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VIA Emailed PDF & FAX – Transmitted on or before 11:59 PM Pacific Time on October 1, 2009 at San Francisco, CA

October 1, 2009

To: **Thu Bui**
Senior Air Quality Engineer
Engineering/Permit Evaluation
Bay Area Air Quality Management District (BAAQMD)

Gerardo C. Rios
Chief, Air Permits Office
U.S. Environmental Protection Agency - Region IX

From: **Alexander J. Sagady**
Environmental Consultant

RE: Commentor's Letter Memorandum of Technical Comments – in re:

Lehigh Southwest Cement Co. - Pemanente Plant - Site #A0017
Major Facility Title V Operating Permit Renewal

The Bay Area Air Quality Management District (BAAQMD) has issued a public notice concerning a pending public comment period on the matter of the draft major facility CAA Title V operating permit renewal application sought by Lehigh Southwest Cement Company for the Permanente Plant site at Cupertino, CA. This letter memorandum is being timely submitted for filing as a public comment in the above matter with BAAQMD.

1 Commentor's Identity

This letter memorandum comment to BAAQMD is being filed as a technical comment on behalf of the **West Valley Citizens Air Watch (WVCAW)** which authorized the production of an independent review and preparation of a comment to be filed with BAAQMD memorializing this review.

2 Request to be Notified in Writing of the Future Final BAAQMD Action

When BAAQMD makes a final determination on the subject Title V permit, we request that BAAQMD make a prompt notification in writing of the final decision action on the Lehigh

Southwest Title V air operating permit issuance that is sufficiently timely to allow commentors at least 60 days of notice before the deadline for any appeal of the agency action.

Please send a notice of any final BAAQMD decision to issue the final Lehigh Southwest Title V permit to the following requesting commentors in this matter:

Alexander J. Sagady, Environmental Consultant
657 Spartan Ave
East Lansing, MI 48823

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3 Technical Comments of West Valley Citizens Air Watch and Alex J. Sagady & Associates for Filing with the BAAQMD in Regard to the Lehigh Southwest Cement Company Title V Renewal Application, Draft Operating Permit and Statement of Basis

3.1 Lehigh Southwest's Title V Application Renewal Submittal is Neither Administratively nor Technically Complete

3.1.1 The Application Contains No Pollutant and Process Flow Diagram

BAAQMD Form P-101B indicates "additional information" that must be submitted, which includes:

"Complete data form(s) and a pollutant flow diagram for each piece of equipment."

No such diagram is contained in the Application disclosed to Commentor's and no such information was included in the Statement of Basis. Such a diagram was requested by the permit engineer on 09/17/2007, but it was apparently never submitted since such material does not appear in materials disclosed to Commentors.

3.1.2 The Application Fails to Include the Required Emissions Calculation Information

The Applicant submitted a BAAQMD "Major Facility Review Detailed Emissions Report," but Applicant's submittal is deficient and incomplete. This BAAQMD-required form contains the legend:

> "Please attach emission calculations to this form or as an appendix to the application. District calculations may be used if the permittee finds that they are correct. One sample calculation for a group of identical sources is sufficient."

No content of Applicant's submittal provides any of the required emission calculations and supporting information. The Applicant cannot merely submit emission number totals for criteria pollutants, hazardous air pollutants and California airborne toxicants and provide no basis at all for how these total emission numbers were developed.

The Application contains no emission calculations, no emission factor information, no district emission calculation information, no determination by the Applicant that district emission calculations will suffice, no indication of emission factor basis such as reference to EPA work or the results of a source test, etc. The Applicant has not shown the work necessary to support pollutant daily and annual emission totals in the application, forms and other submittal materials.

The BAAQMD Statement of Basis contains some emission calculations and background. However, this information by BAAQMD is not a substitute that rescues the Applicant from their failure to fully and completely characterize all of their Clean Air Act criteria pollutant and hazardous air pollutant emissions. Applicant's duty to properly Effective emission characterization for the subject source is the responsibility of the Applicant and not of BAAQMD and this BAAQMD workproduct cannot substitute for Applicant fulfilling their responsibilities to fully characterize and describe their emissions.

3.1.3 The Applicant Did Not Provide Required Information on Alternate Operating Scenarios

The Applicant's submitted BAAQMD "Operating Scenarios" form did not provide any alternate operating scenarios. This means that the Applicant's submittal failed to include all required information on potential alternate operating scenarios under the proposed permit.

In typical clinker production operations, one alternate scenario would involve bypassing the raw mill with precalciner-kiln process gas during times when the raw mill is not running.. Thus, for purpose of precalciner combustion process gas disposition and plant operating scenarios, the facility would operate most of the time with precalciner and kiln combustion gases directed through the raw mill. Alternately, the raw mill may be bypassed at some times and such a bypass would necessarily have emission control implications.

When operating on raw mill bypass, uncontrolled inlet process gas particulate matter concentrations would be reduced, so the facility should not be allowed to discharge with as high of a potential to emit as when process gas was run through the raw mill as such operations would not reflect good air pollution control practice.

In addition, the Applicant must identify any alternate operating scenarios associated with finish mill process gas disposition and emission control.

Categorized envisioned target fuel mixes scenarios involving different proportions of coal and petroleum coke should be identified under permit application requirements for alternate operating scenario reporting on the required BAAQMD alternate scenario reporting form.

Finally, the Applicant must provide on the alternate operating scenario form any presently allowable or authorized alternate raw kiln feed and fuel materials that would substitute for traditional material inputs at the facility.

3.1.4 The Applicant Failed to Provide a Vent Stack Table and Vent Stack Location Map

The Applicant may have submitted a building location map and an equipment location map, but none of these map graphics clearly and unambiguously show all vent stack point source locations at the site. Because evaluation of the facility for airborne toxicants is part of the applicable requirements to which Lehigh Southwest is subject, such evaluation necessarily requires the Applicant to place in the record a vent stack point source table with sufficient information to allow air pollution dispersion and applicable regulatory analysis. Such information is also needed to support emission calculations involving stack gas concentrations. This needed physical information, includes, but is not limited to, the geo-coordinates of the stack points, height, exit diameter, stack gas temperature, gas flow in actual cubic feet per minute and dry standard cubic feet per minute, vent type (round or square), vertical or horizontal discharge, etc.

A proper vent stack location map would identify not only the main combustion emission points but all of the stack vent emission points associated with site material handling equipment controlled by fabric filter and/or other PM control devices. No such information was provided by the Applicant.

