

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Statement of Basis

August 2006

Clean Harbors of Cleveland (f. k. a. ChemClear)
2900 Rockefeller Avenue
Cleveland, OH 44115
EPA ID #: OHD 000 724 153

INTRODUCTION

This Statement of Basis (SB) for the Clean Harbors facility in Cleveland, OH, explains the proposed remedy for addressing historic releases of hazardous wastes at the facility. These releases are from a chromic acid spill and three above-ground storage tanks.

In September 1990, a Consent Decree (“Decree”) was entered between the United States Environmental Protection Agency (EPA) and Clean Harbors of Cleveland (“Clean Harbors,” formerly known as ChemClear), to address contamination in two different areas: the truck unloading pad, where chromic acid was spilled and the diked area surrounding three above-ground storage tanks. Clean Harbors submitted a workplan for both areas in 1991 in accordance with the Decree. The workplans were reviewed by the U. S. EPA in 2005. The workplans were subsequently updated and Clean Harbors performed additional sampling in 2005 to supplement the 1991 reports. The soil and groundwater data were compared against current EPA Preliminary Remediation Goals (PRGs), Soil Screening Levels for migration of contaminants in soil to groundwater (SSLs), Region 5 Ecological Screening Levels (ESLs) and EPA’s Drinking Water Standards. The consent decree required that the results be compared against background levels or other appropriate cleanup levels as agreed to by the EPA. The screening levels mentioned above are risk-based screening levels and are appropriate and conservative numbers to use for comparison in order to determine whether contaminant levels pose a threat to human or ecological receptors.

The EPA is issuing this SB as part of its public participation responsibilities under the Resource Conservation and Recovery Act (RCRA). The SB’s purpose is to present to the public the measures currently being considered for site remediation and to invite proposals for alternative remedies. EPA may modify the proposed remedy or select another remedy based on new information or public comments. Therefore, the public is encouraged to review and comment on this SB. Following review of the public comments, the EPA will select a specific remedy and describe these in a public notice called a *Response to Comment and Final Decision*. The facility is responsible for implementing the remedy. Information on how to submit comments is found at the end of this document.

FACILITY BACKGROUND

Clean Harbors of Cleveland is a wastewater treatment facility located at 2900 Rockefeller Avenue in Cleveland, OH. It occupies 5.9 acres of land in a heavily industrialized area of Cleveland. The Cuyahoga River is located approximately 800 feet east of the facility. A Consent Decree was entered between the EPA and Clean Harbors on September 25, 1990. The Decree detailed what actions should be taken to mitigate risks to the environment made by Clean Harbors’ predecessor, ChemClear.

The Decree stipulated that Clean Harbors empty and properly dispose of the contents of three aboveground storage tanks (tanks 1, 2, and 3). Clean Harbors verified that this had been

done and proceeded to construct a concrete containment area around the tanks. After construction of the containment area was completed, Clean Harbors performed soil sampling around this area for the hazardous constituents that were contained in the tanks. Those hazardous constituents were the following: maleic acid, vanadium, total cyanide, arsenic, barium, cadmium, chromium, lead, mercury, selenium, methanol, cadmium, hexavalent chromium, nickel, cyanide, cyanide salts, lead, maleic anhydride, 1,4-naphthaquinone, toluene and phenol. Clean Harbors performed a subsurface soil investigation and submitted a report to EPA in 1991. In addition, Clean Harbors measured groundwater levels in order to determine the mean high seasonal water table in accordance with the Decree. This was done to determine where groundwater monitoring was necessary. If the soil results were above background levels and the depth at which those exceedances occurred intersected the mean high seasonal water table, those areas would be sampled for groundwater. Also, some of the soil in the diked area was excavated and sent to an off-site disposal facility.

In August 1985, a cracked pipe fitting in a recessed portion of a receiving tank resulted in a chromic acid release to the environment. It was estimated that approximately 2,500-3,000 gallons of chromic acid was released. A recovery system was subsequently installed, which recovered approximately 500 gallons of the spilled chromic acid. The Decree required Clean Harbors to perform a soil and groundwater investigation of the spill area for total chromium (Exhibit C of the Decree). The results of the investigation were detailed in the Report of Subsurface Investigation Chromic Acid Spill Area, dated February 25, 1991.

EPA reviewed the workplans and data from the 1991 reports in 2005 in order to determine whether the requirements of the Consent Decree had been met. In addition, EPA held a meeting and site visit with the facility in April 2005. During the meeting, the facility agreed to additional sampling to delineate a hot spot of arsenic in the diked area indicated from the 1991 soil sampling results as well as additional groundwater sampling. The groundwater investigation was limited in the 1991 report. The 2005 groundwater investigation was meant to supplement the existing 1991 data. Three geoprobes were installed downgradient of the chromic acid spill to determine if chromium was present in the groundwater and potentially migrating off site. The area around the chromic acid spill is now paved. In July 2005, Clean Harbors submitted a workplan for the additional sampling (Sampling and Analysis Plan, Former ChemClear Property), and, in February 2006, the company submitted a report detailing the results of the sampling.

SUMMARY OF FACILITY RISKS

Extent of contamination

The EPA compared the total chromium results against EPA Region 5's screening criteria for total chromium using an industrial land use at an excess carcinogenic risk of 1×10^{-5} , which is equal to 1 person in 100,000 developing cancer solely from chromium exposure at the site. That value is 4,500 mg/kg. The soil results in the chromic acid area did not show chromium levels above the screening criteria. The maximum soil concentration for total chromium was 1,030 mg/kg and was found at a depth interval of 19-21 feet below ground surface. The groundwater results were compared against EPA's drinking water standards and no levels were above this criterion for total chromium in both the 1991 investigation and the 2005 supplemental investigation.

