

DEC's Assessment of the Wainscott Sand and Gravel Property

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General Summary of the DEC Process

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- ▶ To determine if a preliminary sampling investigation is warranted at a property, the New York State Department of Environmental Conservation ("DEC") reviews information such as historical uses and activity.
- ▶ If DEC determines that a sampling investigation is warranted, DEC will designate a property as a "P" site. "P" stands for potential, as in potential superfund site.
- ▶ An initial sampling investigation called a "site characterization" will then be conducted whereby soil and groundwater will be sampled for contaminants at the property. The purpose of a site characterization is to identify whether the site is a source of contamination.
- ▶ Typically, soil contamination is a key factor, among others, to determine whether a site is a source because soil contamination generally cannot come from offsite.
- ▶ If DEC determines that the site should not be listed on the registry, they will classify it as an "N" site meaning contamination at the site does not warrant designating the site as a superfund site.
- ▶ DEC's decision to designate a site as a superfund site is in their discretion. Often the site will be a source, contaminants will exceed standards and DEC will decline to classify the site as a superfund site.



PFAS: The Contaminants at Issue

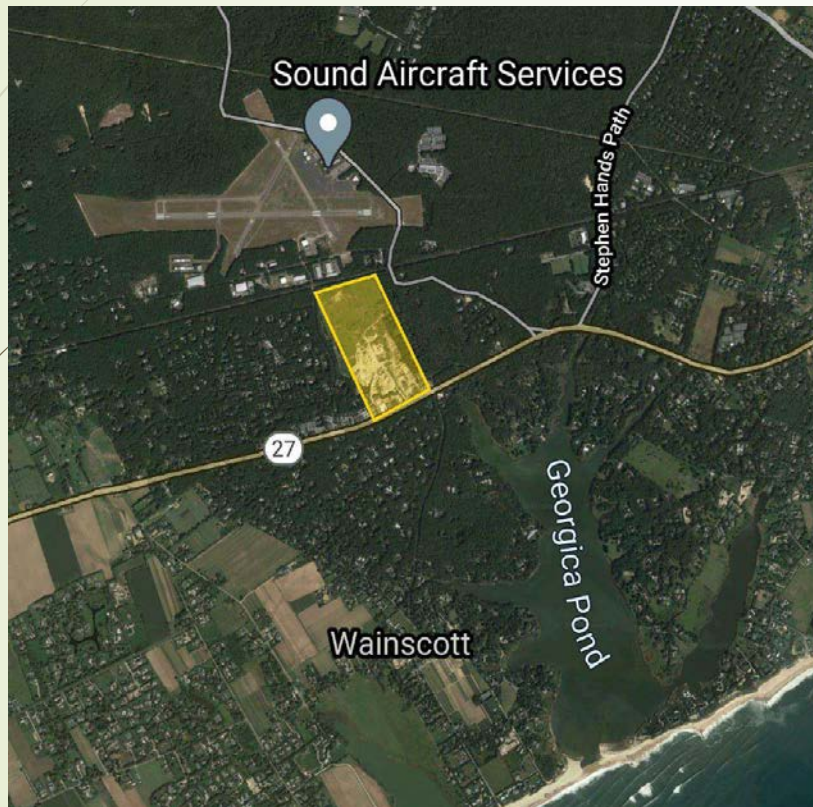
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- ▶ Per- and polyfluoroalkyl substances, otherwise known as PFAS, are a group of over 4,000 man-made chemicals.
- ▶ The most studied PFAS chemicals are PFOA and PFOS, which have been designated as “hazardous substances” under New York law.
- ▶ PFOA, PFOS and other PFAS chemicals have been used in a variety of products for decades including aqueous film-forming foam (“AFFF”)
- ▶ AFFF is a fire suppression foam that was regularly used by the military and fire departments to extinguish Class B fires, which often involve fuel. As a result, PFAS contamination has been detected throughout the country at airports, fire training areas and military bases, among other sites.

