October 10, 2016

Craig Thomas
On-Scene Coordinator
U.S. Environmental Protection Agency Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Subject: **Data Validation Reports**
Intermet/Wagner Castings Removal Site
EPA Contract No. EP-S5-13-01
Technical Direction Document No. S05-0001-1606-403
Document Tracking No. 1119

Dear Mr. Thomas:

Tetra Tech Inc. (Tetra Tech) is submitting these Data Validation Reports for 21 wipe samples (and 3 field duplicate samples), 1 bulk oil sample, 17 soil samples (and 3 field duplicate samples), 4 foundry sand samples (and 1 field duplicate sample), 1 waste sample, and 14 building material samples collected at the Intermet/Wagner Castings Removal site. The samples were collected from September 7 through 13, 2016, and were analyzed for polychlorinated biphenyls, characteristic waste parameters, and asbestos by CT Laboratories and EMSL Analytical. The last laboratory data package was received on October 3, 2016.

Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and the EPA *NFG for Inorganic Superfund Data Review* (August 2014).

No results were rejected. All may be used as qualified in the attached checklists.

If you have any questions regarding these data validation reports, please call me at (312) 201-7756.

Sincerely,

Harry N. Ellis III

START Chemist

Enclosure
cc: Kevin Scott, Tetra Tech Program Manager
Cordell Renner, Tetra Tech Project Manager
TDD File

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ATTACHMENT 1

DATA VALIDATION REPORT
SEPTEMBER 2016 WIPE, OIL, WASTE, SOIL, AND BUILDING MATERIAL SAMPLES

DATA VALIDATION CHECKLIST – STAGE 2A
EPA REGION 5 START CONTRACT

Site Name	Intermet/Wagner Castings Removal Site		**TDD No.**	S05-0001-1606-403
Document Tracking No.	1119A			
Data Reviewer (signature and date)	Harry N. Ellis III 5 October 2016		**Technical Reviewer (signature and date)**	Jessica A. Vickers October 7, 2016
Laboratory Report No.	121894		**Laboratory**	CT Laboratories, LLC/Baraboo, Wisconsin
Analyses	Polychlorinated biphenyls (PCBs) by SW-846 Method 8082A, toxicity characteristic leaching procedure (TCLP) metals by SW-846 Methods 1311/6010C and 1311/7470A, TCLP volatile organic compounds (VOCs) by SW-846 Methods 1311/8260C, TCLP semivolatile organic compounds (SVOCs) by SW-846 Methods 1311/8270D, TCLP pesticides by SW-846 Methods 1311/8081B, and TCLP herbicides by SW-846 Methods 1311/8151A.			
Samples and Matrix	22 oil samples (21 wipes and 1 bulk oil samples), 14 surface soil samples, 1 subsurface soil sample, and 3 foundry sand samples			
Field Duplicate Pairs	IW-WO-17/IW-WO-17-DUP, IW-WO-18/IW-WO-18-DUP, IW-WO-19/IW-WO-19-DUP, IW-SS-10/IW-SS-10-DUP, IW-SS-11/IW-SS-11-DUP, IW-SS-12/IW-SS-12-DUP, and IW-FS-01/IW-FS-01-DUP			
Field Blanks	IW-FB-01			

INTRODUCTION

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and the EPA *NFG for Inorganic Superfund Data Review* (August 2014).

OVERALL EVALUATION

No results were rejected. All may be used as qualified.

Data completeness:

Within Criteria	Exceedance/Notes
Y	

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
Y	

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
N	PCB surrogate recoveries could not be calculated for IW-WO-20 and IW-BO-01 due to high dilutions. No actions were taken for these data gaps. In several samples analyzed for PCBs, one or both surrogates yielded recoveries below the laboratory's limits, indicating matrix interference. Therefore, the PCB results for IW-WO-18, IW-WO-18-DUP, IW-WO-19, IW-SS-01, IW-SS-02, IW-SS-03, IW-SS-05, IW-SS-06, IW-SS-07, IW-SS-08, IW-SS-09, IW-SS-10, IW-SS-12, IW-SS-12-DUP, IW-SS-13, and IW-SS-14 were qualified as estimated with a possible low bias (flagged "J-/UJ").

MS/MSD:

Within Criteria	Exceedance/Notes
N	For sample IW-SS-12, there were no recoveries for technical chlordane and toxaphene. Because these compounds are typically not spiked, no qualifications were applied. Recoveries for both herbicides were below the acceptance limits; therefore, the reporting limits (RLs) for these herbicides were qualified as estimated with a possible low bias (flagged "UJ") in sample IW-SS-12 and its field duplicate. Recoveries for arsenic and selenium were above the acceptance limits and were therefore qualified as estimated with a possible high bias (flagged "J+") in sample IW-SS-12 and its field duplicate.

Laboratory duplicates:

Within Criteria	Exceedance/Notes
Y	

Field duplicates:

Within Criteria	Exceedance/Notes
N	Most field duplicate pairs yielded results within the QAPP limit of 70 percent relative percent difference (RPD) or ±1 RL. The exceptions were Aroclor-1242 in the pair from IW-WO-18 (79 percent) and the pair from IW-WO-19 (169 percent), as well as TCLP chromium in the pair from IW-FS-01 and TCLP lead and selenium in the pair from IW-SS-12. Therefore, the associated results were qualified as estimated (flagged "J/UJ") unless previously qualified for other exceedances.

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
N	One PCB LCS for the wipe samples yielded a low recovery (47 percent versus limits of 53 to 140 percent) for Aroclor 1260. Therefore, Aroclor-1260 results in all wipe samples except IW-WO-18-DUP, IW-WO-19, IW-WO-19-DUP, IW-WO-20, and IW-WO-21 (which were quantitated in a separate analytical run, with acceptable LCS recoveries) were qualified as estimated, possibly biased low (flagged "J-/UJ").

Sample dilutions:

Within Criteria	Exceedance/Notes
Y	Several samples were analyzed at dilutions to minimize matrix interference, to bring high-concentration results within calibration range, or for both reasons. These dilutions ranged from 2-fold for PCBs in IW-WO-02 and 100,000-fold for PCBs in IW-BO-01. These dilutions resulted in increased detection and reporting limits for non-detect analytes. Therefore, some of the non-detect results are not fully comparable.

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Some detected results were less than the reporting limit, which corresponds to the lowest calibration standard. These extrapolations were qualified by the laboratory as estimated (flagged "J"). See also "Sample Dilutions" section above.

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Analyte Identification:

Within Criteria	Exceedance/Notes
N	Some of the detected PCBs yielded disparate quantitative results on the two analytical columns, possibly because the environmental PCB mixtures were poor matches to the unweathered PCB mixtures used for calibration. The laboratory qualified these results with "P" flags. The qualifiers were overridden due to surrogate recovery exceedances, and the results were qualified as estimated (flagged "J-/UJ").

Other [specify]:

Within Criteria	Exceedance/Notes
NA	

DATA VALIDATION CHECKLIST – STAGE 2A
EPA REGION 5 START CONTRACT

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

Intermet/Wagner Castings Wipe, Oil, Soil, and Sand Results
CT Laboratories Report No. 121894

Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	DL	RL	DF	Units	Val. Results	Val. Qualifiers
IW-WO-01	767535	Aroclor-1016	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-01	767535	Aroclor-1268	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-01	767535	Aroclor-1260	0	UQ	0.06	0.3	1	Total ug	0.3	UJ
IW-WO-01	767535	Aroclor-1248	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-01	767535	Aroclor-1221	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-01	767535	Aroclor-1262	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-01	767535	Aroclor-1232	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-01	767535	Aroclor-1254	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-01	767535	Aroclor-1242	1.35		0.07	0.3	1	Total ug	1.35	
IW-WO-02	767538	Aroclor-1016	0	U	0.1	0.6	2	Total ug	0.6	U
IW-WO-02	767538	Aroclor-1268	0	U	0.1	0.6	2	Total ug	0.6	U
IW-WO-02	767538	Aroclor-1260	0	UQ	0.12	0.6	2	Total ug	0.6	UJ
IW-WO-02	767538	Aroclor-1248	0	U	0.14	0.6	2	Total ug	0.6	U
IW-WO-02	767538	Aroclor-1221	0	U	0.14	0.6	2	Total ug	0.6	U
IW-WO-02	767538	Aroclor-1262	0	U	0.14	0.6	2	Total ug	0.6	U
IW-WO-02	767538	Aroclor-1232	0	U	0.18	0.6	2	Total ug	0.6	U
IW-WO-02	767538	Aroclor-1254	0	U	0.18	0.6	2	Total ug	0.6	U
IW-WO-02	767538	Aroclor-1242	9.64		0.14	0.6	2	Total ug	9.64	
IW-WO-03	767539	Aroclor-1016	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-03	767539	Aroclor-1268	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-03	767539	Aroclor-1260	0	UQ	0.06	0.3	1	Total ug	0.3	UJ
IW-WO-03	767539	Aroclor-1248	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-03	767539	Aroclor-1221	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-03	767539	Aroclor-1262	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-03	767539	Aroclor-1232	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-03	767539	Aroclor-1254	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-03	767539	Aroclor-1242	2.64		0.07	0.3	1	Total ug	2.64	
IW-WO-04	767540	Aroclor-1016	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-04	767540	Aroclor-1268	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-04	767540	Aroclor-1260	0	UQ	0.06	0.3	1	Total ug	0.3	UJ
IW-WO-04	767540	Aroclor-1248	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-04	767540	Aroclor-1221	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-04	767540	Aroclor-1262	0	U	0.07	0.3	1	Total ug	0.3	U

Intermet/Wagner Castings Wipe, OIl, Soil, and Sand Results
CT Laboratories Report No. 121894

Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	DL	RL	DF	Units	Val. Results	Val. Qualifiers
IW-WO-04	767540	Aroclor-1232	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-04	767540	Aroclor-1254	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-04	767540	Aroclor-1242	0.13	J	0.07	0.3	1	Total ug	0.13	J
IW-WO-05	767541	Aroclor-1016	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-05	767541	Aroclor-1268	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-05	767541	Aroclor-1260	0	UQ	0.06	0.3	1	Total ug	0.3	UJ
IW-WO-05	767541	Aroclor-1248	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-05	767541	Aroclor-1221	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-05	767541	Aroclor-1262	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-05	767541	Aroclor-1232	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-05	767541	Aroclor-1254	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-05	767541	Aroclor-1242	0.13	JP	0.07	0.3	1	Total ug	0.13	J
IW-WO-06	767542	Aroclor-1016	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-06	767542	Aroclor-1268	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-06	767542	Aroclor-1260	0	UQ	0.06	0.3	1	Total ug	0.3	UJ
IW-WO-06	767542	Aroclor-1248	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-06	767542	Aroclor-1221	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-06	767542	Aroclor-1262	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-06	767542	Aroclor-1232	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-06	767542	Aroclor-1254	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-06	767542	Aroclor-1242	0.12	J	0.07	0.3	1	Total ug	0.12	J
IW-WO-07	767543	Aroclor-1016	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-07	767543	Aroclor-1268	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-07	767543	Aroclor-1260	0	UQ	0.06	0.3	1	Total ug	0.3	UJ
IW-WO-07	767543	Aroclor-1248	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-07	767543	Aroclor-1221	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-07	767543	Aroclor-1262	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-07	767543	Aroclor-1232	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-07	767543	Aroclor-1254	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-07	767543	Aroclor-1242	0.1	J	0.07	0.3	1	Total ug	0.1	J
IW-WO-08	767544	Aroclor-1016	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-08	767544	Aroclor-1268	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-08	767544	Aroclor-1248	0	U	0.07	0.3	1	Total ug	0.3	U

Intermet/Wagner Castings Wipe, OIl, Soil, and Sand Results
CT Laboratories Report No. 121894

Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	DL	RL	DF	Units	Val. Results	Val. Qualifiers
IW-WO-08	767544	Aroclor-1242	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-08	767544	Aroclor-1221	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-08	767544	Aroclor-1262	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-08	767544	Aroclor-1232	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-08	767544	Aroclor-1254	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-08	767544	Aroclor-1260	2.51	Q	0.06	0.3	1	Total ug	2.51	J-
IW-WO-09	767545	Aroclor-1016	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-09	767545	Aroclor-1268	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-09	767545	Aroclor-1248	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-09	767545	Aroclor-1242	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-09	767545	Aroclor-1221	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-09	767545	Aroclor-1262	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-09	767545	Aroclor-1232	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-09	767545	Aroclor-1254	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-09	767545	Aroclor-1260	0.63	Q	0.06	0.3	1	Total ug	0.63	J-
IW-WO-10	767546	Aroclor-1016	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-10	767546	Aroclor-1268	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-10	767546	Aroclor-1260	0	UQ	0.06	0.3	1	Total ug	0.3	UJ
IW-WO-10	767546	Aroclor-1248	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-10	767546	Aroclor-1242	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-10	767546	Aroclor-1221	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-10	767546	Aroclor-1262	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-10	767546	Aroclor-1232	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-10	767546	Aroclor-1254	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-11	767547	Aroclor-1016	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-11	767547	Aroclor-1268	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-11	767547	Aroclor-1260	0	UQ	0.06	0.3	1	Total ug	0.3	UJ
IW-WO-11	767547	Aroclor-1248	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-11	767547	Aroclor-1242	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-11	767547	Aroclor-1221	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-11	767547	Aroclor-1262	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-11	767547	Aroclor-1232	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-11	767547	Aroclor-1254	0	U	0.09	0.3	1	Total ug	0.3	U

Intermet/Wagner Castings Wipe, OIl, Soil, and Sand Results
CT Laboratories Report No. 121894

Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	DL	RL	DF	Units	Val. Results	Val. Qualifiers
IW-WO-12	767548	Aroclor-1016	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-12	767548	Aroclor-1268	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-12	767548	Aroclor-1260	0	UQ	0.06	0.3	1	Total ug	0.3	UJ
IW-WO-12	767548	Aroclor-1248	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-12	767548	Aroclor-1242	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-12	767548	Aroclor-1221	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-12	767548	Aroclor-1262	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-12	767548	Aroclor-1232	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-12	767548	Aroclor-1254	0	U	0.09	0.3	1	Total ug	0.3	U
IW-FB-01	767549	Aroclor-1016	0	U	0.05	0.3	1	Total ug	0.3	U
IW-FB-01	767549	Aroclor-1268	0	U	0.05	0.3	1	Total ug	0.3	U
IW-FB-01	767549	Aroclor-1260	0	UQ	0.06	0.3	1	Total ug	0.3	UJ
IW-FB-01	767549	Aroclor-1248	0	U	0.07	0.3	1	Total ug	0.3	U
IW-FB-01	767549	Aroclor-1242	0	U	0.07	0.3	1	Total ug	0.3	U
IW-FB-01	767549	Aroclor-1221	0	U	0.07	0.3	1	Total ug	0.3	U
IW-FB-01	767549	Aroclor-1262	0	U	0.07	0.3	1	Total ug	0.3	U
IW-FB-01	767549	Aroclor-1232	0	U	0.09	0.3	1	Total ug	0.3	U
IW-FB-01	767549	Aroclor-1254	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-13	767550	Aroclor-1016	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-13	767550	Aroclor-1268	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-13	767550	Aroclor-1260	0	UQ	0.06	0.3	1	Total ug	0.3	UJ
IW-WO-13	767550	Aroclor-1248	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-13	767550	Aroclor-1242	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-13	767550	Aroclor-1221	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-13	767550	Aroclor-1262	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-13	767550	Aroclor-1232	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-13	767550	Aroclor-1254	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-14	767551	Aroclor-1016	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-14	767551	Aroclor-1268	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-14	767551	Aroclor-1248	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-14	767551	Aroclor-1242	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-14	767551	Aroclor-1221	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-14	767551	Aroclor-1262	0	U	0.07	0.3	1	Total ug	0.3	U

Intermet/Wagner Castings Wipe, OIl, Soil, and Sand Results
CT Laboratories Report No. 121894

Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	DL	RL	DF	Units	Val. Results	Val. Qualifiers
IW-WO-14	767551	Aroclor-1232	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-14	767551	Aroclor-1254	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-14	767551	Aroclor-1260	0.12	JQ	0.06	0.3	1	Total ug	0.12	J-
IW-WO-15	767552	Aroclor-1016	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-15	767552	Aroclor-1268	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-15	767552	Aroclor-1248	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-15	767552	Aroclor-1242	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-15	767552	Aroclor-1221	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-15	767552	Aroclor-1262	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-15	767552	Aroclor-1232	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-15	767552	Aroclor-1254	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-15	767552	Aroclor-1260	0.14	JQ,P	0.06	0.3	1	Total ug	0.14	J-
IW-WO-16	767553	Aroclor-1016	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-16	767553	Aroclor-1268	0	U	0.05	0.3	1	Total ug	0.3	U
IW-WO-16	767553	Aroclor-1260	0	UQ	0.06	0.3	1	Total ug	0.3	UJ
IW-WO-16	767553	Aroclor-1248	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-16	767553	Aroclor-1242	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-16	767553	Aroclor-1221	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-16	767553	Aroclor-1262	0	U	0.07	0.3	1	Total ug	0.3	U
IW-WO-16	767553	Aroclor-1232	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-16	767553	Aroclor-1254	0	U	0.09	0.3	1	Total ug	0.3	U
IW-WO-17	767554	Aroclor-1016	0	U	0.5	3	10	Total ug	0.3	U
IW-WO-17	767554	Aroclor-1268	0	U	0.5	3	10	Total ug	0.3	U
IW-WO-17	767554	Aroclor-1260	0	UQ	0.6	3	10	Total ug	0.3	UJ
IW-WO-17	767554	Aroclor-1242	0	U	0.7	3	10	Total ug	0.3	U
IW-WO-17	767554	Aroclor-1221	0	U	0.7	3	10	Total ug	0.3	U
IW-WO-17	767554	Aroclor-1262	0	U	0.7	3	10	Total ug	0.3	U
IW-WO-17	767554	Aroclor-1232	0	U	0.9	3	10	Total ug	0.3	U
IW-WO-17	767554	Aroclor-1254	0	U	0.9	3	10	Total ug	0.3	U
IW-WO-17	767554	Aroclor-1248	36.9		0.7	3	10	Total ug	36.9	
IW-WO-17 DUP	767555	Aroclor-1016	0	U	1	6	20	Total ug	6	U
IW-WO-17 DUP	767555	Aroclor-1268	0	U	1	6	20	Total ug	6	U
IW-WO-17 DUP	767555	Aroclor-1260	0	UQ	1.2	6	20	Total ug	6	UJ

Intermet/Wagner Castings Wipe, OIl, Soil, and Sand Results
CT Laboratories Report No. 121894

Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	DL	RL	DF	Units	Val. Results	Val. Qualifiers
IW-WO-17 DUP	767555	Aroclor-1242	0	U	1.4	6	20	Total ug	6	U
IW-WO-17 DUP	767555	Aroclor-1221	0	U	1.4	6	20	Total ug	6	U
IW-WO-17 DUP	767555	Aroclor-1262	0	U	1.4	6	20	Total ug	6	U
IW-WO-17 DUP	767555	Aroclor-1232	0	U	1.8	6	20	Total ug	6	U
IW-WO-17 DUP	767555	Aroclor-1254	0	U	1.8	6	20	Total ug	6	U
IW-WO-17 DUP	767555	Aroclor-1248	49.4		1.4	6	20	Total ug	49.4	
IW-WO-18	767556	Aroclor-1016	0	U	0.05	0.3	1	Total ug	0.3	UJ
IW-WO-18	767556	Aroclor-1268	0	U	0.05	0.3	1	Total ug	0.3	UJ
IW-WO-18	767556	Aroclor-1260	0	UQ	0.06	0.3	1	Total ug	0.3	UJ
IW-WO-18	767556	Aroclor-1248	0	U	0.07	0.3	1	Total ug	0.3	UJ
IW-WO-18	767556	Aroclor-1221	0	U	0.07	0.3	1	Total ug	0.3	UJ
IW-WO-18	767556	Aroclor-1262	0	U	0.07	0.3	1	Total ug	0.3	UJ
IW-WO-18	767556	Aroclor-1232	0	U	0.09	0.3	1	Total ug	0.3	UJ
IW-WO-18	767556	Aroclor-1254	0	U	0.09	0.3	1	Total ug	0.3	UJ
IW-WO-18	767556	Aroclor-1242	1.03		0.07	0.3	1	Total ug	1.03	J-
IW-WO-18 DUP	767557	Aroclor-1016	0	U	0.05	0.3	1	Total ug	0.3	UJ
IW-WO-18 DUP	767557	Aroclor-1268	0	U	0.05	0.3	1	Total ug	0.3	UJ
IW-WO-18 DUP	767557	Aroclor-1260	0	U	0.06	0.3	1	Total ug	0.3	UJ
IW-WO-18 DUP	767557	Aroclor-1248	0	U	0.07	0.3	1	Total ug	0.3	UJ
IW-WO-18 DUP	767557	Aroclor-1221	0	U	0.07	0.3	1	Total ug	0.3	UJ
IW-WO-18 DUP	767557	Aroclor-1262	0	U	0.07	0.3	1	Total ug	0.3	UJ
IW-WO-18 DUP	767557	Aroclor-1232	0	U	0.09	0.3	1	Total ug	0.3	UJ
IW-WO-18 DUP	767557	Aroclor-1254	0	U	0.09	0.3	1	Total ug	0.3	UJ
IW-WO-18 DUP	767557	Aroclor-1242	2.37		0.07	0.3	1	Total ug	2.37	J-
IW-WO-19	767558	Aroclor-1016	0	U	0.05	0.3	1	Total ug	0.3	UJ
IW-WO-19	767558	Aroclor-1268	0	U	0.05	0.3	1	Total ug	0.3	UJ
IW-WO-19	767558	Aroclor-1260	0	U	0.06	0.3	1	Total ug	0.3	UJ
IW-WO-19	767558	Aroclor-1248	0	U	0.07	0.3	1	Total ug	0.3	UJ
IW-WO-19	767558	Aroclor-1221	0	U	0.07	0.3	1	Total ug	0.3	UJ
IW-WO-19	767558	Aroclor-1262	0	U	0.07	0.3	1	Total ug	0.3	UJ
IW-WO-19	767558	Aroclor-1232	0	U	0.09	0.3	1	Total ug	0.3	UJ
IW-WO-19	767558	Aroclor-1254	0	U	0.09	0.3	1	Total ug	0.3	UJ
IW-WO-19	767558	Aroclor-1242	5.14		0.07	0.3	1	Total ug	5.14	J-

