

# ***Alex J. Sagady & Associates***

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**March 25, 2011**

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

**Chief, Air Permits Office  
U.S. Environmental Protection Agency - Region IX**

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

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

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

On January 7, 2011, Bay Area Air Quality Management District (BAAQMD) issued a public notice concerning a pending public comment period on 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 comment to BAAQMD is being filed as a technical comment on behalf of the **West Valley Citizens Air Watch (WVCAW)** which authorized the consultant's work and the filing of a comment reflecting the consultant's review of the Lehigh SW Title V permit application. These comments are below:

## **1 Lehigh Southwest's Title V Renewal Application Failed to Submit a Complete and Accurate Title V Permit Renewal Application**

### **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 Commentors by the BAAQMD Public Records section 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, either in 2009 or in 2011, by the BAAQMD Public Records section.

## **1.2 The Application Failed to Include the Required Emission 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. If the Applicant intended to utilize district emission factors used in the emission inventory system, the Applicant must state on the record that it is doing so and that such factors are correct. The Applicant never made such finding as part of its application submittal.

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.

It is not sufficient for BAAQMD permit issuance purposes to merely provide information missing from the Applicant’s Title V permit review submittal, since the Statement of Basis only represents a BAAQMD finding and not information required for submittal by the Applicant and subject to an application certification process.

Effective emission characterization for the subject source is the primary responsibility of the Applicant and not of BAAQMD. The BAAQMD Statement of Basis workproduct cannot substitute for Applicant fulfilling their responsibilities to fully characterize and describe their emissions. At the very least, BAAQMD’s efforts to try to perfect Applicant’s submittal by providing information in the Statement of Basis that does not appear in Applicant’s submittal constitutes an agency decision to rescue the Applicant from its responsibility to certify the accuracy of submitted information by the authorized representative.

### **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. Raw mill bypass operations should have been identified as an alternate operating scenario.

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.

### **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. This needed vent/stack 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.

**1.5 The Applicant’s Failed to Properly and Specifically Identify and Quantitatively Characterize All Fugitive Emission Sources from Each Piece of Process Equipment and From All Emission Units**

The Applicant’s submittal is incomplete because the Applicant’s source and emission characterization does not address all fugitive emission sources on site.

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 unsupported, 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:

| <b>Source #</b> | <b>Description</b>                      | <b>Specified Emissions (t/y)</b> | <b>Source Abatement Device #</b> |
|-----------------|---|----------------------------------|----------------------------------|
| 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 |

**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 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.

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

**2.1 The Applicant Must Amend its Application to Clarify in a Certified Submittal that the Facility is a Major Hazardous Air Pollutant Source and to Accurately Characterize Annual Emissions of Hydrogen Chloride and other HAPs**

Applicant’s Title V renewal application contains conflicting depictions of the facility as a major vs. minor HAP source. Exhibit #6 shows the application as though it were without applicability of MACT requirements [MACT/Section 112 applicability box not checked].

The Applicant has reported the following total stack plus fugitive emissions of hydrogen chloride as part of Applicant’s Toxic Release Inventory (TRI) reporting responsibilities to U.S. EPA:<sup>1</sup>

| Year       | 2009  | 2008  | 2007  | 2006  | 2005  | 2004  | 2003  | 2002  | 2001  |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Amount lbs | 25784 | 35495 | 40934 | 39363 | 41142 | 39150 | 33021 | 35562 | 39200 |

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<sup>1</sup> The data was obtained from a report query run in the TRI section of EPA’s Enviro data system.

The Applicant thus consistently reports it discharges more than 10 tons of hydrogen chloride. As a result, the Applicant must be considered to be a major HAP source under Section 112 of the Clean Air Act.

Applicant's source-wide emission characterization (See Exhibit #1) shows less than 25 tons of total HAP emissions. The exhibit shows 1.4 tons of hydrogen chloride emissions in a report certified as accurate by the Applicant's responsible official. However, Applicant's 1.4 ton hydrogen chloride emission characterization must be considered to be an erroneous, unsupported result in the certified report when viewed in light of the evidentiary strength of Applicant's TRI reporting history for hydrogen chloride air emissions.

