng/L in a sample collected from a spring north of the Walloomsac River (N08; Figure 5A). The PFOA concentrations in streams (3.2 to 80 ng/L) were generally lower than those detected in springs (12 to 350 ng/L). Springs are generally understood to be expressions of groundwater at the ground surface in the study area, and it is notable that the highest spring concentrations for PFOA were found in samples located outside of the watershed containing the Village of Hoosick Falls. Perfluoroheptanoic acid (PFHpA)

concentrations correlated with PFOA in surface water detections, with the highest concentrations generally coinciding (Table 4A).

PFOS was detected in one of the 13 surface water samples (0.76 ng/L; Figure 5B). This sample was collected from a spring-fed pond located west of the Village of Hoosick Falls.

2.2.2 Sediment

The screening-level data set includes 30 sediment samples and one duplicate, from ten locations at three depth intervals. Note that no sediment was present at three sampling locations (Table 1). A total of three different PFAS were detected: PFHpA, PFOA, and PFOS. PFOA was detected in 20 of the 30 samples, while PFHpA and PFOS were detected in three samples (Graphic 4).



Graphic 4 Frequency of Detections in Sediment (Screening)

PFOA concentrations in the sediment samples with detections ranged from 0.32 ng/g to 12 ng/g, with the two highest concentrations (12 ng/g and 7 ng/g) detected in samples from a spring-fed pond approximately 6,000 feet to the west of the Village (sample location W09; Figure 6A). Two of three PFHpA detections coincide with the two highest PFOA detections (Table 4B).

No PFAS were detected in 33% of the sediment samples (i.e., ten out of 30 samples). Additionally, no PFAS were detected in the three sediment samples collected from SW02, SW12, and W14 (Figure 6B; Table 4B), all west-southwest of the Village.

3 Summary

The regional baseflow sampling characterized PFAS concentrations in surface water and sediment within the Hoosic River (upstream and downstream of the Village) and eight tributaries within the Browns Brook-Hoosic River subwatershed (four to the east and four to the west of the Hoosic River). The results of this sampling are summarized as follows:

- PFOA was the predominant PFAS detected in surface water and sediment samples;
- PFOA was detected in surface water at the highest concentrations in the most eastern tributaries and at the lowest concentrations in the Hoosic River; and
- PFOS in surface water was detected at the highest concentrations in samples collected from within the Hoosic River.

Generally, these results align with previous findings from the Regional Air Deposition Study (C.T. Male/BEC, 2021a), namely higher concentrations of PFOA observed in the predominantly downwind direction (e.g., southeast).

The screening-level sampling included a variety of surface water features (two ponds, six streams, and five springs) distributed in most directions from the Village. These locations were spread across several subwatersheds and, in some instances, more than two miles from the Village boundary. These samples were not necessarily collected under baseflow conditions. The results of this sampling are summarized as follows:

- PFOA was the predominant PFAS detected in surface water and sediment samples;
- PFOA concentrations detected in surface water samples from springs were generally higher than those detected in streams and ponds;
- PFOA was detected in surface water at the highest concentration in a spring located more than 9,000 feet to the north of the Village boundary and two subwatersheds away;
- PFOA was detected in sediment at the highest concentrations in a pond located more than 6,000 feet to the west of the Village; and
- PFOS was rarely detected (i.e., one out of 13 surface water samples and three out of 30 sediment samples), and the highest concentrations were in samples collected from within the Hoosic River.

4 References

C.T. Male/BEC, 2021a. Data Summary Report, Regional Air Deposition Study for the Village of Hoosick Falls. July 2021.

C.T. Male/BEC, 2021b. Supplemental Scope of Work, Regional Air Deposition Study. Village of Hoosick Falls, Rensselaer County. July 15, 2021.

C.T. Male/BEC, 2021c. Regional Surface Water and Sediment Sampling. Village of Hoosick Falls, Rensselaer County. November 16, 2021.

C.T. Male/BEC, 2020a. Field Sampling Plan. 14 McCaffrey Street (Site No. 442046) and 1 Liberty Street (Site No. 442048) Village of Hoosick Falls. March 2020.

C.T. Male/BEC, 2020b. Quality Assurance Project Plan. 14 McCaffrey Street (Site No. 442046) and 1 Liberty Street (Site No. 442048) Village of Hoosick Falls. March 6, 2020.

BEC Footer: ArcGIS 10.8.1, 2022-06-20 15:03 File: I:\Client\Saint_Gobain\Hoosick_Falls_NY\Maps\Reports\2022\Regional Sediment and Surface Water\Data Summary Memo\Figure 1 Study Area Location Map.mxd User: bal

Owl Kill

Little White Creek

Hoosic River

Little White Creek

Former Schmigel Property

Walloomsac River

Former Columbia Corporation

Landfill

Nipmoose Brook-Hoosic River

Waste Water Treatment Plant

Interface Solutions Inc.

Mechanic Street Site

Liberty Street Site

1st Street Site

John Street Site

Former Dodge Machine Company

McCaffrey Street Site

River Road Site

Browns Brook-Hoosic River

Sunkauissia Creek

NYSDEC Remedial Site

Current OU-01 Boundary

Subwatershed Boundary (HUC12)

Wetland

0 1,500 3,000 4,500

Feet

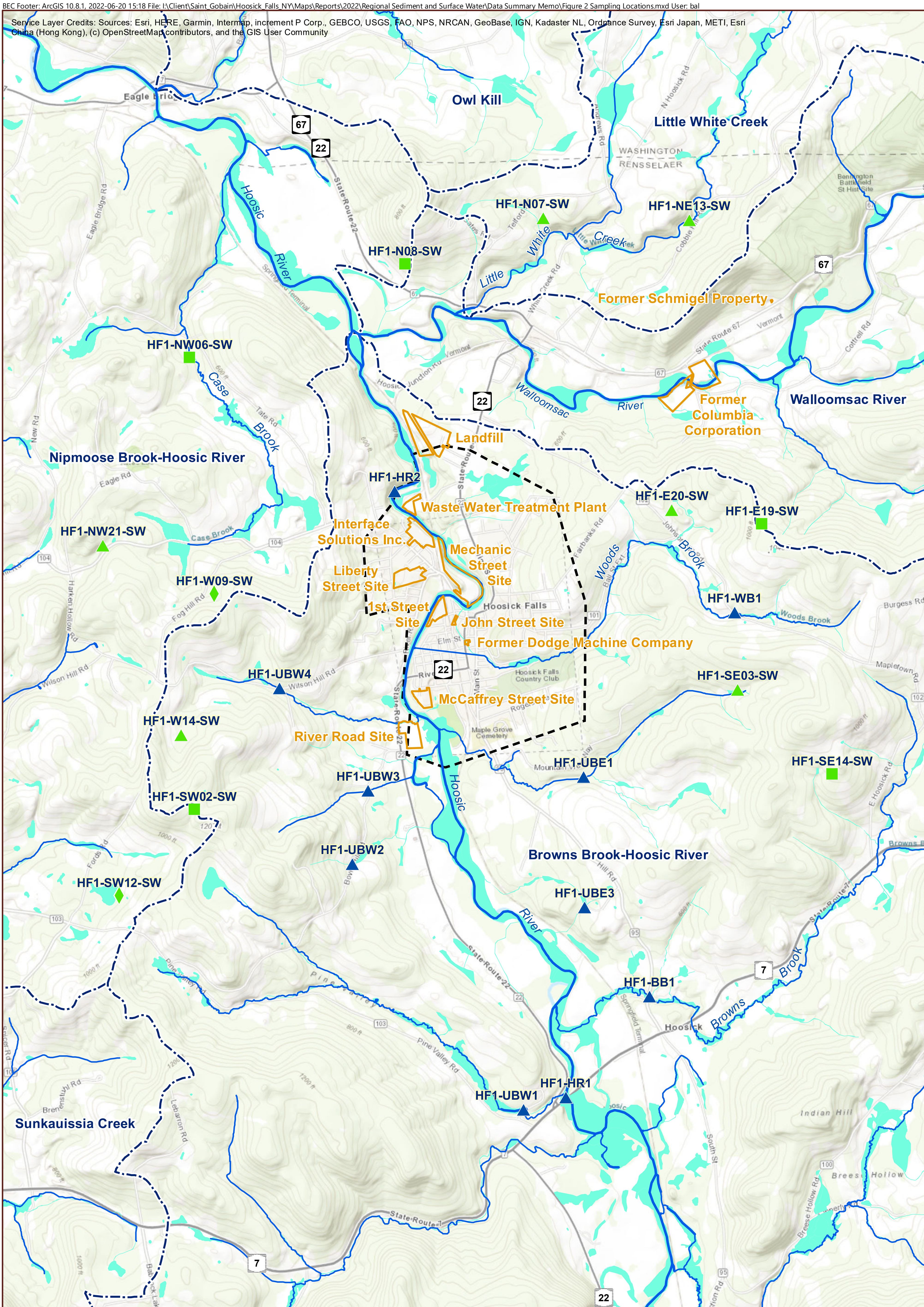
BEC Engineering and Geology, P.C.