Intermet/Wagner Castings Wipe, Oil, Soil, and Sand Results
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Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	DL	RL	DF	Units	Val. Results	Val. Qualifiers
IW-WO-19 DUP	767559	Aroclor-1016	0	U	1	6	20	Total ug	6	U
IW-WO-19 DUP	767559	Aroclor-1268	0	U	1	6	20	Total ug	6	U
IW-WO-19 DUP	767559	Aroclor-1260	0	U	1.2	6	20	Total ug	6	U
IW-WO-19 DUP	767559	Aroclor-1248	0	U	1.4	6	20	Total ug	6	U
IW-WO-19 DUP	767559	Aroclor-1221	0	U	1.4	6	20	Total ug	6	U
IW-WO-19 DUP	767559	Aroclor-1262	0	U	1.4	6	20	Total ug	6	U
IW-WO-19 DUP	767559	Aroclor-1232	0	U	1.8	6	20	Total ug	6	U
IW-WO-19 DUP	767559	Aroclor-1254	0	U	1.8	6	20	Total ug	6	U
IW-WO-19 DUP	767559	Aroclor-1242	61.6		1.8	6	20	Total ug	61.6	J
IW-WO-20	767560	Aroclor-1016	0	U	250	1500	5000	Total ug	1500	U
IW-WO-20	767560	Aroclor-1268	0	U	250	1500	5000	Total ug	1500	U
IW-WO-20	767560	Aroclor-1260	0	U	300	1500	5000	Total ug	1500	U
IW-WO-20	767560	Aroclor-1248	0	U	350	1500	5000	Total ug	1500	U
IW-WO-20	767560	Aroclor-1221	0	U	350	1500	5000	Total ug	1500	U
IW-WO-20	767560	Aroclor-1262	0	U	350	1500	5000	Total ug	1500	U
IW-WO-20	767560	Aroclor-1232	0	U	450	1500	5000	Total ug	1500	U
IW-WO-20	767560	Aroclor-1254	0	U	450	1500	5000	Total ug	1500	U
IW-WO-20	767560	Aroclor-1242	26200		350	1500	5000	Total ug	26200	
IW-WO-21	767561	Aroclor-1016	0	U	0.25	1.5	5	Total ug	1.5	U
IW-WO-21	767561	Aroclor-1268	0	U	0.25	1.5	5	Total ug	1.5	U
IW-WO-21	767561	Aroclor-1260	0	U	0.3	1.5	5	Total ug	1.5	U
IW-WO-21	767561	Aroclor-1248	0	U	0.35	1.5	5	Total ug	1.5	U
IW-WO-21	767561	Aroclor-1221	0	U	0.35	1.5	5	Total ug	1.5	U
IW-WO-21	767561	Aroclor-1262	0	U	0.35	1.5	5	Total ug	1.5	U
IW-WO-21	767561	Aroclor-1232	0	U	0.45	1.5	5	Total ug	1.5	U
IW-WO-21	767561	Aroclor-1254	0	U	0.45	1.5	5	Total ug	1.5	U
IW-WO-21	767561	Aroclor-1242	14.2		0.35	1.5	5	Total ug	14.2	
IW-BO-01	767562	Aroclor-1016	0	U	4600000	28000000	100000	ug/kg	28000000	U
IW-BO-01	767562	Aroclor-1268	0	U	4600000	28000000	100000	ug/kg	28000000	U
IW-BO-01	767562	Aroclor-1260	0	U	5600000	28000000	100000	ug/kg	28000000	U
IW-BO-01	767562	Aroclor-1248	0	U	6500000	28000000	100000	ug/kg	28000000	U
IW-BO-01	767562	Aroclor-1221	0	U	6500000	28000000	100000	ug/kg	28000000	U
IW-BO-01	767562	Aroclor-1262	0	U	6500000	28000000	100000	ug/kg	28000000	U

Intermet/Wagner Castings Wipe, Oil, Soil, and Sand Results
CT Laboratories Report No. 121894

Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	DL	RL	DF	Units	Val. Results	Val. Qualifiers
IW-BO-01	767562	Aroclor-1232	0	U	8300000	28000000	100000	ug/kg	28000000	U
IW-BO-01	767562	Aroclor-1254	0	U	8300000	28000000	100000	ug/kg	28000000	U
IW-BO-01	767562	Aroclor-1242	439000000		6500000	28000000	100000	ug/kg	439000000	
IW-SS-01	767563	Aroclor-1232	0	U	11	35	1	ug/kg	35	UJ
IW-SS-01	767563	Aroclor-1016	0	U	5.9	35	1	ug/kg	35	UJ
IW-SS-01	767563	Aroclor-1268	0	U	5.9	35	1	ug/kg	35	UJ
IW-SS-01	767563	Aroclor-1248	0	U	8.3	35	1	ug/kg	35	UJ
IW-SS-01	767563	Aroclor-1221	0	U	8.3	35	1	ug/kg	35	UJ
IW-SS-01	767563	Aroclor-1262	0	U	8.3	35	1	ug/kg	35	UJ
IW-SS-01	767563	Aroclor-1260	122		7.1	35	1	ug/kg	122	J-
IW-SS-01	767563	Aroclor-1242	143		8.3	35	1	ug/kg	143	J-
IW-SS-01	767563	Aroclor-1254	242		11	35	1	ug/kg	242	J-
IW-SS-02	767564	Aroclor-1016	0	U	5.4	32	1	ug/kg	32	UJ
IW-SS-02	767564	Aroclor-1268	0	U	5.4	32	1	ug/kg	32	UJ
IW-SS-02	767564	Aroclor-1248	0	U	7.5	32	1	ug/kg	32	UJ
IW-SS-02	767564	Aroclor-1221	0	U	7.5	32	1	ug/kg	32	UJ
IW-SS-02	767564	Aroclor-1262	0	U	7.5	32	1	ug/kg	32	UJ
IW-SS-02	767564	Aroclor-1232	0	U	9.7	32	1	ug/kg	32	UJ
IW-SS-02	767564	Aroclor-1254	0	U	9.7	32	1	ug/kg	32	UJ
IW-SS-02	767564	Aroclor-1260	168		6.5	32	1	ug/kg	168	J-
IW-SS-02	767564	Aroclor-1242	60.3		7.5	32	1	ug/kg	60.3	J-
IW-SS-03	767565	Aroclor-1232	0	U	10	33	1	ug/kg	33	UJ
IW-SS-03	767565	Aroclor-1254	0	U	10	33	1	ug/kg	33	UJ
IW-SS-03	767565	Aroclor-1016	0	U	5.5	33	1	ug/kg	33	UJ
IW-SS-03	767565	Aroclor-1268	0	U	5.5	33	1	ug/kg	33	UJ
IW-SS-03	767565	Aroclor-1248	0	U	7.8	33	1	ug/kg	33	UJ
IW-SS-03	767565	Aroclor-1242	0	U	7.8	33	1	ug/kg	33	UJ
IW-SS-03	767565	Aroclor-1221	0	U	7.8	33	1	ug/kg	33	UJ
IW-SS-03	767565	Aroclor-1262	0	U	7.8	33	1	ug/kg	33	UJ
IW-SS-03	767565	Aroclor-1260	243		6.7	33	1	ug/kg	243	J-
IW-SS-04	767566	Aroclor-1016	0	U	51	310	10	ug/kg	310	U
IW-SS-04	767566	Aroclor-1268	0	U	51	310	10	ug/kg	310	U
IW-SS-04	767566	Aroclor-1248	0	U	72	310	10	ug/kg	310	U

Intermet/Wagner Castings Wipe, Oil, Soil, and Sand Results
CT Laboratories Report No. 121894

Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	DL	RL	DF	Units	Val. Results	Val. Qualifiers
IW-SS-04	767566	Aroclor-1242	0	U	72	310	10	ug/kg	310	U
IW-SS-04	767566	Aroclor-1221	0	U	72	310	10	ug/kg	310	U
IW-SS-04	767566	Aroclor-1262	0	U	72	310	10	ug/kg	310	U
IW-SS-04	767566	Aroclor-1232	0	U	92	310	10	ug/kg	310	U
IW-SS-04	767566	Aroclor-1254	0	U	92	310	10	ug/kg	310	U
IW-SS-04	767566	Aroclor-1260	4810		62	310	10	ug/kg	4810	
IW-SS-05	767567	Aroclor-1232	0	U	11	35	1	ug/kg	35	UJ
IW-SS-05	767567	Aroclor-1254	0	U	11	35	1	ug/kg	35	UJ
IW-SS-05	767567	Aroclor-1016	0	U	5.9	35	1	ug/kg	35	UJ
IW-SS-05	767567	Aroclor-1268	0	U	5.9	35	1	ug/kg	35	UJ
IW-SS-05	767567	Aroclor-1248	0	U	8.3	35	1	ug/kg	35	UJ
IW-SS-05	767567	Aroclor-1242	0	U	8.3	35	1	ug/kg	35	UJ
IW-SS-05	767567	Aroclor-1221	0	U	8.3	35	1	ug/kg	35	UJ
IW-SS-05	767567	Aroclor-1262	0	U	8.3	35	1	ug/kg	35	UJ
IW-SS-05	767567	Aroclor-1260	271		7.1	35	1	ug/kg	271	J-
IW-SS-06	767568	Aroclor-1232	0	U	12	40	1	ug/kg	40	UJ
IW-SS-06	767568	Aroclor-1254	0	U	12	40	1	ug/kg	40	UJ
IW-SS-06	767568	Aroclor-1016	0	U	6.7	40	1	ug/kg	40	UJ
IW-SS-06	767568	Aroclor-1268	0	U	6.7	40	1	ug/kg	40	UJ
IW-SS-06	767568	Aroclor-1248	0	U	9.3	40	1	ug/kg	40	UJ
IW-SS-06	767568	Aroclor-1242	0	U	9.3	40	1	ug/kg	40	UJ
IW-SS-06	767568	Aroclor-1221	0	U	9.3	40	1	ug/kg	40	UJ
IW-SS-06	767568	Aroclor-1262	0	U	9.3	40	1	ug/kg	40	UJ
IW-SS-06	767568	Aroclor-1260	76.1		8	40	1	ug/kg	76.1	J-
IW-SS-07	767569	Aroclor-1232	0	U	11	36	1	ug/kg	36	UJ
IW-SS-07	767569	Aroclor-1254	0	U	11	36	1	ug/kg	36	UJ
IW-SS-07	767569	Aroclor-1016	0	U	6	36	1	ug/kg	36	UJ
IW-SS-07	767569	Aroclor-1268	0	U	6	36	1	ug/kg	36	UJ
IW-SS-07	767569	Aroclor-1248	0	U	8.4	36	1	ug/kg	36	UJ
IW-SS-07	767569	Aroclor-1242	0	U	8.4	36	1	ug/kg	36	UJ
IW-SS-07	767569	Aroclor-1221	0	U	8.4	36	1	ug/kg	36	UJ
IW-SS-07	767569	Aroclor-1262	0	U	8.4	36	1	ug/kg	36	UJ
IW-SS-07	767569	Aroclor-1260	269	P	7.2	36	1	ug/kg	269	J-

Intermet/Wagner Castings Wipe, Oil, Soil, and Sand Results
CT Laboratories Report No. 121894

Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	DL	RL	DF	Units	Val. Results	Val. Qualifiers
IW-SS-08	767570	Aroclor-1232	0	U	10	35	1	ug/kg	35	UJ
IW-SS-08	767570	Aroclor-1254	0	U	10	35	1	ug/kg	35	UJ
IW-SS-08	767570	Aroclor-1016	0	U	5.8	35	1	ug/kg	35	UJ
IW-SS-08	767570	Aroclor-1268	0	U	5.8	35	1	ug/kg	35	UJ
IW-SS-08	767570	Aroclor-1248	0	U	8.1	35	1	ug/kg	35	UJ
IW-SS-08	767570	Aroclor-1242	0	U	8.1	35	1	ug/kg	35	UJ
IW-SS-08	767570	Aroclor-1221	0	U	8.1	35	1	ug/kg	35	UJ
IW-SS-08	767570	Aroclor-1262	0	U	8.1	35	1	ug/kg	35	UJ
IW-SS-08	767570	Aroclor-1260	149		6.9	35	1	ug/kg	149	J-
IW-SS-09	767571	Aroclor-1232	0	U	11	35	1	ug/kg	35	UJ
IW-SS-09	767571	Aroclor-1016	0	U	5.8	35	1	ug/kg	35	UJ
IW-SS-09	767571	Aroclor-1268	0	U	5.8	35	1	ug/kg	35	UJ
IW-SS-09	767571	Aroclor-1248	0	U	8.2	35	1	ug/kg	35	UJ
IW-SS-09	767571	Aroclor-1242	0	U	8.2	35	1	ug/kg	35	UJ
IW-SS-09	767571	Aroclor-1221	0	U	8.2	35	1	ug/kg	35	UJ
IW-SS-09	767571	Aroclor-1262	0	U	8.2	35	1	ug/kg	35	UJ
IW-SS-09	767571	Aroclor-1260	44.4		7	35	1	ug/kg	44.4	J-
IW-SS-09	767571	Aroclor-1254	76		11	35	1	ug/kg	76	J-
IW-SS-10	767572	Aroclor-1016	0	U	33	200	5	ug/kg	200	UJ
IW-SS-10	767572	Aroclor-1268	0	U	33	200	5	ug/kg	200	UJ
IW-SS-10	767572	Aroclor-1248	0	U	46	200	5	ug/kg	200	UJ
IW-SS-10	767572	Aroclor-1242	0	U	46	200	5	ug/kg	200	UJ
IW-SS-10	767572	Aroclor-1221	0	U	46	200	5	ug/kg	200	UJ
IW-SS-10	767572	Aroclor-1262	0	U	46	200	5	ug/kg	200	UJ
IW-SS-10	767572	Aroclor-1232	0	U	59	200	5	ug/kg	200	UJ
IW-SS-10	767572	Aroclor-1254	0	U	59	200	5	ug/kg	200	UJ
IW-SS-10	767572	Aroclor-1260	3260		39	200	5	ug/kg	3260	J-
IW-SS-10 DUP	767573	Aroclor-1232	0	U	120	380	10	ug/kg	380	U
IW-SS-10 DUP	767573	Aroclor-1254	0	U	120	380	10	ug/kg	380	U
IW-SS-10 DUP	767573	Aroclor-1016	0	U	64	380	10	ug/kg	380	U
IW-SS-10 DUP	767573	Aroclor-1268	0	U	64	380	10	ug/kg	380	U
IW-SS-10 DUP	767573	Aroclor-1248	0	U	90	380	10	ug/kg	380	U
IW-SS-10 DUP	767573	Aroclor-1242	0	U	90	380	10	ug/kg	380	U

