



September 21, 2018

Mr. James S. Haklar
Environmental Engineer
Clean Air and Sustainability Division
US Environmental Protection Agency, Region II
290 Broadway, New York, New York 10007

Re: Comments Concerning the May 12, 2017 TSCA Risk-Based Disposal Application of Former McCandless Fuels Site, Franklinville, New Jersey

Dear Mr. Haklar,

Thank you for your comments on May 30, 2018 regarding our Toxic Substances Control Act (TSCA) application for a Risk based disposal application (RBDA) at the Franklinville site in New Jersey. As discussed, Resource Control Consultants (RCC) and Antea USA, Inc. (Antea) are addressing your comments in letter format on an item by item basis. We (RCC/Antea) are also directing our responses to both EPA's Office of Land and Emergency Management (OLEM) and the New Jersey Department of Environmental Protection (NJDEP), as you requested. Once we have resolved all issues to a mutual understanding, we will resubmit a complete revised application for approval.

USEPA Comment No. 1 - Effectiveness of In-Situ Chemical Oxidation (ISCO): The United States Environmental Protection Agency (EPA), Region 2 understands that Antea USA, Inc. (Antea) and its consultant have worked with EPA's Office of Land and Emergency Management to evaluate the effectiveness of ISCO in reducing PCB concentrations in the soil. In order to assist EPA in understanding how concentrations have changed across the site over time, please provide a large map **showing all historical and pre-ISCO treatment sample results, with overlays (in the same scale as the map) of the soil concentrations found during each calendar year of ISCO treatment.** Please be aware that after review of this information, EPA may request additional sampling in certain locations to verify current PCB concentrations.

RCC/Antea Response No. 1 - Effectiveness of In-Situ Chemical Oxidation (ISCO):

RCC and Antea believe that the introduction of ozone based In-Situ Chemical Oxidation was effective in destroying ninety-two percent (92%) of the PCB mass originally identified at the McCandless property in the 2009 site characterization. The basis of this calculation was the reduction of the pre-treatment concentrations, determined through kriging both horizontal and vertical aspects of the subsurface conditions.

*As requested, RCC and Antea also performed a point to point comparison and evaluated contour plots of pre- and post-treatment soil concentrations. We have prepared maps showing all historical and pre-ISCO treatment sample results, with overlays (in the same scale for each map) of the soil concentrations found during each calendar year of ISCO treatment. Please see the attached figures (**Figures 1A-E through Figures 7A-E**) in **Attachment 1**. The map illustrations are organized by year and depth interval. **Figures***

1A-E represent pre-treatment conditions of the site in 2010 for different depth intervals: 1A - Vadose Shallow (VS 0-2.5' bgs), 1B - Vadose Deep (VD 2.5-6.0' bgs), 1C - Water Table (WT 6.0-8.5' bgs), 1D - Saturated Intermediate (SI 8.5-16' bgs) and 1E - Saturated Deep (SD 16'+ bgs). Site conditions for 2011 are represented in the **Figures 2A-E** series and so on through the post treatment site conditions of 2016 represented in **Figures 7A-E**. **Attachment 1** figures have been included on the enclosed CD-ROM and we are providing Size C (24" X 18") drawings with this letter for **Figures 1A-E and 7A-E**, representing the pre- and post-treatment conditions.

USEPA Comment No. 2 - The Proposed 500 mg/kg Cleanup Level:

Antea is requesting a risk-based cleanup level of 500 mg/kg across the site. However, Antea has not demonstrated that application of this cleanup level across the entire site is appropriate, as there appears to be locations on the site where a lower cleanup level could be achieved, in consideration of any potential future non-residential uses. Furthermore, please see the comments on Section 8.2., below, regarding the potential need for a site-specific evaluation of groundwater impacts which may necessitate the development of an impact-to-groundwater cleanup number for PCBs.

RCC/Antea Response No. 2 - The Proposed 500 mg/kg Cleanup Level:

As evident in **Figures 7A-E of Attachment 1** referenced above, RCC and Antea have achieved cleanup well below the level of 500 mg/kg at the McCandless site. The majority of residual PCB contamination exceeding 1 PPM is located below a depth of 6.0' below grade surface (bgs). Within the top 6.0' bgs interval, only the area in the immediate proximity to PMP-24 exceeds 10 mg/kg. Based on the limited areal extent of contaminated soils at and around PMP-24, our proposed remedial action included the removal of soils > 500 mg/kg PCBs in this location to a depth of 8' bgs.