FIGURE 1

STUDY AREA LOCATION MAP

Regional Sediment and Surface Water Data Summary Memo Hoosick Falls, NY

BEC Footer: ArcGIS 10.8.1, 2022-06-20 15:18 File: I:\Client\Saint_Gobain\Hoosick_Falls_NY\Maps\Reports\2022\Regional Sediment and Surface Water\Data Summary Memo\Figure 2 Sampling Locations.mxd User: bal



Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Owl Kill
Little White Creek
Eagle Bridge
WASHINGTON
RENSSELAER
Bennington Battlefield St Hist Site
HF1-N07-SW
HF1-NE13-SW
HF1-N08-SW
Hoosic River
Little White Creek
Former Schmigel Property
HF1-NW06-SW
Case Brook
Walloomsac River
Former Columbia Corporation
Walloomsac River
Landfill
Nipmoose Brook-Hoosic River
HF1-HR2
Waste Water Treatment Plant
HF1-E20-SW
HF1-E19-SW
Interface Solutions Inc.
HF1-NW21-SW
Mechanic Street Site
Liberty Street Site
HF1-W09-SW
Woods Brook
HF1-WB1
1st Street Site
Hoosick Falls
John Street Site
Former Dodge Machine Company
HF1-UBW4
HF1-SE03-SW
McCaffrey Street Site
Hoosick Falls Country Club
Maple Grove Cemetery
HF1-W14-SW
River Road Site
HF1-UBE1
HF1-SE14-SW
HF1-UBW3
HF1-SW02-SW
Browns Brook-Hoosic River
HF1-UBW2
HF1-SW12-SW
HF1-UBE3
Hoosic River
HF1-BB1
Browns Brook
Hoosick
HF1-HR1
HF1-UBW1
Indian Hill
Sunkauissia Creek
Breese Hollow

Regional Baseflow Sampling Location

Regional Screening-Level Location
- Stream/River
- Spring
- Pond

NYSDEC Remedial Site

Current OU-01 Boundary

Subwatershed Boundary (HUC12)

Wetland

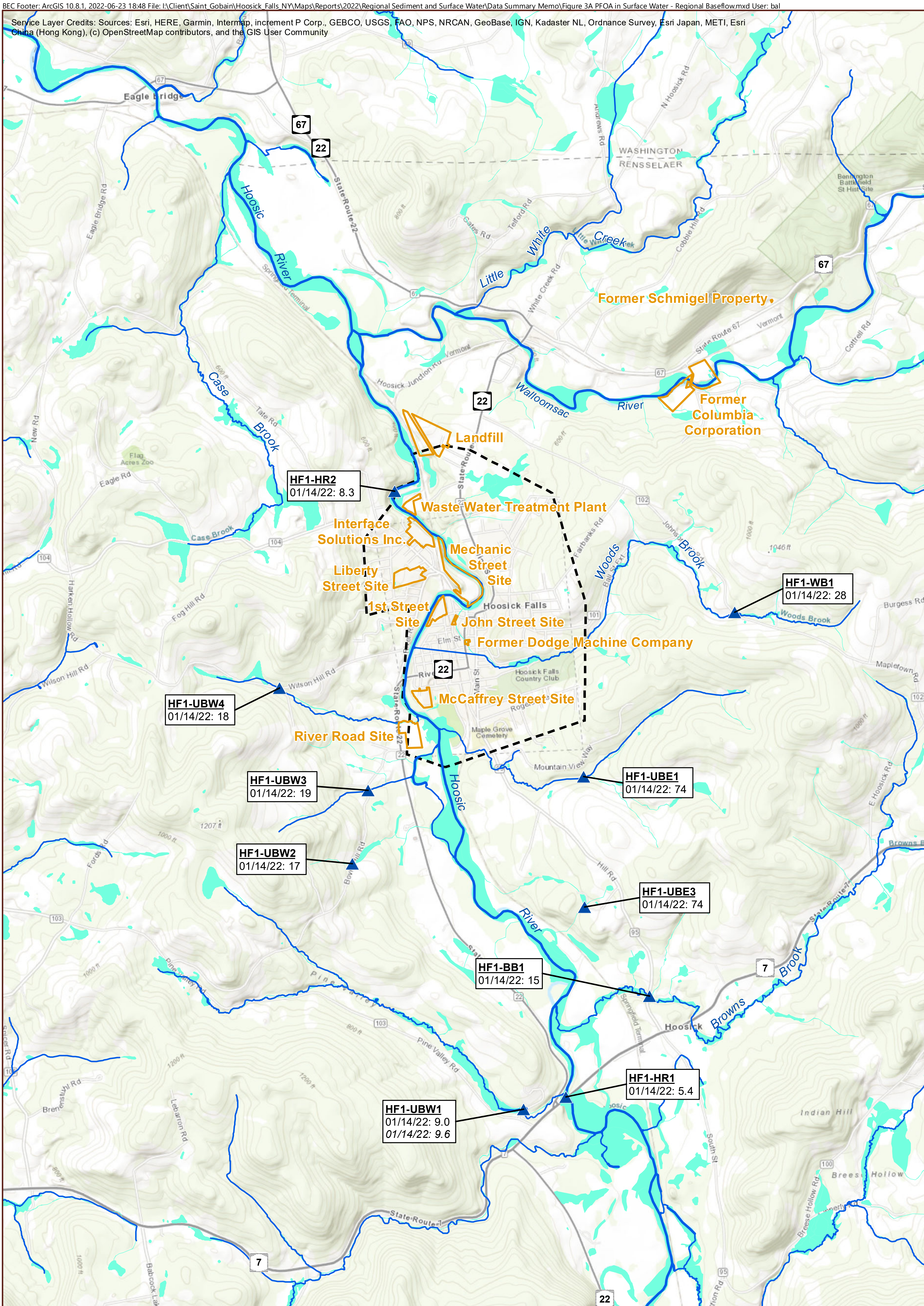
0 1,500 3,000 4,500
Feet

BEC
Engineering and Geology, P.C.

FIGURE 2

SAMPLING LOCATIONS
Regional Sediment and Surface Water
Data Summary Memo
Hoosick Falls, NY

BEC Footer: ArcGIS 10.8.1, 2022-06-23 18:48 File: I:\Client\Saint_Gobain\Hoosick_Falls_NY\Maps\Reports\2022\Regional Sediment and Surface Water\Data Summary Memo\Figure 3A PFOA in Surface Water - Regional Baseflow.mxd User: bal



Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Eagle Bridge
WASHINGTON
RENSSELAER
Hoosic River
Little White Creek
Walloomsac River
Case Brook
Woods Brook
Browns Brook
Former Schmigel Property
Former Columbia Corporation
Landfill
Waste Water Treatment Plant
Interface Solutions Inc.
Mechanic Street Site
Liberty Street Site
1st Street Site
John Street Site
Former Dodge Machine Company
McCaffrey Street Site
River Road Site
Hoosick Falls
Hoosick
HF1-HR2
01/14/22: 8.3
HF1-WB1
01/14/22: 28
HF1-UBW4
01/14/22: 18
HF1-UBE1
01/14/22: 74
HF1-UBW3
01/14/22: 19
HF1-UBW2
01/14/22: 17
HF1-UBE3
01/14/22: 74
HF1-BB1
01/14/22: 15
HF1-HR1
01/14/22: 5.4
HF1-UBW1
01/14/22: 9.0
01/14/22: 9.6

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- ▲ Regional Baseflow Sampling Location
- NYSDEC Remedial Site
- Current OU-01 Boundary
- Wetland

All concentrations are in ng/L.
Duplicate sample concentrations shown in *italics*.

