



GEORGIA

DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

Richard E. Dunn, Director

Land Protection Branch

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Atlanta, Georgia 30334
404-657-8600

June 1, 2017

Central of Georgia Railroad Company
c/o Mr. Steven Aufdenkampe
1200 Peachtree Street
Atlanta, GA 30309

Re: HSI Site Number: 10933
E Cohn Property (Former)
Tax Parcel ID #s 020 008 003 and 020 008
004, and 020 004 001 and 020 004 002
Columbus, Muscogee County

Dear Mr. Aufdenkampe:

The Environmental Protection Division (EPD) has received the September 12, 2016 Voluntary Remediation Program Application (the Application) for the E Cohn Property (Former)] facility, in Columbus, Muscogee County, pursuant to the Georgia Voluntary Remediation Program Act (the Act) O.C.G.A. §12-8-100, *et seq.*, submitted by Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec) on behalf of Central of Georgia Railroad Company (COG Railroad). After completing its review of the application, and visiting the site on August 9, 2016, EPD has prepared the following comments:

1. EPD recommends COG Railroad reexamine its delineation and remediation goals for polychlorinated biphenyls (PCBs) to address the US Environmental Protection Agency (US EPA) Toxic Substances Control Act (TSCA) regulations in addition to the Hazardous Site Response Act (HSRA) and Voluntary Remediation Program (VRP) rules. Note that under TSCA regulations, all PCB concentrations are based on total PCBs rather than individual PCB Aroclors as referenced for VRP compliance by the table in Section 4.1 of the Application.

Because PCBs are a contaminant of concern (COC) at the site, the final Remediation Plan may require submission and approval of any PCB-contaminated soil removal or reuse by the USEPA. COG Railroad should ensure the Remediation Plan addresses the applicable regulations implementing the USEPA's TSCA regulations pertaining to the use, decontamination and disposal of PCBs and PCB remediation waste (40 CFR 761.1 *et seq.*)

2. COG Railroad has not delineated groundwater sufficiently to meet the requirements of O.C.G.A. §12-8-108.(1), requiring horizontal and vertical delineation of groundwater contamination to the default residential cleanup standards. However, the concentrations are sufficiently close to the delineation standard so as to only warrant continued monitoring at this time.

3. The number and location of groundwater samples taken is insufficient to demonstrate a release exceeding a reportable quantity for groundwater does not exist at the property. Additional investigation of potential source areas (e.g., SS-06 and SS-07 for tetrachloroethene) is necessary. In addition, the area of highest metals concentration should be investigated for potential groundwater impacts.
4. The notification concentration for thallium cannot be used as the delineation criteria since it exceeds the default residential cleanup standards.
5. COG Railroad proposes additional investigation to close certain data gaps in the delineation of surface and subsurface soil constituents. EPD notes that most subsurface samples were taken in the southern parcels, yet there were a number of detections above the soil Risk Reduction Standards (RRSs) on the northern parcels. In addition, along the west side of the site, the number of detections above the soil RRSs indicates delineation is not sufficient, and the number of subsurface samples along the southern property boundary is insufficient for complete delineation. Thus, in addition to COG's proposals, EPD recommends additional delineation efforts for mercury, lead, copper, chromium, arsenic, PCBs, semi-volatile organic compounds (SVOCs) and volatile organic compounds (VOCs), especially on the northern parcels (020 004 002, 002 004 001 and 019 034 002) and along the southern and western property boundaries.
6. According to Figure Number 5, Cross Section A-A' and B-B', the extent of the soil with incorporated foreign material has not been fully delineated at the endpoints. Also, the Cross Section points toward a potentially larger area of soil with incorporated foreign material than indicated in the EM61 Response Contour Map. While boring logs for the monitoring wells are included as Appendix D to the Application, no logs are provided for the soil borings not associated with well installation, making delineation of the soil with incorporated foreign material difficult. EPD recommends COG Railroad amend the investigation already proposed in the Application to include further delineation of soils with incorporated foreign material.
7. The topography across the site is not provided sufficient to determine surface drainage pathways. Additional information and/or investigation is needed along drainage pathways to determine if site contamination has migrated off-property and impacted sediments or possess a threat to surface water.
8. Based upon the high chromium concentrations detected at SB-03, 0-2 fbgs and 2-4 fbgs, speciation of chromium should be conducted for sample locations that exhibit high concentrations of chromium. Further delineation of hexavalent chromium may be necessary, if detected.
9. Review of the RRS calculations reveals the following items of note:
 - a. Revision of HSRA Appendix III, Table 1 Values:
 - Due to the fact that EPA's updated toxicity values are not represented in the current groundwater criteria provided in Appendix III, Table 1, the Director has determined

