U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Radiation - Garwin, Inc (former) - Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region VII

Subject: **POLREP #5**
Garwin - update
Radiation - Garwin, Inc (former)
B706
Wichita, KS
Latitude: 37.6686470 Longitude: -97.3511660

To:

From: Randy Schademann (Lead OSC); Meagan Schutte, OSC; Tom Mahler, OSC; James Johnson, Planning & Preparedness Coordinator.

Date: 8/19/2012

Reporting Period: 8/15 - 18/2012

1. Introduction

1.1 Background

Site Number:	B706	**Contract Number:**	
D.O. Number:		**Action Memo Date:**	6/8/2012
Response Authority:	CERCLA	**Response Type:**	Time-Critical
Response Lead:	EPA	**Incident Category:**	Removal Action
NPL Status:	Non NPL	**Operable Unit:**	00
Mobilization Date:	8/2/2012	**Start Date:**	8/2/2012
Demob Date:		**Completion Date:**	
CERCLIS ID:	KSN000706246	**RCRIS ID:**	
ERNS No.:		**State Notification:**	08/01/2012
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category

Significant levels of radium-226 appear to be present at the former Garwin, Inc. site in excess of surficial soil cleanup levels.

1.1.2 Site Description

The property located at 918 West Dooley, is attached to and partly occupied by Haivala Concrete Tools to the west, to the north it is attached to Tech-Aire Instruments, Inc.

1.1.2.1 Location

See above.

1.1.2.2 Description of Threat

The objective of this removal action is to protect public health or welfare or the environment by responding to the release of hazardous substances and pollutants or contaminants into the environment as presented by soils contaminated with Radium-226 at the Site. Contaminated soils that exceed 5 pico Curies per gram (pCi/g) plus background will be excavated and properly disposed of.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

The estimated time-critical site-specific removal action level for radium-226 is 5.7 pCi/g. The key problem areas are: Location #1 – inside, outside and under the residence located at 918 West Dooley (kitchen, dining, & living room areas); Location #2 – under the asphalt alleyway that runs north-to-south between Dooley and Walker Street; and Location #3 – the two concrete flower boxes located in the front of the residence.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Garwin began operations at 918 W. Dooley in 1952. Garwin, Inc., became Garwin-Carruth, Inc., in 1963 and obtained Kansas Radioactive Materials License (KRML) #25- RB0-01 in December 1965 (see Polrep #3).

2.1.2 Response Actions to Date

8/1 - 2/12 - The City of Wichita's Street Dept, Sewer Dept. Sidewalk Assessment and other city officials came by and performed a Site recon that afternoon and had no issues with the planned removal action. EPA conducted interior / exterior gamma surveys to delineate areas to mark prior to removal. A fund-lead, time-critical removal action was initiated. Activities during this time period include mobilization of the Emergency

and Rapid Response Services contractor (Environmental Restoration, LLC), the Superfund Technical Assessment and Response Team (START) contractor (TetraTech), and EPA personnel.

8/3 - 5/12 - Mary Peterson, EPA / PPSS Chief and KDHE (Corena Carpenter) visited the all sites in the Wichita area (Std Products, Std Precision, Garwin), to get a progress update. No work conducted at Garwin, as ER was busy at the other sites that day. Excavation of contaminated areas (alleyway) outside the residence begins. The plan is to remove the alleyway contaminated soils in sections as to not collapse the residential wall structure on the east side of the house. EPA / START will use a "MARSSIM" style approach and clear sections by sample analysis. "BERT" is set up at the Std Products site and is being used as a field lab to run "clearance" samples prior to them being shipped for laboratory analysis. Contaminated soils are being stockpiled at the Radiation - Standard Products Site (650 E Gilbert, Wichita, KS) and will ultimately be loaded onto rail cars for delivery to an Energy Solutions facility in Clive, Utah.

