



Department of Energy

Oak Ridge Operations Office
P.O. Box 2001
Oak Ridge, Tennessee 37831—

April 28, 1997

Mr. Daniel Wall
Site Assessment and Federal Facility Section- Superfund Branch
U.S. Environmental Protection Agency, Region VII
726 Minnesota Avenue
Kansas City, Kansas 66101

Dear Mr. Wall:

QUARTERLY PROGRESS REPORT FOR THE PERIOD JANUARY THROUGH MARCH 1997 FOR THE ST. LOUIS SITE

The following items represent the significant activities and achievements related to the St. Louis Site for the period January through March 1997:

- There were no Federal Facility Agreement (FFA) milestones scheduled during this period; however, all other FFA required activities were completed as necessary. In addition, the EPA, DOE, and Missouri Department of Natural Resources (MDNR) project managers had several meetings and bi-weekly telecons to address technical, cost, and schedule issues related to the St. Louis Site.
- On February 3, Ed Valdez assumed his position and full-time presence as the St. Louis Site Manager. This event met a commitment made by Undersecretary Grumbly at a December 5 public meeting in St. Louis.
- Decontamination activities were started at the SLDS "K" Building on February 3. The primary goal of the cleanup was to remediate surface radioactivity that exceeded guidelines in DOE Order 5400.5 and to release the building without radiological restrictions for demolition by Mallinckrodt Group Inc. Decontamination activities were primarily focused on the K1E Section of the building where work for the Manhattan Engineer District took place and where 90 percent of the contamination existed. Standard decontamination techniques were used to remove contamination from the building surfaces.
- During decontamination activities at Building "K", deteriorated brick was discovered during abrasive decontamination of the eastern exterior upper wall. To ensure the safety of workers and the structural integrity of the wall, decontamination activities were discontinued until a structural assessment was completed. The assessment determined that no visible integral structural elements existed within the wall that would allow for partial removal or abrasive decontamination without structurally affecting the integrity of the wall. Based on this assessment, Mallinckrodt has agreed to dismantle the contaminated portion of the east wall and remove a contaminated wooden column in the K1E section, segregate these materials, and turn over the contaminated materials to St. Louis Site personnel for offsite disposal at Envirocare. The "K" Building decontamination activities were completed in early April and the independent verification contractor (IVC) has released the building without radiological

restrictions with the exception of a portion of the east wall and the K1E wooden column. The Mallinckrodt demolition of the "K" Building is slated to begin in mid-June.

- DOE and Mallinckrodt reached agreement during the quarter on which SLDS buildings will require demolition during the second half of fiscal year 1997. Nine buildings (#100, 116, 117, 700, 704, 705, 706, 707, 708) have been slated for demolition. The buildings will be demolished to their foundations. The concrete and masonry debris generated during the demolition activities will be crushed and staged onsite. These materials are slated to be used as backfill during the Plant 2 remediation activities. All the remaining debris (steel, wood, etc.) from demolition activities will be removed from the demolition area and shipped offsite for appropriate disposal or recycled.
- In preparation for upcoming SLDS demolition activities, approximately 1800 cubic yards of waste materials from various Mallinckrodt soil excavation projects were packaged and shipped offsite for disposal. An estimated 1000 cubic yards of these materials were temporarily stored in Building 116 and contained in "supersack" bags, metal boxes, and drums. The remaining 800 cubic yards of waste material were stored in various storage dumpsters throughout the site. The "supersack" bags and dumpsters contents were loaded from the 7S staging area onto railcar gondolas for offsite disposal at Envirocare. The remaining metal boxes and drums on pallets were loaded onto trucks for shipment and disposal at Envirocare.

Also during SLDS demolition preparation activities, several hundred very small (5 to 10 milliliters) sample bottles were discovered in a Building 116 storage room. These bottles contain various chemical and radioactive materials related to previous Mallinckrodt process activities and MED work conducted at the site during the early 1950's. Mallinckrodt and St. Louis Site personnel are working together to define appropriate identification, segregation, and cleanup methods for these sample materials. Proper precautions have been taken to limit access to these materials until proper handling, management, and disposal methods are determined. All of these materials will be removed from the site and disposed of prior to the start of the Building 116 demolition activities.

