November 18, 2011

Stephanie Vaughn, Project Manager
USEPA Region 2
290 Broadway, 19th Floor
New York, New York 10007

Subject: ***November 2011 Caged Bi-Valve Tissue Environmental Data Submission***
Lower Passaic River Study Area (LPRSA)
Remedial Investigation/Feasibility Study (RI/FS)
CERCLA Docket No. 02-2007-2009

Dear Ms. Vaughn:

Attached is an electronic data submittal for validated 2011 caged bi-valve tissue sampling results for the Lower Passaic River Study Area (LPRSA) Remedial Investigation/Feasibility Study (RI/FS). Data in this submittal includes validated field sample results and associated laboratory QC data. This is the final data deliverable associated with the 2011 Caged Bi-valve Study.

1. Previously Submitted Results MEDD

The zip archive LPR20111118.NJD980528996 revisions.zip contains revised results that were previously submitted to EPA. The revisions to these results constitute validator qualifier updates that were omitted from the original submittal.

2. New Results MEDD

The zip archive LPR20111118.NJD980528996.zip contains new data that had not been previously submitted to EPA.

Both zip archive files comprising this deliverable contain the following individual text files:

- LPR20111118.NJD980528996.Batch_v3
- LPR20111118.NJD980528996.DataProvider_v3
- LPR20111118.NJD980528996.Location_v3
- LPR20111118.NJD980528996.Sample_v3
- LPR20111118.NJD980528996.Site_v3
- LPR20111118.NJD980528996.TestResultQC_v3

The following is a cumulative list of reference values to be added to the EPA database.

Table	Column	Value	Description
TestResultQC_v3	cas_rn	1024-57-3-13C10	Heptachlor Epoxide-13C10
TestResultQC_v3	cas_rn	118-74-1-C13	13C-Hexachlorobenzene
TestResultQC_v3	cas_rn	13C12PCB153	13C12-PCB 153
TestResultQC_v3	cas_rn	14488-53-0	Dibutyltin
TestResultQC_v3	cas_rn	1461-25-2	Tetrabutyltin
TestResultQC_v3	cas_rn	160901-67-7	13C12-PCB 77
TestResultQC_v3	cas_rn	160901-68-8	13C12-PCB 81

