

Appendix I - Data Validation Report Summary Sheet	
Validated Lab Report ID	
	180-129637-1
	180-134785-1
	180-134785-2
	180-135470-1
	180-135470-2
	180-139681-1
	180-139681-2
	180-140092-1
	180-140092-2
	180-141891-1
	180-141891-2
	180-202353-1

Memorandum

Date: 8 November 2024
To: Aron Krasnopoler
Dave Towsey
From: Matthew Richardson
CC: Kristoffer Henderson
Subject: Eurofins Laboratory Job ID 180-129637-1, Stage 2A Data Validation

This report summarizes the findings of the Stage 2A data validation of twenty-eight soil samples and three field duplicate samples collected on 4-5 November 2021 as part of the Former Sperry Remington sampling event located in Elmira, New York. Eurofins TestAmerica Pittsburgh and Eurofins TestAmerica Canton analyzed the samples for the following analyses:

- Semivolatile Organic Compounds (SVOCs) by United States (US) Environmental Protection Agency (EPA) Methods 3541/8270D
- Polychlorinated Biphenyls (PCBs) by US EPA Methods 3541/8082A
- Metals by US EPA Methods 3050B/6010C
- Mercury by US EPA Method 7471B
- Solids

The data were validated at a US EPA Stage 2A data validation level, based on the pertinent methods referenced by the data package, as well as professional and technical judgment and the following documents:

- US EPA National Functional Guidelines for Organic Superfund Methods Data Review, November 2020 (EPA 540-R-20-005)
- US EPA National Functional Guidelines for Inorganic Superfund Methods Data Review, November 2020 (EPA 540-R-20-006)
- New York State Department of Environmental Conservation DEC Program Policy, DER-10/ Technical Guidance for Site Investigation and Remediation, May 3, 2010
- Quality Assurance Project Plan/Field Sampling Plan (QAPP/FSP), Former Sperry Remington Site – North Portion, 771 South Main Street, City of Elmira, Chemung County, New York, September 2018; updated May 2024 (Agency Review Draft).

The following samples were validated at a Stage 2A level:

Laboratory ID	Client ID
180-129637-1	SSHS-IRM5A2-S442
180-129637-2	SSHS-IRM5A2-S443
180-129637-3	SSHS-IRM5A2-S444
180-129637-4	SSHS-IRM5A2-S445
180-129637-5	SSHS-IRM5A2-S446
180-129637-6	SSHS-IRM5A2-S447
180-129637-7	SSHS-IRM5A2-S448
180-129637-8	SSHS-IRM5A2-S449
180-129637-9	SSHS-IRM5A2-S450
180-129637-10	SSHS-IRM5A2-B416
180-129637-11	SSHS-IRM5A2-B417
180-129637-12	SSHS-IRM5A2-B418
180-129637-13	SSHS-IRM5A2-B418A
180-129637-14	SSHS-IRM5A2-B419
180-129637-15	SSHS-IRM5A2-B420
180-129637-16	SSHS-IRM5A2-B421

Laboratory ID	Client ID
180-129637-17	SSHS-IRM5A2-DUP11
180-129637-18	SSHS-IRM5A2-B522
180-129637-19	SSHS-IRM5A2-S881
180-129637-20	SSHS-IRM5A2-S882
180-129637-21	SSHS-IRM5A2-S883
180-129637-22	SSHS-IRM5A2-S516
180-129637-23	SSHS-IRM5A2-S517
180-129637-24	SSHS-IRM5A2-S518
180-129637-25	SSHS-IRM5A2-3" OVERLAY
180-129637-26	SSHS-IRM5A2-S519
180-129637-27	SSHS-IRM5A2-S520
180-129637-28	SSHS-IRM5A2-S521
180-129637-29	SSHS-IRM5A2-DUP12
180-129637-30	SSHS-IRM5A2-DUP13
180-129637-31	SSHS-IRM5A2-B729A

The samples were received at the laboratory within the criteria of 0-6.0°C. No sample preservation issues were noted by the laboratory.

The following issues were noted for the chain of custody (COC) forms:

- Collection times for the field duplicate samples were not documented on the COCs. The field duplicates were logged in with a collection time of 00:00.
- The relinquished by date and time were not documented on the COC pages.
- The COC was annotated by the laboratory per the client's request.

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below and based on the information provided, the data as qualified are usable for supporting project objectives. The qualified data should be used within the limitations of the qualifications.

The samples were prepared and analyzed within the method specified holding times.

The solids data, used to report the samples on a dry weight basis, were not validated.

The samples were reported to the method detection limits (MDLs). Elevated non-detect results were not reported due to the sample dilutions analyzed. The MDLs met the screening criteria listed in Table C.1 of the QAPP.

Results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20%. It was noted that the sample IDs in the EDD included the date of collection in the suffix; this suffix was not listed on the COC. No other discrepancies were identified between the level II report and the EDD.

The results for the laboratory and field QC samples which include method blanks, the trip blank, laboratory control sample/laboratory control sample duplicate (LCS/LCSD) pairs, matrix spike/matrix spike duplicate (MS/MSD) pairs, laboratory duplicates and surrogates were validated using automation. The data quality exceedances were qualified using automation and in accordance with Table 1 in the project QAPP/FSP. See automated verification log for details on the data quality exceedances. The automation was verified by the data validator in development and inspected periodically for functionality during the data validation. The automated validation qualifiers were reviewed by the data validator. The QC issues listed below were not validated using automation.

1.0 SEMIVOLATILE ORGANIC COMPOUNDS

The %D of di-n-octyl phthalate (23.4%) in the continuing calibration verification (CCV) in batch 378178 was high and outside the method specified acceptance criteria. Since the %D for di-n-octyl phthalate was within the validation specified acceptance criteria and based on professional and technical judgment, no qualifications were applied to the data.

Due to noncalculable RPD results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified appropriately.

2.0 POLYCHLORINATED BIPHENYLS

Multiple PCBs that share peaks were detected in the samples; therefore, there is contribution between PCBs when more than one PCB is detected in a sample. These PCBs were J qualified as estimated, based on professional and technical judgment.

Due to noncalculable RPD results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified appropriately.

Sample SSHS-IRM5A2-DUP12 (180-129637-29) had the recoveries of surrogate tetrachloro-m-xylene and decachlorobiphenyl below the control limits on column RTX-CLP2. The recoveries on column RTX-CLP1 were within the control limits. No qualifications were applied to the data.

Sample SSHS-IRM5A2-DUP13 (180-129637-30) had the recoveries of surrogate tetrachloro-m-xylene and decachlorobiphenyl below the control limits on one or both columns. Evidence of matrix interference is present for the decachlorobiphenyl surrogate; therefore, re-extraction and/or re-analysis was not performed. Therefore, the non-detect PCB results in sample SSHS-IRM5A2-DUP13 were UJ qualified as estimated less than the MDLs.

The following CCV issues were noted in the laboratory narrative:

The CCVs analyzed in batch 180-377979 (CCVIS 180-377979/27 and CCVIS 180-377979/47) were below criteria for aroclor 1260 for 1 peak on column RTX-CLP1 and 2 peaks on column RTX-CLP2. Associated positive sample results for aroclor 1260 did not have these peaks included in the quantitation of the results. No qualifications were applied to the data.

The CCVs analyzed in batch 180-377999 (CCVIS 180-377999/26 and CCVIS 180-377999/47) were below criteria for aroclor 1260 for 1 peak on column RTX-CLP2. Associated positive sample results for aroclor 1260 were reported from column RTX-CLP1 which met criteria or did not have this peak included in the quantitation of the results. No qualifications were applied to the data.

The CCV analyzed in batch 180-377999 (CCVIS 180-377999/47) was below criteria for surrogate tetrachloro-m-xylene on column RTX-CLP1. Since the associated sample surrogate recoveries were evaluated in the respective associated samples and within the control limits, no qualifications were applied to the data.

3.0 METALS

The analytes with RPD exceedances in the MS/MSD pair were J qualified as estimated.

Due to noncalculable RPD results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified appropriately.

4.0 MERCURY

No qualifications were applied to the mercury data.

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ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS
AND INTERPRETATION KEY
Assigned by Geosyntec’s Data Validation Team

DATA QUALIFIER DEFINITIONS

- U The analyte was analyzed for but was not detected above the reported sample quantitation limit. Upon application of the U qualifier to a reported result, the definition changes to “not detected at or above the reported result.”
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The analyte was positively identified; however, the associated numerical value is likely to be higher than the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.
- J- The analyte was positively identified; however, the associated numerical value is likely to be lower than the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Extraction or analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits or RPD outside limits (LCS/LCSD)
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other
14	Lab flag removed: no validation qualification required

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample duplicate

RPD - Relative percent difference

Memorandum

Date: 8 November 2024
To: Aron Krasnopoler
Dave Towsey
From: Matthew Richardson
CC: Kristoffer Henderson
Subject: Eurofins Laboratory Job ID 180-134785-1, Stage 2A Data Validation

This report summarizes the findings of the Stage 2A data validation of forty-six soil sample pairs and two field duplicate sample pairs. The samples were collected on 5 and 7 March 2022, as part of the Former Sperry Remington sampling event located in Elmira, New York. Eurofins Pittsburgh analyzed the samples for the following analyses:

- Volatile Organic Compounds (VOCs) by United States (US) Environmental Protection Agency (EPA) Methods 5035/8260C
- Semivolatile Organic Compounds (SVOCs) by US EPA Methods 3541/8270D
- Polychlorinated Biphenyls (PCBs) by US EPA Methods 3541/8082A
- Metals by US EPA Methods 3050B/6010C
- Mercury by US EPA Method 7471B
- Solids by Standard Method (SM) 2540G

The data were validated at a US EPA Stage 2A data validation level, based on the pertinent methods referenced by the data package, as well as professional and technical judgment and the following documents:

- US EPA National Functional Guidelines for Organic Superfund Methods Data Review, November 2020 (EPA 540-R-20-005)
- US EPA National Functional Guidelines for Inorganic Superfund Methods Data Review, November 2020 (EPA 540-R-20-006)
- New York State Department of Environmental Conservation DEC Program Policy, DER-10/ Technical Guidance for Site Investigation and Remediation, May 3, 2010
- Quality Assurance Project Plan/Field Sampling Plan (QAPP/FSP), Former Sperry Remington Site – North Portion, 771 South Main Street, City of Elmira, Chemung County, New York, September 2018; updated May 2024 (Agency Review Draft).

