

Georgia Department of Natural Resources

2 Martin Luther King, Jr. Dr., S.E., Suite 1066 East, Atlanta, Georgia 30334

Reply To:

Response and Remediation Program
2 Martin Luther King, Jr. Drive, S.E.
Suite 1462, East Tower
Atlanta, Georgia 30334-9000
Office 404/657-8600 Fax 404-657-0807

Mark Williams, Commissioner
Environmental Protection Division
Judson H. Turner, Director
Land Protection Branch
Mark Smith, Branch Chief

May 30, 2013

Colonial Terminals, Inc.
c/o Mr. Jim Baker
Manager, Environmental,
Compliance
Colonial Terminals, Inc.
Post Office Box 576
Savannah, GA 31402

Exxon-Mobil Corp
c/o Mr. Mike Skinner
Michael J. Skinner Consulting,
LLC
230 Kings Highway East, #300
Haddonfield, NJ 08033

Estech, Inc.
c/o Mr. Thomas C. McGowan
McGrath, North, Mullin & Kratz,
PC LLO
Suite 3700 First National Tower
1601 Dodge Street
Omaha, NB 6810

VIA EMAIL & REGULAR MAIL

Re: November 2012 Voluntary Remediation Program (VRP) Application
Colonial Terminals Plant #2 (HSI # 10098)
Savannah, Chatham County, Georgia
Tax Parcel ID #: 1-0549-01-002, 1-0549-01-002A, 1-0550-02-004

Dear Messrs. Baker, Skinner, and McGowan:

The Georgia Environmental Protection Division (EPD) has received the November 13, 2012, VRP Application (November 2012 Application) that has been submitted pursuant to the Georgia Voluntary Remediation Program Act (the Act) O.C.G.A. 12-8-100, by the Environ on behalf of Colonial Terminals Inc. (Colonial). After completing its review of the application, EPD has prepared the following comments:

Schedule:

- Semiannual progress reports are to be submitted to EPD in accordance with the schedule below, or in accordance with an approved revised schedule which meets the objectives and requirements of the VRP. Each progress report must describe all actions taken since the last submittal, and include certification by the professional engineer/geologist specified in the VRP application along with a monthly summary of hours invoiced and description of services provided since the last submittal.
 - November 30 and May 30 through November 30, 2017

In addition to the information required above, the following must be included in the specific progress reports discussed below.

- May 30, 2014, semiannual progress report must demonstrate complete horizontal delineation on the qualifying property and include the proposed site-specific RRS, Point of Demonstration well and associated Point of Exposure; and
 - May 30, 2015, semiannual progress report must demonstrate complete horizontal and vertical delineation on all impacted properties; and
 - November 30, 2015, semiannual progress report must demonstrate complete horizontal and vertical delineation, finalize the remediation plan and provide a cost estimate for implementation of remediation and associated continuing actions. EPD recommends that participant finalize approval of cleanup standards for all regulated substances prior to this submittal.
- Compliance status report including certifications by no later than:
 - May 30, 2018

Conceptual Site Model

- 1) According to Section 6 of the November 2012 Application, UCL's were calculated to estimate "more representative exposure point concentrations" to demonstrate compliance with the Type 4 risk reduction standards (RRS) for lead and arsenic in the soils onsite. While area averaging is a viable approach for soil cleanup at VRP sites, please note that the November 2012 Application does not include the sufficient amount of data necessary to support and justify the conclusion that the exposure point concentration (EPC) meets the Type 4 RRS for arsenic and lead. EPD requests that the following information be provided as part of the area averaging approach:
 - a. Clear definition of the "exposure domain(s)" (ED) and adequate justification of random exposure throughout the established exposure domain(s) should be provided. Please note that the historical location of the metals excavation areas suggests a non-random distribution of contamination (i.e., "hot spots") throughout the established site. In addition, please note that depending upon the size/location of the ED's, additional sampling may be needed.
 - b. The depth of the samples in Table E-11 should be noted so that sample locations and data can be evaluated relative to the vertical distribution of the contamination at the site.
 - c. A Figure specifically illustrating the established exposure domains and the sample locations within each ED that were used for the upper confidence limit (UCL) calculations.
- 2) Section 102-8-108(8) of the Act states that, "compliance with site-specific cleanup standards that require that source material be removed may be satisfied when such material is removed, decontaminated, or otherwise immobilized in the subsurface, to the extent practicable." Considering that concentrations of PCE in groundwater at the site have been detected at levels as high as 71 mg/L, EPD requires that data be provided to demonstrate that sufficient