0 1,500 3,000 4,500
Feet

FIGURE 3A

PFOA IN SURFACE WATER
REGIONAL BASEFLOW
Regional Sediment and Surface Water
Data Summary Memo
Hoosick Falls, NY

BEC Footer: ArcGIS 10.8.1, 2022-06-23 18:47 File: I:\Client\Saint_Gobain\Hoosick_Falls_NY\Maps\Reports\2022\Regional Sediment and Surface Water\Data Summary Memo\Figure 3B PFOS in Surface Water - Regional Baseflow.mxd User: bal

Eagle Bridge
WASHINGTON
RENSSELAER
Hoosic River
Little White Creek
Case Brook
Walloomsac River
Woods Brook
Johnsons Brook
Browns Brook
Hoosick Falls
Former Schmigel Property
Former Columbia Corporation
Landfill
Waste Water Treatment Plant
Interface Solutions Inc.
Mechanic Street Site
Liberty Street Site
1st Street Site
John Street Site
Former Dodge Machine Company
McCaffrey Street Site
River Road Site

HF1-HR2
01/14/22: < 1.4 UB

HF1-WB1
01/14/22: 0.50 J

HF1-UBW4
01/14/22: < 0.54 UB

HF1-UBW3
01/14/22: < 0.45 U

HF1-UBE1
01/14/22: 0.57 J

HF1-UBW2
01/14/22: 0.73 J

HF1-UBE3
01/14/22: 1.3 J

HF1-BB1
01/14/22: 0.88 J

HF1-HR1
01/14/22: 1.5 J

HF1-UBW1
01/14/22: 0.56 J
01/14/22: < 0.54 U

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- Regional Baseflow Sampling Location
- NYSDEC Remedial Site
- Current OU-01 Boundary
- Wetland

All concentrations are in ng/L.
J = The result is an estimated value.
U = Not detected at the method detection limit (MDL) as presented.
UB = Not detected substantially above the lab, equipment, field, or trip blank.
Duplicate sample concentrations shown in *italics*.

0 1,500 3,000 4,500
Feet

FIGURE 3B

PFOS IN SURFACE WATER REGIONAL BASEFLOW
Regional Sediment and Surface Water
Data Summary Memo
Hoosick Falls, NY

BEC Footer: ArcGIS 10.8.1, 2022-06-23 18:44 File: I:\Client\Saint_Gobain\Hoosick_Falls_NY\Maps\Reports\2022\Regional Sediment and Surface Water\Data Summary Memo\Figure 4A PFOA in Sediment - Regional Baseflow.mxd User: bal

Former Schmigel Property

Former Columbia Corporation

Landfill

Waste Water Treatment Plant

Interface Solutions Inc.

Mechanic Street Site

Liberty Street Site

1st Street Site

John Street Site

Former Dodge Machine Company

McCaffrey Street Site

River Road Site

HF1-HR2
< 0.24 U
0.44 J
< 0.23 U
< 0.22 U

HF1-WB1
< 0.20 U
< 0.24 U
< 0.23 U

HF1-UBW4
0.49 J
1.2
0.67

HF1-UBW3
0.46 J
0.39 J
0.80

HF1-UBW2
< 0.22 U
0.27 J
3.1
1.3

HF1-UBE1
0.39 J
0.82

HF1-UBE3
8.1
4.0
2.8

HF1-BB1
< 0.21 U
< 0.21 U
< 0.22 U

HF1-UBW1
0.91
0.46 J
< 0.21 U

HF1-HR1
< 0.31 U
< 0.28 U
< 0.20 U

BEC Engineering and Geology, P.C.

Regional Baseflow Sampling Location
NYSDEC Remedial Site
Current OU-01 Boundary
Wetland

All concentrations are in ng/g.
J = The result is an estimated value.
U = Not detected at the method detection limit (MDL) as presented.
Duplicate sample concentrations shown in *italics* and are below the original sample.
Results listed in order of depth (0-2 in, 2-12 in, and 12-24 in, bgs)

0 1,500 3,000 4,500
Feet

FIGURE 4A

PFOA IN SEDIMENT REGIONAL BASEFLOW
Regional Sediment and Surface Water Data Summary Memo
Hoosick Falls, NY

BEC Footer: ArcGIS 10.8.1, 2022-06-23 18:44 File: I:\Client\Saint_Gobain\Hoosick_Falls_NY\Maps\Reports\2022\Regional Sediment and Surface Water\Data Summary Memo\Figure 4B PFOS in Sediment - Regional Baseflow.mxd User: bal

Former Schmigel Property

Former Columbia Corporation

Landfill

Waste Water Treatment Plant

Interface Solutions Inc.

Mechanic Street Site

Liberty Street Site

1st Street Site

John Street Site

Former Dodge Machine Company

McCaffrey Street Site

River Road Site

HF1-HR2
< 0.24 U
1.3
<0.23 U
< 0.22 U

HF1-UBW4
< 0.22 U
< 0.22 U
< 0.22 U

HF1-UBW3
< 0.19 U
< 0.22 U
< 0.25 U

HF1-UBW2
< 0.22 U
< 0.22 U
0.28 J
0.26 J

HF1-UBW1
< 0.27 U
< 0.27 U
< 0.21 U

HF1-WB1
< 0.20 U
< 0.24 U
< 0.23 U

HF1-UBE1
< 0.22 U
< 0.20 U

HF1-UBE3
0.56 J
0.28 J
< 0.23 U

HF1-BB1
< 0.21 U
< 0.21 U
< 0.22 U

HF1-HR1
0.50 J
0.57 J
< 0.20 U

BEC Engineering and Geology, P.C.

Regional Baseflow Sampling Location
NYSDEC Remedial Site
Current OU-01 Boundary
Wetland

All concentrations are in ng/g.
J = The result is an estimated value.
U = Not detected at the method detection limit (MDL) as presented.
Duplicate sample concentrations shown in *italics* and are below the original sample.
Results listed in order of depth (0-2 in, 2-12 in, and 12-24 in, bgs)

0 1,500 3,000 4,500
Feet

FIGURE 4B

PFOS IN SEDIMENT REGIONAL BASEFLOW
Regional Sediment and Surface Water Data Summary Memo
Hoosick Falls, NY

BEC Footer: ArcGIS 10.8.1, 2022-06-23 19:00 File: I:\Client\Saint_Gobain\Hoosick_Falls_NY\Maps\Reports\2022\Regional Sediment and Surface Water\Data Summary Memo\Figure 5A PFOA in Surface Water - Screening Level.mxd User: bal

HF1-N07-SW
11/19/21: 23

HF1-NE13-SW
11/19/21: 3.2

HF1-N08-SW
11/19/21: 350
11/19/21: 340

HF1-NW06-SW
03/28/22: 200

HF1-NW21-SW
03/28/22: 80

HF1-W09-SW
03/28/22: 130

HF1-W14-SW
03/28/22: 2.8

HF1-SW02-SW
11/19/21: 12

HF1-SW12-SW
03/28/22: 7.3
03/28/22: 7.8

HF1-E20-SW
03/28/22: 59

HF1-E19-SW
03/28/22: 140

HF1-SE03-SW
11/19/21: 74

HF1-SE14-SW
11/19/21: 42

Former Schmigel Property

Former Columbia Corporation

Landfill

Waste Water Treatment Plant

Interface Solutions Inc.

Mechanic Street Site

Liberty Street Site

1st Street Site

John Street Site

Former Dodge Machine Company

McCaffrey Street Site

River Road Site

Eagle Bridge

WASHINGTON
RENSSELAER

Hoosick Falls

Hoosick River

White Creek

Little White Creek

Walloomsac River

Case Brook

Woods Brook

Johnsons Brook

Browns Brook

Pine Valley Rd

State Route 22

State Route 67

State Route 7

Regional Screening-Level Location
- Stream/River
- Spring
- Pond
- NYSDEC Remedial Site
- Current OU-01 Boundary
- Wetland

All concentrations are in ng/L.
Duplicate sample concentrations shown in *italics*.

