



1 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4

**61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960**

April 22, 2010

4SD-SSB

MEMORANDUM

SUBJECT: Removal Site Evaluation, Data Review, Liberty Fibers, Lowland, Hamblen County, Tennessee

FROM: Tim Frederick, Life Scientist
Technical Services Section
Superfund Division

TO: Perry Gaughan, On-Scene Coordinator
Emergency Response and Removal Branch
Superfund Division

THRU: Glenn Adams, Chief
Technical Services Section
Superfund Division

Per your request, TSS has reviewed the draft analytical data and the available supporting material for the Removal Site Evaluation of Liberty Fibers, Lowland, Hamblen County, Tennessee. The primary data reviewed included the draft analytical results for 90 bulk samples of debris at the site and 14 air samples collected during the sampling activities on January 18 and 19, 2010. Draft versions of maps and data logs were also reviewed. The START contractor's Site Evaluation Report is still being prepared and was not available for review

In preparing this Memorandum, TSS also reviewed Volume 1 of Region 4's Civil Litigation Report for the former Liberty Fibers and the relevant asbestos-specific exhibits in Volume 2 of the Report, including exhibits 48, 50, & 51. Exhibit 48 consists of EPA's Asbestos Investigation report, Liberty Fibers Corporation, dated May 28 and 29, and July 2, 2008. Exhibits 50 and 51 consist of the Limited Asbestos Investigation Reports, Former Liberty Fibers Site Debris Fields, dated August and September 2008, and prepared by A.C.T. Services, LLC, (A.C.T.) for A & E Salvage, Inc.

During the 2008 sampling events by EPA and A.C.T, building materials visually identified and sampled within the rubble piles were found to contain friable asbestos (<1-45% chrysotile, up to 50% amosite, and a maximum of 35% anthophyllite). Friable asbestos-containing material (ACM) appeared to have been widely distributed across the approximately 300-acre site based upon this data. Asbestos is a listed CERCLA hazardous substance and is a known human carcinogen. Non-friable ACM was also determined to be widely distributed across the site. Non-friable ACM has the potential to become friable via weathering and/or by activities at the site that have caused or may cause the material to be crushed or broken up.

In December 2009, a site visit was conducted by the OSC, the START contractor, and myself to evaluate the current site conditions. Suspect friable ACM appeared to be present throughout several areas of the site and was most prevalent in the northeast quadrant of the property near the powerhouse. Much of the suspect friable ACM was observed to be damaged and/or in poor condition. In addition, bagged ACM from previous operations at the site was observed to be stored in a structure sealed with polyethylene sheeting. It should be noted that visibility was limited by personal protective equipment (PPE).

The purpose of EPA's January 2010 sampling event was to confirm the findings of sampling results by A.C.T. and EPA in 2008 and to confirm the general areas where ACM are present. The sampling event was not intended to be a comprehensive survey of all ACM present on the site. Samples were analyzed by polarized light microscopy (PLM). The limited 2010 bulk sample data confirm the results of the 2008 sample events.

Asbestos was detected in samples collected from each of the areas represented in Figure 2 (attached). This supports the findings of the 2008 sampling that suggested widespread dispersal of ACM across the site. The types of asbestos found included chrysotile, amosite, and anthophyllite, which are the same types that were identified in the 2008 sampling conducted by A.C.T. and by EPA. Asbestos was identified at maximum detections of 25% chrysotile, 30% amosite, and 50% anthophyllite. Additionally, the 2010 sampling event confirmed the presence of friable ACM. The condition of most of the bulk material sampled is described by the samplers as damaged or "weathered." Based on the A.C.T. and EPA sample data from 2008, observations from EPA's site visit conducted in December 2009, and the January 2010 sample data, EPA has determined that friable and weathered ACM is widely dispersed across the site.

During the January 2010 sampling event air samples were collected and analyzed for airborne asbestos by the PCM method (NIOSH 7400). Samples were collected at stationary monitor locations and from the breathing zones of the contractor personnel collecting samples and working in the areas where suspect ACM was observed. All of the samples collected had detected concentrations of airborne asbestos. Because of recent rainfall, site conditions were very wet when the air samples were collected, which may have decreased the airborne concentrations of asbestos measured. The concentrations detected in air were below the occupational standard (0.1 fibers/cc). The maximum detected concentration in the air samples collected during the January sampling activity was 0.02 fibers/cc at a pole near the powerhouse. The air samples were collected at a time when workers were not on-site using heavy equipment or working around the ACM. The sampling results highlight the potential for asbestos from

friable and weathered material to become airborne at the site as a result of disturbance of the ACM.