investigations have been completed to determine the potential extent of the PCE source material, and if necessary propose a corrective action to remediate the identified source material to the extent practicable. Please note that verification of the presence of source material through direct observation (i.e., detection of dense non-aqueous phase liquid, DNAPL) is not a limiting criteria for the presence of source material at a site, as it can be assumed that source material/DNAPL is present when the concentration of a chemical in groundwater is greater than 1% of its pure-phase solubility¹.

- 3) According to historical reports for the site, the location of the surface water sample points along the constructed dock/pier are approximately 70-feet from the bank. Previous EPD comments have indicated that these sample locations do not provide representative data of the conditions of surface water at the most probable point of shallow groundwater discharge to the Savannah River. Therefore, please collect all future surface water samples from the bank of the river during normal river flow conditions, and re-evaluate the impacts to the surface water exposure pathway based on a minimum of six representative data sets (i.e., 3-years of semi-annual surface water/groundwater monitoring events).
- 4) EPD understands that previous efforts to gain access to install additional soil and groundwater investigation points upgradient of groundwater monitoring well MW-9 to investigate the source of contaminants found at MW-9 have been unsuccessful, as is noted within the November 2012 Application. However, please note that in accordance with Section 12-8-108(1) satisfactory evidence of the definition of the horizontal and vertical delineation of soil and groundwater contamination must be provided. Therefore, EPD requests that the responsible parties continue to make attempts to pursue the required access to the offsite properties to the south and east of the site in order to meet the above referenced soil and groundwater delineation requirements of the Act. In the event that access is denied to any of the properties in question, please provide EPD with the applicable documentation associated with all attempts at access. In addition, please provide a figure(s) illustrating the horizontal and vertical delineation of groundwater to the established delineation criteria.
- 5) Please provide a description (i.e., soil removal report) of the soil excavation activities conducted for the GP-07-06 VOC impact area that were conducted in February-March 2009.
- 6) Please revise Appendix A Tax Parcel Location Map to include the tax parcel information and property owner information for the abutting properties. Please utilize this Tax Parcel Figure to clarify the discrepancy between the text in Section 3 of the November 2012 Application listing the southeast property owner as "Georgia Recyclers" and the Site Figures illustrating this property as "Rensselaer Iron & Steel." In addition, a figure should be provided to illustrate any "right-of-way" easements that are listed in the Appendix A Legal Description and Warranty Deed information for the site.

¹ U.S. Environmental Protection Agency (USEPA), Solid Waste & Emergency Response. DNAPL Remediation: Selected Projects Approaching Regulatory Closure, EPA 542-R-04-016, December 2004, available for download at: <http://www.epa.gov/tio/download/remed/542r04016.pdf>

Risk Reduction Standards (RRS) Comments:

