



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

Update on Lehigh Southwest Cement Plant

**Cupertino City Council
Study Session
July 20, 2010**

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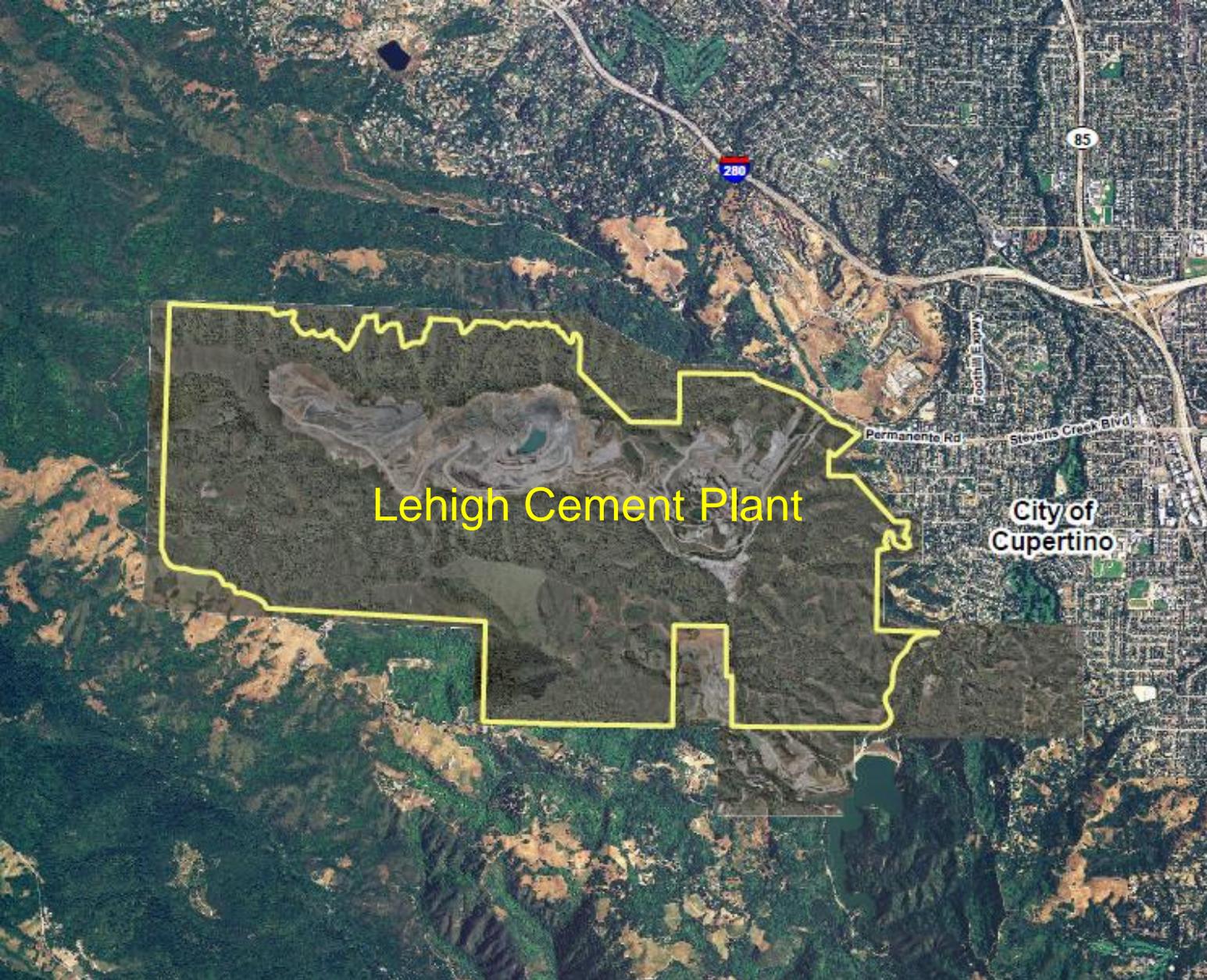


Presentation Outline

1. Background
2. Title V Permit Renewal
3. Rule Development Activities
4. New and Upcoming Emission Controls and Monitors
5. Updated Emissions Inventory and Health Risk Assessment
6. Compliance
7. Air Monitoring
8. Next Steps



Facility Location



July 20, 2010
Slide 3



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Lehigh Southwest Cement Plant

- Limestone is quarried, crushed, and combined with other raw materials in a high temperature kiln system to produce cement
- Facility also produces and sells aggregates