3.1.5 The Applicant's Submittal is Administratively and Technically Incomplete Because the Applicant Failed to Properly and Specifically Identify, Locate and/or Quantitatively Characterize All Fugitive Emission Sources as Individual Emission Units in the Title V Application

The Applicant's submittal is administratively and technically incomplete and not approvable because the Applicant's source and emission characterization does not adequately address all fugitive emission sources on site.

Applicant's submitted maps and diagrams do not identify the location of all fugitive emission sources.

The site road network is an emission unit but the road network is not identified as an individual emission unit in the Application and there is no characterization of site road emissions at all outside of the quarry. Source #600 lumps quarry blasting with mobile operations and these quarry emissions should be identified as separate emission units since any emission determination must be done separately between the blasting and the quarry road emissions.

Exhibits #4 and #5 show two materials handling/storage areas visible in aerial photographs of the site which do not appear to be listed as fugitive emission units. Exhibit #4 shows a site adjacent to the clinker storage building and Exhibit #5 shows what appears to be a millscale/iron ore material handling site on the west side of the facility.

Some fugitive emission units are listed as sources with non-zero emissions, but the Applicant specification of the emission total from the equipment does not distinguish between fugitive emissions and point source dust collector vent total emission reporting associated with the particular process units in question. This manner of emission characterization is unsupportable, unverifiable and cannot be approved as submitted. The Applicant must properly distinguish fugitive emissions from such process equipment from the point source fabric filter vent emissions associated with Applicant's process equipment.

The following suspected fugitive emission sources in the table below have this defective emission characterization:

Source #	**Description**	**Specified Emissions (t/y)**	**Source Abatement Device #**
S-17	Clinker Transfer Area	0.912	A-436
S-21	Roll Press Clinker Surge Bin and Feeder	3.47	A-13
S-74	Type II Mechanical Transfer System	0.547	A-58,
S-115	Additive Storage Tripper	0.182	A-115
S-151	Homogenizer 5-S-1-2	0.185	A-151
S-218	6-GM-1 Air Separator	20.62	A-218
S-220	6-GM-2 Mill and Peripherals	3.10	A-220
S-221	6-GM-2 Cake Feeder	0.182	A-221
S-222	6-GM-2 Gypsum Feeder	0.182	A-222
S-242	6-GM-1 Cake Feeder	4.20	A-242
S-243	6_GM-1 Gypsum Feeder	0.365	A-243
S-301	Rail Loadout Systems	0.182	A-301

S-340	Course Rock Withdrawal System	1.09	A-340
S-370	Class 2 Aggregate Additive Transfer System	0.91	A-370

3.1.6 The Applicant Failed to Disclose and Characterize PM Emissions that are PM-10 and PM 2.5

PM-10 and PM 2.5 are regulated criteria pollutants whose potential to emit emissions must be disclosed in Title V permit applications. The Applicant failed to make the required disclosures, both for individual emission units and for site wide emission summary totals.

3.1.7 Technical Requirements for Parameter Monitoring

Required methods, testing and standards to verify the accuracy of parameter monitoring devices under the permit for either production/throughput or pollution control device or process operation must be specified in the Draft Permit as enforceable applicable requirements.

3.2 Comments Addressing Source-Wide Matters and/or Multiple Process and Emission Units and Abatement Devices

3.2.1 The Applicant Must Explain and Justify Claims of Zero PM Emissions from Several Process Equipment and Emission Units

Pursuant to Applicant's obligations to physically characterize their process equipment, the Applicant has listed several pieces of process equipment claimed to have particulate emissions at a zero annual emission level. The specific process equipment with claimed emissions of zero are shown is list in the table below:

Source #	Description	Abatement Device
S-21	Clinker Storage Area	A-13
S-45	West Silo Top Distribution Tower	A-433
S-46	Middle Silo Top Cement Distribution Tower	A-434
S-47	East Silo Top Distribution Tower	A-435
S-48	Bulk Cement Loadout Tanks #1 and #2	A-428
S-111	Rail Unloading System	A-111
S-112	Additive Hopper Transfer System	A-112
S-113	Additive Bin Transfer System	A-113, A-114
S-121	Tertiary Scalping Screen 2-VS-1-2	A-121
S-122	Tertiary Crusher 2-CR-1 490 TPH	A-121, A-122
S-143	Raw Mill 1 Separator System 4-SE-3	A-143
S-144	Raw Mill 2 Separator Circuit 4-SE-4	A-144
S-153	Kiln Feed System	A-153
S-161	Clinker Cooler 5-CC-1	A-161
S-162	Clinker Silo A	A-162
S-163	Clinker Silo B	A–163
S-171	Kiln Coal System	A-171
S-172	Precalciner Coal Mill	A-172
S-240	Additive Conveyor/Bins	A-240
S-244	6GM1 Pozzelan Feeder (6Wf7)	A-244
S-300	Wet Aggregate Storage Piles	spray
S-343	Crusher Rock Returs [sic] Conveyor	A-341
S-360	West Aggregate Loadout System	spray
S-384	RP_ 2 Screens - 16 & 17	A-384
S.390	Conveyor Belt 15-M	A-390

For most of this equipment, the presence of the abatement device indicates that a post-fabric filter process gas flow would either be discharged to the atmosphere or the process gas flow would be directed to some other emission point or fabric filter control. The latter case would be the only basis for saying such an emission unit had a zero emission. However, even such a characterization does still not address the likely and probable fugitive emissions from the likely fugitive emission sources for which the Applicant claims zero emissions.

3.2.2 Applicant's Individual Emission Unit Site Wide Particulate Emissions Characterization Cannot be Reconciled with Applicant's Summary Total Particulate Emissions Total in the Application

Applicant has reported a summary, site-wide total particulate emission of 84.9 tons/year (See Exhibit #1). However, when totaling all of the individual equipment emissions shown in the equipment table (See Exhibit #3), review of Applicant's submittal indicates a total of only 77.0 tons/year of PM emissions.

The Applicant has failed to properly characterize the process equipment source of 7.9 tons per year of PM emissions. This issue must be resolved since it shows that the Applicant did not submit complete information about its specific emission sources.

3.2.3 Applicant's Title V Renewal Application Emissions Information Cannot be Reconciled with Applicant's Most Recently Available Toxic Release Inventory Report; Such Emission Data Conflicts are Justification to Initiate an Enforcement Action for Either Applicant's Improper Disclosure in the Air Permit Application and/or for Applicant's Improper Reporting of Toxic Release Inventory Emissions

Applicant's site-wide summary total emission table of criteria and hazardous air pollutant emissions is shown in Exhibit #1 (dated 04/25/2008). Applicant's year 2007 EPA Toxic Release Inventory report is shown at Exhibit #2.

