



February 28, 2012

Scott Miller
Superfund Division
Superfund Remedial Branch Section C
U.S. EPA Region 4
61 Forsyth Street, SW
Atlanta, GA 30303

Re: Response to Comments Related to Gradient's Draft Vapor Intrusion Assessment Work Plan Dated November 30, 2011, Cabot Carbon/Koppers Superfund Site, Gainesville, Florida

Dear Mr. Miller:

On behalf of Cabot Corporation (Cabot), this letter responds to comments on the Draft Vapor Intrusion Assessment Work Plan dated November 30, 2011, submitted for the Cabot portion of the Cabot Carbon/Koppers Superfund Site in Gainesville, Florida (Site). These comments include:

- US EPA's draft comment letter to Gradient provided on December 20, 2011;
- Comment letter dated January 4, 2012 prepared by the Alachua County Environmental Protection Department (ACEPD) and the City of Gainesville; and
- Comment letter dated January 13, 2012 prepared by Protect Gainesville's Citizens, Inc. (PGC).

We had the opportunity to review and discuss these comments with you during our January 25, 2012 call between Gradient, US EPA, ACEPD, the City of Gainesville, and PGC representatives. The revised work plan reflects changes that were agreed upon during that call.

We address each comment series under separate sections below.

US EPA's Comments

Comment 1 – "(...) We believe that in addition to the one-hour Summa canister collection, that an 8-hour study is necessary to determine most-likely exposures to workers at these retail establishments."

Response – The updated work plan includes three 8-hour Summa canister samples (one in each of the three stores to be sampled) in addition to the 1-hour samples.

Comment 2 – "We require that this study be conducted in either July or August so as to better approximate worst-case scenarios related to possible indoor vapor intrusion."

Response – The updated work plan specifies that the sampling program will be conducted during the July-August timeframe.

Comment 3 – *"We require that all compounds encountered in the Summa canister be reported. (...)"*

Response – The updated work plan specifies that sub-slab vapor samples will be analyzed for a comprehensive TO-15 target compound list (60 to 80 analytes).

Comment 4 – *"(...) EPA will likely require sampling inside the former K-Mart store."*

Response – The updated work plan includes drilling two sub-slab vapor point locations within the former K-Mart store, which will be sampled along with the other proposed locations.

ACEPD and City of Gainesville's Comments

Comment 1 – *"(...) We recommend that a preliminary public information and public outreach plan be implemented by Cabot and USEPA for communicating the purpose and intent of the VI study to the businesses to be sampled. (...)"*

Response – The updated work plan includes a section related to a public outreach plan. We are currently drafting a vapor intrusion factsheet and a set of frequently asked questions and responses.

Comment 2 – *"We agree with the USEPA comments concerning the requirement to include an 8 hour sampling event in addition to the 1-hour sampling event at each site and requiring that all components in the TO-15 method be reported with the analytical data."*

Response – This is addressed in the updated work plan (see response to US EPA's comments 1 and 3 above).

Comment 3 – *"(...) Sampling within the former K-mart store should be conducted at the same time as the proposed sampling in the Winn Dixie and Big Lots store and not be a contingent sampling effort. (...)"*

Response – This is addressed in the updated work plan (see response to US EPA's comment 4 above).

Comment 4 – *"(...) Criteria should be included that specify the minimum offset from an exterior wall for location of sampling points to insure that representative sub slab vapors are collected and not be diluted with outdoor air."*

Response – We are not aware that such criteria are typically provided in vapor intrusion guidance documents; however, we have specified in the updated work plan that the minimum offset from an exterior wall should be 30 feet, field conditions permitting. We note that foundations walls around the building typically limit direct communication between sub-slab vapor and outdoor air.

Comment 5 – *"(...) The sentence "Prior to drilling..." should be moved to the second bullet position in the list."*

Response – The updated work plan reflects the requested change.

Comment 6 – "(...) An appropriate minimum time should be specified for the sub-slab vapor plume to stabilize after the integrity testing of the sampling port. (...) It is important that that the sampling be delayed until the plume pressure has returned to its previous or near previous value to assure the acquisition of reliable data."

Response – The updated work plan specifies that sampling will be conducted the day following sub-slab vapor point installation and integrity testing.¹

Comment 7 – "(...) Integrity testing of the seal should be conducted at all sampling points and not just one point prior to measuring the differential pressure across the floor slab. (...) This integrity sampling should be conducted prior to sample collection."