that in lieu of setting the Type 1/3 groundwater RRS at the Appendix III, Table 1 value for regulated substances impacted by USEPA toxicity updates, the site-specific Type 2 groundwater RRS should be assumed as the overall groundwater standard using the most current toxicity data. Therefore, please present site-specific Type 2 and Type 4 groundwater RRSs as the overall residential and non-residential RRS, respectively for the following constituents: acenaphthene, dibenzo(a,h)anthracene, fluorene, fluoranthene, naphthalene, and pyrene. This also applies to the target groundwater leachate concentration for all leachability evaluations. EPD will formally address the discrepancy between the Table 1 values and the methodology in its upcoming rulemaking process, but in the interim will rely on calculations based on the methodology contained in Appendix III of 391-3-19-.07.

b. Type 1 through 4 Groundwater RRS, Table F-3:

- The RfD_i is incorrect for trichlorofluoromethane. According to the current RSL table this substance does not contain an RfD_i ; however, a value was listed in the table. Please revise by removing the listed RfD_i value from the table. Please note this may impact the final Type 2 and 4 groundwater RRS.

c. Type 1 and Type 3 Soil RRS, Table F-4

The majority of the Type 1 and 3 soil risk reduction standards (RRS) presented in the table for the regulated substances are correct; however, there were a few errors when deriving the soil RRSs which may impact the final Type 1 and 3 soil RRSs.

- Acenaphthylene, benzo(g,h,i)perylene, phenanthrene do not have any toxicity and chemical specific information in the current EPA Regional Screening Table (RSL). According to the Georgia Rules of Hazardous Site Response¹ (Rules), if the Type 1 and Type 3 soil RRS for a constituent is not calculable then the greater of the (i) background value and (ii) detection limit should be used. Please revise all associated tables accordingly in the report.
- For tetrachloroethene and barium, the Type 3 soil RAGS, Part B Equation 7 is incorrect and should be $1.1E-02$ and $4.09E-05$, respectively. Please revise.
- The Type 1 groundwater RRS values listed in the table for butyl benzyl phthalate and chrysene are incorrect. Pursuant to Appendix III, Table 1 of the Rules, the correct values should be $1E-01$ and $2E-4$, respectively. Please revise.
- For beryllium, cadmium (diet) and nickel soluble salts the Type 1 and 3 soil RAGS, Part B, Equation 6 was incorrect due to accounting for the inhalation pathway for non-volatile constituents. When calculating the soil RRS for non-volatile substances, only the results from the oral pathway should be considered. Please revise all associated tables.
- For chromium (total), the RAGS, Part B, Equations 6 and 7 should be labeled no data (ND) since no toxicity data is available in the current RSL table. Furthermore, it appears the toxicity data for hexavalent chromium was used to derived the Type

¹ Rules of Georgia Department of Natural Resources, Environmental Protection Division, Chapter 391-3-19, Hazardous Site Response, originally published 1994; updated June 2010.

- 1 and 3 soil RRS. Please revise all tables and note that this may impact the final soil RRS.
- The substances methylcyclohexane, cobalt, manganese and vanadium are not regulated under the Rules and therefore the RRS do not apply. Please remove these substances from all associated tables.
- d. Table F-5 Soil to Groundwater Leachability:
- Based upon the comments provided in Sub-item c. above, this table will need revision. Please revise.
- e. Type 2 Soil RRS, Table F-6:
- The Type 2 RAGS, Part B, Equation 7 (child) for lead is incorrect and should be designated as ND since the substance does not have any toxicity and chemical specific information listed in the EPA RSL table. Please revise.
 - The evaluation of lead using the IEUBK model was not considered when calculating the Type 2 soil RRSs. Pursuant to Section 391-3-19-.07(c)(4) of the Rules, the Type 2 soil RRS for lead should be based on the lesser of the leachability and IEUBK model results. While it is unlikely the IEUBK model results will affect the final outcome of the Type 2 soil RRS, please provide the input and output worksheets for review.
- f. Type 4 Soil RRS, Table F-7:
- In order to generate a final Type 4 soil RRS for lead, the lower of the RAGS, Part B Equations 6 and 7, groundwater protection value, and for lead, the GALM, Fate and Transport Mode should be considered. However, it appears the GALM was not taken into consideration when deriving the Type 4 soil RRS. Please revise and provide the necessary input and output worksheets.
10. Although munitions debris was found at the site, COG Railroad believes multiple lines of evidence do not indicate that unexploded ordinances (UXOs) are present on the site. EPD concurs with the multiple lines of evidence approach; however, EPD does not concur that sufficient investigation has been done to justify the conclusion. Additional investigation at Test Pits F and H should be conducted to further assess the potential for UXOs. In addition, a formal risk analysis by a certified UXO expert should be performed that may be presented in the final compliance status report (CSR) for the site. Additionally, since the site was listed on the Hazardous Site Inventory due to a threat to human health and the environment (due to the potential presence of UXOs), the final CSR certification will require language indicating that site does not pose such a threat.
11. The four tax parcels referenced in the Application are part of larger property tracts owned by the railroad, and do not match the shapes of the parcels identified on county tax maps. Upon completion of further delineation investigation, and procurement of appropriate deed records, COG Railroad should work with Muscogee County to revise the tax maps such that parcel(s) included in the County's Records, the VRP Program and the Uniform Environmental Covenant (UEC) are one and the same, and are wholly bound by the UEC.