0 1,500 3,000 4,500
Feet

BEC
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FIGURE 5A

PFOA IN SURFACE WATER REGIONAL SCREENING-LEVEL
Regional Sediment and Surface Water
Data Summary Memo
Hoosick Falls, NY

BEC Footer: ArcGIS 10.8.1, 2022-06-23 18:57 File: I:\Client\Saint_Gobain\Hoosick_Falls_NY\Maps\Reports\2022\Regional Sediment and Surface Water\Data Summary Memo\Figure 5B PFOS in Surface Water - Screening Level.mxd User: bal

HF1-N07-SW
11/19/21: < 0.48 U

HF1-NE13-SW
11/19/21: < 0.45 U

HF1-N08-SW
11/19/21: < 0.45 U
11/19/21: < 0.44 U

HF1-NW06-SW
03/28/22: < 0.43 U

HF1-NW21-SW
03/28/22: < 0.43 U

HF1-W09-SW
03/28/22: 0.76 J

HF1-W14-SW
03/28/22: < 0.42 U

HF1-SW02-SW
11/19/21: < 0.44 U

HF1-SW12-SW
< 0.42 U
< 0.43 U

HF1-E20-SW
03/28/22: < 0.46 U

HF1-E19-SW
03/28/22: < 0.44 U

HF1-SE03-SW
11/19/21: < 0.45 U

HF1-SE14-SW
11/19/21: < 0.45 U

HF1-E20-SW
03/28/22: < 0.46 U

Former Schmigel Property

Former Columbia Corporation

Landfill

Waste Water Treatment Plant

Interface Solutions Inc.

Mechanic Street Site

Liberty Street Site

1st Street Site

John Street Site

Former Dodge Machine Company

McCaffrey Street Site

River Road Site

Hoosick Falls

WASHINGTON
RENSSELAER

Eagle Bridge

Hoosic River

Little White Creek

Walloomsac River

Case Brook

Woods Brook

Johnsons Brook

Browns Brook

Regional Screening-Level Location
- Stream/River
- Spring
- Pond
- NYSDEC Remedial Site
- Current OU-01 Boundary
- Wetland

All concentrations are in ng/L.
J = The result is an estimated value.
U = Not detected at the method detection limit (MDL) as presented.
Duplicate sample concentrations shown in *italics*.

0 1,500 3,000 4,500
Feet

BEC
Engineering and Geology, P.C.

FIGURE 5B

PFOS IN SURFACE WATER REGIONAL SCREENING-LEVEL
Regional Sediment and Surface Water
Data Summary Memo
Hoosick Falls, NY

BEC Footer: ArcGIS 10.8.1, 2022-06-23 18:32 File: I:\Client\Saint_Gobain\Hoosick_Falls_NY\Maps\Reports\2022\Regional Sediment and Surface Water\Data Summary Memo\Figure 6A PFOA in Sediment - Sreening Level.mxd User: bal

HF1-N07-SW

HF1-NE13-SW

HF1-N08-SW

HF1-NW06-SW
2.0
1.6
2.0

HF1-NW21-SW
3.5
2.5
1.3

HF1-W09-SW
12
7.0
2.6

HF1-W14-SW
< 0.25 UJ
< 0.24 UJ
< 0.24 UJ

HF1-SW02-SW
< 2.7 UJ
< 0.31 UJ
< 0.24 UJ

HF1-SW12-SW
< 0.25 UJ
< 0.23 UJ
< 0.23 UJ

HF1-E20-SW
1.2
< 0.25 U
0.35 J

HF1-E19-SW
6.0
3.9
0.49 J

HF1-SE03-SW
2.7
0.67 J
0.41 J

HF1-SE14-SW
1.0 J
1.1
0.32 J
0.36 J

Former Schmigel Property

Former Columbia Corporation

Landfill

Waste Water Treatment Plant

Interface Solutions Inc.

Mechanic Street Site

Liberty Street Site

1st Street Site

John Street Site

Former Dodge Machine Company

McCaffrey Street Site

River Road Site

Regional Screening-Level Location
- Stream/River
- Spring
- Pond
- NYSDEC Remedial Site
- Current OU-01 Boundary
- Wetland

All concentrations are in ng/g.

J = The result is an estimated value.
U = Not detected at the method detection limit (MDL) as presented.
UJ = Analyte not detected. The reported MDL and limit of quantitation (LOQ) are approximate and may be inaccurate or imprecise.
Duplicate sample concentrations shown in *italics* and are below the original sample.
Results listed in order of depth (0-2 in, 2-12 in, and 12-24 in, bgs)

0 1,500 3,000 4,500
Feet

BEC Engineering and Geology, P.C.

FIGURE 6A

PFOA IN SEDIMENT SCREENING-LEVEL
Regional Sediment and Surface Water Data Summary Memo
Hoosick Falls, NY

HF1-N07-SW

HF1-NE13-SW

HF1-N08-SW

HF1-NW06-SW
< 0.23 U
< 0.23 U
< 0.24 U

HF1-NW21-SW
0.46 J
< 0.27 U
< 0.24 U

HF1-W09-SW
< 0.30 U
< 0.27 U
< 0.24 U

HF1-W14-SW
< 0.25 UJ
< 0.24 UJ
< 0.24 UJ

HF1-SW02-SW
< 2.7 UJ
< 0.31 UJ
< 0.24 UJ

HF1-SW12-SW
< 0.25 UJ
< 0.23 UJ
< 0.23 UJ

HF1-E20-SW
< 0.30 U
< 0.25 UJ
< 0.23 U

HF1-E19-SW
< 0.39 U
< 0.28 UJ
< 0.22 UJ

HF1-SE03-SW
< 0.42 U
< 0.26 U
0.30 J

HF1-SE14-SW
< 0.35 U
0.26 J
< 0.22 U
< 0.22 U

Former Schmigel Property

Former Columbia Corporation

Landfill

Waste Water Treatment Plant

Interface Solutions Inc.

Mechanic Street Site

Liberty Street Site

1st Street Site

John Street Site

Former Dodge Machine Company

McCaffrey Street Site

River Road Site

Hoosick Falls

WASHINGTON
RENSSELAER

Eagle Bridge

Hoosic River

Little White Creek

Walloomsac River

Case Brook

Woods Brook

Browns Brook

Pine Valley Rd

Wilson Hill Rd

Hoosick Junction Rd

Vermont

State Route 22

State Route 67

Regional Screening-Level Location
- Stream/River
- Spring
- Pond
- NYSDEC Remedial Site
- Current OU-01 Boundary
- Wetland

All concentrations are in ng/g.

J = The result is an estimated value.
U = Not detected at the method detection limit (MDL) as presented.
UJ = Analyte not detected. The reported MDL and limit of quantitation (LOQ) are approximate and may be inaccurate or imprecise.
Duplicate sample concentrations shown in *italics* and are below the original sample.
Results listed in order of depth (0-2 in, 2-12 in, and 12-24 in, bgs)

0 1,500 3,000 4,500
Feet

BEC
Engineering and Geology, P.C.

FIGURE 6B

PFOS IN SEDIMENT REGIONAL SCREENING-LEVEL
Regional Sediment and Surface Water Data Summary Memo
Hoosick Falls, NY

Table 1: Sample Location Summary Table
Regional Sediment and Surface Water
Data Summary Memo
Hoosick Falls, NY