The distribution of PCBs within the water table interval (6.0-8.5' bgs) are reduced from pre-treatment extents; however, PCBs remain above 25 mg/kg and 100 mg/kg levels across a widespread area (**Figures 7C and 7D**) on-site. RCC and Antea intended for the risk-based cleanup level to apply to this residual contamination. While most of the soils within this area would be expected to contain PCBs at 100 mg/kg or less, based on the isopleth maps, there were a few post treatment occurrences at greater concentrations (notably PMP-15, PMP-13, PMP-9, PMP-7 and PMP-2). The scattered detections of PCBs at concentrations proximate to the water table that are near 100 mg/kg are geographically isolated and make further remediation impracticable. RCC and Antea propose that selection of the 500 mg/kg criteria would accomplish several objectives consistent with the TSCA risk-based objectives:

- Support the removal of soils contaminated by PCBs > 500 mg/kg within the area of PMP-24 by establishing a cleanup criterion for the proposed removal effort;
- Address the potential for some remaining elevated levels of PCBs within the water table interval that may remain on-site, but pose no greater risk than the current levels at sampled locations based on the degree of isolation afforded by the clean materials which currently exist above the entire area;
- Provide adequate protection for human health and the environment when combined with the proposed TSCA cap, which would roughly coincide with the 10 mg/kg iso-contour footprint in **Figure 7C**. Beyond the 10 mg/kg iso-contour, we are compliant with HOA criteria (no restrictions except deed notice). The remaining area of the site to 1 mg/kg would be deed noticed. NJDEP will require NJDEP compliant capping of the area > 1 mg/kg PCBs.

PCBs > 1 mg/kg currently off-site are limited both in magnitude (< 5 mg/kg) and extent (PRA-25E3). RCC and Antea are pursuing a more aggressive cleanup standard through excavation for off-site soils (OU2 and OU3) >0.2 mg/kg Total PCBs. This criterion will satisfy the NJDEP Residential Direct Contact Soil Remediation Standard as well as the US EPA criterion of 1 mg/kg.

USEPA Comment No. 3 - Section 3.1.1 - Historic Soil Investigations:

The text at the top of Page 7 explains that in August 2003, groundwater samples were collected from three off-site supply wells and analyzed for volatile organic compounds and tentatively identifiable compounds. Please provide all PCB results that were obtained from these wells. If samples were not analyzed for PCBs and the wells still exist, then they should be sampled for PCBs and the results included in the application.

RCC/Antea Response No. 3 - Section 3.1.1 - Historic Soil Investigations:

Section 3.1.1 of the Risk-Based Application discusses an investigation performed by Synergy Environmental, Inc. (Synergy) in 2003. This investigation was summarized in October 2003 Remedial Investigation Report prepared by Synergy and submitted to the NJDEP. The sampling is discussed on page 22 of the report and states that samples were collected from the McCandless, Faith Fellowship, and Community Commons potable water supply wells. The results are discussed on page 30 of the report which states that on August 1, 2003 samples collected from the three wells were submitted for laboratory analysis of VO+TICs. Samples from Faith Fellowship and Community Commons exhibited no VOs above standards. [Of note, Acetone was reported at a concentration of 2.07 ug/L in the sample collected from the Faith Fellowship well, but this did not exceed the standard. While not mentioned in the report, Acetone is a common lab contaminate.] The sample collected from the McCandless well exhibited a TCE concentration of 5.1 ug/L compared to the standard of 1 ug/L.

On August 27, 2003 Synergy collected samples from the McCandless supply well and the Faith Fellowship supply well. The McCandless supply well also supplied water to the McCandless residence north of the site. The samples were submitted for laboratory analysis of VO+TICS, BN+TICs, and PCBs. The results show VOs, BNs, and PCBs were non-detect in the McCandless supply well and residence samples. Samples from the Faith Fellowship well were non-detect for PCBs and BNs, and while there were VO detections, the concentrations did not exceed standards. Figures 6-1, 6-9 and 11 representing the location of the wells and Tables 6-6 and 10 of analytical results from the 2003 sampling events is presented in **Attachment 2**. The McCandless supply well and the Faith Fellowship supply well have been abandoned with the razing of the buildings in 2009 and are no longer present. RCC/Antea will attempt to obtain and provide the well abandonment records.