Response – The updated work plan includes integrity testing at three locations (one in each of the three stores to be sampled).² Integrity testing will be conducted following sub-slab vapor point installation. Sample collection will be conducted the day following installation and integrity testing.

Comment 8 – "(...) We recommend that the sampling should be conducted during a period when a stable barometric pressure system is present at the site. (...)"

Response – The updated work plan reflects that sampling will not be conducted during hurricanes, severe storms, or significant wind events.

Comment 9 – "(...) Data validation should include some level of review of the initial calibrations and instrument tunes as well review of some of the raw data for samples and quality controls. (...)"

Response – The updated work plan will include a review of the comprehensive data package (including initial calibrations, instrument tunes and some raw data) if the results do not find elevated sub-slab vapor concentrations and indicate that no further investigations are needed. Conversely, if additional investigations are required on the basis of the results, then the data validation review will be more succinct and limited to laboratory narrative, sample data sheets, laboratory blanks, laboratory control samples (LCS), continuous calibration verification (CCV) results, and the executed chain-of-custody.

PGC's Comments

Comment 1 – "(...) It is generally recommended to sample during colder weather when the heating systems are on. This may not result in higher VOC concentrations, but would impact the differential pressures. Testing this pressure during the summers will likely not accurately identify potential flux into the building during the more conservative times when buildings are heated and not air conditioned. (...)"

¹ The California Department of Toxic Substances Control (DTSC) recommends at least two hours between installation and sampling. See DTSC's October 2011 Vapor Intrusion Guidance (http://www.dtsc.ca.gov/AssessingRisk/upload/Final_VIG_Oct_2011.pdf), Appendix G, page G-1 (PDF p. 99/117).

² In their January 2012 Vapor Intrusion Technical Guidance, the New Jersey Department of Environmental Protection (NJDEP) indicates that: "If multiple soil gas probes are installed during a sampling round, and leak tests performed on the initial probes indicate sample integrity, the investigator may reduce the number of probes that are tested." See http://www.nj.gov/dep/srp/guidance/vaporintrusion/vig_main.pdf, Section 3.3.1.4 at p. 35 (PDF p. 44/105).

Response – We agree that for residential structures (with no HVAC systems), indoor air (not necessarily sub-slab vapor) should be sampled during the heating season when windows are closed and the potential for upward differential pressure across the floor slab is highest due to potential stack effects and combustion air drawn from inside the house. However, due to the presence of large HVAC systems and make-up air drawn from the outside, commercial buildings tend to remain over-pressurized relative to the outside, which limits the potential for an upward differential pressure that would be favorable to the vapor intrusion pathway. This would apply whenever the HVAC system is in operation (*i.e.*, business hours) and during both the heating and cooling seasons.³ Based on US EPA's recommendation, the proposed sampling will be conducted in the summer months (July-August).

Comment 2 – *"There are potential elevated levels of organic materials beneath these buildings, and methane may be generated. The screening for methane is considered important at this site, not as much for toxicity as potential to impact overall advective flux. In this specific instance, sampling during the summers may in fact show an impact on differential pressures if methane is being generated."*

Response – As the work plan indicates (Section 3.4.4), methane will be monitored as part of the sampling program. Following canister sample collection, a volume of sub-slab vapor sample will be collected into a Tedlar[®] bag and screened for oxygen, carbon dioxide and methane using a multi-gas meter.

Comment 3 – *"There are many factors that influence the levels of VOCs and migration including soil moisture, depth to the water table, organic carbon content, etc. It is unclear if there is sufficient information currently available. If not, a boring to the water table (possibly immediately adjacent to the Winn-Dixie/Harbor Freight area) would provide a clearer understanding of the subsurface profile beneath the buildings."*

Response – We agree that the vapor intrusion pathway is complex and can be influenced by several factors including soil moisture and carbon content, depth to water table and other factors. Sub-slab vapor sampling, differential pressure monitoring, and — if needed as part of additional investigation — indoor/outdoor air sampling should help determine whether the vapor intrusion pathway is complete and its potential significance.

Comment 4 – *"The longer sampling interval recommended by EPA is appropriate for these samples and the reporting of the complete VOC list is also important."*

Response – This is addressed in the updated work plan (see response to US EPA's comments 1 and 3 above).

Please feel free to call if you have any questions or need additional information.

³ For additional discussion, refer to the 2007 vapor intrusion guidance published by the Interstate Technology Regulatory Council <http://www.itrcweb.org/Documents/VI-1.pdf>, at Appendix D, Section D.11.4, p. D-26 (PDF p. 124/172).

Yours truly,
GRADIENT



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