

The Safety Guys: Tearing Down the House? Clan Lab Remediation - Part 1

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The Safety Guys are back one more time to discuss the third phase of dealing with clandestine drug labs. Kind readers with excellent memories will recall our first article in the series that provided an introduction to “clan labs” with history and background on the growing epidemic. The truly faithful remember our last installment “What’s Cooking?” that discussed the different methods of manufacture or “cooking” the illegal drugs at clandestine laboratories, the chemical ingredients used and the hazards associated with those chemicals. This feature tackles the final step in dealing with clandestine laboratories – the clean up, better described as the assessment of residual contamination and proper remediation.

A brief summary of the three phase approach for taking the site from discovery to final clean up will refresh our memories and reorient us in the process. The initial phase follows the discovery of the clan lab where specially trained law enforcement personnel secure the site and crime scene investigators process it for evidence. During the second phase chemicals and wastes are inventoried and gross contamination is removed from the site. The final stage involves testing for contamination left behind and cleaning up the site for reuse or re-occupancy. Although federal, state, and/or local law enforcement along with their specialty contractors generally handle the first two phases; the property owner is responsible for cleaning up the property, which may be highly contaminated with precursor and manufacturing chemicals as well as the final drug product.

WHY BOTHER WITH REMEDIATION?

We know from experience that clan lab cooks are generally not concerned with keeping a spotless kitchen. Since most cooks are users, it’s a good bet that the lab was also used for smoking meth. Combine these with the fact that more than six pounds of wastes are produced for each pound of finished drug and you have a recipe for serious contamination. Even so, only a handful of states have any regulations or guidance for dealing with cleaning up or remediating clan lab properties. Washington State pioneered the early work in this area and has published many useful documents. Others that have followed suit and enacted regulations or published guidelines include: Alaska, Arizona, California, Colorado, Missouri, Minnesota, and Oregon. We provide references for some of the best examples.

Is it necessary to assess what contamination has been left behind? Absolutely, because during operation of the illegal lab chemical spills probably occurred and residues deposited on surfaces during cooks and with drug use. Absorbent materials such as carpets, drapes, furniture, clothes, and fabrics are very likely to be contaminated. Contaminates may have entered heating and air conditioning systems if these were in use during clan lab operations. In addition, sinks, bathtubs, and toilets were probably used for waste disposal. And, since these clan labs are usually located in rural areas, chances are wastes, and possible chemicals, were disposed outdoors, potentially contaminating soil and groundwater.

Leaving these contaminate residues poses potential severe health risks for future occupants, especially children. We know that the hundreds of chemicals used in these labs include corrosives, toxics or poisons, flammables, and reactives. Exposures can occur by skin absorption, inhalation, or ingestion and present a real potential for adverse health effects.

PRELIMINARY SITE ASSESSMENT

The first step in cleaning up a clandestine laboratory site is to conduct a comprehensive preliminary site assessment (PSA). The PSA begins with reviewing all available information to determine the present site conditions. This includes reports from law enforcement, hazardous waste contractors, and others detailing the illegal drug activity. Gather information on type(s) of drug(s) manufactured; recipes or methods used; chemicals and equipment found on site; location of cooking, storage, and disposal areas; duration of lab operation; and number of batches cooked. Be sure to compare chemicals listed on waste manifests with Backlog known methods of manufacture to help determine potential contaminants. Case If the method used included lead or mercury containing chemicals the assessment and remediation protocols will be much more stringent. Forensic Identity Department

After doing your homework it is prudent and required in some states and counties, to prepare written PSA work plans and site health and safety plans. With these in hand, and approved where applicable, you can begin the final step of the PSA, the visual inspection and walk-through.

Before starting your on-site visual inspection make sure all entrants have had "meth lab" hazard communication training and are wearing the proper personal protective equipment. The PPE needed can be determined for starters by duplicating what was used by the last group to make entry, usually the hazardous waste contractor that performed the gross contamination removal. Also, you may want to use this walk-through to conduct preliminary assessment of contamination by checking for volatile organic compounds using a photo-ionization detector (PID) and corrosive spill residues with pH indicators.

The visual inspection should reveal the severity of contamination inside and outside the structure where the cooking took place. The goals are to identify immediate cooking areas, obviously stained areas, chemical storage areas, and points of potential waste disposal such as sinks, showers, bathtubs, toilets, and floor drains. Be sure to note the surfaces of these locations, whether they are hard and impervious such as tile, painted drywall, linoleum, or Formica, or soft and absorbent like carpet, unfinished wood, or drywall, fabric, or the like. In addition, you want to identify high traffic pathways into and out of these areas as well as areas of high occupant contact. Do not forget to inspect the ventilation system and note any potential for contamination.

Finally, depending on your scope of work, you will want to survey the outdoor environment for potential problems. Look for evidence of burn sites, trash pits, discolored soils, or dead vegetation indicating possible contamination. Note whether the property is served by a well or city water, uses a septic system or municipal sewer. Identify neighboring structures, wells, surface waters, or other potential receptors within at least 250 feet.

SUMMARY

After completing the visual inspection you will more than likely modify the PSA work plan and the health and safety plans. With the information gathered during review of available reports and a careful visual inspection you can accurately delineate areas that will need definite cleaning or remediation, those that need additional assessment or sampling, and those not likely to have been affected. After completing your walk-through, surveys for air and surface contamination the most appropriate level of PPE can be determined for future work.

We have outlined here the first step in cleaning up and remediating a clandestine drug lab property – conducting a preliminary assessment and initial visual inspection and surveys. For more comprehensive information you should investigate the excellent on-line resources listed below. Our next feature will continue the remediation process by looking at the next steps of conducting residual remediation and final clearance assessments.

Resources

1. <http://www.usdoj.gov/dea/resources/redbook.pdf> - US Department of Justice Drug Enforcement Administration, Guidelines for Law Enforcement for the Clean up of Clandestine Drug Laboratories. 2005.
2. Clandestine Drug Lab General Cleanup Guidance, Minnesota Department of Health and Minnesota Pollution Control Agency, St. Paul, MN., July, 2006.
3. Criteria for the Assessment and Remediation of Clandestine Methamphetamine Laboratories, Sacramento County Environmental Management Department, Hazardous Materials Division. Sacramento, CA. May, 2003.
4. Cleanup of Clandestine Methamphetamine Labs Guidance Document, Colorado Department of Public Health and Environment, July, 2003.
5. Procedures for the Assessment and Remediation of Clandestine Methamphetamine Laboratories, Solano County Department of Resource Management, Fairfield, CA. January, 2006.

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We welcome your comments and questions.

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