12. The property currently contains two abandoned one-story structures. While the structures are currently un-occupied, there is potential for use of these or new enclosed structures(s) on the property. The UEC should, therefore, require an assessment of vapor intrusion from VOCs in sub-slab soil gas and/or indoor air prior to occupancy of any enclosed structure on site.
13. When designing the engineered cap proposed in the remediation plan, ensure the cap is designed to:
 - a. Minimize exposure of subsurface contaminants at the surface of the site.
 - b. Prevent vertical infiltration of water into contaminated soils that could create contaminated leachate.
 - c. Create a land surface that can support vegetation and/or be used for other purposes (i.e., a parking lot for storage of automobiles to be shipped by rail);
 - d. Contain waste while treatment, if necessary, is being applied.
 - e. While not anticipated at the site, control gas emissions, if necessary, from underlying waste.
 - f. If constructed of concrete, follow the recommendations of American Concrete Institute ACI 330R-08 Guide for the Design and Construction of Concrete Parking Lots. Alternatively, if constructed of asphalt, EPD recommends an Asphalt Institute or similarly qualified engineer be contacted for assistance to ensure the asphalt cap is adequate to function as an impermeable barrier and contain any contaminated soils
 - g. The engineer's specifications on the construction of the cap, along with a detailed Operations and Maintenance (O&M) Program, and As-Built drawings for the cap should be provided to the EPD for approval.
 - h. The Maintenance and Monitoring Plan (MMP) developed under the UEC for the site should, at a minimum, include inspections of the cap by a structural engineer every 3 years, if inspected by trained site operating personnel on a routine basis.
14. The groundwater sampling logs indicate that two wells MW-01 and MW-02 were considered stable and sampled with excessive turbidity readings (>10 NTU). Should turbidity continue to exceed 10 NTU in future sampling events, continue purging of the well until the turbidity is below 10 NTU. If the well is not showing signs that a turbidity level of less than 10 NTU can be achieved, re-development of the well should be considered.

Additionally, according to the sampling logs, MW-02 was sampled using a field filter, but MW-01 was not. As both MW-01 and MW-02 had high turbidity readings, please explain why MW-02 received a field filter while MW-01 did not. In future reports please document the use of field filters and a brief explanation as to why a field filter was necessary for sample collection in the narrative.

15. It is unclear in Figure Nos. 8 through 21, what the extent of soil contamination is being compared against. If the purpose is to show delineation, then the delineation value should be stated clearly [e.g., Type 1 RRS (value), Background (value)]. In addition, a line demarcating the area delineated should be drawn through the sample locations used for delineation.

16. EPD concurs with the proposed calculated background threshold values provided in Table 5.

The above listed comments must be addressed to EPD's satisfaction in order to demonstrate compliance with the provisions, purposes, standards and policies of the Act. EPD may, at its sole discretion, review and comment on documents submitted by COG Railroad. However, failure of EPD to respond to a submittal within any timeframe does not relieve COG Railroad from complying with the provisions, purposes, standards, and policies of the Act. Should you have any questions or concerns regarding this site, please contact Mr. Tom Brodell of the Response and Remediation Program at (404) 657-8600.

Sincerely,



David Brownlee
Unit Coordinator
Response and Remediation Program

cc: John Jolly, AMEC Foster Wheeler <john.jolly@amecfw.com>

File: VRP – E Cohn Property (Former)] # 10933

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