Appendix E
Data Usability Summary Report

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Data Usability Summary Report (DUSR) 25 Walsh Road, #336077 New Windsor, New York

Data Validation Report Number:	23J1498_DUSR
Data Validation Report Revision Number:	0
Job Number:	23J1498
Sample Collection Date:	10/09/2023
Sample Matrix:	Groundwater
Laboratory Name:	Pace/Con-Test, East Longmeadow, MA
Analyses:	VOCs
Subcontractor Name:	Analytical Quality Associates, Inc.
Data Validator:	Jeanne Peterson
Validation Level:	Category B
Validation Completion Date:	01/10/2024

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INTRODUCTION/OVERALL ASSESSMENT

Category B data validation was performed on the data for eight groundwater samples prepared and analyzed with approved procedures using SW846 method 8260D (volatile organic compounds [VOCs. Data were reported for all requested analytes.

Validation was performed on Revision 0 of the data package. Any items reviewed in subsequent revisions are noted on the validation worksheets.

The analytical data were evaluated in accordance with the New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) (2015), the *Generic Quality Assurance Project Plan for Work Assignments* (August 20198) (project QAPP); and the applicable methods. Laboratory-derived limits were used for LCS, surrogate, and MS/MSD recoveries. ASP limits (or method limits when there were no ASP limits) were used for all other validation elements. Qualifiers were applied in accordance with EPA Region 2 standard operating procedures (SOPs) for data validation.

In general, the analytical results reported in this data package are valid and acceptable as reported with the exception of the data qualified R. *Results qualified R should be considered unusable*. Results qualified J or UJ are usable, with caution, as estimated concentrations. Data validation qualifiers were applied to the data as specified in the Data Qualifiers section below.

See attached data validation spreadsheets for supporting documentation on the data review and validation.

SAMPLE IDENTIFICATION

The samples included in this validation are listed below.

Sample ID	Laboratory ID	Matrix	Analysis	Validation Level
MW-101-BR_10.9.23	23J1498-01	Water	VOCs	Category B
MW-103-BR_10.9.23	23J1498-02	Water	VOCs	Category B
MW-8_10.9.23	23J1498-03	Water	VOCs	Category B
MW-10_10.9.23	23J1498-04	Water	VOCs	Category B
MW-9_10.9.23	23J1498-05	Water	VOCs	Category B
DUP	23J1498-06	Water	VOCs	Category B
MW-100_10.9.23	23J1498-07	Water	VOCs	Category B
Trip Blank	23J1498-08	Water	VOCs	Category B

DATA QUALIFIERS (see following sections for detailed explanations)

Sample ID	Method	Analyte	Qualifier	Reason for Qualification
MW-101-BR_10.9.23	8260D	1,4-Dioxane	*R*	*Low relative response factor*
MW-103-BR_10.9.23	8260D	1,4-Dioxane	*R*	*Low relative response factor*
MW-8_10.9.23	8260D	1,4-Dioxane	*R*	*Low relative response factor*
MW-10_10.9.23	8260D	1,4-Dioxane	*R*	*Low relative response factor*
MW-9_10.9.23	8260D	1,4-Dioxane	*R*	*Low relative response factor*
DUP	8260D	1,4-Dioxane	*R*	*Low relative response factor*
MW-100_10.9.23	8260D	1,4-Dioxane	*R*	*Low relative response factor*
Trip Blank	8260D	1,4-Dioxane	*R*	*Low relative response factor*

DISCUSSION

Sample Shipping/Receiving

All chain of custody (COC), analysis request, and sample receipt documentation was complete and correct with the following exceptions.

The sampler relinquished by time was earlier than some of the collection times on the same day, and there was no indication of where the samples were between the date/time the sampler relinquished the samples and the date/time Pace received the samples.

Shipping and/or carrier documentation was not included in the data package.

Holding Times and Preservation

The samples were properly preserved and analyzed within the specified holding times.

Instrument Tune

All instrument tune requirements were met. It should be noted that the laboratory followed the method and only tuned the instrument prior to the analysis of the initial calibration (ICAL). No sample results were qualified based on professional judgment.

Calibration

All initial and continuing calibration acceptance criteria were met with the following exceptions.

The ICAL and one of the continuing calibration verification (CCV) relative response factors (RRFs) associated with all samples were < the ASP minimum RRF but > the EPA Region II minimum RRF for trichloroethene. A different internal standard was used to calculate the trichloroethene RRFs than specified by ASP. When the specified internal standard was used, the RRFs met the minimum criteria for ASP, method, and EPA Region II with similar results (see attached calculations). Therefore, no sample results were qualified based on professional judgment.

The ICAL, initial calibration verification (ICV), and CCV RRFs associated with both batches were < the acceptance limit for 1,4-dioxane. The associated sample results were non-detects and, therefore, were **qualified R**.

