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MEMORANDUM

TO: Mike Tomka

REF. NO.: 7878

FROM: Rawa Fleisher/tl/67/Det.

DATE: December 8, 2011

RE: Data Quality Assessment and Reduced Validation
PCB Delineation in Concrete
MLC Saginaw Malleable Iron (SMI) - Saginaw, Michigan

The following details a quality assessment and validation of the analytical data resulting from the September and October 2011, collection of 25 concrete samples from the MLC Saginaw Malleable Iron (SMI) Site in Saginaw, Michigan. The sample summary detailing sample identification, sample location, quality control samples, and analytical parameters is presented in Table 1. Sample analysis was completed at TestAmerica in North Canton (TA-NC) in accordance with the methodologies presented in Table 2.

The quality control criteria used to assess the data were established by the methods. Application of quality assurance criteria was consistent with "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", EPA-540/R-99/008, October 1999 This guideline is referred to as "NFGs" in this Memorandum.

Sample Quantitation

The laboratory reported detected concentrations of polychlorinated biphenyls (PCB) below the laboratory's report limit (RL) but above the laboratory's method detection limit (MDL). The laboratory flagged these sample concentrations with a "J". These concentrations should be qualified as estimated (J) values unless qualified otherwise in this memorandum.

Sample Preservation and Holding Times

Sample holding time periods and preservation requirements are presented in Table 2.

The samples were prepared and/or analyzed within the specified holding time periods.

Method Blank Samples

Method blank samples are prepared from a purified sample matrix and are processed concurrently with investigative samples to assess the presence and the magnitude of sample contamination introduced during sample analysis. Method blank samples are analyzed at a minimum frequency of one per analytical batch and target analytes should be non-detect.

The method blank samples did not contain target compounds at any concentration.

Surrogate Compounds – Organic Analyses

Individual sample performance for organic analyses was monitored by assessing the results of surrogate compound percent recoveries. Surrogate percent recoveries are reviewed against the laboratory developed control limits provided in the analytical report.

The PCB surrogate recoveries could not be measured or evaluated in a number of samples due to dilutions required to successfully analyze the samples. No qualification of these samples was required. The surrogate recovery acceptance criteria were met for all samples that could be evaluated.

Matrix Spike/Matrix Spike Duplicate Analyses

To assess the long term accuracy and precision of the analytical methods on various matrices, matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and the relative percent difference (RPD) of the concentrations were determined. The organic MS/MSD percent recovery and RPD control limits are established by the laboratory. The samples selected for MS/MSD analysis are identified in Table 1.

In some sample batches, non-Site-specific samples were utilized as MS/MSDs. Qualification of samples associated with these MS/MSDs was not performed. The MS/MSD percent recoveries and associated RPD met the acceptance criteria in the MS/MSDs.

Laboratory Control Sample Analyses

The laboratory control sample (LCS) analyses serves as a monitor of the overall performance in all steps of the sample analysis and is analyzed with each sample batch. The LCS percent recoveries were evaluated against method and laboratory established control limits.

The LCS percent recoveries were within the laboratory control limits or did not warrant qualification, indicating that an acceptable level of overall performance was achieved.

Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used with the qualifications noted.

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
PCB DELINEATION IN CONCRETE
MLC SAGINAW MALLEABLE IRON
SAGINAW, MICHIGAN

