

This review was performed with guidance from the National Functional Guidelines for Organic Superfund Methods Data Review (US EPA, 2020, US EPA) and/or the National Functional Guidelines for Inorganic Superfund Methods Data Review (US EPA, 2020, US EPA). These validation guidance documents specifically address analyses performed in accordance with the CLP analytical methods and are not completely applicable to the type of analyses and analytical protocols performed for the Standard Method (SM), SW-846, and/or US EPA methods utilized by the laboratory for these samples. Environmental Standards, Inc. (Environmental Standards) used professional judgment to determine the quality of the analytical results and compliance relative to the Standard Method (SM), SW-846, and/or US EPA utilized by the laboratory. This QA review was performed on the data associated with Sample Delivery Group (SDG):

E5E0376

The findings offered in this report are based on a review of the Chain-of-Custody Record and Case Narrative, sample preservation and condition upon laboratory receipt, holding times, surrogate recovery, field and laboratory blank results, laboratory and field duplicate precision, laboratory control sample / laboratory control sample duplicate recoveries and precision, matrix spike / matrix spike duplicate recoveries and precision, total and dissolved results comparisons, and/or percent solids (as applicable). All review items may not have been included in this SDG; therefore, only those items included in this SDG were addressed in the QA review.

A summary of the results of the data review process is provided below:

Sample	Sample Type	Method	Analyte	T/D	Result	Qual	Reason Code(s)	MDL	QL	Unit	Detect?
GACO0509T110S001	N	CALC	Sodium Absorption Ratio (SAR)	N	0.265	J	CR	0.0100	0.0100	None	Y
GACO0509T110S001	N	SW7199	Chromium VI (hexavalent)	N		R	HT	0.248	0.248	mg/Kg	N

Data Qualifiers

U	The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate, or was observed in a blank at a similar level.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
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, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Reason Codes and Explanations

BF	Contamination present in a field blank (e.g ., Field Blank, Equipment Blank, etc .); evaluation criteria exceeded
BL	Contamination present in a laboratory blank (e.g ., Method Blank, Instrument Blank, etc .); evaluation criteria exceeded
BT	Contamination present in the Trip Blank; evaluation criteria exceeded
CC	Possible contamination due to carryover from a previous sample
CR	Calculated result in which one or more of the components has been qualified
CRQ	Calculated result flagged due to reporting protocol
CT	Cooler temperature criteria not met
CY	Chemical Yield recovery criteria not met
EC	Result exceeds the calibration range; potential bias indeterminate
FD	Field duplicate imprecision; potential bias indeterminate
GH	Headspace present in the gamma spectrometer sample analysis vessel; potential bias indeterminate
GS	Low sample density in the gamma spectrometer sample analysis vessel; potential bias indeterminate
HT	Holding time exceeded
HV	Headspace present in volatile vials
IN	Interference (e.g ., laboratory, chemical, chromatographic/instrumental, and/or matrix) present in the analysis
LC	Laboratory control sample/laboratory control sample duplicate recovery criteria not met
LCP	Laboratory control sample/laboratory control sample duplicate precision criteria not met; potential bias indeterminate

LD	Laboratory duplicate precision criteria not met; potential bias indeterminate
MDP	Laboratory deviated from the method for a method-defined parameter, based on regulatory requirements
MS	Matrix spike/matrix spike duplicate recovery criteria not met
MSP	Matrix spike/matrix spike duplicate precision criteria not met; potential bias indeterminate
PD	Post-digestion spike recovery criteria not met
OT	Other deficiencies, see report for additional details
PS	Low percent solids; potential bias indeterminate
RA	Replicate/multiple analyses criteria not met; potential bias indeterminate
RL	The analysis meets all qualitative identification criteria, but the measured concentration is between the method detection limit and the quantitation or reporting limit; potential bias indeterminate
RS	Reporting limit standard(s) outside of acceptance limits
SC	Relative percent difference between two columns exceeds criteria; potential bias indeterminate
SP	Sample preservation criteria not met
SR	Surrogate recovery criteria not met
ST	Sample container type incorrect
SU	Sample result is less than the two-sigma uncertainty
SUN	Absolute value of the negative sample result is greater than the two-sigma uncertainty
SW	Sample switch suspected
TD	Result for dissolved constituent significantly exceeded result for total constituent; potential bias indeterminate
TIC	Tentatively identified compound, quantified using an assumed calibration factor; potential bias indeterminate

