



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**REGION 7**

11201 Renner Boulevard  
Lenexa, Kansas 66219

**APR 17 2014**

**ACTION MEMORANDUM**

**SUBJECT:** Request for a Time-Critical Removal Action at the Beta Chem Laboratory Site, Lenexa, Kansas

**FROM:** Doug Ferguson, On-Scene Coordinator  
Planning and Preparedness North Section

**THRU:** David P. Williams, Chief  
Planning and Preparedness North Section

**TO:** Cecilia Tapia, Director  
Superfund Division

Site ID#: B783  
CERCLIS ID#: KSN000705028  
Removal Category: Time-Critical  
Nationally Significant: No



**I. PURPOSE**

The purpose of this Action Memorandum is to request and document approval and funding for a time-critical removal action for the Beta Chem Laboratory Site (Site). Through this action the U.S. Environmental Protection Agency will remove and properly dispose of hazardous substances remaining at a defunct radio-pharmaceutical preparation laboratory. The Site operator formerly compounded pharmaceuticals at the Site pursuant to a Radioactive Materials License issued by the Kansas Department of Health and the Environment (KDHE). That license was terminated by KDHE on November 10, 2008. Investigations have detected carbon-14 contamination at levels in excess of EPA's screening levels inside the building at the Site and in Site soils. In addition, there are numerous containers of improperly stored reactive and flammable chemicals inside the building that present a substantial threat of a release into the environment.

The proposed time-critical removal action is necessary to mitigate the immediate threat to human health and the environment posed by abandoned chemicals at the Site. The abandoned chemicals are considered to be "hazardous wastes" pursuant to the Resource Conservation and Recovery Act, and therefore "hazardous substances" pursuant to section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

The proposed actions will take an estimated 60 working days to complete. There are no nationally significant or precedent-setting issues associated with the Site. The Site is not on the National Priorities List (NPL).



## II. SITE CONDITIONS AND BACKGROUND

### A. Site Description

#### 1. Removal site evaluation

In 1993, Beta Chem was issued Radioactive Materials License 25-C686-01 and began operations consisting of synthesizing radioactive carbon-14 into pharmaceutical compounds as a tracer for medical research. Beta Chem was inspected by KDHE's Radiation Control Program on September 20, 1995. Extensive radioactive contamination was found during a radiological survey of the facility. An Emergency Order of Suspension of License, Case No. 06-E-0173, was issued September 21, 2005. On September 23, 2005, the EPA conducted a radiological survey which confirmed the radioactive contamination. Additionally, the EPA observed numerous reactive, flammable and corrosive laboratory chemicals stored haphazardly and in close proximity to incompatible materials. On February 6, 2006, the KDHE Emergency Order of Suspension of License, Case No. 05-E-0173, became final after numerous attempts by KDHE to bring Beta Chem into compliance were unsuccessful.

A pre-CERCLA Site Reconnaissance and Evaluation was performed by KDHE in 2006. Beta radiation attributed to the Site was found in three soil samples collected outside the backdoor of the on-Site building at a maximum activity of 1,850 picoCuries per gram (pCi/g) with a background of 26.4 pCi/g. It can be reasonably assumed that the elevated beta contamination is attributable to carbon-14. This activity exceeds the EPA and Nuclear Regulatory Commission (NRC) Memorandum of Agreement screening level in residential soils of 46 pCi/g. All three soil samples exceeded the NRC interim unrestricted use screening level of 12 pCi/g. Traces of tetrachloroethylene were also detected in soil at the Site below KDHE's residential Tier 2 Risk-based Standards for Kansas.

Between 2006 and 2012, KDHE attempted to compel Beta Chem to attain compliance with its Radioactive Materials License, but Beta Chem continued to remain in non-compliance. On August 28, 2013, an "Emergency Order to Seize and Secure Radioactive Materials" was issued by KDHE to Beta Chem. Because of the presence of other hazardous substances in the laboratory besides radioactive materials and funding limitations, KDHE's Radiation Control Program seized the on-Site building but did not conduct decontamination, decommissioning or seizure of the radioactive materials.

On February 18, 2014, KDHE referred the Site to EPA's Superfund program to conduct a Site investigation and commence a time-critical response as appropriate to address the threat of release of wastes and abandoned chemicals currently in storage at the Site.

Investigators from the EPA's Criminal Investigation Division and Superfund Division On-Scene Coordinator performed an investigation of the Site on February 22, 2014. Several hundred chemical containers were observed abandoned at the Site, including compressed gas cylinders of anhydrous ammonia, hydrogen, acetylene as well as flammable and reactive substances. Additionally, chemicals that may produce flammable and explosive reactions with each other were stored in the same cabinet. Several residential neighborhoods are located about sixth tenths of a mile from the Site. A time-critical removal action is necessary to ensure hazardous substances are not released to the environment and surrounding human populations from a fire or explosion at the Site.