PFOA/PFOS Standards

- ▶ On August 26, 2020, New York state promulgated binding drinking water standards for PFOA and PFOS of 10 part per trillion (ppt) each.
- ▶ Under New York law, drinking water standards are used as a groundwater cleanup standards.
- ▶ NYSDEC's sampling protocol provides that further assessment should be conducted if:
 - ▶ Levels of PFOA/PFOS exceed 10 ppt,
 - ▶ Levels of any PFAS compound is detected above 100 ppt, or
 - ▶ Total concentration of PFAS is detected above 500 ppt
- ▶ No cleanup standards for soil exist yet.

The Sand Pit



- ▶ In 2019, DEC designated the Sand Pit as a "P" site.
- ▶ DEC did this because:
 - ▶ A consultant for the Sand Pit detected levels of PFAS (including PFOA/PFOS) in groundwater.
 - ▶ Operations at the site have consisted of suspect PFAS contamination sources.
 - ▶ Media reports and photographs revealed that local fire departments conducted a training exercise with fire suppression foam in June 2000 at the northern part of the property.
- ▶ In July 2020, DEC released its site characterization report.

The Sand Pit Site Characterization

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- PFOS was detected in soil in multiple borings up to 3.01 ppb where local fire departments engaged in a training exercise at the northern part of the site.
- Groundwater contamination was detected at this location at 151 ppt of PFOS, 2850 ppt of PFNA (another PFAS compound) and 3,626.39 ppt of total PFAS.
- PFAS was detected in groundwater throughout the site. The highest levels were found at the western border for PFOS up to 1,010 ppt and total PFAS up to 1,533.57 ppt
- Iron, Manganese, Sodium and Thallium were also detected in groundwater.
- DEC relied on regional groundwater flow models, which suggest that groundwater flows in a southeasterly direction. DEC did not determine specific groundwater flow of the site.
- Note that this is not a complete analysis of the site characterization and is only a summary based on a preliminary assessment.

Sample:	WSG-MW-6-10-0
Date:	11/6/2019
Depth (ft):	6
Perfluorobutanesulfonic Acid (PFBS)	2.5
Perfluorodecanoic Acid (PFDA)	92.3
Perfluoroheptanoic Acid (PFHpA)	50
Perfluorohexanesulfonic Acid	58.9 B
Perfluorohexanoic Acid (PFHxA)	61.1
Perfluorononanoic Acid (PFNA)	2850
Perfluorotridcanoic Acid (PFTriA)	1.49 J
Perfluoroundecanoic Acid (PFUnA)	333
Perfluorooctane Sulfonic Acid (PFOS)	151
Perfluorooctanoic acid (PFOA)	26.1
Total PFOA and PFOS	177.1
Total PFAS	3626.39

Sample:	WSG-MW5-13-0
Date:	11/7/2019
Depth (ft):	13
Perfluorobutanesulfonic Acid (PFBS)	4.58
Perfluoroheptanoic Acid (PFHpA)	2.95
Perfluorohexanesulfonic Acid	566 B
Perfluorohexanoic Acid (PFHxA)	12
Perfluorononanoic Acid (PFNA)	1.64 J
Perfluorooctane Sulfonic Acid (PFOS)	877
Perfluorooctanoic acid (PFOA)	69.4
Total PFOA and PFOS	946.4
Total PFAS	1533.57

Sample:	WSG-MW3-10-0
Date:	11/7/2019
Depth (ft):	10
Perfluorobutanesulfonic Acid (PFBS)	3.66
Perfluoroheptanoic Acid (PFHpA)	2.27
Perfluorohexanesulfonic Acid	306 B
Perfluorohexanoic Acid (PFHxA)	9.53
Perfluorononanoic Acid (PFNA)	2.2
Perfluorooctane Sulfonic Acid (PFOS)	1010
Perfluorooctanoic acid (PFOA)	27.5
Total PFOA and PFOS	1037.5
Total PFAS	1361.16