Lab Sample ID	E5E0376-01
Sys Sample Code	GACO0509T110S001
Sample Name	GACO0509T110S001
Sample Date	5/9/2025 11:15:00 AM
Sample Type	N
Matrix	SO
Parent Sample	
% Moisture	0

Analytic Method	Chemical Name	CAS Rn	Fraction	Test Type	Result Unit	Final Result	Final Qual	Reason code	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Sodium Absorption Ratio (SAR)	SAR	N	INITIAL	None	0.265	J	CR	0.0100	0.0100	0.0100	Y	Yes	1	NA
SW6010	Boron	7440-42-8	T	INITIAL	mg/L	0.782			0.100	0.100	0.100	Y	Yes	1	NA
	Calcium	7440-70-2	N	REANALYSIS	meq/L	1.89			0.499	0.499	0.499	Y	Yes	10	NA
	Magnesium	7439-95-4	N	REANALYSIS	meq/L		U		0.823	0.823	0.823	N	Yes	10	NA
	Sodium	7440-23-5	N	REANALYSIS	meq/L		U		0.435	0.435	0.435	N	Yes	10	NA
SW6020	Arsenic	7440-38-2	T	INITIAL	mg/Kg	6.11			0.248	0.248	0.248	Y	Yes	10	WET
	Barium	7440-39-3	T	INITIAL	mg/Kg	110			70.0	70.0	70.0	Y	Yes	10	WET
	Cadmium	7440-43-9	T	INITIAL	mg/Kg		U		0.324	0.324	0.324	N	Yes	10	WET
	Copper	7440-50-8	T	INITIAL	mg/Kg		U		39.3	39.3	39.3	N	Yes	10	WET
	Lead	7439-92-1	T	INITIAL	mg/Kg		U		12.0	12.0	12.0	N	Yes	10	WET
	Nickel	7440-02-0	T	INITIAL	mg/Kg		U		22.2	22.2	22.2	N	Yes	10	WET
	Selenium	7782-49-2	T	INITIAL	mg/Kg	0.380			0.222	0.222	0.222	Y	Yes	10	WET
	Silver	7440-22-4	T	INITIAL	mg/Kg		U		0.683	0.683	0.683	N	Yes	10	WET
	Zinc	7440-66-6	T	INITIAL	mg/Kg		U		316	316	316	N	Yes	10	WET
SW7199	Chromium VI (hexavalent)	18540-29-9	N	INITIAL	mg/Kg		R	HT	0.248	0.248	0.248	N	Yes	1	WET
SW8015	Diesel (C10-C28)	DROC10C28	N	INITIAL	mg/Kg		U		25.0	25.0	25.0	N	Yes	1	WET
	Residual Range Organics (C28-C40)	OROC28C40	N	INITIAL	mg/Kg		U		100	100	100	N	Yes	1	WET
SW8260	1,2,4-Trimethylbenzene	95-63-6	N	INITIAL	mg/Kg		U		0.00200	0.00200	0.00200	N	Yes	1	WET
	1,3,5-Trimethylbenzene	108-67-8	N	INITIAL	mg/Kg		U		0.00200	0.00200	0.00200	N	Yes	1	WET
	Benzene	71-43-2	N	INITIAL	mg/Kg		U		0.00200	0.00200	0.00200	N	Yes	1	WET
	ETHYL BENZENE	100-41-4	N	INITIAL	mg/Kg		U		0.00200	0.00200	0.00200	N	Yes	1	WET
	GASOLINE RANGE HYDROCARBONS	8006-61-9	N	INITIAL	mg/Kg		U		0.200	0.200	0.200	N	Yes	1	WET
	TOLUENE	108-88-3	N	INITIAL	mg/Kg		U		0.00200	0.00200	0.00200	N	Yes	1	WET
	Xylenes	1330-20-7	N	INITIAL	mg/Kg		U		0.00200	0.00200	0.00200	N	Yes	1	WET
SW8270	1-Methylnaphthalene	90-12-0	N	INITIAL	mg/Kg		U		0.002	0.002	0.002	N	Yes	1	WET
	2-Methylnaphthalene	91-57-6	N	INITIAL	mg/Kg		U		0.002	0.002	0.002	N	Yes	1	WET
	Acenaphthene	83-32-9	N	INITIAL	mg/Kg		U		0.020	0.020	0.020	N	Yes	1	WET
	Anthracene	120-12-7	N	INITIAL	mg/Kg		U		0.020	0.020	0.020	N	Yes	1	WET
	benzo(a)anthracene	56-55-3	N	INITIAL	mg/Kg		U		0.005	0.005	0.005	N	Yes	1	WET
	Benzo(a)pyrene	50-32-8	N	INITIAL	mg/Kg		U		0.020	0.020	0.020	N	Yes	1	WET
	Benzo(b)fluoranthene	205-99-2	N	INITIAL	mg/Kg		U		0.020	0.020	0.020	N	Yes	1	WET