Title V Permit Renewal Status

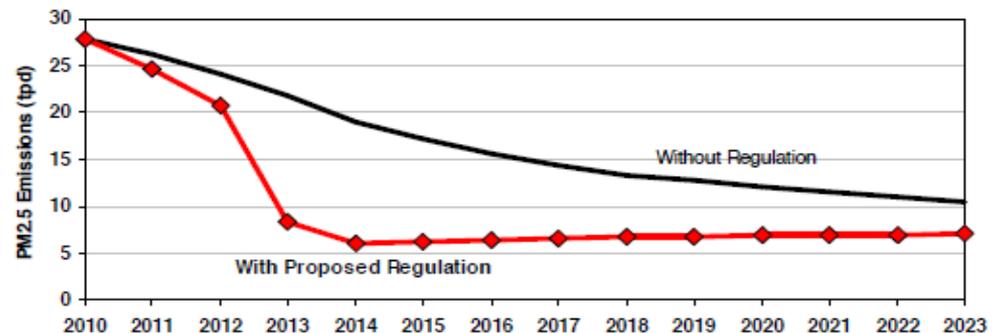
- Title V permit lists Lehigh's applicable air emissions standards and compliance provisions
- Title V permits are renewed every five years
- Lehigh's draft Title V permit renewal was issued for public comment on Aug. 12, 2009
 - A Public Hearing was held in Cupertino on Sep. 17, 2009
- The District withdrew Lehigh's draft Title V permit renewal on Jan. 5, 2010
 - Will re-issue (expected Sep. 2010) after new standards from EPA's amended National Emission Standards for Hazardous Air Pollutants (NESHAP) have been incorporated



Rule Development Activities Affecting Lehigh

- EPA National Emission Standards for Hazardous Air Pollutants
 - Proposed NESHAP amendments issued May 6, 2009
 - Mercury limit: 43 lb/million tons clinker
 - Final amendments delayed by two months to Aug. 6, 2010
- BAAQMD 2010 Clean Air Plan Stationary Source Measure 9
 - Focus on NO_x, SO₂
 - Adoption expected in winter 2010/2011
- CARB Truck and Bus, and Off-road diesel regulations
- CARB Greenhouse Gas Cap-and-Trade Rule

Figure 1: Statewide PM emissions inventory in tons per day (tpd)



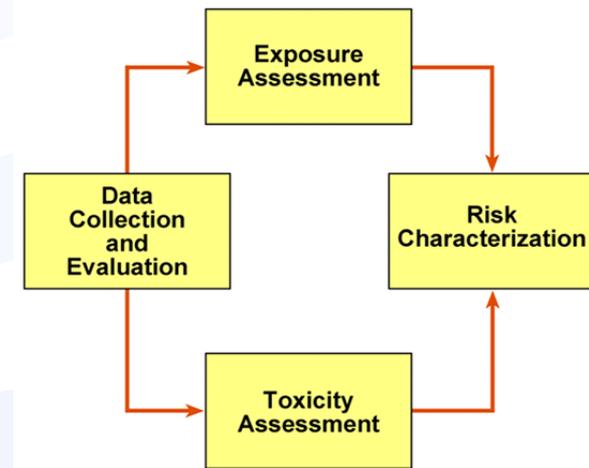
New and Upcoming Emission Controls and Monitors

- Sorbent injection
 - Sorbents injected into flue gases absorb (or adsorb) pollutants and are collected with fly ash
 - Phase 1: Kiln dust recycling into cement (installed)
 - Phase 2: Hydrated lime injection (installed)
 - Phase 3: Activated carbon injection
- Continuous emission monitors
 - NO_x, SO₂, CO, THC, HCl, CO₂ (installed)
 - Mercury (to be specified in NESHAP)
- Advanced NO_x controls
 - Selective Catalytic Reduction (SCR) or Selective Non-catalytic Reduction (SNCR)



