Stage 2A Review
Data Quality Control (QC)

Site: PHSS-SIB PDI	SDG #: Case 22J0169
Laboratory: ARI	Date: 8/01/2023
HydroGeoLogic, Inc. Reviewer: Deanna Valdebenito Peer Reviewer: Ken Rapuano (8.7.23)	Project: DT2002

Client Sample ID	Laboratory Sample ID	Analyses	Matrix
SIB-104-MLW-0-1-10062022	22J0169-01	PCB Aroclors and Total Metals	Solid
SIB-104-OHW-0-1-10062022	22J0169-02	PCB Aroclors and Total Metals	Solid
SIB-104-TOB-0-1-10062022	22J0169-03	PCB Aroclors and Total Metals	Solid
SIB-103-MLW-0-1-10062022	22J0169-05	PCB Aroclors and Total Metals	Solid
SIB-103-OHW-0-1-10062022	22J0169-06	PCB Aroclors and Total Metals	Solid
SIB-103-TOB-0-1-10062022	22J0169-07	PCB Aroclors and Total Metals	Solid
SIB-102-TOB-0-1-10062022	22J0169-09	PCB Aroclors and Total Metals	Solid
SIB-102-OHW-0-1-10062022	22J0169-12	PCB Aroclors and Total Metals	Solid
SIB-102-MLW-0-1-10062022	22J0169-15	PCB Aroclors and Total Metals	Solid
SIB-101-TOB-0-1-10062022	22J0169-17	PCB Aroclors and Total Metals	Solid
SIB-101-OHW-0-1-10062022	22J0169-19	PCB Aroclors and Total Metals	Solid
SIB-101-MLW-0-1-10062022	22J0169-22	PCB Aroclors and Total Metals	Solid
SIB-100-MLW-0-1-10062022	22J0169-23	PCB Aroclors and Total Metals	Solid
SIB-100-OHW-0-1-10062022	22J0169-24	PCB Aroclors and Total Metals	Solid
SIB-100-TOB-0-1-10062022	22J0169-27	PCB Aroclors and Total Metals	Solid
SIB-099-MLW-0-1-10072022	22J0169-30	PCB Aroclors and Total Metals	Solid
SIB-099-OHW-0-1-10072022	22J0169-31	PCB Aroclors and Total Metals	Solid
SIB-099-TOB-0-1-10072022	22J0169-33	PCB Aroclors and Total Metals	Solid
SIB-098-OHW-0-1-10072022	22J0169-36	PCB Aroclors and Total Metals	Solid
SIB-098-TOB-0-1-10072022	22J0169-39	PCB Aroclors and Total Metals	Solid
SIB-098-MLW-0-1-10072022	22J0169-42	PCB Aroclors and Total Metals	Solid
SIB-097-MLW-0-1-10072022	22J0169-43	PCB Aroclors and Total Metals	Solid
SIB-097-OHW-0-1-10072022	22J0169-44	PCB Aroclors and Total Metals	Solid
SIB-097-TOB-0-1-10072022	22J0169-46	PCB Aroclors and Total Metals	Solid
SIB-096-MLW-0-1-10072022	22J0169-48	PCB Aroclors and Total Metals	Solid
SIB-096-OHW-0-1-10072022	22J0169-49	PCB Aroclors and Total Metals	Solid
SIB-096-TOB-0-1-10072022	22J0169-51	PCB Aroclors and Total Metals	Solid
SIB-095-MLW-0-1-10072022	22J0169-52	PCB Aroclors and Total Metals	Solid
SIB-095-OHW-0-1-10072022	22J0169-53	PCB Aroclors and Total Metals	Solid
SIB-095-TOB-0-1-10072022	22J0169-54	PCB Aroclors and Total Metals	Solid
FD03-10072022	22J0169-57	PCB Aroclors and Total Metals	Solid
SIB-094-MLW-0-1-10072022	22J0169-58	PCB Aroclors and Total Metals	Solid
SIB-094-OHW-0-1-10072022	22J0169-59	PCB Aroclors and Total Metals	Solid