The act of permit issuance by BAAQMD constitutes an approval and acceptance of Applicant's application submittal. BAAQMD cannot cure the defect in the Application submittal by simply making a declaration that the facility is a major HAP source, leaving the underlying inaccurate application submittal on the record. The reason that BAAQMD cannot cure the problem by simply making declarations about major HAP source status in the Statement of Basis is because doing so in the present situation relieves the Applicant of their obligation to make a certified, accurate statement of their emissions on the record.

BAAQMD must demand an accurate accounting of the facility's HAP emissions. The Applicant must not be allowed to plead to being a minor HAP source in the future after the commencement of operation of the lime and activated carbon injection system. Applicant's submittals as shown in Exhibits #1 and #6 must be corrected on the record before the permit is issued. There must be no latitude available to the Applicant to benefit from the erroneous application elements described above if they become a minor HAP source and then to make an unfounded claim they are no longer a major source for purposes of Maximum Achievable Control Technology applicability determination or that they are otherwise exempted from EPA's 'once in, always in' policy on MACT applicability.

## **2.2 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 in list in the table below:

| <b>Source #</b> | <b>Description</b>                        | <b>Abatement Device</b> |
|-----------------|---|-------------------------|
| 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 Pozzolan Feeder (6Wf7)               | A-244                   |
| S-300           | Wet Aggregate Storage Piles               | spray                   |
| S-343           | Crusher Rock Returns [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.

### **2.3 Applicant's Individual Emission Unit Site Wide Particulate Emissions Characterization Cannot be Reconciled with Applicant's Summary Total Particulate Emissions Disclosure 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.

### **2.4 Applicant's April, 2008 Title V Renewal Application Emissions Information Cannot be Reconciled with Applicant's Year 2007 EPA Toxic Release Inventory (TRI) Report**

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.

Exhibit #1 shows the Applicant's reported a source-wide benzene emission total of 6.4 tons per year. Applicant made no benzene report at all for year 2007 in their TRI submittal to U.S. EPA.

Applicant reported 0.09 tons (180 lbs) per year of mercury emissions in the Title V application (Exhibit #1); the Applicant reported year 2007 TRI emissions of mercury at 238 lbs.

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 report to EPA's TRI system shows greater than 20,000 lbs of hydrogen chloride reported by the Applicant for each and every year since year 2001. Applicant's Title V application shows hydrogen chloride emissions at 1.4 tons per year, but this small hydrogen chloride emission estimate cannot be held as credible or accurate given the lost history of Applicant's TRI reports on hydrogen chloride.

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 substances were reported in Applicant's year 2007 TRI report to EPA.



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 despite the requirement that all annual HAP emissions as regulated pollutants must be reported under Title V application rules.

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 most recent annual point source and fugitive emissions for all regulated pollutants, which include all designated hazardous air pollutants (HAP) and other CAA regulated pollutants.

## **2.5 The Draft Permit Should Be Amended to Require Continuous Opacity Monitoring for the Largest and 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, clinker cooler, raw mills and finish mills.

Reliance on EPA Method 9 and 22 and pressure drop monitoring is not sufficient to ensure compliance with BAAQMD visible emission requirements for such a significant emission source. Opacity observations 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.

## **2.6 The Draft Permit Fugitive Dust Control Plan Cannot be Enforced as an Emission Limitation and Applicable Requirement, and Has Not Been Subject to Public Comment**

Condition #24621-1 (See p. 485 of Draft Permit) provides:

“The owner/operator shall operate and maintain the Fugitive Dust Control Plan. for sources that are not subject to NESHAP 40 CFR 63 Subpart LLL at the Cement and Rock Plants, including the on site dust emissions from truck traffics. This plan must be updated periodically as necessary and must be submitted to the District for approval at least once every five years during the Title V permit renewal. This plan

must be kept on site and made available to District's staff upon request. (Basis: Regulation 2-1-403) “

The practical effect of the ‘shall operate and maintain’ vague language is that there is no required basis for enforcing specific elements of the Fugitive Dust Control Plan and there is no clear basis for the Plan to achieve a RACT-like level of emission control over uncontrolled fugitive emissions. The language contains no requirement for a system of recordkeeping and exception reporting to document compliance with work practice and operational elements in the Fugitive Dust Control Plan. All of these Plan deficiencies are objectionable and should be remedied in the final permit.

