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January 15, 2014 ***VIA ELECTRONIC & US MAIL***

Ms. Stephanie Vaughn
ATTN: Lower Passaic River Remedial Project Manager
Emergency and Remedial Response Division
U.S. EPA, Region 2
290 Broadway, 19th Floor
New York, New York 10007

Re: Monthly Progress Report No. 80 – December 2013
Lower Passaic River Study Area (LPRSA) Remedial Investigation/Feasibility Study (RI/FS)
CERCLA Docket No. 02-2007-2009

Dear Ms. Vaughn:

de maximis, inc. is submitting this Monthly Progress Report for the above-captioned project on the behalf of the RI/FS Agreement Settling Parties (Cooperative Parties Group or CPG) pursuant to the Administrative Settlement Agreement and Order on Consent (Settlement Agreement or AOC). The Progress Report satisfies the reporting requirements of Paragraph 42 of said Settlement Agreement.

(a) Actions which have been taken to comply with this Settlement Agreement during the previous month.

Meetings/Conference Calls

- On December 3, EPA Region 2 (EPA) and CPG had a call to discuss potential schedules for upcoming meetings.
- On December 12, EPA Headquarters and CPG held a meeting at EPA HQ to discuss the CPG's latest work on the Sustainable Remedy; Region 2 participated by phone.
- On December 17, EPA and CPG and EPA and CPG contractors held a meeting to discuss the Feasibility Study Work Plan (FS WP).

Correspondence

- On December 2, CPG responded to EPA's request for comments on the Newark Bay Study Area (NBSA) Crab and Clam Sampling QAPP indicating the CPG would provide comments on the document to EPA before the December holidays.
- On December 4, EPA sent the CPG a letter requesting an updated LPRSA RI/FS schedule.
- On December 6, CPG provided presentation materials to EPA for a December 12 meeting with EPA Headquarters.

- On December 9, CPG requested a discussion with EPA regarding the Agency's response to the CPG's proposed Carp Harvest Pilot Study.
- On December 9, CPG responded to EPA's December 4 letter requesting an updated LPRSA RI/FS schedule that one would be submitted by December 20.
- On December 10, CPG and EPA exchanged emails regarding potential issues that the EPA modeling team was having issues running CPG's version of the Hydrodynamic and Sediment Transport (HST) model.
- On December 11, CPG submitted a letter to EPA invoking dispute resolution pursuant to the AOC in response to EPA's rejection of the proposed Carp Harvest Pilot Study.
- On December 13, EPA provided comments to CPG on the draft 2009 FS WP.
- On December 16, CPG submitted a proposed agenda to EPA for the EPA and CPG FS WP meeting on December 17.
- On December 16, CPG submitted the November Monthly Progress Report to EPA.
- On December 16, EPA provided a confirming notice of dispute resolution and agreement for a technical meeting to discuss the proposed Carp Harvest Pilot Study to CPG.
- On December 20, CPG submitted an updated LPRSA RI/FS schedule to EPA.
- On December 20, CPG submitted the Interim Conceptual Site Model (CSM) Preliminary Draft to EPA.
- On December 20, CPG submitted LPR/NB Model Codes, associated model input and output files to EPA's modeling contractor.
- On December 23, CPG provided comments to EPA on the NBSA Crab and Clam Sampling QAPP.
- On December 30, CPG uploaded the Low Resolution Coring Supplemental Sampling Program 1 (SSP1) Report plus reasonably sized appendices to the EPA SharePoint site and sent the larger sized appendices via CD to EPA.

Work

- CPG continued laboratory analysis of the Low Resolution Coring Supplemental Sampling Program 2 (SSP2) samples.
- CPG continued data validation of the analytical results from the SSP2 program.
- CPG continued drafting data reports for the Chemical Water Column Monitoring (CWCM) Program.
- CPG completed development of a preliminary Interim CSM deliverable.
- CPG continued Baseline Ecological Risk Assessment (BERA) activities (update CSM, complete benthic assessment, complete effects and exposure assessment and risk characterization for fish and wildlife assessments and start to write the BERA).
- CPG continued work on components of the Human Health Risk Assessment (HHRA).
- CPG Modeling Team continued work on the RCATOX Chemical Fate and Transport Model Code initial conditions and long-term calibration runs.
- CPG Modeling Team continued work on the Bioaccumulation Model.
- CPG Modeling Team continued work on system understanding for hydrodynamic and sediment transport processes in Newark Bay.

- CPG continued review of sediment characteristics and potential target remedy locations in support of initial FS evaluations.
- CPG continued development of appendices and supporting documents for the FS.
- CPG continued development of the Remedial Investigation (RI) report.

(b) Results of Sampling and Tests

- On December 9, CPG submitted preliminary, unvalidated, data and maps for PCDD/ PCDDFs and PCBs from the SSP2 field activities to EPA.
- On December 13, CPG submitted analytical data packages from the SSP2 field activities to EPA.

