



G. Warren Leve, Inc.

HYDROGEOLOGISTS

WATER RESOURCES STUDIES — GROUNDWATER INVESTIGATIONS

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SUITE 114

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January 10, 1989

Honorable James E. Testone, Chairman
Board of County Commissioners
Nassau County
P. O. Box 110
Fernandina Beach, FL 32034

RE: PROPOSAL - CONTAMINATION ASSESSMENT PLAN (CAP)
LOFTON CREEK LANDFILL

Dear Bill:

We are pleased to submit the following proposal to provide a Contamination Assessment Plan (CAP) for the Lofton Creek Landfill. As you know, this CAP is required by FDER as part of the Consent Order and Warning Notice issued to the County December 29, 1988. It must be completed no later than February 26 (27), 1989. The scope of work is designed to meet all of the objectives in FDER's outline for "Corrective Actions for Ground Water Contamination Cases" included as Exhibit II in the Warning Notice. Please note that much of the background information required in the CAP has already been obtained in our initial Ground Water Monitoring Plan for the facility.

SCOPE OF WORK

1. Background Data
 - a. Provide regional and site specific geological information
 - b. Provide site specific ground water flow maps
 - c. Outline all previous work conducted at the site
 - d. Provide site map with location of existing wells
 - e. Provide well logs of existing wells

2. Areal and Vertical Extent of Contamination

The CAP will describe methods and procedures to define the areal and vertical extent of soil sediment, surface and ground water contamination. It will include:

- a. The location and design of borings, piezometers, monitoring wells and/or soil and water sampling probes to detect the areal extent of contamination
- b. The location and design of deep test borings and wells to define the vertical extent of contamination
- c. Method and procedure for sampling of piezometers, probes and wells
- d. Address the feasibility of using geophysical methods for plume delineation for monitor well placement

3. Determine contamination source, method of transport and rate and direction of contamination movement.

- a. Provide a detailed site specific "Quality Assurance Project Plan" (QAPP) for obtaining soil, vapor, surface water and groundwater samples
- b. Describe location and methods for obtaining soil, vapor, and surface water and groundwater samples to characterize the contamination plume(s)
- c. Identify eminent hazards from contamination and recommend any necessary interim remedial action based on readily available information for example
- d. Define location of piezometers and methods to construct detailed groundwater flow maps in each aquifer to show the horizontal direction of groundwater flow (direction of contaminant movement)
- e. Provide detailed description of aquifer tests such as infiltration tests, slug tests, laboratory analyses and aquifer pumping tests to determine permeability, transmissivity and storativity of aquifers
- f. Provide a detailed description of laboratory tests or pumping tests to define leakance between aquifers and the vertical direction of groundwater (contaminant) movement
- g. Provide method for determining rate of groundwater movement

4. Survey to identify potential receptors that may be affected by contamination
 - a. Provide methods to inventory public or private wells in the landfill vicinity
 - b. Provide methods to inventory other possible receptors such as surface streams, residences, etc.
5. Detailed site specific hydrogeology which may influence migration and transport of contamination
 - a. Review aerial photographs and topographic maps to detect geologic features (faults, sinkholes, surface drainage)
 - b. Location and design of deep borings to delineate separate aquifers and confining beds beneath the site
 - c. Description of soil sampling and testing programs to define characteristics and extent of aquifers and confining beds
6. Provide historical account of facility and operations
 - a. Outline a review of aerial photographs to determine location and extent of landfill operations at different time periods
 - b. Outline interviews with local officials, haulers, and private residents to determine past landfill practices
7. Meetings with Nassau County and FDER for technical support and approval of CAP
 - a. GWL, Inc. will submit all information obtained to Nassau County for review, comments and approval
 - b. Upon approval from the County, GWL, Inc. will meet with FDER, SJRWMD, and the County to support the CAP and insure final approval. We will also answer all comments or requests for additional information from the county and regulatory agencies pertinent to the CAP.

ESTIMATED COSTS

The cost to prepare the approved CAP will be based on time and material not to exceed \$2,500. The actual cost may be less, depending upon requests for further information by FDER and the SJRWMD.

JAMES E. TESTONE, CHAIRMAN
NASSAU COUNTY BOARD OF COUNTY
COMMISSIONERS

James E. Testone

January 17, 1989
Date

G. Warren Love
G. WARREN LOVE, INC.

1/18/89
Date

By: G. Warren Love