Client Sample ID	Laboratory Sample ID	Analyses	Matrix
SIB-094-TOB-0-1-10072022	22J0169-60	PCB Aroclors and Total Metals	Solid
SIB-093-MLW-0-1-10072022	22J0169-63	PCB Aroclors and Total Metals	Solid
SIB-093-OHW-0-1-10072022	22J0169-64	PCB Aroclors and Total Metals	Solid
SIB-093-TOB-0-1-10072022	22J0169-67	PCB Aroclors and Total Metals	Solid
SIB-092-MLW-0-1-10102022	22J0169-71	PCB Aroclors and Total Metals	Solid
SIB-092-OHW-0-1-10102022	22J0169-73	PCB Aroclors and Total Metals	Solid
SIB-092-TOB-0-1-10102022	22J0169-74	PCB Aroclors and Total Metals	Solid
SIB-091-MLW-0-1-10102022	22J0169-76	PCB Aroclors and Total Metals	Solid
SIB-091-OHW-0-1-10102022	22J0169-78	PCB Aroclors and Total Metals	Solid
SIB-091-TOB-0-1-10102022	22J0169-79	PCB Aroclors and Total Metals	Solid
SIB-090-MLW-0-1-10102022	22J0169-82	PCB Aroclors and Total Metals	Solid
SIB-090-OHW-0-1-10102022	22J0169-84	PCB Aroclors and Total Metals	Solid
SIB-090-TOB-0-1-10102022	22J0169-86	PCB Aroclors and Total Metals	Solid
SIB-089-MLW-0-1-10102022	22J0169-88	PCB Aroclors and Total Metals	Solid
SIB-089-OHW-0-1-10102022	22J0169-90	PCB Aroclors and Total Metals	Solid
SIB-089-TOB-0-1-10102022	22J0169-92	PCB Aroclors and Total Metals	Solid
SIB-088-MLW-0-1-10102022	22J0169-93	PCB Aroclors and Total Metals	Solid
SIB-088-OHW-0-1-10102022	22J0169-95	PCB Aroclors and Total Metals	Solid
SIB-088-TOB-0-1-10102022	22J0169-97	PCB Aroclors and Total Metals	Solid
SIB-087-MLW-0-1-10102022	22J0169-98	PCB Aroclors and Total Metals	Solid

The following Stage 2A review was performed on the requested analyses. No results were rejected, and analytical completeness is 100%.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. The initial and continuing calibrations were within method requirements except for CCV4 which is high for Aroclor 1260 on one column. The data is reported from the column in control for SKK0278. All this has been noted but falls outside of a 2A validation.

Qualification: None required.

Sample Delivery and Condition – All samples arrived intact at the laboratory in acceptable condition and temperature and were properly preserved.

Qualification: None required.

Holding Times – All samples were prepared and analyzed within their required holding times. The narrative noted that mercury samples were frozen to extend holding times; this is in accordance with the QAPP archiving protocols.

Qualification: None required.

Method Blanks – All method blanks were free from contamination except for the method blank for batch BLA0297 which had copper contamination at 0.22 mg/kg, leading to a qualification level of 1.1 mg/kg. All copper results are > the qualification level and no qualification is required.

Qualification: None required.

Rinsate Blanks – Equipment rinse blanks EB01-10052022 (results reported in SDG 22J0175) and EB02-10102022 (results reported in SDG 22J0175) are associated with all sample results reported in this SDG. The rinse blank EB01-10052022 was contaminated with a low level of chromium; chromium is not a target analyte for riverbank soil samples and no qualification is required.

Qualification: None required.

Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) – All LCS/LCSD %Rs and RPDs were within QAPP control limits. A standard reference material was also reported for each PCB, metals, and mercury preparation batch; the SRM %Rs met the control limits.

Qualification: None required.

Surrogates – Samples SIB-101-TOB-0-1-10062022, SIB-090-OHW-0-1-10102022, SIB-089-OHW-0-1-10102022, and SIB-088-OHW-0-1-10102022 had a high %R for surrogates Decachlorobiphenyl and Decachlorobiphenyl [2C]. Samples SIB-096-OHW-0-1-10072022, and SIB-094-TOB-0-1-10072022 had a high %R for surrogate Decachlorobiphenyl [2C]. Sample SIB-095-MLW-0-1-10072022 had a high %R for all the surrogates. The detected Aroclor results for these samples should be qualified J with reason code SSH and non-detections should not be qualified. Sample SIB-088-MLW-0-1-10102022 had extremely low %Rs (<10%) for surrogates Tetrachlorometaxylene and Tetrachlorometaxylene[2C]; all Aroclor results for this sample are non-detections and should be qualified R-SSLX. The surrogate %R discrepancies for samples SIB094-OHW-0-1-10072022 and SIB-090-TOB-0-1-10102022 were a single discrepancy out of the four reported %Rs and were above the upper control limit by less than 20%. In accordance with the HGL consistency memorandum, no qualification is required.