Updated TAC Emissions Inventory and HRA

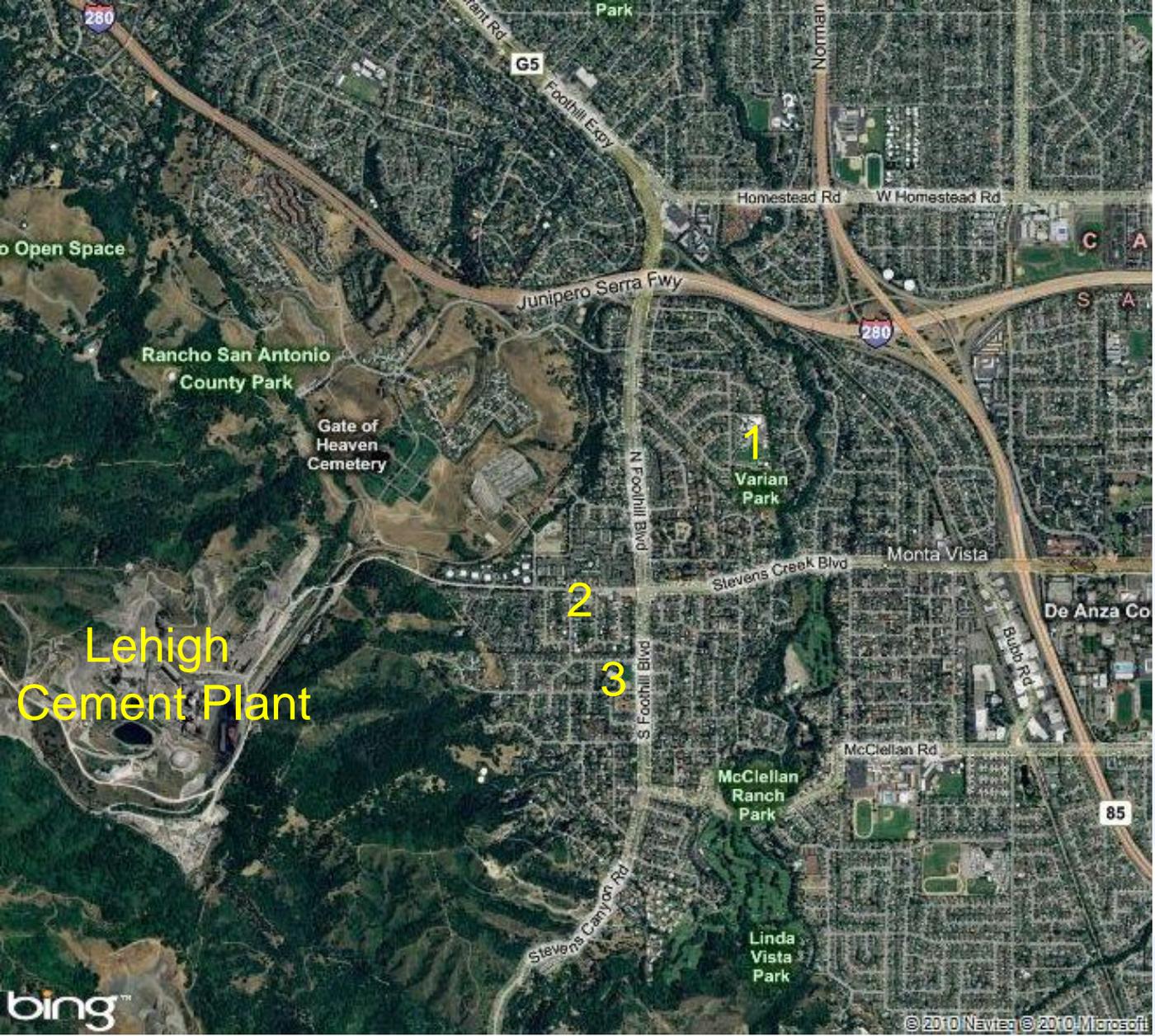
- Air Toxics Hot Spots Program
 - Facility-based program for Toxic Air Contaminants (TACs)
- Lehigh's current status is "Level 0"
 - Update emissions inventory and Health Risk Assessment (HRA)
- Methodological changes
 - Dec. 19, 2008: Mercury RELs revised
 - June 1, 2009: Age-sensitivity factors adopted
- Supplemental emissions inventory
- Change in method of estimating mercury emissions
- Sep. 1, 2010: Updated HRA due to be submitted



Compliance Status

- BAAQMD Notices of Violation (NOVs)
 - 25 NOVs issued by the District to Lehigh over the past 6 years
 - 15 were emissions-related
 - 5 in the last year
 - Excessive visible emissions
 - All violations were corrected expeditiously
- EPA NOV
 - Issued March 9, 2010
 - Alleged violation of Prevention of Significant Deterioration (PSD) permit requirements for modifications made between 1996 and 1999
 - No violations for projects after 2002 EPA reform rule





Air Monitoring Sites

1. Stevens Creek Elementary School (Hex. Chromium)
2. International Baptist Church (PM₁₀)
3. Monta Vista Park (Multi-pollutant)