The Applicant's Title V permit renewal application shows a source-wide benzene emission of 6.4 tons per year. That Applicant made no benzene report in their TRI submittal is a basis for TRI enforcement action for failure to report benzene emissions.

The Applicant reported 40, 934 lbs (20.5 tons) of year 2007 actual hydrochloric acid aerosol emissions in their TRI submittal to U.S. EPA. Applicant's Title V Application renewal submittal is supposed to provide emissions on a 'potential to emit' basis under BAAQMD and EPA Part 70 rules. Renewal applications must show the same deference shown as the initial application to depiction of facility emissions on a potential to emit basis to ensure proper applicability determination. Applicant's Title V application shows hydrogen chloride emissions at 1.4 tons per year. By Title V rule definitions, the site-wide hydrogen chloride potential to emit for all of Applicant's emission units, processes and process equipment must be greater than or equal to an actual annual hydrogen chloride report for the most recent year (i.e. 2007).

The Applicant's Title V application shows mercury emissions of 0.09 tons/year, but the year 2007 TRI report shows mercury emissions of 236 lbs or 0.118 tons/year. These reported emission totals cannot be reconciled.

The Applicant's Title V application shows reported emissions of 1.2 t/y formaldehyde, 2.4 t/y of acetaldehyde, 1.2 t/y naphthalene and 0.03 t/y of 1,3-butadiene. None of these TRI

mandatory TRI-reportable chemical constituents were shown in the facility's year 2007 TRI report.

The Applicant's TRI report shows emissions of dioxin congeners, including 2,3,7,8-tetra-chloro-dibenzo(p)dioxin, the most toxic congener. No reported polychlorinated dibenzo dioxin/furan compounds were reported in the Applicant's Title V submittal.

The Applicant's Title V submittal did not address other HAPs known to be emitted by cement kilns, including hexachlorobenzene, chlorobenzene, 1,4 -Dichlorobenzene, phosgene, methanol, hydrogen fluoride, methylene chloride, chloroform, methyl chloride, methyl chloroform, antimony, arsenic, cadmium, lead compounds, manganese compounds, chromium compounds and cyanide compounds.

The Applicant is under an obligation in the Title V permit application process to accurately properly and completely disclose its point source and fugitive emission potential to emit for criteria pollutants, hazardous air pollutants and other CAA regulated pollutants.

3.2.4 With the Advent of the Applicant's TRI Reported 20.5 Ton per Year Hydrogen Chloride Emission Data, When Considered Together with Applicant's Admitted Other Additional Hazardous Air Pollutant Emissions in its Title V Submittal, Applicant's Major HAP Source Status Must be Clarified

The Applicant's Title V renewal submittal portrayed the subject facility as a minor source of Clean Air Act Hazardous Air Pollutants. (See Exhibit #1). However, the Applicant's admission that it has actual emissions of 20.5 tons/year of hydrogen chloride, taken together with Applicant's other admitted HAP emissions, means the facility must be considered a major HAP source.

The Title V application emission characterization for hydrogen chloride must be considered erroneous in lights of Applicant's year 2007 EPA TRI inventory report.

BAAQMD must demand an accurate accounting of the facility's HAP potential to emit since such an accurate depiction of emissions is required for a Title V permit application. BAAQMD must also further state on the record in the statement of basis the consequences of the Applicant's status as a major HAP source as it affects the Title V permit issuance process.

3.2.5 The Draft Permit Should Be Amended to Require Continuous Opacity Monitoring for the Most Significant PM Emission Sources at the Facility

The Draft Permit should be amended to require operation of continuous opacity monitoring for process gas vents for the precalciner-kiln combustion gas, the raw mill, the finish mill and all other high gas flow fabric filter-controlled emission points.

Reliance on EPA Method 9 and pressure drop monitoring is not sufficient to ensure compliance with visible emission requirements for such significant emission sources. EPA Method 9 determinations cannot be done at night nor during certain conditions adverse to the view afforded by the observer. Pressure drop monitoring cannot detect small fabric filter leaks that do not create catastrophic failure of fabric filters but nevertheless allow significant discharge of very fine particle matter.

3.2.6 Applicant's Airborne Toxicant Demonstration of the Residual Risk from Utilization of Alternate Fuels and Raw Materials Contained in File Material Disclosed to Commentors Contains Significant Technical Error and Fails to Adequately Assess the Lifetime Incremental Excess Risk from Applicant's Facility Emission Units

3.2.6.1 The Applicant's Risk Assessment Excludes Airborne Carcinogen Emissions from the Applicant's Process Units

Review of Applicant submittals concerning environmental risk determinations on the use of alternate fuels and raw material are defective because the determination of total excess risk does not account for non-metal environmental carcinogen emissions. For example, the risk assessment determination does not include chlorinated dibenzo dioxins/furans in the total risk determination. Several other airborne carcinogens are discharged by cement plants. A proper risk assessment on the total community level of excess cancer incidence associated with facility operation must consider all environmental carcinogens emitted by the subject facility and not just base such determinations on carcinogenic metals only.

3.2.6.2 The Applicant's Demonstration of Expected Ambient Concentrations from Modeling Facility Emissions are Inappropriately Limited to Review Only of the Precalciner-Kiln Process Gas Emission

Applicant's risk assessment demonstration considered only emissions released from the main combustion flow of the precalciner-kiln-raw mill system. No environmental carcinogen emissions associated with other site process equipment was considered. As such, the Applicant understates expected risk scores by failing to model all relevant emissions to such a risk determination.

3.2.6.3 The Applicant's Demonstration of Expected Ambient Concentrations from Modeled Emissions Depends on an Inadequately Documented Virtual Stack Model of the 32 Fabric Filter Compartment Discharge Vents that is Subject to Question

Applicant's SCREEN3 modeling of precalciner-kiln (only) emissions is based on a virtual single stack model of the 32 fabric filter compartment/enclosure vents. Such a single stack virtual approach is allowed under the model documentation for SCREEN3. However, the

modeling protocol of the Applicant does not show how the emission kinetics of a single virtual stack of 2.2 ft in diameter accurately reflects the physical plume rise associated with a 32 vent configuration. The Applicant did not provide the effective stack exit velocity of 2.2 ft diameter stack. To use a 2.2 ft diameter single virtual stack to model the open face vent area of the 32 fabric filter compartment vents risk gross over representation of the expected effective stack height plume rise from use of an excessive value for flue gas exit velocity used as a SCREEN3 input.