Sample:	WSG-MW4-10-0
Date:	11/7/2019
Depth (ft):	10
Perfluorobutanesulfonic Acid (PFBS)	2.11
Perfluoroheptanoic Acid (PFHpA)	1.09 J
Perfluorohexanesulfonic Acid	43.4 B
Perfluorohexanoic Acid (PFHxA)	5.06
Perfluorononanoic Acid (PFNA)	0.8 J
Perfluorooctane Sulfonic Acid (PFOS)	232
Perfluorooctanoic acid (PFOA)	5.57
Total PFOA and PFOS	237.57
Total PFAS	280.03



Sample:	WSG-MW-7-10-0
Date:	11/6/2019
Depth (ft):	7
Perfluorobutanesulfonic Acid (PFBS)	0.23 J
Perfluorodecanoic Acid (PFDA)	0.4 EMPC
Perfluoroheptanoic Acid (PFHpA)	0.85 J
Perfluorohexanoic Acid (PFHxA)	0.76 J
Perfluorononanoic Acid (PFNA)	4.55
Perfluorooctane Sulfonic Acid (PFOS)	15
Perfluorooctanoic acid (PFOA)	3.9
Total PFOA and PFOS	18.9
Total PFAS	25.69

Monitoring Well Sampling Locations

Site Boundary

Notes:

1. Only exceedances of the New York State PFAS Guidelines are shown.
2. B qualifier indicates contamination was detected in the associated blank sample.
3. EMPC (estimated maximum possible concentration) qualifier indicates that a peak is detected but did not meet all the method required criteria.
4. J qualifier indicates the result is estimated.
5. All results are given in ng/l.

Analyte	NYS 703.5 TOGS Class GA
PFCS	ng/l
Perfluorohexanesulfonic Acid	100
Perfluorononanoic Acid (PFNA)	100
Perfluoroundecanoic Acid (PFUnA)	100
Perfluorooctane Sulfonic Acid (PFOS)	10
Perfluorooctanoic acid (PFOA)	10
Total PFOA and PFOS	10
Total PFAS	500

0 Miles 0.07

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Sample:	WSG-MW1-8-0
Date:	11/7/2019
Depth (ft):	8
Perfluorobutanesulfonic Acid (PFBS)	0.91 J
Perfluorodecanoic Acid (PFDA)	0.7 J
Perfluoroheptanoic Acid (PFHpA)	3.46
Perfluorohexanesulfonic Acid	2.38 B
Perfluorohexanoic Acid (PFHxA)	4.46
Perfluorononanoic Acid (PFNA)	1.33 J
Perfluorooctane Sulfonic Acid (PFOS)	11.6
Perfluorooctanoic acid (PFOA)	4.87
Total PFOA and PFOS	16.47
Total PFAS	28.71

Sample:	WSG-MW2-10-0
Date:	11/6/2019
Depth (ft):	10
Perfluorobutanesulfonic Acid (PFBS)	9.33
Perfluorodecanoic Acid (PFDA)	2.32
Perfluoroheptanoic Acid (PFHpA)	35
Perfluorohexanesulfonic Acid	23.9 B
Perfluorohexanoic Acid (PFHxA)	35.5
Perfluorononanoic Acid (PFNA)	58.2
Perfluorooctane Sulfonic Acid (PFOS)	36.3
Perfluorooctanoic acid (PFOA)	47.6
Total PFOA and PFOS	83.9
Total PFAS	248.15

Sample:	WSG-MW8-25-0	WSG-MW8-25-1 (DUP)
Date:	11/6/2019	11/6/2019
Depth (ft):	25	25
Perfluorobutanesulfonic Acid (PFBS)	5.16	5.58
Perfluorodecanoic Acid (PFDA)	0.47 J	0.77 J
Perfluoroheptanoic Acid (PFHpA)	13.6	12.2
Perfluorohexanesulfonic Acid	26.2 B	27.4 B
Perfluorohexanoic Acid (PFHxA)	25.1	25.7
Perfluorononanoic Acid (PFNA)	4.63	3.81
Perfluorooctane Sulfonic Acid (PFOS)	58.5	56.4
Perfluorooctanoic acid (PFOA)	37.5	34.1
Total PFOA and PFOS	96	90.5
Total PFAS	171.16	166.96