The following samples were validated at a Stage 2A level:

Laboratory ID	Client ID
180-134785-1	SSHS-IRM5A2-B713
180-134785-2	SSHS-IRM5A2-B713
180-134785-3	SSHS-IRM5A2-B714
180-134785-4	SSHS-IRM5A2-B714
180-134785-5	SSHS-IRM5A2-B715
180-134785-6	SSHS-IRM5A2-B715
180-134785-7	SSHS-IRM5A2-B716
180-134785-8	SSHS-IRM5A2-B716
180-134785-9	SSHS-IRM5A2-B717
180-134785-10	SSHS-IRM5A2-B717
180-134785-11	SSHS-IRM5A2-NE-MSA-S1
180-134785-12	SSHS-IRM5A2-NE-MSA-S1
180-134785-13	SSHS-IRM5A2-NE-MSA-S2
180-134785-14	SSHS-IRM5A2-NE-MSA-S2
180-134785-15	SSHS-IRM5A2-NE-MSA-S3
180-134785-16	SSHS-IRM5A2-NE-MSA-S3
180-134785-17	SSHS-IRM5A2-NE-MSA-S4
180-134785-18	SSHS-IRM5A2-NE-MSA-S4
180-134785-19	SSHS-IRM5A2-NE-MSA-BOT1
180-134785-20	SSHS-IRM5A2-NE-MSA-BOT1
180-134785-21	SSHS-IRM5A2-NE-MSA-BOT2
180-134785-22	SSHS-IRM5A2-NE-MSA-BOT2
180-134785-23	SSHS-IRM5A2-NE-MSA-BOT3
180-134785-24	SSHS-IRM5A2-NE-MSA-BOT3
180-134785-25	SSHS-IRM5A2-NE-MSA-BOT4

Laboratory ID	Client ID
180-134785-26	SSHS-IRM5A2-NE-MSA-BOT4
180-134785-27	SSHS-IRM5A2-NE-MSA-BOT5
180-134785-28	SSHS-IRM5A2-NE-MSA-BOT5
180-134785-29	SSHS-IRM5A2-NE-MSA-BOT6
180-134785-30	SSHS-IRM5A2-NE-MSA-BOT6
180-134785-31	SSHS-IRM5A2-NE-MSA-BOT7
180-134785-32	SSHS-IRM5A2-NE-MSA-BOT7
180-134785-33	SSHS-IRM5A2-NE-MSA-BOT9
180-134785-34	SSHS-IRM5A2-NE-MSA-BOT9
180-134785-35	SSHS-IRM5A2-S460
180-134785-36	SSHS-IRM5A2-S460
180-134785-37	SSHS-IRM5A2-S461
180-134785-38	SSHS-IRM5A2-S461
180-134785-39	SSHS-IRM5A2-S182
180-134785-40	SSHS-IRM5A2-S182
180-134785-41	SSHS-IRM5A2-S255
180-134785-42	SSHS-IRM5A2-S255
180-134785-43	SSHS-IRM5A2-S572
180-134785-44	SSHS-IRM5A2-S572
180-134785-45	SSHS-IRM5A2-S573
180-134785-46	SSHS-IRM5A2-S573
180-134785-47	SSHS-IRM5A2-DUP49
180-134785-48	SSHS-IRM5A2-DUP49
180-134785-49	SSHS-IRM5A2-DUP50
180-134785-50	SSHS-IRM5A2-DUP50

Samples were collected on March 5 and 7, 2024 with matching sample IDs. The samples collected on March 7, 2024, were analyzed for VOCs and the remaining analyses were reported from the samples collected on March 5, 2024.

The samples were received at the laboratory within the criteria of 0-6.0°C. No sample preservation issues were noted by the laboratory.

The following issues were noted for the chain of custody (COC) forms:

- Collection times for the field duplicate samples were not documented on the COC. The field duplicates were logged in with a collection time of 00:00.
- The relinquished by signature, date and time in the sample transfer were not documented on the subcontract COC pages.
- The COC was annotated by the laboratory per the client's request.

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below and based on the information provided, the data as qualified are usable for supporting project objectives, with the following exception.

The non-detect result of chloromethane in sample SSHS-IRM5A2-DUP49 was R qualified as rejected due to less than 20% laboratory control sample (LCS) duplicate (LCSD) recovery.

The qualified data that was not rejected should be used within the limitations of the qualifications.

The samples were prepared and analyzed within the method specified holding times.

The solids data, used to report the samples on a dry weight basis, were not validated.

The samples were reported to the method detection limits (MDLs). Elevated non-detect results were reported due to the sample dilutions analyzed. The MDLs met the screening criteria listed in Table 1 of the QAPP/FSP.

Results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20%. It was noted that the sample IDs in the EDD included the date of collection in the suffix; this suffix was not listed on the COC. No other discrepancies were identified between the level II report and the EDD.

The results for the laboratory and field QC samples which include method blanks, the trip blank, laboratory control sample/LCS/LCSD pairs, matrix spike/ matrix spike duplicate (MS/MSD) pairs, laboratory duplicates and surrogates were validated using automation. The data quality exceedances were qualified using automation and in accordance with Table 1 in the project QAPP/FSP. See automated verification log for details on the data quality exceedances. The automation was verified by the data validator in development and inspected periodically for functionality during the data validation. The automated validation qualifiers were reviewed by the data validator. The QC issues listed below were not validated using automation.

1.0 VOLATILE ORGANIC COMPOUNDS

There are no method or validation minimum average RRFs criteria listed for 1,4-dioxane for method 8260C; past validation guidance [National Functional Guidance (NFG), June 2008] had the following acceptance criteria: $RRF \geq 0.0050$ for 1,4-dioxane, ≥ 0.010 for compounds

exhibiting poor response and ≥ 0.050 for all other target analytes. The current validation guidance (NFG, January 2020) lists minimum RRFs from 0.01-0.700 for VOCs and 1,4-dioxane is not listed as a VOC. Therefore, based on the review of the documents, when 1,4-dioxane is analyzed as a VOC, the compound will be R qualified if the RRF is < 0.010 , based on professional and technical judgment. The average RRF for 1,4-dioxane in the initial calibration was less than 0.010. Therefore, based on professional and technical judgment and average RRFs less than 0.010, the non-detect results of 1,4-dioxane in the samples were UJ qualified as estimated less than the MDLs.

The following continuing calibration verification (CCV) issues were noted in the laboratory narrative:

- The percent differences (%Ds) of 1,1,2-trichloro-1,2,2-trifluoroethane (-45.6%), 1,2,3-trichlorobenzene (-25.1%), carbon disulfide (-42.7%), chloromethane (-25.3%), dichlorodifluoromethane (-24.0%), and trichlorofluoromethane (-25.0%) in the CCV standard in batch 390913 were low and outside the method specified acceptance criteria. Since the %Ds of 1,2,3-trichlorobenzene, chloromethane, dichlorodifluoromethane and trichlorofluoromethane were within the validation specified acceptance criteria, no qualifications were applied to the 1,2,3-trichlorobenzene, chloromethane, dichlorodifluoromethane and trichlorofluoromethane data. However, the non-detect results of 1,1,2-trichloro-1,2,2-trifluoroethane and carbon disulfide in the associated sample were UJ qualified as estimated less than the MDLs.
- The %D of acetone (27.0%) in the CCV in batch 390913 was high and outside the method specified acceptance criteria. Since the %D of acetone was within the validation specified acceptance criteria, no qualifications were applied to the data.
- The %Ds of 1,4-dioxane (38.1%), acetone (26.5%), chloroethane (25.6%), chloromethane (26.9%), and trichlorofluoromethane (26.9%) in the CCV in batch 391066 were high and outside the method specified acceptance criteria. Since the %Ds of these analytes were within the validation specified acceptance criteria, no qualifications were applied to the data.
- The %Ds of 1,1,2,2-tetrachloroethane (22.1%), 1,2,4-trichlorobenzene (21.3%), 1,4-dioxane (52.6%), acetone (49.4%), bromomethane (30.3%), carbon tetrachloride (20.2%), chloroethane (40.6%), chloromethane (47.1%), cyclohexane (26.9%), methylene chloride (27.0%), trichlorofluoromethane (40.5%), and vinyl chloride (41.5%) in the CCV in batch 391200 were high and outside the method specified acceptance criteria. Since the %Ds of 1,1,2,2-tetrachloroethane, 1,2,4-trichlorobenzene, bromomethane, carbon tetrachloride, cyclohexane and methylene chloride were within the validation specified acceptance criteria, no qualifications were applied to the 1,1,2,2-tetrachloroethane, 1,2,4-trichlorobenzene, bromomethane, carbon tetrachloride, cyclohexane and methylene chloride data. However, the non-detect results of 1,4-dioxane, acetone, chloroethane,

chloromethane, trichlorofluoromethane and vinyl chloride in the associated samples were UJ qualified as estimated less than the MDLs.

- The %Ds of 1,1,2-trichloro-1,2,2-trifluoroethane (-34.5%), 2-butanone (-26.0%), 2-hexanone (-25.2%), and trichlorofluoromethane (-22.2%) in the CCV in batch 391443 were low and outside the method specified acceptance criteria. Since the %Ds of 2-butanone, 2-hexanone and trichlorofluoromethane were within the validation specified acceptance criteria, no qualifications were applied to the butanone, 2-hexanone and trichlorofluoromethane data. However, the non-detect results of 1,1,2-trichloro-1,2,2-trifluoroethane in the associated samples were UJ qualified as estimated less than the MDLs.
- The %Ds of bromomethane (31.2%) and chloroethane (60.6%) in the CCV in batch 391594 were high and outside the method specified acceptance criteria. Since the %D of bromomethane was within the validation specified acceptance criteria, no qualifications were applied to the bromomethane data. However, the non-detect results of chloroethane in the associated samples were UJ qualified as estimated less than the MDLs.
- The %D of 1,2-dibromo-3-chloropropane (-20.6%) in the CCV in batch 391757 was low and outside the method specified acceptance criteria. Since the %D of 1,2-dibromo-3-chloropropane was within the validation specified acceptance criteria, no qualifications were applied to the data.
- The %Ds of acetone (32.5%), bromomethane (45.5%), chloroethane (83.2%), and trichlorofluoromethane (23.3%) in the CCV in batch 391757 were high and outside the method specified acceptance criteria. Since the %Ds of acetone and trichlorofluoromethane were within the validation specified acceptance criteria, no qualifications were applied to the acetone and trichlorofluoromethane data. However, the non-detect results of bromomethane and chloroethane in the associated sample were UJ qualified as estimated less than the MDLs.

Due to noncalculable relative percent difference (RPD) results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified, as appropriate.

2.0 SEMIVOLATILE ORGANIC COMPOUNDS

The %Ds of 4-nitrophenol (29.2%) and hexachlorocyclopentadiene (21.7%) in the CCV in batch 390927 were high and outside the method specified acceptance criteria. Since the %Ds of 4-nitrophenol and hexachlorocyclopentadiene were within the validation specified acceptance criteria, no qualifications were applied to the data.

The %Ds of 2-nitroaniline (27.6%) and nitrobenzene-d5 in the CCV in batch 390930 were high and outside the method specified acceptance criteria. Since the %D of 2-nitroaniline was within

the validation specified acceptance criteria and surrogate recoveries were evaluated in the respective associated samples, no qualifications were applied to the data.

Due to noncalculable RPD results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified appropriately.

3.0 POLYCHLORINATED BIPHENYLS

Multiple PCBs that share peaks were detected in the samples; therefore, there is contribution between PCBs when more than one PCB is detected in a sample. These PCBs were J qualified as estimated, based on professional and technical judgment.

The following CCV issues were noted in the laboratory narrative:

The CCV analyzed in batch 180-390892 (CCVIS 180-390892/5) was above criteria for surrogate tetrachloro-m-xylene on column RTX-CLP2. Since the associated sample surrogate recoveries were evaluated in the respective associated samples and within the control limits, no qualifications were applied to the data.

The CCV analyzed in batch 180-390893 (CCVIS 180-390893/5) was above criteria for aroclor 1260 for 2 peaks on column RTX-CLP1 and 2 peaks on column RTX-CLP2. Associated positive sample results for aroclor 1260 did not have these peaks included in the quantitation of the results. No qualifications were applied to the data.

The CCV analyzed in batch 180-390893 (CCVIS 180-390893/26) was above criteria for aroclor 1260 on column RTX-CLP1 and above criteria for 2 peaks on column RTX-CLP2. Associated positive sample results for aroclor 1260 were reported from column RTX-CLP2 and did not have these peaks included in the quantitation of the results. No qualifications were applied to the data.

4.0 METALS

The analytes with RPD exceedances in the MS/MSD pair were J qualified as estimated.

Due to noncalculable RPD results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified appropriately.

5.0 MERCURY

Due to noncalculable RPD results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified appropriately.

* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS
AND INTERPRETATION KEY
Assigned by Geosyntec’s Data Validation Team

DATA QUALIFIER DEFINITIONS

- U The analyte was analyzed for but was not detected above the reported sample quantitation limit. Upon application of the U qualifier to a reported result, the definition changes to “not detected at or above the reported result.”
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The analyte was positively identified; however, the associated numerical value is likely to be higher than the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.
- J- The analyte was positively identified; however, the associated numerical value is likely to be lower than the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Extraction or analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits or RPD outside limits (LCS/LCSD)
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other
14	Lab flag removed: no validation qualification required

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample duplicate

RPD - Relative percent difference

Memorandum

Date: 8 November 2024
To: Aron Krasnopoler
Dave Towsey
From: Matthew Richardson
CC: Kristoffer Henderson
Subject: Eurofins Laboratory Job ID 180-134785-2, Stage 2A Data Validation

This report summarizes the findings of the Stage 2A data validation of six soil samples. The samples were collected on 5 March 2022 as part of the Former Sperry Remington sampling event located in Elmira, New York. Eurofins Sacramento analyzed the samples for the following analysis:

- Per- and Polyfluoroalkyl Substances (PFAS) by United States (US) Environmental Protection Agency (EPA) Modified Method 537

The data were validated at a US EPA Stage 2A data validation level, based on the pertinent methods referenced by the data package, as well as professional and technical judgment and the following documents:

- New York Department of Environmental Conservation (NY DEC), Guidelines for Sampling and Analysis of PFAS Under NYDEC's part 375 Remedial Programs, April 2023
- New York State Department of Environmental Conservation DEC Program Policy, DER-10/ Technical Guidance for Site Investigation and Remediation, May 3, 2010
- Quality Assurance Project Plan/Field Sampling Plan (QAPP/FSP), Former Sperry Remington Site – North Portion, 771 South Main Street, City of Elmira, Chemung County, New York, September 2018; updated May 2024 (Agency Review Draft).

The following samples were validated at a Stage 2A level:

Laboratory ID	Client ID
180-134785-1	SSHS-IRM5A2-B713
180-134785-11	SSHS-IRM5A2-NE-MSA-S1
180-134785-19	SSHS-IRM5A2-NE-MSA-BOT1

Laboratory ID	Client ID
180-134785-27	SSHS-IRM5A2-NE-MSA-BOT5
180-134785-37	SSHS-IRM5A2-S461
180-134785-41	SSHS-IRM5A2-S255

The samples were received at the laboratory within the criteria of 0-6.0°C. No sample preservation issues were noted by the laboratory.

The following issues were noted for the chain of custody (COC) forms:

- Collection times for the field duplicate samples were not documented on the COC. The field duplicates were logged in with a collection time of 00:00.
- The relinquished by signature, date and time were not documented on the subcontract COC pages.
- The COC was annotated by the laboratory per the client's request.

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below and based on the information provided, the data as qualified are usable for supporting project objectives. The qualified data should be used within the limitations of the qualifications.

The samples were prepared and analyzed within the method specified holding times.

The samples were reported to the method detection limits (MDLs). Elevated non-detect results were not reported. The MDLs met the screening criteria listed in Table 1 of the QAPP/FSP.

Results and sample IDs in the electronic data deliverable (EDD) were reviewed against the information provided by the associated level II report at a minimum of 20%. It was noted that the sample IDs in the EDD included the date of collection in the suffix; this suffix was not listed on the COC. No other discrepancies were identified between the level II report and the EDD.

The results for the laboratory and field QC samples which include method blanks, the trip blank, laboratory control sample/LCS/LCSD pairs, matrix spike/ matrix spike duplicate (MS/MSD) pairs, laboratory duplicates and surrogates were validated using automation. The data quality exceedances were qualified using automation and in accordance with Table 1 in the project QAPP/FSP. See automated verification log for details on the data quality exceedances. The automation was verified by the data validator in development and inspected periodically for functionality during the data validation. The automated validation qualifiers were reviewed by the data validator. The QC issues listed below were not validated using automation.

1.0 PFAS

The samples were analyzed for PFAS per US EPA Modified Method 537. The following PFAS compounds were reported:

Analyte	Acronym
6:2 Fluorotelomer Sulfonate	6:2 FTS

Analyte	Acronym
8:2 Fluorotelomer Sulfonate	8:2 FTS
N-ethylperfluorooctanesulfonamidoacetic acid	NEtFOSAA
N-methylperfluorooctanesulfonamidoacetic acid	NMeFOSAA
Perfluorobutanesulfonic acid	PFBS
Perfluorobutanoic acid	PFBA
Perfluorodecanesulfonic acid	PFDS
Perfluorodecanoic acid	PFDA
Perfluorododecanoic acid	PFDoA
Perfluoroheptanesulfonic Acid	PFHpS
Perfluoroheptanoic acid	PFHpA
Perfluorohexanesulfonic acid	PFHxS
Perfluorohexanoic acid	PFHxA
Perfluorononanoic acid	PFNA
Perfluorooctanesulfonamide	FOSA
Perfluorooctanesulfonic acid	PFOS
Perfluorooctanoic acid	PFOA
Perfluoropentanoic acid	PFPeA
Perfluorotetradecanoic acid	PFTeA
Perfluorotridecanoic acid	PFTriA
Perfluoroundecanoic acid	PFUnA

The PFOS concentration in sample SSHS-IRM5A2-NE-MSA-BOT5 was flagged with “I” to indicate the result was estimated maximum possible concentration. Therefore, based on professional and technical judgment, the PFOS concentration in sample SSHS-IRM5A2-NE-MSA-BOT5 was J qualified as estimated.

* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS
AND INTERPRETATION KEY
Assigned by Geosyntec’s Data Validation Team

DATA QUALIFIER DEFINITIONS

- U The analyte was analyzed for but was not detected above the reported sample quantitation limit. Upon application of the U qualifier to a reported result, the definition changes to “not detected at or above the reported result.”
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The analyte was positively identified; however, the associated numerical value is likely to be higher than the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.
- J- The analyte was positively identified; however, the associated numerical value is likely to be lower than the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec’s Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Extraction or analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits or RPD outside limits (LCS/LCSD)
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other
14	Lab flag removed: no validation qualification required

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample duplicate

RPD - Relative percent difference

Memorandum

Date: 8 November 2024
To: Aron Krasnopoler
Dave Towsey
From: Matthew Richardson
CC: Kristoffer Henderson
Subject: Eurofins Laboratory Job ID 180-135470-1, Stage 2A Data Validation

This report summarizes the findings of the Stage 2A data validation of twenty-seven soil samples and two field duplicate samples. The samples were collected on 19 March 2022 as part of the Former Sperry Remington sampling event located in Elmira, New York. Eurofins Pittsburgh analyzed the samples for the following analyses:

- Semivolatile Organic Compounds (SVOCs) by United States (US) Environmental Protection Agency (EPA) Methods 3541/8270D
- Polychlorinated Biphenyls (PCBs) by US EPA Methods 3541/8082A
- Metals by US EPA Methods 3050B/6010C
- Mercury by US EPA Method 7471B
- Solids by Standard Method (SM) 2540G

The data were validated at a US EPA Stage 2A data validation level, based on the pertinent methods referenced by the data package, as well as professional and technical judgment and the following documents:

- US EPA National Functional Guidelines for Organic Superfund Methods Data Review, November 2020 (EPA 540-R-20-005)
- US EPA National Functional Guidelines for Inorganic Superfund Methods Data Review, November 2020 (EPA 540-R-20-006)
- New York State Department of Environmental Conservation DEC Program Policy, DER-10/ Technical Guidance for Site Investigation and Remediation, May 3, 2010
- Quality Assurance Project Plan/Field Sampling Plan (QAPP/FSP), Former Sperry Remington Site – North Portion, 771 South Main Street, City of Elmira, Chemung County, New York, September 2018; updated May 2024 (Agency Review Draft).

The following samples were validated at a Stage 2A level:

Laboratory ID	Client ID
180-135470-1	SSHS-IRM5A2-S290
180-135470-2	SSHS-IRM5A2-S291
180-135470-3	SSHS-IRM5A2-S574
180-135470-4	SSHS-IRM5A2-S575
180-135470-5	SSHS-IRM5A2-S576
180-135470-6	SSHS-IRM5A2-S577
180-135470-7	SSHS-IRM5A2-S578
180-135470-8	SSHS-IRM5A2-S579
180-135470-9	SSHS-IRM5A2-S580
180-135470-10	SSHS-IRM5A2-S217
180-135470-11	SSHS-IRM5A2-S218
180-135470-12	SSHS-IRM5A2-S219
180-135470-13	SSHS-IRM5A2-S220
180-135470-14	SSHS-IRM5A2-S221
180-135470-15	SSHS-IRM5A2-S222

Laboratory ID	Client ID
180-135470-16	SSHS-IRM5A2-S119
180-135470-17	SSHS-IRM5A2-S120
180-135470-18	SSHS-IRM5A2-S121
180-135470-19	SSHS-IRM5A2-S122
180-135470-20	SSHS-IRM5A2-S123A
180-135470-21	SSHS-IRM5A2-S183
180-135470-22	SSHS-IRM5A2-S183A
180-135470-23	SSHS-IRM5A2-FISR-BOT1
180-135470-24	SSHS-IRM5A2-FISR-BOT2
180-135470-25	SSHS-IRM5A2-FISR-BOT3
180-135470-26	SSHS-IRM5A2-FISR-BOT4
180-135470-27	SSHS-IRM5A2-DUP55
180-135470-28	SSHS-IRM5A2-DUP56
180-135470-29	SSHS-IRM5A2-S255A

The samples were received at the laboratory within the criteria of 0-6.0°C. No sample preservation issues were noted by the laboratory.

The following issues were noted for the chain of custody (COC) forms:

- Collection times for the field duplicate samples were not documented on the COC. The field duplicates were logged in with a collection time of 00:00.
- The COC was annotated by the laboratory per the client's request.

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below and based on the information provided, the data as qualified are usable for supporting project objectives, with the following exceptions.

The non-detect results of 2,4-dinitrophenol and 4,6-dinitro-o-cresol in sample SSHS-IRM5A2-S183 were R qualified as rejected due to less than 10% matrix spike/ matrix spike duplicate (MS/MSD) recoveries.

The non-detect results of 3,3'-dichlorobenzidine, 2,4-dinitrophenol and 4,6-dinitro-o-cresol in sample SSHS-IRM5A2-S222 were R qualified as rejected due to less than 10% MS/MSD recoveries.

The qualified data that was not rejected should be used within the limitations of the qualifications.

The samples were prepared and analyzed within the method specified holding times.

The solids data, used to report the samples on a dry weight basis, were not validated.

The samples were reported to the method detection limits (MDLs). Elevated non-detect results were reported due to the sample dilutions analyzed. The MDLs met the screening criteria listed in Table 1 of the QAPP/FSP.

Results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20%. It was noted that the sample IDs in the EDD included the date of collection in the suffix; this suffix was not listed on the COC. No other discrepancies were identified between the level II report and the EDD.

The results for the laboratory and field QC samples which include method blanks, the trip blank, laboratory control sample/laboratory control sample duplicate (LCS/LCSD) pairs, MS/MSD pairs, laboratory duplicates and surrogates were validated using automation. The data quality exceedances were qualified using automation and in accordance with Table 1 in the project QAPP/FSP. See automated verification log for details on the data quality exceedances. The automation was verified by the data validator in development and inspected periodically for functionality during the data validation. The automated validation qualifiers were reviewed by the data validator. The QC issues listed below were not validated using automation.

1.0 SEMIVOLATILE ORGANIC COMPOUNDS

The %D of nitrobenzene-d5 in the continuing calibration verification (CCV) in batch 392575 was high and outside the method specified acceptance criteria. Since the surrogate recoveries were evaluated in the respective associated samples, no qualifications were applied to the data.

Due to noncalculable RPD results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified appropriately.

2.0 POLYCHLORINATED BIPHENYLS

Multiple PCBs that share peaks were detected in the samples; therefore, there is contribution between PCBs when more than one PCB is detected in a sample. These PCBs were J qualified as estimated, based on professional and technical judgment.

Due to noncalculable RPD results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified appropriately.

3.0 METALS

Due to noncalculable RPD results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified appropriately.

4.0 MERCURY

Due to noncalculable RPD results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified appropriately.

* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS
AND INTERPRETATION KEY
Assigned by Geosyntec’s Data Validation Team

DATA QUALIFIER DEFINITIONS

- U The analyte was analyzed for but was not detected above the reported sample quantitation limit. Upon application of the U qualifier to a reported result, the definition changes to “not detected at or above the reported result.”
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The analyte was positively identified; however, the associated numerical value is likely to be higher than the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.
- J- The analyte was positively identified; however, the associated numerical value is likely to be lower than the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Extraction or analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits or RPD outside limits (LCS/LCSD)
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other
14	Lab flag removed: no validation qualification required

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample duplicate

RPD - Relative percent difference

Memorandum

Date: 8 November 2024
To: Aron Krasnopoler
Dave Towsey
From: Matthew Richardson
CC: Kristoffer Henderson
Subject: Eurofins Laboratory Job ID 180-135470-2, Stage 2A Data Validation

This report summarizes the findings of the Stage 2A data validation of eight soil samples and one field duplicate sample. The samples were collected on 19 March 2022 as part of the Former Sperry Remington sampling event located in Elmira, New York. Eurofins Sacramento analyzed the samples for the following analysis:

- Per- and Polyfluoroalkyl Substances (PFAS) by United States (US) Environmental Protection Agency (EPA) Modified Method 537

The data were validated at a US EPA Stage 2A data validation level, based on the pertinent methods referenced by the data package, as well as professional and technical judgment and the following documents:

- New York Department of Environmental Conservation (NY DEC), Guidelines for Sampling and Analysis of PFAS Under NYDEC's part 375 Remedial Programs, April 2023
- New York State Department of Environmental Conservation DEC Program Policy, DER-10/ Technical Guidance for Site Investigation and Remediation, May 3, 2010
- Quality Assurance Project Plan/Field Sampling Plan (QAPP/FSP), Former Sperry Remington Site – North Portion, 771 South Main Street, City of Elmira, Chemung County, New York, September 2018; updated May 2024 (Agency Review Draft).

The following samples were validated at a Stage 2A level:

Laboratory ID	Client ID
180-135470-1	SSHS-IRM5A2-S290
180-135470-2	SSHS-IRM5A2-S291
180-135470-6	SSHS-IRM5A2-S577
180-135470-11	SSHS-IRM5A2-S218
180-135470-15	SSHS-IRM5A2-S222

Laboratory ID	Client ID
180-135470-16	SSHS-IRM5A2-S119
180-135470-20	SSHS-IRM5A2-S123A
180-135470-23	SSHS-IRM5A2-FISR-BOT1
180-135470-27	SSHS-IRM5A2-DUP55

The samples were received at the laboratory within the criteria of 0-6.0°C. No sample preservation issues were noted by the laboratory.

The following issues were noted for the chain of custody (COC) forms:

- Collection times for the field duplicate samples were not documented on the COC. The field duplicates were logged in with a collection time of 00:00.
- The COC was annotated by the laboratory per the client's request.

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below and based on the information provided, the data as qualified are usable for supporting project objectives. The qualified data should be used within the limitations of the qualifications.

The samples were prepared and analyzed within the method specified holding times.

The samples were reported to the method detection limits (MDLs). Elevated non-detect results were not reported. The MDLs met the screening criteria listed in Table 1 of the QAPP/FSP.

Results and sample IDs in the electronic data deliverable (EDD) were reviewed against the information provided by the associated level II report at a minimum of 20%. It was noted that the sample IDs in the EDD included the date of collection in the suffix; this suffix was not listed on the COC. No other discrepancies were identified between the level II report and the EDD.

The results for the laboratory and field QC samples which include method blanks, the trip blank, laboratory control sample/LCS/LCSD pairs, matrix spike/ matrix spike duplicate (MS/MSD) pairs, laboratory duplicates and surrogates were validated using automation. The data quality exceedances were qualified using automation and in accordance with Table 1 in the project QAPP/FSP. See automated verification log for details on the data quality exceedances. The automation was verified by the data validator in development and inspected periodically for functionality during the data validation. The automated validation qualifiers were reviewed by the data validator. The QC issues listed below were not validated using automation.

1.0 PFAS

The samples were analyzed for PFAS per US EPA Modified Method 537. The following PFAS compounds were reported:

Analyte	Acronym
6:2 Fluorotelomer Sulfonate	6:2 FTS
8:2 Fluorotelomer Sulfonate	8:2 FTS

Analyte	Acronym
N-ethylperfluorooctanesulfonamidoacetic acid	NEtFOSAA
N-methylperfluorooctanesulfonamidoacetic acid	NMeFOSAA
Perfluorobutanesulfonic acid	PFBS
Perfluorobutanoic acid	PFBA
Perfluorodecanesulfonic acid	PFDS
Perfluorodecanoic acid	PFDA
Perfluorododecanoic acid	PFDoA
Perfluoroheptanesulfonic Acid	PFHpS
Perfluoroheptanoic acid	PFHpA
Perfluorohexanesulfonic acid	PFHxS
Perfluorohexanoic acid	PFHxA
Perfluorononanoic acid	PFNA
Perfluorooctanesulfonamide	FOSA
Perfluorooctanesulfonic acid	PFOS
Perfluorooctanoic acid	PFOA
Perfluoropentanoic acid	PFPeA
Perfluorotetradecanoic acid	PFTeA
Perfluorotridecanoic acid	PFTriA
Perfluoroundecanoic acid	PFUnA

The recoveries of M2-6:2 FTS and M2-8:2 FTS in sample SSHS-IRM5A2-S222 were high and outside of the laboratory specified acceptance criteria. Since 6:2 FTS and 8:2 FTS were not detected in sample SSHS-IRM5A2-S222, no qualifications were applied to the data.

The recovery of M2-8:2 FTS in sample SSHS-IRM5A2-S123A was high and outside of the laboratory specified acceptance criteria. Since 8:2 FTS was not detected in sample SSHS-IRM5A2-S123A, no qualifications were applied to the data.

6:2 FTS was detected at an estimated concentration greater than the MDL and less than the RL in the method blank in batch 575251. Therefore, the estimated 6:2 FTS concentration greater than the MDL and less than the RL for sample SSHS-IRM5A2-FISR-BOT1 was U qualified as not detected at the RL.

Due to noncalculable RPD results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified appropriately.

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ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS
AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

- U The analyte was analyzed for but was not detected above the reported sample quantitation limit. Upon application of the U qualifier to a reported result, the definition changes to “not detected at or above the reported result.”
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The analyte was positively identified; however, the associated numerical value is likely to be higher than the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.
- J- The analyte was positively identified; however, the associated numerical value is likely to be lower than the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Extraction or analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits or RPD outside limits (LCS/LCSD)
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other
14	Lab flag removed: no validation qualification required

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample duplicate

RPD - Relative percent difference

Memorandum

Date: 8 November 2024
To: Aron Krasnopoler
Dave Towsey
From: Matthew Richardson
CC: Kristoffer Henderson
Subject: Eurofins Laboratory Job ID 180-139681-1, Stage 2A Data Validation

This report summarizes the findings of the Stage 2A data validation of twenty-two soil sample pairs and three field duplicate sample pairs. The samples were collected on 14 June 2022, as part of the Former Sperry Remington sampling event located in Elmira, New York. Eurofins Pittsburgh and Eurofins Edison analyzed the samples for the following analyses:

- Volatile Organic Compounds (VOCs) by United States (US) Environmental Protection Agency (EPA) Methods 5035/8260D
- Semivolatile Organic Compounds (SVOCs) by US EPA Methods 3541/8270E
- Polychlorinated Biphenyls (PCBs) by US EPA Methods 3541/8082A
- Metals by US EPA Methods 3050B/6010C and 3050B/6020B
- Mercury by US EPA Method 7471B
- Solids

The data were validated at a US EPA Stage 2A data validation level, based on the pertinent methods referenced by the data package, as well as professional and technical judgment and the following documents:

- US EPA National Functional Guidelines for Organic Superfund Methods Data Review, November 2020 (EPA 540-R-20-005)
- US EPA National Functional Guidelines for Inorganic Superfund Methods Data Review, November 2020 (EPA 540-R-20-006)
- New York State Department of Environmental Conservation DEC Program Policy, DER-10/ Technical Guidance for Site Investigation and Remediation, May 3, 2010
- Quality Assurance Project Plan/Field Sampling Plan (QAPP/FSP), Former Sperry Remington Site – North Portion, 771 South Main Street, City of Elmira, Chemung County, New York, September 2018; updated May 2024 (Agency Review Draft).

The following samples were validated at a Stage 2A level:

Laboratory ID	Client ID
180-139681-1	SSHS-IRM5A2-CP2-S25
180-139681-2	SSHS-IRM5A2-FISR-S42
180-139681-3	SSHS-IRM5A2-FISR-S43
180-139681-4	SSHS-IRM5A2-FISR-S44
180-139681-5	SSHS-IRM5A2-FISR-S45
180-139681-6	SSHS-IRM5A2-FISR-S46
180-139681-7	SSHS-IRM5A2-A3-FISRLAT1-S1
180-139681-8	SSHS-IRM5A2-A3-FISRLAT1-S2
180-139681-9	SSHS-IRM5A2-A3-FISRLAT1-S3
180-139681-10	SSHS-IRM5A2-A3-FISRLAT1-S4
180-139681-11	SSHS-IRM5A2-A3-FISRLAT1-S5
180-139681-12	SSHS-IRM5A2-A3-FISRLAT1-S6
180-139681-13	SSHS-IRM5A2-A3-FISRLAT1-S7
180-139681-14	SSHS-IRM5A2-A3-FISRLAT1-S8
180-139681-15	SSHS-IRM5A2-A3-FISRLAT1-S9

Laboratory ID	Client ID
180-139681-16	SSHS-IRM5A2-A3-FISRLAT1-S10
180-139681-17	SSHS-IRM5A2-FISR-BOT10
180-139681-18	SSHS-IRM5A2-A3-FISRLAT1-B1
180-139681-19	SSHS-IRM5A2-A3-FISRLAT1-B2
180-139681-20	SSHS-IRM5A2-A3-FISRLAT1-B3
180-139681-21	SSHS-IRM5A2-A3-FISRLAT1-B4
180-139681-22	SSHS-IRM5A2-A3-FISRLAT1-B5
180-139681-23	SSHS-IRM5A2-DUP120
180-139681-24	SSHS-IRM5A2-DUP121
180-139681-25	SSHS-IRM5A2-DUP122

The samples were received at the laboratory within the criteria of 0-6.0°C. No sample preservation issues were noted by the laboratory.

The following issues were noted for the chain of custody (COC) forms:

- Collection times for the field duplicate samples were not documented on the COC. The field duplicates were logged in with a collection time of 00:00.
- The relinquished by time was not documented on the COC pages.
- The COC was annotated by the laboratory per the client's request.

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below and based on the information provided, the data as qualified are usable for supporting project objectives, with the following exceptions.

The non-detect results of 2,4-dinitrophenol and 4,6-dinitro-o-cresol in sample SSHS-IRM5A2-A3-FISRLAT1-S6 were R qualified as rejected due to less than 10% matrix spike/ matrix spike duplicate (MS/MSD) recoveries.

The qualified data should be used within the limitations of the qualifications.

The samples were prepared and analyzed within the method specified holding times.

The solids data, used to report the samples on a dry weight basis, were not validated.

The samples were reported to the method detection limits (MDLs). The MDLs met the screening criteria listed in Table 1 of the QAPP/FSP.

Results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20%. It was noted that the sample IDs in the EDD included the date of collection in the suffix; this suffix was not listed on the COC. No other discrepancies were identified between the level II report and the EDD.