1217 Bandana Boulevard North · Saint Paul · Minnesota 55108
(651) 842-4224 · www.ddmsinc.com

Table	Column	Value	Description
TestResultQC_v3	cas_rn	160901-70-2	13C12-PCB 105
TestResultQC_v3	cas_rn	160901-72-4	13C12-PCB 114
TestResultQC_v3	cas_rn	160901-73-5	13C12-PCB 118
TestResultQC_v3	cas_rn	160901-74-6	13C12-PCB 123
TestResultQC_v3	cas_rn	160901-77-9	13C12-PCB 156
TestResultQC_v3	cas_rn	160901-78-0	13C12-PCB 157
TestResultQC_v3	cas_rn	160901-79-1	13C12-PCB 169
TestResultQC_v3	cas_rn	160901-80-4	13C12-PCB 170
TestResultQC_v3	cas_rn	160901-82-6	13C12-PCB 180
TestResultQC_v3	cas_rn	160901-83-7	13C12-PCB 189
TestResultQC_v3	cas_rn	160901-84-8	13C12-PCB 209
TestResultQC_v3	cas_rn	161627-18-5	13C12-PCB 167
TestResultQC_v3	cas_rn	16901-75-7	13C12-PCB 126
TestResultQC_v3	cas_rn	205823/207089	Benzo(j,k)fluoranthene
TestResultQC_v3	cas_rn	215587/53703	Dibenz(a,c+a,h)anthracene
TestResultQC_v3	cas_rn	218-01-9C1	C1-Benzanthracene/chrysenes
TestResultQC_v3	cas_rn	218-01-9C2	C2-Benzanthracene/chrysenes
TestResultQC_v3	cas_rn	218-01-9C3	C3-Benzanthracene/chrysenes
TestResultQC_v3	cas_rn	218-01-9C4	C4-Benzanthracene/chrysenes
TestResultQC_v3	cas_rn	2385-85-5-13C10	Mirex-13C10
TestResultQC_v3	cas_rn	26880-48-8	Oxychlordane
TestResultQC_v3	cas_rn	26880-48-813C10	OXYCHLORDANE-13C10
TestResultQC_v3	cas_rn	309-00-2-13C12	Aldrin-13C12
TestResultQC_v3	cas_rn	319-85-7-13C6	Beta-BHC-13C6
TestResultQC_v3	cas_rn	33213-65-9-13C9	Endosulfan II-13C9
TestResultQC_v3	cas_rn	36643-28-4	Tributyltin
TestResultQC_v3	cas_rn	3892-00-0	Norpristane
TestResultQC_v3	cas_rn	39765-80-513C10	trans-nonachlor-13C10
TestResultQC_v3	cas_rn	50-29-3-13C	13C-4,4-DDT
		50-32-8-2H12	Benzo(a)pyrene-2H12
TestResultQC_v3	cas_rn	5103-73-1-13C10	cis-Nonachlor-13C10
TestResultQC_v3	cas_rn	53494-70-513C12	Endrin ketone-13C12
		53-70-3-2H14	Dibenz(a,h)anthracene-2H14
		56-55-3-2H12	Benzo[a]anthracene-2H12
TestResultQC_v3	cas_rn	57-74-9-13C10	Chlordane-13C10
		581-42-0-2H12	2,6-Dimethylnaphthalene-2H12
TestResultQC_v3	cas_rn	58-89-8-13C6	gamma-BHC (Lindane)-13C6
TestResultQC_v3	cas_rn	60-57-1-13C12	Dieldrin-13C12

Table	Column	Value	Description
		630-05-7	Tritriacontane
		7194-84-5	Heptatriacontane, -n
		7194-85-6	Octatriacontane
		7194-86-7	Nonatriacontane
TestResultQC_v3	cas_rn	72-20-8-13C12	Endrin-13C12
TestResultQC_v3	cas_rn	72-43-5-13C	13C-Methoxychlor
TestResultQC_v3	cas_rn	72-54-8-13C	13C-4,4-DDD
TestResultQC_v3	cas_rn	72-55-9-13C	13C-4,4-DDE
		7297-45-2	2-METHYLNAPHTHALENE-D10
TestResultQC_v3	cas_rn	7421-93-4-13C12	Endrin Aldehyde-13C12
TestResultQC_v3	cas_rn	761-44-4	Tripropyltin
TestResultQC_v3	cas_rn	76-44-8-13C10	Heptachlor-13C10
TestResultQC_v3	cas_rn	78763-54-9	n-Butyltin
		83-32-9-2H8	Acenaphthene-2H8
		85-01-8-2H10	Phenanthrene-2H10
		91-20-3-2H8	Naphthalene-2H8
		91-57-6-2H10	2-Methylnaphthalene-2H10
		93951-98-5	BENZO(B)FLUORANTHENE-D12
TestResultQC_v3	cas_rn	959-98-8-13C9	Endosulfan I-13C9
TestResultQC_v3	cas_rn	CS_PCB-111	CS PCB-111
TestResultQC_v3	cas_rn	CS_PCB-178	CS PCB-178
TestResultQC_v3	cas_rn	CS_PCB-28	CS PCB-28
TestResultQC_v3	cas_rn	DBTC4	C4-DIBENZOTHIOPHENES
TestResultQC_v3	cas_rn	DD12346789C13	13C-1,2,3,4,6,7,8-HpCDD
TestResultQC_v3	cas_rn	DD12347C13	13C-1,2,3,4,7-PeCDD
TestResultQC_v3	cas_rn	DD1368C13	13C-1,3,6,8-TCDD
TestResultQC_v3	cas_rn	DF1234689C13	13C-1,2,3,4,6,8,9-HpCDF
TestResultQC_v3	cas_rn	DF123469C13	13C-1,2,3,4,6,9-HxCDF
TestResultQC_v3	cas_rn	DF12346C13	13C-1,2,3,4,6-PeCDF
TestResultQC_v3	cas_rn	DF1368C13	13C-1,3,6,8-TCDF
TestResultQC_v3	cas_rn	FLUORPYRC1	C1-Pyrene/fluoranthenes
		GASC5C12	Total Petroleum Hydrocarbons (Purgeable)
TestResultQC_v3	cas_rn	PHENANTHC1	C1-Phenanthrene/anthracenes
TestResultQC_v3	cas_rn	PHENANTHC2	C2-Phenanthrene/anthracenes
TestResultQC_v3	cas_rn	PHENANTHC3	C3-Phenanthrene/anthracenes
TestResultQC_v3	cas_rn	PHENANTHC4	C4-Phenanthrene/anthracenes
TestResultQC_v3	cas_rn	Q1181	13C12-PCB 3
TestResultQC_v3	cas_rn	Q1182	13C12-PCB 15
TestResultQC_v3	cas_rn	Q1188	13C12-PCB 202

