
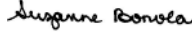


U. S. Steel Gary Works - Laboratory Report Data Review					
Laboratory Report ID:				1712645	
Laboratory Name:	ALS Environmental (Holland, MI)		Report Package Date:	1/03/2018	
Project Name:	CAMU Monthly Leachate - Dember 2017		Review Date:	1/16/2018	
Project Number:	4262-303-01-02 Phase 02				
Reviewer Name:	Suzanne Bonola		No. of Environ. Samples?*	2	
Parameters:	PCBs, VOCs*, SVOCs*, ammonia as N, total dissolved solids, total suspended solids, total metals (As, Ba, Cd, Cr, Pb, Li, Hg, Se, Ag); hexavalent chromium (*list of compounds is in accordance with the CAMU Monitoring Program)		No. of QC Samples?*	1	
Method IDs:	SW8082; SW8260B; SW8270D; SW8270D SIM (PAHs); EPA 350.1 R2.0; A2540 C-97; A2540 D-97; SW 6020A; SW7470A; SW7196A		Rejected Results?	Yes	
Matrix:	Aqueous + QC (TB)				
*Attach copy of lab report showing sample IDs and corresponding lab IDs.			Yes	No	N/A
Report Completeness & Sample Log-In Condition					
1 Was a signature page with appropriate authority signature provided?			X		
2 Was there a case narrative noting all known problems or anomalies?			X		
3 Were all samples received under chain-of-custody (seals used) and within appropriate temperature?				X	(1)
4 Were all departures from standard conditions narrated (i.e., preservation acceptable, no headspace)?			X		No Departures
5 Are all field sample ID numbers cross-referenced to the laboratory ID numbers?			X		(1)
6 Are all laboratory ID numbers cross-referenced to the corresponding QC data (batch IDs provided)?			X		(1)
7 Were reference methods provided and cited appropriately?			X		
8 Were samples prepared and analyzed within holding times?			X		
Date Collected:	12/11/2017	Date Received:	12/11/2017		
9 Were all soil results reported on a dry-weight basis?				X	
10 Was a percent moisture result reported for all soil and sediment samples?				X	
11 If required for the project, was supporting documentation (CLP-like) provided?				X	
12 If required for the project, were TICs reported?				X	
13 Were all MDLs and/or RLs in accordance with project DQOs & reported in the test report?			X		
14 Was justification provided for elevated RLs (e.g., non-target interferences, etc.)?			X		
15 Is there a QAPP or SAP available as a reference for the project performed?			X		(1)
16 Are non-detects identified as ND at RL with a "U", or other (less than "<")?			X		
17 Are laboratory flags defined?			X		
Laboratory Method Blanks and Field Blanks					
1 Were appropriate types of laboratory method blanks analyzed?			X		
2 Were the laboratory method blanks analyzed at the appropriate frequency?			X		
3 Was the method blank free of contamination (i.e., less than the MDL or RL)?			X		
4 Did the method blank contamination affect the final results? If so, note on page 2.				X	
5 Was a trip blank required and submitted with the samples?			X		
6 Was the trip blank free of contamination (i.e., less than the MDL or RL)?			X		
7 Did the trip blank contamination affect the final results? If so, note on page 2.				X	
8 Was an equipment blank required and submitted with the samples?				X	
9 Was the equipment blank free of contamination (i.e., less than the MDL or RL)?					X
10 Did the equipment blank contamination affect the final results? If so, note on page 2.					X
11 Was a source water blank required and submitted with the samples?				X	
12 Was the source water blank free of contamination (i.e., less than the MDL or RL)?					X
13 Did the source water blank contamination affect the final results? If so, note on page 2.					X
Surrogates					
1 Were surrogates added prior to extraction for all appropriate methods?			X		
2 Were surrogate percent recoveries within laboratory control limits?				X	
3 Did the surrogate percent recoveries affect the final results? If so, note on page 2.			X		(2)
Laboratory Control Samples					
1 Were LCS performed for all appropriate methods?			X		
2 Were LCSs spiked with appropriate list of target compounds?			X		
3 Were LCS percent recoveries within laboratory control limits?				X	(3)
4 Did the LCS percent recoveries affect the final results? If so, note on page 2.				X	
5 If performed, were LCS Duplicate data provided?					X
6 Were the LCS/LCSD RPD values within laboratory control limits?					X
Matrix Spikes					
1 Were MS/MSDs required to be performed on a project sample?				X	
Sample used/methods:					
2 Were MS/MSDs performed on a project sample selected by the laboratory?			X		
Sample used/methods:	LCS-01 (-01A MS): Aroclor-1016, Aroclor-1260; LCS-01 (-01B MS/MSD): VOCs; LCS-02 (-02H MS/MSD): Hexavalent Chromium,				
3 Were MS/MSDs spiked with appropriate list of target compounds?			X		
4 Were MS/MSD percent recoveries within laboratory control limits?				X	
5 Did the MS/MSD percent recoveries affect the final results? If yes, narrate.			X		(4)
6 Were the MS/MSD RPD values within laboratory control limits?				X	

