

9433.1987(09)

F006 WASTES, VHS AND GROUNDWATER MONITORING DATA TO EVALUATE A
DELISTING PETITION FOR

JUN 8, 1987

Mr. Mark Grummer, Esq.
Environmental Enforcement Section
Land and Natural Resources Division
U.S. Department of Justice
Washington, D.C. 20530

Subject: Keystone Consolidated Industries

Dear Mark:

We have finished our review of the information submitted by Keystone Consolidated Industries for its facility in Peoria, Illinois. Based on the evaluation of EP leachate and total constituent data for the wastewater treatment sludges (EPA Hazardous Waste No. F006) contained in the waste management units at this facility, we have concluded that it is extremely unlikely that this waste could be granted an exclusion from regulation under 40 CFR part 261.3 or the lists of hazardous wastes in Subpart D of Part 261. Our evaluation indicates that the waste has the potential to leach high levels of lead, chromium, selenium, and several organic constituents into ground water.

Specifically, Keystone submitted EP leachate and total constituent data for waste contained in eight locations at the Peoria facility. A list of waste locations and constituents of concern are presented in Table 1. 1/

1/ Our decision is based on an analysis using the vertical and horizontal spread (VHS) model (see 50 Federal Register 48886, November 27, 1985.) We use this model to predict constituent concentrations in the ground water at a hypothetical compliance point located 500 feet downgradient from the site. The VHS model uses the waste volume and maximum leachate concentrations as inputs to determine the amount of dilution that may occur in an underlying aquifer. For Keystone, we assumed co-disposal of the wastes of the different areas and assumed a maximum waste volume of at least 8,000 cubic yards. The results of the model

(i.e., the calculated compliance-point concentrations) are compared with the Agency's level of regulatory concern for each constituent.

The submitted data demonstrate that the waste may pose a threat to human health and the environment according to delisting protocol. The samples described in Table 1 were taken over a substantial geographic area and are presumed to be representative of the waste. The test data from these samples do not support Keystone's contention that the sludges are non-hazardous. We are extremely concerned about the Retention Reservoir, the final resting point of the waste. In fact, the average leachate concentration of lead in the reservoir samples demonstrated the characteristic of EP toxicity for lead (i.e., the average of 9.87 mg/l exceeded to EP toxicity standard of 5 mg/l for lead). There has been no evidence presented to suggest that other testing to evaluate the hazardous waste characteristics of these impounded wastes had been performed by Keystone at any other time. In addition, sulfide levels in the sludges for six locations exceeded our interim threshold for sulfide of 500 ppm.^{2/} The submitted data have failed to demonstrate that the sludges at this facility are not hazardous. In fact, every portion of the system failed our analysis for either sulfides or lead. Four locations also failed our analysis for organics.

In addition, based on a preliminary review of the ground water monitoring data, we determined that the waste has affected the aquifer. Specifically, we are concerned with potential contamination of the aquifer with halogenated organics and lead. Delisting protocol requires that facilities managing wastes on-site have a ground water monitoring system in compliance with 40 CFR Part 264 or 265.^{3/} It is our policy to require at least four quarters of ground water monitoring data before we will consider a delisting for a waste managed in an on-site, waste management unit.

2/ See internal Agency memorandum dated July 12, 1985 entitled "Interim Thresholds for Toxic Gas Generation" (in EPA public docket).

3/ Additional wells would be needed for the North Ditch, Mid Mill Ditch, and the abandoned ditch (culvert). The petitioner would be requested to identify which halogenated organics

were present in the ground water and the origins of these constituents.

Table 1
Constituents of Concern for Keystone Consolidated Industries

Waste Location	Constituents of concern	Number of Samples (of total) that exceed Delisting Standard for the	Constituent
North Ditch	Sulfides	9 of 9	
Mid Mill Ditch	Lead	1 of 5	
	Tetrachloroethylene	1 of 5	
	Sulfides	4 of 5	
South Ditch (north half)	1,1-Dichloroethane	2 of 4	
	Sulfides	4 of 4	
South Ditch (south half)	Sulfides	4 of 4	
North Dredge Sediment Stockpile1/	Lead	3 of 6	
	Benzo(a)anthracene	1 of 6	
	Benzo(a)pyrene	1 of 6	
South Dredge Sediment Stockpile1/	Benzo(a)anthracene	1 of 6	
	Sulfides	2 of 6	
Surface Drainage Ditch	Lead	3 of 6	
	Chromium	2 of 6	
	Selenium	1 of 6	
24-Hour Retention Reservoir	Chromium	11 of 18	
	Lead	16 of 18	
	Sulfides	8 of 18	

1/ We usually require that the Oily Waste EP (OWEP) be used as the leachate protocol for wastes that contain greater than one percent oil and grease. Several of the sampled wastes contained greater than one percent oil and grease. Because the OWEP includes an organic digestion step, the leachate concentrations are expected to be higher than EP leachate concentrations. Thus, since even EP leachate concentrations are exceeding delisting standards, we believe that the EP data may be used as a basis for petition denial.

Thus, in terms of delisting criteria, the waste contained in these locations is hazardous and should be treated as such. If you have any questions concerning the review process, please contact me at (202) 382-4783.

Sincerely,

Scott J. Maid
Environmental Protection Specialist
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