

The St. Louis Sites

Formerly Utilized Sites Remedial Action Program • Winter 2018

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www.mvs.usace.army.mil

USACE FUSRAP On-site Laboratory

Soil, sediment, water and air samples from St. Louis Formerly Utilized Sites Remedial Action Program (FUSRAP) sites go to an on-site laboratory where scientists have a strict protocol to assess the samples for levels of radiological contamination.

The U.S. Army Corps of Engineers (USACE) St. Louis District FUSRAP Laboratory (FUSRAP lab) measures samples' levels of radiological contaminants – uranium, radium and thorium. FUSRAP lab results help USACE identify where cleanup is needed and confirm where it has been successful. The lab serves USACE's mission to remove low-level radioactive contamination generated by activities of the Manhattan Engineer District and the Atomic Energy Commission during and following World War II to levels protective of human health and environment. The FUSRAP lab is integral to accomplishing that goal.

A primary advantage of the on-site lab is its quick sample turn-around time. The FUSRAP lab is specifically designed for analyzing St. Louis FUSRAP-specific contaminants. Therefore, this dedicated lab's processes are specialized and efficient, often resulting in complete analysis of prioritized samples in fewer than three days. In fact, the lab can provide 24-hour sample turn-around for gamma spectroscopy results. An analysis of railcar information samples can be done within an hour of receipt. Commercial labs would typically require more time to process samples than the USACE FUSRAP lab because of their high volume of samples from numerous projects and customers.



A specially trained laboratory chemist separates thorium from other isotopes in a sample so thorium alone can be measured by alpha spectroscopy.

The FUSRAP lab saves about \$1 million per year compared to using commercial laboratories when factoring in the accelerated sample turn-around. An accelerated turn-around is required when, for example, an excavated area is ready for clean backfill soil but confirmation of radiological status is essential. Commercial labs would typically triple the cost of accelerating those results.

However, quality standards are never sacrificed for speed. The FUSRAP lab is the only U.S. Department of Defense (DOD) Environmental Laboratory Accreditation Program-accredited USACE laboratory performing wet-chemical isotopic separations followed by alpha spectroscopy. The FUSRAP lab undergoes stringent DOD audits that evaluate the lab's quality management system. Additionally, the lab must successfully analyze unknown evaluation samples from the U.S. Department of Energy to assess the accuracy of reported lab results.

The FUSRAP lab is equipped with state-of-the-art nuclear instrumentation with calibrations traceable to National Institute of Standards and Technology. All technicians in the lab follow standard operating procedures (SOPs). The chemists, analysts and administrative staff have an average of 14 years of experience performing sample analysis at the FUSRAP lab, a cumulative total of 150 years of St. Louis FUSRAP experience.

Upcoming Events

Information Releases: [Summer Newsletter - July 2018](#)
FUSRAP issues this newsletter twice a year.

Upcoming Meetings: [Public Meeting at Hazelwood Civic Center East Feb. 22 from 6:30 to 8:30 p.m.](#) For updates, check <http://bit.ly/FUSRAPstl> or <http://www.mvs.usace.army.mil/Missions/Centers-of-Expertise/Formerly-Utilized-Sites-Remedial-Action-Program/> and <http://www.facebook.com/teamsaintlouis>.



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Even with this accumulated experience, lab management evaluates employees annually to test their proficiencies with SOPs and other processes. All sample results are reviewed by senior laboratory staff, approved by lab management and then sent for data validation against USACE requirements. All sample measurements must be accurate and comparably analyzed so that USACE can make the best decisions for the community and the environment.

St. Louis Downtown Site

At the St. Louis Downtown Site (SLDS), FUSRAP is currently performing remedial action (RA) construction activities at three separate locations in the Mallinckrodt LLC (Mallinckrodt) Plant: the Plant 6 area within the former Building 101 footprint, the Destrehan Street-East/Plant 7 W-North area, and the Plant 1 (former Building 17 area). In addition, planning is underway for RA in the Plant 1 Building 10 area, including the deferred western portion of the former Building 17 area.

In the Plant 6 former Building 101 area, RA is nearing completion. FUSRAP has placed backfill almost to finish grade as well as constructed a temporary haul route across the northern portion of the restored gravel area. This temporary haul route allows Mallinckrodt vehicles to access Building 103 and the Hazardous Waste Staging Area while their normal route on Destrehan Street is being excavated.

At Destrehan Street-East/Plant 7W-North, RA is continuing. The work is proceeding from east to west in four linear sections. Overhead electrical and communication utilities were relocated to allow the removal of inactive facilities along Destrehan Street and in Plant 7W as RA proceeds.



The FUSRAP team uses an excavator to remove contaminated soil within the shored portion of the St. Louis Downtown Site's Plant 1 Former Building 17 area Tuesday, Oct. 24, 2017.

Also, the inactive underground water, sewer and gas lines are being removed as excavation proceeds. The FUSRAP team has completed the excavation of the first three linear sections, removing approximately 13,000 of the projected 16,000 cubic yards of contaminated soil.

Excavation of the remaining linear section will include demolition and removal of inactive Plant 7 West concrete structures, as required. The water lines are being replaced in three sections as excavated areas are cleared for backfilling. Replacement of the first water-line section is nearing completion. Sewer-line replacement is also continuing as excavated areas are cleared for backfilling. The gas line will be replaced later by the utility company based on Mallinckrodt requirements. Final restoration of the Destrehan Street-East/Plant 7W-North area will include the replacement of active underground utilities as well as replacement of the paved street and adjacent street lights to pre-construction conditions. The FUSRAP team projects that the Destrehan Street-East/Plant 7W-North RA will be completed by the end of 2018.