Qualification: All detected Aroclor results for samples SIB-101-TOB-0-1-10062022, SIB-090-OHW-0-1-10102022, SIB-089-OHW-0-1-10102022, SIB-088-OHW-0-1-10102022, and SIB-095-MLW-0-1-10072022 and the detected Aroclor results reported from Column 2 for samples SIB-096-OHW-0-1-10072022, SIB-094-TOB-0-1-10072022 are qualified J with reason code SSH. For sample SIB-088-MLW-0-1-10102022, all analytes are non-detections and are qualified R with reason code SSLX.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) – An MS/MSD was performed on samples SIB-102-OHW-0-1-10062022 and SIB-095-OHW-0-1-10072022 (Method 8082A and metals). Sample SIB-095-OHW-0-1-10072022 (Method 6020B UCT-KED) had a high return for %R for Copper for batch BLA0248. All samples in that batch should have detections be qualified J and non-detections should not be qualified for copper.

Qualification: For batch BLA0248 samples FD03-10072022, SIB-091-MLW-0-1-10102022, SIB-091-OHW-0-1-10102022, SIB-091-TOB-0-1-10102022, SIB-092-MLW-0-1-10102022, SIB-092-OHW-0-1-10102022, SIB-092-TOB-0-1-10102022, SIB-093-MLW-0-1-10072022, SIB-093-OHW-0-1-10072022, SIB-093-TOB-0-1-10072022, SIB-094-MLW-0-1-10072022, SIB-094-OHW-0-1-10072022, SIB-094-TOB-0-1-10072022, SIB-095-MLW-0-1-10072022, SIB-095-OHW-0-1-10072022, SIB-095-TOB-0-1-10072022, SIB-096-MLW-0-1-10072022, SIB-096-OHW-0-1-10072022, SIB-096-TOB-0-1-10072022 and SIB-097-TOB-0-1-10072022 are qualified J for analyte Copper, reason code MSH.

Field Duplicate – Sample FD03-10072022 is a field duplicate of sample SIB-095-TOB-0-1-10072022. The duplicate pair met the acceptance criteria for precision.

Sample SIB-102-TOB-0-1-10062022 is the parent sample of field duplicate FD02-10062022 and sample SIB-088-MLW-0-1-10102022 is the parent sample of field duplicate FD04-10102022. The results for both field duplicates are reported in SDG 22J0171. Both duplicate pairs met the acceptance criteria for precision.

Qualification: None required.

Laboratory Duplicate – A laboratory duplicate was performed on samples SIB-102-OHW-0-1-10062022 and SIB-095-OHW-0-1-10072022 (metals). The duplicate pairs met the acceptance criteria for precision.

Qualification: None required.

Compound Quantitation – Analyte results were reported with the associated DL, LOD, and LOQ in the DoD format instead of with the associated MDL and RL. Non-detected results were reported on the hardcopy as <#, where # corresponds to the LOD. The HGL reviewer confirmed that the value associated with non-detected results in the EDD is the MDL, in accordance with the project reporting requirements. Analytes detected between the MDL and RL were reported as J-qualified results by the laboratory. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table (concentrations in µg/kg [Aroclors] or mg/kg [metals]):

Sample	Analyte	Lab Value	Lab Qualifier	Validated Value	Validated Qualifier	Reason Code
SIB-104-MLW-0-1-10062022	None required.					
SIB-104-OHW-0-1-10062022	None required.					
SIB-104-TOB-0-1-10062022	None required.					
SIB-103-MLW-0-1-10062022	None required.					
SIB-103-OHW-0-1-10062022	None required.					
SIB-103-TOB-0-1-10062022	None required.					
SIB-102-TOB-0-1-10062022	None required.					
SIB-102-OHW-0-1-10062022	None required.					
SIB-102-MLW-0-1-10062022	None required.					
SIB-101-TOB-0-1-10062022	Aroclor 1254	20.8	D	20.8	J	SSH
	Aroclor 1260	19.4	J, D	19.4	J	SSH
SIB-101-OHW-0-1-10062022	None required.					
SIB-101-MLW-0-1-10062022	None required.					
SIB-100-MLW-0-1-10062022	None required.					
SIB-100-OHW-0-1-10062022	None required.					
SIB-100-TOB-0-1-10062022	None required.					
SIB-099-MLW-0-1-10072022	None required.					
SIB-099-OHW-0-1-10072022	None required.					
SIB-099-TOB-0-1-10072022	None required.					
SIB-098-OHW-0-1-10072022	None required.					
SIB-098-TOB-0-1-10072022	None required.					
SIB-098-MLW-0-1-10072022	None required.					
SIB-097-MLW-0-1-10072022	None required.					
SIB-097-OHW-0-1-10072022	None required.					
SIB-097-TOB-0-1-10072022	Copper	52.3	D	52.3	J	MSH
SIB-096-MLW-0-1-10072022	Copper	23.6	D	23.6	J	MSH

