

**SAMPLING PROCEDURES FOR CHARACTERIZING THE COPPER AND LEAD STACK
MATERIAL FOLLOWING STACK DEMOLITIONS
FORMER ASARCO SMELTER SITE
EL PASO, TEXAS**

This work plan describes procedures that will be followed to sample the debris that results from stack demolition at the Former ASARCO Smelter Site (Site). The sampling will be performed to characterize the stack materials including materials contained within the impact areas to guide necessary disposal activities. Core sampling of the stacks to an elevation of 100 feet was performed previously, and showed that the stack concrete is consistent with other Category II and III materials onsite. It is anticipated that the post-demolition material will be managed as a Category II material. Final disposition will be based on the sampling described below.

The areas associated with the stack fall zones have been prepared ahead of the demolition by the placement of protective berms consisting of Category II crushed concrete materials. The berms are composed of approximately 35,000 cubic yards of crushed concrete (3 inch minus material) from other demolition activities at the site. Additionally, the fall zone surfaces are prepared with approximately 28,000 cubic yards of a 1-foot thick clean soil layer over a nonwoven geotextile fabric. As a result of the demolition of the stack, it is anticipated the debris from the stacks will be intermingled with the berm materials and the clean soil layer.

The fall zones for the 600-foot stack and 800-foot stack are about 900 feet and 1,200 feet in length, respectively. Assuming that the stack demolition debris extent covers this entire length, stack concrete samples will be collected at 100 foot transect intervals along the length of the fall zone. The lower 100 feet of each stack will be excluded from this sampling since these areas were characterized during the pre-demolition core sampling events. This approach will result in 8 samples for the 600-foot stack and 11 samples for the 800-foot stack. To retain this number of samples, if the actual impacted area is shorter or longer, the sampling interval will be adjusted accordingly. Included in this sampling will be one sample per fall zone of the imported soil material, three samples from the surrounding berm materials, and a field duplicate and laboratory QA sample. The precise location of the berm and soil samples will be determined following stack demolition in order to select samples that best represent the distribution of the stack impact areas. The total number to be collected is 30 samples. The sampling results will be used to determine if the Category II designation is appropriate for material handling.

The Trust will provide TCEQ Regional Office with at least 48-hours advanced noticed prior to conducting the post-demolition sampling.

The concrete that is collected from the impact areas will need to be crushed and mixed for sampling and analysis. The following procedures will be followed to complete the sampling of the concrete debris:

- The stack demolition materials will be processed in place following the demolition. Concrete pieces will be collected and placed in 5-gallon buckets.
- The concrete pieces that are being collected will be documented using field notes that describe the debris in detail (size, color, staining, etc.). A GPS unit will be used to document the location of the collected materials. This information will be used to map



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the locations of the material collected. Documentation will also consist of photographs of the concrete pieces.

- The sample collection will include three berm samples for each fall zone. The material collected will consist of concrete that are representative of a mixture of the berm material and stack debris.
- An onsite crusher will be used to crush the concrete for subsequent sample collection. Rebar pieces will be removed as needed prior to crushing. The crusher will be decontaminated by hand-wiping the crusher and then blowing out the crusher jaws with compressed air prior to crushing. The same procedure will be used before and after each 5-gallon bucket of material is processed. The crusher will be set to a maximum diameter of 0.5 inches.
- Each piece of concrete will be crushed and the processed material will be placed back in the 5-gallon bucket. One bucket will be used for each sample to prevent cross-contamination of the samples. These buckets will be labeled and retained onsite for possible future sampling.
- The entire volume of the crushed material will be poured through a riffle sample splitter, which halves the volume. The two sample halves will then be combined and mixed together and poured through the sample splitter again. This process will be repeated for a total of three times. After the third split of the entire volume, one half of the volume will be retained and poured through the splitter, reducing the volume until a representative sample volume of 8 ounces is remaining on one side of the splitter. The riffle sampler will be decontaminated using the same method as with the crusher.

One sample will be collected from each bucket for laboratory analyses. Samples will be placed in 8 ounce sampling jars. The additional samples of the imported soil material will also be placed in 8 ounce sampling jars for analysis. Samples will be shipped via overnight shipping to TestAmerica, Inc. and analyzed utilizing a 5 day turn-around time.

For all of the samples collected, the following list summarizes the Constituents of Concern (COCs) and Analytes of Interest (AOIs) that will be submitted for laboratory analyses:

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|------------|--------------|
| - Antimony | - Lead |
| - Arsenic | - Mercury |
| - Barium | - Molybdenum |
| - Cadmium | - Nickel |
| - Chromium | - Selenium |
| - Cobalt | - Silver |
| - Copper | - Zinc |
| - Iron | |

The laboratory methods for the metals analyses are 6020B and 7471A.