Intermet/Wagner Castings Wipe, OIl, Soil, and Sand Results
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Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	DL	RL	DF	Units	Val. Results	Val. Qualifiers
IW-SS-10 DUP	767573	Aroclor-1221	0	U	90	380	10	ug/kg	380	U
IW-SS-10 DUP	767573	Aroclor-1262	0	U	90	380	10	ug/kg	380	U
IW-SS-10 DUP	767573	Aroclor-1260	4710		77	380	10	ug/kg	4710	
IW-SS-11	767574	Aroclor-1016	0	U	100	620	20	ug/kg	620	U
IW-SS-11	767574	Aroclor-1268	0	U	100	620	20	ug/kg	620	U
IW-SS-11	767574	Aroclor-1248	0	U	140	620	20	ug/kg	620	U
IW-SS-11	767574	Aroclor-1242	0	U	140	620	20	ug/kg	620	U
IW-SS-11	767574	Aroclor-1221	0	U	140	620	20	ug/kg	620	U
IW-SS-11	767574	Aroclor-1262	0	U	140	620	20	ug/kg	620	U
IW-SS-11	767574	Aroclor-1232	0	U	190	620	20	ug/kg	620	U
IW-SS-11	767574	Aroclor-1254	0	U	190	620	20	ug/kg	620	U
IW-SS-11	767574	Aroclor-1260	1080		120	620	20	ug/kg	1080	
IW-SS-11 DUP	767575	Aroclor-1016	0	U	100	630	20	ug/kg	630	U
IW-SS-11 DUP	767575	Aroclor-1268	0	U	100	630	20	ug/kg	630	U
IW-SS-11 DUP	767575	Aroclor-1248	0	U	150	630	20	ug/kg	630	U
IW-SS-11 DUP	767575	Aroclor-1242	0	U	150	630	20	ug/kg	630	U
IW-SS-11 DUP	767575	Aroclor-1221	0	U	150	630	20	ug/kg	630	U
IW-SS-11 DUP	767575	Aroclor-1262	0	U	150	630	20	ug/kg	630	U
IW-SS-11 DUP	767575	Aroclor-1232	0	U	190	630	20	ug/kg	630	U
IW-SS-11 DUP	767575	Aroclor-1254	0	U	190	630	20	ug/kg	630	U
IW-SS-11 DUP	767575	Aroclor-1260	983		130	630	20	ug/kg	983	
IW-FS-01	767576	Mercury	0	U	0.00003	0.00012	1	mg/L	0.00012	U
IW-FS-01	767576	Cadmium	0	U	0.0003	0.002	1	mg/L	0.002	U
IW-FS-01	767576	Chromium	0	U	0.0006	0.004	1	mg/L	0.004	UJ
IW-FS-01	767576	Silver	0.0014	J	0.0007	0.004	1	mg/L	0.0014	J
IW-FS-01	767576	Lead	0.017		0.0014	0.004	1	mg/L	0.017	
IW-FS-01	767576	Selenium	0.025		0.0022	0.013	1	mg/L	0.025	
IW-FS-01	767576	Arsenic	0.025		0.004	0.024	1	mg/L	0.025	
IW-FS-01	767576	Barium	0.24		0.00029	0.0018	1	mg/L	0.24	
IW-FS-01 DUP	767577	Mercury	0	U	0.00003	0.00012	1	mg/L	0.00012	U
IW-FS-01 DUP	767577	Cadmium	0	U	0.0003	0.002	1	mg/L	0.002	U
IW-FS-01 DUP	767577	Silver	0.0009	J	0.0007	0.004	1	mg/L	0.0009	J
IW-FS-01 DUP	767577	Lead	0.02		0.0014	0.004	1	mg/L	0.02	

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Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	DL	RL	DF	Units	Val. Results	Val. Qualifiers
IW-FS-01 DUP	767577	Selenium	0.023		0.0022	0.013	1	mg/L	0.023	
IW-FS-01 DUP	767577	Arsenic	0.028		0.004	0.024	1	mg/L	0.028	
IW-FS-01 DUP	767577	Barium	0.25		0.00029	0.0018	1	mg/L	0.25	
IW-FS-01 DUP	767577	Chromium	0.61		0.0006	0.004	1	mg/L	0.61	J
IW-FS-02	767578	Mercury	0	U	0.00003	0.00012	1	mg/L	0.00012	U
IW-FS-02	767578	Silver	0	U	0.0007	0.004	1	mg/L	0.004	U
IW-FS-02	767578	Selenium	0	U	0.0022	0.013	1	mg/L	0.013	U
IW-FS-02	767578	Cadmium	0.001	J	0.0003	0.002	1	mg/L	0.001	J
IW-FS-02	767578	Arsenic	0.0075	J	0.004	0.024	1	mg/L	0.0075	J
IW-FS-02	767578	Lead	0.014		0.0014	0.004	1	mg/L	0.014	
IW-FS-02	767578	Chromium	0.018		0.0006	0.004	1	mg/L	0.018	
IW-FS-02	767578	Barium	0.23		0.00029	0.0018	1	mg/L	0.23	
IW-FS-03	767579	Mercury	0.000031	J	0.00003	0.00012	1	mg/L	0.000031	J
IW-FS-03	767579	Cadmium	0	U	0.0003	0.002	1	mg/L	0.002	U
IW-FS-03	767579	Silver	0	U	0.0007	0.004	1	mg/L	0.004	U
IW-FS-03	767579	Lead	0.0051		0.0014	0.004	1	mg/L	0.0051	
IW-FS-03	767579	Selenium	0.0087	J	0.0022	0.013	1	mg/L	0.0087	J
IW-FS-03	767579	Arsenic	0.011	J	0.004	0.024	1	mg/L	0.011	J
IW-FS-03	767579	Chromium	0.023		0.0006	0.004	1	mg/L	0.023	
IW-FS-03	767579	Barium	0.25		0.00029	0.0018	1	mg/L	0.25	
IW-SO-01	767580	Mercury	0.000036	J	0.00003	0.00012	1	mg/L	0.000036	J
IW-SO-01	767580	Silver	0	U	0.0007	0.004	1	mg/L	0.004	U
IW-SO-01	767580	Selenium	0.008	J	0.0022	0.013	1	mg/L	0.008	J
IW-SO-01	767580	Arsenic	0.0092	J	0.004	0.024	1	mg/L	0.0092	J
IW-SO-01	767580	Lead	0.013		0.0014	0.004	1	mg/L	0.013	
IW-SO-01	767580	Cadmium	0.19		0.0003	0.002	1	mg/L	0.19	
IW-SO-01	767580	Barium	0.25		0.00029	0.0018	1	mg/L	0.25	
IW-SO-01	767580	Chromium	0.44		0.0006	0.004	1	mg/L	0.44	
IW-SS-12	767581	Aroclor-1232	0	U	11	37	1	ug/kg	37	UJ
IW-SS-12	767581	Aroclor-1254	0	U	11	37	1	ug/kg	37	UJ
IW-SS-12	767581	Aroclor-1016	0	U	6.1	37	1	ug/kg	37	UJ
IW-SS-12	767581	Aroclor-1268	0	U	6.1	37	1	ug/kg	37	UJ
IW-SS-12	767581	Aroclor-1248	0	U	8.6	37	1	ug/kg	37	UJ

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Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	DL	RL	DF	Units	Val. Results	Val. Qualifiers
IW-SS-12	767581	Aroclor-1242	0	U	8.6	37	1	ug/kg	37	UJ
IW-SS-12	767581	Aroclor-1221	0	U	8.6	37	1	ug/kg	37	UJ
IW-SS-12	767581	Aroclor-1262	0	U	8.6	37	1	ug/kg	37	UJ
IW-SS-12	767581	Aroclor-1260	66.4		7.4	37	1	ug/kg	66.4	J-
IW-SS-12	767582	Chloroform	0	U	0.015	0.05	100	mg/L	0.05	U
IW-SS-12	767582	Vinyl chloride	0	U	0.018	0.1	100	mg/L	0.1	U
IW-SS-12	767582	Benzene	0	U	0.019	0.1	100	mg/L	0.1	U
IW-SS-12	767582	Trichloroethene	0	U	0.021	0.1	100	mg/L	0.1	U
IW-SS-12	767582	Carbon tetrachloride	0	U	0.023	0.1	100	mg/L	0.1	U
IW-SS-12	767582	1,1-Dichloroethene	0	U	0.024	0.1	100	mg/L	0.1	U
IW-SS-12	767582	Chlorobenzene	0	U	0.024	0.1	100	mg/L	0.1	U
IW-SS-12	767582	1,2-Dichloroethane	0	U	0.03	0.1	100	mg/L	0.1	U
IW-SS-12	767582	Tetrachloroethene	0	U	0.03	0.1	100	mg/L	0.1	U
IW-SS-12	767582	2-Butanone	0	U	0.24	1	100	mg/L	1	U
IW-SS-12	767582	Mercury	0	U	0.00003	0.00012	1	mg/L	0.00012	U
IW-SS-12	767582	Chromium	0	U	0.0006	0.004	1	mg/L	0.004	U
IW-SS-12	767582	Lead	0	U	0.0014	0.004	1	mg/L	0.004	UJ
IW-SS-12	767582	Silver	0	U	0.0007	0.004	1	mg/L	0.004	U
IW-SS-12	767582	Cadmium	0.0045		0.0003	0.002	1	mg/L	0.0045	
IW-SS-12	767582	Selenium	0.0059	J	0.0022	0.013	1	mg/L	0.0059	J+
IW-SS-12	767582	Arsenic	0.012	J	0.004	0.024	1	mg/L	0.012	J+
IW-SS-12	767582	Barium	0.48		0.00029	0.0018	1	mg/L	0.48	
IW-SS-12	767582	2,4,5-TP (Silvex)	0	UM	0.00021	0.0012	1	mg/L	0.0012	UJ
IW-SS-12	767582	2,4-D	0	UM	0.0015	0.006	1	mg/L	0.006	UJ
IW-SS-12	767582	Heptachlor	0	U	0.00006	0.00024	1	mg/L	0.00024	U
IW-SS-12	767582	Endrin	0	U	0.00006	0.00024	1	mg/L	0.00024	U
IW-SS-12	767582	Methoxychlor	0	U	0.00006	0.0004	1	mg/L	0.0004	U
IW-SS-12	767582	Heptachlor epoxide	0	U	0.00007	0.00024	1	mg/L	0.00024	U
IW-SS-12	767582	Lindane	0	U	0.00007	0.00024	1	mg/L	0.00024	U
IW-SS-12	767582	gamma-Chlordane	0	U	0.00007	0.00024	1	mg/L	0.00024	U
IW-SS-12	767582	alpha-Chlordane	0	U	0.00009	0.0004	1	mg/L	0.0004	U
IW-SS-12	767582	Chlordane (Technical)	0	U	0.001	0.006	1	mg/L	0.006	U
IW-SS-12	767582	Toxaphene	0	U	0.0018	0.006	1	mg/L	0.006	U