Lab Sample ID	E5E0376-01
Sys Sample Code	GACO0509T110S001
Sample Name	GACO0509T110S001
Sample Date	5/9/2025 11:15:00 AM
Sample Type	N
Matrix	SO
Parent Sample	
% Moisture	0

Analytic Method	Chemical Name	CAS Rn	Fraction	Test Type	Result Unit	Final Result	Final Qual	Reason code	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW8270	Benzo(k)fluoranthene	207-08-9	N	INITIAL	mg/Kg		U		0.020	0.020	0.020	N	Yes	1	WET
	Chrysene	218-01-9	N	INITIAL	mg/Kg		U		0.020	0.020	0.020	N	Yes	1	WET
	Dibenz(a,h)anthracene	53-70-3	N	INITIAL	mg/Kg		U		0.020	0.020	0.020	N	Yes	1	WET
	Fluoranthene	206-44-0	N	INITIAL	mg/Kg	0.033			0.020	0.020	0.020	Y	Yes	1	WET
	Fluorene	86-73-7	N	INITIAL	mg/Kg		U		0.020	0.020	0.020	N	Yes	1	WET
	Indeno(1,2,3-cd)pyrene	193-39-5	N	INITIAL	mg/Kg		U		0.020	0.020	0.020	N	Yes	1	WET
	Naphthalene	91-20-3	N	INITIAL	mg/Kg		U		0.002	0.002	0.002	N	Yes	1	WET
	Pyrene	129-00-0	N	INITIAL	mg/Kg	0.022			0.020	0.020	0.020	Y	Yes	1	WET
SW9045	pH	10-29-7	N	INITIAL	SU	8.26						Y	Yes	1	NA
SW9050	CONDUCTIVITY	10-34-4	N	INITIAL	mmhos/cm	0.353			0.00500	0.00500	0.00500	Y	Yes	1	NA

Lab Sample ID	E5E0376-02
Sys Sample Code	GACO0509T110T002
Sample Name	GACO0509T110T002
Sample Date	5/9/2025 7:00:00 AM
Sample Type	TB
Matrix	WQ
Parent Sample	
% Moisture	

