

NJ Department of Health Roxbury Schools Air Sampling

Summary of Findings

DOH school testing was completed in order to identify current levels of H₂S, SO₂ and Methane in 6 schools.

At the request of the Roxbury Township School Superintendent, DOH conducted air sampling of three public schools and three non-public schools in an effort to determine indoor and ambient H₂S levels prior to school opening. In addition, sampling of SO₂ was conducted to establish background levels prior to testing the thermal oxidizer.

Indoor and ambient air sample results of the three public schools on August 26 and 27 revealed non-detectable levels for H₂S. Detectable levels of SO₂ were noted in all three public schools during the initial sampling. As a result, a second round of sampling occurred in the three public schools on September 7 and 8, which revealed non-detectable levels for both H₂S and SO₂. Both H₂S and SO₂ are transient in nature and for testing conducted on August 26 and 27, conditions may have existed within the building which may have contributed to the SO₂ levels recorded.

All three non-public schools tested on August 29 and 30 revealed non-detectable levels of H₂S and SO₂, except for one indoor sample which is being attributed to transient conditions.

For all samples taken the SO₂ levels ranged from non-detectable to 22ppb. SO₂ levels in New Jersey commonly range from 2 ppb in rural areas up to 50 ppb in urbanized areas.

In addition, for all schools the Methane levels ranged from non-detectable to 3,200 ppb which are all within the typical indoor air background levels for methane, which ranges from ~2,000 to 5,000 ppb.

ROXBURY TOWNSHIP PUBLIC SCHOOLS

INDOOR AIR SAMPLING RESULTS Sample Collection - August 26-27, 2013 Landfill Gas Assessment

SCHOOL	SAMPLE LOCATION	HYDROGEN SULFIDE (H ₂ S)	SULFUR DIOXIDE (SO ₂)	METHANE (CH ₄)
Jefferson E.S.	Classroom 21	N.D.	11	N.D.
	Classroom 15	N.D.	9	N.D.
	Media Center	N.D.	11	N.D.
	Ambient	N.D.	8	N.D.
Roxbury H.S.	Music Room	N.D.	19	2,800
	Main Office	N.D.	13	N.D.
	Guidance Office	N.D.	18	N.D.
	Classroom P241	N.D.	11	3,200
	Classroom P249	N.D.	6	2,600
	Ambient	N.D.	8	2,500
Roosevelt M.S.	Classroom 107	N.D.	22	N.D.
	Classroom 101	N.D.	17	2,500
	Classroom 216	N.D.	19	3,000
	Ambient	N.D.	14	N.D.

All results are in parts per billion (ppb)

SO₂ results are pending QA/QC from the lab

Results are rounded to the nearest whole number

Typical indoor air background levels for methane range from ~2,000 to 5,000 ppb

The analysis of several additional sulfur compounds was included along with H₂S and SO₂.

These included carbonyl sulfide, methyl mercaptan, ethyl mercaptan and dimethyl sulfide.

These compounds also exhibit odors similar to H₂S. These compounds were also N.D in all samples.

ROXBURY TOWNSHIP PUBLIC SCHOOLS

INDOOR AIR SAMPLING RESULTS
 Sample Collection – September 7 & 8, 2013
 Landfill Gas Assessment

SCHOOL	SAMPLE LOCATION	HYDROGEN SULFIDE (H ₂ S)	SULFUR DIOXIDE (SO ₂)	METHANE (CH ₄)
Jefferson E.S.	Classroom 21	N.D.	N.D.	N.D.
	Classroom 15	N.D.	N.D.	N.D.
	Media Center	N.D.	N.D.	N.D.
	Ambient	N.D.	N.D.	N.D.
Roxbury H.S.	Music Room	N.D.	N.D.	3,100
	Main Office	N.D.	N.D.	2,700
	Guidance Office	N.D.	N.D.	N.D.
	Classroom P241	N.D.	N.D.	3,100
	Classroom P249	N.D.	N.D.	N.D.
	Ambient	N.D.	N.D.	N.D.
Roosevelt M.S.	Classroom 107	N.D.	N.D.	2,700
	Classroom 101	N.D.	N.D.	N.D.
	Classroom 216	N.D.	N.D.	2,400
	Ambient	N.D.		

Sample not collected. Canister failure

All results are in parts per billion (ppb)

SO₂ results are pending QA/QC from the lab

Results are rounded to the nearest whole number

Typical indoor air background levels for methane range from ~2,000 to 5,000 ppb

The analysis of several additional sulfur compounds was included along with H₂S and SO₂.

These included carbonyl sulfide, methyl mercaptan, ethyl mercaptan and dimethyl sulfide.

These compounds also exhibit odors similar to H₂S. These compounds were also N.D in all samples.

TOWNSHIP PRIVATE SCHOOLS

INDOOR AIR SAMPLING RESULTS Sample Collection - August 29 – 30, 2013 Landfill Gas Assessment

SCHOOL	SAMPLE LOCATION	HYDROGEN SULFIDE (H ₂ S)	SULFUR DIOXIDE (SO ₂)	METHANE (CH ₄)
American Christian E.S.	Lower School Building - Classroom 5	N.D.	N.D.	N.D.
	Lower School Building - Classroom 2	N.D.	11	N.D.
	Upper School House - Middle Classroom	N.D.	N.D.	N.D.
	Ambient	N.D.	N.D.	N.D.
Morris County Educare and Enrichment Center	Infant Room	N.D.	N.D.	1,700
	Toddler Room	N.D.	N.D.	N.D.
	Room 7	N.D.	N.D.	N.D.
	Ambient	N.D.	N.D.	N.D.
St. Therese E.S.	Main Building 1 st Grade Classroom	N.D.	N.D.	N.D.
	Main Building 3 rd Grade Classroom	N.D.	N.D.	N.D.
	Learning Center Building Pre-K Classroom	N.D.	N.D.	N.D.

All results are in parts per billion (ppb)

SO₂ results are pending QA/QC from the lab

Results are rounded to the nearest whole number

Typical indoor air background levels for methane range from ~2,000 to 5,000 ppb

The analysis of several additional sulfur compounds was included along with H₂S and SO₂. These included carbonyl sulfide, methyl mercaptan, ethyl mercaptan and dimethyl sulfide. These compounds also exhibit odors similar to H₂S. These compounds were also N.D in all samples.