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Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	DL	RL	DF	Units	Val. Results	Val. Qualifiers
IW-SS-12	767582	Nitrobenzene	0	U	0.0016	0.01	1	mg/L	0.01	U
IW-SS-12	767582	Hexachlorobutadiene	0	U	0.0018	0.01	1	mg/L	0.01	U
IW-SS-12	767582	1,4-Dichlorobenzene	0	U	0.0019	0.01	1	mg/L	0.01	U
IW-SS-12	767582	2,4-Dinitrotoluene	0	U	0.0021	0.01	1	mg/L	0.01	U
IW-SS-12	767582	Hexachloroethane	0	U	0.0022	0.01	1	mg/L	0.01	U
IW-SS-12	767582	Hexachlorobenzene	0	U	0.0027	0.01	1	mg/L	0.01	U
IW-SS-12	767582	Pyridine	0	U	0.0062	0.04	1	mg/L	0.04	U
IW-SS-12	767582	2-Methylphenol	0	U	0.0086	0.05	1	mg/L	0.05	U
IW-SS-12	767582	2,4,6-Trichlorophenol	0	U	0.01	0.05	1	mg/L	0.05	U
IW-SS-12	767582	Pentachlorophenol	0	U	0.011	0.05	1	mg/L	0.05	U
IW-SS-12	767582	2,4,5-Trichlorophenol	0	U	0.011	0.05	1	mg/L	0.05	U
IW-SS-12	767582	3 & 4-Methylphenol	0	U	0.014	0.09	1	mg/L	0.09	U
IW-SS-12 DUP	767583	Aroclor-1232	0	U	11	35	1	ug/kg	35	UJ
IW-SS-12 DUP	767583	Aroclor-1254	0	U	11	35	1	ug/kg	35	UJ
IW-SS-12 DUP	767583	Aroclor-1016	0	U	5.9	35	1	ug/kg	35	UJ
IW-SS-12 DUP	767583	Aroclor-1268	0	U	5.9	35	1	ug/kg	35	UJ
IW-SS-12 DUP	767583	Aroclor-1248	0	U	8.3	35	1	ug/kg	35	UJ
IW-SS-12 DUP	767583	Aroclor-1242	0	U	8.3	35	1	ug/kg	35	UJ
IW-SS-12 DUP	767583	Aroclor-1221	0	U	8.3	35	1	ug/kg	35	UJ
IW-SS-12 DUP	767583	Aroclor-1262	0	U	8.3	35	1	ug/kg	35	UJ
IW-SS-12 DUP	767583	Aroclor-1260	70.9		7.1	35	1	ug/kg	70.9	J-
IW-SS-12 DUP	767584	Chloroform	0	U	0.015	0.05	100	mg/L	0.05	U
IW-SS-12 DUP	767584	Vinyl chloride	0	U	0.018	0.1	100	mg/L	0.1	U
IW-SS-12 DUP	767584	Benzene	0	U	0.019	0.1	100	mg/L	0.1	U
IW-SS-12 DUP	767584	Trichloroethene	0	U	0.021	0.1	100	mg/L	0.1	U
IW-SS-12 DUP	767584	Carbon tetrachloride	0	U	0.023	0.1	100	mg/L	0.1	U
IW-SS-12 DUP	767584	1,1-Dichloroethene	0	U	0.024	0.1	100	mg/L	0.1	U
IW-SS-12 DUP	767584	Chlorobenzene	0	U	0.024	0.1	100	mg/L	0.1	U
IW-SS-12 DUP	767584	1,2-Dichloroethane	0	U	0.03	0.1	100	mg/L	0.1	U
IW-SS-12 DUP	767584	Tetrachloroethene	0	U	0.03	0.1	100	mg/L	0.1	U
IW-SS-12 DUP	767584	2-Butanone	0	U	0.24	1	100	mg/L	1	U
IW-SS-12 DUP	767584	Mercury	0	U	0.00003	0.00012	1	mg/L	0.00012	U
IW-SS-12 DUP	767584	Silver	0	U	0.0007	0.004	1	mg/L	0.004	U

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Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	DL	RL	DF	Units	Val. Results	Val. Qualifiers
IW-SS-12 DUP	767584	Chromium	0	U	0.0006	0.004	1	mg/L	0.004	U
IW-SS-12 DUP	767584	Arsenic	0.0073	J	0.004	0.024	1	mg/L	0.0073	J+
IW-SS-12 DUP	767584	Lead	0.0083		0.0014	0.004	1	mg/L	0.0083	J
IW-SS-12 DUP	767584	Cadmium	0.0088		0.0003	0.002	1	mg/L	0.0088	
IW-SS-12 DUP	767584	Selenium	0.02		0.0022	0.013	1	mg/L	0.02	J+
IW-SS-12 DUP	767584	Barium	0.63		0.00029	0.0018	1	mg/L	0.63	
IW-SS-12 DUP	767584	2,4,5-TP (Silvex)	0	U	0.00021	0.0012	1	mg/L	0.0012	UJ
IW-SS-12 DUP	767584	2,4-D	0	U	0.0015	0.006	1	mg/L	0.006	UJ
IW-SS-12 DUP	767584	Heptachlor	0	U	0.00006	0.00024	1	mg/L	0.00024	U
IW-SS-12 DUP	767584	Endrin	0	U	0.00006	0.00024	1	mg/L	0.00024	U
IW-SS-12 DUP	767584	Methoxychlor	0	U	0.00006	0.0004	1	mg/L	0.0004	U
IW-SS-12 DUP	767584	Heptachlor epoxide	0	U	0.00007	0.00024	1	mg/L	0.00024	U
IW-SS-12 DUP	767584	Lindane	0	U	0.00007	0.00024	1	mg/L	0.00024	U
IW-SS-12 DUP	767584	gamma-Chlordane	0	U	0.00007	0.00024	1	mg/L	0.00024	U
IW-SS-12 DUP	767584	alpha-Chlordane	0	U	0.00009	0.0004	1	mg/L	0.0004	U
IW-SS-12 DUP	767584	Chlordane (Technical)	0	U	0.001	0.006	1	mg/L	0.006	U
IW-SS-12 DUP	767584	Toxaphene	0	U	0.0018	0.006	1	mg/L	0.006	U
IW-SS-12 DUP	767584	Nitrobenzene	0	U	0.0016	0.01	1	mg/L	0.01	U
IW-SS-12 DUP	767584	Hexachlorobutadiene	0	U	0.0018	0.01	1	mg/L	0.01	U
IW-SS-12 DUP	767584	1,4-Dichlorobenzene	0	U	0.0019	0.01	1	mg/L	0.01	U
IW-SS-12 DUP	767584	2,4-Dinitrotoluene	0	U	0.0021	0.01	1	mg/L	0.01	U
IW-SS-12 DUP	767584	Hexachloroethane	0	U	0.0022	0.01	1	mg/L	0.01	U
IW-SS-12 DUP	767584	Hexachlorobenzene	0	U	0.0027	0.01	1	mg/L	0.01	U
IW-SS-12 DUP	767584	Pyridine	0	U	0.0062	0.04	1	mg/L	0.04	U
IW-SS-12 DUP	767584	2-Methylphenol	0	U	0.0086	0.05	1	mg/L	0.05	U
IW-SS-12 DUP	767584	2,4,6-Trichlorophenol	0	U	0.01	0.05	1	mg/L	0.05	U
IW-SS-12 DUP	767584	Pentachlorophenol	0	U	0.011	0.05	1	mg/L	0.05	U
IW-SS-12 DUP	767584	2,4,5-Trichlorophenol	0	U	0.011	0.05	1	mg/L	0.05	U
IW-SS-12 DUP	767584	3 & 4-Methylphenol	0	U	0.014	0.09	1	mg/L	0.09	U
IW-SS-13	767608	Aroclor-1016	0	U	5.5	33	1	ug/kg	33	UJ
IW-SS-13	767608	Aroclor-1268	0	U	5.5	33	1	ug/kg	33	UJ
IW-SS-13	767608	Aroclor-1248	0	U	7.7	33	1	ug/kg	33	UJ
IW-SS-13	767608	Aroclor-1242	0	U	7.7	33	1	ug/kg	33	UJ

Intermet/Wagner Castings Wipe, OIl, Soil, and Sand Results
CT Laboratories Report No. 121894

Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	DL	RL	DF	Units	Val. Results	Val. Qualifiers
IW-SS-13	767608	Aroclor-1221	0	U	7.7	33	1	ug/kg	33	UJ
IW-SS-13	767608	Aroclor-1262	0	U	7.7	33	1	ug/kg	33	UJ
IW-SS-13	767608	Aroclor-1232	0	U	9.9	33	1	ug/kg	33	UJ
IW-SS-13	767608	Aroclor-1254	0	U	9.9	33	1	ug/kg	33	UJ
IW-SS-13	767608	Aroclor-1260	55.8		6.6	33	1	ug/kg	55.8	J-
IW-SS-13	767609	Chloroform	0	U	0.015	0.05	100	mg/L	0.05	U
IW-SS-13	767609	Vinyl chloride	0	U	0.018	0.1	100	mg/L	0.1	U
IW-SS-13	767609	Benzene	0	U	0.019	0.1	100	mg/L	0.1	U
IW-SS-13	767609	Trichloroethene	0	U	0.021	0.1	100	mg/L	0.1	U
IW-SS-13	767609	Carbon tetrachloride	0	U	0.023	0.1	100	mg/L	0.1	U
IW-SS-13	767609	1,1-Dichloroethene	0	U	0.024	0.1	100	mg/L	0.1	U
IW-SS-13	767609	Chlorobenzene	0	U	0.024	0.1	100	mg/L	0.1	U
IW-SS-13	767609	1,2-Dichloroethane	0	U	0.03	0.1	100	mg/L	0.1	U
IW-SS-13	767609	Tetrachloroethene	0	U	0.03	0.1	100	mg/L	0.1	U
IW-SS-13	767609	2-Butanone	0	U	0.24	1	100	mg/L	1	U
IW-SS-13	767609	Mercury	0	U	0.00003	0.00012	1	mg/L	0.00012	U
IW-SS-13	767609	Lead	0	U	0.0014	0.004	1	mg/L	0.004	U
IW-SS-13	767609	Silver	0	U	0.0007	0.004	1	mg/L	0.004	U
IW-SS-13	767609	Chromium	0	U	0.0006	0.004	1	mg/L	0.004	U
IW-SS-13	767609	Cadmium	0.0026		0.0003	0.002	1	mg/L	0.0026	
IW-SS-13	767609	Selenium	0.012	J	0.0022	0.013	1	mg/L	0.012	J
IW-SS-13	767609	Arsenic	0.012	J	0.004	0.024	1	mg/L	0.012	J
IW-SS-13	767609	Barium	0.7		0.00029	0.0018	1	mg/L	0.7	
IW-SS-13	767609	2,4,5-TP (Silvex)	0	U	0.00021	0.0012	1	mg/L	0.0012	U
IW-SS-13	767609	2,4-D	0	U	0.0015	0.006	1	mg/L	0.006	U
IW-SS-13	767609	Heptachlor	0	U	0.00006	0.00024	1	mg/L	0.00024	U
IW-SS-13	767609	Endrin	0	U	0.00006	0.00024	1	mg/L	0.00024	U
IW-SS-13	767609	Methoxychlor	0	U	0.00006	0.0004	1	mg/L	0.0004	U
IW-SS-13	767609	Heptachlor epoxide	0	U	0.00007	0.00024	1	mg/L	0.00024	U
IW-SS-13	767609	Lindane	0	U	0.00007	0.00024	1	mg/L	0.00024	U
IW-SS-13	767609	gamma-Chlordane	0	U	0.00007	0.00024	1	mg/L	0.00024	U
IW-SS-13	767609	alpha-Chlordane	0	U	0.00009	0.0004	1	mg/L	0.0004	U
IW-SS-13	767609	Chlordane (Technical)	0	U	0.001	0.006	1	mg/L	0.006	U