Analytic Method	Chemical Name	CAS Rn	Fraction	Test Type	Result Unit	Final Result	Final Qual	Reason code	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW8260	1,1,1,2-Tetrachloroethane	630-20-6	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	1,1,1-Trichloroethane	71-55-6	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	1,1,2,2-Tetrachloroethane	79-34-5	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	1,1,2-Trichloroethane	79-00-5	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	1,1-Dichloroethane	75-34-3	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	1,1-Dichloroethene	75-35-4	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	1,1-Dichloropropene	563-58-6	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	1,2,3-Trichlorobenzene	87-61-6	N	INITIAL	ug/L		U		5.00	5.00	5.00	N	Yes	1	NA
	1,2,3-Trichloropropane	96-18-4	N	INITIAL	ug/L		U		5.00	5.00	5.00	N	Yes	1	NA
	1,2,4-Trichlorobenzene	120-82-1	N	INITIAL	ug/L		U		5.00	5.00	5.00	N	Yes	1	NA
	1,2,4-Trimethylbenzene	95-63-6	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	1,2-Dibromo-3-chloropropane	96-12-8	N	INITIAL	ug/L		U		5.00	5.00	5.00	N	Yes	1	NA
	1,2-Dibromoethane	106-93-4	N	INITIAL	ug/L		U		1.50	1.50	1.50	N	Yes	1	NA
	1,2-Dichlorobenzene	95-50-1	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	1,2-Dichloroethane	107-06-2	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	1,2-Dichloropropane	78-87-5	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	1,3,5-Trimethylbenzene	108-67-8	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	1,3-Dichlorobenzene	541-73-1	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	1,3-Dichloropropane	142-28-9	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	1,4-Dichlorobenzene	106-46-7	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	2,2-Dichloropropane	594-20-7	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	2-Butanone	78-93-3	N	INITIAL	ug/L		U		5.00	5.00	5.00	N	Yes	1	NA
	2-Chlorotoluene	95-49-8	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	2-Hexanone	591-78-6	N	INITIAL	ug/L		U		6.00	6.00	6.00	N	Yes	1	NA
	4-Chlorotoluene	106-43-4	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	4-isopropyltoluene	99-87-6	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	4-Methyl-2-pentanone	108-10-1	N	INITIAL	ug/L		U		5.00	5.00	5.00	N	Yes	1	NA
	Acetone	67-64-1	N	INITIAL	ug/L		U		8.00	8.00	8.00	N	Yes	1	NA
	Benzene	71-43-2	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	Bromobenzene	108-86-1	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	Bromochloromethane	74-97-5	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	Bromodichloromethane	75-27-4	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	Bromoform	75-25-2	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA

Lab Sample ID	E5E0376-02
Sys Sample Code	GACO0509T110T002
Sample Name	GACO0509T110T002
Sample Date	5/9/2025 7:00:00 AM
Sample Type	TB
Matrix	WQ
Parent Sample	
% Moisture	

Analytic Method	Chemical Name	CAS Rn	Fraction	Test Type	Result Unit	Final Result	Final Qual	Reason code	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW8260	Bromomethane	74-83-9	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	Carbon disulfide	75-15-0	N	INITIAL	ug/L		U		5.00	5.00	5.00	N	Yes	1	NA
	Carbon tetrachloride	56-23-5	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	Chlorobenzene	108-90-7	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	Chloroethane	75-00-3	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	Chloroform	67-66-3	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	Chloromethane	74-87-3	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	cis-1,2-Dichloroethene	156-59-2	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	cis-1,3-Dichloropropene	10061-01-5	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	Dibromochloromethane	124-48-1	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	Dibromomethane	74-95-3	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	ETHYL BENZENE	100-41-4	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	Hexachlorobutadiene	87-68-3	N	INITIAL	ug/L		U		5.00	5.00	5.00	N	Yes	1	NA
	Iodomethane	74-88-4	N	INITIAL	ug/L		U		10.0	10.0	10.0	N	Yes	1	NA
	Isopropylbenzene	98-82-8	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	Methyl tert-butyl ether	1634-04-4	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	Methylene chloride	75-09-2	N	INITIAL	ug/L		U		15.0	15.0	15.0	N	Yes	1	NA
	Naphthalene	91-20-3	N	INITIAL	ug/L		U		4.00	4.00	4.00	N	Yes	1	NA
	n-Butylbenzene	104-51-8	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	n-Propylbenzene	103-65-1	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	o-Xylene	95-47-6	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	sec-Butylbenzene	135-98-8	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	Styrene	100-42-5	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	tert-Butylbenzene	98-06-6	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	Tetrachloroethene	127-18-4	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	TOLUENE	108-88-3	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	trans-1,2-Dichloroethene	156-60-5	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	trans-1,3-Dichloropropene	10061-02-6	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	Trichloroethene	79-01-6	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	Trichlorofluoromethane	75-69-4	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	Vinyl chloride	75-01-4	N	INITIAL	ug/L		U		1.00	1.00	1.00	N	Yes	1	NA
	XYLENE, P-, M-	179601-23-1	N	INITIAL	ug/L		U		2.00	2.00	2.00	N	Yes	1	NA