	Sample Location	Longitude	Latitude	Subwatershed	Water Body Description	Sediment Present (Yes/No)	Field Observations / Comments
Regional Baseflow Sampling	BB1	-73.329486	42.865910	Browns Brook - Hoosic River	Browns Brook	Yes	Browns Brook, approximately 6,000 feet east of the Hoosic River
	HR1	-73.340298	42.856693	Browns Brook - Hoosic River	Hoosic River	Yes	Hoosic River approximately 12,000 feet upstream (south) of the Village of Hoosick Falls
	HR2	-73.360464	42.913292	Browns Brook - Hoosic River	Hoosic River	Yes	Hoosic River at the northern extent of OU-01
	UBE1	-73.337296	42.886429	Browns Brook - Hoosic River	Unnamed Brook	Yes	Unnamed Brook, approximately 7,000 feet east of the Hoosic River
	UBE3	-73.337476	42.874284	Browns Brook - Hoosic River	Unnamed Brook	Yes	Unnamed Brook, approximately 2,000 feet east of the Hoosic River
	UBW1	-73.345712	42.855628	Browns Brook - Hoosic River	Unnamed Brook	Yes	Unnamed Brook, approximately 2,000 feet east of the Hoosic River
	UBW2	-73.366730	42.878731	Browns Brook - Hoosic River	Unnamed Brook	Yes	Unnamed Brook
	UBW3	-73.364518	42.885534	Browns Brook - Hoosic River	Unnamed Brook	Yes	Unnamed Brook
	UBW4	-73.375456	42.895217	Browns Brook - Hoosic River	Unnamed Brook	Yes	Unnamed Brook
	WB1	-73.317737	42.901398	Browns Brook - Hoosic River	Woods Brook	Yes	Woods Brook, approximately 16,000 feet east of the Hoosic River
Regional Screening-Level Sampling	N07-SW	-73.34099757	42.93837854	Little White Creek	Stream	No	Stream located approximately 4,000 feet north of the Waloomsac River, no sediment present
	N08-SW	-73.35860565	42.93437311	Nipmoose Brook-Hoosic River	Spring	No	Spring located approximately 2,000 feet north of the Waloomsac River, no sediment present
	NE13-SW	-73.32248991	42.93796467	Little White Creek	Stream/River	No	Stream located approximately 5,000 feet north of the Waloomsac River, no sediment present
	E19-SW	-73.32545	42.91098	Browns Brook - Hoosic River	Spring	Yes	
	E20-SW	-73.31416	42.90971	Browns Brook - Hoosic River	Stream	Yes	
	SE03-SW	-73.31757651	42.89424563	Browns Brook - Hoosic River	Stream	Yes	Stream located approximately 10,000 feet east of the Hoosic River
	SE14-SW	-73.3058791	42.88623876	Browns Brook - Hoosic River	Spring	Yes	Spring located approximately 13,000 feet east of the Hoosic River
	SW02-SW	-73.38652331	42.88412617	Browns Brook - Hoosic River	Spring	Yes	Spring located approximately 8,000 feet west of the Hoosic River
	SW12-SW	-73.39615	42.87624	Nipmoose Brook-Hoosic River	Spring Fed Pond	Yes	
	W09-SW	-73.3836	42.90409	Nipmoose Brook-Hoosic River	Spring Fed Pond	Yes	
	W14-SW	-73.38799	42.89104	Browns Brook - Hoosic River	Stream	Yes	
	NW06-SW	-73.39655	42.90922	Nipmoose Brook-Hoosic River	Spring	Yes	Spring discharges into Case Brook
	NW21-SW	-73.38595	42.92606	Nipmoose Brook-Hoosic River	Stream	Yes	

Notes:
[1] Both indicates the presence of deciduous and coniferous tree types
*NYSDEC currently pursuing access to this location
ft AMSL = feet above mean sea level
N/A = not applicable
-- = no data

Table 2: Description of Sediment Samples
Regional Sediment and Surface Water
Data Summary Memo
Hoosick Falls, NY

Sample Location	Sample Depth (feet)	Sediment Description*
HF1-BB1	0 - 0.17 ft	Fine and Coarse GRAVEL, little medium brown sand
	0.17 - 1 ft	Brown Coarse SAND and Fine GRAVEL, little medium and fine sand, trace silt
	1 - 2 ft	Brown Coarse SAND and Fine GRAVEL, Some Medium and Fine SAND, little silt, occasional cobble
HF1-HR1	0 - 0.17 ft	Gray SILT and CLAY, Some Fine Sand, organic odor
	0.17 - 1 ft	Gray Fine SAND and SILT, Some Clay, little medium and coarse sand, organic odor
	1 - 2 ft	Gray Coarse SAND, Some Fine Gravel and Medium Sand, little silt, trace clay, occasional cobble, organic odor
HF1-HR2	0 - 0.17 ft	Brown Medium and Coarse SAND, little fine gravel, trace coarse gravel
	0.17 - 1 ft	Brown Coarse SAND, little medium sand, trace fine gravel
	1 - 2 ft	Brown Fine and Coarse GRAVEL, Some Coarse Sand, trace medium sand, occasional cobble
HF1-UBE1	0 - 0.17 ft	Brown Fine GRAVEL, Some Coarse Sand and Coarse Gravel, trace medium sand
	0.17 - 0.5 ft	Brown Fine GRAVEL and Coarse SAND, Some Coarse Gravel and Medium Sand, little fine sand
HF1-UBE3	0 - 0.17 ft	Brown Fine SAND and SILT, Some Medium Sand, little coarse sand and clay
	0.17 - 1 ft	Brown Medium and Coarse SAND, Some Fine and Coarse Gravel and Fine Sand, little clay, occasional cobble
	1 - 2 ft	Brown Medium and Coarse SAND, Some Fine and Coarse Gravel, little silt and clay, angular shale fragments
HF1-UBW1	0 - 0.17 ft	Brown Fine SAND and SILT, Some Clay and Medium Sand
	0.17 - 1 ft	Brown Fine SAND and SILT, Some Clay, trace angular fine gravel
	1 - 2 ft	Brown Fine SAND and SILT, Some Fine Gravel, little clay, occasional cobble
HF1-UBW2	0 - 0.17 ft	Semi-Angular Fine GRAVEL and Coarse SAND, little fine brown sand, trace brown silt
	0.17 - 1 ft	Brown Coarse SAND and Fine GRAVEL, little fine sand, trace silt, occasional cobble
	1 - 1.42 ft	Brown Coarse SAND and Fine GRAVEL, Some Silt, trace clay
HF1-UBW3	0 - 0.17 ft	Angular Coarse GRAVEL, Some Fine Gravel, little coarse brown sand, little brown silt
	0.17 - 1 ft	Sub-Angular Fine and Coarse GRAVEL, Some Coarse Sand, little brown silt, occasional cobble
	1 - 2 ft	Brown Coarse SAND, Some Fine Gravel, little coarse gravel and brown silt, occasional cobble
HF1-UBW4	0 - 0.17 ft	Brown Fine and Coarse GRAVEL, trace brown fine sand, frequent cobbles
	0.17 - 1 ft	Brown Fine and Coarse GRAVEL, little brown coarse sand, trace fine sand
	1 - 2 ft	Brown SILT and CLAY, Some Brown Fine Sand, little angular fine gravel, frequent gray mottling
HF1-WB1	0 - 0.17 ft	Brown Fine and Coarse GRAVEL, Some Coarse Sand, little fine sand
	0.17 - 1 ft	Brown Fine SAND, Some Fine Gravel, little coarse gravel and silt
	1 - 2 ft	Brownish Gray SILT and CLAY, Some Fine Sand, trace fine and coarse gravel
HF1-E19-SW	0 - 0.17 ft	Brown Fine SAND and SILT, Some Clay, little fine gravel, trace medium sand
	0.17 - 1 ft	Brown Fine SAND and SILT, Some Medium and Coarse Sand, little fine gravel, trace clay
	1 - 2 ft	Brown Fine and Medium SAND, Some Silt and Fine Gravel, Some Coarse Sand, trace clay
HF1-E20-SW	0 - 0.17 ft	Brown SILT, Some Fine Sand and Clay, Some Organics, trace medium sand
	0.17 - 1 ft	Brown SILT, Some Fine Sand and Clay, little medium sand, frequent gray mottling, organic odor
	1 - 2 ft	Brown Fine SAND and SILT, little medium sand, trace fine gravel, frequent gray mottling
HF1-NW06-SW	0 - 0.17 ft	Brown GRAVEL, Some Coarse and Medium Sand, little fine sand, trace silt
	0.17 - 1 ft	Brown Coarse SAND, Some Gravel and Medium Sand, little fine sand and silt
	1 - 2 ft	Brown Coarse SAND and GRAVEL, Some Medium Sand, little fine sand and silt
HF1-NW21-SW	0 - 0.17 ft	Brown SILT and CLAY, Some Fine Sand, little medium sand, abundant organics
	0.17 - 1 ft	Reddish Brown SILT and Fine SAND, little clay, some organics
	1 - 1.5 ft	Reddish Brown SILT and Fine SAND, Some Medium Sand, trace clay
HF1-SE03-SW	0 - 0.17 ft	Brown Fine SAND and SILT, little clay
	0.17 - 1 ft	Brown SILT and Fine SAND, Some Fine and Coarse Gravel, occasional cobble, organics
	1 - 2 ft	Brown Fine and Coarse GRAVEL, Some Coarse to fine Sand, little silt, trace clay
HF1-SE14-SW	0 - 0.17 ft	Brown Fine SAND and SILT, Some Clay and Medium Sand, trace coarse gravel
	0.17 - 1 ft	Brown Fine SAND and SILT, little clay, trace medium sand
	1 - 2 ft	Brown Fine SAND and SILT, Some Medium Sand, little clay, frequent gray mottling, occasional cobble
HF1-SW02-SW	0 - 0.17 ft	Brown SILT, Some Fine Sand, little clay, frozen, saturated
	0.17 - 1 ft	Brown CLAY, Some Silt, little fine sand, occaional gray mottling
	1 - 2 ft	Gray SILT and CLAY, Some Fine Sand, no odor
HF1-SW12-SW	0 - 0.17 ft	Brown SILT and CLAY, Some Fine Sand, Some Organics, little medium sand
	0.17 - 1 ft	Brown Fine SAND, Some Medium Sand and Silt, trace clay
	1 - 2 ft	Brown Fine and Medium SAND, Some Coarse Sand, little fine gravel, occasional cobble
HF1-W09-SW	0 - 0.17 ft	Brown Fine SAND and SILT, Some Coarse Gravel and Medium Sand, organics
	0.17 - 1 ft	Brown Fine SAND and SILT, Some Medium and Coarse Sand, little gravel and clay
	1 - 2 ft	Brown Fine to Coarse SAND, Some Silt and Fine Gravel, little clay
HF1-W14-SW	0 - 0.17 ft	Gray CLAY, Some Gray Fine to Coarse Sand, little coarse angular gravel, trace organics
	0.17 - 1 ft	Gray CLAY, little gray fine to coarse sand, trace fine and coarse gravel
	1 - 2 ft	Gray Fine and Coarse Angular GRAVEL, Some Gray Clay, little gray fine to coarse sand