8/6 - 11/12 - ER staff excavated a clay sewer pipe line that was not located by KS-One Call. Readings in the alley ranged from 23 - 70 Kcpm (>5 pCi/g). The current clay tile pipe will be patched / repaired and the removal will continue. Sunday was a limited work day.ER staff continued to work in the alley. Most of the day was spent trying to patch the leak from the excavated clay sewer pipe. The City of Wichita Sewer Division was notified that the line that was not properly located and that we were having trouble repairing the line. The rail cars were on site and ready for loading at the Standard Products Site. Garwin site shut down for a couple of hours due to rain / lightening in the Wichita area. The busted clay tile pipe was totally excavated and replaced with PVC pipe. The leak was finally repaired and the removal continued. The first rail car shipment from Garwin was loaded. The rail cars are flatbeds with four intermodals per car. Energy Solutions has a representative on-site for proper manifesting and to coordinate with the rail companies. Removal activities began inside the residence. The flooring was taken up, cabinets and shelving removed. Areas were surveyed and marked for cutting the concrete in the key problem areas: kitchen, dining room, living room and a hallway. Work also began on the the two concrete flower boxes located in the front of the primary residence at 918 West Dooley Street. Removal actions continue inside the residence in the kitchen / sink area. Removal activities (excavation & extraction) are still taking place outside the residence in the alleyway and two flower boxes. Continue the removal activities inside and outside the residence in the kitchen / sink area. Removal activities (excavation & extraction) are still taking place outside the residence in the alleyway and two flower boxes. ER unearthed a clay sewer pipe, near the kitchen area, next to the east wall of the residence. No flow was found and it was hooked into the sewer line, but was a dead end-clean type line. This line was found to be "hot" by gamma survey. The Ludlum Model 14C meter was used and readings ranged from 1 - 3 mR/hr and greater than 400 Kcpm. Chuck Hooper, EPA Health Physicist was consulted. Electronic pocket dosimeters were issued, air monitoring was set up in the dig zone and a higher level of oversight was initiated in order to allow ER to continue removal activities. There was a concern over the stability and structural integrity of the residence wall on the east side of the house, inside and outside. The concrete flooring inside the kitchen was removed and the excavation area was approximately 3.5 ft deep x 3.75 ft wide x 4 ft long and the total excavation area was about six feet. ER uncovered two support beams and the cinder block residential walls appeared to show signs of stress and cracking. START / ER consulted with a structural engineer (PEC - Wichita, KS) to find out how we can brace the walls/floor in order to continue removal activities. ERRS crews also discovered a small concrete sump pump vault (roughly 2'x2'x2') was uncovered when the kitchen floor / sink area concrete was removed. Material inside the sump pump containment was elevated as determined by field screening and was removed.

8/12 – 14/12 - ERRS crew not on site Sunday, worked continued on Monday. James Johnson was not on-site the past two days as he was on medical leave for those two days. The site removal activities were coordinated by OSC's Schademann & Schuette.

8/15/12 – ERRS brought in Dan Billings of Heartland Environmental to address the radon mitigation system. The consultant reviewed the residence to determine if an active / passive system was needed to lower the levels of radon in the home after close-out of the removal. Work continued in the kitchen area. ERRS begun to hand dig in this area as there were stability issues in this area, however, ERRS wanted to excavate as much soil as possible to ensure that readings were down (excavation areas: 1 kitchen: approx 10 x 5 x 2.5; 2 living room: 8.5 x 2 x 1; 3 dining room: 3 x 1 x 4; 4. Hallway:3.3 x 1.6 x 0.6).

8/16/12 - Completed excavation of areas 1 – 4 inside the residence. Areas will be prepped with soil and will be backfilled with concrete to be used to stabilize the foundation as well as shielding to get the dose rate exposure numbers down to about background (20 – 30 microR/hr & 15 – 30 Kcpm/hr). The concrete and soil to be provided had been previously sampled by START to establish that parameters meet the Kansas RSK standards. The excavated areas are being guided by a 3x3 sodium iodide (NaI) probe being operated by START. Samples are being collected by START, using the Multi-Agency Radiation Survey and Site Investigation manual (MARSSIM) as guidance. Samples are being analyzed on-site by the EPA (with a 3x3 NaI probe) to help establish that the action level is being achieved. The last load of contaminated material was delivered to the Std Products site to be loaded onto rail cars for delivery to an Energy Solutions facility in Clive, Utah.

8/17/12 – Completed excavation of areas 1 – 4 inside the residence. Residence was cleaned and prepped for the addition of concrete to the excavated areas. Areas 1 – 4 and a portion of the alley next to the kitchen/sink wall were backfilled with concrete and the rest of the day was spent excavating, backfilling & prepping the alley for asphalting, cleaning up the site, and working at the other two radiation sites. Doses were down from about 400 microR/hr to about 30 microR/hr.

8/18/12 – ERRS continued work in the alley, set the gate, cleaned and secured the site for the day After the alleyway was complete, James Johnson returned to R7 to return paperwork, forms, and turn in vehicle.

8/19/12 - Sunday. ERRS crew not on site today, mainly administrative functions and activities; no removal

activities. Polrep updated on epaosc.net.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)
The PRP search was completed in November 2011 and no readily identifiable PRP was found at this time.

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*
Radium contaminated materials	soil, bricks, concrete, piping, asphalt, etc.	approximately 125 tons	Multiple	none / burial	Environmental Solutions in Clive, Utah (burial)

2.2 Planning Section

2.2.1 Anticipated Activities
The removal action is estimated to take one more week to complete.

2.2.1.1 Planned Response Activities
Continue the removal action until all readily identifiable contaminated areas are found and remediated.