The Applicant did not provide any basis for the volumetric discharge rates specified as being used in the SCREEN3 protocol (See Exhibit 7).

3.2.7 Fabric Filter Leak Detection Trigger Matter

Several places in the Draft Permit provide trigger language addressing the required response to fabric filter leak detector indications. Several of these Draft Permit provisions only mandate a Method 9 or Method 22 visible emission determination in response to such fabric filter PM gas concentration indicators. Such a minimal required response cannot be deemed to reflect good air pollution control practice.

The proper response to an indication of a position leak determination indication for a fabric filter leak detection monitoring device is to conduct an engineering inspection of the fabric filter compartment and bags, and not just make a stack visible emission obsevation.

3.2.8 No Provisions of the Draft Permit Address Site-Wide Fugitive Dust Control Plans

A search of the Draft Permit shows that no provisions regulate or provide applicable requirements for required fugitive dust control work practices and compliance assurance measures for record keeping and reporting to verify compliance with work practices.

This is objectionable because development of a fugitive dust control plan for a cement facility is a necessary tool to provide effective air pollution control, to document all required work practices and to show measures that ensure compliance with required work practices.

BAAQMD must determine whether the requirement for a fugitive emissions control plan constitutes a RACT PM control that must be put in place on an existing cement plant in order to comply with the BAAQMD portion of the California State Implementation Plan.

3.2.9 The Applicant's Depiction in their Submittal of "Organics" is Not the Properly Stated Form of Criteria Pollutant Potential to Emit Disclosure Required

The Applicant's emissiom summary form provided a plant wide summary total for "organics." Such loose vernacular is not acceptable since the Applicant must provide

criteria pollutant potential to emit totals. The criteria pollutant category of interest is called "volatile organic compounds" as defined by EPA in the state implementation planning rules. Total non-methane organic emissions as carbon or as propane do not, taken alone, provide an accurate determination of VOC emissions. VOC emissions must consider the contribution of all VOC chemical species and their full molecular weight to the VOC emission total. Use of total non-methane hydrocarbon understates actual VOC emissions because consideration of total non-methane hydrocarbon analyzers do not properly address VOC species that are oxygenated chemical compounds (acids, aldehydes, ethers, alcohols, etc.).

3.2.10 Back Half PM Sampling Train Reporting

The Draft Permit should be amended to require that all EPA Method 5 PM emission determinations done on the site also require analysis and separately designated emission totals reporting of condensible PM emissions from the back-half Method 5 sampling train.

3.3 Comments Addressing Individual Specific Site Emission Units and Permit Language

3.3.1 Emission Unit S-154 - Precalciner Kiln

3.3.1.1 Applicant's Compliance with EPA Test Method 1 is a Problematic Matter for Any Compliance Testing of the Combustion Process and Other Gas Streams for this Emission Unit

The design of Applicant's precalciner-kiln fabric filter exhausts points is such that it is impossible to carry out the fundamental gas sampling technical methods of EPA Method 1 and 1A without taking some other measures to physically direct and alter the path of the discharge from the vents on Applicant's fabric filter enclosure.

The Application must be amended to show how EPA Method 1 gas sampling determinations would be carried out, and whether the facility would be able to use a temporary stack or not. Technical methods concerning testing and monitoring requirements should be specifically cited in the Title V permit and not left to reliance on unpromulgated *de facto* rulemaking in the form of the BAAQMD "Manual of Procedures."

A more fundamental issue is that testing of solid or liquid phase particles materials representing a post-fabric filter gas treatment of a single vent cannot be considered as a single compliance determination that somehow is a surrogate for monitoring the 31 other fabric filter vents. Each of the vents represent a compartment with fabric filters of varying age and condition. Testing one vent cannot be deemed to be a test of the other vents.

The features of Applicant's vent discharge for the pre-calciner kiln is not representative of industry practice for the design of most cement production facilities. Most such facilities

have discharge stacks for better dispersion of air pollutants. The release height for Applicant's facility gas discharge is not considered a "good engineering practice"stack height that ensures that emissions are not entrained in local turbulent downwash eddy currents caused by wind-mediated structure aerodynamic downwash.

Very frequent downwash sources such as the Emission Unit S-154 fabric filter house vents may cause elevated short term ambient impacts of sulfur dioxide. Applicant's facility emissions should be evaluated with an air model to ensure the facility is capable of complying with the National Sulfur Dioxide Primary 24-Hour Air Quality Standard and the Secondary Air Quality Standard for Sulfur Dioxide 3 hour averaging times and any other more stringent California sulfur dioxide ambient air quality standards.

3.3.1.2 Discharges of Clinker Cooler Process Gas Through Vents for S-154

As near as Commentors can determine, the clinker cooler process gas is diverted to the raw mill and/or precalcinber burner area or some other location where it is co-mingled with other process gases. Although the clinker cooler process gas may be co-mingled with process gas from S-154 main combustion precalciner/kiln, this does not mean that the Applicant's facility can avoid maintaining compliance with clinker cooler gas discharge standard under 40 C.F.R. Pat 63, Subpart LLL regulations.

Although the Subpart LLL regulations might call for applicant to comply with a 20% opacity standard for the precalciner-kiln S-154 vent, if the Applicant's facility commingles clinker cooler gas with precalciner-kiln process gas, then the S-154 vent must show compliance with the Subpart LLL requirements for 10% opacity on such a release point. The present draft permit does not ensure this will occur.

3.3.1.3 Compliance with EPA's Subpart LLL Rule Emission Limitation Requirements Must Be Evaluated and Tested for Each of the 32 S-154 Emission Unit Vents

The present draft permit does not unequivocally require that each of the 32 S-154 emission unit vents be tested for compliance with applicable emission standards shown in the Draft Permit. Such a requirement should be incorporated into the BAAQMD Draft Permit. The Applicant must not be allowed to test just one or a few vents and consider such tests as representative of the entire emission. Any present practice allowing the facility to fail to carry out such testing should be disallowed or re-evaluated to ensure compliance with emission limitations for the entire gas flow from the precalciner/kiln.

3.3.1.4 Fabric Filter Leak Detection

The Draft Permit should be amended to require that the Applicant install fabric filter leak detection on all 32 of the precalciner-kiln fabric filter compartment vents. The presently provided measures involving method 9 determinations are not sufficient to ensure compliance with emission limitations.

This concludes the comments we provide for filing with BAAQMD and EPA Region IX.. If you should have any technical questions about these comments, please do not hesitate to contact me at ajs@sagady.com or (517)332-6971.