Geophysical methods were used to investigate the subsurface for areas where illegal burial of ACM or other contaminants may have occurred. Illegal waste disposal, including burial of asbestos waste materials, has reportedly occurred in the past. Standing water and overall dampness at the site limited the subsurface investigation techniques that could be used at the site. Even with this limitation, a number of subsurface anomalies were identified. The area labeled 3F in Figure 2 was found to have a relatively large number of subsurface anomalies that should be investigated further.

Based on this review, friable ACM has been determined to be present at the site. The friable ACM is present both as damaged material in debris piles and in deteriorating condition as originally applied (e.g., on pipe runs, applied to thermal system equipment, etc.). Friable asbestos has the potential to become airborne where it can present an inhalation risk to on-site workers. The site is currently used by industrial/commercial tenants that lease structures or building space on the property and by workers employed by the site owner. There are no barriers or other physical constraints that limit the movement of workers on the site from working in and around the areas where friable and damaged ACM is present. In addition, there is evidence that workers have moved debris with heavy equipment in the northern part of the facility where the bulk of ACM has been observed. The presence of workers on the property and the generally poor housekeeping exhibited by the facility owner(s) suggests that a removal action is needed to eliminate potential exposure to friable asbestos and to protect human health.

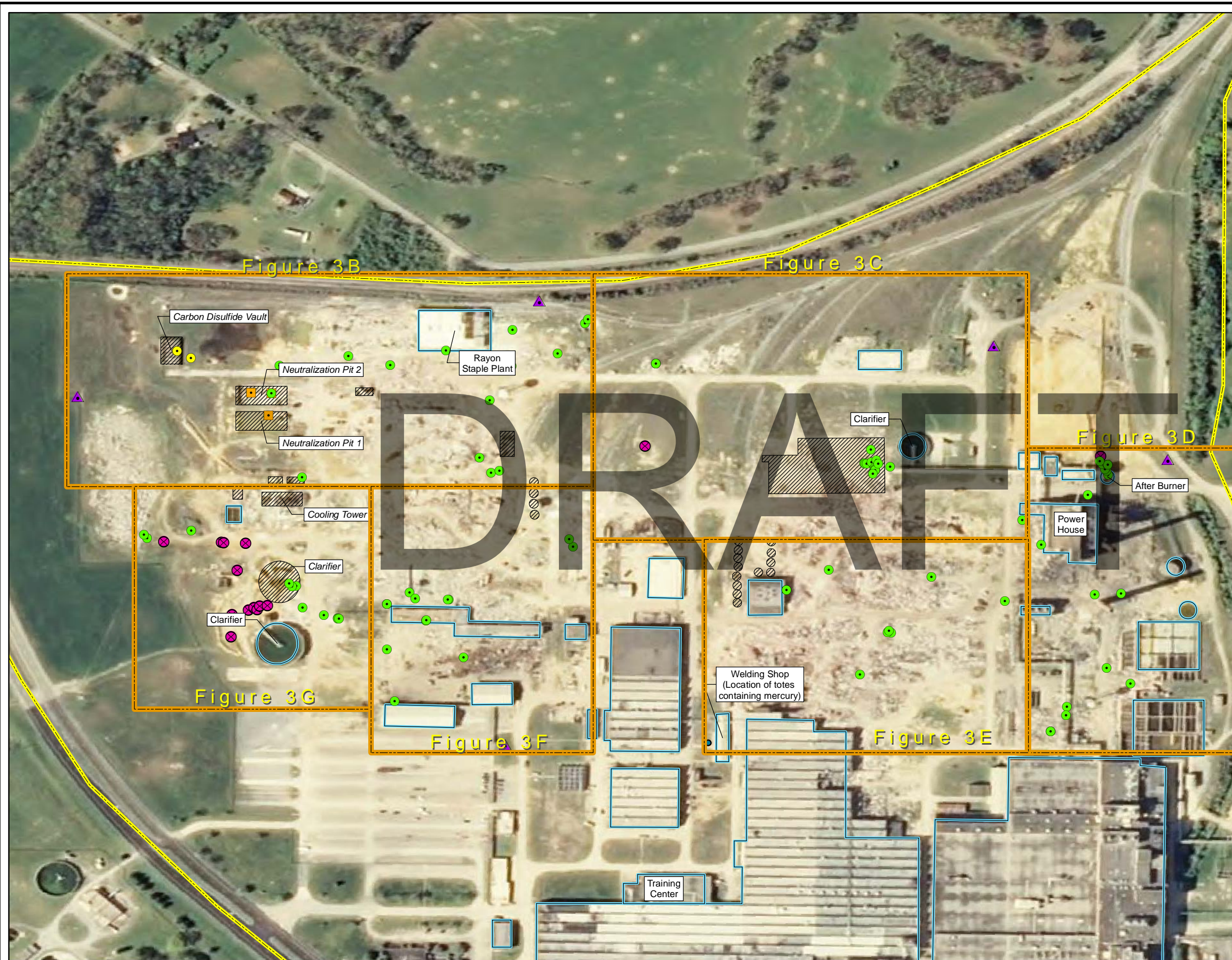
TSS offers the following recommendations:

- It is recommended that the damaged friable ACM should be removed and disposed of properly.
- Similarly, non-friable damaged/weathered ACM should be removed or stabilized to prevent the materials from becoming friable and releasing fibers.
- The bagged asbestos stored within the sealed building on-site should be removed and properly disposed of to prevent future exposure issues.
- The geophysical anomalies discovered on the site should be evaluated with test pits to determine whether illegal burial has occurred.
- Any ACM that is left in place should be documented for proper handling, storage, and disposal via an Operations and Maintenance plan developed and implemented by the facility's owners.
- Follow-up sampling by ABS methods may be necessary after removal/stabilization efforts in order to document the protectiveness of the activities.
- Occupational safety training may be necessary for workers on the site to ensure that they do not inadvertently expose themselves or others to airborne asbestos through site activities as determined by OSHA. Additionally, workers who handle any ACM must be properly trained and supervised as may be required by the Asbestos NESHAP and TSCA regulations.

Unfortunately, a comprehensive estimate of the amount and types of ACM is not yet available. Therefore, it is not possible to accurately estimate the volume of material that would need to be removed and disposed of at this time.

This review of the site evaluation data was based upon draft figures and laboratory data. The START contractor's report has not been completed and was therefore not available for review. The discussion and recommendations included in this data review should be re-evaluated when the contractor's report is finalized.

If you have any comments or questions regarding this evaluation of the available draft data and supporting documents, please contact me at 404-562-8598 or frederick.tim@epa.gov.

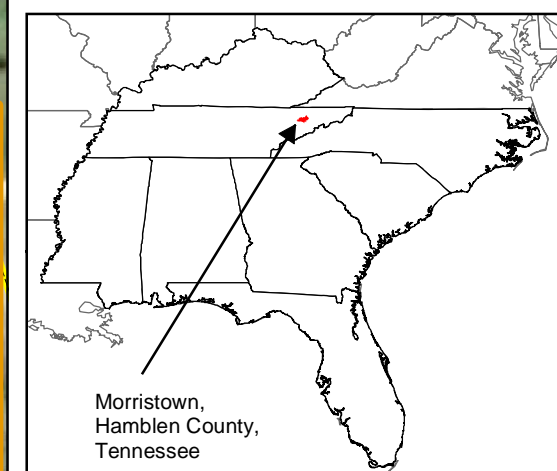


LEGEND

- ▲ Unknown Feature
- Neutralization Pit Waste East
- ⊗ Anomaly
- Asbestos
- Vault Surface Water
- Existing Structure
- ▨ Former Structure
- - - Approximate Property Boundary
- ▭ Area Depicting Related Sub-Figure

Aerial Image Source:
04/2008 GlobeXplorer

0 150 300
Feet
1:3,600



United States
Environmental Protection Agency

LIBERTY FIBERS
LOWLAND,
HAMBLIN COUNTY,
TENNESSEE
TDD No. TTEMI-05-003-0041

FIGURE 2 SAMPLING LOCATIONS