2.2.1.2 Next Steps
Get estimates on seeding, sodding and replacement of cabinets. Have Mrs. Griggs look over and sign the Property Restoration Agreement. Clean up of all three radiation sites (Products, Precision, Garwin). Prepare for clearence samples, confirmation analysis and close out activities with current property owners.

2.2.2 Issues
Disposal manifests of rail shipments to Utah. Cost accounting for all three sites. Site security issues. Interior cleanup of the residence at Garwin and food replacement (freezer unplugged / food went bad).

2.3 Logistics Section

Logistics are being handled by the ERRS Response Manager in coordination with the OSC.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

2.5.1 Safety Officer
Roy Kruger, EPA Safety & Health Official
Chuck Hooper, EPA Health Physicist

2.5.2 Liaison Officer
Beckie Himes, PIO
Office of Public Affairs

2.5.3 Information Officer
Beckie Himes, PIO
Office of Public Affairs
U.S. EPA Region 7
901 N. 5th Street
Kansas City, KS 66101
Phone: 913-551-7253 or
Toll Free: 1-800-223-0425
himes.beckie@epa.gov

A removal action fact sheet was developed for the site and provided to the congressional and state representatives and the Director of the Sedgwick County, Kansas Health Department, who provides briefings to the local government.

The RA is being conducted under the supervision and guidence of Randy Shademann and Megan Schutte, OSC's. James Johnson is the site coordinator.

3. Participating Entities

3.1 Unified Command
There was no formal unified command established for this activity.
1. For EPA: Randy Schademann (Lead OSC); Meagan Schutte, OSC; Tom Mahler, OSC; James Johnson, Planning & Preparedness Coordinator.
2. START
3. ERRS
4. KDHE
5. City of Wichita

3.2 Cooperating Agencies

1. City of Wichita
2. Sedgewick County, Kansas Health Department
3. KDHE
4. ATSDR
5. KS One Call
6. City of Wichita Water Department
7. Weststar Energy

4. Personnel On Site

For the Garwin site removal action:
EPA (R. Schademann, M. Schutte, T. Mahler, OSC's) & J. Johnson, Coordinator
EPA Health Physicist (C. Hooper)
2 - START Personnel
6 - ERRS Personnel

5. Definition of Terms

Radium Contaminated Soil - Ra-226 / Ra-228

RA - Removal Action

RCRA - Resource Conservation and Recovery Act

RSE - Removal Site Evaluation

RSK - Risk-based Standards for Kansas

START - Superfund Technical Assistance and Response Team

UFA - Unified Focus Assessment

UMTRCA - Uranium Mill Tailings Radiation Control Act
"Picocurie per gram" (pCi/g) = This refers to the amount of radioactivity in a particular solid substance. Picture a one-ton batch of concrete that contains 1,000 pounds of gravel, 500 pounds of cement, and 500 pounds of water. To describe this particular mix of concrete, one might say it contains "500 pounds per ton" of cement. This means that for every pound of concrete, there will also be a quarter of a pound of cement present. Similarly, if you wished to describe the amount of radioactivity that typically exists in soil throughout the United States, you would say that it contains about "one picocurie per gram" of radium, one picocurie per gram of thorium, and a host of other radioactive elements. This means that for every gram (about 0.002 pounds) of soil, there will also be one picocurie of radium and one picocurie per gram of thorium present, along with the rest of the radioactive elements commonly found in soil.

6. Additional sources of information

6.1 Internet location of additional information/report
Contaminated soils that exceed 5 pico Curies per gram (pCi/g) plus background will be excavated and properly disposed of. The removal action level at this site is 5.70 pCi/g.

For additonal information, please refer to "Documents" on www.epaoscv.org/garwin

For additional reference material, please refer to www.iem-inc.com/primrite.html

6.2 Reporting Schedule
Polrep #5 covers the August 15 - 19, 2012 removal activities and it is considered a progress report when published.

7. Situational Reference Materials

For additional information, photographs, maps, sample analysis, etc; please refer to "Documents" on www.epaosc.org/garwin.

For additional information radium-226, please refer to: http://www.epa.gov/radiation/radionuclides/radium.html

February 12, 1998, memorandum from Stephen Luftig, the Director of the Office of Superfund Remediation Technology Innovation (February 12, 1998, Directive number 9200.4-25)Section 275 of the Atomic Energy Act, 42 U.S.C. § 2022, as amended by section 206 of the UMTRCA of 1978, 42 U.S.C. § 7918, and regulations at 40 CFR § 192.12Region 9 Regional Screening Level tables found at http://www.epa.gov/region9/superfund/prg/

KDHE RSK Manual, Version 5, 2010.