Sample	Analyte	Lab Value	Lab Qualifier	Validated Value	Validated Qualifier	Reason Code
SIB-096-OHW-0-1-10072022	Aroclor 1254	27.6	D	27.6	J	SSH
	Aroclor 1260	37.2	P1, D	37.2	J	SSH
	Copper	50.0	D	50.0	J	MSH
SIB-096-TOB-0-1-10072022	Copper	36.7	D	36.7	J	MSH
SIB-095-MLW-0-1-10072022	Aroclor 1254	11.1	-	11.1	J	SSH
	Copper	26.9	D	26.9	J	MSH
SIB-095-OHW-0-1-10072022	Copper	29.2	D	29.2	J	MSH
SIB-095-TOB-0-1-10072022	Copper	39.5	D	39.5	J	MSH
FD03-10072022	Copper	43.1	D	43.1	J	MSH
SIB-094-MLW-0-1-10072022	Copper	41.3	D	41.3	J	MSH
SIB-094-OHW-0-1-10072022	Copper	41.0	D	41.0	J	MSH
SIB-094-TOB-0-1-10072022	Aroclor 1254	89.3	P1, D	89.3	J	SSH
	Copper	139	D	139	J	MSH
SIB-093-MLW-0-1-10072022	Copper	17.1	D	17.1	J	MSH
SIB-093-OHW-0-1-10072022	Copper	46.4	D	46.4	J	MSH
SIB-093-TOB-0-1-10072022	Copper	44.4	D	44.4	J	MSH
SIB-092-MLW-0-1-10102022	Copper	21.4	D	21.4	J	MSH
SIB-092-OHW-0-1-10102022	Copper	26.1	D	26.1	J	MSH
SIB-092-TOB-0-1-10102022	Copper	43.3	D	43.3	J	MSH
SIB-091-MLW-0-1-10102022	Copper	19.3	D	19.3	J	MSH
SIB-091-OHW-0-1-10102022	Copper	58.5	D	58.5	J	MSH
SIB-091-TOB-0-1-10102022	Copper	96.2	D	96.2	J	MSH
SIB-090-MLW-0-1-10102022	None required.					
SIB-090-OHW-0-1-10102022	Aroclor 1254	50.4	D	50.4	J	SSH
	Aroclor 1260	113	D	113	J	SSH
SIB-090-TOB-0-1-10102022	None required.					
SIB-089-MLW-0-1-10102022	None required.					
SIB-089-OHW-0-1-10102022	Aroclor 1254	106	D	106	J	SSH
	Aroclor 1260	72.1	D	72.1	J	SSH

Sample	Analyte	Lab Value	Lab Qualifier	Validated Value	Validated Qualifier	Reason Code
SIB-089-TOB-0-1-10102022	None required.					
SIB-088-MLW-0-1-10102022[1]	Aroclor 1016	1.6	U	1.6	R	SSLX
	Aroclor 1221	1.6	U	1.6	R	SSLX
	Aroclor 1232	1.6	U	1.6	R	SSLX
	Aroclor 1242	1.6	U	1.6	R	SSLX
	Aroclor 1248	1.6	U	1.6	R	SSLX
	Aroclor 1254	1.6	U	1.6	R	SSLX
	Aroclor 1260	0.6	U	0.6	R	SSLX
	Aroclor 1262	0.6	U	0.6	R	SSLX
	Aroclor 1268	0.6	U	0.6	R	SSLX
SIB-088-OHW-0-1-10102022	Aroclor 1254	16.5	J, D	16.5	J	SSH
	Aroclor 1260	34.1	D	34.1	J	SSH
SIB-088-TOB-0-1-10102022	None required.					
SIB-087-MLW-0-1-10102022	None required.					

[1] Results qualified R also have the reportable result field changed from Yes to No.