Table	Column	Value	Description
TestResultQC_v3	cas_rn	Q1189	13C12-PCB 208
TestResultQC_v3	cas_rn	Q1883	13C12-PCB 206
TestResultQC_v3	cas_rn	Q2337	13C12-PCB 4
TestResultQC_v3	cas_rn	Q2338	13C12-PCB 1
TestResultQC_v3	cas_rn	Q2339	13C12-PCB 19
TestResultQC_v3	cas_rn	Q2340	13C12-PCB 54
TestResultQC_v3	cas_rn	Q2672	13C12-PCB 37
TestResultQC_v3	cas_rn	Q2673	13C12-PCB 104
TestResultQC_v3	cas_rn	Q2674	13C12-PCB 155
TestResultQC_v3	cas_rn	Q2675	13C12-PCB 188
TestResultQC_v3	cas_rn	Q2676	13C12-PCB 205
TestResultQC_v3	cas_rn	SS_PCB-111	SS PCB-111
TestResultQC_v3	cas_rn	SS_PCB-178	SS PCB-178
TestResultQC_v3	cas_rn	SS_PCB-28	SS PCB-28
TestResultQC_v3	interpreted_qualifiers	B	The analyte is found in the method blank, at a level that is <=10x the sample concentration.
TestResultQC_v3	interpreted_qualifiers	EMPC	Estimated Maximum Potential Concentration
TestResultQC_v3	interpreted_qualifiers	Q	The quality control sample exceeds the associated acceptance criteria.
TestResultQC_v3	interpreted_qualifiers	V	The labeled standard recovery was found to be outside of the method control limits.
Batch_v3, TestResultQC_v3	lab_anl_method_name	BLIGH & DYER	Bligh,E.G. and Dyer,W.J. 1959, Extraction of Lipids in Solution.
Batch_v3, TestResultQC_v3	lab_anl_method_name	E1630	methyl mercury (USEPA 1630)
Batch_v3, TestResultQC_v3	lab_anl_method_name	E1668B	EPA Method 1668, Revision B, Chlorinated Biphenyl Congeners in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS
Batch_v3, TestResultQC_v3	lab_anl_method_name	Krone	Butyltins (Krone et al.)
Batch_v3, TestResultQC_v3	lab_anl_method_name	USEPA 1699 MOD	USEPA Method 1699: Pesticides in Water, Soil, Sediment, Biosolids and Tissue by HRGC/HRMS.
TestResultQC_v3	lab_name_code	MAXXAM	Maxxam Analytics, Mississaugua, Ontario