- The first draft of the SLDS Plant 2 boundary delineation report has been completed. The report summarizes the results of boundary delineation activities conducted last fall. Boundary delineation results indicated that contamination above DOE guidelines is present to a depth of 20 feet below the 50 Series Buildings foot print and in several shallow areas within the Plant 2 area. Groundwater samples collected during boundary delineation activities indicate that radioactive constituents are not present in the groundwater at concentrations above DOE guidelines. The boundary delineation activities were performed in preparation for the Plant 2 excavation campaign which is slated to begin mid-summer.
- St. Louis Site personnel met with representatives from the local St. Louis utility companies at the Hazelwood interim Storage Site on March 19. Discussions centered on how St. Louis Site personnel would respond to planned and unplanned utility company activities on the three major sites and vicinity properties in the area. Most of the questions raised by the utility companies were resolved by the conclusion of the meeting. A draft St. Louis Site Utility Response Policy was distributed to the utility companies for comment. The policy delineates the responses and measures to be followed by St. Louis Site and utility personnel during planned and unplanned utility activities. A meeting will be held in early May with the utility companies to address their concerns and finalize the policy.
- Community Relations activities in second quarter included Speakers' Bureau presentations to a Hazelwood high school science class and to a group of Americorps volunteers sponsored by the Grace Hill Neighborhood Association. Other activities included planning for the

upcoming St. Louis Site Technology Review and in support of the formation of a Site Specific Advisory Board (SSAB).

The Spring 1997 Update newsletter was published and mailed late March. Articles included: cleanups at the North Riverfront Trail area, SLDS 50-Series downtown and the Frost and Hazelwood Avenue VP cleanups in North County; a discussion of the economic benefits of St. Louis Site cleanups; and a recap of the December 1996 St. Louis Site Remediation Task Force meeting with then-DOE undersecretary Tom Grumbly.

Looking ahead to the next quarter, the St. Louis Site anticipates convening and startup of the SSAB, completion of the Technology Review, and planning and implementation of additional public participation opportunities in accordance with the CERCLA/NEPA process.

During this quarterly period, environmental sampling conducted by FUSRAP consisted of routine surveillance, radiological surveys, and sampling associated with ongoing site remediation activities. A summary of these sampling/surveying activities and the analytical results received to date is enclosed. As always, all raw data and analyses are available for EPA review and inspection to the extent that you request. During the third quarter of fiscal year 1997, there are no scheduled FFA milestones. In the interim, DOE will continue to work with EPA and MDNR to implement appropriate interim removal actions and to facilitate the process of selecting a final cleanup remedy.

Please advise if you have questions or comments regarding this quarterly report.

Sincerely,


Ed Valdez
St. Louis Site Manager

Enclosure

cc: R. Geller (MDNR)

Sampling and Analysis Summary of First Quarter 1997

The following is a summary of environmental data collected for FUSRAP sites in St. Louis, Missouri, during the first quarter of 1997. Samples were collected and analyzed in support of environmental surveillance, waste management, and special activities. In addition to the collection of radon detectors and non-personnel TETLDs, a total of 48 samples were collected for various radiological and non-radiological analyses during the quarter. Analytical results for these analyses have been compiled and validated. Preliminary evaluation of the data indicates results consistent with past characterization and environmental surveillance findings at the sites.