It is noteworthy that no PCBs were detected in the on-site supply wells sampled and none have been detected in any of the off-site monitoring wells. RCC performed a well search of the area and included the findings in **Attachment 2**. NJDEP has recently responded to a records request for data on the Community Commons well (a Non-Community Potable Water Supply well). NJDEP indicated no records are available; therefore, RCC/Antea will attempt to secure permission to sample this well and provide results in the revised RBDA submittal.

USEPA Comment No. 4 - Section 3.1.2 – Historic Groundwater Investigations:

At the top of Page 8, the application explains that the flow direction was confirmed to be to the west, “anticipated by the topography and proximity to Little Ease Brook”. Please provide all PCB results from samples collected in Little Ease Brook. If this sampling has not occurred, then we recommend that samples be collected, analyzed for PCBs, and the results included in the application.

RCC/Antea Response No. 4 – Section 3.1.2 – Historic Groundwater Investigations:

*If the focus/concern of this comment is potential overland transport of PCBs from the site to Little Ease Brook, the railroad tracks provide a formidable physical barrier interrupting the topography which slopes southwest from Delsea Drive towards the surface water body. Potential groundwater transport was investigated and documented in the June 2008 Remedial Investigation Report which described the installation and sampling of shallow points adjacent to the stream. The table below lists the temporary wells installed upstream, midstream, and downstream to represent groundwater conditions between the Site and both the stream and the man-made lake. These locations are also depicted in a map (Figure 4-7) included within **Attachment 3**.*

At two of the sample locations, a deeper interval temporary well was installed to evaluate any potential vertical impacts in this area, as requested by the NJDEP. Lastly, one shallow temporary well was installed on the western side of Little Ease Run to evaluate groundwater quality conditions beyond the hydraulic divide. The samples were collected from these temporary wells and two permanent monitoring wells (MW-4A and MW-10). The samples were analyzed for PCBs via EPA Method 608, VOCs via EPA Method 624 plus forward library scan of 10, BNs via EPA Method 625 plus forward library scan of 15 and PAHs via EPA Method 8270 using SIM.

Temp Well ID	Location	Sample Depth (ft.)	Comments
GWE-US1	Shallow interval well on the eastern side of the creek upstream of the site	1-5	Hand-driven
GWE-US1A-S	Shallow interval well on the eastern side of the creek between MW-10 and upstream point	0-4	Hand driven. This point was specifically requested by NJDEP
GWE-US1A-D	Deep interval well on the eastern side of the creek between MW-10 and upstream point	6-10	Hand driven. This point was specifically requested by NJDEP
GWE-MS1	Shallow interval well on the eastern side of the creek at the midstream point	0-4	Hand-driven
GWE-DS1	Shallow interval well on the eastern side of the creek downstream of the site	0-4	Hand-driven
GWW-DG1-S	Shallow interval well on the eastern side of the creek between the site and man-made lake	11-15	Direct push
GWW-DG1-D	Deep interval well on the eastern side of the creek between the site and man-made lake	17-21	Direct push. This point was specifically requested by NJDEP
GWE-MM1	Shallow interval well on the western side of the creek	1-5	Hand-driven

The results of the samples analyzed for PCBs are included in and summary table and excerpt from a lab report provided herein as **Attachment 3**. As indicated in the attachments, analytical results for these samples showed that PCBs were not detected in the groundwater samples. [The discussion of other compounds found in these samples is available in the 2008 RIR provided elsewhere in the RBDA.]

USEPA Comment No. 5 - Section 3.2 – Areas of Concern:

At the bottom of Page 8, a reference is made to a potential off-site source of PCBs. Please provide additional information on this potential source.

RCC/Antea Response No. 5 - Section 3.2 – Areas of Concern:

In December 8, 1997 report “Report Concerning Contamination in McCandless” by Trillium mentioned “On November 1, 1991, EMA Laboratories sampled soils on the Atlantic Electric transformer station on the northeastern corner of Lot 2 adjacent to the McCandless Petroleum, Inc. property (Lot 2A). The electric station was initially suspected as a potential source/contributor to PCBs on-site. No PCBs were detected with a detection limit reported at or less than 0.25 mg/kg. The EMA Laboratories report dated November 1991 demonstrates that the Atlantic Electric property was not the source of the PCB contamination found on the McCandless Petroleum facility.”