Commentors note that BAAQMD did not seek public comment on the Fugitive Dust Control Plan, although it is available at the BAAQMD web site. The need for a fugitive dust control plan arises because of the overall nature of cement plant operations and because of the underlying requirement to have in place RACT controls for PM fugitive emissions.

Elements of a fugitive dust control plan must be enforceable as applicable requirements in order to be effective in achieving fugitive emission reduction. Plan elements for operations and work practices must be documented with required recordkeeping and exception reporting to be enforceable. In addition, as applicable requirements, fugitive dust control plans should be subjected to public review and comment. Public interest in heavy dust emissions is properly focused on such details as would be provided in a fugitive dust control plan.

A fugitive dust control plan must not be an element of impermissible source self-regulation. As a result, at a minimum, a fugitive dust control plan, or its revision, must be made subject to requirement for affirmative approval by BAAQMD before such Plans are put in place. Once such a plan is approved, the text of the plan must be available to the public as an applicable requirement; merely saying that the current Plan is to be retained onsite and available to BAAQMD does not provide notice and availability to the public for what should be a permit applicable requirement.

## **2.7 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 emission summary form provided a plant wide summary total for “organics.” Such loose vernacular is not acceptable since the Applicant must provide criteria pollutant emission 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.).

## **2.8 Back Half /Condensable PM Sampling Train Reporting**

On a site-wide basis, the Draft Permit should be amended to require the Applicant to report as separate totals both filterable PM and condensable PM from the ‘back half’ of the PM sampling train. Any future consideration of New Source Review applications must necessarily consider both filterable and condensable PM in emissions baseline determination. There will be no basis for estimation of total PM emissions including condensables if such data is not gained during EPA Method 5 stack sampling runs.

## **3 Comments Addressing Specific Individual Site Emission Units**

### **3.1 Equipment S-141 & S\_142 - Raw Mills**

The draft permit erroneously requires a 19% oxygen correction instead of the required 7% correction [See p. 147 of proposed permit]. EPA published a direct final rule (See 76 Fed. Reg. 2836, Table 2) with an effective date of March 21, 2011, which has gone into effect [no comments were filed on the proposed rule matter]. The direct final rule makes clear that the total hydrocarbon (TNC) limits are corrected to 7%, which was a change from EPA’s 09/09/2010 final rule.

The present proposed permit contains opacity limits of both 10% and 20%. The draft permit should be amended to explain when the 10% limit applies and when the 20% limit applies. Since both S-141 and S-142 and S-154 (kiln) all discharge through the same fabric filter vents, the clarification that must be achieved in the permit is to explain what limit is required on the same vent discharge as per equipment operation configuration. If the 10% opacity limit is not effective while the kiln (S-154) is discharging through the A141 and A142 fabric filters, then the condition should be written in that manner.

The 24 ppmvd emission limitation @ 19% O<sub>2</sub> (see p. 147) is in error as the limit is actually 50 PPMVD corrected to 7 % O<sub>2</sub> as per EPA’s direct final rule of March 21, 2011 (See 76 Fed. Reg. 2836, Table 2).

The D/F emission limitation must be shown with a 7% O<sub>2</sub> correction factor (See 76 Fed. Reg. 2836, Table 2).

### **3.2 Emission Unit S-154 - Preheater Kiln**

The Statement of Basis indicates that “...Lehigh is planning to upgrade the kiln baghouse and merge the configuration of the 32 stacks into one tall stack.” (SOB at point 7 on p. 8) No date is provided for completion of this change in emission point configuration.

