

Job Report

R. Marek, Jr.,
Marine Chemist

Project No. MP-1-RL

Date: July 29, 1959.

Project Name: Industrial Waste Control in Region MP-1.

Period Covered: June 15, 1958 through January 1, 1959. Job No. F-3-a

Bio-assay and Analysis of Davis Enterprises' Chemical Waste Dump.

Abstract: Davis Enterprises hauls various chemical wastes from Texas Gulf Coast plants and disposes of the wastes into earthen pits near the mouth of Cedar Bayou on Galveston Bay. Wastes had overflowed in adequate pits and had become a potential pollution problem during high tides.

Objectives: To determine the toxic effects of the waste chemicals on marine life and to cease dumping chemical waste at present site.

Procedure: Samples of the chemical wastes were collected and brought to the Seabrook Field Laboratory for study. After finding the waste to be highly toxic to fish life, a meeting with Davis Enterprises' officials was held to encourage other means of disposing of the chemical waste.

Findings: Davis Enterprises hauls various chemical wastes from Dow Chemical Co., Freeport, Texas; Monsanto Chemical Co., Texas City, Texas; Rhom and Haas Chemical Co., Deer Park, Texas; Eastern States Petroleum Co., Houston, Texas; and Lubrizoil Corp., Deer Park, Texas. (See Table) Concentrations as low as 0.0% of the waste proved highly toxic to sailfin mollies (Mollienesia latipinna).

Inspection of the waste pits showed them to be poorly constructed and inadequate for the volume of waste they received. As a result the oily wastes overflowed and contaminated several tidal pools and some marsh land. In case of high tides the wastes from the pits would wash out of the marsh and tide pools and into the bays.

Results: After several meetings with Mr. Davis of Davis Enterprises concerning the toxic effects of the wastes and its potential pollution hazard, Mr. Davis decided to abandon the dump site. The company burned as much of the oil wastes as they could and covered some of the pits with dirt.

Comments: The dump grounds are still in a messy state, however, the wastes will probably not be a threat to adjacent waters.

Prepared by: R. Marek, Jr.
Marine Chemist

Approved by Howard T. Lee
Howard T. Lee
Date Approved: 7 August 1959

TABLE

Toxicity Data on Davis Enterprises' Chemical Waste Dump on Mouth of Cedar Bayou, Chambers County, Texas.

June 16, 1958.

Description of Waste: Davis Enterprises hauls various chemical wastes from Dow Chemical, Rhom and Haas, Eastern States, and Lubrizoil Corp. Wastes consisted of heavy tar oils, sludges, styrene tars, and wastes of unknown chemical composition.

Test Animals	Concentration of Waste to Bayou Water	Physiological Observations
20 sailfin mollies (<i>Molliensia latipinna</i>)	0.1%	Fish became irritated almost immediately. After 45 minutes fish began to lose equilibrium. Some tried to jump out of the test tanks. Fish began to die within one hour. All dead within three hours.

Note: The sailfin molly is considered a highly tolerant specimen to most toxic material.