Sample Date:	WSG-GW1-9-0 11/14/2019	WSG-GW1-9-1 (DUP) 11/14/2019	WSG-GW1-19-0 11/14/2019	WSG-GW1-29-0 11/14/2019
Depth (ft):	9	9	19	29
Perfluorobutanesulfonic Acid (PFBS)	2.19	2.19	1.81 U	14.6
Perfluorodecanoic Acid (PFDA)	5.7	5.53	1.81 U	0.91 J
Perfluoroheptanoic Acid (PFHpA)	43.2	41.7	0.6 J	8.65
Perfluorohexanesulfonic Acid	25 B	24.4 B	1.81 U	4 B
Perfluorohexanoic Acid (PFHxA)	23.7	24.7	0.95 J	56.8
Perfluorononanoic Acid (PFNA)	333	343	0.93 J	1.26 J
Perfluoroundecanoic Acid (PFUnA)	2.19	1.89	8.99	1.83 U
Perfluorooctane Sulfonic Acid (PFOS)	12.7	12.4	5.43	6.27
Perfluorooctanoic acid (PFOA)	64.6	62.9	0.89 J	4.28
Total PFOA and PFOS	77.3	75.3	6.32	10.55
Total PFAS	512.28	518.71	17.79	96.77

Sample Date:	WSG-GW2-9-0 11/8/2019	WSG-GW2-19-0 11/8/2019	WSG-GW2-29-0 11/8/2019	WSG-GW2-29-1 (DUP) 11/8/2019
Depth (ft):	9	19	29	29
Perfluorobutanesulfonic Acid (PFBS)	10.5	2.59	5.42	5.06
Perfluorodecanoic Acid (PFDA)	0.38 J	1.95 U	1.88 U	1.9 U
Perfluoroheptanoic Acid (PFHpA)	8.7	1.61 J	3.44	3.4
Perfluorohexanesulfonic Acid	229 B	32.5 B	50.1 B	50.4 B
Perfluorohexanoic Acid (PFHxA)	39.7	6.41	12.9	12.5
Perfluorononanoic Acid (PFNA)	15.5	4.8	13	12.9
Perfluorooctane Sulfonic Acid (PFOS)	84.6	37.9	52.1	52.1
Perfluorooctanoic acid (PFOA)	17.6	3.78	7.44	7.28
Total PFOA and PFOS	102.2	41.68	59.54	59.38
Total PFAS	405.98	89.59	144.4	143.64

● Probe Sampling Locations
 □ Site Boundary

- Notes:
1. Exceedances of the New York State PFAS Guidelines are shown in yellow. All detections are shown.
 2. B qualifier indicates contamination was detected in the associated blank sample.
 3. J qualifier indicates the result is estimated.
 4. U qualifier indicates the result is non-detect the result detection limit is shown.
 5. Results are given in ng/l.

Analyte	NYS 703.5 TOGS Class GA
PFCS	ng/l
Perfluorohexanesulfonic Acid	100
Perfluorononanoic Acid (PFNA)	100
Perfluoroundecanoic Acid (PFUnA)	100
Perfluorooctane Sulfonic Acid (PFOS)	10
Perfluorooctanoic acid (PFOA)	10
Total PFOA and PFOS	10
Total PFAS	500

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Sample Date:	WSG-GW9-6-0 11/12/2019	WSG-GW9-16-0 11/12/2019	WSG-GW9-26-0 11/12/2019
Depth (ft):	6	16	26
Perfluorobutanesulfonic Acid (PFBS)	0.84 J	3.59	7.1
Perfluorodecanoic Acid (PFDA)	1.13 J	0.7 J	0.56 J
Perfluoroheptanoic Acid (PFHpA)	2.85	15.5	27.7
Perfluorohexanesulfonic Acid	21.8 B	101 B	274 B
Perfluorohexanoic Acid (PFHxA)	3.4	17.2	27.3
Perfluorononanoic Acid (PFNA)	3.83	5.98	7.75
Perfluorooctane Sulfonic Acid (PFOS)	238	130	243
Perfluorooctanoic acid (PFOA)	41.2	118	200
Total PFOA and PFOS	279.2	248	443
Total PFAS	313.05	391.97	787.41

