STATEMENT OF BASIS/FINAL DECISION AND RESPONSE TO COMMENTS SUMMARY

REGION V
ID# 1609

Hickson Corporation

Valparaiso, Indiana
Signed September 26, 1991

Facility/Unit Type:	**Container storage/railroad unloading area (routine and systematic spill area)**
Contaminants:	**Arsenic, chromium**
Media:	**Soil**
Remedy:	**Excavation and offsite disposal**

FACILITY DESCRIPTION

The Hickson Corporation mix plant is a 5.25-acre site located three miles southeast of the City of Valparaiso, Indiana, which contains a major State University. An airport is located approximately one mile north of the site. A rail line extends from the southeast corner of the plant site to the center of the site. Liquid arsenic acid and flaked chromic acid are delivered to the plant by railcar.

The plant produces a 50% chromated copper arsenate wood preservative solution by mixing liquid arsenic acid, liquid chromic acid (or chromic acid flakes), dry cupric oxide, and water in a reactor. The solution is stored in tanks and shipped to licensees. Dricon fire retardant is also produced onsite by mixing a slurry of dicyandiamide, 75% phosphoric acid, and water. The mixture is pumped onto conveyor belts and passed under infrared heaters to produce a dry powder. The powder is then mixed with boric acid to produce Dricon. Dricon is stored in fiber drums or super sacks and shipped to licensees. The process water from both productions is reused through a closed loop system.

Drinking water sources in the area include the Valparaiso well field 1/2 mile to the north at the airport, and ground water used at farms as a water source. Ground water is at 9-38 feet below the surface.

Evidence of chromated copper arsenate constituents in soils adjacent to a rail spur south of the tank car unloading building led to shallow soil sampling in 1987. EPA toxicity sampling showed the presence of arsenic and chromium. An RFI was conducted in 1987 to define the vertical and horizontal extent of the soil contamination. Soil samples were collected from 17 boring locations at the unit, and four background locations. Cleanup levels were calculated as the average background concentration plus three standard deviations.

Additional soil sampling in 1988 and 1989 was required because of the discovery of a leaking fiberglass drip pan underlying the railbed inside the tank car unloading building, which was believed to be the source of the soil contamination.

Ground-water monitoring wells were also installed. Analysis showed no contamination for total and dissolved arsenic and total and dissolved copper. Detectable levels of chromium (63.4 μg/l) and dissolved chromium (75.0 μg/l) were measured in one well. Sediment samples were taken in a dry drainage ditch.

The RCRA permit was modified in May 1992 to incorporate an approved workplan for soil excavation and disposal. The workplan required characterization of soil prior to excavation for disposal purposes, sampling to determine final excavation depths in identified locations, excavating soils, and confirmation soil sampling following excavation.

EXPOSURE PATHWAYS

The primary exposure pathway was dermal contact or ingestion of contaminated soil. This soil pathway was eliminated upon removal of the contaminated soil. Ground water will also be protected

CONTAMINATION DETECTED AND CLEANUP GOALS

Media	Estimated Volume	Contaminant	Maximum Concentration (mg/kg)	Action Level (mg/kg)	Cleanup Goals (mg/kg)	Point of Compliance
soil		arsenic (total) chromium (total)	5200 2260		43.25 19.84	unit unit

after removal. Air and surface water were potential pathways during excavation activities.

SELECTED REMEDY

The selected remedy for this site includes excavation and disposal at an offsite landfill.

INNOVATIVE TECHNOLOGIES CONSIDERED

In situ vitrification, in situ soil flushing, and soil washing were considered but not chosen as selected remedies.

PUBLIC PARTICIPATION

As a part of the RCRA permit modification, a public comment period and public hearing were required.

NEXT STEPS

None. The area was backfilled.

KEY WORDS

Soil; ingestion (soil), inhalation; heavy metals, arsenic, chromium; excavation, innovative technology (considered): soil washing, in situ soil flushing, in situ vitrification, offsite disposal

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