(c) Work planned for the next two months with schedules relating to the overall project schedule for RI/FS completion

- CPG will complete drafting the data reports for the CWCM Program.
- CPG will complete laboratory analysis of the samples from SSP2.
- CPG will complete validation of the analytical data from SSP2.
- CPG will continue to complete BERA activities (update CSM, complete benthic assessment, complete effects and exposure assessment and risk characterization for fish and wildlife assessments, complete all lines of evidence as outlined in the Risk Assessment Risk Characterization Plan (RARC) and start to write the BERA).
- CPG will continue work on components of the HHRA.
- CPG Modeling Team will continue calibration runs with the HQI ECOM-SEDZLJS and RCATOX codes and inputs.
- CPG Modeling Team will continue development of the Bioaccumulation Model.
- CPG Modeling Team will continue to support the CWCM program data evaluation.
- CPG will participate in LPR/Newark Bay Modeling Program progress calls and follow-up modeling collaboration meetings with EPA and EPA consultants.
- CPG will continue drafting the RI Report.
- CPG will continue initial FS evaluation of targeted remedy locations.
- CPG will continue development of appendices and supporting documents for the FS.

(d) Problems encountered and anticipated problems, actual or anticipated delays, and solutions developed and implemented to address actual or anticipated problems or delays.

- Based upon discussions with Region 2, the CPG understood that Region 2 considered the calibration of the HQI sediment transport and the chemical fate and transport model sufficient to support the revised FFS for the lower 8 miles of the LPRSA in the fall of 2012. Furthermore, the CPG understands that Region 2 received comments related to the FFS model both from the NRRB review conducted in December 2012 and the model peer review in February and March 2013. The CPG has requested that Region 2 provide the results of both the NRRB review and model peer review especially the comments that may be pertinent to the CPG's LPR/NB model development and is

awaiting Region 2's decision on releasing the comments. Finally, the CPG understands that it may require up to six months for Region 2's Modeling Team to incorporate, calibrate and re-run the model based on the NRRB and peer review comments received by Region 2 through the spring of 2013. To date, Region 2 has declined the CPG's requests to provide model-related comments from either review. The CPG is continuing to work on both sediment transport model and the chemical fate and transport model for the LPRSA and incorporating the improvements and other changes that CPG has discussed with Region 2. Region 2 and CPG collaboration meetings were conducted throughout 2012 and in February 2013; this most recent and previous meetings are providing an opportunity for both modeling teams to understand differences between each team's approaches. In January, the CPG provided a detailed technical memorandum on its progress on the LPR/NB sediment transport modeling to Region 2; the current code and input and output files have also been provided, as discussed on February 28. EPA provided Newark Bay SedFlume data and FFS Model input files in March. Delays associated with both the sediment transport modeling and chemical fate and transport modeling schedules are extending the completion of the LPRSA RI/FS. As a result of the July 24 meeting with EPA HQ and Region 2, the CPG has developed and submitted a meeting schedule for the Region's review to address outstanding issues with the LPR/NB models related to sediment transport, chemical fate and transport and bioaccumulation to occur during the third and fourth quarters of CY 2013.
On October 23, Region 2 provided a letter which purports to provide their understanding of the modeling being conducted by the CPG in support of the Sustainable Remedy and RI/FS. The CPG does not agree with some of the statements made in this letter and provided a response on November 22, 2013. A meeting was conducted on November 14 to brief Region 2 on the working version of the LPR/NB Model used for the evaluation of the SR and Region's FFS alternatives should occur. The November 14 meeting addressed OSRTI's July 24 request that Region 2 understand the modeling conducted by the CPG. The CPG agrees with Region 2's proposal to provide routine and regular oversight meetings of the development of the LPR/NB Model for the LPRSA RI/FS and NBSA RI/FS.

On December 19 and 20, the CPG provided the following modeling information used in its working version of the LPR/NB Model to evaluate targeted and bank to bank remedies:

- The hydrodynamic model inputs/outputs and linkage files for the calibration period WY1995-WY2012
- The sediment transport inputs/outputs for the calibration period WY1995-WY2012
- Code version used for sediment transport calibration runs
- OC linkage program, script to pre-process inputs and develop OC linkage file, and example OC linkage file for WY1996
- CFT model inputs, outputs (zipped) and run scripts for the 45 years projection period for 2,3,7,8-TCDD for requested projection alternatives:
  - Alt 1: MNR
  - Alt 2: Targeted removal (500 ppt) (this is the same as Alt 2a)