Sample Date:	WSG-GW5-8-0 11/6/2019	WSG-GW5-18-0 11/6/2019	WSG-GW5-28-0 11/6/2019
Depth (ft):	8	18	28
Perfluorobutanesulfonic Acid (PFBS)	4.26	2.31	2.69
Perfluorodecanoic Acid (PFDA)	0.33 J	0.33 J	0.35 J
Perfluoroheptanoic Acid (PFHpA)	22.3	7.76	9.45
Perfluorohexanesulfonic Acid	20.2 B	10 B	10.9 B
Perfluorohexanoic Acid (PFHxA)	28.8	12.6	15.9
Perfluorononanoic Acid (PFNA)	3.2	1.85 J	1.72 J
Perfluorotetradecanoic Acid (PFTeA)	1.92 U	0.31 B3	1.9 U
Perfluorooctane Sulfonic Acid (PFOS)	29.2	27.8	37.8
Perfluorooctanoic acid (PFOA)	40.6	12.7	11.2
Total PFOA and PFOS	69.8	40.5	49
Total PFAS	148.89	75.66	90.01



Sample Date:	WSG-GW3-8-0 11/7/2019	WSG-GW3-18-0 11/7/2019	WSG-GW3-28-0 11/7/2019
Depth (ft):	8	18	28
Perfluorobutanesulfonic Acid (PFBS)	4.15	4.35	3.8
Perfluoroheptanoic Acid (PFHpA)	3.29	0.99 J	0.25 J
Perfluorohexanesulfonic Acid	21.4 B	10.1 B	4.99 B
Perfluorohexanoic Acid (PFHxA)	6.68	2.81	1.89 U
Perfluorononanoic Acid (PFNA)	2.4	2.43	0.46 J
Perfluorotetradecanoic Acid (PFTeA)	1.9 U	0.35 J	1.89 U
Perfluorooctane Sulfonic Acid (PFOS)	33.6	17.5	2.79
Perfluorooctanoic acid (PFOA)	5.7	2.45	0.83 J
Total PFOA and PFOS	39.3	19.95	2.79
Total PFAS	77.22	40.98	13.12

Sample Date:	WSG-GW6-9-0 11/11/2019	WSG-GW6-19-0 11/11/2019	WSG-GW6-29-0 11/11/2019
Depth (ft):	9	19	29
Perfluorobutanesulfonic Acid (PFBS)	3.84	2.79	2.93
Perfluorodecanoic Acid (PFDA)	0.53 J	0.65 J	1.87 U
Perfluoroheptanoic Acid (PFHpA)	12.9	8.65	6.64
Perfluorohexanesulfonic Acid	17.7 B	16.4 B	24.9 B
Perfluorohexanoic Acid (PFHxA)	21	14	12
Perfluorononanoic Acid (PFNA)	8.24	10.7	8.43
Perfluorooctane Sulfonic Acid (PFOS)	36.2	44.2	31.8
Perfluorooctanoic acid (PFOA)	39.6	23.5	14.3
Total PFOA and PFOS	75.8	67.7	46.1
Total PFAS	140.01	120.89	101