The draft permit should not issue without a firm compliance date for the stack configuration change. The draft permit should be amended to contain a provision stating that after a specified future date of completion of the stack reconfiguration, all emissions from S-154 must be discharged to a stack with a known and permit-enforceable vent gas release height. In addition, data should be made part of the application showing the location, the inside diameter, the internal separated flue construction, the volumetric discharge rate and stack gas exit velocity. Finally, the Application should be amended to show the physical duct locations of all continuous emission monitoring points, showing also the points at which stack gas flow monitoring is being provided.

The Applicant should be required to install a continuous opacity monitor to assure compliance with opacity and Ringelmann number on this large emission source since monitoring once every six months is not sufficient to assure compliance with the emission limitations.

The 24 ppmvd emission limitation @ 7% O<sub>2</sub> (see p. 189) is in error as the limit is actually 50 PPMVD corrected to 7 % O<sub>2</sub> as per EPA's direct final rule of March 21, 2011 (See 76 Fed. Reg. 2836, Table 2).

Commentors object to the removal of the requirement for the quarterly composition analysis of coke that is provided at p. 437 under condition 603, condition 6. Petroleum coke is a waste product of the petroleum refining industry that can be expected to contain significant quantities of toxic heavy metals, such as cadmium, lead, selenium, vanadium, mercury, chromium and others. Because of the increased use of heavy sour crude and synthetic crude streams in the petroleum refining industry, more of these metals may become part of the petroleum coke waste stream. Introduction of these toxicants to Portland cement kilns will mean a portion of these petroleum coke waste constituents will partition to flue gas from kiln process unit S-154. The prospect of use of more contaminated fuel in the cement kiln fully justifies retaining a requirement ensuring that such constituents are monitored on a regular basis through petroleum coke quarterly analysis requirements.

The Draft Permit must require compliance monitoring and testing and emission evaluation at each of the thirty two S-154 discharge vents from each of the 4 fabric filter systems controlling this emission point for all of the Subpart LLL final emission limitations presently in effect from the 1999 MACT rule for PM, opacity and dioxins/furans. In addition, it is not clear if temperature monitoring equipment and requirements are being carried out presently at all 4 fabric filter inlets.

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 BAAQMD practice allowing the facility to fail to carry out such testing should be disallowed in order to ensure compliance with emission limitations for the entire gas flow from the precalciner/kiln.

# 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<br>(name)     | EMISSIONS<br>(tons per year) | PRE-MODIFICATION EMISSIONS<br>(tons per year) | EMISSIONS<br>CHANGE<br>(tons per year) |
|-------------------------|------------------------------|---|--|
| CO                      | 3224.2                       |   |  |
| NOx                     | 1364.0                       |   |  |
| PM                      | 84.9                         |   |  |
| SO2                     | 309.7                        |   |  |
| Organics                | 119.5                        |   |  |
|                         |                              |   |  |
|                         |                              |   |  |
| HAPs (112b pollutants): |                              |   |  |
| Benzene                 | 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 WESSELING  
 Print Name of Responsible Official

PLANT MANAGER

Title of Responsible Official and Company Name

Date: 4-25-2008

# Exhibit #2



# TRI Explorer

You are here: [EPA Home](#) | [TRI](#) | [TRI Explorer\(ver 4.8\)](#) | [Reports](#)

## Releases: Facility Report

Detail columns are collapsed by default. Click the icon to view additional columns. Use your Browser back button to return to the previous page.

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 Industries

| 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          | 95014KSRMNA | 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                                    |
|       | <b>Total</b>   | <b>5</b>    | <b>33</b>              | <b>41,183</b>              | <b>.</b>                 | <b>0</b>                               | <b>0</b>       | <b>0</b>                             |

(Note that if a facility name appears multiple times within each of the below tables, the facility is a multi-establishment.)