The results for the laboratory and field QC samples which include method blanks, the trip blank, laboratory control sample/laboratory control sample duplicate (LCS/LCSD) pairs, MS/MSD pairs, laboratory duplicates and surrogates were validated using automation. The data quality exceedances were qualified using automation and in accordance with Table 1 in the project QAPP/FSP. See automated verification log for details on the data quality exceedances. The automation was verified by the data validator in development and inspected periodically for functionality during the data validation. The automated validation qualifiers were reviewed by the data validator. The QC issues listed below were not validated using automation.

1.0 VOLATILE ORGANIC COMPOUNDS

The laboratory narrative indicated that the internal standard (ISTD) response of 1,4-dichlorobenzene-d4 was below criteria for the following samples: SSHS-IRM5A2-A3-FISRLAT1-S1 (180-139681-7) and SSHS-IRM5A2-A3-FISRLAT1-B1 (180-139681-18). The sample was re-analyzed and again had the internal standard below criteria. Results of one analysis was reported for each sample. Therefore, the non-detect results associated with the internal standard 1,4-dichlorobenzene-d4 in samples SSHS-IRM5A2-A3-FISRLAT1-S1 and SSHS-IRM5A2-A3-FISRLAT1-B1 were UJ qualified as estimated less than the MDLs.

The following continuing calibration verification (CCV) issues were noted in the laboratory narrative:

- The percent differences (%Ds) of 1,2,4-trichlorobenzene (25.7%) and isopropylbenzene (25.6%) in the CCV standard in batch 850169 were high and outside the method specified acceptance criteria. Since the %Ds of 1,2,4-trichlorobenzene and isopropylbenzene were within the validation specified acceptance criteria, no qualifications were applied to the data.

- The %D of methyl acetate (-28.6%) in the CCV in batch 850214 was low and outside the method specified acceptance criteria. Since the %D of methyl acetate was within the validation specified acceptance criteria, no qualifications were applied to the data.
- The relative response factor (RRF) of methyl acetate (0.0946) in the CCV in batch 850214 was low and outside the method specified acceptance criteria. Since only QC data were reported in this analysis batch and based on professional and technical judgment, no qualifications were applied to the data.

Due to noncalculable relative percent difference (RPD) results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified, as appropriate.

2.0 SEMIVOLATILE ORGANIC COMPOUNDS

The following CCV issues were noted in the laboratory narrative:

- The %D of benzaldehyde (-29.0%) in the CCV in batch 850242 was low and outside the method specified acceptance criteria. Since the %D of benzaldehyde was within the validation specified acceptance criteria, no qualifications were applied to the data.
- The %Ds of 2,3,4,6-tetrachlorophenol (21.4%) and 2,4-dinitrotoluene (21.2%) in the CCV in batch 850242 were high and outside the method specified acceptance criteria. Since the %D of 2,4-dinitrotoluene was within the validation specified acceptance criteria, no qualifications were applied to the 2,4-dinitrotoluene data. However, the non-detect results of 2,3,4,6-tetrachlorophenol in the associated samples were UJ qualified as estimated less than the MDLs.
- The %D of benzaldehyde (-30.7%) in the CCV in batch 850239 was low and outside the method specified acceptance criteria. Since the %D of benzaldehyde was within the validation specified acceptance criteria, no qualifications were applied to the data.

The %Ds of 2,4-dinitrophenol (23.6%), 2-nitroaniline (22.2%), and 4-nitrophenol (31.0%) in the CCV in batch 850239 were high and outside the method specified acceptance criteria. Since the %Ds of 2,4-dinitrophenol, 2-nitroaniline and 4-nitrophenol were within the validation specified acceptance criteria, no qualifications were applied to the data.

3.0 POLYCHLORINATED BIPHENYLS

The CCV analyzed in batch 180-402168 (CCV 180-402168/1) was above criteria for Aroclor 1254 for 1 peak on column RTX-CLP2. Associated positive sample results for Aroclor 1254 were reported from column RTX-CLP1 which met criteria. No qualifications were applied to the data.

4.0 METALS

The analytes with RPD exceedances in the MS/MSD pair were J qualified as estimated.

Due to noncalculable RPD results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified appropriately.

5.0 MERCURY

Due to noncalculable RPD results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified appropriately.

* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS
AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

- U The analyte was analyzed for but was not detected above the reported sample quantitation limit. Upon application of the U qualifier to a reported result, the definition changes to “not detected at or above the reported result.”
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The analyte was positively identified; however, the associated numerical value is likely to be higher than the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.
- J- The analyte was positively identified; however, the associated numerical value is likely to be lower than the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Extraction or analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits or RPD outside limits (LCS/LCSD)
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other
14	Lab flag removed: no validation qualification required

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample duplicate

RPD - Relative percent difference

Memorandum

Date: 8 November 2024
To: Aron Krasnopoler
Dave Towsey
From: Matthew Richardson
CC: Kristoffer Henderson
Subject: Eurofins Laboratory Job ID 180-139681-2, Stage 2A Data Validation

This report summarizes the findings of the Stage 2A data validation of six soil samples. The samples were collected on 14 June 2022 as part of the Former Sperry Remington sampling event located in Elmira, New York. Eurofins Sacramento analyzed the samples for the following analysis:

- Per- and Polyfluoroalkyl Substances (PFAS) by United States (US) Environmental Protection Agency (EPA) Modified Method 537

The data were validated at a US EPA Stage 2A data validation level, based on the pertinent methods referenced by the data package, as well as professional and technical judgment and the following documents:

- New York Department of Environmental Conservation (NY DEC), Guidelines for Sampling and Analysis of PFAS Under NYDEC's part 375 Remedial Programs, April 2023
- New York State Department of Environmental Conservation DEC Program Policy, DER-10/ Technical Guidance for Site Investigation and Remediation, May 3, 2010
- Quality Assurance Project Plan/Field Sampling Plan (QAPP/FSP), Former Sperry Remington Site – North Portion, 771 South Main Street, City of Elmira, Chemung County, New York, September 2018; updated May 2024 (Agency Review Draft).

The following samples were validated at a Stage 2A level:

Laboratory ID	Client ID
180-139681-2	SSHS-IRM5A2-FISR-S42
180-139681-10	SSHS-IRM5A2-A3-FISRLAT1-S4
180-139681-13	SSHS-IRM5A2-A3-FISRLAT1-S7

Laboratory ID	Client ID
180-139681-17	SSHS-IRM5A2-FISR-BOT10
180-139681-18	SSHS-IRM5A2-A3-FISRLAT1-B1
180-139681-22	SSHS-IRM5A2-A3-FISRLAT1-B5

The samples were received at the laboratory within the criteria of 0-6.0°C. No sample preservation issues were noted by the laboratory.

The following issues were noted for the chain of custody (COC) forms:

- Collection times for the field duplicate samples were not documented on the COC. The field duplicates were logged in with a collection time of 00:00.
- The relinquished by time was not documented on the COC pages.
- The COC was annotated by the laboratory per the client's request.

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below and based on the information provided, the data as qualified are usable for supporting project objectives, with the following exception.

The PFBA concentration in sample SSHS-IRM5A2-A3-FISRLAT1-B1 was R qualified as rejected due to less than 10% isotope dilution recovery.

The qualified data that was not rejected should be used within the limitations of the qualifications.

The samples were prepared and analyzed within the method specified holding times.

The samples were reported to the method detection limits (MDLs). Elevated non-detect results were not reported. The MDLs met the screening criteria listed in Table 1 of the QAPP/FSP.

Results and sample IDs in the electronic data deliverable (EDD) were reviewed against the information provided by the associated level II report at a minimum of 20%. It was noted that the sample IDs in the EDD included the date of collection in the suffix; this suffix was not listed on the COC. No other discrepancies were identified between the level II report and the EDD.

The results for the laboratory and field QC samples which include method blanks, the trip blank, laboratory control sample/LCS/LCSD pairs, matrix spike/ matrix spike duplicate (MS/MSD) pairs, laboratory duplicates and surrogates were validated using automation. The data quality exceedances were qualified using automation and in accordance with Table 1 in the project QAPP/FSP. See automated verification log for details on the data quality exceedances. The automation was verified by the data validator in development and inspected periodically for functionality during the data validation. The automated validation qualifiers were reviewed by the data validator. The QC issues listed below were not validated using automation.

1.0 PFAS

The samples were analyzed for PFAS per US EPA Modified Method 537. The following PFAS compounds were reported:

Analyte	Acronym
6:2 Fluorotelomer Sulfonate	6:2 FTS
8:2 Fluorotelomer Sulfonate	8:2 FTS
N-ethylperfluorooctanesulfonamidoacetic acid	NEtFOSAA
N-methylperfluorooctanesulfonamidoacetic acid	NMeFOSAA
Perfluorobutanesulfonic acid	PFBS
Perfluorobutanoic acid	PFBA
Perfluorodecanesulfonic acid	PFDS
Perfluorodecanoic acid	PFDA
Perfluorododecanoic acid	PFDoA
Perfluoroheptanesulfonic Acid	PFHpS
Perfluoroheptanoic acid	PFHpA
Perfluorohexanesulfonic acid	PFHxS
Perfluorohexanoic acid	PFHxA
Perfluorononanoic acid	PFNA
Perfluorooctanesulfonamide	FOSA
Perfluorooctanesulfonic acid	PFOS
Perfluorooctanoic acid	PFOA
Perfluoropentanoic acid	PFPeA
Perfluorotetradecanoic acid	PFTeA
Perfluorotridecanoic acid	PFTriA
Perfluoroundecanoic acid	PFUnA

The PFOS concentration in sample SSHS-IRM5A2-FISR-S42 was flagged with “T” to indicate the result was estimated maximum possible concentration. Therefore, based on professional and technical judgment, the PFOS concentration in sample SSHS-IRM5A2-FISR-S42 was J qualified as estimated.

The recoveries of M2-6:2 FTS and M2-8:2 FTS in samples SSHS-IRM5A2-A3-FISRLAT1-B1 and SSHS-IRM5A2-A3-FISRLAT1-B5 were high and outside of the laboratory specified

acceptance criteria. Since 6:2 FTS and 8:2 FTS were not detected in samples SSHS-IRM5A2-A3-FISRLAT1-B1 and SSHS-IRM5A2-A3-FISRLAT1-B5, no qualifications were applied to the data.

The recoveries of 13C4 PFBA and 13C5 PFPeA in sample SSHS-IRM5A2-A3-FISRLAT1-B1 were low and outside of the laboratory specified acceptance criteria. In addition, the 13C4 PFBA recovery was less than 10%. Therefore, the non-detect result of PFPeA in SSHS-IRM5A2-A3-FISRLAT1-B1 was UJ qualified as estimated less than the MDL and the PFBA concentration was R qualified as rejected.

The recover of 13C4 PFBA in sample SSHS-IRM5A2-A3-FISRLAT1-B5 was low and outside of the laboratory specified acceptance criteria. Therefore, the non-detect result of PFBA in SSHS-IRM5A2-A3-FISRLAT1-B5 was UJ qualified as estimated less than the MDL.

* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS
AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

- U The analyte was analyzed for but was not detected above the reported sample quantitation limit. Upon application of the U qualifier to a reported result, the definition changes to “not detected at or above the reported result.”
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The analyte was positively identified; however, the associated numerical value is likely to be higher than the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.
- J- The analyte was positively identified; however, the associated numerical value is likely to be lower than the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Extraction or analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits or RPD outside limits (LCS/LCSD)
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other
14	Lab flag removed: no validation qualification required

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample duplicate

RPD - Relative percent difference

Memorandum

Date: 8 November 2024
To: Aron Krasnopoler
Dave Towsey
From: Matthew Richardson
CC: Kristoffer Henderson
Subject: Eurofins Laboratory Job ID 180-140092-1, Stage 2A Data Validation

This report summarizes the findings of the Stage 2A data validation of twenty-five soil sample pairs and two field duplicate sample pairs. The samples were collected on 21 June 2022, as part of the Former Sperry Remington sampling event located in Elmira, New York. Eurofins Pittsburgh analyzed the samples for the following analyses:

- Volatile Organic Compounds (VOCs) by United States (US) Environmental Protection Agency (EPA) Methods 5035/8260C
- Semivolatile Organic Compounds (SVOCs) by US EPA Methods 3541/8270D
- Polychlorinated Biphenyls (PCBs) by US EPA Methods 3541/8082A
- Metals by US EPA Methods 3050B/6010C and 3050B/6020B
- Mercury by US EPA Method 7471B
- Solids by Standard Method (SM) 2540G

The data were validated at a US EPA Stage 2A data validation level, based on the pertinent methods referenced by the data package, as well as professional and technical judgment and the following documents:

- US EPA National Functional Guidelines for Organic Superfund Methods Data Review, November 2020 (EPA 540-R-20-005)
- US EPA National Functional Guidelines for Inorganic Superfund Methods Data Review, November 2020 (EPA 540-R-20-006)
- New York State Department of Environmental Conservation DEC Program Policy, DER-10/ Technical Guidance for Site Investigation and Remediation, May 3, 2010
- Quality Assurance Project Plan/Field Sampling Plan (QAPP/FSP), Former Sperry Remington Site – North Portion, 771 South Main Street, City of Elmira, Chemung County, New York, September 2018; updated May 2024 (Agency Review Draft).

The following samples were validated at a Stage 2A level:

Laboratory ID	Client ID
180-140092-1	SSHS-IRM5A2-A3-B621
180-140092-2	SSHS-IRM5A2-A3-B622
180-140092-3	SSHS-IRM5A2-A3-B623
180-140092-4	SSHS-IRM5A2-A3-B624
180-140092-5	SSHS-IRM5A2-A3-B625
180-140092-6	SSHS-IRM5A2-A3-B626
180-140092-7	SSHS-IRM5A2-A3-B627
180-140092-8	SSHS-IRM5A2-A3-B628
180-140092-9	SSHS-IRM5A2-A3-B629
180-140092-10	SSHS-IRM5A2-A3-B630
180-140092-11	SSHS-IRM5A2-A3-B631
180-140092-12	SSHS-IRM5A2-A3-B632
180-140092-13	SSHS-IRM5A2-A3-B633
180-140092-14	SSHS-IRM5A2-A3-B634

Laboratory ID	Client ID
180-140092-15	SSHS-IRM5A2-A3-B635
180-140092-16	SSHS-IRM5A2-A3-B636
180-140092-17	SSHS-IRM5A2-A3-B637
180-140092-18	SSHS-IRM5A2-A3-B638
180-140092-19	SSHS-IRM5A2-A3-B639
180-140092-20	SSHS-IRM5A2-A3-B640
180-140092-21	SSHS-IRM5A2-A3-B641
180-140092-22	SSHS-IRM5A2-A3-B642
180-140092-23	SSHS-IRM5A2-A3-B643
180-140092-24	SSHS-IRM5A2-A3-B644
180-140092-25	SSHS-IRM5A2-A3-B645
180-140092-26	SSHS-IRM5A2-DUP138
180-140092-27	SSHS-IRM5A2-DUP139

The samples were received at the laboratory within the criteria of 0-6.0°C. No sample preservation issues were noted by the laboratory.

The following issues were noted for the chain of custody (COC) forms:

- Collection times for the field duplicate samples were not documented on the COC. The field duplicates were logged in with a collection time of 00:00.
- The relinquished by time was not documented on the COC pages.
- The COC was annotated by the laboratory per the client's request.

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below and based on the information provided, the data as qualified are usable for supporting project objectives, with the following exceptions.

The non-detect results of 2,4-dinitrophenol and 4,6-dinitro-o-cresol in sample SSHS-IRM5A2-A3-B641 were R qualified as rejected due to less than 10% matrix spike/ matrix spike duplicate (MS/MSD) recoveries.

The non-detect results of PCB-1016 and PCB-1260 in sample SSHS-IRM5A2-A3-B641 were R qualified as rejected due to less than 10% MS/MSD recoveries.

The qualified data that was not rejected should be used within the limitations of the qualifications.

The samples were prepared and analyzed within the method specified holding times.

The solids data, used to report the samples on a dry weight basis, were not validated.

The samples were reported to the method detection limits (MDLs). Elevated non-detect results were reported due to the sample dilutions analyzed. The MDLs met the screening criteria listed in Table 1 of the QAPP/FSP.

Results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20%. It was noted that the sample IDs in the EDD included the date of collection in the suffix; this suffix was not listed on the COC. No other discrepancies were identified between the level II report and the EDD.

The results for the laboratory and field QC samples which include method blanks, the trip blank, laboratory control sample/laboratory control sample duplicate (LCS/LCSD) pairs, MS/MSD pairs, laboratory duplicates and surrogates were validated using automation. The data quality exceedances were qualified using automation and in accordance with Table 1 in the project QAPP/FSP. See automated verification log for details on the data quality exceedances. The automation was verified by the data validator in development and inspected periodically for functionality during the data validation. The automated validation qualifiers were reviewed by the data validator. The QC issues listed below were not validated using automation.

1.0 VOLATILE ORGANIC COMPOUNDS

There are no method or validation minimum average RRFs criteria listed for 1,4-dioxane for method 8260C; past validation guidance [National Functional Guidance (NFG), June 2008] had the following acceptance criteria: $RRF \geq 0.0050$ for 1,4-dioxane, ≥ 0.010 for compounds exhibiting poor response and ≥ 0.050 for all other target analytes. The current validation guidance (NFG, January 2020) lists minimum RRFs from 0.01-0.700 for VOCs and 1,4-dioxane is not listed as a VOC. Therefore, based on the review of the documents, when 1,4-dioxane is analyzed as a VOC, the compound will be R qualified if the RRF is < 0.010 , based on professional and technical judgment. The average RRF for 1,4-dioxane in the initial calibration was less than 0.010. Therefore, based on professional and technical judgment and average RRFs less than 0.010, the non-detect results of 1,4-dioxane in the samples were UJ qualified as estimated less than the MDLs

The laboratory narrative indicated that the internal standard (ISTD) response of 1,4-dichlorobenzene-d4 was below criteria for the following sample: SSHS-IRM5A2-A3-B633 (180-140092-13). The sample showed matrix interference in the chromatogram and was, therefore, not re-analyzed. Therefore, the non-detect results associated with the internal standard 1,4-

dichlorobenzene-d4 in sample SSHS-IRM5A2-A3-B633 were UJ qualified as estimated less than the MDLs.

The following continuing calibration verification (CCV) issues were noted in the laboratory narrative:

- The percent differences (%Ds) of 1,2,3-trichlorobenzene (-23.9%), bromoform (-31.4%), chlorobromomethane (-22.0%), chlorodibromomethane (-22.9%), and dichlorodifluoromethane (-24.6%) in the CCV standard in batch 402957 were low and outside the method specified acceptance criteria. Since the %Ds of 1,2,4-trichlorobenzene and isopropylbenzene were within the validation specified acceptance criteria, no qualifications were applied to the data. However, the non-detect results of bromoform, chlorobromomethane and chlorodibromomethane in the associated samples were UJ qualified as estimated less than the MDLs.
- The %Ds of 1,2,3-trichlorobenzene (-21.5%), 2-butanone (-20.4%), 1,4-dioxane (-23.2%), bromoform (-32.0%), bromomethane (-20.3%), and dichlorodifluoromethane (-24.5%) in the CCV in batch 403124 were low and outside the method specified acceptance criteria. Since the %Ds of 1,2,3-trichlorobenzene, 2-butanone, 1,4-dioxane, bromomethane, and dichlorodifluoromethane were within the validation specified acceptance criteria, no qualifications were applied to the data. However, the non-detect results of bromoform in the associated samples were UJ qualified as estimated less than the MDLs

Due to noncalculable relative percent difference (RPD) results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified, as appropriate.

2.0 SEMIVOLATILE ORGANIC COMPOUNDS

Due to noncalculable RPD results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified appropriately.

The following CCV issues were noted in the laboratory narrative:

- The %D of di-n-octyl phthalate (25.1%) in the CCV in batch 403135 was high and outside the method specified acceptance criteria. Since the %D of di-n-octyl phthalate was within the validation specified acceptance criteria, no qualifications were applied to the data.
- The %Ds of 4-nitrophenol (20.8%) and di-n-octyl phthalate (34.4%) in the CCV in batch 403138 were high and outside the method specified acceptance criteria. Since the %Ds of 4-nitrophenol and di-n-octyl phthalate were within the validation specified acceptance criteria, no qualifications were applied to the data.

3.0 POLYCHLORINATED BIPHENYLS

Multiple PCBs that share peaks were detected in the samples; therefore, there is contribution between PCBs when more than one PCB is detected in a sample. These PCBs were J qualified as estimated, based on professional and technical judgment.

Due to noncalculable RPD results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified appropriately.

4.0 METALS

Due to noncalculable RPD results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified appropriately.

5.0 MERCURY

Mercury data were qualified using automation. See verification log for more details.

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ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS
AND INTERPRETATION KEY
Assigned by Geosyntec’s Data Validation Team

DATA QUALIFIER DEFINITIONS

- U The analyte was analyzed for but was not detected above the reported sample quantitation limit. Upon application of the U qualifier to a reported result, the definition changes to “not detected at or above the reported result.”
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The analyte was positively identified; however, the associated numerical value is likely to be higher than the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.
- J- The analyte was positively identified; however, the associated numerical value is likely to be lower than the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Extraction or analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits or RPD outside limits (LCS/LCSD)
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other
14	Lab flag removed: no validation qualification required

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample duplicate

RPD - Relative percent difference

Memorandum

Date: 8 November 2024
To: Aron Krasnopoler
Dave Towsey
From: Matthew Richardson
CC: Kristoffer Henderson
Subject: Eurofins Laboratory Job ID 180-140092-2, Stage 2A Data Validation

This report summarizes the findings of the Stage 2A data validation of six soil samples. The samples were collected on 21 June 2022, as part of the Former Sperry Remington sampling event located in Elmira, New York. Eurofins Sacramento analyzed the samples for the following analysis:

- Per- and Polyfluoroalkyl Substances (PFAS) by United States (US) Environmental Protection Agency (EPA) Modified Method 537

The data were validated at a US EPA Stage 2A data validation level, based on the pertinent methods referenced by the data package, as well as professional and technical judgment and the following documents:

- New York Department of Environmental Conservation (NY DEC), Guidelines for Sampling and Analysis of PFAS Under NYDEC's part 375 Remedial Programs, April 2023
- New York State Department of Environmental Conservation DEC Program Policy, DER-10/ Technical Guidance for Site Investigation and Remediation, May 3, 2010
- Quality Assurance Project Plan/Field Sampling Plan (QAPP/FSP), Former Sperry Remington Site – North Portion, 771 South Main Street, City of Elmira, Chemung County, New York, September 2018; updated May 2024 (Agency Review Draft).

The following samples were validated at a Stage 2A level:

Laboratory ID	Client ID
180-140092-1	SSHS-IRM5A2-A3-B621
180-140092-4	SSHS-IRM5A2-A3-B624
180-140092-9	SSHS-IRM5A2-A3-B629

Laboratory ID	Client ID
180-140092-12	SSHS-IRM5A2-A3-B632
180-140092-19	SSHS-IRM5A2-A3-B639
180-140092-22	SSHS-IRM5A2-A3-B642

The samples were received at the laboratory within the criteria of 0-6.0°C. No sample preservation issues were noted by the laboratory.

The following issues were noted for the chain of custody (COC) forms:

- Collection times for the field duplicate samples were not documented on the COC. The field duplicates were logged in with a collection time of 00:00.
- The relinquished by time was not documented on the COC pages.
- The COC was annotated by the laboratory per the client's request.

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below and based on the information provided, the data are usable for supporting project objectives.

The samples were prepared and analyzed within the method specified holding times.