Sincerely,

Alexander J. Sagady
Environmental Consultant

Exhibit #1

Permit Services Division
Bay Area Air Quality Management District
939 Ellis Street, San Francisco, CA 94109 • 749-4990

Total Stationary Source Emissions

FACILITY NAME: Hanson Permanente Cement	FACILITY ID: A0017

I. STATIONARY SOURCE EMISSIONS

POLLUTANT (name)	EMISSIONS (tons per year)	PRE-MODIFICATION EMISSIONS (tons per year)	EMISSIONS CHANGE (tons per year)
CO	3224.2		
NOx	1364.0		
PM	84.9		
SO2	309.7		
Organics	119.5		
HAPs (112b pollutants):			
Benzeene	6.4		
Formaldehyde	1.2		
Acetaldehyde	2.4		
Naphthalene	1.2		
1,3-butadiene	0.03		
Mercury (all) pollutant	0.09		
Selenium	0.05		
Hydrogen Chloride	1.4		

I certify that based on information and belief formed after reasonable inquiry, the answers, statements, and information contained in this application (and supplemental attachments thereto) are true, accurate, and complete. This application consists of the application forms provided by the Bay Area Air Quality Management District and supplemental attachments. I also certify that I am the responsible official as defined in District Regulation 2, Rule 6.

J. Wissi
Signature of Responsible Official

HENRIK NESSELING
Print Name of Responsible Official

PLANT MANAGER
Title of Responsible Official and Company Name

Date: 4-25-2008

Exhibit #2

TRI Explorer

Last updated on Thursday, October 1st, 2009.

Releases: Facility Report

Detail columns are collapsed by default. Click the ◀▶ icon to view additional columns. Use your Browser back f

Data source: Release Year 2007 PDR data set frozen on September 22, 2008 and released to the public in March 2009 See Note

TRI On-site and Off-site Reported Disposed of or Otherwise Released (in pounds), for facilities in All Indus

Row #	Facility	TRIF ID	Fugitive Air Emissions	Point Source Air Emissions	Surface Water Discharges	Underground Injection Class II-V Wells	Land Treatment	RCRA Subtitle C Surface Impoundments
1	**HANSON PERMANENTE CEMENT, 24001 STEVENS CREEK BLVD, CUPERTINO**	**95014KSRCMNA**	**33**	**41,183**	**.**	**0**	**0**	**0**
	CHROMIUM COMPOUNDS (EXCEPT CHROMITE ORE MINED IN THE TRANSVAAL REGION)		23	12	.	0	0	0
	DIOXIN AND DIOXIN-LIKE COMPOUNDS		0	**	.	0	0	0
	HYDROCHLORIC ACID (1995 AND AFTER "ACID AEROSOLS" ONLY)		0	40,934	.	0	0	0
	LEAD COMPOUNDS		9	1	.	0	0	0
	MERCURY COMPOUNDS		2	236	.	0	0	0
	Total	**5**	**33**	**41,183**	**.**	**0**	**0**	**0**

(Note that if a facility name appears multiple times within each of the below tables, the facility is a multi-establ compounds.
Note that in the table above, asterisks are shown to indicate that data for Dioxin and Dioxin-like compounds in converted these data into pounds and included them in the table total (in pounds). Please refer to the Dioxin ar Dioxin and Dioxin-like compounds in grams. Grams can be converted to pounds by multiplying by 0.002205.)

TRI On-site and Off-site Reported Disposed of or Otherwise Released of Dioxin and Dioxin-like Compounds

Row #	Facility	TRIF ID	Fugitive Air Emissions	Point Source Air Emissions	Surface Water Discharges	Underground Injection Class II-V Wells	Land Treatment	RCRA Subtitle C Surface Impoundments	Othe Impo
	HANSON PERMANENTE								

1	CEMENT, 24001 STEVENS CREEK BLVD, CUPERTINO	95014KSRCMNA	0.0000000	0.1117000	.	0.0000000	0.0000000	0.0000000	
	Total	**1**	**0.0000000**	**0.1117000**	**.**	**0.0000000**	**0.0000000**	**0.0000000**	

Distribution of Each member of the Dioxin and Dioxin-like Compounds Category (as a percentage), zip code 95014 in California, 2007

Row #	Facility	NA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	HANSON PERMANENTE CEMENT, 24001 STEVENS CREEK BLVD, CUPERTINO		1.94	0.49	1.86	1.69	1.40	1.02	1.11	1.11	1.15	4.04	1.85	8.30	8.35	12.40	0.98	51.31	0.01

Number	CAS No.	Chemical
NA		There is no speciation data available
1	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran
2	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran
3	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran
4	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran
5	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran
6	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran
7	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
8	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
9	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
10	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
11	39001-02-0	1,2,3,4,6,7,8,9-Octachlorodibenzofuran
12	3268-87-9	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin
13	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran
14	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran
15	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
16	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran
17	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin

Back to top

Export this report to a text file

Create comma-separated values, compatible with spreadsheet and databases.

Download all records

View other report type:

- Transfers Off-site for Further Waste Management; or
- Quantities of TRI Chemicals in Waste (waste management)

Note: Reporting year (RY) 2007 is the most recent TRI data available. Facilities reporting to TRI were required to submit RY 2007 data to EPA by July 1, 2008. TRI Explorer is using a *"frozen"* data set based on submissions as of September 22, 2008 and released to the public in March 2009 for the years 1988 to 2007 (i.e., revisions submitted to EPA after this time are not reflected in TRI Explorer reports). TRI data may also be obtained through EPA Envirofacts

Off-site disposal or other releases include transfers sent to other TRI Facilities that reported the amount as on-site disposal or other release because not all states and/or not all industry sectors are included in this report.

On-site Disposal or Other Releases include Underground Injection to Class I Wells (Section 5.4.1), RCRA Subtitle C Landfills (5.5.1A), Other Landfills (5.5.1B), Fugitive or Non-point Air Emissions (5.1), Stack or Point Air Emissions (5.2), Surface Water Discharges (5.3), Underground Injection to Class II-V Wells (5.4.2), Land Treatment/Application Farming (5.5.2), RCRA Subtitle C Surface Impoundments (5.5.3A), Other Surface Impoundments (5.5.3B), and Other Land Disposal (5.5.4). Off-site Disposal or Other Releases include from Section 6.2 Class I Underground Injection Wells (M81), Class II-V Underground Injection Wells (M82, M71), RCRA Subtitle C Landfills (M65), Other Landfills (M64, M72), Storage Only (M10), Solidification/Stabilization - Metals and Metal Category Compounds only (M41 or M40), Wastewater Treatment (excluding POTWs) - Metals and Metal Category Compounds only (M62 or M61), RCRA Subtitle C Surface Impoundments (M66), Other Surface Impoundments (M67, M63), Land Treatment (M73), Other Land Disposal (M79), Other Off-site Management (M90), Transfers to Waste Broker - Disposal (M94, M91), and Unknown (M99) and, from Section 6.1 Transfers to POTWs (metals and metal category compounds only).