Within Plant 1, Mallinckrodt recently removed Building 17 to provide space for the expansion of the adjacent Building 5. In April 2017, USACE began RA on the previously inaccessible Building 17 area with the installation of sheet-pile shoring to facilitate excavation in the limited space. Excavation is continuing in the eastern portion of the former Building 17 area, and approximately 50 percent of

Keeping in Touch

Feedback - If you have any suggestions, questions or comments, contact the U.S. Army Corps of Engineers using any one of the following contact methods:

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Mailing List - To receive newsletters and other printed communications, sign up for the FUSRAP mailing list using one of the contact methods above.

Homepage - To reach the FUSRAP webpage, visit <http://bit.ly/FUSRAPstl> or <http://www.mvs.usace.army.mil/Missions/Centers-of-Expertise/Formerly-Utilized-Sites-Remedial-Action-Program/>.

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the projected volume of 3,100 cubic yards of contaminated soil has been removed. The excavation included removal of the collapsed portion of the Plant 1 sewer. This sewer will be replaced by Mallinckrodt as the area is cleared and backfill proceeds. Close coordination with other ongoing Mallinckrodt construction projects in the limited Plant 1 space has been required to proceed efficiently with this RA. USACE has deferred the RA of the western portion of the planned former Building 17 area because of the space constraints of overhead utility locations.

Mallinckrodt is now planning for the removal of Plant 1 Building 10 and some overhead utilities to the west of the current Plant 1 former Building 17 RA area. Pre-design investigations of the Building 10 area are now underway to determine RA requirements at that location. The subsequent removal of other Plant 1 buildings in the immediate area by Mallinckrodt may also allow RA in other previously inaccessible areas.

North St. Louis County

Palm Drive Properties

USACE completed the remediation and restoration of the six Palm Drive Properties Oct. 20, 2017. The FUSRAP team removed about 5,980 cubic yards of contaminated material. The team performed extensive preparatory work to ensure that the remediation was completed quickly and efficiently. Because of continuous contact with the property owners, the team maintained an excellent relationship with the residents throughout the remedial process.



FUSRAP program manager Bruce Munholand gives a tour of the Ballfields Phase 2B site to Maj. Gen. Richard Kaiser, the commander of the U.S. Army Corps of Engineers' Mississippi Valley Division (MVD), and Col. Bryan Sizemore, the commander of the St. Louis District under MVD, Wednesday, Dec. 13, 2017.

Pershall Road

The FUSRAP team completed the sampling and characterization of Pershall Road in late November 2017. Pershall Road became contaminated when residues were hauled along transportation routes and by flooding of Coldwater Creek. The North County Record of Decision describes the soils under Pershall Road as inaccessible. As such, they will be controlled through land-use restrictions. Because the anticipated future use of Pershall Road is continued transportation, the soils beneath the road will remain inaccessible, and, as a result, exposure of contaminated soils will be limited. Contaminated soils that are accessible in the ditches and rights of way adjacent to Pershall Road will be remediated.

Coldwater Creek

USACE continues investigative sampling the next areas of the Coldwater Creek corridor and adjacent properties within the 10-year flood plain north of the St. Denis Bridge. Delineation and bounding sampling continues south of St. Denis Bridge at areas in the creek and adjacent properties where initial sampling identified the presence of contamination. Delineation or bounding sampling will show the extent and depth of the contaminated area. This sampling will be used to help develop the design to remediate these areas.

Ballfields Phase 2B

In early December 2017, after the sampling of Pershall Road had been completed, USACE returned to remedial activities at the Ballfields Phase 2B area. Since resuming remediation activities at Ballfields Phase 2B, more than 1,500 cubic yards of contaminated material have been removed.

Chez Paree

An additional area of contamination was found north of the original contaminated area at Chez Paree Apartment Complex and east of the swimming-pool area. Investigation and sampling of this area identified approximately 1,300 cubic yards of contaminated material above the North County Record of Decision remediation goals. USACE anticipates that removal of the contamination will take about three months with site restoration occurring in the spring/early summer 2018 time frame. USACE completed the investigation of areas outside the 10-year flood plain at the Chez Paree Complex to ensure that the remediation area was fully delineated.

Educational Information - Five-Year Review

The U.S. Army Corps of Engineers, St. Louis District, plans to initiate activities for the next (fourth) Five-Year Review in 2018 to determine whether the cleanup response of all St. Louis Sites continues to be protective of human health and the environment. At hazardous waste sites where contaminants are present above levels that allow for unlimited use/unrestricted exposure, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) requires that response actions be evaluated at least every five years following the start of cleanup at the site.

A team led by USACE with representatives from the U.S. Environmental Protection Agency and the Missouri Department of Natural Resources conducts the Five-Year Review. The review consists of four components: document review, site inspection, site interviews and assessment of response-action protectiveness. Representatives from USACE's Formerly Utilized Sites Remedial Action Program (FUSRAP) team will contact businesses, utility companies, property owners, officials from government agencies and private citizens to arrange interviews.

The Five-Year Review will be completed and signed by July 2020.

You can find the third Five-Year Review (dated July 2015) on the FUSRAP website at <http://bit.ly/FUSRAPstl> or <http://www.mvs.usace.army.mil/Missions/Centers-of-Expertise/Formerly-Utilized-Sites-Remedial-Action-Program/> under "Five-Year Review."

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