  - Alt 3: Cap/Dredge with EPA schedule
  - Alt 4: Full dredge with EPA schedule
  - Alt 5: Cap/Dredge with realistic schedule
  - Alt 6: Full dredge with realistic schedule
- CFT model inputs, outputs and run procedures for the long-term (WY1995-WY2009) and short-term (WY2010-WY2012) calibration periods for 2,3,7,8-TCDD, for the same model version as used in the above projections
- The RCATOX model code version used in all of the above simulations
- Temporal plots of the mean 0-15 cm sediment 2,3,7,8-TCDD concentrations for RM 0-8 and RM 0-17 as shown in the July EPA-HQ meeting
  - As noted during the November 14 EPA/CPG modeling meeting, Alternatives 1, 2, and 5 were re-run in October due to an input error in the dredging schedule implementation. The updated results are shown on these plots.
- Bioaccumulation Model Template - Steady State
- Bioaccumulation Model Template - Dynamic
- Dynamic Bioaccumulation Model Input Template

The model codes, inputs and outputs are consistent with the model version described in the November 14th modeling meeting, and shown in the December EPA-HQ meeting. The above-referenced modeling information will provide EPA a detailed understanding of the work being conducted by the CPG as it pertains to the LPRSA RI/FS and its development of the Sustainable Remedy.

- The CPG understands that Region 2 approved TMO's CSO/SWO Workplan in May 2011. It is also the CPG's understanding that the Method Detection Studies proposed by TMO and other work such as construction of the proposed mobile centrifuge/CSO sampling trailer required for Phase 1 work were completed in late August 2012. It is also the CPG's understanding that the EPA and TMO had agreed in late 2012 to delay the Phase I CSO sampling due to the failure of the PVSC treatment system and other regional POTWs. Furthermore, the CPG understands that delays to CSO Phase 1 sampling were caused by TMO inability to receive permission for the discharge of CSO effluent from its trailer back to the CSO from initially PVSC and then municipalities. Finally, TMO did not complete the Phase 1 CSO Sampling in May 2013 as outlined in its latest schedule submitted to Region 2. TMO did collect an initial sample from the Clay Street CSO on June 10; however, the CPG has identified a number concerns with this effort that it plans to share with EPA. Additionally, the CPG understands that TMO completed Phase 1 CSO Sampling in December 2013. The extent to which the LPRSA RI/FS schedule may be impacted by the delays in the Phase 1 sampling schedule is significant. Moreover, there are likely to be significant delays of the Phase 2 CSO field schedule that will prevent a timely completion of the TMO CSO Study and adversely impact the timely completion of the LPRSA RI/FS. Specifically TMO's revised CSO Study schedule indicates that validated data from Phase 2 will be available in late 2015, one year after the anticipated Draft RI report submission in 2014 and FS submission in 2015. TMO's CSO schedule is an unacceptable delay to the LPRSA RI/FS schedule as

demonstrated by their inability to complete the Phase 1 work until December 2013. Furthermore, as far as the CPG is able to determine TMO is unable to conduct the work consistent with the EPA-approved QAPP as demonstrated during the June 10, 2013 sampling event at Clay Street. Therefore, the reliability and value of these data are questionable. The CPG detailed these issues and other concerns regarding TMO's CSO Study in its July 5, 2013 letter to Region 2. The CPG is evaluating alternative approaches for CSO/SWO data to be used in the LPR/NB Chemical Fate & Transport Model to maintain a LPRSA RI/FS Study completion date of late 2014.

- Region 2 provided comments on July 11, 2011 which disapproved the revised risk assessment planning documents and required submission of revised documents within 30 days. Additionally, Region 2 provided a technical memo on July 25, 2011 on fish and crab consumption rates for the LPRSA Human Health Risk Assessment. The CPG filed a notice of dispute resolution in accordance with Section XV of the AOC on July 25, 2011 in response to Region's July 11, 2011 directive letter and July 25, 2011 technical memorandum. The revised RARC and TRV deliverables were submitted on August 9, 2011. On September 6, 2011 the CPG submitted a position paper in response to EPA's July 11, 2011 comments and July 25, 2011 technical memorandum. Dispute resolution meetings were held on December 1, 2011 and January 13, 2012. Region 2 provided the results of the dispute resolution to the CPG on February 7, 2012 and the CPG implemented the changes specified in the July 2011 directive comments and the results of the dispute resolution in the revised RARC which was submitted on April 13, 2012. Region 2 provided comments on the revised RARC on August 30, 2012; the CPG met with Region 2 on January 7, 2013 to discuss remaining background and reference issues and had a telephone call with EPA on January 28 to discuss cooking loss.