**2. Physical location**

The Site is located at 14410 West 100<sup>th</sup> Street, Lenexa, Johnson County, Kansas. The Site is located in an industrial park. The Site is within a portion of a building in the Noon Industrial Park.

**3. Site Characteristics**

Beta Chem conducted operations at the Site until 2005. The Site includes one section of about 2,000 square-feet in an area of a larger warehouse building having an area of about 27,000 square-feet. Other tenants adjacent to the Site include an appliance store, an industrial machinery and equipment business as well as a toffee sales operation. Site characteristics are as otherwise described above.

**4. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant.**

The EPA has documented hazardous substances improperly stored and abandoned at the Site. Hazardous substances include ethyl acetate (dangerous fire and explosion risk, toxic), diethyl ether (severe fire and explosion hazard), compressed anhydrous ammonia (toxic, corrosive, combustible gas), compressed hydrogen (highly flammable and explosive gas), compressed acetylene (dangerous fire risk), lithium aluminum hydride (reacts violently with air, water and solvents, flammable), nitric acid (corrosive, oxidizer), sodium cyanide (extremely toxic), and others. The chemical containers have deteriorated and are likely to continue to deteriorate as the operator of the Site has failed to take appropriate actions to address these wastes. Incompatible wastes present at the Site present a danger of fire and explosion threatening a release of hazardous substances to the environment. These wastes are hazardous substances as defined by section 101(14) of CERCLA, and designated hazardous substances pursuant to 40 CFR § 302.4. These hazardous substances have been documented by the EPA as being stored in a non-secure manner and the threat of releases remains until the hazardous substances are controlled or removed.

**5. National Priority List (NPL) status**

The Site is not listed on, nor is it proposed for, the National Priorities List.

**6. Maps, pictures and other graphic representations**

Maps of the Site are attached as Figure 1 and Figure 2.

**B. Other Actions to Date**

**1. Previous actions**

See subparagraph II.A.1 above, "Removal Site Evaluation."

**2. Current actions**

No further actions have been taken since the EPA's investigation and Removal Site Evaluation in February 2014.

**C. State and Local Authorities' Roles**

**1. State and local actions to date**

See subparagraph II.A.1 above, "Removal Site Evaluation."

**2. Potential for continued state/local response**

State and local authorities have indicated that they lack the resources to conduct the response action provided for herein at the Site.

**III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT AND STATUTORY AND REGULATORY AUTHORITIES**

**A. Threats to Public Health or Welfare**

Where the EPA makes a determination, based on the factors set forth in 40 CFR § 300.415(b)(2), that there is a threat to public health or welfare or the environment, the lead agency may take any appropriate removal action to abate, prevent, minimize, stabilize, mitigate or eliminate the release or threat of release. The factors in 40 CFR § 300.415(b)(2) that apply to this Site are:

**300.415(b)(2)(i) – Actual or potential exposure to nearby human populations, animals or the food chain from hazardous substances or pollutants or contaminants.**

The primary contaminants of concern at the Site are containerized flammable, reactive, corrosive and toxic hazardous substances. Flammable and reactive wastes present a danger of fire and explosion leading to off-Site exposure. Corrosive and toxic wastes present a direct contact threat to human and ecologic receptors. Some of the containers are in poor condition. In the absence of this response action the containers are likely to continue to deteriorate and fail. This will allow for releases and threat of releases of hazardous substances into the environment that would present unacceptable exposures to nearby human populations, animals or the food chain. The Site is abandoned and not adequately maintained.

**300.415(b)(2)(v) – Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.**

Beta radiation attributed to the Site was found in three soil samples collected outside the backdoor of the on-Site building at a maximum activity of 1,850 pCi/g with a background of 26.4 pCi/g. It can be reasonably assumed that the elevated beta contamination is attributable to carbon-14. This activity exceeds the EPA and Nuclear Regulatory Commission (NRC) Memorandum of Agreement screening level for residential soils of 46 pCi/g. All three soil samples exceeded the NRC interim unrestricted use screening level of 12 pCi/g. Wind and rain may mobilize the contaminated soils causing them to migrate off-Site.

**300.415(b)(2)(vi) – Threat of fire or explosion.**

Flammable and reactive substances at the Site, with incompatible wastes stored near each other, present a danger of fire and explosion.