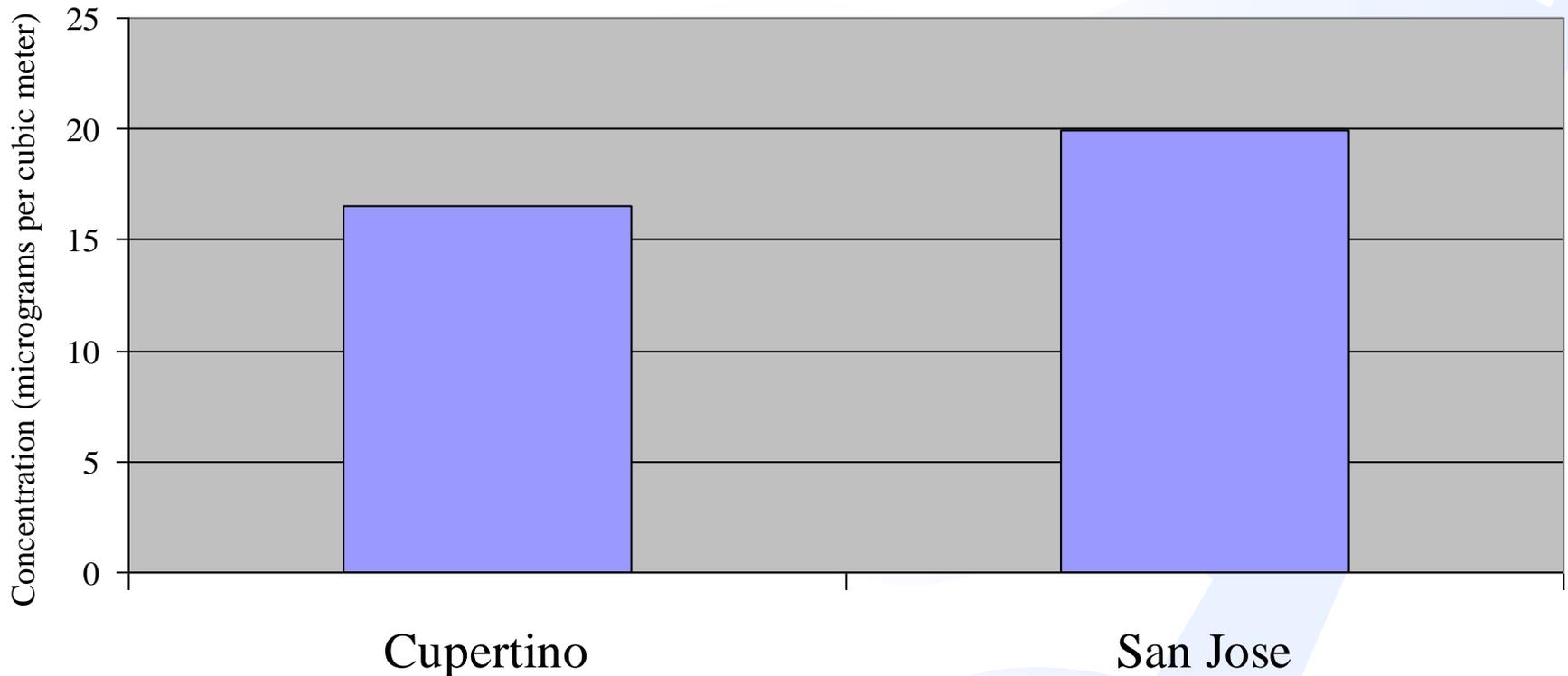
Air Monitoring

- Stevens Creek Elementary School
 - Hexavalent chromium
 - Sampling began May 26, 2009, and is on a 6th day sampling frequency
 - Average concentration for first 56 samples was $0.000014 \mu\text{g}/\text{m}^3$
 - Chronic REL is $0.2 \mu\text{g}/\text{m}^3$
 - Lifetime cancer risk is 4 in a million
- International Baptist Church
 - PM_{10}
 - Sampling began Oct. 29, 2008, and is continuous
 - Average daily concentration (through June 30, 2010) was $16.2 \mu\text{g}/\text{m}^3$
 - Maximum daily concentration was $55.5 \mu\text{g}/\text{m}^3$
 - Elevated PM levels also measured at other monitoring sites on that day



Comparison of Average PM₁₀ Air Concentrations

Average PM₁₀ Air Concentrations



Figures are for common sampling days from Oct. 29, 2008 to June 30, 2010



New Monta Vista Park Monitoring Site



- Continuously Measured Compounds
 - Particulate Matter 2.5 Microns or Less (PM_{2.5}), Carbon Monoxide, Methane, Oxides of Nitrogen, Non-Methane Organic Carbon (NMOC), Ozone, Sulfur Dioxide
- Laboratory Analysis
 - Metals (Mercury, lead, chromium, nickel, plus others)
 - Gases (Benzene, 1,3-butadiene, formaldehyde, acetaldehyde, plus others)
 - Particulate Matter 10 Microns or Less (PM₁₀)



Next Steps

- Evaluate final EPA NESHAP amendments
- Re-issue draft Title V permit renewal
- Finalize BAAQMD control measure
- Evaluate permit applications for emission control projects
- Review updated Health Risk Assessment
- Operate Monta Vista Park air monitoring station
- Review Reclamation Plan Amendment EIRs
- Continue frequent plant inspections