For purposes of analysis, data reported as Range Code A is calculated using a value of 5 pounds, Range Code B is calculated using a value of 250 pounds and Range Code C is calculated using a value of 750 pounds.

The facility may have reported multiple NAICS codes to TRI in the current reporting year. See the facility profile report by clicking on the facility name to see a list of all NAICS codes submitted to TRI for the current reporting year.

A decimal point, or "." denotes that

1. the facility left that particular cell blank in its Form R submission (a zero in a cell denotes either that the facility reported "0" or "NA" in its Form R submission).
2. "NA" in a cell denotes that the facility has submitted only Form A and thus the data for release, waste transfers or quantities of TRI chemicals in waste are not applicable. By submitting a Form A the facility has certified that its total annual reportable amount is less than 500 pounds, and that the facility does not manufacture, process, or otherwise use more than 1 million pounds of the toxic chemical.

Users of TRI information should be aware that TRI data reflect releases and other waste management activities of chemicals, not whether (or to what degree) the public has been exposed to those chemicals. Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result

from releases and other waste management activities which involve toxic chemicals. The determination of potential risk depends upon many factors, including the toxicity of the chemical, the fate of the chemical, and the amount and duration of human or other exposure to the chemical after it is released.

Release: October 1, 2009
Facility Report
Go to TRI Explorer Home | Go To New Report

TOP OF SCREEN

This request took 1.32 seconds of real time (v9.2 build 1495).

Exhibit #3

Permit Services Division
Bay Area Air Quality Management District
939 Ellis Street, San Francisco, CA 94109 • 749-4990

Major Facility Review
Detailed Emissions Report

FACILITY NAME: Hanson Permanente Cement	FACILITY #: A0017

LIST OF EQUIPMENT WITH ANNUAL EMISSIONS

In numerical order, list all equipment and/or operations described in Section 2-6-405.6 and their annual emissions in tons per year. Use one line for each pollutant. If more space is required, use additional forms. Please type or print legibly. If sources or activities do not have a source number, leave the Source # column blank. Please attach emission calculations to this form or as an appendix to the application. District calculations may be used if the permittee finds that they are correct. One sample calculation for a group of identical sources is sufficient.

Source #	Name or Description	Type of Pollutant (one line for each)	Annual Emissions, tons per year
1	Non Retail Gasoline Dispensing Facility	ORG	0
17	Clinker Transfer Area (6-BC-1-3-6-7)	PM	0.912
19	Clinker Storage Area	PM	0
21	Roll Press Clinker Surge Bin and Feeder	PM	3.47
45	West Silo Top Distribution Tower	PM	0
46	Middle Silo Top Cement Distribution Tower	PM	0
47	East Silo Tip Cement Distribution Tower	PM	0
48	Bulk Cement Loadout Tanks #1 and #2	PM	0
49	Bulk Cement Loadout Tank #28	PM	0.365
50	Bulk Cement Loadout Tank #29	PM	0.365
74	Type II Mechanical Transfer System	PM	0.547
111	Rail Unloading System	PM	0
112	Additive Hopper Transfer System	PM	0
113	Additive Bin Transfer Facilities	PM	0
115	Additive Storage Tripper	PM	0.182
121	Tertiary Scalping Screen 2-VS-1-2	PM	0
122	Tertiary Crusher 2-CR-1 490 TPH	PM	0
141	Raw Mill 4-GM-1	PM	0.185
142	Raw Mill 2 4-GM-2	PM	0.185
143	Raw Mill 1 Separator System 4-SE-3	PM	0
144	Raw Mill 2 Separator Circuit 4-SE-4	PM	0

April 2008
Date

Emissions for year ending

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Source #	Name or Description	Type of Pollutant (one line for each)	Annual Emissions, tons per year
151	Homogenizer 5-S-1-2	PM	0.185
153	Kiln Feed System	PM	0
154	Precalciner Kiln	PM	12.957
154	Precalciner Kiln	Organics	119.53
154	Precalciner Kiln	NOx	1349.95
154	Precalciner Kiln	SO2	308.06
154	Precalciner Kiln	CO	3169.84
161	Clinker Cooler 5-CC-1	PM	0
162	Clinker Silo A	PM	0
163	Clinker Silo B	PM	0
171	Kiln Coal System	PM	0
172	Precalciner Coal Mill	PM	0
176	Rock Plant 1 Storage Pile	PM	3.83
187	Hopper and Storage bin, sand 100 ton capac	PM	2.37
201	Quarry Primary Crusher	PM	1.09
202	Quarry Secondary Crusher	PM	1.09
216	6-GM-1 Cake Conveyor (6BC13)	PM	0.182
218	6-GM-1 Air Seperator (6-SE-1)	PM	20.62
220	6-GM-2 Mill and Peripherals	PM	3.10
221	6-GM-2 Cake Feeder (6WF2)	PM	0.182
222	6-GM-2 Gypsum Feeder (6WFF4)	PM	0.182

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Emissions for year ending _____

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Source #	Name or Description	Type of Pollutant (one line for each)	Annual Emissions, tons per year
230	6-RP-1 Roller Press and Peripherals	PM	3.83
231	Pressed Cake Bin (6SS2)	PM	0.365
240	Additive Conveyor/Bins	PM	0
242	6-GM-1 Cake Feeder (6-WF-3)	PM	4.20
243	6-GM-1 Gypsum Feeder (6WF5)	PM	0.365
244	6GM1 Pozzolan Feeder (6WF7)	PM	0
300	Wet Aggregate Storage Piles	PM	0
301	Rail Loadout Systems	PM	0.182
340	Coarse Rock Withdrawal System	PM	1.09
341	Pre-Crushing Screens	PM	0.547
342	Coarse Rock Crushing System 2 ea Symons 5	PM	0.547
343	Crusher Rock Returs Conveyor	PM	0
344	Wet Screening Feed Conveyor	PM	1.64
350	Wet Screening and Conveying	PM	1.64
360	Wet Aggregate Loadout System	PM	0
370	Class 2 Aggregate Additive Transfer System	PM	0.91
380	Sand Screw (8-BC-70)	PM	11.68
381	Sand Storage Pile	PM	1.28
382	Water Clarifier Fines Shipment	PM	0.91
384	RP 2 Screens – 16 & 17	PM	0
390	Conveyor Belt 15-M	PM	0