The CCV percent difference associated with batch B354651 was > the upper acceptance limit for bromomethane. The associated sample results were non-detects and, therefore, were not qualified based on professional judgment.

It should be noted that a CCV was not analyzed at the end of the 12-hour sequence. The method only requires a CCV at the beginning of the sequence; therefore, no sample results were qualified based on professional judgment.

Blanks

No target analytes or tentatively identified compounds (TICs) were detected in the method blanks or trip blank.

Surrogates

All surrogate recoveries met QC acceptance criteria.

Internal Standards

All internal standards met QC acceptance criteria.

Laboratory Control Sample (LCS/Laboratory Control Sample Duplicate (LCSD)

The LCS/LCSD analyses met QC acceptance criteria with the following exceptions.

The LCS/LCSD recoveries associated with batch B354651 were > the upper acceptance limit for methyl acetate. The associated sample results were non-detects and, therefore, were not qualified based on professional judgment.

Matrix Spike (MS)/Matrix Spike Duplicate (MSD)

The MS/MSD analyses were performed on designated sample MW-8_10.9.23 and met all QC acceptance criteria.

Laboratory Duplicate

The laboratory duplicate analyses (LCS/LCSDs and MS/MSD) met all QC acceptance criteria.

Field Duplicate

Sample MW-8_10.9.23 (23J1498-03) was collected and analyzed in duplicate (sample DUP [23J1498-06]). The RPDs between the sample and duplicate results are listed in the table below. Analytes not listed were non-detects for both sample and duplicate. Sample results were not qualified for field duplicate outliers.

	MW-8_10.9.23		DUP			
Analyte	**Result**	**RL**	**Result**	**RL**	**RPD**	**>20%/RL**
Tetrachloroethylene	2.3	1	2.3	1	0.0	
Trichloroethylene	0.77	1	0.59	1	*	
cis-1,2-Dichloroethylene	ND	1	0.2	1	**	

*At least one of the results is < the LOQ; the absolute value of the difference between the two results is compared to the RL.

**One result is > the MDL and one result is a non-detect (ND); RPD not evaluated.

Target Compound Identification

All target compound identification criteria were met.

A tentatively identified compound (TIC) was reported at retention time 1.196 for sample MW-101-BR_10.9.23. By definition, TICs are estimated values and do not have associated MDL or RL values; therefore, the result was not removed from the EDD, and the MDL and RL values were not changed.

Reporting Limits (RLs)

All RLs were properly reported. The samples were not diluted.

Other QC

No other specific issues that affect data quality were identified.

DATA VALIDATION QUALIFIER DEFINITIONS

U	=	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	=	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	=	The result is an estimated quantity; however, the result may be biased high.
J-	=	The result is an estimated quantity; however, the result may be biased low.
NJ	=	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ	=	The analyte was not detected but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	=	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.

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Attachment 1

Supporting Documentation

HRP Associates, Inc. NYSDEC ASP Data Validation Summary Worksheet

Job#: 23J1498	Laboratory: Pace/Con-test	Validator: Jeanne Peterson	Validation Start Date: 01/08/2024
Site: 25 Walsh Road #336077	COC#: None (1 page)		Validation Category: ☐ A ☒ B
Matrix: Groundwater	# of Samples: 8	Tracking docs present: See sample receipt and log-in documentation	
COCs present: Yes	COCs signed: Yes	COCs dated: Yes	Sample Container Integrity: OK

Analyses:
☒ VOCs ☐ SVOCs ☐ PAHs ☐ GRO ☐ DRO ☐ Pests ☐ PCBs ☐ Herbs ☐ Metals ☐ Mercury ☐ Gen Chem ☐ Rad
☐ Other:

Requested Analyses Not Reported

Client Sample ID	Lab Sample ID	Analysis	Comments
None			

Hold Time/Preservation Outliers

Client Sample ID	Lab Sample ID	Analysis	Pres.	Collection Date	Preparation Date	Analysis Date	Preparation >HT	Analysis >HT
None								

Comments: Samples collected 10/09/2023; no shipping documents in data package.

Sampler relinquished by date/time is earlier than some collection date/times; no indication of where samples were between sampler relinquishing and Pace receiving (i.e., not carrier info).

Cooler temp OK and documented on sample receiving checklist.

Validation performed on Rev 0 unless otherwise specified.