U. S. Steel Gary Works - Laboratory Report Data Review				
Laboratory Report ID:			1712645	
Laboratory Name:	ALS Environmental (Holland, MI)		Report Package Date:	1/03/2018
Project Name:	CAMU Monthly Leachate - Dember 2017		Review Date:	1/16/2018
Project Number:	4262-303-01-02 Phase 02			
Reviewer Name:	Suzanne Bonola		No. of Environ. Samples?*	2
Parameters:	PCBs, VOCs*, SVOCs*, ammonia as N, total dissolved solids, total suspended solids, total metals (As, Ba, Cd, Cr, Pb, Li, Hg, Se, Ag); hexavalent chromium (*list of compounds is in accordance with the CAMU Monitoring Program)		No. of QC Samples?*	1
Method IDs:	SW8082; SW8260B; SW8270D; SW8270D SIM (PAHs); EPA 350.1 R2.0; A2540 C-97; A2540 D-97; SW 6020A; SW7470A; SW7196A		Rejected Results?	Yes
Matrix:	Aqueous + QC (TB)			
*Attach copy of lab report showing sample IDs and corresponding lab IDs.			Yes	No
			N/A	Comment
7 Did the MS/MSD RPDs affect the final results? If so, note on page 2.			X	(4)
Field and Laboratory Duplicates				
1 Was a field duplicate submitted with this SDG?			X	
Field Duplicate ID:				
2 Was the RPD values less than review criteria?				X
3 Did the field duplicate RPD results affect the final results? If so, narrate.				X
4 Was a laboratory method duplicate (MD) performed?			X	
MD ID:	LCS-02 (-02A DUP): PCBs			
5 Were the RPD values less than review criteria?			X	
6 Did the MD results affect the final results? If so, note on page 2.			X	
Other Laboratory QC Data				
1 Were internal standard data reported? (organics and inorganics by 6020)			X	(5)
2 Were IS area counts and retention times within method required limits?				X
3 Were data associated with manual integration flagged on the test reports?				X
4 Did dual-column confirmation results (PCBs) meet method-required QC limits of <25% difference?			X	
5 Was an interference check sample analyzed and were percent recoveries within QC limits?				X
6 If serial dilutions were analyzed using a project sample, were the percent differences within QC limits?				X (6)
7 Was a CRDL check sample analyzed and were the percent recoveries within QC limits?				X
8 If post-digestion spikes (PDS) were performed for metals, were percent recoveries within QC limits?				X (6)
9 If ICV/CCV was reported in the case narrative, did the ICV/CCV affect the project samples?				X
10 Were the total results greater than the dissolved results (e.g., metals)?				X
Electronic Data Deliverable				
1 Was an EDD provided with the deliverable?			X	
2 Was the electronic data the same as the hardcopy data?				X (7)
Comment No. Description (data usability; note any estimated and/or rejected data):				
1	<p><b>Sampling:</b> The samples were collected by ALS staff.</p> <p><b>Login:</b> A custody seal was not used on the cooler; because the cooler was not shipped by a commercial courier, this was not mandatory protocol. Verification of sample preservation for VOCs samples -01B and -02B indicated a pH&gt;2; however, sample containers are unpreserved.</p> <p><b>Dilutions:</b> Dilutions were needed for the following chemicals due to elevated concentrations: VOCs (-01, -02); SVOCs (-01); PAHs (-01, -02); ammonia as N (-01, -02).</p> <p><b>QAPP:</b> Uniform Federal Policy - Quality Assurance Project Plan, U. S. Steel Corporation, Gary Works, Gary, Indiana, April 2016.</p>			
2	<p><b>Surrogate Recoveries:</b> <b>VOCs: Sample -01:</b> dibromofluoromethane %Rec&lt;LCL, but above &gt;10% at 5x dilution (target analytes 1,1,1,2-tetrachloroethane, 1,1,1-trichloroethane, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,1-dichloroethane, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, 1,2-dibromomethane, 1,2-dichloroethane, 1,2-dichloropropane, bromodichloromethane, bromomethane, chloroethane, dibromochloromethane, dibromomethane, dichlorodifluoromethane, iodomethane, trichlorofluoromethane ND, revise to "UJ"). <b>Sample -02:</b> dibromofluoromethane %Rec&lt;LCL, but above &gt;10% (target analytes 1,1,1,2-tetrachloroethane, 1,1,1-trichloroethane, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,1-dichloroethane, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, 1,2-dibromomethane, 1,2-dichloroethane, 1,2-dichloropropane, bromodichloromethane, bromomethane, chloroethane, dibromochloromethane, dibromomethane, dichlorodifluoromethane, iodomethane, trichlorofluoromethane ND, revise to "UJ"). <b>SVOCs: Sample -01:</b> 4-terphenyl-d14 %Rec&lt;LCL, but above &gt;10% at 20x dilution (target analytes carbozole, dibenzofuran detected, revised to "J"); <b>Sample -02:</b> nitrobenzene-d5 %Rec&gt;UCL (target analytes 2-methylnaphthalene, acenaphthene, acenaphthylene, anthracene, fluoranthene, fluorene, naphthalene, phenanthrene, pyrene revised to "J"; target analytes benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene ND, NFQR). <b>PCBs: Sample -01:</b> Surrogate Tetrachloro-m-xylene %Rec &lt;LCL but &gt;10% (target analytes Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260 ND, revise to "UJ").</p>			
3	<p><b>LCS: SVOCs:</b> bis(2-ethylhexyl)phthalate (SLCSW1-111829-111829) LCS %R&lt;LCL, but &gt;10%, analyted non-detect for samples -01 and -02, NQR.</p>			
4	<p><b>MS/MSD: VOCs - Sample 01:</b> 1,1,2,2-tetrachloroethane (MS/MSD %R&lt;LCL and &lt;10%, parent sample non-detect, reject result); 2-butanone, tetrachloroethane, and trichloroethane (MS/MSD %R&gt;UCL, parent samples non-detect, NQR); acetone (MS/MSD %R&gt;UCL, parent sample already "J" flagged, NFQR); benzene (MS %R&lt;LCL but &gt;10%, MSD%R within control limits, NQR); bromomethane (MS %R&lt;LCL, but &gt;10%, MS/MSD %RPD &gt;control limit, parent sample non-detect and flagged as "UJ" due to low surrogate recovery, NRQR; iodomethane (MS/MSD %R&lt;LCL, but &gt;10% and MS/MSD %RPD&gt;control limit, parent sample non-detect and flagged as "UJ" due to low surrogate recovery, NFQR); <b>PCBs - Sample 01:</b> Lab selected one sample to run for an MS only; MS %R were within control limits. There was no MSD sample run to evaluate MS/MSD RPDs.</p>			
5	<p><b>Internal Standards:</b> Included in L4 lab report; no review required for general QC data evaluation.</p>			
6	<p>The lab did not perform PDS or SD analysis for this batch report.</p>			
7	<p><b>Reporting:</b> The laboratory provided an EDD to the database management contractor.</p>			
Signature of Validator:			01/16/2018	
Signature of Senior Review:			01/18/2018	

