Memorandum

To: South Terminal Administrative Record

From: Kimberly N. Tisa

Date: 9/30/2013

Re: South Terminal Upland Area PCB Delineation

In November 2012, EPA issued a Final Determination for the South Terminal Project ("Final Determination"), which includes construction of a 28.45-acre marine terminal ('the Site"). Appendix J(1) to the Final Determination ("TSCA Determination") contained EPA's finding that the proposed methods of management for upland soils would not pose an unreasonable risk to human health or the environment. The TSCA Determination included conditions for the proposed work, including but not limited to submittal of a sampling and analysis plan ("SAP") for characterization of "geotechnically unsuitable" soils for EPA's review and approval.

On July 22, 2013, APEX submitted a SAP for the "geotechnically unsuitable soils". Subsequently, APEX indicated that the identified "geotechnically unsuitable" soils (top 0-2 feet across the Site) had been excavated and placed into stockpiles. On July 30, 2013 via email to APEX, EPA requested specific information on the stockpiles.

Based on EPA's review of the stockpile information, EPA recommended an approach for characterization sampling of each pile and APEX provided a revised SAP dated August 12, 2013. In August, 2013 sampling of the stockpiles identified PCB concentrations of greater than or equal to ("≥") 50 ppm.

The TSCA Determination only addressed removal and off-site disposal of identified PCB-contaminated "hot spot" located in Area 1. Given the results of the stockpile sampling, additional site assessment was warranted to confirm if PCB concentrations ≥ 50 ppm existed elsewhere on the upland portion of the Site, which would require modification to the TSCA Determination.

With the above findings, EPA communicated with APEX during August, 2013, on the approach for additional Site characterization. Given the size of the property and in consideration of the areas where each stockpile was generated, a 25-foot by 25-foot sampling grid was to be established across the areas of the Site where the stockpile results indicated that PCB concentrations ≥ 50 ppm could be present. In the event that the sampling results indicated PCB concentrations ≥ 50 ppm, a 5-foot by 5-foot grid was to be established in those areas to delineate the PCB-contaminated soils for off-site disposal purposes.

A final, revised SAP was submitted to EPA on August 30, 2013. In addition, by letter dated August 30, 2013, the Commonwealth requested a modification to increase its PCB cleanup standard of 25 ppm to < 50 ppm.

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On September 3, 2013 EPA met with the Commonwealth and APEX to discuss the overall project, including the dredge work, blasting plan, and upland work. With respect to the upland, the Commonwealth provided the following information:

- 6 out of 14 topsoil stockpiles had PCB concentrations > 50 ppm.
- 2 out of 14 topsoil stockpiles had PCB concentrations > 10 ppm but < 50 ppm
- 6 out of 14 topsoil stockpiles had PCB concentration < 10 ppm

In addition, draft maps with PCB concentrations were provided. Data collection was still ongoing at that time.

On September 23, 2013, Cindy Catri and I met with the Commonwealth and APEX to discuss all upland PCB work. Maps showing PCB concentrations collected to-date and proposed excavation depths were provided. The maps clearly showed wide-spread contamination, but contamination appeared to be limited to surface samples currently at -2 feet below ground surface (("fbgs"). The -2 fbgs is the current Site elevation as 2 feet of topsoil had previously been removed. Based on the sampling that had been conducted, the Commonwealth requested that (1) EPA consider what additional work would be necessary to support soil removal without PCB post-excavation confirmation sampling outside the Area 1 "hot spot"; and, (2) what sampling would be necessary within the Area 1 "hot spot" which is currently at -5 fbgs depth due to PCB-contaminated soil removal. The latter would represent a change to the TSCA Determination, which requires Subpart O confirmatory sampling within Area 1.

On September 25, 2013, EPA and APEX met to discuss EPA's review of the data provided on September 23, 2013. Based on EPA's review of the existing data, the proposed depths of excavation appeared to be reasonable. Of the samples that have been collected, only 2 soil borings show PCB concentrations > 10 ppm but < 25 ppm at 3 feet or greater. However, EPA identified the following next steps that would be needed for the upland work to support that the previously collected PCB concentrations are representative of Site conditions.