**300.415(b)(2)(vii) – The availability of other appropriate federal or state response mechanisms to respond to the release.**

The State has requested that the EPA respond to this release/threat of release. There are no other known appropriate federal or state response mechanisms available to conduct an appropriate response at the Site.

**IV. ENDANGERMENT DETERMINATION**

The threatened release of hazardous substances at and from the Site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

**V. PROPOSED ACTIONS AND ESTIMATED COSTS**

**A. Proposed Actions**

**1. Proposed action description**

The proposed action will take place in two phases. Phase I will address the collection, characterization, segregation and off-Site disposal of all containers of hazardous substances. Phase II will be an assessment of the nature and extent of non-containerized hazardous substances including radiological contamination at the Site. Transportation, treatment, storage and disposal of the hazardous substances will be in accordance with all applicable federal, state and local requirements and off-Site disposal will comply with the CERCLA Off-Site Rule promulgated pursuant to section 121(d)(3) of CERCLA, and codified at 40 CFR § 300.440.

**2. Contribution to remedial performance**

No remedial action is contemplated for the Site. In the event that the Site is listed on the NPL, it is expected that the response provided for here will contribute to remedial performance or not adversely affect any future remedial performance for the Site.

**3. Description of alternative technologies**

On-Site treatment or in situ stabilization technologies are not feasible for this Site due to the volume of hazardous substances and the proximity to nearby residences. Off-Site disposal of wastes is the most cost-effective and viable response alternative.

**4. Applicable or Relevant and Appropriate Requirements (ARARs)**

Federal

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) at 40 CFR § 300.415, requires that removal actions shall, to the extent practicable and considering the exigencies of the situation, attain ARARs under federal environmental, state environmental, or facility-siting laws. The following ARARs have been identified as being potentially applicable for this action:

Action/Prerequisite	Requirement	Citation
Hazardous Waste Determination	Definition and identification of hazardous waste	40 CFR §§ 261.20-33
Hazardous Materials Transportation	Identification of requirements for transporting potential hazardous materials	40 CFR Parts 171-179

State

A letter requesting that the state identify ARARs for this Site was sent to KDHE on April 3, 2014. Appropriate state-identified ARARs will be incorporated into the proposed action upon receipt of the state's response.

**5. Project schedule**

It is expected that this action may begin within sixty days of approval of this Action Memorandum. However, the conduct of on-Site activities is dependent on the property owner's consent to access. The initial field work of disposing of abandoned chemicals and assessing the facility for radioisotope contamination is expected to take three weeks to complete.

**B. Estimated Costs**

The costs associated with this removal action are estimated as follows:

Extramural Costs

Removal Costs	\$115,279
Extramural Cost Contingency (20 percent)	<u>23,056</u>
Removal Ceiling	\$138,335

**EPA direct and indirect costs, although cost recoverable, do not count toward the Removal Ceiling for this removal action. Refer to the enforcement section for a breakout of these costs.**

**VI. ENFORCEMENT**

See attached Confidential Enforcement Addendum for the Site. For NCP consistency purposes, it is not a part of this Action Memorandum. The total EPA costs for this removal action based on full cost-accounting practices are estimated to be \$224,559.

Direct Extramural Costs	\$138,335
Direct Intramural Costs:	30,000
EPA Indirect Costs (33.40 percent of all costs)	<u>56,224</u>
Total Project Costs	\$224,559

Direct costs include direct extramural and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost-accounting methodology effective October 2, 2000. These estimates do not include prejudgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States' right to cost recovery.

**VII. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN**

The actions proposed here for the Site should be taken immediately. Should these actions be delayed, the potential threats to human health and the environment will continue and increase.

**VIII. OUTSTANDING POLICY ISSUES**

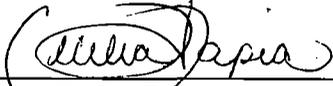
None.

**IX. RECOMMENDATION**

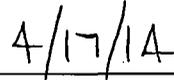
This decision document represents the selected removal action for the Site. This removal action was developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based on the Administrative Record for the Site.

Conditions at the Site meet the NCP criteria for a removal action, as set forth in 40 CFR § 300.415(b), and I recommend your approval of the proposed removal action. The removal ceiling, if approved, will be \$138,335. This amount comes from the Regional Removal Allowance.