Revised 08/2021

HRP Associates, Inc. NYSDEC ASP GCMS Worksheet (VOCs)

Job#: 23J1498	Method: 8260D	Matrix: Groundwater	Lab Sample IDs: 23J1498-01 thru -08
Batch #s: B354651, B355104			

Tuning: ☒ Pass ☐ Fail TICs Required? ☒ Yes ☐ No *(lab-derived limits)* *ASP limits*

Analyte (outliers)	Calibration *(ASP Table 10 limits[1])*				Method Blank *<CRQL[2]*	5X Method Blank	LCS %R	LCSD %R	LCS/D RPD[1]	MS %R	MSD %R	MS/D RPD[1]	TB	
	RF	RSD/r[2]	ICV %D	CCV %D										
B354651										*-03*	*-03*	*-03*	*-08*	
1,4-Dioxane (ICAL 0.00473)	0.00399	✓	✓	✓	✓	NA	✓	✓	✓	✓	✓	✓	✓	
Trichloroethene	0.2768*	✓	✓	✓	✓	NA	✓	✓	✓	✓	✓	✓	✓	
Bromomethane	✓	✓	✓	26.3	✓	NA	✓	✓	✓	✓	✓	✓	✓	
Methyl acetate	✓	✓	✓	✓	✓	NA	134	138	✓	✓	✓	✓	✓	
B355104														
1,4-Dioxane (ICAL 0.00473)	0.00381	✓	✓	✓	✓	NA	✓	✓	✓	NA	NA	NA	NA	
Trichloroethene	0.2768*	✓	✓	✓	✓	NA	✓	✓	✓	NA	NA	NA	NA	

Surrogate Recovery Outliers *(lab-derived limits)*

Sample ID	DBFM	1,2-DCA-d4	Tol-d8	4-BFB	Sample ID	DBFM	1,2-DCA-d4	Tol-d8	4-BFB
None									

IS Outliers *(-50% to +100% and within ±30s of ICAL midpoint or associated CCV)*

Sample ID	FB	RT	CBNZ-d5	RT	DCB-d4	RT	Sample ID	FB	RT	CBNZ-d5	RT	DCB-d4	RT
None													

HTs OK; TB pH <2 (12d HT); OK; samples flagged for lab QC limits, not ASP limits
B354651: MB1, BS1/BSD1, -02, -03, -03 MS2/MS2, -04 thru -08
B355104: MB1, BS1/BSD1, -01
ICAL: 2200537 GCMSVOA.3 08/08/2022; all avg RRFs; ICAL and ICV OK
No dilutions.
**TCE RRFs based on a different IS than ASP specified; if same IS used, RRF would be ≥0.300; no data qualified based on professional judgment.*
Tune limits differ from ASP limits; however, lab limits are tighter; ASP requires every 12 hours; method requires prior to ICAL; lab followed method.
CCV analyzed only at the beginning of 12 hours per method.
Field dup parent: MW8-10.9.23

[1]If no limits in ASP, use method limits then lab-derived limits; [2]<2.5X CRQL for MeCl2 and cyclohexane and <5X CRQL for acetone and 2-butanone Revised 08/2021
NOTE: ASP tables are found in ASP Exhibit E.

Method 8260 Water Calculations for SDG 23J1498

Calibration: 2200537 GCMSVOA3 08/08/2022

Average RF **Int. Std. =** 30 51 51

				Trichloroethene		Trichloroethene			
Conc.	**1,4-F2Benzene**	**ClBenzene-d5**		**Area**	**RRF**	**Area**	**RRF**	**Area**	**RRF**
0.4	289669	141710		909	0.23535	909	0.48109		
0.5	284959	139363		1003	0.21119	1003	0.43182		
1	284819	138767		2543	0.26785	2543	0.54977		
2	281380	138580		5306	0.28286	5306	0.57433		
5	289602	143879		13016	0.26967	13016	0.54279		
10	287477	141910		27825	0.29037	27825	0.58822		
20	287993	143489		57026	0.29702	57026	0.59614		
50	294674	144633		150056	0.30554	150056	0.62250		
100	305879	150654		305614	0.29974	305614	0.60857		
200	306522	155515		630974	0.309	630974	0.60860		
Avg RRF				0.27684		0.56038			
RSD				11.5224		10.9667			

	ICV 08/08/2022 17:12		**CCV 10/13/2023 22:23**		**CCV 10/16/2023 20:39**	
	TCE	**TCE**	**TCE**	**TCE**	**TCE**	**TCE**
Internal Standard	**1,4-F2Benzene**	**ClBenzene-d5**	**1,4-F2Benzene**	**ClBenzene-d5**	**1,4-F2Benzene**	**ClBenzene-d5**
Int. Std. Response	281536	138214	268926	138118	336481	163308
Analyte Response	28612	28612	26969	26969	30901	30901
Analyte Concentration	10	10	10	10	10	10
Int. Std. Concentration	30	30	30	30	30	30
CCRF	0.30488	0.62104	0.30085	0.58578	0.27551	0.56766
Ave RF	0.27684	0.56038	0.27684	0.56038	0.27684	0.56038
CCV %D	10.1319	10.8237	8.6753	4.5325	-0.4799	1.2982