

U. S. Steel Gary Works - Laboratory Report Data Review					
Laboratory Report ID:		1703356			
Laboratory Name:	ALS Environmental (Holland, MI)	Report Package Date:	3/15/2017		
Project Name:	CAMU Groundwater Verification Sampling (First Quarter 2017)	Review Date:	4/06/2017		
Project Number:	4262-303-01-01 Phase 04				
Reviewer Name:	Suzanne Bonola	No. of Environ. Samples?*			
Parameters:	Total metals (hexavalent chromium, lithium), dissolved metals (hexavalent chromium) <i>*List of compounds is in accordance with the CAMU O&M Plan</i>	No. of QC Samples (EB, FD, MS/MSD)?	2		
Method IDs:	SW6020A, SW7196A	Rejected Results?	No		
Matrix:	Aqueous + QC (FD, EB)				
*Attach copy of lab report showing sample IDs and corresponding lab IDs.		Yes	No	N/A	Comment
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			
6 Are all laboratory ID numbers cross-referenced to the corresponding QC data (batch IDs provided)?		X			
7 Were reference methods provided and cited appropriately?		X			
8 Were samples prepared and analyzed within holding times?		X			
Date Collected: 3/7/2017 Date Received: 3/7/2017					
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	No VOC analysis
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	
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			
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	No LCSD samples
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:		EB01-GW-03072017 (-02): Total hexavalent chromium CAMU-P05-GW-03072017 (-04): Dissolved 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		
6 Were the MS/MSD RPD values within laboratory control limits?		X			
7 Did the MS/MSD RPDs affect the final results? If so, note on page 2.			X		
Field and Laboratory Duplicates					
1 Was a field duplicate submitted with this SDG?		X			
Field Duplicate ID:		CAMU-P05-GW-03072017-FD (-05): Dissolved hexavalent chromium			
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:					
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	(2)

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Project Number:	4262-303-01-01 Phase 04		
Reviewer Name:	Suzanne Bonola	No. of Environ. Samples?*	
Parameters:	Total metals (hexavalent chromium, lithium), dissolved metals (hexavalent chromium) *List of compounds is in accordance with the CAMU O&M Plan	No. of QC Samples (EB, FD, MS/MSD)?	2
Method IDs:	SW6020A, SW7196A	Rejected Results?	No
Matrix:	Aqueous + QC (FD, EB)		
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 (3)
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
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 (4)
2 Was the electronic data the same as the hardcopy data?			X (4)
Comment No.	Description (data usability; note any estimated and/or rejected data):		
1	Sampling: The samples were collected by (Weaver Consultants Group, Chicago, IL) Login: A custody seal was not used on the cooler; because the cooler was not shipped by a commercial courier, this was not mandatory protocol. No trip blanks were required as there were no samples collected for VOCs analysis. QAPP: Uniform Federal Policy - Quality Assurance Project Plan, U. S. Steel Corporation, Gary Works, Gary, Indiana, April 2016.		
2	ISTD: <u>Inorganics</u> - Internal standard method-specific QC checks not required for inorganics analysis by ICP-MS (inductively coupled plasma-mass spectrometry).		
3	PDS and SD: The lab did not perform PDS or SD analysis for project samples for this batch report. The lab did perform a serial dilution from a sample outside the project work order.		
4	Reporting: The laboratory reported non-detect results as <RL. This is acceptable and no change is required. The lab EDDs (when provided) use a "U" flag and the RL. For this work order, an EDD was not provided at the time the data review was performed.		
*An expanded report (Level 4) was received, but no review of this information was required to be conducted.			
Signature of Validator:	Suzanne Bonola 4/6/2017		
Signature of Senior Review:	Rachel Spichroth 11/10/2017		

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

NQRR: 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 CAMU 1Q2017
Work Order: 1703356

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>
1703356-01	CAMU-MW08-GW-03072017	Aqueous	CAMU-MW08	3/7/2017 14:49	3/7/2017 16:00	<input type="checkbox"/>
1703356-02	EB01-GW-03072017	Aqueous	EB01	3/7/2017 14:20	3/7/2017 16:00	<input type="checkbox"/>
1703356-03	CAMU-MW09R-GW-03072017	Aqueous	CAMU-MW09R	3/7/2017 13:48	3/7/2017 16:00	<input type="checkbox"/>
1703356-04	CAMU-P05-GW-03072017	Aqueous	CAMU-P05	3/7/2017 11:56	3/7/2017 16:00	<input type="checkbox"/>
1703356-05	CAMU-P05-GW-03072017-FD	Aqueous	CAMU-P05	3/7/2017 11:56	3/7/2017 16:00	<input type="checkbox"/>
1703356-06	CAMU-P08-GW-03072017	Aqueous	CAMU-P08	3/7/2017 16:48	3/7/2017 16:00	<input type="checkbox"/>
1703356-07	CAMU-P09-GW-03072017	Aqueous	CAMU-P09	3/7/2017 13:06	3/7/2017 16:00	<input type="checkbox"/>