Approved:

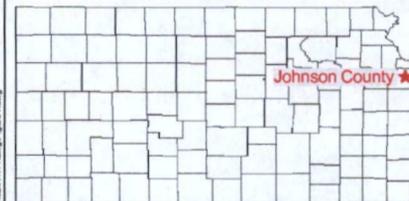
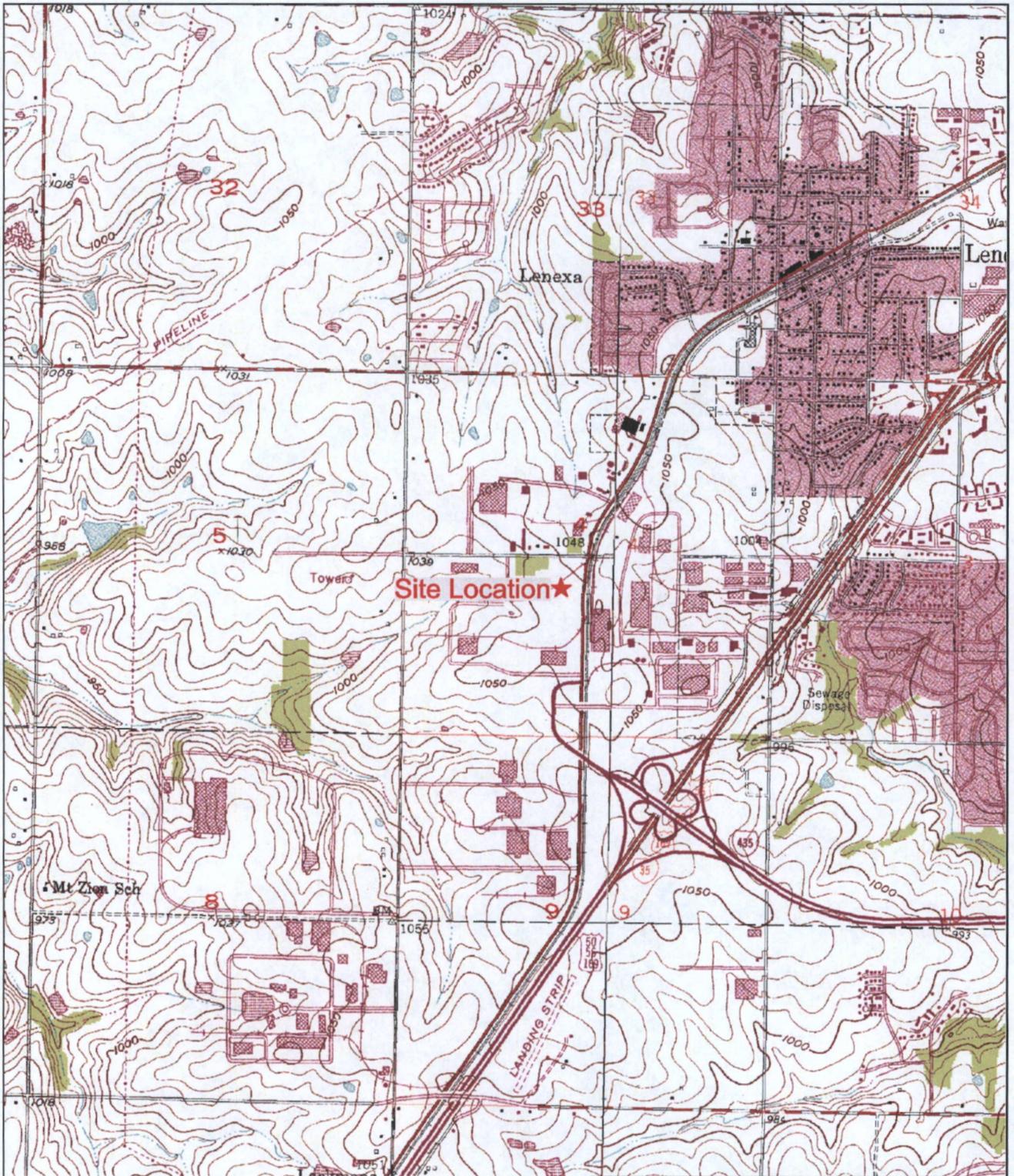


Cecilia Tapia, Director  
Superfund Division

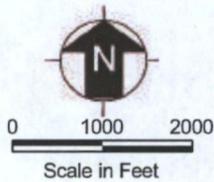


Date

Attachments: Figure 1: Site location map  
Figure 2: Site layout map  
Confidential Enforcement Addendum



SW1/4, Section 4, T 13S, R 24E  
 Source: USGS Lenexa, KS 7.5 Minute Topo Quad, 1963, PR 1970 and 1975  
 USGS Olathe, KS 7.5 Minute Topo Quad, 1956, PR 1970 and 1975