Intermet/Wagner Castings Wipe, Oil, Soil, and Sand Results
CT Laboratories Report No. 121894

Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	DL	RL	DF	Units	Val. Results	Val. Qualifiers
IW-SS-13	767609	Toxaphene	0	U	0.0018	0.006	1	mg/L	0.006	U
IW-SS-13	767609	Nitrobenzene	0	U	0.0016	0.01	1	mg/L	0.01	U
IW-SS-13	767609	Hexachlorobutadiene	0	U	0.0018	0.01	1	mg/L	0.01	U
IW-SS-13	767609	1,4-Dichlorobenzene	0	U	0.0019	0.01	1	mg/L	0.01	U
IW-SS-13	767609	2,4-Dinitrotoluene	0	U	0.0021	0.01	1	mg/L	0.01	U
IW-SS-13	767609	Hexachloroethane	0	U	0.0022	0.01	1	mg/L	0.01	U
IW-SS-13	767609	Hexachlorobenzene	0	U	0.0027	0.01	1	mg/L	0.01	U
IW-SS-13	767609	Pyridine	0	U	0.0062	0.04	1	mg/L	0.04	U
IW-SS-13	767609	2-Methylphenol	0	U	0.0086	0.05	1	mg/L	0.05	U
IW-SS-13	767609	2,4,6-Trichlorophenol	0	U	0.01	0.05	1	mg/L	0.05	U
IW-SS-13	767609	Pentachlorophenol	0	U	0.011	0.05	1	mg/L	0.05	U
IW-SS-13	767609	2,4,5-Trichlorophenol	0	U	0.011	0.05	1	mg/L	0.05	U
IW-SS-13	767609	3 & 4-Methylphenol	0	U	0.014	0.09	1	mg/L	0.09	U
IW-SS-14	767610	Aroclor-1016	0	U	5.5	33	1	ug/kg	33	UJ
IW-SS-14	767610	Aroclor-1268	0	U	5.5	33	1	ug/kg	33	UJ
IW-SS-14	767610	Aroclor-1248	0	U	7.7	33	1	ug/kg	33	UJ
IW-SS-14	767610	Aroclor-1242	0	U	7.7	33	1	ug/kg	33	UJ
IW-SS-14	767610	Aroclor-1221	0	U	7.7	33	1	ug/kg	33	UJ
IW-SS-14	767610	Aroclor-1262	0	U	7.7	33	1	ug/kg	33	UJ
IW-SS-14	767610	Aroclor-1232	0	U	9.9	33	1	ug/kg	33	UJ
IW-SS-14	767610	Aroclor-1254	0	U	9.9	33	1	ug/kg	33	UJ
IW-SS-14	767610	Aroclor-1260	188		6.6	33	1	ug/kg	188	J-
IW-SS-14	767611	Chloroform	0	U	0.015	0.05	100	mg/L	0.05	U
IW-SS-14	767611	Vinyl chloride	0	U	0.018	0.1	100	mg/L	0.1	U
IW-SS-14	767611	Benzene	0	U	0.019	0.1	100	mg/L	0.1	U
IW-SS-14	767611	Trichloroethene	0	U	0.021	0.1	100	mg/L	0.1	U
IW-SS-14	767611	Carbon tetrachloride	0	U	0.023	0.1	100	mg/L	0.1	U
IW-SS-14	767611	1,1-Dichloroethene	0	U	0.024	0.1	100	mg/L	0.1	U
IW-SS-14	767611	Chlorobenzene	0	U	0.024	0.1	100	mg/L	0.1	U
IW-SS-14	767611	1,2-Dichloroethane	0	U	0.03	0.1	100	mg/L	0.1	U
IW-SS-14	767611	Tetrachloroethene	0	U	0.03	0.1	100	mg/L	0.1	U
IW-SS-14	767611	2-Butanone	0	U	0.24	1	100	mg/L	1	U
IW-SS-14	767611	Mercury	0.000036	J	0.00003	0.00012	1	mg/L	0.000036	J

Intermet/Wagner Castings Wipe, OIl, Soil, and Sand Results
CT Laboratories Report No. 121894

Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	DL	RL	DF	Units	Val. Results	Val. Qualifiers
IW-SS-14	767611	Chromium	0	U	0.0006	0.004	1	mg/L	0.004	U
IW-SS-14	767611	Silver	0	U	0.0007	0.004	1	mg/L	0.004	U
IW-SS-14	767611	Lead	0.0066		0.0014	0.004	1	mg/L	0.0066	
IW-SS-14	767611	Arsenic	0.01	J	0.004	0.024	1	mg/L	0.01	J
IW-SS-14	767611	Selenium	0.011	J	0.0022	0.013	1	mg/L	0.011	J
IW-SS-14	767611	Cadmium	0.016		0.0003	0.002	1	mg/L	0.016	
IW-SS-14	767611	Barium	0.69		0.00029	0.0018	1	mg/L	0.69	
IW-SS-14	767611	2,4,5-TP (Silvex)	0	U	0.00021	0.0012	1	mg/L	0.0012	U
IW-SS-14	767611	2,4-D	0	U	0.0015	0.006	1	mg/L	0.006	U
IW-SS-14	767611	Heptachlor	0	U	0.00006	0.00024	1	mg/L	0.00024	U
IW-SS-14	767611	Endrin	0	U	0.00006	0.00024	1	mg/L	0.00024	U
IW-SS-14	767611	Methoxychlor	0	U	0.00006	0.0004	1	mg/L	0.0004	U
IW-SS-14	767611	Heptachlor epoxide	0	U	0.00007	0.00024	1	mg/L	0.00024	U
IW-SS-14	767611	Lindane	0	U	0.00007	0.00024	1	mg/L	0.00024	U
IW-SS-14	767611	gamma-Chlordane	0	U	0.00007	0.00024	1	mg/L	0.00024	U
IW-SS-14	767611	alpha-Chlordane	0	U	0.00009	0.0004	1	mg/L	0.0004	U
IW-SS-14	767611	Chlordane (Technical)	0	U	0.001	0.006	1	mg/L	0.006	U
IW-SS-14	767611	Toxaphene	0	U	0.0018	0.006	1	mg/L	0.006	U
IW-SS-14	767611	Nitrobenzene	0	U	0.0016	0.01	1	mg/L	0.01	U
IW-SS-14	767611	Hexachlorobutadiene	0	U	0.0018	0.01	1	mg/L	0.01	U
IW-SS-14	767611	1,4-Dichlorobenzene	0	U	0.0019	0.01	1	mg/L	0.01	U
IW-SS-14	767611	2,4-Dinitrotoluene	0	U	0.0021	0.01	1	mg/L	0.01	U
IW-SS-14	767611	Hexachloroethane	0	U	0.0022	0.01	1	mg/L	0.01	U
IW-SS-14	767611	Hexachlorobenzene	0	U	0.0027	0.01	1	mg/L	0.01	U
IW-SS-14	767611	Pyridine	0	U	0.0062	0.04	1	mg/L	0.04	U
IW-SS-14	767611	2-Methylphenol	0	U	0.0086	0.05	1	mg/L	0.05	U
IW-SS-14	767611	2,4,6-Trichlorophenol	0	U	0.01	0.05	1	mg/L	0.05	U
IW-SS-14	767611	Pentachlorophenol	0	U	0.011	0.05	1	mg/L	0.05	U
IW-SS-14	767611	2,4,5-Trichlorophenol	0	U	0.011	0.05	1	mg/L	0.05	U
IW-SS-14	767611	3 & 4-Methylphenol	0	U	0.014	0.09	1	mg/L	0.09	U

DATA VALIDATION CHECKLIST – STAGE 2A
EPA REGION 5 START CONTRACT

Site Name	Intermet/Wagner Castings Removal Site		**TDD No.**	S05-0001-1606-403
Document Tracking No.	1119B			
Data Reviewer (signature and date)	Harry N. Ellis III 5 October 2016		**Technical Reviewer (signature and date)**	Jessica A. Vickers October 7, 2016
Laboratory Report No.	121948		**Laboratory**	CT Laboratories, LLC/Baraboo, Wisconsin
Analyses	Polychlorinated biphenyls (PCBs) by SW-846 Method 8082A, toxicity characteristic leaching procedure (TCLP) metals by SW-846 Methods 1311/6010C and 1311/7470A, TCLP volatile organic compounds (VOCs) by SW-846 Methods 1311/8260C, TCLP semivolatile organic compounds (SVOCs) by SW-846 Methods 1311/8270D, TCLP pesticides by SW-846 Methods 1311/8081B, and TCLP herbicides by SW-846 Methods 1311/8151A.			
Samples and Matrix	Two soil samples			
Field Duplicate Pairs	None			
Field Blanks	None			

INTRODUCTION

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and the EPA *NFG for Inorganic Superfund Data Review* (August 2014).

OVERALL EVALUATION

The analyses went well, with no rejections and few qualifications. All results may be used as qualified.

Data completeness:

Within Criteria	Exceedance/Notes
Y	

DATA VALIDATION CHECKLIST – STAGE 2A
EPA REGION 5 START CONTRACT

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
NA	

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
N	Both samples yielded low recoveries for one or both PCB surrogates, indicating matrix interference. Therefore, the PCB results for both samples were qualified as estimated with a possible low bias (flagged "J-/UJ").

MS/MSD:

Within Criteria	Exceedance/Notes
N	For sample IW-SS-15, recoveries for Aroclor-1260 could not be determined because the unspiked sample contained more than 10 times the amount of the spike. No qualifications were applied for this data gap. For sample IW-SS-162, there were no recoveries for technical chlordane and toxaphene. Because these compounds are typically not spiked, no qualifications were applied.

Laboratory duplicates:

Within Criteria	Exceedance/Notes
Y	

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
Y	Sample IWSS-15 was analyzed for PCB at a 20-fold dilution to bring results within calibration range, while sample IW-SS-16 was analyzed for VOC at a 100-fold dilution to minimize matrix interference. Therefore, the non-detect results for those analyses in those samples are not fully comparable to the results from other samples, including those in other SDG.

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Some detected results were less than the reporting limit, which corresponds to the lowest calibration standard. These extrapolations were qualified by the laboratory as estimated (flagged "J"). See also "Sample Dilutions" section above.

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Analyte Identification:

Within Criteria	Exceedance/Notes
Y	One of the detected PCBs yielded disparate quantitative results on the two analytical columns, possibly because the environmental PCB mixture was a poor matches to the unweathered PCB mixture used for calibration. The laboratory qualified this result with a "P" flag. The qualifier was overridden due to surrogate recovery exceedances.