In June 11, 2008, Antea installed three soil borings (DSB-111, DSB-112 and DSB-113) along the fence-line between the Site and the former transformer substation on the northeastern side of the property. A total of 11 soil samples were collected from various depths within these borings, all of which were submitted for PCB analysis for vertical and horizontal delineation purposes. The analytical results for these samples showed that PCBs were detected in only one of these eleven samples. The reported concentration in this sample was below the NJDEP RDCSCC such that the lateral and vertical delineation in this area has been established.

*The analytical results for these samples are summarized in a table and figure presented in **Attachment 4**. [They are also posted on **Attachment 1** maps reflecting pre-treatment site conditions.]*

USEPA Comment No. 6 - Section 4.1 – COCs and COC Distribution:

The text at the top of Page 10 explains that the Western Area was determined not to be a “significant source area”. Please explain the meaning of this phrase.

RCC/Antea Response No. 6 - Section 4.1 – COCs and COC Distribution:

*Review of historical aerials have confirmed that the Western Area was not part of the operational area of the site. Historical site investigations had indicated there were three isolated areas where dumping had occurred. In 2008, Delta/Antea installed five soil borings in the western portion of the Site to further delineate an isolated elevated PCB concentration previously identified by others. A total of nine soil samples 9DSB-108, DSB-109, DSB-110, DSB-110A, SW-1B were collected from various depths within these borings, all of which were submitted for PCB analysis for lateral and vertical delineation purposes. The analytical results for these samples are summarized in Table 3-3 and are depicted on Figure 4-4 in **Attachment 5**. As indicated in the table, the analytical results for these samples showed that PCBs were detected in only three of the nine samples. Only one of the samples (DSB-108B) had PCB concentrations*

for two Aroclors slightly above the NJDEP RDCSCC but below the NJDEP NRDCSCC such that the lateral and vertical delineation of PCBs in this area has been established.

Delineation sampling in 2008 was not able to confirm contamination at one of the areas (SW-1), Figure 5c, **Attachment 5**. The other two areas (S2C2-62 and B-15), Figure 5c, **Attachment 5** were treated with ozone and remediated to cleanup levels (< 1 PPM) as reflected in Figures 7C, **Attachment 1**.

USEPA Comment No. 7 - Section 5.2.2 – Soil Sampling:

Please provide the length of the cores (or core segments) homogenized for the collection of samples. Please be aware that, due to potential dilution from homogenizing long cores, EPA Region 2 does not routinely accept results from sample intervals greater than a foot without a correction for dilution.

RCC/Antea Response No. 7 - Section 5.2.2 – Soil Sampling:

As per the requirements of the NJDEP 2005 Field Sampling Procedures Manual (FSPM), soil samples are limited to a 6" interval from within the sleeve of the soil core. There appears to be unclear language confusing the interval of interest with the volume of soil used to generate the soil sample. We would note that representatives from USEPA OLEM were present on multiple sampling occasions to both witness the protocol as well as split samples based on the protocol. There were no samples collected from intervals greater than one foot. The revised RBDA will clarify this confusing language.

USEPA Comment No. 8 - Section 6.2.2 – Groundwater Investigation Findings:

There is a typographical error at the top of Page 19; it appears that "congener 1242" should actually be "Aroclor 1242". Please note that this error is repeated in the text for Section 7.2.2 on Page 23.

RCC/Antea Response No. 8 - Section 6.2.2 – Groundwater Investigation Findings:

Thank you for the correction. The revised RBDA will address these typographical errors.

USEPA Comment No. 9 - Section 8.1 – Remedial Action – Soil Excavations:

The text at the top of Page 24 explains that soil with low levels of PCBs (e.g., less than 15 mg/kg) can be disposed at a "Title B Solid Waste Facility". Please be aware that all of the PCB-contaminated soils on the site, regardless of concentration, are considered by EPA Region 2 to be PCB remediation waste that is regulated for disposal. As such, PCB remediation waste with PCBs less than 50 ppm must be disposed in accordance with 40 CFR 761.61(a)(5)(i)(B)(2)(ii), while PCB remediation waste having PCBs at or above 50 ppm must be disposed in accordance with 40 CFR 761.61(a)(5)(i)(B)(2)(iii).