Beta-Chem Labs Site  
 14410 West 100th Street  
 Lenexa, Kansas

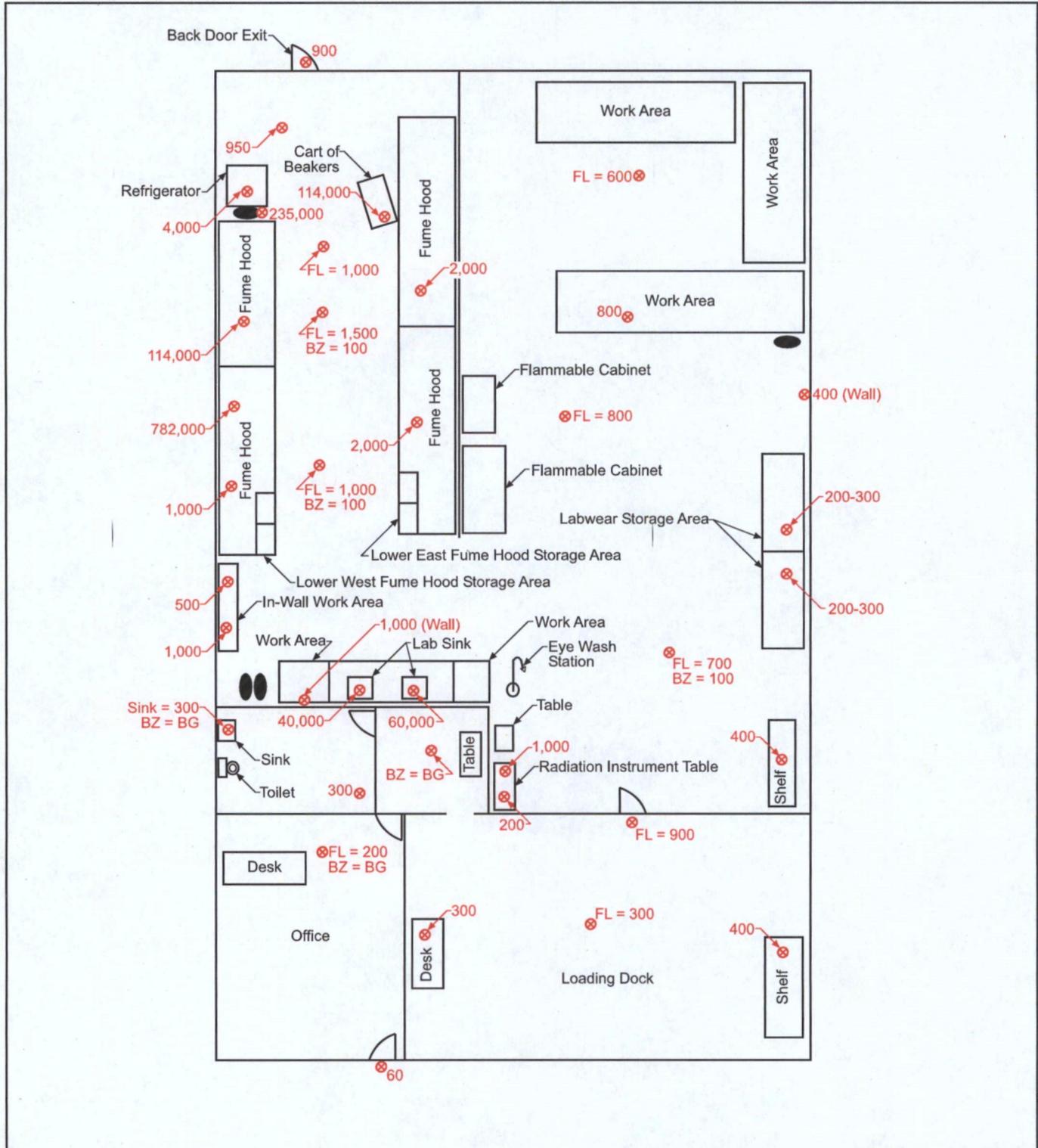
**Figure 1**  
 Site Location Map

 Tetra Tech EM Inc.

Date: 10/20/05

Drawn By: Roger Stull

Project No: G8011.L.00.0001.02.R1.11



**Legend**

- 1,500 ⊗ Air monitoring concentration and location
- BZ Breathing zone monitoring concentration
- FL Floor monitoring concentration
- BG Background reading
- Compressed gas cylinder

Note: Ludlum Count Rate Meter was used for air monitoring.  
 Air monitoring concentrations reported in counts per minute.  
 Background concentration is approximately 62 counts per minute.



Not to Scale

Beta-Chem Labs Site  
 14410 West 100th Street  
 Lenexa, Kansas

**Figure 2**  
 Site Layout Map



**Tetra Tech EM Inc.**

Date: 10/19/05

Drawn By: Roger Stull

Project No: G9011.L.00.0001.02.R1.11

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