

ARCO Neighborhood Testing Plan Revised

TECHNICAL ASSISTANCE REPORT September 2004

Overview

We recently received for review the Work Plan for Off-site Soil Sampling, LCP Chemicals Superfund Site, Brunswick, Georgia, dated August 13, 2004. In an earlier newsletter, a draft plan (dated May 7, 2004) was received and reviewed.

The current plan provides increased sampling coverage compared to the earlier draft plan. Overall, the sampling plan should provide information on the presence or absence of toxins in the neighborhood.

Background

The LCP Chemicals superfund site is a 550-acre site along the Turtle River in Glynn County Georgia. The site was the location of several industrial chemical plants producing bleach, petroleum products, or paint. These operations left the area heavily contaminated with known chemical toxins in ground, water and air pollution. The site is in the process of being cleaned with Federal and State oversight. One unresolved issue for the local community is the extent of contamination from air pollution and surface runoff. Various industries at the site used "stacks" and fans to vent chemical processes directly into the air. Most pollutants travel only a short distance before settling back to the ground, and the ARCO neighborhood is in the pathway of any possible contamination. In an earlier evaluation, the Environmental Protection Agency noted: **"It is very likely that this airborne deposition traveled with prevailing winds, and mercury was therefore distributed over a potentially rather large area. The prevailing wind direction for this area is from the northwest, away from the marsh area."** [*emphasis added*; Section 7.1.3, airborne redeposition (page 42, Operable Unit One Upland Soils and Estuary March 2002)].

In May 2004, the Environmental Protection Agency along with the site responsible parties released a draft sampling plan for the adjacent

neighborhood. That draft plan contained several technical flaws. Many of the samples were to be taken on LCP property north of the neighborhood. Testing grids were widely dispersed, with the samples likely not representative of actual toxins, if present. There was a lack of clarity in the draft plan as well. It appeared the plan was merely to "prove" earlier studies were valid, rather than actually look for site chemicals. The draft plan was objected principally because the neighborhood was not sampled thoroughly enough to determine if toxins may be present.

The Current Testing Plan

The Work Plan summarizes past sampling activities both on the LCP site and in the neighborhood next to the site (the ARCO neighborhood), and outlines additional testing. According to section 2.5 of the Work Plan this study is designed to answer the question: ***Are there levels of mercury, lead, arsenic,***

Aroclor-1268 (including a full scan of PCBs), and PAHs above Remedial Goal Options (RGOs) in surface soils of areas to the southeast of the LCP site."

Surface soils are targeted since any chemicals in the neighborhood are likely from airborne contamination. The ARCO neighborhood is directly southeast of the LCP site. For the main contaminants the Remedy(Derived from table in section 3.4 of the work plan).

Toxin	RGO (Parts Per Million)
Arsenic	4.3
Lead	400
Mercury	17
Aroclor-1268	1.4

The current plan still uses a two-phase approach as described in the previous draft plan. However, the sampling pattern is completely different in this version.

Under this testing plan, there is an initial round testing twenty composite samples taken on a grid pattern beginning on the edge of the LCP site and extending south and east. Each composite is made up of five discrete samples blended together for testing purposes. A sampling grid for this study is about ¼ of a city block.

Two different types of samples will be taken, a 0-3 inch deep sample for the Agency for Toxic Substances and Disease Registry (ATSDR) public health assessment, and a 0-12 inch deep sample for the EPA's risk assessment. The ATSDR study is much more relevant to public exposure in the neighborhood than EPA's study. If material did arrive at the neighborhood from airborne dispersion it would not be 12-inches deep in the ground, it would be very near the surface. The EPA's sampling method represents sample dilution by mixing uncontaminated deeper soil with any possibly contaminated materials on the surface.

In this version of the plan the samples are adjacent to one another and grouped from the fences outward, a better sampling pattern. Further, each of the discrete samples used in the composite is retained in this Work Plan version for verification testing. That can allow for elimination of false-positive or false-negative composite samples.

Additional tests are performed in the event of LCP site chemical detection in the neighborhood. This second phase of testing would look at property in the neighborhood east and south of the first phase of detection.

Discussion

The Work Plan defines a "conceptual site model" in section 2.3. Under this model *potential impacts to offsite areas should be minor and/or limited to areas in the immediate vicinity of the Site.* However, this conceptual site model is apparently not backed with any modeling studies. No observations are cited in the text. There is no scientific basis for the assumption that "impacts to offsite areas should be minor..." At this time, without the neighborhood sampling, the conceptual site model is only wishful thinking on the part of the EPA and responsible parties.

There is a large pond on the western edge of the sampling plan nearly due south of the LCP site. This pond was likely in the path of plumes from LCP. Residents fish this pond and the sediments should be included in the testing. There is no planned testing and this oversight should be corrected. At a bare minimum, a computer air dispersion model should be provided showing this pond is excluded from receiving past plumes from LCP.

Conclusions

The ATSDR's sampling of 0-3 inches of surface soil for a health assessment should produce valid data for the neighborhood. This testing plan is more comprehensive than the draft Work Plan received previously. The selection of composite testing grids, although awkwardly numbered, seems consistent with potential airborne plumes. The testing methods are fully explained in this Work Plan, and the testing goals are actually described. Overall, the plan seems likely to provide relevant safety information for the neighborhood, if implemented as written.

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LCP SUPERFUND SITE TECHNICAL ASSISTANCE REPORT

"This project has been funded wholly or partly by the U.S. Environmental Protection Agency under Assistance Agreement Number 1-994850-01-0 to The Glynn Environmental Coalition, Inc. The contents of this document do not necessarily reflect the views and policies of the U.S. Environmental Protection agency, nor does mention of trade names or commercial products constitute endorsement or recommendation for use. "Volume 9, Number 2, September, 2004