United States Environmental Protection Agency
Region IV
POLLUTION REPORT

Date: Thursday, May 10, 2007
From: Randy Nattis

Subject: Removal Site Evaluation
Columbia Organic Chemical Company
912 Drake Street, Columbia, SC
Latitude: 33.9822000
Longitude: -80.9586000

POLREP No.:	1	**Site #:**	A4NH
Reporting Period:		**D.O. #:**	
Start Date:		**Response Authority:**	CERCLA
Mob Date:		**Response Type:**	Time-Critical
Demob Date:		**NPL Status:**	Non NPL
Completion Date:		**Incident Category:**	Removal Assessment
CERCLIS ID #:		**Contract #**	
RCRIS ID #:			

Site Description
BACKGROUND

The Columbia Organic Chemical Company (COCC) site is located at 912 Drake Street in Columbia, Richland County, South Carolina. The site is a three acre property surrounded by a mixture of residential and commercial properties. The site is bounded to the northwest by Drake Street, to the southwest by Bruce Street, to the east by residential properties along True Street, and to the north by the former M.B. Kahn Construction Company property. Several multi-unit residences and one single dwelling home are located within 50 yards of the site across Drake Street.

COCC owned and operated a specialty chemical facility from the 1944 until 1984 at which time the operation was relocated to the Cassatt community in Kershaw County, South Carolina. A wide variety of chemicals were produced at the facility, including insecticide formulations, industrial cleaners, and small quantities of specialty chemicals for use in research. Several hundred chemicals were manufactured at the plant. The primary product lines included bromine, iodine substituted aliphatics, mercaptans, alkyl phosphonates, nitriles, and dimethyl sulfide.

The orginal plant was destroyed by fire in 1958. The plant was subsequently rebuilt on its original location; however, over the years several other fires damaged various parts of the facility. During the course of the facility's operation, soils on the site were contaminated by waste materials which were spilled, dumped, or buried on-site. During the 1970's COCC installed a chemical holding tank, or sump, to collect liquid wastes. Records suggest that much of the waste collected in the tank eventually leaked out.

Current Activities
REMOVAL SITE EVALUATION

EPA Emergency response and removal branch (ERRB), Superfund Technical Assessment Response Team (START) and South Carolina Department of Health and Environmental Control (DHEC) conducted a removal assessment of the 3 acre COCC site during the week of December 4, 2006. A total of 86 soil samples were collected. The results from the sampling event were compared to the Region 9 residential Preliminary Remedial Goals (PRGs) for screen purposes, except for dioxin, which was compared to the OSWER recommended clean-up standard of 1 ppb (TEQ).

For this evaluation, the data was reviewed and the maximum detected concentrations were compared to the Remedial Action Levels. The Remedial Action Levels were determined by converting the Region 9 PRGs to risk-based concentrations appropriate for time-critical removal actions. The derived RALs are based upon a residential human risk of 1x10-4 for carcinogens and a Hazard Index of 3 for non-carcinogens. The values referenced in OSWER Directive 9200.4-26 were used for screening dioxin contractions.

Based on these methods, it was determined that dioxin levels exceeded the residential RAL in six of the 25 grids established. Analytical results indicate total dioxin as high as 14.8 ppb. The six dioxin-contaminated grid squares cover approximately 37,500 square feet of the property. Contamination of the soil in these six grids squares range from six inches in depth to at least two feet deep in one grid. The estimated volume of dioxin contaminated soil based on the sample results is 1,300 cubic yards. It should be noted that all of the soil dioxin concentrations are within the range if clean-up values referenced in OSWER Directive 9200.4-26 for industrial land use, 5-20 ppb (TEQ).

Planned Removal Actions

RECOMMENDATION

Dioxin is a hazardous substance as defined by section 101(14) of the CERCLA and RCRA characteristic definitions. CERCLA contaminants, if released from the Site, have the capability of presenting a potential hazard to the general public. The threats come primarily from human exposure to these hazardous substances in the soil (i.e. trespassers) as well as a potential for surface or air migration. Direct contact, ingestion, and inhalation of dioxins are the primary pathways of exposure. Continued exposure of the dioxins in the soils may cause potential chronic health effects to persons living nearby and trespassers.

Site conditions meet the requirements for initiating a time-critical removal action according to criteria listed in Section 300.415 (b)(2) of the NCP:

• Section 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 site is bounded to the northwest by Drake Street, to the southwest by Bruce Street, to the east by residential properties along True Street, and to the north by the former M.B. Kahn Construction Company property. Several multi-unit residences and one single dwelling home are located within 50 yards of the site across Drake Street. Direct contact, ingestion, and inhalation of these hazardous substances are primary pathways of exposure.

• Section 300.415 (b)(2)(iv): "High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate." Sample analysis shows that six of the sample grids squares exceed the RALs and pose a threat for both, surface and air migration, through runoff or dust respectively.

Due to the threat and/or future threat to human health from the hazardous substance, the Site achieves removal eligibility base on some or all of the removal criteria in 40 CFR 300.415(b)(2).