RCC/Antea Response No. 9 - Section 8.1 – Remedial Action – Soil Excavations:

RCC and Antea are aware that PCB contaminated soils at the site must be regulated for disposal as PCB remediation waste relative to 50 mg/kg. We will modify the disposal statements within the application to reflect that PCB remediation waste with PCBs less than 50 ppm will be disposed in accordance with 40 CFR 761.61(a)(5)(i)(B)(2)(ii), while PCB remediation waste having PCBs at or above 50 ppm will be disposed in accordance with 40 CFR 761.61(a)(5)(i)(B)(2)(iii).

USEPA Comment No. 10 - Section 8.1.2 – Excavation and Disposal:

Please note that the PCB regulations do not specifically require incineration of soils with PCBs at or above 50 mg/kg; however, these soils must be disposed in accordance with the regulations cited above.

RCC/Antea Response No. 10 - Section 8.1.2 – Excavation and Disposal:

Thank you for the clarification. The revised RBDA will remove the reference to incineration.

USEPA Comment No. 11 & 12 - Section 8.1.3 – Post-Excavation Sampling:

Please be aware that EPA Region 2 does not routinely approve post-excavation sampling frequencies that exceed one base sample for every 400 square feet of excavation.

Please explain the reason that post-excavation samples cannot be collected at depth when using auger or trench box-based removal methods.

RCC/Antea Response No. 11 & 12 - Section 8.1.3 – Post-Excavation Sampling:

Remedial verification sampling will be conducted to verify the effectiveness of the remediation of PCBs in soil to below the cleanup criteria. Soil samples will be analyzed for PCBs via USEPA Method SW846-8082 by an EPA and NJDEP-Certified laboratory. In general accordance with Subpart O of 40 CFR 761, one remedial action verification sample will be collected per 15-foot square (225 square feet) of excavation bottom, with a minimum of three (3) samples per excavation area regardless of the excavation size. Specifically, three (3) verification bottom samples will be collected from each area. Each sample will be collected as a discrete sample from a singular six-inch soil depth interval.

For the preferred auger or trench box-based removal, it was expected that pre-excavation delineation samples would be an acceptable substitute for post remedial sampling at depth, since such sampling might involve unnecessary safety exposure risks for the samplers. Alternate sampling methods to raise the samples to the ground surface can overcome these risks; therefore, this conservative statement will be modified in the revised RBDA.

USEPA Comment No. 13 - Section 8.1.4 – Engineering and Institutional Controls:

Please explain how the existing four-inch asphalt cap will be upgraded to a cap that complies with 40 CFR 761.61(a)(7).

RCC/Antea Response No. 13 - Section 8.1.4 – Engineering and Institutional Controls:

A TSCA cap is required for areas where PCBs in the LOA exist >25 PPM and < 100 PPM. We will identify a site plan view of the site indicating where PCBs exist below the surface at concentrations >25 PPM and the revised RBDA cleanup standard. In these areas, a new asphalt cap will be installed, or the existing asphalt cap will be upgraded to be compliant with the requirements of 40 CFR 761.61(a)(7). Upgrading the existing cap will include re-pavement to ensure a minimum of six inches of asphalt exists between the surface of the asphalt and the subsurface soils.

US EPA Comment No. 14 - Section 8.2 – Remedial Action – Risk Based Disposal Approval and Section 8.3 – Remedial Action – Groundwater:

These sections of the application do not provide sufficient information to conclude that the groundwater is not impacted by PCBs. The text of Section 8.2 refers to a discussion that provides a cursory reference to “microscopic sediments in the water sample”. While EPA Region 2 understands that turbidity in groundwater samples could have an effect on PCB concentrations, a more thorough discussion should be included in the application. Please note that the issue of total versus dissolved PCBs in groundwater and the need for a site-specific evaluation of PCB impacts to groundwater may be subject to future review by the New Jersey Department of Environmental Protection.

Furthermore, since PCBs will remain on site that could potentially impact the groundwater, any risk-based PCB cleanup and disposal approval developed by EPA Region 2 will include provisions for long-term groundwater monitoring.

