U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Beta Chem Laboratory - Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region VII

Subject: **POLREP #2**
Progress
Beta Chem Laboratory
B783
Lenexa, KS
Latitude: 38.9473349 Longitude: -94.7535919

To:
From: Doug Ferguson, OSC
Date: 5/15/2014
Reporting Period: 5/12/2014-5/16/2014

1. Introduction

1.1 Background

Site Number:	B783	**Contract Number:**	EP-S7-13-05
D.O. Number:	0029	**Action Memo Date:**	4/17/2014
Response Authority:	CERCLA	**Response Type:**	Time-Critical
Response Lead:	EPA	**Incident Category:**	Removal Action
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:	5/5/2014	**Start Date:**	5/5/2014
Demob Date:		**Completion Date:**	
CERCLIS ID:	KSN000705028	**RCRIS ID:**	
ERNS No.:		**State Notification:**	State Referred the Site
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category

Time-Critical Removal Action of hazardous substances, including assessment for radiation contamination.

1.1.2 Site Description

Beta Chem Laboratory is a defunct radio-pharmaceutical synthesis lab.

1.1.2.1 Location

The Site is located at 14410 West 100th 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.

1.1.2.2 Description of Threat

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.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

Investigators from the EPA's Criminal Investigation Division and Superfund Division On-Scene Coordinator performed an investigation of the Site on January 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. Current Activities

2.1 Operations Section

2.1.1 Narrative

Initial air montoring results did not detect significantly elevated concentrations of volatile organic compounds as measured with a photoionization detector. Additionally, the oxygen concentrations were found to remain constant at 20.9% and the percent of the lower explosive limit was zero. There were not any significant detections of air borne radiation contamination in samples collected onto air filters counted by the Ludlum Model 3030 Drawer Alpha-Beta Counter. Virtually all of the surfaces in the lab, including the chemical containers, have elevated counts of radiation as measured with the Ludlum 2241 Meter equipped with a 44-9 "pancake" probe.

2.1.2 Response Actions to Date

About 1,000 chemical containers have been inventoried at this time. The major chemical waste stream by volume is flammable liquids. Initial screening of chemicals indicates some may have radiological contamination mixed in with the chemical itself. Virtually every chemical container has elevated counts of radiation several times background up to 200,000 cpm as measured with the Ludlum 2241 equipped with a pancake probe.

While inventoring chemicals stored in a refrigerator on-site, it was discovered the refrigerator was not working. In order to stabilize the chemicals that required refrigeration, two small operating refrigerators were procured and the chemical transferred. Additionaly, other containers with labels stating they required refrigeration were stabilized by placing them in an operating refrigerator.

Numerous flammable containers were observed on countertops and cupboards not designed for flammable liquids. The flammable liquids were transferred to the flammable cabinets at the facility. Additionally, acids and bases stored in the same cabinet were segregated. Organic acids were separated from the inorganic acids, including an oxidizing acid, that were originally in the same cabinet. Several one liter compressed gas cylinders were found stacked upon each other in the same cabinet as the corrosives. These cylinders were segregated into compatible waste streams. Several water reactive and air reactive chemicals were also found and segregated from incompatible materials. A number of oxidizing chemicals were segregated from flammable and combustible also stored at the site. Currently, fifteen carbon-14 radiological sources have been found and segregated at the site. Six out of ten unlabled/unknown materials discoverd at the site field screened positive for characteric wastes including one corrosive (pH=0), 3 reactive (oxidizer), 4 (ignitable).

Due to the large number of flammable liquids they have been sub-categorized into ethers, single bonded hydrocarbons, aromatics and alcohols. Composite samples collected from the ethers and single bonded hydrocarbons were found to have elevated counts of radiation. Composite samples from the ether and single bonded hydrocarbon groups will be sent to the laboratory for liquid scintillation counting. The aromatic flammable group composite sample was not found to have elevated radioactive contamination and will be sent for laboratory confirmation by liquid scintillation counting.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

PRPs have been identified for the site including the operator of the facility and the owners of the building.

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*
flammable liquid					
corrosive, acid					
corrosive, base					
oxidizer					
water reactive					
air reactive					
mixed waste					
toxic					
compressed gas					

2.2 Planning Section

2.2.1 Anticipated Activities

Finish inventory, identify waste streams/hazard groups, identify/characterize unknowns, screen/sample chemicals for radiation content. Submit composite chemical samples by waste stream for radiological contamination by liquid scintillation laboratory analysis.

2.2.1.1 Planned Response Activities

Identify waste streams, determine acceptable levels of radiation contamination for mixed versus hazardous waste, dispose of hazardous materials off-site and complete radiological assessment of the site.

2.2.1.2 Next Steps

Identify disposal companies and the level of radioactive contamination they are licensed to accept.

2.2.2 Issues

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

2.5.1 Safety Officer

Doug Ferguson EPA
Danny O'Connor START

2.5.2 Liaison Officer

Doug Ferguson EPA

2.5.3 Information Officer

Chris Whitley EPA

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

Kansas Department of Health and Environment

4. Personnel On Site

Doug Ferguson EPA OSC
Tom Mahler EPA OSC
Mike Davis EPA OSC
John Frey EPA OSC
Chuck Hooper EPA Radiation Program
Danny O'Connor START Project Manager
Bryant Merriman START
Nick Wiederholt START
Tom Conley KDHE
Judee Walden KDHE

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.