Notes:
*= Modified Burmister Soil Descriptions

Table 3A: Surface Water PFAS Analytical Results* - Regional Baseflow Sampling

Regional Sediment and Surface Water

Data Summary Memo

Hoosick Falls, NY

Location		HF1-BB1	HF1-HR1	HF1-HR2	HF1-UBE1	HF1-UBE3	HF1-UBW1		HF1-UBW2	HF1-UBW3	HF1-UBW4	HF1-WB1
Date		1/14/2022	1/14/2022	1/14/2022	1/14/2022	1/14/2022	1/14/2022		1/14/2022	1/14/2022	1/14/2022	1/14/2022
Sample Type		N	N	N	N	N	N	FD	N	N	N	N
Parameter	Units											
General Parameters												
Carbon, total organic	mg/l	**0.65 J**	**0.75 J**	**0.68 J**	< 0.50 U	**1.4**	**0.67 J**	**0.68 J**	< 0.50 U	< 0.50 U	**0.84 J**	**0.62 J**
Per- and Polyfluoroalkyl Substances												
Perfluorobutanesulfonic acid (PFBS)	ng/l	**0.46 J**	**0.52 J**	< 0.54 UB	**0.49 J**	**1.5 J**	< 0.47 U	< 0.54 U	< 0.44 U	< 0.45 U	< 0.42 U	**0.69 J**
Perfluorobutanoic acid (PFBA)	ng/l	**1.6 J**	< 1.8 U	< 1.8 U	< 1.8 U	**1.8 J**	< 1.9 U	< 2.1 U	< 1.8 U	< 1.8 U	< 1.7 U	< 1.7 U
Perfluoroheptanoic acid (PFHpA)	ng/l	**0.67 J**	< 0.45 U	**0.54 J**	**1.9**	**2.9**	< 0.47 U	< 0.54 U	**0.47 J**	**0.49 J**	**0.51 J**	**0.84 J**
Perfluorohexanoic acid (PFHxA)	ng/l	**0.52 J**	**0.66 J**	**0.68 J**	**0.56 J**	**1.5 J**	< 0.47 U	< 0.54 U	< 0.44 U	< 0.45 U	< 0.42 U	**0.46 J**
Perfluorooctanesulfonic acid (PFOS)	ng/l	**0.88 J**	**1.5 J**	< 1.4 UB	**0.57 J**	**1.3 J**	**0.56 J**	< 0.54 U	**0.73 J**	< 0.45 U	< 0.54 UB	**0.50 J**
Perfluorooctanoic acid (PFOA)	ng/l	**15**	**5.4**	**8.3**	**74**	**74**	**9.0**	**9.6**	**17**	**19**	**18**	**28**
Perfluoropentanoic acid (PFPeA)	ng/l	< 0.41 U	< 0.45 U	< 0.45 U	< 0.45 U	**0.51 J**	< 0.47 U	< 0.54 U	< 0.44 U	< 0.45 U	< 0.42 U	< 0.42 U

*Results are included for analytes that were detected.

N Sample Type: Normal

FD Sample Type: Field Duplicate

J Estimated detected value. Either certain QC criteria were not met or the concentration is between the laboratory's detection and quantitation limits.

U The analyte was analyzed for, but was not detected.

UB The analyte was detected in one of the associated laboratory, equipment, field or trip blank samples and is considered non-detect at the concentration reported by the laboratory.

Table 3B: Sediment PFAS Analytical Results* - Regional Baseflow
Sampling Regional Sediment and Surface Water
Data Summary Memo
Hoosick Falls, NY

Location		HF1-BB1			HF1-HR1			HF1-HR2				HF1-UBE1	
Date		3/14/2022	3/14/2022	3/14/2022	3/15/2022	3/15/2022	3/15/2022	3/16/2022	3/16/2022		3/16/2022	3/16/2022	3/16/2022
Depth		0 - 0.17 ft	0.17 - 1 ft	1 - 2 ft	0 - 0.17 ft	0.17 - 1 ft	1 - 2 ft	0 - 0.17 ft	0.17 - 1 ft	0.17 - 1 ft	1 - 2 ft	0 - 0.17 ft	0.17 - 0.5 ft
Sample Type		N	N	N	N	N	N	N	N	FD	N	N	N
Parameter	Units												
General Parameters													
Carbon, total organic	mg/kg	**1500**	**2700**	**3000**	**16000 J**	**15000 J**	**3500**	**5500 J**	**2600 J**	**4400 J**	**1500 J**	**4800 J**	**3700 J**
Moisture	%	**7.2**	**7.8**	**12**	**37**	**32**	**5.1**	**19**	**10 J**	**16 J**	**12**	**9.4**	**9.4**
pH	pH units	**8.2**	**8.4**	**8.0**	**7.6**	**7.4**	**7.5**	**7.8**	**8.7**	**8.6**	**7.7**	**7.4**	**7.9**
Per- and Polyfluoroalkyl Substances													
Perfluoroheptanoic acid (PFHpA)	ng/g	< 0.21 U	< 0.21 U	< 0.22 U	< 0.31 U	< 0.28 U	< 0.20 U	< 0.24 U	< 0.20 U	< 0.23 U	< 0.22 U	< 0.22 U	< 0.20 U
Perfluorohexanoic acid (PFHxA)	ng/g	< 0.21 U	< 0.21 U	< 0.22 U	< 0.31 U	< 0.28 U	< 0.20 U	< 0.24 U	< 0.20 U	< 0.23 U	< 0.22 U	< 0.22 U	< 0.20 U
Perfluorooctanesulfonic acid (PFOS)	ng/g	< 0.21 U	< 0.21 U	< 0.22 U	**0.50 J**	**0.57 J**	< 0.20 U	< 0.24 U	**1.3**	< 0.23 U	< 0.22 U	< 0.22 U	< 0.20 U
Perfluorooctanoic acid (PFOA)	ng/g	< 0.21 U	< 0.21 U	< 0.22 U	< 0.31 U	< 0.28 U	< 0.20 U	< 0.24 U	**0.44 J**	< 0.23 U	< 0.22 U	**0.39 J**	**0.82**

***Results are included for analytes that were detected.**

N Sample Type: Normal
FD Sample Type: Field Duplicate

J Estimated detected value. Either certain QC criteria were not met or the concentration is between the laboratory's detection and quantitation limits.

U The analyte was analyzed for, but was not detected.