Sample Identification	*Location*	*Matrix*	*QC Samples*	*Collection Date (mm/dd/yyyy)*	*Collection Time (hr:min)*	*Analysis/ Parameters*
CRA SDG No.: T02 02-13	**TA-NC Lot No.: 240-4383**					
C-7878-092911-SSH-101	KA-060M	concrete		9/29/2011	9:30:00 AM	TCL PCB
C-7878-092911-SSH-102	KA-060M	concrete		9/29/2011	9:45:00 AM	TCL PCB
C-7878-092911-SSH-103	KA-060N	concrete		9/29/2011	10:10:00 AM	TCL PCB
C-7878-092911-SSH-104	KA-060N	concrete		9/29/2011	10:15:00 AM	TCL PCB
C-7878-092911-SSH-105	KA-060O	concrete		9/29/2011	10:25:00 AM	TCL PCB
C-7878-092911-SSH-106	KA-060O	concrete		9/29/2011	10:35:00 AM	TCL PCB
C-7878-092911-SSH-107	KA-060P	concrete		9/29/2011	10:45:00 AM	TCL PCB
C-7878-092911-SSH-108	KA-060P	concrete		9/29/2011	10:55:00 AM	TCL PCB
C-7878-092911-SSH-109	FLR-CMG-01-039A	concrete		9/29/2011	11:05:00 AM	TCL PCB
C-7878-092911-SSH-110	FLR-CMG-01-039B	concrete		9/29/2011	11:10:00 AM	TCL PCB
C-7878-092911-SSH-111	FLR-CMG-01-039C	concrete		9/29/2011	11:15:00 AM	TCL PCB
C-7878-092911-SSH-112	FLR-CMG-01-039D	concrete		9/29/2011	11:20:00 AM	TCL PCB
C-7878-092911-SSH-113	FLR-CMG-01-043A	concrete		9/29/2011	3:00:00 PM	TCL PCB
C-7878-092911-SSH-114	FLR-CMG-01-043B	concrete		9/29/2011	3:10:00 PM	TCL PCB
C-7878-092911-SSH-115	FLR-CMG-01-043C	concrete		9/29/2011	3:20:00 PM	TCL PCB
C-7878-092911-SSH-116	FLR-CMG-01-043D	concrete		9/29/2011	3:30:00 PM	TCL PCB
C-7878-092911-SSH-117	C00-098A	concrete		9/29/2011	1:40:00 PM	TCL PCB
C-7878-092911-SSH-118	C00-098B	concrete		9/29/2011	1:55:00 PM	TCL PCB
C-7878-092911-SSH-119	C00-098C	concrete	MS/MSD	9/29/2011	2:05:00 PM	TCL PCB
C-7878-092911-SSH-120	C00-098D	concrete		9/29/2011	2:20:00 PM	TCL PCB
CRA SDG No.: T02 02-14	**TA-NC Lot No.: 240-4743**					
C-7878-101011-SSH-128	043F	concrete		10/10/2011	10:05:00 AM	TCL PCB

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
PCB DELINEATION IN CONCRETE
MLC SAGINAW MALLEABLE IRON
SAGINAW, MICHIGAN

Sample Identification	*Location*	*Matrix*	*QC Samples*	*Collection Date (mm/dd/yyyy)*	*Collection Time (hr:min)*	*Analysis/ Parameters*
CRA SDG No.: T02 02-15	**TA-NC Lot No.: 240-4744**					
C-7878-101011-SSH-121	KA-060Q	concrete		10/10/2011	8:55:00 AM	TCL PCB
C-7878-101011-SSH-124	039E	concrete		10/10/2011	9:20:00 AM	TCL PCB
C-7878-101011-SSH-127	043E	concrete		10/10/2011	9:55:00 AM	TCL PCB
C-7878-101011-SSH-130	043H	concrete		10/10/2011	10:25:00 AM	TCL PCB

Notes:

MSD - Matrix Spike/Matrix Spike Duplicate
PCB - Polychlorinated biphenyls
QC - Quality Control
SDG - Sample Delivery Group
TA-NC - TestAmerica - North Canton
TCL - Target Compound List

TABLE 2

SUMMARY OF ANALYTICAL METHODS, HOLDING TIME PERIODS, AND PRESERVATIVES
PCB DELINEATION IN CONCRETE
MLC SAGINAW MALLEABLE IRON
SAGINAW, MICHIGAN

Parameter	*Method* [1]	*Matrix*	*Holding Time*	*Preservation*
TCL PCB	SW-846 8082	Soil	- 14 days from sample collection to extraction - 40 days from extraction to completion of analysis	Iced, 4 ± 2° C

Notes

[1] Method References:
SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, 3rd Edition, and Promulgated updates, November 1986

PCB - Polychlorinated biphenyls
TCL - Target Compound List