In the diked area, the only sample location that had levels above the EPA Region 5's screening criteria was boring B-17, and the only contaminant found above screening levels was arsenic. The 1991 results revealed a sample result of 260 mg/kg for arsenic at the 2-4 ft. depth. The other sample locations showed results ranging from 13 mg/kg to 35 mg/kg. Therefore, the location was re-sampled in September 2005. The sample results revealed that at the surface (0-2 ft.), arsenic

was 33.5 mg/kg and decreased to 13 mg/kg at the 2-4 ft. depth and 6.6 mg/kg at 4-6 ft depth. The results from 1991 and 2005 were also compared against the soil screening levels for migration to groundwater, and all of the results were below these screening criteria. This means that there is little potential for any contamination in the soil to leach into the groundwater. Based on this data, EPA did not require Clean Harbors to analyze groundwater for the list of constituents in Exhibit B of the Decree. In addition, the Decree required groundwater sampling of only those analytes that were found in the soil above background levels and that intersected the mean high seasonal water table. There was only one sample location where this occurred. However, no constituents were found in the soil above the soil screening levels at that location.

Human health risks

In the chromic acid spill area, the soil results were below the screening criteria for an industrial worker using a carcinogenic risk of 1×10^{-5} . This is the middle of the EPA's acceptable risk range of 1×10^{-6} - 1×10^{-4} . Also, the soil in this area is covered with pavement, which acts as a barrier between the industrial worker and the soil. The groundwater results from both the 1991 investigation and the 2005 investigation were below EPA's drinking water standards for total chromium. It should be noted that the groundwater in this area is not used for drinking water.

In the diked area, EPA evaluated human health risk associated with the exposure of routine workers to onsite surface soil arsenic contamination. Two sampling points exceeded the site-specific background concentration of 26.6 mg/kg. The diked area is a vegetated area at which a limited amount of time is spent by the facility workers performing landscaping work. Therefore, a site-specific risk calculation was performed based on the assumption that an industrial worker would spend only two hours per day in the diked area for 160 days accounting for the warm period of the year. The excess cancer risk was calculated to be 4.6×10^{-6} . This risk is well within the EPA's acceptable target risk range of 1×10^{-4} - 1×10^{-6} . The site-specific noncarcinogenic hazard quotient was also calculated and found to be 0.003. A hazard quotient that is below one means that the noncarcinogenic risk is acceptable. Therefore, the risk to workers from arsenic contamination in the surface soil is not significant.

Further information regarding current human health risks at the facility can be found in the Human Health Environmental Indicator Report, dated March 21, 2006, and located on the EPA Region 5 website at http://www.epa.gov/reg5rcra/wptdiv/cars/caindicators/federal_determinations.html or at the EPA Region 5 Records Center located at 77 W. Jackson Boulevard, 7th Floor, in Chicago, IL.

Ecological risks

EPA compared the soil and groundwater results from both the diked area and the chromic acid spill area with ESLs. There were no ESL exceedances for soil or groundwater. Therefore, even if groundwater flowed into the nearby Cuyahoga River, this would not adversely affect the water quality of the river. Therefore, there are no ecological risks from the remaining contamination at the Clean Harbors Facility in Cleveland.

PROPOSED FINAL REMEDY

The facility is currently using the property for industrial purposes, and the surrounding land use is also industrial. Therefore, EPA evaluated the soil sampling results using conservative risk-based screening values using an industrial land use scenario and found that exposure to soils at the site were below the screening values. Groundwater results were evaluated against EPA's drinking water standards and found to be below the standards for chromium. The soil and groundwater results were also screened to evaluate risk to ecological receptors. It was found that the contaminants on site were at levels safe for ecological receptors. This proposed decision of no further action is based on data from the 1991 investigation and supplemental data from the 2005 investigation, as detailed in the paragraphs above. Therefore, institutional controls on the facility property should adequately protect human health and the environment at this facility. The selected remedy was chosen based on EPA's threshold criteria, which are listed below.

1. *Protect Human Health and the Environment*

The selected remedy of institutional controls will protect human health and the environment because analytical results were compared against conservative risk-based screening criteria using industrial land use and the results were below these preliminary remediation goals.

2. *Attain Media Cleanup Standards*

The media cleanup standards that were chosen to compare the results against were the following: groundwater-drinking water standards; soil-EPA's preliminary remediation goals for industrial land use; ecological receptors-EPA's ecological screening levels. These results were below these standards.

3. *Control the Sources of Releases*

The chromic acid spill was remediated after it occurred and some of the soil in the diked area was excavated and sent to an off-site disposal facility. After reviewing the results from 1991 and 2006 and comparing them to the preliminary remediation goals, it appears that the source has been controlled.

4. *Comply with Any Applicable Standards for Management of Wastes*

This criterion does not apply to corrective measure taken at the site because no remediation was necessary based on the available data.

PUBLIC PARTICIPATION

U. S. EPA will be accepting comments from the public on the selected remedy for the Clean Harbors Facility in Cleveland from [-----, 2006 to -----, 2006]. Further information and references cited in this report can be found at the following locations:

Cleveland Public Library
325 Superior Avenue E.
Cleveland, OH 44114

U. S. EPA Region 5
RCRA Records Center-7th Floor
77 W. Jackson Blvd.
Chicago, IL 60604

If any member of the public needs additional information or has any comments on this SB, he or she should contact the project manager for the Clean Harbors project at the address listed below.

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