Other [specify]:

Within Criteria	Exceedance/Notes
NA	

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

Intermet/Wagner Coatings Site Soil Results
CT Laboratories Report No. 121948

Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	SDL	SRL	DF	Units	Val. Results	Val. Qualifiers
IW-SS-15	768570	Aroclor-1016	0	U	110	670	20	ug/kg	670	UJ
IW-SS-15	768570	Aroclor-1268	0	U	110	670	20	ug/kg	670	UJ
IW-SS-15	768570	Aroclor-1248	0	U	160	670	20	ug/kg	670	UJ
IW-SS-15	768570	Aroclor-1242	0	U	160	670	20	ug/kg	670	UJ
IW-SS-15	768570	Aroclor-1221	0	U	160	670	20	ug/kg	670	UJ
IW-SS-15	768570	Aroclor-1262	0	U	160	670	20	ug/kg	670	UJ
IW-SS-15	768570	Aroclor-1232	0	U	200	670	20	ug/kg	670	UJ
IW-SS-15	768570	Aroclor-1254	0	U	200	670	20	ug/kg	670	UJ
IW-SS-15	768570	Aroclor-1260	6410	P,M	130	670	20	ug/kg	670	J-
IW-SS-16	768571	Chloroform	0	U	0.015	0.05	100	mg/L	0.05	U
IW-SS-16	768571	Vinyl chloride	0	U	0.018	0.1	100	mg/L	0.1	U
IW-SS-16	768571	Benzene	0	U	0.019	0.1	100	mg/L	0.1	U
IW-SS-16	768571	Trichloroethene	0	U	0.021	0.1	100	mg/L	0.1	U
IW-SS-16	768571	Carbon tetrachloride	0	U	0.023	0.1	100	mg/L	0.1	U
IW-SS-16	768571	1,1-Dichloroethene	0	U	0.024	0.1	100	mg/L	0.1	U
IW-SS-16	768571	Chlorobenzene	0	U	0.024	0.1	100	mg/L	0.1	U
IW-SS-16	768571	1,2-Dichloroethane	0	U	0.03	0.1	100	mg/L	0.1	U
IW-SS-16	768571	Tetrachloroethene	0	U	0.03	0.1	100	mg/L	0.1	U
IW-SS-16	768571	2-Butanone	0	U	0.24	1	100	mg/L	1	U
IW-SS-16	768571	Mercury	0	U	0.00003	0.00012	1	mg/L	0.00012	U
IW-SS-16	768571	Silver	0	U	0.0007	0.004	1	mg/L	0.004	U
IW-SS-16	768571	Lead	0	U	0.0014	0.004	1	mg/L	0.004	U
IW-SS-16	768571	Chromium	0	U	0.0006	0.004	1	mg/L	0.004	U
IW-SS-16	768571	Selenium	0	U	0.0022	0.013	1	mg/L	0.013	U
IW-SS-16	768571	Cadmium	0.0016	J	0.0003	0.002	1	mg/L	0.0016	J
IW-SS-16	768571	Arsenic	0.012	J	0.004	0.024	1	mg/L	0.012	J
IW-SS-16	768571	Barium	0.42		0.00029	0.0018	1	mg/L	0.42	
IW-SS-16	768571	2,4,5-TP (Silvex)	0	U	0.00021	0.0012	1	mg/L	0.0012	U
IW-SS-16	768571	2,4-D	0	U	0.0015	0.006	1	mg/L	0.006	U
IW-SS-16	768571	Heptachlor	0	U	0.00006	0.00024	1	mg/L	0.00024	U
IW-SS-16	768571	Endrin	0	U	0.00006	0.00024	1	mg/L	0.00024	U
IW-SS-16	768571	Methoxychlor	0	U	0.00006	0.0004	1	mg/L	0.0004	U
IW-SS-16	768571	Heptachlor epoxide	0	U	0.00007	0.00024	1	mg/L	0.00024	U

Intermet/Wagner Coatings Site Soil Results
CT Laboratories Report No. 121948

Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	SDL	SRL	DF	Units	Val. Results	Val. Qualifiers
IW-SS-16	768571	Lindane	0	U	0.00007	0.00024	1	mg/L	0.00024	U
IW-SS-16	768571	gamma-Chlordane	0	U	0.00007	0.00024	1	mg/L	0.00024	U
IW-SS-16	768571	alpha-Chlordane	0	U	0.00009	0.0004	1	mg/L	0.0004	U
IW-SS-16	768571	Chlordane (Technical)	0	U	0.001	0.006	1	mg/L	0.006	U
IW-SS-16	768571	Toxaphene	0	U	0.0018	0.006	1	mg/L	0.006	U
IW-SS-16	768571	Nitrobenzene	0	U	0.0016	0.01	1	mg/L	0.01	U
IW-SS-16	768571	Hexachlorobutadiene	0	U	0.0018	0.01	1	mg/L	0.01	U
IW-SS-16	768571	1,4-Dichlorobenzene	0	U	0.0019	0.01	1	mg/L	0.01	U
IW-SS-16	768571	2,4-Dinitrotoluene	0	U	0.0021	0.01	1	mg/L	0.01	U
IW-SS-16	768571	Hexachloroethane	0	U	0.0022	0.01	1	mg/L	0.01	U
IW-SS-16	768571	Hexachlorobenzene	0	U	0.0027	0.01	1	mg/L	0.01	U
IW-SS-16	768571	Pyridine	0	U	0.0062	0.04	1	mg/L	0.04	U
IW-SS-16	768571	2-Methylphenol	0	U	0.0086	0.05	1	mg/L	0.05	U
IW-SS-16	768571	2,4,6-Trichlorophenol	0	U	0.01	0.05	1	mg/L	0.05	U
IW-SS-16	768571	Pentachlorophenol	0	U	0.011	0.05	1	mg/L	0.05	U
IW-SS-16	768571	2,4,5-Trichlorophenol	0	U	0.011	0.05	1	mg/L	0.05	U
IW-SS-16	768571	3 & 4-Methylphenol	0	U	0.014	0.09	1	mg/L	0.09	U
IW-SS-16	768572	Aroclor-1232	0	U	11	36	1	ug/kg	36	UJ
IW-SS-16	768572	Aroclor-1254	0	U	11	36	1	ug/kg	36	UJ
IW-SS-16	768572	Aroclor-1016	0	U	6	36	1	ug/kg	36	UJ
IW-SS-16	768572	Aroclor-1268	0	U	6	36	1	ug/kg	36	UJ
IW-SS-16	768572	Aroclor-1248	0	U	8.4	36	1	ug/kg	36	UJ
IW-SS-16	768572	Aroclor-1221	0	U	8.4	36	1	ug/kg	36	UJ
IW-SS-16	768572	Aroclor-1262	0	U	8.4	36	1	ug/kg	36	UJ
IW-SS-16	768572	Aroclor-1242	166		8.4	36	1	ug/kg	166	J-
IW-SS-16	768572	Aroclor-1260	75.3		7.2	36	1	ug/kg	75.3	J-

DATA VALIDATION CHECKLIST – STAGE 2A
EPA REGION 5 START CONTRACT

Site Name	Intermet/Wagner Castings Removal Site		**TDD No.**	S05-0001-1606-403
Document Tracking No.	1119C			
Data Reviewer (signature and date)	Harry N. Ellis III 5 October 2016		**Technical Reviewer (signature and date)**	Jessica A. Vickers October 7, 2016
Laboratory Report No.	121998		**Laboratory**	CT Laboratories, LLC/Baraboo, Wisconsin
Analyses	Polychlorinated biphenyls (PCBs) by SW-846 Method 8082A, ignitability by SW-846 Method 1010A, pH by SW-846 Method 9045D, reactivity (cyanide and sulfide) by SW-846 Chapter 7, toxicity characteristic leaching procedure (TCLP) metals by SW-846 Methods 1311/6010C and 1311/7470A, TCLP volatile organic compounds (VOCs) by SW-846 Methods 1311/8260C, and TCLP semivolatile organic compounds (SVOCs) by SW-846 Methods 1311/8270D.			
Samples and Matrix	One waste sample from a drain plug			
Field Duplicate Pairs	None			
Field Blanks	None			

INTRODUCTION

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) and the EPA *NFG for Inorganic Superfund Data Review* (August 2014).

OVERALL EVALUATION

The analyses went well, with no qualifications added. All results may be used as reported.

Data completeness:

Within Criteria	Exceedance/Notes
Y	

DATA VALIDATION CHECKLIST – STAGE 2A
EPA REGION 5 START CONTRACT

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
NA	

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
Y	

MS/MSD:

Within Criteria	Exceedance/Notes
N	The PCB MS/MSD analyses yielded very high recoveries for Aroclor 1260, due to matrix interference from the much higher concentration of Aroclor 1254 in the unspiked sample. No qualifications were applied.

Laboratory duplicates:

Within Criteria	Exceedance/Notes
Y	

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
Y	TCLP VOC, TCLP cadmium, and PCB analyses were performed at dilutions to minimize matrix interference or to bring high-concentration results within calibration range. These dilutions resulted in increased detection and reporting limits for non-detect analytes. Therefore, some of the non-detect results are not fully comparable to those in other data packages from this site.

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	The arsenic result was less than its reporting limit, which corresponds to the lowest calibration standard. This extrapolation was qualified by the laboratory as estimated (flagged "J"). See also "Sample Dilutions" section above.

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Other [specify]:

Within Criteria	Exceedance/Notes
NA	

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

Intermet/Wagner Castings Drain Plug Results
CT Laboratories Report No. 121998

Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	SDL	SRL	DF	Units	Val. Results	Val. Qualifiers
IW-DP-01	769543	Sulfide, Reactive	0	U	100	100	1	mg/kg	100	U
IW-DP-01	769543	pH	7.41		1		1	S.U.	7.41	
IW-DP-01	769543	Cyanide, Reactive	0	U	20	20	1	mg/kg	20	U
IW-DP-01	769543	Flashpoint	>140				1	Deg. F	>140	
IW-DP-01	769543	Aroclor-1232	0	U	120	400	10	ug/kg	400	U
IW-DP-01	769543	Aroclor-1016	0	U	66	400	10	ug/kg	400	U
IW-DP-01	769543	Aroclor-1268	0	U	66	400	10	ug/kg	400	U
IW-DP-01	769543	Aroclor-1260	0	UM	79	400	10	ug/kg	400	U
IW-DP-01	769543	Aroclor-1248	0	U	93	400	10	ug/kg	400	U
IW-DP-01	769543	Aroclor-1242	0	U	93	400	10	ug/kg	400	U
IW-DP-01	769543	Aroclor-1221	0	U	93	400	10	ug/kg	400	U
IW-DP-01	769543	Aroclor-1262	0	U	93	400	10	ug/kg	400	U
IW-DP-01	769543	Aroclor-1254	7760		120	400	10	ug/kg	7760	
IW-DP-01	769544	Chloroform	0	U	0.015	0.05	100	mg/L	0.05	U
IW-DP-01	769544	Vinyl chloride	0	U	0.018	0.1	100	mg/L	0.1	U
IW-DP-01	769544	Benzene	0	U	0.019	0.1	100	mg/L	0.1	U
IW-DP-01	769544	Trichloroethene	0	U	0.021	0.1	100	mg/L	0.1	U
IW-DP-01	769544	Carbon tetrachloride	0	U	0.023	0.1	100	mg/L	0.1	U
IW-DP-01	769544	1,1-Dichloroethene	0	U	0.024	0.1	100	mg/L	0.1	U
IW-DP-01	769544	Chlorobenzene	0	U	0.024	0.1	100	mg/L	0.1	U
IW-DP-01	769544	1,2-Dichloroethane	0	U	0.03	0.1	100	mg/L	0.1	U
IW-DP-01	769544	Tetrachloroethene	0	U	0.03	0.1	100	mg/L	0.1	U
IW-DP-01	769544	2-Butanone	0	U	0.24	1	100	mg/L	1	U
IW-DP-01	769544	Mercury	0	U	0.00003	0.00012	1	mg/L	0.00012	U
IW-DP-01	769544	Silver	0	U	0.0007	0.004	1	mg/L	0.004	U
IW-DP-01	769544	Selenium	0.016		0.0022	0.013	1	mg/L	0.016	
IW-DP-01	769544	Arsenic	0.016	J	0.004	0.024	1	mg/L	0.016	J
IW-DP-01	769544	Chromium	0.019		0.0006	0.004	1	mg/L	0.019	
IW-DP-01	769544	Lead	0.081		0.0014	0.004	1	mg/L	0.081	
IW-DP-01	769544	Barium	1.2		0.00029	0.0018	1	mg/L	1.2	
IW-DP-01	769544	Cadmium	160		3	20	10000	mg/L	160	
IW-DP-01	769544	Nitrobenzene	0	U	0.0016	0.01	1	mg/L	0.01	U
IW-DP-01	769544	Hexachlorobutadiene	0	U	0.0018	0.01	1	mg/L	0.01	U