1. Installation of an additional 22 soil borings with continuous sampling. The results of this additional sampling in conjunction with previously generated data will be used to confirm whether the PCB concentrations at the Site are consistent with the conceptual site model (PCB contamination is shallow, with exception of Area 1 "hot spot" where concrete structure is present. (see Attachment 1 to this memo).

2. APEX will also evaluate what engineering designs, if necessary, can be implemented along the northern property boundary to minimize the potential for contamination to the "clean" dense grade aggregate that will be installed over the Site per the Final EPA Determination.

3. APEX will submit its proposal for how soils located within the Area 1 "hot spot" will be managed which may include complete removal of the soils located within the ≥ 50 ppm PCB areas to bedrock, till, or the concrete tank bottom, if present.

4. The Radio Tower area will be considered only as a potential property and as data does not currently exist for this property, if PCB concentrations > 1 ppm are identified, the necessary PCB cleanup will need to be addressed under a separate 40 CFR Part 761 process.

5. APEX will submit a letter that addresses items 1 through 3, above, including site maps with additional boring locations identified.

The original objective of the PCB cleanup as authorized under the TSCA Determination was to remove all identified PCB-contaminated soils with > 25 ppm. However, in light of the subsequent sampling and the Commonwealth's request to increase the PCB cleanup standard and to eliminate the post-excavation confirmatory sampling, EPA has to reconsider that these proposed changes would not pose an unreasonable risk to public health or the environment under § 761.61(c).

Assuming that the additional sampling results (Item 1) support the conceptual site model that PCB contamination is within the remaining shallow soil surfaces, EPA believes that the proposed changes will not pose an unreasonable risk to human health or the environment because of the following:

1. given the heterogeneity of Site soils, EPA has determined that the overall data set will provide sufficient information on PCB concentrations at the Site and that once the identified ≥ 50 ppm PCB-contaminated soils have been removed, the overall average will be < 50 ppm.

2. the data will be sufficient to support that the identified PCB-contaminated soil with ≥ 50 ppm can be removed to the proposed excavation limits without additional post-excavation confirmatory sampling.

If the additional sampling does not support the conceptual site model, the Commonwealth will be required as a condition of the Modified TSCA Determination to submit an alternative remedial plan to address the ≥ 50 ppm PCB-contaminated soils.

Attachment 1.

ADDITIONAL SAMPLING DGA-1 THROUGH DGA-8 AND AREA 1 "HOT SPOT"

Detailed Grid Area (DGA) or Hot Spot Area	Proposed Depth of Excavation (ft) [1]	Additional Soil Borings to be Installed [1,2]	Proposed Boring Depth (ft)
DGA-1	1.5	AA1, LL9, FF5	5
DGA-2	4.5	FF3, FF5/FF6, BB5, CC2	8
DGA-3	1.5	CC1	5
DGA-4	1.5	CC2, FF3	5
DGA-5	5	DD4, AA1, LL11, NN7, and L7/L8 (L7.5 on 25' grid)	8
DGA-6	1.5	FF14, JJ12, II3	5
DGA-7	1.5	AA2, DD4	8
DGA-8	1.5	CC5, AA2 (H-1 on 25' grid)	6
Area 1 "hot spot"	Bottom of Concrete Structure (if present) or Bedrock or Till (depending on the results of borings, if completed)	Potential Borings: I-10, I-6, and F-9	To Bedrock, Till or Bottom of Concrete Structure

[1] Per September 25, 2013 submittal

[2] For Area 1 "hot spot" soil borings may be installed and samples collected to confirm PCB concentrations in till. Alternatively, soils/sediments may be removed to bedrock or, if found, the bottom of the concrete structure, or cleanup of this area may continue in accordance with the November 19, 2012 TSCA Determination.