Table 3B: Sediment PFAS Analytical Results* - Regional Baseflow Sampling

Regional Sediment and Surface Water

Data Summary Memo

Hoosick Falls, NY

Location		HF1-UBE3			HF1-UBW1			HF1-UBW2				HF1-UBW3		
Date		3/30/2022	3/30/2022	3/30/2022	3/15/2022	3/15/2022	3/15/2022	3/14/2022	3/14/2022	3/14/2022		3/14/2022	3/14/2022	3/14/2022
Depth		0 - 0.17 ft	0.17 - 1 ft	1 - 2 ft	0 - 0.17 ft	0.17 - 1 ft	1 - 2 ft	0 - 0.17 ft	0.17 - 1 ft	1 - 1.42 ft	1 - 1.42 ft	0 - 0.17 ft	0.17 - 1 ft	1 - 2 ft
Sample Type		N	N	N	N	N	N	N	N	N	FD	N	N	N
Parameter	Units													
General Parameters														
Carbon, total organic	mg/kg	**25000**	**10000**	**5400**	**17000 J**	**18000 J**	**29000 J**	**6400**	**17000 J**	**7900**	**6300**	**1900**	**3000**	**5500**
Moisture	%	**29 J**	**21 J**	**15 J**	**31**	**30**	**13**	**13**	**13**	**17 J**	**11 J**	**4.6**	**8.8**	**22**
pH	pH units	**6.3**	**6.8**	**7.0**	**7.4**	**7.5**	**7.6**	**8.6**	**8.7**	**8.4**	**8.4**	**7.5**	**8.6**	**8.6**
Per- and Polyfluoroalkyl Substances														
Perfluoroheptanoic acid (PFHpA)	ng/g	**0.50 J**	**0.25 J**	< 0.23 U	< 0.27 U	< 0.27 U	< 0.21 U	< 0.22 U	< 0.22 U	**0.26 J**	< 0.22 U	< 0.19 U	< 0.22 U	< 0.25 U
Perfluorohexanoic acid (PFHxA)	ng/g	**0.51 J**	< 0.25 U	< 0.23 U	< 0.27 U	< 0.27 U	< 0.21 U	< 0.22 U	< 0.22 U	< 0.24 U	**0.24 J**	< 0.19 U	< 0.22 U	< 0.25 U
Perfluorooctanesulfonic acid (PFOS)	ng/g	**0.56 J**	**0.28 J**	< 0.23 U	< 0.27 U	< 0.27 U	< 0.21 U	< 0.22 U	< 0.22 U	**0.28 J**	**0.26 J**	< 0.19 U	< 0.22 U	< 0.25 U
Perfluorooctanoic acid (PFOA)	ng/g	**8.1**	**4.0**	**2.8**	**0.91**	**0.46 J**	< 0.21 U	< 0.22 U	**0.27 J**	**3.1**	**1.3**	**0.46 J**	**0.39 J**	**0.80**

*Results are included for analytes that were detected.

N Sample Type: Normal
FD Sample Type: Field Duplicate

J Estimated detected value. Either certain QC criteria were not met or the concentration is between the laboratory's detection and quantitation limits.

U The analyte was analyzed for, but was not detected.

Table 3B: Sediment PFAS Analytical Results* - Regional Baseflow
Sampling Regional Sediment and Surface Water
Data Summary Memo
Hoosick Falls, NY

Location		HF1-UBW4			HF1-WB1		
Date		3/08/2022	3/08/2022	3/08/2022	3/14/2022	3/14/2022	3/14/2022
Depth		0 - 0.17 ft	0.17 - 1 ft	1 - 2 ft	0 - 0.17 ft	0.17 - 1 ft	1 - 2 ft
Sample Type		N	N	N	N	N	N
Parameter	Units						
General Parameters							
Carbon, total organic	mg/kg	**3100**	**3600**	**3100**	**2500**	**4900**	**3200**
Moisture	%	**10 J**	**9.8 J**	**13 J**	**4.5**	**15**	**14**
pH	pH units	**7.5**	**7.8**	**8.3**	**8.0**	**7.2**	**7.2**
Per- and Polyfluoroalkyl Substances							
Perfluoroheptanoic acid (PFHpA)	ng/g	< 0.22 U	< 0.22 U	< 0.22 U	< 0.20 U	< 0.24 U	< 0.23 U
Perfluorohexanoic acid (PFHxA)	ng/g	< 0.22 U	< 0.22 U	< 0.22 U	< 0.20 U	< 0.24 U	< 0.23 U
Perfluorooctanesulfonic acid (PFOS)	ng/g	< 0.22 U	< 0.22 U	< 0.22 U	< 0.20 U	< 0.24 U	< 0.23 U
Perfluorooctanoic acid (PFOA)	ng/g	**0.49 J**	**1.2**	**0.67**	< 0.20 U	< 0.24 U	< 0.23 U

*Results are included for analytes that were detected.

N Sample Type: Normal
FD Sample Type: Field Duplicate

J Estimated detected value. Either certain QC criteria were not met or the concentration is between the laboratory's detection and quantitation limits.

U The analyte was analyzed for, but was not detected.

Table 4A: Surface Water PFAS Analytical Results* - Regional Screening-Level Sampling

Regional Sediment and Surface Water

Data Summary Memo

Hoosick Falls, NY

Location		HF1-E19-SW	HF1-E20-SW	HF1-N07-SW	HF1-N08-SW		HF1-NE13-SW	HF1-NW06-SW	HF1-NW21-SW	HF1-SE03-SW
Date		3/28/2022	3/28/2022	11/19/2021	11/19/2021		11/19/2021	3/28/2022	3/28/2022	11/19/2021
Sample Type		N	N	N	N	FD	N	N	N	N
Parameter	Units									
Per- and Polyfluoroalkyl Substances										
Perfluorobutanesulfonic acid (PFBS)	ng/l	< 0.44 U	< 0.73 UB	**0.66 J**	**0.98 J**	**0.93 J**	< 0.45 U	< 0.85 UB	< 0.79 UB	**0.51 J**
Perfluoroheptanoic acid (PFHpA)	ng/l	**3.0**	**2.4**	**1.3 J**	**11**	**13**	< 0.45 U	**6.2**	**3.2**	**2.3**
Perfluorohexanoic acid (PFHxA)	ng/l	< 0.44 U	**1.0 J**	**0.80 J**	**1.2 J**	**1.1 J**	< 0.45 U	**2.9**	**1.3 J**	**0.73 J**
Perfluorooctanesulfonamide (PFOSA / FOSA)	ng/l	**0.64 J**	< 0.46 U	< 0.48 U	< 0.45 U	< 0.44 U	< 0.45 U	< 0.43 U	< 0.43 U	< 0.45 U
Perfluorooctanesulfonic acid (PFOS)	ng/l	< 0.44 U	< 0.46 U	< 0.48 U	< 0.45 U	< 0.44 U	< 0.45 U	< 0.43 U	< 0.43 U	< 0.45 U
Perfluorooctanoic acid (PFOA)	ng/l	**140**	**59**	**23**	**350**	**340**	**3.2**	**200**	**80**	**74**
Perfluoropentanoic acid (PFPeA)	ng/l	< 0.44 U	< 0.46 U	< 0.48 U	< 0.45 U	< 0.44 U	< 0.45 U	**0.44 J**	< 0.43 U	< 0.45 U

*Results are included for analytes that were detected.

N Sample Type: Normal

FD Sample Type: Field Duplicate

J Estimated detected value. Either certain QC criteria were not met or the concentration is between the laboratory's detection and quantitation limits.

R The data are unusable. The samples results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected.

UB The analyte was detected in one of the associated laboratory, equipment, field or trip blank samples and is considered non-detect at the concentration reported by the laboratory.

Table 4A: Surface Water PFAS Analytical Results* - Regional Screening-Level Sampling

Regional Sediment and Surface Water

Data Summary Memo

Hoosick Falls, NY

Location		HF1-SE14-SW	HF1-SW02-SW	HF1-SW12-SW		HF1-W09-SW	HF1-W14-SW
Date		11/19/2021	11/19/2021	3/28/2022		3/28/2022	3/28/2022
Sample Type		N	N	N	FD	N	N
Parameter	Units						
Per- and Polyfluoroalkyl Substances							
Perfluorobutanesulfonic acid (PFBS)	ng/l	**0.55 J**	< 0.44 U	< 0.56 UB	< 0.50 UB	< 0.79 UB	< 0.42 U
Perfluoroheptanoic acid (PFHpA)	ng/l	**1.7 J**	**0.81 J**	< 0.42 U	< 0.43 U	**2.8**	< 0.42 U
Perfluorohexanoic acid (PFHxA)	ng/l	**0.79 J**	**0.64 J**	< 0.42 U	< 0.43 U	< 0.46 U	< 0.42 U
Perfluorooctanesulfonamide (PFOSA / FOSA)	ng/l	R	< 0.44 U	**0.70 J**	< 0.43 U	< 0.46 U	< 0.42 U
Perfluorooctanesulfonic acid (PFOS)	ng/l	< 0.45 U	< 0.44 U	< 0.42 U	< 0.43 U	**0.76 J**	< 0.42 U
Perfluorooctanoic acid (PFOA)	ng/l	**42**	**12**	**7.3**	**7.8**	**130**	**2.8**
Perfluoropentanoic acid (PFPeA)	ng/l	**0.57 J**	< 0.44 U	< 0.42 U	< 0.43 U	< 0.46 U	< 0.42 U

*Results are included for analytes that were detected.