  Since early in 2013, Region 2 has promised to provide revised definitions for background and reference that the CPG can include in the revised RARC. These definitions were received by the CPG on June 28, It is the CPG's understanding that the issuance of the revised definitions was held-up by the NJDEP, NOAA and US FWS which did not accept definitions that are otherwise acceptable to the Region and the USACE, and which appear to be acceptable to the CPG based on the CPG's understanding of the revised definitions. The CPG has reviewed the June 28 definitions with the Region. Following CPG review and discussions and clarifications with the Region on August 8, the CPG resubmitted the revised final RARC, incorporating the June 28 definitions, on October 29 to Region 2 for final approval. The CPG is awaiting Region 2's approval of the RARC.

- The CPG was directed in 2009 by EPA to develop a single QAPP for surface water sampling for both the LPRSA and NBSA. At that time, the TMO parties were still members; the TMO parties left the CPG in May 2012. However, Occidental is the respondent to the NBSA AOC. The CPG followed the direction of the EPA and performed three separate programs, including developing QAPPs for the Physical Water Column Monitoring and Small Volume and High Volume Chemical Water Column Monitoring programs (in fact the High Volume program was implemented after TMOs departure). The CPG voiced its concerns to EPA that this involved both (1) different operable units of the Diamond Alkali NPL site and (2) different respondents to the

respective AOCs – EPA did not address the CPG's concerns. In order to effectuate EPA's directive for synoptic sampling in the River and Newark Bay, the CPG agreed to allow Tierra, on behalf of Occidental, to use its contractor. However, subject to the terms of a letter agreement between the CPG and Tierra, the responsibility for the work in Newark Bay would be solely Tierra's. After authorizing and paying for Newark Bay work, Tierra stopped responding to the CPG's contractor task authorization requests starting in March 2013 and has not made any payments since mid-May. As a result of Tierra's failure to pay, the CPG's contractor is owed over $1 MM in outstanding invoices and an estimated $1.5 MM in labor and expenses associated with NBSA sampling (for a total of $2.5 MM). In August, with EPA's approval, the CPG paid over $1 MM in outstanding invoices from the LPRSA Trust. Until the remaining invoices are paid and the CPG is compensated for its payment, the CPG and its contractor will not provide any NBSA data to TMO and believes that EPA should take the same position. If EPA requires these data to be included in the LPR/NB Model as planned and the invoices are not paid then the schedules to complete the LPRSA RI/FS and the LPR/NB Model could be adversely impacted.

- On March 3, 2009, pursuant to EPA's November 13, 2008 comments provided to CPG, a revision to the August 2008 Feasibility Study Work Plan (FSWP) was submitted. To date, Region 2 has not provided written comments or approval on the revised March 2009 FSWP. Region 2 and CPG had previously agreed to have a meeting in October 2013 on the FSWP which was prevented by the Government Shutdown. The CPG received comments on December 13, 2014 and met with EPA on December 17, 2013. The CPG has established a goal of submitting a revised FSWP in late January

- There are number of data summary reports and technical memos (both original and revised submissions) that have been submitted to Region since 2011 that the CPG is awaiting either approval or Region 2's comments. These reports include:

    1. Revised Low Resolution Coring Report – submitted July 2011
    2. Benthic Fall 2009 Sediment Chemistry and 2010 co-located Sediment Data Report – submitted September 2011
    3. Benthic Fall 2009 Benthic Bioaccumulation Tissue Data Report – submitted September 2011; partial comments received on September 24, 2012
    4. Fish and Crab 2009 Tissue Chemistry Data Report – submitted September 2011
    5. Benthic Fall 2009 Toxicity Test Data Report – submitted January 2012; partial comments received on September 24, 2012
    6. Benthic Spring and Summer 2010 Community Field Report – submitted January 2012
    7. Revised Data Usability Plan – submitted April 2012
    8. Avian 2011 Winter/Spring Survey Field Report – submitted July 2012
    9. Caged Bivalve Study Data Report – submitted July 2012
    10. Small Forage Fish 2010 Tissue Chemistry Data Report – submitted July 2012
    11. Sediment Transport Technical Memo – submitted January 2013
    12. 2010 Habitat Survey Data Report – submitted April 2013

13. Benthic Fall 2009 Community Field Report – submitted April 2013
14. 2011 and 2012 Bathymetry Survey Reports – submitted April 2013
15. Lower Passaic River Surface Sediment Concentration Mapping Technical Memorandum– submitted May 2013
16. Upstream Reference Benthic Data Report – submitted August 2013
17. Dissolved Oxygen Survey Data Report – submitted September 2013
18. Upstream Reference Toxicity Report – submitted October 2013
19. Background Sediment Data Report – submitted October 2013
20. Revised RARC including Appendix B – submitted October 2013

As we discussed during our November 12 telephone conference, the CPG will be submitting the CWCM data summary reports next month. Please advise the CPG of the Region 2's schedule for action on these documents.

If you have any questions, please contact me or Rob Law at (908) 735-9315.

Very truly yours,

de maximis, inc.

Willard F. Potter
Project Coordinator

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