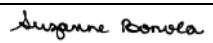
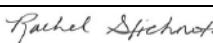


U. S. Steel Gary Works - Laboratory Report Data Review					
Laboratory Report ID:				17061245	
Laboratory Name:	ALS Environmental (Holland, MI)			Report Package Date:	6/29/20107
Project Name:	CAMU Groundwater Verification Sampling (Second Quarter 2017)			Review Date:	6/29/2017
Project Number:	4262-303-01-01 Phase 04				
Reviewer Name:	Suzanne Bonola			No. of Environ. Samples?*	5
Parameters:	Total metals (hexavalent chromium, lithium), dissolved metals (hexavalent chromium)			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	(1)
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 (1)
Date Collected: 6/21/2017 Date Received: 6/21/2017					
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:					
CAMU-P05-GW-06212017-F (-03A MS/-03A MSD): Dissolved lithium, 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-P08-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

U. S. Steel Gary Works - Laboratory Report Data Review				
Laboratory Report ID:			17061245	
Laboratory Name:	ALS Environmental (Holland, MI)		Report Package Date:	6/29/20107
Project Name:	CAMU Groundwater Verification Sampling (Second Quarter 2017)		Review Date:	6/29/2017
Project Number:	4262-303-01-01 Phase 04			
Reviewer Name:	Suzanne Bonola	No. of Environ. Samples?*	5	
Parameters:	Total metals (hexavalent chromium, lithium), dissolved metals (hexavalent chromium)	No. of QC Samples (EB, FD, MS/MSD)?	2	
Method IDs:	SW6020A, SW7196A	Rejected Results?	No	
Matrix:	Aqueous + QC (FD, EB)			
Other Laboratory QC Data				
1 Were internal standard data reported? (organics and inorganics by 6020)			X	(2)
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 Cosultants 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. Depatures: Dissolved hexavalent chromium was run out of hold time due to lab initially logging the samples for totals analysis (inconsistent with requested analysis on the chain-of-custody). Total hexavalent chromium analyses were reported as non-detect. 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.			
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. The EDD will be provided to the database management contractor.			
* An expanded report (Level 4) was received, but no review of this information was required to be conducted.				
Signature of Validator:		 6/30/2017		
Signature of Senior Review:		 7/6/2017		

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 Gary CAMU 2Q2017
Work Order: 17061245

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>
17061245-01	CAMU-MW08-GW-06212017-F	Aqueous	CAMU-MW08	6/21/2017 11:25	6/21/2017 14:00	<input type="checkbox"/>
17061245-02	CAMU-MW09R-GW-06212017-F	Aqueous	CAMU-MW09R	6/21/2017 10:28	6/21/2017 14:00	<input type="checkbox"/>
17061245-03	CAMU-P05-GW-06212017-F	Aqueous	CAMU-P05	6/21/2017 09:21	6/21/2017 14:00	<input type="checkbox"/>
17061245-04	CAMU-P08-GW-06212017-F	Aqueous	CAMU-P08	6/21/2017 11:20	6/21/2017 14:00	<input type="checkbox"/>
17061245-05	CAMU-P08-GW-06212017-F-FD	Aqueous	CAMU-P08	6/21/2017 11:20	6/21/2017 14:00	<input type="checkbox"/>
17061245-06	CAMU-P09-GW-06212017-F	Aqueous	CAMU-P09	6/21/2017 10:05	6/21/2017 14:00	<input type="checkbox"/>
17061245-07	EB01-06212017-F	Aqueous	EB01	6/21/2017 10:05	6/21/2017 14:00	<input type="checkbox"/>
17061245-08	EB01-06212017-F	Aqueous	EB01	6/21/2017 10:05	6/21/2017 14:00	<input type="checkbox"/>