April 2008
Date

Emissions for year ending _____

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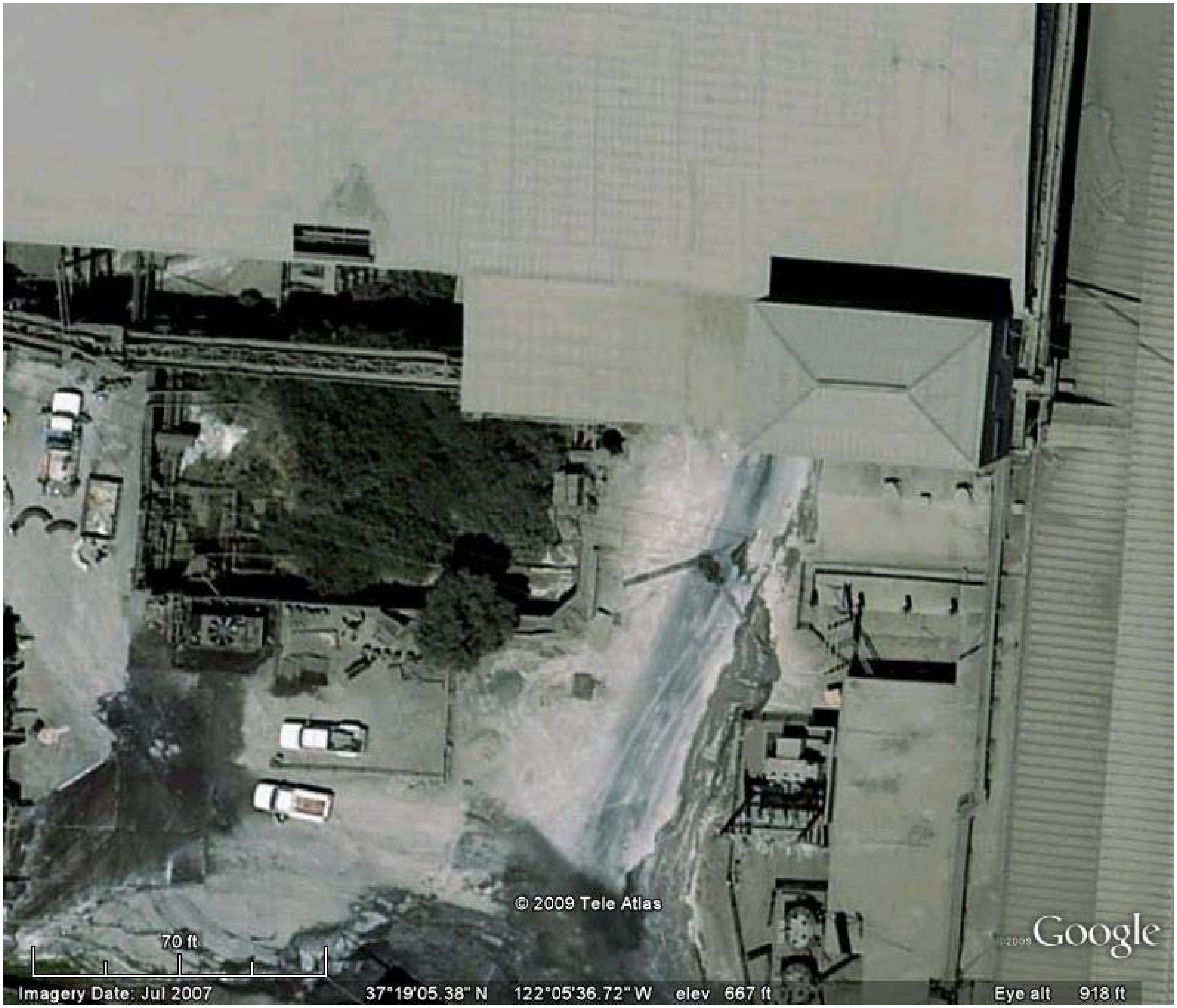
Source #	Name or Description	Type of Pollutant (one line for each)	Annual Emissions, tons per year
501	Emergency Diesel Generator	Organics	0
501	Emergency Diesel Generator	NOx	0.18
501	Emergency Diesel Generator	CO	0
502	Emergency Diesel Generator	Organics	0
502	Emergency Diesel Generator	NOx	0.18
502	Emergency Diesel Generator	SO2	0
502	Emergency Diesel Generator	CO	0
600	Quarry Blasting and Mobile Operations	PM	1.825 ✓
600	Quarry Blasting and Mobile Operations	NOx	13.69
600	Quarry Blasting and Mobile Operations	SO2	1.64
600	Quarry Blasting and Mobile Operations	CO	54.38

April 2008
Date

Emissions for year ending _____

Exhibit #4



© 2009 Tele Atlas
70 ft
Imagery Date: Jul 2007
37°19'05.38" N
122°05'36.72" W
elev 667 ft
Eye alt 918 ft

Exhibit #5


© 2009 Tele Atlas
138 ft
Google
Imagery Date: Jul 2007
37°18'58.49" N
122°05'19.91" W
elev 552 ft
Eye alt 1095 ft