Radon

Radon detectors were collected from HISS, SLAPS, and SLDS in support of routine environmental surveillance activities. The maximum concentrations of radon were well below the DOE radon guideline of 3.0 pCi/L for occupied or habitable structures:

	Radon (pCi/L)
HISS	0.50
SLAPS	1.60
SLDS	1.10

External Gamma Radiation

Non-personnel tissue equivalent thermoluminescent dosimeters (TETLD) were collected from HISS, SLAPS, and SLDS to determine the external gamma radiation exposure rates in support of routine environmental surveillance activities. One location along the HISS fenceline and one location along the SLAPS fenceline exceeded the 100 mrem/yr DOE guideline for the annual radiation dose (excluding radon). However, it is unlikely that an individual would occupy either of these areas virtually 24 hours a day for one year. In addition, institutional controls, such as signs warning of radiation contamination, are in place along the fencelines. The maximum net exposure rates were:

	External Gamma Exposure Rate (mrem/yr)
HISS	122.4
SLAPS	2440.5
SLDS	Background

Stormwater Surveillance

Six stormwater samples were collected from the two outfalls at HISS to comply with the requirements delineated in the NPDES permit number MO-0111252. Samples are taken monthly for settleable solids analysis and quarterly for chemical and radiological analysis. The concentration of settleable solids was well below the 1.0 mL/L/hr permit requirement and the radionuclide concentrations were less than the DOE derived concentration guide (DCG) reference values listed below. The DCG is reference value calculated in DOE Order 5400.5, "Radiation Protection of the Public and the Environment." The maximum concentrations were:

Analyte	Concentration	Units	Applicable Limit
Settleable solids	<0.50	mL/L/hr	1.0
Total organic halides	0.038	mg/L	---
Total organic carbon	9.1	mg/L	---
Gross alpha	45.83	pCi/L	---
Gross beta	17.02	pCi/L	---
Total uranium	16.97	pCi/L	600
Thorium-230	31.27	pCi/L	300
Thorium-232	0.67	pCi/L	50
Radium-226	4.42	pCi/L	100
Radium-228	<0.42	pCi/L	100
Lead-210	4.00	pCi/L	30

Special Activity Samples

Two soil samples were collected in North County in the vicinity of a water line break and twenty-nine samples were collected along Coldwater Creek in the vicinity of three proposed bridge replacements. The maximum detected radionuclide concentrations were:

Analyte	Soil Concentration (pCi/g)	
	Water Line	Coldwater Creek
Radium-226	10.83	1.20
Thorium-230	14.47	38.29
Thorium-232	1.20	1.34
Uranium-238	1.55	2.75

Waste management Samples

Eight samples were collected at the St. Louis Downtown Site in support of waste management. The samples were representative of the decontamination waste generated from Building K, Building 116, and the 700 series buildings and were analyzed to ensure the material was within the waste profile parameters for disposal at Envirocare, Inc. The maximum uranium-238 concentration detected was 1527 pCi/g.

Special Groundwater Study

Three groundwater samples were collected at the St. Louis Airport Site to determine the water quality and the concentration of radioactive contamination in deep groundwater (at bedrock). These samples were analyzed for total metals and total dissolved radioactive analytes. The maximum concentrations were:

Analyte	Total (pCi/L)	Dissolved (pCi/L)	DCG (pCi/L)
Gross alpha	218.43	---	---
Gross beta	196.28	---	---
Radium-226	17.85	0.78	100
Radium-228	8.07	0.43	100
Thorium-228	8.07	<0.47	---
Thorium-230	14.81	0.55	300
Thorium-232	9.43	<0.28	50
Uranium-234	16.33	5.79	---
Uranium-235	0.74	<0.28	---
Uranium-238	17.60	2.31	---
Total uranium	---	---	600

Metal	(mg/L)
Aluminum	22.80
Boron	0.804
Barium	0.1547
Beryllium	0.0019
Calcium	111.0
Chromium	0.375
Cobalt	0.0145
Copper	0.0602
Iron	19.10
Potassium	15.10
Magnesium	37.30
Manganese	1.34
Molybdenum	0.0355
Sodium	88.0
Nickel	0.247
Thallium	0.0416
Vanadium	0.0742
Zinc	0.116

00-2285

Formerly Utilized Sites Remedial Action Program (FUSRAP)

ADMINISTRATIVE RECORD

for the St. Louis Site, Missouri



Property
of
ST LOUIS FUSRAP LIBRARY

U.S. Department of Energy