BROOKHAVEN LANDFILL AREA HEALTH STUDIES:
I. FRANK P. LONG (HAMPTON AVENUE) SCHOOL NURSE RECORDS EVALUATION, 1994

Prepared by:

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Brookhaven Landfill Area Health Studies

**Background**
In August of 1993, the New York State Department of Health (NYS DOH) was asked to investigate health complaints among students and staff at the Frank P. Long Intermediate School (also known as the Hampton Avenue School), which is located approximately one mile southwest of the Brookhaven Landfill. Staff and students had been complaining of odors from the landfill. NYS DOH and the New York State Department of Environmental Conservation believed that the chemicals causing the odors included hydrogen sulfide gas, which has an odor similar to rotten eggs that can be noticed at low levels. In 1993, the Town of Brookhaven began an odor reduction plan which included gas recovery wells and a gas flare. Odor complaints decreased after the plan was implemented.

**Health Symptoms and Odor Record Logs**
In 1993, the South Central School District asked the NYS DOH to assess any ongoing health problems at the school. Since the health symptoms reported by staff and students (e.g., headache, eye irritation, and nausea) are common and have many causes, a record-keeping system was developed to try to relate the symptoms to odors from the landfill. Several logs were developed for use by school personnel to record the following:

- odors from the landfill,
- absenteeism,
- visits to the nurse’s office,
- visits to the nurse for use of asthma medication, and
- health complaints from staff.

Health symptom logs were kept for two periods, one in the winter and one in the spring, to try to minimize the effects of winter viral infections. The logs were kept from January 18 to February 10, 1994, and from April 11 to May 6, 1994.

The presence of odors was reported more frequently during the winter period than during the spring period. Overall for the winter and spring periods, the presence of odors was not consistently associated with higher numbers of daily visits to the nurse’s office for complaints of illness or irritation, or for asthma medication.

In summary, the records kept by the nursing staff during two periods in 1994 did not show a pattern of increased health symptoms on days when an odor from the Brookhaven Landfill was recorded. It should be noted that by 1994 the odors from the landfill had decreased because of the odor reduction plan implemented at the landfill in 1993.
Cancer Incidence Investigation

Prior to August of 1994, residents living near the Brookhaven Landfill also expressed concerns about the possible adverse effects of the landfill on the health of residents in the surrounding community. Parents of children attending the Hampton Avenue School expressed particular concern. NYS DOH conducted an investigation to examine cancer occurrence among residents living in the area served by the school. A map outlining the boundaries of the study area is attached.

The number of cancer cases observed (as reported by law to the Cancer Registry) were compared to the number of cases that would be expected, given the size of the population, its distribution by age and gender, and the area’s population density. Results of the cancer incidence study found that overall the numbers of cancers diagnosed during the years 1983-1992 among males, females, children and young adults were not statistically significantly different from the numbers expected. No specific cancer site exhibited a statistically significant excess or deficit in numbers of cases observed compared with the numbers expected.

Calculations of observed and expected numbers of cancer cases in the area surrounding the Brookhaven Landfill were also updated through the year 1996. In the later period, 1993-1996, the actual numbers of total cancers among males and females, children and young adults were not significantly different from the numbers expected. Among specific cancer sites, bladder cancer and malignant melanoma of the skin among males and uterine cancer among females exhibited significant excesses in numbers of cases observed compared with the numbers expected. No other individual cancer site among males or females showed a statistically significant difference from the expected number of cases. Additional review of male bladder and female uterine cancers showed no obvious clustering near the landfill.

When the combined time period (1983-1996) was examined, a statistically significant excess in total cancers was found among females. The excess in total number of female cancer cases is accounted for by a statistically significant excess in uterine cancer, as well as nonsignificant excesses in cancers of the lung and breast. In the later time period (1993-1996) and the combined time period (1983-1996), the uterine cancers were generally diagnosed among women 45 years of age and older, as would be expected. Uterine cancer has no known environmental risk factors. All known risk factors for uterine cancer are related to individual characteristics or lifestyle choices, including never having given birth or having few children, late age at menopause, obesity, use of hormone replacement therapy without progesterone during and after menopause, and possibly dietary factors.

More information about the Brookhaven Landfill is available through the State Health Department’s INFOLINE at 1-800-458-1158. For copies of the reports, or questions about either report, contact James Bowers at 1-800-458-1158 ext. 27950. For general questions about the occurrence of cancer, contact Aura Weinstein, Director, Cancer Surveillance Program, New York State Department of Health, 518-474-2354.
Brookhaven Landfill Study Area
Census Tracts 1591.03, 1591.06, 1592.03, 1592.04, and 1593.00
Town of Brookhaven, Suffolk County, New York