RCC/Antea Response No. 14 - Section 8.2 – Remedial Action – Risk Based Disposal Approval and Section 8.3 – Remedial Action – Groundwater:

RCC and Antea believe that the data presented in the May 2017 RBDA was conclusive of no groundwater impact outside the boundaries of the property. RCC contacted the NJDEP to discuss the acceptability of filtered sample results and was advised that such sampling is considered valid when properly executed and supported by other lines of evidence regarding the presence or absence of a contaminant. This information was used to support the conclusion that on-site groundwater contamination was limited at best to the immediate treatment area.

Regarding the issue of residual PCB threat to groundwater from soils, RCC and Antea will include a long-term monitoring strategy for inclusion in the revised RBDA. We would propose that one upgradient couplet (MW-15 & MW-15D), one side gradient on each side (MW-16 & MW-7D) and one downgradient monitoring well couplet (MW-6, MW-6D) be included in the proposed network. In addition, the network should include one monitoring well (MW-13 & MW-13D) within the former treatment/cleanup area. [MW-13 and 13D should be replaced after excavations and prior to long-term monitoring due to the suspected well screen damage from ozone treatment.] This monitoring program would be “regulated” by NJDEP through a Remedial Action Permit (RAP) for Groundwater.

US EPA Comment No. 15 - Section 10.0 – Data Repository:

Please provide additional detail on (and the status of) the publicly accessible virtual data room. Please note that any risk-based PCB cleanup and disposal approval developed by EPA Region 2 will include provisions for record retention. Please also see the PCB regulations at 40 CFR 761.180 (Records and Monitoring).

RCC/Antea Response No. 15 - Section 10.0 – Data Repository:

Pursuant to 40 CFR 761.180, the details of the proposed excavation, post-excavation sampling, analytical results, and off-site disposal documentation will be maintained for a minimum of five (5) years. A summary report detailing excavation, verification sampling, analytical data and fill material will be produced.

The project will maintain a repository for all the data related to this application and the cleanup. The repository will take the form of publicly accessible data files which include electronic versions of the

reports, figures, tables and backup information (such as lab reports). Records will be maintained at the offices of Antea USA, Inc. (Valhalla), at Blue Lightning (Mt. Holly) and with Deborah Nevins (the property owner). [A virtual data room is no longer proposed]. The physical addresses for these repositories is provided below:

Antea USA, Inc.
500 Summit Lake Drive, Suite 150
Valhalla, New York 10595
800-477-7411 Attn: Timothy Fisher, Project Manager

Blue Lightning Underground Enterprises, LLC
Resource Control Consultants, LLC
10 Lippincott Lane, Unit 1
Mount Holly, New Jersey 08060
856-273-1009 Attn: John Mateo, Project Manager
Attn: Jeff Dey, LSRP

Ms. Deborah Nevins Property Owner
423 Pintail Court
Chestertown, MD 21620

US EPA Comment No. 16 - Figure 14 – Remedial Action Schedule:

Please provide an updated schedule that includes time durations rather than specific milestone dates, with the durations based on EPA approval of the application.

RCC/Antea Response No. 16 - Figure 14 – Remedial Action Schedule:

The revised RBDA will include an updated schedule that incorporates time durations for the proposed activities.

Supplemental Item -- Addressing OU 2 & OU3:

Prior to the receipt of your May 30, 2018 comments, we had discussed a draft notification for Self-Implementing Clean-up and Disposal Plan which RCC/Antea had prepared for OU2 & OU3, which extends onto the adjoining (Community Commons) property. You requested that we consolidate the self-implementing component of the off-site problem into the revised RBDA. We are taking this opportunity to confirm that our intention is to address the remediation of OU 2 & OU3 as part of the revised RBDA.

I trust you will find this response to comments letter satisfactory and we can move forward with the preparation and submittal of a revised Risk-based Disposal Application package for your review and approval.

Sincerely,

RESOURCE CONTROL CONSULTANTS



John M. Mateo
Project Manager

Enclosures:

CD-ROM
24" x 18" Plot Drawings for Figures 1A-E and 7A-E

Cc:

B. Conetta (EPA Region II) w/o enclosures
W. Lue (EPA HQ) w/enclosures
K. Schick (NJDEP) w/enclosures
J. Dey (RCC) w/o enclosures
P. Durkee (Antea) w/o enclosures
D. Nevins (owner) w/o enclosures