

volatiles, semivolatiles, metals, pesticides, herbicides, and PCBs;

(3) results of the constituent list for appendix IX on Toxicity Characteristic Leaching Procedure (TCLP) extract;

(4) results from total oil and grease analyses; and

(5) multiple pH testing of the petitioned waste.

D. What Were the Results of ACC's Analyses?

The EPA believes that the descriptions of the ACC hazardous waste process and analytical characterization in conjunction with the proposed verification testing requirements (as discussed later in this document), provide a reasonable basis to grant ACC's petition for an exclusion of the petitioned waste. The EPA believes the data submitted in support of the petition show the dewatered sludge is non-hazardous. Analytical data for the petitioned waste samples were used in the Delisting Risk Assessment Software (DRAS). The EPA has reviewed the sampling procedures used by ACC and has determined they satisfy the EPA criteria for collecting representative samples of the variations in constituent concentrations in the dewatered wastewater sludge. The data submitted in support of the petition show that constituents in ACC's waste are presently below health-based levels used in the delisting decision-making. The EPA believes that ACC has successfully demonstrated that the petitioned waste is non-hazardous.

E. How Did the EPA Evaluate the Risk of Delisting This Waste?

For this delisting determination, the EPA used such information gathered to identify plausible exposure routes (*i.e.*, ground water, surface water, air) for hazardous constituents present in the petitioned waste. The EPA determined that disposal in a Subtitle D landfill is the most reasonable, worst-case disposal scenario for ACC's petitioned waste. The EPA applied the DRAS described in 65 FR 58015 (September 27, 2000) and 65 FR 75637 (December 4, 2000), to predict the maximum allowable concentrations of hazardous constituents that may be released from

the petitioned waste after disposal and determined the potential impact of the disposal of ACC's petitioned waste on human health and the environment. A copy of this software can be found on the World Wide Web at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-o/dras.htm. In assessing potential risks to ground water, the EPA used the maximum estimated waste volumes and the maximum reported extract concentrations as inputs to the DRAS program to estimate the constituent concentrations in the ground water at a hypothetical receptor well down gradient from the disposal site. Using the risk level (carcinogenic risk of 10^{-5} and non-cancer hazard index of 0.1), the DRAS program can back-calculate the acceptable receptor well concentrations (referred to as compliance-point concentrations) using standard risk assessment algorithms and Agency health-based numbers. Using the maximum compliance-point concentrations and the EPA Composite Model for Leachate Migration with Transformation Products (EPACMTP) fate and transport modeling factors, the DRAS further back-calculates the maximum permissible waste constituent concentrations not expected to exceed the compliance-point concentrations in ground water.

The EPA believes that the EPACMTP fate and transport model represents a reasonable worst-case scenario for possible ground water contamination resulting from disposal of the petitioned waste in a landfill, and that a reasonable worst-case scenario is appropriate when evaluating whether a waste should be relieved of the protective management constraints of RCRA Subtitle C. The use of some reasonable worst-case scenarios results in conservative values for the compliance-point concentrations, and ensures that the waste, once removed from hazardous waste regulation, will not pose a significant threat to human health or the environment.

The DRAS also uses the maximum estimated waste volumes and the maximum reported total concentrations to predict possible risks associated with releases of waste constituents through surface pathways (*e.g.*, volatilization or

wind-blown particulate from the landfill). The DRAS uses the risk level, the health-based data and standard risk assessment and exposure algorithms to predict maximum compliance-point concentrations of waste constituents at a hypothetical point of exposure. Using fate and transport equations, the DRAS uses the maximum compliance-point concentrations and back-calculates the maximum allowable waste constituent concentrations (or "delisting levels").

In most cases, because a delisted waste is no longer subject to hazardous waste control, the EPA is generally unable to predict, and does not presently control, how a petitioner will manage a waste after delisting. Therefore, the EPA currently believes that it is inappropriate to consider extensive site-specific factors when applying the fate and transport model. The EPA does control the type of unit where the waste is disposed. The waste must be disposed in the type of unit the fate and transport model evaluates.

The EPA also considers the applicability of ground water monitoring data during the evaluation of delisting petitions. In this case, ACC has never directly disposed of this material in an on-site solid waste landfill, so no representative data exists. Therefore, the EPA has determined that it would be unnecessary to request ground water monitoring data.

The EPA believes that the descriptions of ACC's hazardous waste process and analytical characterization provide a reasonable basis to conclude that the likelihood of migration of hazardous constituents from the petitioned waste will be substantially reduced so that short-term and long-term threats to human health and the environment are minimized.

The DRAS results which calculate the maximum allowable concentration of chemical constituents in the waste along with the data summary of the detected constituents are presented in Table I. Based on the comparison of the DRAS results and maximum TCLP concentrations, the petitioned waste should be delisted because no constituents of concern exceed the delisting concentrations.

TABLE I.—MAXIMUM TOTAL AND TCLP CONSTITUENT CONCENTRATIONS OF THE DEWATERED WASTEWATER SLUDGE ¹

Constituent	Total constituent analyses (mg/kg)	TCLP concentration (mg/L)	Maximum allowable TCLP concentration from DRAS (mg/L)
Arsenic	74.3	*0.00495	0.0377
Barium	21.8	*5	100
Chromium	113,000	0.644	5
Thallium	23	*0.05	0.355