The samples were reported to the method detection limits (MDLs). Elevated non-detect results were not reported. The MDLs met the screening criteria listed in Table 1 of the QAPP/FSP.

Results and sample IDs in the electronic data deliverable (EDD) were reviewed against the information provided by the associated level II report at a minimum of 20%. It was noted that the sample IDs in the EDD included the date of collection in the suffix; this suffix was not listed on the COC. No other discrepancies were identified between the level II report and the EDD.

The results for the laboratory and field QC samples which include method blanks, the trip blank, laboratory control sample/LCS/LCSD pairs, matrix spike/ matrix spike duplicate (MS/MSD) pairs, laboratory duplicates and surrogates were validated using automation. The data quality exceedances were qualified using automation and in accordance with Table 1 in the project QAPP/FSP. See automated verification log for details on the data quality exceedances. The automation was verified by the data validator in development and inspected periodically for functionality during the data validation. The automated validation qualifiers were reviewed by the data validator. The QC issues listed below were not validated using automation.

1.0 PFAS

The samples were analyzed for PFAS per US EPA Modified Method 537. The following PFAS compounds were reported:

Analyte	Acronym
6:2 Fluorotelomer Sulfonate	6:2 FTS
8:2 Fluorotelomer Sulfonate	8:2 FTS

Analyte	Acronym
N-ethylperfluorooctanesulfonamidoacetic acid	NEtFOSAA
N-methylperfluorooctanesulfonamidoacetic acid	NMeFOSAA
Perfluorobutanesulfonic acid	PFBS
Perfluorobutanoic acid	PFBA
Perfluorodecanesulfonic acid	PFDS
Perfluorodecanoic acid	PFDA
Perfluorododecanoic acid	PFDoA
Perfluoroheptanesulfonic Acid	PFHpS
Perfluoroheptanoic acid	PFHpA
Perfluorohexanesulfonic acid	PFHxS
Perfluorohexanoic acid	PFHxA
Perfluorononanoic acid	PFNA
Perfluorooctanesulfonamide	FOSA
Perfluorooctanesulfonic acid	PFOS
Perfluorooctanoic acid	PFOA
Perfluoropentanoic acid	PFPeA
Perfluorotetradecanoic acid	PFTeA
Perfluorotridecanoic acid	PFTriA
Perfluoroundecanoic acid	PFUnA

The recoveries of M2-6:2 FTS and M2-8:2 FTS in sample SSHS-IRM5A2-A3-B621 were high and outside of the laboratory specified acceptance criteria. Since 6:2 FTS and 8:2 FTS were not detected in sample SSHS-IRM5A2-A3-B621, no qualifications were applied to the data.

The recovery of M2-8:2 FTS in sample SSHS-IRM5A2-A3-B624 was high and outside of the laboratory specified acceptance criteria. Since 8:2 FTS was not detected in sample SSHS-IRM5A2-A3-B624, no qualifications were applied to the data.

* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS
AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

- U The analyte was analyzed for but was not detected above the reported sample quantitation limit. Upon application of the U qualifier to a reported result, the definition changes to “not detected at or above the reported result.”
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The analyte was positively identified; however, the associated numerical value is likely to be higher than the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.
- J- The analyte was positively identified; however, the associated numerical value is likely to be lower than the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Extraction or analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits or RPD outside limits (LCS/LCSD)
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other
14	Lab flag removed: no validation qualification required

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample duplicate

RPD - Relative percent difference

Memorandum

Date: 8 November 2024
To: Aron Krasnopoler
Dave Towsey
From: Matthew Richardson
CC: Kristoffer Henderson
Subject: Eurofins Laboratory Job ID 180-141891-1, Stage 2A Data Validation

This report summarizes the findings of the Stage 2A data validation of twenty-three soil samples and one field duplicate sample. The samples were collected on 25 July 2022, as part of the Former Sperry Remington sampling event located in Elmira, New York. Eurofins Pittsburgh and Eurofins Edison analyzed the samples for the following analyses:

- Volatile Organic Compounds (VOCs) by United States (US) Environmental Protection Agency (EPA) Methods 5035/8260D
- Semivolatile Organic Compounds (SVOCs) by US EPA Methods 3541/8270E
- Polychlorinated Biphenyls (PCBs) by US EPA Methods 3541/8082A
- Metals by US EPA Methods 3050B/6010C
- Mercury by US EPA Method 7471B
- Solids by Standard Method (SM) 2540G

The data were validated at a US EPA Stage 2A data validation level, based on the pertinent methods referenced by the data package, as well as professional and technical judgment and the following documents:

- US EPA National Functional Guidelines for Organic Superfund Methods Data Review, November 2020 (EPA 540-R-20-005)
- US EPA National Functional Guidelines for Inorganic Superfund Methods Data Review, November 2020 (EPA 540-R-20-006)
- New York State Department of Environmental Conservation DEC Program Policy, DER-10/ Technical Guidance for Site Investigation and Remediation, May 3, 2010
- Quality Assurance Project Plan/Field Sampling Plan (QAPP/FSP), Former Sperry Remington Site – North Portion, 771 South Main Street, City of Elmira, Chemung County, New York, September 2018; updated May 2024 (Agency Review Draft).

The following samples were validated at a Stage 2A level:

Laboratory ID	Client ID
180-141891-1	SSHS-IRM5A2-FL-B442-BOT
180-141891-2	SSHS-IRM5A2-FL-B435-BOT
180-141891-3	SSHS-IRM5A2-FL-PIPE17-S1
180-141891-4	SSHS-IRM5A2-FL-PIPE17-S2
180-141891-5	SSHS-IRM5A2-FL-PIPE17-S3
180-141891-6	SSHS-IRM5A2-FL-PIPE17-S4
180-141891-7	SSHS-IRM5A2-FL-PIPE17-S5
180-141891-8	SSHS-IRM5A2-FL-PIPE17-S6
180-141891-9	SSHS-IRM5A2-FL-PIPE17-S7
180-141891-10	SSHS-IRM5A2-FL-PIPE17-S8
180-141891-11	SSHS-IRM5A2-FL-PIPE17-S9
180-141891-12	SSHS-IRM5A2-FL-PIPE17-S10

Laboratory ID	Client ID
180-141891-13	SSHS-IRM5A2-FL-PIPE17-B1
180-141891-14	SSHS-IRM5A2-FL-PIPE17-B2
180-141891-15	SSHS-IRM5A2-DUP175
180-141891-16	SSHS-IRM5A2-FL-S617
180-141891-17	SSHS-IRM5A2-FL-S435
180-141891-18	SSHS-IRM5A2-FL-S436
180-141891-19	SSHS-IRM5A2-FL-S437
180-141891-20	SSHS-IRM5A2-FL-S438
180-141891-21	SSHS-IRM5A2-FL-S439
180-141891-22	SSHS-IRM5A2-FL-S440
180-141891-23	SSHS-IRM5A2-FL-S441
180-141891-24	SSHS-IRM5A2-FL-S442

The samples were received at the laboratory within the criteria of 0-6.0°C. No sample preservation issues were noted by the laboratory.

The following issues were noted for the chain of custody (COC) forms:

- A collection time for the field duplicate sample was not documented on the COC. The field duplicate was logged in with a collection time of 00:00.
- The relinquished by year and time were not documented on the COC pages.
- The COC was annotated by the laboratory per the client's request.

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below and based on the information provided, the data as qualified are usable for supporting project objectives. The qualified data should be used within the limitations of the qualifications.

The samples were prepared and analyzed within the method specified holding times.

The solids data, used to report the samples on a dry weight basis, were not validated.

The samples were reported to the method detection limits (MDLs). Elevated non-detect results were reported due to the sample dilutions analyzed. The MDLs met the screening criteria listed in Table 1 of the QAPP/FSP.

Results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20%. It was noted that the sample IDs in the EDD included the date of collection in the suffix; this suffix was not listed on the COC. No other discrepancies were identified between the level II report and the EDD.

The results for the laboratory and field QC samples which include method blanks, the trip blank, laboratory control sample/laboratory control sample duplicate (LCS/LCSD) pairs, matrix spike/matrix spike duplicate (MS/MSD) pairs, laboratory duplicates and surrogates were validated using automation. The data quality exceedances were qualified using automation and in accordance with Table 1 in the project QAPP/FSP. See automated verification log for details on the data quality exceedances. The automation was verified by the data validator in development and inspected periodically for functionality during the data validation. The automated validation qualifiers were reviewed by the data validator. The QC issues listed below were not validated using automation.

1.0 VOLATILE ORGANIC COMPOUNDS

The laboratory narrative indicated that the internal standard (ISTD) response of 1,4-dioxane-d8 was above criteria for the following sample: SSHS-IRM5A2-FL-PIPE17-S8 (180-141891-10). As the corresponding target analyte, 1,4-Dioxane, was not detected in the sample, the results were reported. No qualifications were applied to the data.

The percent differences (%Ds) of chloromethane (-20.5%), and dichlorodifluoromethane (-26.3%) in the continuing calibration verification (CCV) standard in batch 857829 were low and outside the method specified acceptance criteria. Since the %Ds of 1,2,4-trichlorobenzene and isopropylbenzene were within the validation specified acceptance criteria, no qualifications were applied to the data. However, the non-detect results of bromoform, chlorobromomethane and chlorodibromomethane in the associated samples were UJ qualified as estimated less than the MDLs.

Due to noncalculable relative percent difference (RPD) results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified, as appropriate.

2.0 SEMIVOLATILE ORGANIC COMPOUNDS

The recoveries of base neutral extractable surrogate terphenyl-d14 in samples SSHS-IRM5A2-FL-S436, SSHS-IRM5A2-FL-S438 and SSHS-IRM5A2-FL-S439 were high and outside of the laboratory specified acceptance criteria. Since the recoveries of the remaining base neutral extractable surrogates, 2-fluorobiphenyl and nitrobenzene-d5, in samples SSHS-IRM5A2-FL-S436, SSHS-IRM5A2-FL-S438 and SSHS-IRM5A2-FL-S439 were acceptable, no qualifications were applied to the data.

The recovery of acid extractable 2,4,6-tribromophenol in the method blank in batch 857651 was high and outside of the laboratory specified acceptance criteria. Since the recoveries of the two remaining acid extractable surrogates, 2-fluorophenol and phenol-d5 were acceptable, no qualifications were applied to the data.

The recovery of acid extractable 2,4,6-tribromophenol and the recovery of base neutral extractable surrogate terphenyl-d14 in the LCSD in batch 857651 were high. Both recoveries were outside of the laboratory specified acceptance criteria. Since the associated sample data were assessed based on the LCS/LCSD recoveries and based on professional and technical judgment, no qualifications were applied to the data.

The following CCV issues were noted in the laboratory narrative:

- The %D of benzaldehyde (-29.9%) in the CCV in batch 857798 was low and outside the method specified acceptance criteria. Since the %D of benzaldehyde was within the validation specified acceptance criteria, no qualifications were applied to the data.
- The %Ds of indeno[1,2,3-cd]pyrene (20.6%) and dibenz(a,h)anthracene (21.1%) in the CCV in batch 857798 were high and outside the method specified acceptance criteria. Since the %Ds of indeno[1,2,3-cd]pyrene and dibenz(a,h)anthracene were within the validation specified acceptance criteria, no qualifications were applied to the data.
- The %D of benzaldehyde (-36.2%) in the CCV in batch 857931 was low and outside the method specified acceptance criteria. Since the %D of benzaldehyde was within the validation specified acceptance criteria, no qualifications were applied to the data.
- The %Ds of 2,4-dinitrophenol (30.6%), 4-nitrophenol (26.1%), 2,4-dinitrotoluene (25.7%), and 4,6-dinitro-2-methylphenol (36.0%) in the CCV in batch 857931 were high and outside the method specified acceptance criteria. Since the %Ds of 2,4-dinitrophenol, 4-nitrophenol, 2,4-dinitrotoluene and 4,6-dinitro-2-methylphenol were within the validation specified acceptance criteria, no qualifications were applied to the data.
- The %D of benzaldehyde (-32.5%) in the CCV in batch 857937 was high and outside the method specified acceptance criteria. Since the %D of benzaldehyde was within the validation specified acceptance criteria, no qualifications were applied to the data.