Sample Date:	WSG-GW4-5-0 11/7/2019	WSG-GW4-15-0 11/6/2019	WSG-GW4-25-0 11/6/2019
Depth (ft):	5	15	25
N-Ethyl-N-((heptadecafluorooctyl)sulfonyl) glycine	3.93 J	19.2 U	19.3 U
Perfluorobutanesulfonic Acid (PFBS)	0.42 J	1.36 J	1.25 J
Perfluorodecanoic Acid (PFDA)	2.49	1.92 U	1.93 U
Perfluoroheptanoic Acid (PFHpA)	2.14	1.5 J	1.93 U
Perfluorohexanesulfonic Acid	3.43 B	27 B	19.4 B
Perfluorohexanoic Acid (PFHxA)	2.82	2.69	1.93 U
Perfluorononanoic Acid (PFNA)	1.92 J	1.03 J	0.97 J
Perfluorooctane Sulfonic Acid (PFOS)	30.5	36.7	11.6
Perfluorooctanoic acid (PFOA)	5.69	4.78	1.93 U
Total PFOA and PFOS	36.19	41.48	11.6

Sample Date:	WSG-GW7-6-0 11/5/2019	WSG-GW7-15-0 11/5/2019
Depth (ft):	6	15
Perfluorobutanesulfonic Acid (PFBS)	0.69 J	2
Perfluorodecanoic Acid (PFDA)	2.21	1.83 U
Perfluoroheptanoic Acid (PFHpA)	5.1	0.54 J
Perfluorohexanesulfonic Acid	7.84 B	29.9 B
Perfluorohexanoic Acid (PFHxA)	4.55	1.29 J
Perfluorononanoic Acid (PFNA)	2.84	0.25 J
Perfluorotetradecanoic Acid (PFTeA)	0.34 B3	1.83 U
Perfluorooctane Sulfonic Acid (PFOS)	22.5	24
Perfluorooctanoic acid (PFOA)	13.4	2.41
Total PFOA and PFOS	35.9	26.41

Sample Date:	WSG-GW8-19-0 11/13/2019	WSG-GW8-29-0 11/13/2019	WSG-GW8-39-0 11/13/2019
Depth (ft):	19	29	39
Perfluorobutanesulfonic Acid (PFBS)	1.11 J	0.89 J	1.36 J
Perfluorodecanoic Acid (PFDA)	0.64 J	0.73 J	0.37 J
Perfluoroheptanoic Acid (PFHpA)	3.69	2.11	1.64 J
Perfluorohexanesulfonic Acid	2.15 B	8.29 B	12.7 B
Perfluorohexanoic Acid (PFHxA)	4.48	3.64	2.4
Perfluorononanoic Acid (PFNA)	3.18	1.24 J	0.55 J
Perfluorooctane Sulfonic Acid (PFOS)	50.5	10.9	9.14
Perfluorooctanoic acid (PFOA)	7.95	5.8	5.06
Total PFOA and PFOS	58.45	16.7	14.2



DEC's Conclusions

- ▶ Despite the high levels in groundwater and soil, as well as photographs showing a fire training activity, DEC concluded that the site should be classified as an "N" site meaning it will not be designated as a superfund site.
- ▶ DEC concluded that "[t]he highest PFAS groundwater detections were in upgradient and side-gradient monitoring wells, indicating that the contamination is coming from an off-site source . . . Low-level PFAS detections in on-site soil do not implicate the site as a contributing source of PFAS groundwater contamination . . .



Airport/Fire Station/Fire Training Facility

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- ▶ DEC designated these properties , which are north/northwest of the Sand Pit as a Class 2 Superfund site due to PFOA/PFOS detections in soil and groundwater.
- ▶ A major contributing factor to this contamination was the East Hampton Fire Department's use and storage of AFFF at the properties.
- ▶ DEC demanded that the Town execute a consent order to investigate and remediate the contamination on-site and off-site because the Town owns the properties.
- ▶ The Town has executed that consent order and is in the process of preparing a remedial investigation workplan for DEC's review. The process will likely cost millions of dollars and last years.
- ▶ To mitigate the financial obligation to the Town's taxpayers, The Town has sued the Village of East Hampton, which operates EHFD, as well as several other parties. The Village has tens of millions of dollars in insurance that covers this.
- ▶ Unfortunately, the Village, EHFD and their insurers have not cooperated with the Town, have not agreed to share any burden in cleanup costs, and have not disclosed information regarding where they used AFFF throughout Wainscott. They have forced the Town to proceed with litigation.