

the area and an east-west axis perpendicular to the magnetic north-south axis also centered in the area.

(ii) If the site is recleaned based on the results of cleanup verification conducted in accordance with § 761.61(a)(6), follow the procedures in paragraph (b) of this section for locating sampling points after the recleaning, but reorient the grid axes established in paragraph (b)(1)(i) of this section by moving the origin one meter in the direction of magnetic north and one meter in the direction east of magnetic north.

(2) Mark out a series of sampling points 1.5 meters apart oriented to the grid axes. The sampling points shall proceed in every direction to the extent sufficient to result in a two-dimensional grid completely overlaying the sampling area.

(3) Collect a sample at each point if the grid falls in the cleanup area. Analyze all samples either individually or according to the compositing schemes provided in the procedures at § 761.289. So long as every sample collected at a grid point is analyzed as either an individual sample or as part of a composite sample, there are no other restrictions on how many samples are analyzed.

(c) *Selection of sample locations—small cleanup sites.* When a cleanup site is sufficiently small or irregularly shaped that a square grid with a grid interval of 1.5 meters will not result in a minimum of three sampling points for each type of bulk PCB remediation waste or porous surface at the cleanup site, there are two options.

(1) Use a smaller square grid interval and the procedures in paragraph (b) of this section.

(2) Use the following coordinate-based random sampling scheme. If the site is recleaned based on the results of cleanup verification conducted in accordance with § 761.61(a)(6), follow the procedures in this section for locating sampling points after the recleaning, but select three new pairs of sampling coordinates.

(i) Beginning in the southwest corner (lower left when facing magnetic north) of the area to be sampled, measure in centimeters (or inches) the maximum magnetic north-south dimension of the area to be sampled. Next, beginning in the southwest corner, measure

in centimeters (or inches) the maximum magnetic east-west dimension of the area to be sampled. Designate the north-south and east-west dimensions (describing the west and south boundaries, respectively, of the area to be sampled), as the reference axes of a square-based grid system.

(ii) Use a random number table or random number generator to select a pair of coordinates that will locate the sample within the area to be sampled. The first coordinate in the pair is the measurement on the north-south axis. The second coordinate in the pair is the measurement on the east-west axis. Collect the sample at the intersection of an east-west line drawn through the measured spot on the north-south axis, and a north-south line drawn through the measured spot on the east-west axis. If the cleanup site is irregularly shaped and this intersection falls outside the cleanup site, select a new pair of sampling coordinates. Continue to select pairs of sampling coordinates until three are selected for each type of bulk PCB remediation waste or porous surface at the cleanup site.

(d) *Area of inference.* Analytical results for an individual sample point apply to the sample point and to an area of inference extending to four imaginary lines parallel to the grid axes and one half grid interval distant from the sample point in four different directions. The area of inference forms a square around the sample point. The sides of the square are parallel to the grid axes and one grid interval in length. The sample point is in the center of the square area of inference. The area of inference from a composite sample is the total of the areas of the individual samples included in the composite.

§ 761.286 Sample size and procedure for collecting a sample.

At each selected sampling location for bulk PCB remediation waste or porous surfaces, collect at least 20 milliliters of waste, or a portion of sufficient weight for the chemical analyst to measure the concentration of PCBs and still have sufficient analytical detection sensitivity to reproducibly measure PCBs at the levels designated

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in § 761.61(a)(4). Use a core sampler having a diameter ≥ 2 cm and ≤ 3 cm. Collect waste to a maximum depth of 7.5 cms.

§ 761.289 Compositing samples.

Compositing is a method of combining several samples of a specific type of bulk PCB remediation waste or porous surface from nearby locations for a single chemical analysis. There are two procedures for compositing bulk PCB remediation waste samples. These procedures are based on the method for selecting sampling site locations in § 761.283(b) and (c). The single chemical analysis of a composite sample results in an averaging of the concentrations of its component samples. The area of inference of a composite is determined by the area of inference of each of its component samples as described in § 761.283(d). Compositing is not mandatory. However, if compositing is used, it must be performed in accordance with the following procedures.

(a) *Compositing in the field or in a laboratory.* Compositing may occur either in the field or in a laboratory. Prepare composite samples using equal volumes of each constituent or component sample. Composited samples must be from the same type of bulk PCB remediation waste or porous surface (see the example at § 761.283(a)(2)). Mix composite samples thoroughly. From each well-mixed composite sample, take a portion of sufficient weight for the chemical analyst to measure the concentration of PCBs and still have sufficient analytical detection sensitivity to reproducibly measure PCBs at the levels designated in § 761.61(a)(4).

(b)(1) *Compositing from samples collected at grid points in accordance with § 761.283(b).* There are two kinds of composite sampling procedures depending on the original source of contamination of the site.

(i) The first procedure is for sites with multiple point sources of contamination (such as an old electrical equipment storage area, a scrap yard, or repair shop) or for unknown sources of contamination. Under this compositing scheme, composite a maximum of nine samples for each type of bulk PCB remediation waste or porous surface at the cleanup site. The maximum

dimensions of the area enclosing a nine grid point composite is two grid intervals bounded by three collinear grid points (3.0 meters or approximately 10 feet long). Take all samples in the composite at the same depth. Assure that composite sample areas and individually analyzed samples completely overlay the cleanup site.

(ii) The second procedure is for a single point source of contamination, such as discharge into a large containment area (e.g., pit, waste lagoon, or evaporation pond), or a leak onto soil from a single drum or tank. Single point source contamination may be from a one-time or continuous contamination. Composites come from two stages: an initial compositing area centered in the area to be sampled, and subsequent compositing areas forming concentric square zones around the initial compositing area. The center of the initial compositing area and each of the subsequent compositing areas is the origin of the grid axes.

(A) *Definition of the initial compositing area.* The initial compositing area is based on a square that contains nine grid points, is centered on the grid origin, and has sides two grid intervals long. The initial compositing area has the same center as this square and sides one half a grid interval more distant from the center than the square. The initial compositing area has sides three grid intervals long.

(B) *Definition of subsequent compositing areas.* Subsequent composite sampling areas are in concentric square zones one grid interval wide around the initial compositing area and around each successive subsequent compositing area. The inner boundary of the first subsequent compositing area is the outer boundary of the initial compositing area. The outer boundary of the first subsequent compositing area is centered on the grid origin, has sides one grid interval more distant from the grid origin than the inner boundary, and is two grid intervals longer on a side than the inner boundary. The inner boundary of each further subsequent compositing area is the outer boundary of the previous subsequent compositing area. The outer boundary of each further subsequent compositing area is centered on the