Intermet/Wagner Castings Drain Plug Results
CT Laboratories Report No. 121998

Sample ID	Lab ID	Analyte	Lab Results	Lab Qualifiers	SDL	SRL	DF	Units	Val. Results	Val. Qualifiers
IW-DP-01	769544	1,4-Dichlorobenzene	0	U	0.0019	0.01	1	mg/L	0.01	U
IW-DP-01	769544	2,4-Dinitrotoluene	0	U	0.0021	0.01	1	mg/L	0.01	U
IW-DP-01	769544	Hexachloroethane	0	U	0.0022	0.01	1	mg/L	0.01	U
IW-DP-01	769544	Hexachlorobenzene	0	U	0.0027	0.01	1	mg/L	0.01	U
IW-DP-01	769544	Pyridine	0	U	0.0062	0.04	1	mg/L	0.04	U
IW-DP-01	769544	2-Methylphenol	0	U	0.0086	0.05	1	mg/L	0.05	U
IW-DP-01	769544	2,4,6-Trichlorophenol	0	U	0.01	0.05	1	mg/L	0.05	U
IW-DP-01	769544	Pentachlorophenol	0	U	0.011	0.05	1	mg/L	0.05	U
IW-DP-01	769544	2,4,5-Trichlorophenol	0	U	0.011	0.05	1	mg/L	0.05	U
IW-DP-01	769544	3 & 4-Methylphenol	0	U	0.014	0.09	1	mg/L	0.09	U

DATA VALIDATION CHECKLIST – STAGE 2A
EPA REGION 5 START CONTRACT

Site Name	Intermet/Wagner Castings Removal Site		**TDD No.**	S05-0001-1606-403
Document Tracking No.	1119D			
Data Reviewer (signature and date)	Harry N. Ellis III 5 October 2016		**Technical Reviewer (signature and date)**	Jessica A. Vickers October 7, 2016
Laboratory Report No.	122056		**Laboratory**	CT Laboratories, LLC/Baraboo, Wisconsin
Analyses	Toxicity characteristic leaching procedure (TCLP) metals by SW-846 Methods 1311/6010C and 1311/7470A.			
Samples and Matrix	One foundry sand sample			
Field Duplicate Pairs	None			
Field Blanks	None			

INTRODUCTION

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Inorganic Superfund Data Review* (August 2014).

OVERALL EVALUATION

No results were qualified. All may be used as reported.

Data completeness:

Within Criteria	Exceedance/Notes
Y	

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

DATA VALIDATION CHECKLIST – STAGE 2A
EPA REGION 5 START CONTRACT

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
NA	

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
NA	

MS/MSD:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

DATA VALIDATION CHECKLIST – STAGE 2A
EPA REGION 5 START CONTRACT

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Arsenic and selenium results were less than their reporting limits, which correspond to the lowest calibration standard. CT Laboratories qualified these extrapolations as estimated (flagged "J").

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Other [specify]:

Within Criteria	Exceedance/Notes
NA	

DATA VALIDATION CHECKLIST – STAGE 2A
EPA REGION 5 START CONTRACT

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

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ANALYTICAL REPORT

TETRA TECH
CORDELL RENNER
1 S WACKER DRIVE
SUITE 3700
CHICAGO, IL 60606

Project Name: INTERMET/WAGNER CASTING
Project Phase:
Contract #: 2977
Project #: 3X90260001S051606403
Folder #: 122056
Purchase Order #: 1111200

Arrival Temperature: 4.0
Report Date: 09/20/2016
Date Received: 09/14/2016
Reprint Date: 09/20/2016

CT LAB#: 770360 Sample Description: IW-FS-01 Client Sample #: Sampled: 09/13/2016 1445

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method	
Metals Results													
TCLP Arsenic	0.0078 J	mg/L	0.0040	0.012	0.024	0.024	1.00	J	09/16/2016 06:00	9/16/16 23:20	NAH	EPA 6010C	^
TCLP Barium	0.25	mg/L	0.00029	0.00090	0.0018	0.0018	1.00		09/16/2016 06:00	9/16/16 23:20	NAH	EPA 6010C	^
TCLP Cadmium	0.040	mg/L	0.00030	0.0010	0.0020	0.0020	1.00		09/16/2016 06:00	9/16/16 23:20	NAH	EPA 6010C	^
TCLP Chromium	0.0047	mg/L	0.00060	0.0020	0.0040	0.0040	1.00		09/16/2016 06:00	9/16/16 23:20	NAH	EPA 6010C	^
TCLP Lead	0.0047	mg/L	0.0014	0.0020	0.0040	0.0040	1.00		09/16/2016 06:00	9/16/16 23:20	NAH	EPA 6010C	^
TCLP Selenium	0.012 J	mg/L	0.0022	0.0065	0.013	0.013	1.00	J	09/16/2016 06:00	9/16/16 23:20	NAH	EPA 6010C	^
TCLP Silver	<0.00070	mg/L	0.00070	0.0020	0.0040	0.0040 U	1.00	U	09/16/2016 06:00	9/16/16 23:20	NAH	EPA 6010C	^
TCLP Mercury	<0.000030	mg/L	0.000030	0.000060	0.00012	0.00012 U	1.00	U	09/16/2016 06:00	9/19/16 08:58	LJF	EPA 7470A	

HUG 5 October 2014

Unless specifically stated to the contrary, soil/sediment/sludge sample results reported on a Dry Weight Basis

DATA VALIDATION CHECKLIST – STAGE 2A
EPA REGION 5 START CONTRACT

Site Name	Intermet/Wagner Castings Removal Site		**TDD No.**	S05-0001-1606-403
Document Tracking No.	1119E			
Data Reviewer (signature and date)	Harry N. Ellis III 5 October 2016		**Technical Reviewer (signature and date)**	Jessica A. Vickers October 7, 2016
Laboratory Report No.	351606483		**Laboratory**	EMSL Analytical/Minneapolis, Minnesota
Analyses	Asbestos analysis by polarized light microscopy using EPA 600/R-93/116 Method			
Samples and Matrix	Fourteen building material samples			
Field Duplicate Pairs	None			
Field Blanks	None			

INTRODUCTION

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Inorganic Superfund Data Review* (August 2014).

OVERALL EVALUATION

The analyses were performed appropriately. All results may be used as reported.

Data completeness:

Within Criteria	Exceedance/Notes
Y	As is routine for asbestos analysis, no quality control results were requested or included in the report.

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Method blanks:

Within Criteria	Exceedance/Notes
NA	

Field blanks:

Within Criteria	Exceedance/Notes
NA	

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
NA	

MS/MSD:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
NA	

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Reporting limit is 1 percent.

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
Y	Non-fibrous materials and non-asbestos fibers were also quantitated and reported.

Other [Methodology]:

Within Criteria	Exceedance/Notes
Y	Samples of composite materials were split and analyzed separately. (Example: a floor tile and its mastic.)

DATA VALIDATION CHECKLIST – STAGE 2A
EPA REGION 5 START CONTRACT

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

EMSL Analytical, Inc.
14375 23rd Avenue North Minneapolis, Mn 55447
Tel/Fax: (763) 449-4922 / (763) 449-4924
http://www.EMSL.com / minneapolislab@emsl.com

EMSL Order: 351606483
Customer ID: CTLA62
Customer PO: 121812 EMSL-MN
Project ID:

Attention: Brett Szymanski
CT Laboratories
1230 Lange Court
Baraboo, WI 53913-3109

Project: INTERMET/WAGNER CASTING

Phone: (608) 356-2760
Fax: (608) 356-2766
Received Date: 09/08/2016 10:20 AM
Analysis Date: 09/09/2016 - 09/12/2016
Collected Date:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
766391-Floor Tile 351606483-0001	IW-BA-01	Brown/Green/Beige Non-Fibrous Homogeneous	5% Cellulose	85% Non-fibrous (Other)	10% Chrysotile
766391-Black Mastic 351606483-0001A	IW-BA-01	Black Non-Fibrous Homogeneous	6% Cellulose	91% Non-fibrous (Other)	3% Chrysotile
766392 351606483-0002	IW-BA-02	Black Fibrous Homogeneous	7% Cellulose 2% Glass	88% Non-fibrous (Other)	3% Chrysotile
766393-Floor Tile 351606483-0003	IW-BA-03	Tan Non-Fibrous Homogeneous	7% Cellulose	93% Non-fibrous (Other)	None Detected
766393-Black Mastic 351606483-0003A	IW-BA-03	Black/Silver Non-Fibrous Homogeneous	4% Cellulose	96% Non-fibrous (Other)	None Detected
766394-Tan Tile 351606483-0004	IW-BA-04	Tan Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
766394-Black Mastic 351606483-0004A	IW-BA-04	Black Non-Fibrous Homogeneous	8% Cellulose	92% Non-fibrous (Other)	None Detected
766395-Tar Layer 1 351606483-0005	IW-BA-05	Brown/Black Fibrous Homogeneous	3% Cellulose 12% Glass	85% Non-fibrous (Other)	None Detected
766395-Tar Layer 2 351606483-0005A	IW-BA-05	Brown/Black Non-Fibrous Homogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected
766396 351606483-0006	IW-BA-06	Tan/White/Blue Fibrous Homogeneous	45% Cellulose	55% Non-fibrous (Other)	None Detected
766397-Woven Layer 351606483-0007	IW-BA-07	Brown/Clear Fibrous Homogeneous	3% Cellulose 25% Glass	72% Non-fibrous (Other)	None Detected
766397-Beige Adhesive 351606483-0007A	IW-BA-07	Beige Non-Fibrous Homogeneous	4% Cellulose 8% Glass	88% Non-fibrous (Other)	None Detected
766398-Floor Tile 351606483-0008	IW-BA-08	Rust Non-Fibrous Homogeneous	3% Cellulose	82% Non-fibrous (Other)	15% Chrysotile
766398-Black Mastic 351606483-0008A	IW-BA-08	Black Non-Fibrous Homogeneous	4% Cellulose 2% Glass	90% Non-fibrous (Other)	4% Chrysotile
766399-Floor Tile 351606483-0009	IW-BA-09	Brown/White/Red Non-Fibrous Homogeneous	2% Cellulose	90% Non-fibrous (Other)	8% Chrysotile
766399-Black Mastic 351606483-0009A	IW-BA-09	Black Non-Fibrous Homogeneous	5% Cellulose	85% Non-fibrous (Other)	10% Chrysotile

HUG 5 October 2016

Initial report from: 09/12/2016 16:02:44

EMSL Analytical, Inc.
14375 23rd Avenue North Minneapolis, Mn 55447
Tel/Fax: (763) 449-4922 / (763) 449-4924
http://www.EMSL.com / minneapolislab@emsl.com

EMSL Order: 351606483
Customer ID: CTLA62
Customer PO: 121812 EMSL-MN
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
766399-Tar Felt *351606483-0009B*	IW-BA-09	Black Fibrous Homogeneous	40% Cellulose	60% Non-fibrous (Other)	None Detected
766400 *351606483-0010*	IW-BA-10	Tan/White Fibrous Heterogeneous	18% Cellulose 2% Glass	80% Non-fibrous (Other)	None Detected
766401-Black Layer *351606483-0011*	IW-BA-11	Black Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
766401-White Layer *351606483-0011A*	IW-BA-11	Gray/White Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
766402-Ceiling Tile *351606483-0012*	IW-BA-12	Tan/White Fibrous Heterogeneous	70% Cellulose	30% Non-fibrous (Other)	None Detected
766402-Brown Mastic *351606483-0012A*	IW-BA-12	Brown Non-Fibrous Homogeneous	8% Cellulose	92% Non-fibrous (Other)	None Detected
766402-Gray layer *351606483-0012B*	IW-BA-12	Gray Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
766467 *351606483-0013*	IW-BA-13	Gray/White Fibrous Homogeneous	50% Cellulose		50% Chrysotile
766468 *351606483-0014*	IW-BA-14	Gray/Beige Fibrous Homogeneous	1% Synthetic	99% Non-fibrous (Other)	None Detected

"None detected"
equivalent to "1% U"

HVG
5 of 16

Analyst(s)
George Sullivan (2)
Michael Felzan (23)

Rachel Travis, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc. Minneapolis, Mn NVLAP Lab Code 200019-0

Initial report from: 09/12/2016 16:02:44