South Harrison Elementary School Gym
Mercury Monitoring Update – August 2021

Richard M. Lynch, Ph.D., CIH
President
Environmental Safety Management Corporation
www.esmcorp.com

1

Background – Initial Assessment EPIC

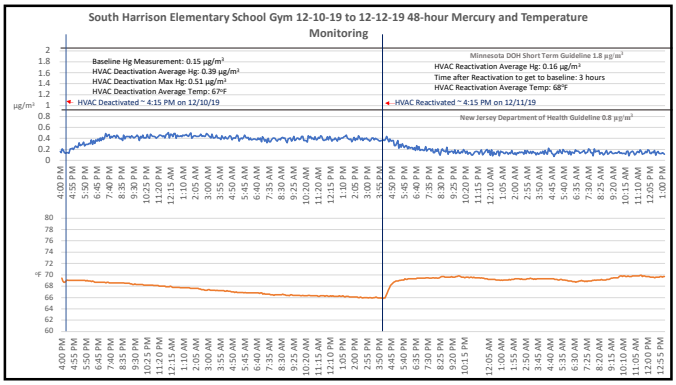
- May 2019 – Air Samples With HVAC Operating
  - 0.37 to -57 ug/m3; below NJDOH guideline of 0.8 ug/m3
- August 2019 – Air Samples with HVAC Deactivated 8 hours prior to sampling
  - 0.89 to 3.0 ug/m3; above NJDOH guideline of 0.8 ug/m3
- September 2019 –Rubber Bulk Sampling for Hazardous Waste Determination
  - 2.1 mg/l – Exceeds USEPA Hazardous Waste Disposal Criteria
- October 2019 – Concrete Core Samples
  - Mercury in upper 1/4 inch concrete exceeding HW Disposal Criteria
  - Mercury also detected concrete below 1/4 "

2

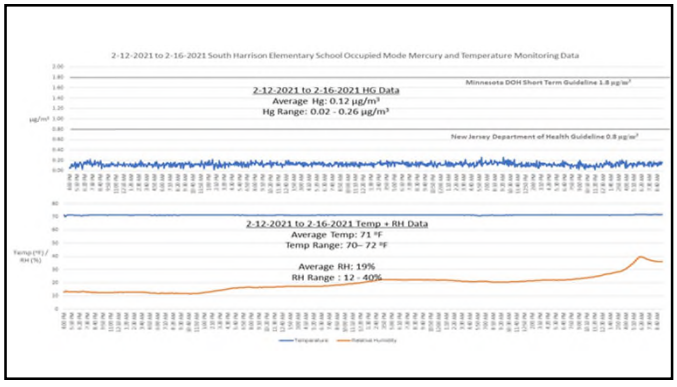
NJDOH Guideline - Evaluate and Mitigate Exposures

- Airborne Mercury **Below** or = 0.8 µg/m^3
  - Continue to Use Gym
  - Quarterly or Seasonal Sampling Recommended to Determine Seasonal Variation
  - Maintain room temp and ventilation consistent with operations during sampling
  - Resample as conditions change (new cracks etc).
  - Manage via active ventilation and temperature control
- Airborne Mercury **Above** 0.8 µg/m^3
  - Work with IEC to develop plan to reduce below 0.8 µg/m^3–(temp and humidity)
  - Make Adjustments to HVAC – Verify by Retesting
  - If inadequate to reduce < 0.8 µg/m^3 reduce time spent in room to < 8 hours/day or do not use room, or
  - Consider additional actions including removal of floor.
  - If Vent adjustment reduce < 0.8 µg/m^3 then monitor at least quarterly
  - Gym floor cleaning using nonabrasive methods

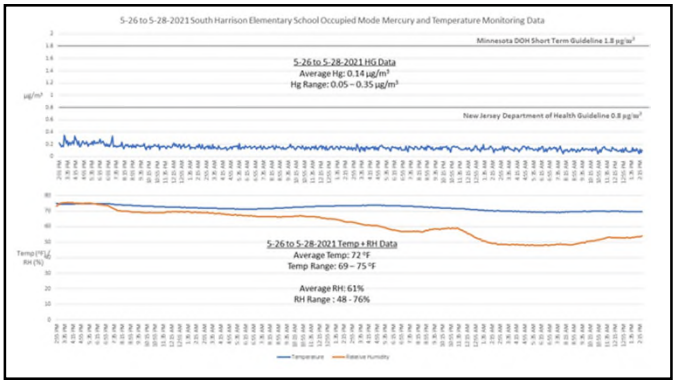
3



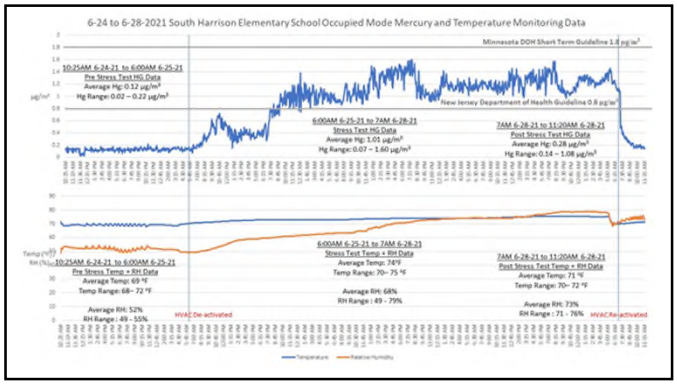
4



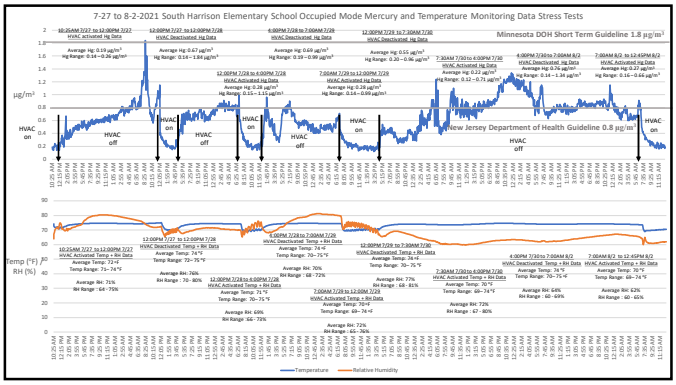
5



6



7



8

Conclusions and Recommendations

- Gym's Air Handling Systems capable of managing and controlling airborne mercury levels below NJDOH guideline of 0.8 ug/m3
- If air handlers become deactivated, airborne mercury levels during winter remained below NJDOH guideline.
- Average time to reach 0.8 during summer was approximately 8 hours with 2 hours to return baseline of 0.2 ug/m3.

1. Arrange professional cleaning of the gym prior to September reopening.
2. Establish routine non-abrasive cleaning of gym floors and other surfaces to reduce dust accumulation.
3. Determine a more optimized and energy efficient HVAC operation schedule in preparation for September school reopening.
4. Monthly air monitoring for the 2021-2022 school year beginning in September.

9