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 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 | Other Impo |
|-------|-------------------|---------|------------------------|----------------------------|--------------------------|--|----------------|--------------------------------------|------------|
|       |                   |         |                        |                            |                          |  |                |                                      |            |
|       |                   |         |                        |                            |                          |  |                |                                      |            |
|       | HANSON PERMANENTE |         |                        |                            |                          |  |                |                                      |            |



|              |   |             |                  |                  |  |                  |                  |                  |
|--------------|---|-------------|------------------|------------------|--|------------------|------------------|------------------|
| 1            | CEMENT,<br>24001<br>STEVENS<br>CREEK BLVD,<br>CUPERTINO | 95014KSRMNA | 0.0000000        | 0.1117000        |  | 0.0000000        | 0.0000000        | 0.0000000        |
| <b>Total</b> |   | <b>1</b>    | <b>0.0000000</b> | <b>0.1117000</b> |  | <b>0.0000000</b> | <b>0.0000000</b> | <b>0.0000000</b> |

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<br>PERMANENTE<br>CEMENT, 24001<br>STEVENS CREEK<br>BLVD,<br>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](#)

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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:  
Facility Report

October 1, 2009

Go to [TRI Explorer Home](#) | [Go To New Report](#)

TOP OF SCREEN 

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

# Exhibit #3

|   |                                 |
|---|---------------------------------|
| <b>FACILITY NAME:</b> <u>Hanson Permanente Cement</u> | <b>FACILITY #:</b> <u>A0017</u> |
|---|---------------------------------|

**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 Top 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

**Major Facility Review**  
**Detailed Emissions**  
**Report**

|   |                                 |
|---|---------------------------------|
| <b>FACILITY NAME:</b> <u>Hanson Permanente Cement</u> | <b>FACILITY #:</b> <u>A0017</u> |
|---|---------------------------------|

**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<br>(one line for each) | Annual Emissions,<br>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 Separator (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                              |

April 2008  
Date

Emissions for year ending \_\_\_\_\_

|   |                                 |
|---|---------------------------------|
| <b>FACILITY NAME:</b> <u>Hanson Permanente Cement</u> | <b>FACILITY #:</b> <u>A0017</u> |
|---|---------------------------------|

### 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<br>(one line for each) | Annual Emissions,<br>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 Returns 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 \_\_\_\_\_



|                       |
|-----------------------|
| Major Facility Review |
| Detailed Emissions    |
| Report                |

|  |                          |
|--|--------------------------|
| FACILITY NAME: <u>Hanson Permanente Cement</u> | FACILITY #: <u>A0017</u> |
|--|--------------------------|

**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 |
|----------|---------------------------------------|---------------------------------------|---------------------------------|
| 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

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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

© 2009 Google

138 ft

Imagery Date: Jul 2007

37°18'58.49" N 122°05'19.91" W elev 552 ft

Eye alt 1095 ft

# Exhibit #6

|   |                    |
|---|--------------------|
| FACILITY NAME: Hanson Permanente Cement | FACILITY ID: A0017 |
|---|--------------------|

II. TYPE OF PERMIT ACTION

|  | CURRENT PERMIT<br>(permit number) | EXPIRATION<br>(date) |
|--|-----------------------------------|----------------------|
| <input type="checkbox"/> Initial Title V Application     |                                   |                      |
| <input checked="" type="checkbox"/> Permit Renewal       | Title V Permit (Facility A0017)   | October 31, 2008     |
| <input type="checkbox"/> Significant Permit Modification |                                   |                      |
| <input type="checkbox"/> Minor Permit Modification       |                                   |                      |
| <input type="checkbox"/> Administrative Amendment        |                                   |                      |

III. DESCRIPTION OF PERMIT ACTION

- Does the permit action requested involve:
  - Temporary Source
  - Voluntary Emissions Caps
  - Acid Rain Source
  - Alternative Operating Scenarios
  - CEM's
  - Abatement Devices
  - Source Subject to MACT Requirements [Section 112]
  - Source Subject to Enhanced Monitoring
- Is source operating under a Compliance Schedule?  Yes  No
- For permit modification, provide a general description of the proposed permit modification:

017947

*J. Wissel*  
 Signature of Responsible Official

HENRIK WESSELING  
~~Scott Renfrew~~  
 Name of Responsible Official

Date: 4-25-2008