U. S. Steel Gary Works - Laboratory Report Data Review				
Laboratory Report ID:		1712645		
Laboratory Name:	ALS Environmental (Holland, MI)	Report Package Date:	1/03/2018	
Project Name:	CAMU Monthly Leachate - Dember 2017	Review Date:	1/16/2018	
Project Number:	4262-303-01-02 Phase 02			
Reviewer Name:	Suzanne Bonola	No. of Environ. Samples?*	2	
Parameters:	PCBs, VOCs*, SVOCs*, ammonia as N, total dissolved solids, total suspended solids, total metals (As, Ba, Cd, Cr, Pb, Li, Hg, Se, Ag); hexavalent chromium (*list of compounds is in accordance with the CAMU Monitoring Program)	No. of QC Samples?*	1	
Method IDs:	SW8082; SW8260B; SW8270D; SW8270D SIM (PAHs); EPA 350.1 R2.0; A2540 C-97; A2540 D-97; SW 6020A; SW7470A; SW7196A	Rejected Results?	Yes	
Matrix:	Aqueous + QC (TB)			
*Attach copy of lab report showing sample IDs and corresponding lab IDs.		Yes	No	N/A
				Comment

Attachment 1: Cross-reference of field IDs with laboratory IDs.

Acronyms:

CCV: Continuing Calibration Verification

CLP-Like: Level 4 Report

CL: Control Limit

DQOs: Data Quality Objectives

EDD: Electronic Deliverable Data

FD: Field Duplicate

GC/MS: Gas Chromatography/ Mass Spectrometry

ICV: Initial Calibration Verification

IS: Internal Standard

LCL: Lower Control Limit

LCS/LCSD: Laboratory Control Sample/Duplicate

MB: Method Blank

MD: Method Duplicate

MDL: Method Detection Limit

MS/MSD: Matrix Spike/Duplicate

ND: Non Detected

NFQR: No Further Qualification Required

NQR: No Qualification Required

PDS: Post Digestion Spike

%R: Percent Recovery

RL: Reporting Limit

RPD: Relative Percent Difference

SAP: Sampling Analysis Plan

SDG: Sampling Delivery Group

SVOC: Semi-Volatile Organic Compounds

TIC: Tentatively Identified Compound

QA/QC: Quality Assurance/Quality Control

QAPP: Quality Assurance Project Plan

UCL: Upper Control limit

VOC: Volatile organic compounds

**Client:** U.S. Steel - Gary Works  
**Project:** (USS- Gary) CAMU Monthly Leachate 12.2017  
**Work Order:** 1712645

## Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1712645-01	LCS-01-10052017	Aqueous	LCS-01	12/11/2017 10:15	12/11/2017 14:55	<input type="checkbox"/>
1712645-02	LCS-02-10052017	Aqueous	LCS-02	12/11/2017 10:00	12/11/2017 14:55	<input type="checkbox"/>
1712645-03	Trip Blank	Aqueous	Trip Blank	12/11/2017 09:45	12/11/2017 14:55	<input type="checkbox"/>