- 7) EPD concurs with the Type 1 and 3 RRS for groundwater and soil proposed for use at the site.
- 8) For Type 2 RRS, please evaluate a future adult and child resident for the exposure to surface soil and groundwater, and for non-residential (Type 3/4) RRS please evaluate a trespasser scenario for exposure to surface soil, surface water and sediment.
- 9) Section 4.4 indicates that surface water at the site has not been impacted; however, according to Table 5 of the document, tetrachloroethene (PCE) has exceeded its respective Georgia Instream Water Quality Standard in 2007. Please evaluate the potential of exposure to surface water for a trespasser scenario.
- 10) Section 5.4.2 concludes that groundwater exposure is an incomplete pathway for human exposure. EPD does not entirely concur with the conclusion that the exposure pathway for groundwater is incomplete due to Section 12-8-108(5) of the Act stating that cleanup standards for soil must be protective of groundwater criteria at an established point of exposure for groundwater (i.e. hypothetical point of drinking water exposure 1,000-feet downgradient from the delineated site contamination), or in this case the Savannah River. Therefore, EPD requests that the Type 2 and 4 groundwater RRS be derived for all regulated substances that have been identified in groundwater for the purpose of evaluating the hypothetical point of exposure (POE) for groundwater, and for the derivation of the appropriate soil screening values. While EPD has requested that the groundwater exposure pathway be taken into account when completing the VRP Application, EPD understands that the environmental covenants that are to be placed on the site property, and any additional affected properties, to restrict the groundwater exposure pathway may relieve Colonial from the requirement to remediate groundwater to an established non-residential standard.

In addition, please provide a specific indication of which monitoring location(s) will be used as the point of demonstration (POD) monitoring location(s) for an established POE or an established hypothetical POE for groundwater.

- 11) The Type 4 RRS do not account for the potential to leach to groundwater. Pursuant to Section 391-3-19-.07(7)(c)(4) and 391-3-19-.07(9)(d)(1) of the HSRA Rules (Rules), the evaluation of the potential for soil contaminants to migrate to groundwater is part of the requirement for developing the Type 4 soil RRS. Laboratory testing and/or fate-and-transport modeling are acceptable demonstration methods for evaluating this pathway. Appropriate laboratory tests include SPLP and TCLP methods. Appropriate modeling includes the site-specific application of Equation 4-10 of the U.S. EPA's Supplemental Soil Screening Guidance². Additionally, some of the Type 4 RRS calculations provided in Appendix E differ from those calculated by the EPD. The lesser of the carcinogenic, non-carcinogenic, and leachability criteria should be the final Type 4 RRS for soil. Please revise accordingly.

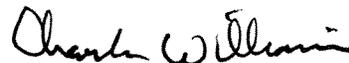
² U.S. Environmental Protection Agency (USEPA), December 2002. Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites, OSWER Directive 9355.4-24. Available for download at:
http://www.epa.gov/superfund/resources/soil/ssg_main.pdf

- 12) The values provided in the Rules are for total chromium only. RRS for trivalent and hexavalent chromium should be based on their respective toxicity factors. Please revise accordingly. Please note that the maximum concentration level (MCL) of 0.1 mg/L for total chromium is acceptable when deriving leaching values for trivalent and hexavalent chromium.
- 13) Please provide additional justification for use of an exposure frequency (EF) of 65 days for a construction worker and 5 days for a utility worker.
- 14) EPD is recommending that all vapor intrusion screening be conducted against chemical-specific screening levels derived via use of U.S. EPA's Vapor Intrusion Screening Level³ (VISL) calculator as the values are based on the best available science and toxicity data provided in the Regional Screening Levels (RSL) Table (November 2012). While EPD understands the reasoning behind the 8 hours/day exposure time used in the Johnson and Ettinger model (Attachment 1 of Appendix C), it is recommended that the model be run with an exposure time of 24 hours/day to maintain the most conservative and consistent approach to the risk calculations at the site. Please either revise the model calculations accordingly, or contact EPD to discuss the acceptability of any requested site specific model variations.

The above 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 Colonial. However, failure of EPD to respond to a submittal within any timeframe does not relieve Colonial from complying with the provisions, purposes, standards, and policies of the Act.

Should you have any additional questions or concerns please contact Mr. Kevin Collins of the Response and Remediation Program at (404) 463-0530.

Sincerely,



Charles D. Williams

Program Manager

Response and Remediation Program

c: Mr. Hunter Sartain, ERM (hard copy and by Fax)
Kimberly Duttlinger, Estech

File: HSI# 10098

³ U.S. EPA (March 2012) *Vapor Intrusion Screening Level (VISL) Calculator User's Guide*. Available online at: http://www.epa.gov/oswer/vaporintrusion/documents/VISL_UsersGuide_v1.0_Nov2011RSLs.pdf