3.0 POLYCHLORINATED BIPHENYLS

The CCV analyzed in batch 180-407249 (CCV 180-407249/1) was above criteria for Aroclor 1254 for 2 peaks on column RTX-CLP2. Associated positive sample results for Aroclor 1254 were reported from column RTX-CLP1 which met criteria or did not have these peaks included in the quantitation of the results. No qualifications were applied to the data.

Multiple PCBs that share peaks were detected in the samples; therefore, there is contribution between PCBs when more than one PCB is detected in a sample. These PCBs were J qualified as estimated, based on professional and technical judgment.

4.0 METALS

Due to noncalculable RPD results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified appropriately.

5.0 MERCURY

No qualifications were applied to the mercury data.

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ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS
AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

- U The analyte was analyzed for but was not detected above the reported sample quantitation limit. Upon application of the U qualifier to a reported result, the definition changes to “not detected at or above the reported result.”
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The analyte was positively identified; however, the associated numerical value is likely to be higher than the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.
- J- The analyte was positively identified; however, the associated numerical value is likely to be lower than the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Extraction or analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits or RPD outside limits (LCS/LCSD)
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other
14	Lab flag removed: no validation qualification required

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample duplicate

RPD - Relative percent difference

Memorandum

Date: 8 November 2024
To: Aron Krasnopoler
Dave Towsey
From: Matthew Richardson
CC: Kristoffer Henderson
Subject: Eurofins Laboratory Job ID 180-141891-2, Stage 2A Data Validation

This report summarizes the findings of the Stage 2A data validation of seven soil samples and one field duplicate sample. The samples were collected on 25 July 2022, as part of the Former Sperry Remington sampling event located in Elmira, New York. Eurofins Sacramento analyzed the samples for the following analysis:

- Per- and Polyfluoroalkyl Substances (PFAS) by United States (US) Environmental Protection Agency (EPA) Modified Method 537

The data were validated at a US EPA Stage 2A data validation level, based on the pertinent methods referenced by the data package, as well as professional and technical judgment and the following documents:

- New York Department of Environmental Conservation (NY DEC), Guidelines for Sampling and Analysis of PFAS Under NYDEC's part 375 Remedial Programs, April 2023
- New York State Department of Environmental Conservation DEC Program Policy, DER-10/ Technical Guidance for Site Investigation and Remediation, May 3, 2010
- Quality Assurance Project Plan/Field Sampling Plan (QAPP/FSP), Former Sperry Remington Site – North Portion, 771 South Main Street, City of Elmira, Chemung County, New York, September 2018; updated May 2024 (Agency Review Draft).

The following samples were validated at a Stage 2A level:

Laboratory ID	Client ID
180-141891-3	SSHS-IRM5A2-FL-PIPE17-S1
180-141891-7	SSHS-IRM5A2-FL-PIPE17-S5
180-141891-11	SSHS-IRM5A2-FL-PIPE17-S9
180-141891-14	SSHS-IRM5A2-FL-PIPE17-B2

Laboratory ID	Client ID
180-141891-15	SSHS-IRM5A2-DUP175
180-141891-17	SSHS-IRM5A2-FL-S435
180-141891-22	SSHS-IRM5A2-FL-S440
180-141891-24	SSHS-IRM5A2-FL-S442

The samples were received at the laboratory within the criteria of 0-6.0°C. No sample preservation issues were noted by the laboratory.

The following issues were noted for the chain of custody (COC) forms:

- A collection time for the field duplicate sample was not documented on the COC. The field duplicate was logged in with a collection time of 00:00.
- The relinquished by year and time were not documented on the COC pages.
- The COC was annotated by the laboratory per the client's request.

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below and based on the information provided, the data as qualified are usable for supporting project objectives. The qualified data should be used within the limitations of the qualifications.

The samples were prepared and analyzed within the method specified holding times.

The samples were reported to the method detection limits (MDLs). Elevated non-detect results were not reported. The MDLs met the screening criteria listed in Table 1 of the QAPP/FSP.

Results and sample IDs in the electronic data deliverable (EDD) were reviewed against the information provided by the associated level II report at a minimum of 20%. It was noted that the sample IDs in the EDD included the date of collection in the suffix; this suffix was not listed on the COC. No other discrepancies were identified between the level II report and the EDD.

The results for the laboratory and field QC samples which include method blanks, the trip blank, laboratory control sample/LCS/LCSD pairs, matrix spike/ matrix spike duplicate (MS/MSD) pairs, laboratory duplicates and surrogates were validated using automation. The data quality exceedances were qualified using automation and in accordance with Table 1 in the project QAPP/FSP. See automated verification log for details on the data quality exceedances. The automation was verified by the data validator in development and inspected periodically for functionality during the data validation. The automated validation qualifiers were reviewed by the data validator. The QC issues listed below were not validated using automation.

1.0 PFAS

The samples were analyzed for PFAS per US EPA Modified Method 537. The following PFAS compounds were reported:

Analyte	Acronym
6:2 Fluorotelomer Sulfonate	6:2 FTS

Analyte	Acronym
8:2 Fluorotelomer Sulfonate	8:2 FTS
N-ethylperfluorooctanesulfonamidoacetic acid	NEtFOSAA
N-methylperfluorooctanesulfonamidoacetic acid	NMeFOSAA
Perfluorobutanesulfonic acid	PFBS
Perfluorobutanoic acid	PFBA
Perfluorodecanesulfonic acid	PFDS
Perfluorodecanoic acid	PFDA
Perfluorododecanoic acid	PFDoA
Perfluoroheptanesulfonic Acid	PFHpS
Perfluoroheptanoic acid	PFHpA
Perfluorohexanesulfonic acid	PFHxS
Perfluorohexanoic acid	PFHxA
Perfluorononanoic acid	PFNA
Perfluorooctanesulfonamide	FOSA
Perfluorooctanesulfonic acid	PFOS
Perfluorooctanoic acid	PFOA
Perfluoropentanoic acid	PFPeA
Perfluorotetradecanoic acid	PFTeA
Perfluorotridecanoic acid	PFTriA
Perfluoroundecanoic acid	PFUnA

Due to noncalculable RPD results between the field duplicate pairs, concentrations and non-detect results were J qualified and UJ qualified appropriately.

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ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS
AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

- U The analyte was analyzed for but was not detected above the reported sample quantitation limit. Upon application of the U qualifier to a reported result, the definition changes to “not detected at or above the reported result.”
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The analyte was positively identified; however, the associated numerical value is likely to be higher than the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.
- J- The analyte was positively identified; however, the associated numerical value is likely to be lower than the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Extraction or analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits or RPD outside limits (LCS/LCSD)
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other
14	Lab flag removed: no validation qualification required

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample duplicate

RPD - Relative percent difference

Memorandum

Date: 1 April 2026
To: Aron Krasnopoler
Dave Towsey
From: Matthew Richardson
CC: Kristoffer Henderson
Subject: Eurofins Pittsburgh Laboratory Job ID 180-202353-1, Stage 2A Data Validation

Four soil samples and one field duplicate were submitted to Eurofins Pittsburgh for analysis. The samples were collected on 2 March 2026 at the Former Sperry Remington site located in Elmira, New York. Eurofins Pittsburgh analyzed the samples for the following analyses:

- Semivolatile Organic Compounds (SVOCs) by United States (US) Environmental Protection Agency (EPA) Methods 3541/8270E
- Polychlorinated Biphenyls (PCBs) by US EPA Methods 3541/8082A
- Percent Solids

Eurofins Lancaster analyzed the samples for the following analyses:

- Volatile Organic Compounds (VOCs) by US EPA Methods 5035/8260D
- Metals by US EPA Methods 3050B/6010D
- Mercury by US EPA Method 7471B

The data were validated at a US EPA Stage 2A data validation level, based on the pertinent methods referenced by the data package, as well as professional and technical judgment and the following documents:

- US EPA National Functional Guidelines for Organic Superfund Methods Data Review, November 2020 (EPA 540-R-20-005)
- US EPA National Functional Guidelines for Inorganic Superfund Methods Data Review, November 2020 (EPA 540-R-20-006)
- New York State Department of Environmental Conservation DEC Program Policy, DER-10/ Technical Guidance for Site Investigation and Remediation, May 3, 2010
- Quality Assurance Project Plan/Field Sampling Plan (QAPP/FSP), Former Sperry Remington Site – North Portion, 771 South Main Street, City of Elmira, Chemung County, New York, September 2018; updated May 2024 (Agency Review Draft).

The following samples were validated at a Stage 2A level:

Laboratory ID	Client ID
180-202353-1	SSHS-IRM5A2-SCV134-0.5-1
180-202353-2	SSHS-IRM5A2-SCV-DUP-02
180-202353-3	SSHS-IRM5A2-SCV135-0-0.17

Laboratory ID	Client ID
180-202353-4	SSHS-IRM5A2-SCV135-0.17-1
180-202353-5	SSHS-IRM5A2-SCV135-0.5-1

The samples were received at the laboratory within the criteria of 0-6.0°C. No sample preservation issues were noted by the laboratory.

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below and based on the information provided, the data are usable for supporting project objectives.

The samples were prepared and analyzed within the method specified holding times.

The solids data, used to report the samples on a dry weight basis, was verified to be analyzed within holding time.

The samples were reported to the method detection limits (MDLs). Elevated non-detect results were not reported. The MDLs met the screening criteria listed in Table 1 of the QAPP/FSP.

Results and sample IDs in the electronic data deliverable (EDD) were reviewed against the information provided by the associated level II report at a minimum of 20%. It was noted that the sample IDs in the EDD included the date of collection in the suffix; this suffix was not listed on the COC. No other discrepancies were identified between the level II report and the EDD.

The results for the laboratory and field QC samples; which include method blanks, the trip blank, laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) pairs, matrix spike/matrix spike duplicate (MS/MSD) pairs, field duplicates, laboratory duplicates, and surrogates; as applicable; were validated using automation. The data quality exceedances were qualified using automation and in accordance with Table 1 in the project QAPP/FSP. See automated verification log for details on the data quality exceedances. The automation was verified by the data validator in development and inspected periodically for functionality during the data validation. The automated validation qualifiers were reviewed by the data validator. The QC issues listed below were not validated using automation.

1.0 VOLATILE ORGANIC COMPOUNDS

The VOCs data were assessed using automated validation. No qualifications were applied to the VOCs data.

2.0 SEMIVOLATILE ORGANIC COMPOUNDS

The SVOCs data were assessed using automated validation. No qualifications were applied to the SVOCs data.

3.0 POLYCHLORINATED BIPHENYLS

The PCBs data were qualified using automated validation and manually reviewed by the data validator. See verification log for more details.

The associated PCB-1260 data were qualified based on the LCS recovery of PCB-1260 in batch 510835. Upon review of the data, the LCS recovery was acceptable and within the QAPP specified acceptance criteria. Based on professional and technical judgment, no qualifications were applied to the data.

4.0 METALS

The metals data were assessed using automated validation. No qualifications were applied to the metals data.

5.0 MERCURY

The mercury data were assessed using automated validation. No qualifications were applied to the mercury data.

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ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS
AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

- U The analyte was analyzed for but was not detected above the reported sample quantitation limit. Upon application of the U qualifier to a reported result, the definition changes to “not detected at or above the reported result.”
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The analyte was positively identified; however, the associated numerical value is likely to be higher than the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.
- J- The analyte was positively identified; however, the associated numerical value is likely to be lower than the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Extraction or analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits or RPD outside limits (LCS/LCSD)
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other
14	Lab flag removed: no validation qualification required

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample duplicate

RPD - Relative percent difference