Table	Column	Value	Description
TestResultQC_v3	prep_method	ALPHA OP-013	Alpha Analytical methods BNASIM (Alkylated PAHs, USEPA SW 846 8270D), M8015D (TPH-Alkanes, USEPA SW-846-8015D)
TestResultQC_v3	prep_method	CLAA	Columbia Analytical Service prep method for Metals (method SW6010B); QC & RB samples
TestResultQC_v3	prep_method	CLFAA	Columbia Analytical Service prep method for Metals (method SW6020); QC & RB samples
TestResultQC_v3	prep_method	EPA3570	methods SW8082 (Aroclors, USEPA SW-846 8082), SW8270C (SVOCs, USEPA SW-846 8270C)
TestResultQC_v3	prep_method	PSEP Tissue	Puget Sound Estuary Program: RECOMMENDED GUIDELINES FOR MEASURING METALS IN PUGET SOUND MARINE WATER, SEDIMENT AND TISSUE SAMPLES, April 1997.
TestResultQC_v3	prep_method	SOC-OSWT	Columbia Analytical Service prep method for butyltin analysis.

The following errors generated by the EDP EDD checking software are not actually errors:

Table	Column	Error	Description
Location_v3	alt_identifier	Missing required field	Current documentation of MEDD format available on EPA website instructs data providers to leave this field as Null.

Table	Column	Error	Description
TestResultQC_v3	detect_flag	Result_value is required where detect_flag=Y.	Detections reported by the laboratory were rejected by data validators. Values for rejected results are set to null. Error message also exist in cases of co-eluting PCB congeners. Each PCB congener result is being stored as a separate record in the CPG database. In cases of co-elutions only the congener with the lowest IUPAC number receives a result value to eliminate double counting of Total PCB concentrations. Both records receive a qualifier of "C" plus the IUPAC number of the lowest number congener in the co-elution to indicate the linkage between the two result records.
TestResultQC_v3	interpreted_qualifiers	Missing required field	Interpreted_qualifier is left as null when lab qualifiers were removed as a part of data validation.
Location_v3	surf_elev, elev_unit, horz_collect_method_code, horz_accuracy_unit, horz_accuracy_value, horz_datum_code, latitiude, longitude	Missing required field	Sample Location LPRBG identifies background tissue samples collected at time of deployment from a batch of mussels used in cages. These tissue samples were analyzed in order to establish background tissue concentrations in mussels at the start of the study. These samples are not associated with a specific x,y location.

Table	Column	Error	Description
Location_v3	stream_mile	Invalid data type	Caged bi-valve tissue samples are composite samples prepared according to and EPA-approved compositing plan and are comprised of multiple specimens in order to create enough sample volume for all analyses. Since the samples are composites from multiple traps within a specific two mile reach of the river, stream_mile must be identified by are range rather than a discreet location. Subsequently, all latitude/longitude and alternative x/y coordinates represent the midpoint of the river reach.
TestResultQC_v3	lab_qualifiers	Value exceeds field length	These values are as the laboratories have reported them. Modifications to these values to conform to MEDD field length would risk compromising or adding ambiguity to the data. It is suggested that the MEDD spec be adjusted to accommodate longer qualifier strings.
TestResultQC_v3	validator_qualifiers	Missing required field	Records were validated but did not require qualification by validators, therefore interpreted qualifier was set to same value as lab qualifier.
TestResultQC_v3	~	Sample must have related test/result.	Results in the previously submitted results MEDD were from a field duplicate sample. The parent sample associated with that field duplicate sample was included in the SMP file to meet the requirements of MEDD format, however results from the parent sample were not revised and are thus not included in this submittal.

Other items of note in these MEDD submittals are:

- The surf_elev field in the Location_v3 table have been set to zero. Due to tide and water level variability, it is not possible to compute elevations of the river bottom where the benthic samples

were taken.

If you have any questions regarding this data submittal please contact me at 651-842-4232 or mkill@ddmsinc.com.

Sincerely,

de maximis Data Management Solutions, Inc.

Mark D. Kill
CPG Data Manager

/mdk

Attachment: Zip files with MEDD files
Valid value crosswalk spreadsheet

cc: Bill Potter – *de maximis, inc.*
Rob Law – *de maximis, inc.*