Exhibit #6

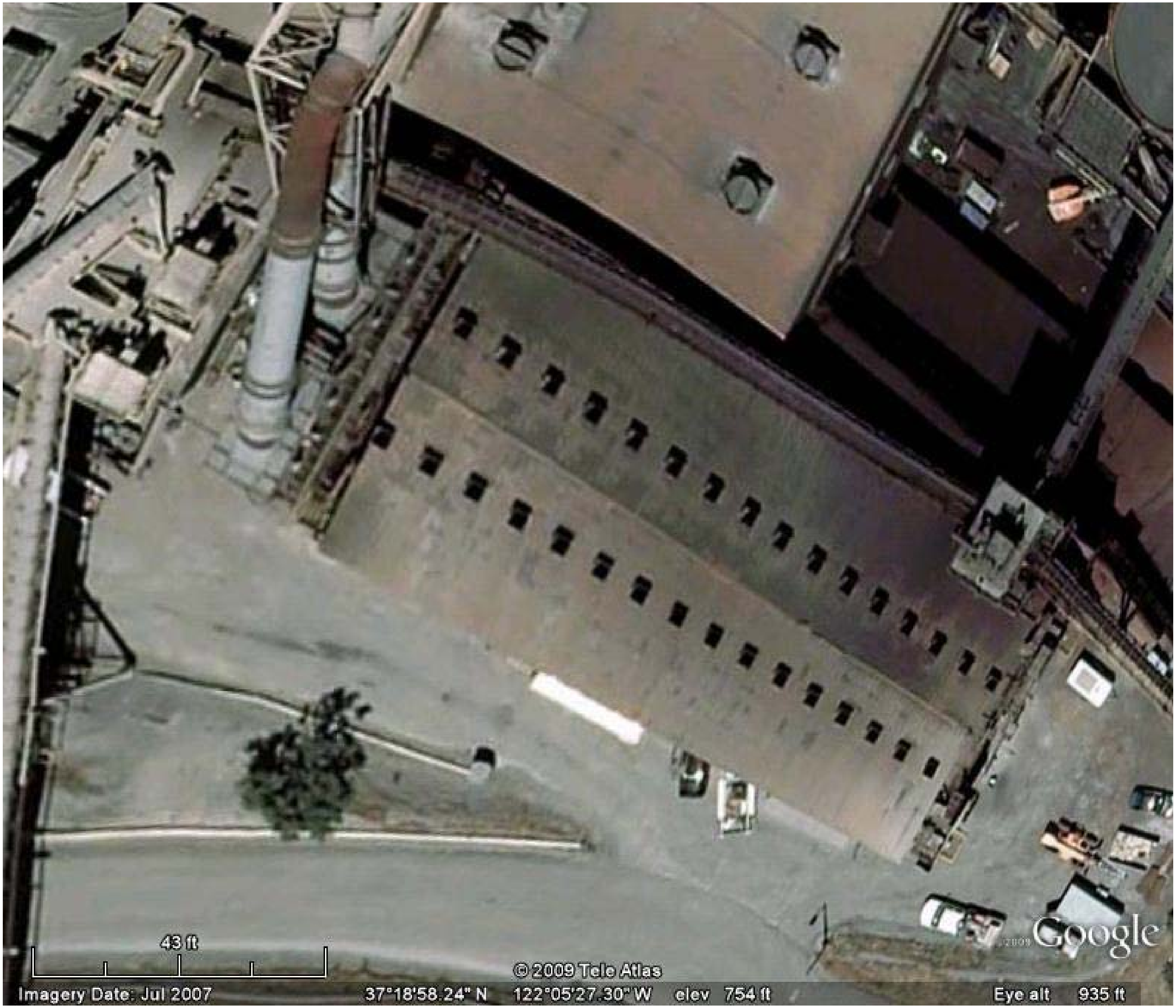

43 ft
© 2009 Tele Atlas
Google
Imagery Date: Jul 2007
37°18'58.24" N
122°05'27.30" W
elev 754 ft
Eye alt 935 ft

Exhibit #7

SCREEN3 Modeling Summary Hanson Permanente Cement Company (Updated 4/12/07)

The United States Environmental Protection Agency's (EPA) SCREEN3 air dispersion model was used to predict ambient concentrations for air toxic emissions released from the kiln at Hanson Permanente Cement Company (Hanson). This model is considered a screening tool, which generally results in conservative estimates. The modeling was conducted in accordance with the procedures outlined in Section 4 of the "Air Toxics Hot Spots Program Risk Assessment Guidelines" (August 2003). Impacts were predicted using regulatory default options and all combinations of wind speed and stability class internal to the model. Because maximum impacts were expected to occur close to the facility and because most residences and sensitive receptors are located in areas with elevations lower than that of the facility, flat terrain was assumed in the modeling. Rural dispersion coefficients were utilized based on land use in the area.

Impacts were predicted at 32 receptors beginning at the closest distance to the property boundary of the facility (i.e., 1,000 meters). Receptors were placed every 50 meters to a distance of 500 meters from the plant and then every 100 meters to a distance of approximately two kilometers. Additional receptors were placed at the distance to the closest residence (1,010 meters) and to the closest school (1,929 meters), as well as at nine other sensitive receptors in the area.

Emissions and Stack Parameters

The SCREEN3 model predicts one-hour average concentrations utilizing a one-hour emission rate. A unit emission rate of one pound per hour was assumed in the modeling, as the predicted air quality impacts are directly proportional to the emission rate. A conversion factor of 0.08 was applied to the one-hour impacts to obtain annual concentrations.

Modeling was conducted for emissions of arsenic, cadmium, chromium, beryllium, and nickel from the kiln. Kiln emissions are vented to 32 stacks with baghouses for control of particulate matter. To simplify the analysis, these 32 stacks were co-located and modeled as one stack. This approach is reasonable as these stacks have similar release parameters. A stack gas exit temperature of 375 degrees Fahrenheit (191 degrees Celsius) and an average flow rate of 18,546 actual cubic feet per minute (525 actual cubic meters per minute) were assumed in the modeling, along with a stack height of 60 feet (18.3 meters) and a stack diameter of approximately 2.21 feet (0.67 meters). Because the stacks are rectangular, the diameter of circular stack of equivalent area was calculated for use in the modeling.

Building Downwash Effects

A Good Engineering Practice (GEP) stack height analysis was conducted for the stack following EPA's revised "Guideline for Determination of Good Engineering Practice Stack Height" (June 1985) to establish the controlling building and building dimensions for input to the model. GEP height is the minimum stack height that will prevent a plume from being entrained in the wake of nearby obstructions. For stacks which are less than GEP height, these downwash effects must be accounted for in the modeling.

All structures within 5L of the combined stack were evaluated. L is the lesser of the height of the structure or the maximum projected width in meters. Seven structures or tiers of buildings were determined to be located within this distance. The horizontal dimensions of these structures were adjusted as necessary to represent rectangular structures for input to SCREEN3. As two of the seven structures/tiers had identical horizontal dimensions, only the tier with the higher height was included in the modeling analysis. Thus, the SCREEN3 model was run for six different structures to ensure that worst-case impacts were predicted. The controlling structure, and that resulting in the highest impacts, was the 94-meter (309-foot) tier of the preheater building to the north of the stack. This tier is considered a tall structure, resulting in a GEP height of approximately 141 meters (464 feet).

For stacks that are relatively short compared to the height of nearby structures, exhaust from the stacks may be trapped in the downwash recirculation zone, called the cavity region, next to nearby structures. High turbulence in the cavity region can lead to elevated air quality concentrations. The SCREEN3 model can be used to determine whether a stack will be caught in the cavity region and to estimate concentrations within the cavity as well as in the wake region of building beyond the cavity. For each of the structures nearby the stack being modeled, the cavity region was determined not to extend off the facility property. Therefore, cavity concentrations were not included in the impact assessment.