N Sample Type: Normal

FD Sample Type: Field Duplicate

J Estimated detected value. Either certain QC criteria were not met or the c

R The data are unusable. The samples results are rejected due to serious d

U The analyte was analyzed for, but was not detected.

UB The analyte was detected in one of the associated laboratory, equipmen

Table 4B: Sediment PFAS Analytical Results* - Regional Screening-Level Sampling

Regional Sediment and Surface Water

Data Summary Memo

Hoosick Falls, NY

	Location	HF1-E19-SW			HF1-E20-SW			HF1-NW06-SW			HF1-NW21-SW		
	Date	3/28/2022	3/28/2022	3/28/2022	3/28/2022	3/28/2022	3/28/2022	3/30/2022	3/30/2022	3/30/2022	3/29/2022	3/29/2022	3/29/2022
	Depth	0 - 0.17 ft	0.17 - 1 ft	1 - 2 ft	0 - 0.17 ft	0.17 - 1 ft	1 - 2 ft	0 - 0.17 ft	0.17 - 1 ft	1 - 2 ft	0 - 0.17 ft	0.17 - 1 ft	1 - 1.5 ft
	Sample Type	N	N	N	N	N	N	N	N	N	N	N	N
Parameter	Units												
General Parameters													
Carbon, total organic	mg/kg	**44000**	**21000**	**1400**	**23000**	**8300**	**1600**	**3000**	**5900**	**4400**	**69000**	**13000**	**7600**
Moisture	%	**49 J**	**30 J**	**13 J**	**36 J**	**23 J**	**12 J**	**14 J**	**17 J**	**19 J**	**50 J**	**28 J**	**19 J**
pH	pH units	**5.8**	**5.7**	**6.2**	**6.3**	**6.5**	**7.0**	**7.8**	**7.1**	**6.9**	**7.1**	**7.6**	**7.3**
Per- and Polyfluoroalkyl Substances													
Perfluoroheptanoic acid (PFHpA)	ng/g	< 0.39 U	**0.29 J**	< 0.22 U	< 0.30 U	< 0.25 U	< 0.23 U	< 0.23 U	< 0.23 U	< 0.24 U	< 0.38 U	< 0.27 U	< 0.24 U
Perfluorooctanesulfonic acid (PFOS)	ng/g	< 0.39 U	< 0.28 UJ	< 0.22 UJ	< 0.30 U	< 0.25 UJ	< 0.23 U	< 0.23 U	< 0.23 U	< 0.24 U	**0.46 J**	< 0.27 U	< 0.24 U
Perfluorooctanoic acid (PFOA)	ng/g	**6.0**	**3.9**	**0.49 J**	**1.2**	< 0.25 U	**0.35 J**	**2.0**	**1.6**	**2.0**	**3.5**	**2.5**	**1.3**

*Results are included for analytes that were detected.

N Sample Type: Normal

FD Sample Type: Field Duplicate

J Estimated detected value. Either certain QC criteria were not met or the concentration is between the laboratory's detection and quantitation limits.

U The analyte was analyzed for, but was not detected.

UJ The analyte was analyzed for, but was not detected. The reported value is approximate and may be inaccurate or imprecise.

Table 4B: Sediment PFAS Analytical Results* - Regional Screening-Level Sampling

Regional Sediment and Surface Water

Data Summary Memo

Hoosick Falls, NY

	Location	HF1-SE03-SW			HF1-SE14-SW				HF1-SW02-SW		
	Date	3/16/2022	3/16/2022	3/16/2022	3/29/2022	3/29/2022	3/29/2022		3/29/2022	3/29/2022	3/29/2022
	Depth	0 - 0.17 ft	0.17 - 1 ft	1 - 2 ft	0 - 0.17 ft	0.17 - 1 ft	1 - 2 ft	1 - 2 ft	0 - 0.17 ft	0.17 - 1 ft	1 - 2 ft
	Sample Type	N	N	N	N	N	N	FD	N	N	N
Parameter	Units										
General Parameters											
Carbon, total organic	mg/kg	**47000 J**	**9900 J**	**1500 J**	**26000**	**11000**	**1100**	**1100**	**150000 J**	**13000**	**7000**
Moisture	%	**52**	**25**	**11**	**45 J**	**23 J**	**10 J**	**12 J**	**93 J**	**36 J**	**19 J**
pH	pH units	**6.6**	**7.4**	**7.6**	**6.8**	**5.6**	**6.4**	**6.5**	**6.0**	**6.5**	**6.7**
Per- and Polyfluoroalkyl Substances											
Perfluoroheptanoic acid (PFHpA)	ng/g	< 0.42 U	< 0.26 U	< 0.22 U	< 0.35 U	< 0.25 U	< 0.22 U	< 0.22 U	< 2.7 UJ	< 0.31 U	< 0.24 UJ
Perfluorooctanesulfonic acid (PFOS)	ng/g	< 0.42 U	< 0.26 U	**0.30 J**	< 0.35 U	**0.26 J**	< 0.22 U	< 0.22 U	< 2.7 UJ	< 0.31 UJ	< 0.24 UJ
Perfluorooctanoic acid (PFOA)	ng/g	**2.7**	**0.67 J**	**0.41 J**	**1.0 J**	**1.1**	**0.32 J**	**0.36 J**	< 2.7 UJ	< 0.31 UJ	< 0.24 UJ

*Results are included for analytes that were detected.

N Sample Type: Normal

FD Sample Type: Field Duplicate

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Table 4B: Sediment PFAS Analytical Results* - Regional Screening-Level Sampling

Regional Sediment and Surface Water

Data Summary Memo

Hoosick Falls, NY

	Location	HF1-SW12-SW			HF1-W09-SW			HF1-W14-SW		
	Date	3/28/2022	3/28/2022	3/28/2022	3/30/2022	3/30/2022	3/30/2022	3/29/2022	3/29/2022	3/29/2022
	Depth	0 - 0.17 ft	0.17 - 1 ft	1 - 2 ft	0 - 0.17 ft	0.17 - 1 ft	1 - 2 ft	0 - 0.17 ft	0.17 - 1 ft	1 - 2 ft
	Sample Type	N	N	N	N	N	N	N	N	N
Parameter	Units									
General Parameters										
Carbon, total organic	mg/kg	**4700**	**1400**	**1100**	**21000**	**19000**	**5000**	**6800**	**6100**	**23000**
Moisture	%	**22 J**	**17 J**	**15 J**	**34 J**	**30 J**	**16 J**	**19**	**15 J**	**16 J**
pH	pH units	**6.8**	**7.2**	**7.3**	**6.4**	**6.1**	**6.6**	**5.9**	**5.7**	**5.5**
Per- and Polyfluoroalkyl Substances										
Perfluoroheptanoic acid (PFHpA)	ng/g	< 0.25 U	< 0.23 U	< 0.23 UJ	**0.49 J**	**0.37 J**	< 0.24 U	< 0.25 UJ	< 0.24 U	< 0.24 U
Perfluorooctanesulfonic acid (PFOS)	ng/g	< 0.25 UJ	< 0.23 UJ	< 0.23 UJ	< 0.30 U	< 0.27 U	< 0.24 U	< 0.25 UJ	< 0.24 UJ	< 0.24 UJ
Perfluorooctanoic acid (PFOA)	ng/g	< 0.25 UJ	< 0.23 UJ	< 0.23 UJ	**12**	**7.0**	**2.6**	< 0.25 UJ	< 0.24 UJ	< 0.24 UJ

*Results are included for analytes that were detected.

N Sample Type: Normal

FD Sample Type: Field Duplicate

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