

Subject: Lehigh RPA

Date: Monday, June 4, 2012 12:44 PM

From: Tim Brand <tkbrand@sbcglobal.net>

To: <jackbohan@hughes.net>, <planning.commission@pln.sccgov.org>, <planning.commission@pln.sccgov.org>, <planning.commission@pln.sccgov.org>, <planning.commission@pln.sccgov.org>, <planning.commission@pln.sccgov.org>, <JTVIDOVICH@aol.com>

Conversation: Lehigh RPA

6/7/12
Supplemental Packet
Item # 3

To: Santa Clara County Planning Commissioners
Re: Lehigh Reclamation Plan Amendment

In Thursday evening's hearing, Mr. Jim Pompy responded to your question about the cement plant exclusion from the proposed RPA by pointing to a decision published August 23, 2007. But WVCAW sent a letter on October 3, 2007 questioning that decision with specific documentation that proved it was flawed. This letter was included in the draft EIR comments from WVCAW and BACE. A reference to the original flawed decision is clearly not an answer to our specific claims against that flawed decision. These claims in our letter from 2007 have never been answered.

Please request your staff to address the claims in our letter which include the relevant sections of SMARA. I have included the letter below as well as in an attachment. Our letter points out the clear SMARA criteria which require inclusion of the cement plant in the RPA. Unless these issues are properly addressed, your approval of the RPA would not be in compliance with the obvious intention and language of SMARA.

I think the public has a right to expect that our governing bodies enforce the law instead of leaving it up to the citizenry to enforce the law in the courts. Instead we are relying on Earth Justice, the Sierra Club, and Bay Area for Clean Environment to provide desperately needed regulation through the legal system. As I canvass district 5 neighborhoods for the upcoming election I have found that people universally feel that their government agencies no longer represent their interests in matters such as this. We believe that we are only asking for proper enforcement of the law. Again, please read the letter below and make sure you get an answer to it before you render your decision on the Lehigh RPA.

Sincerely,
Tim Brand for WVCAW

10161 Lebanon Drive
Cupertino, CA

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.....

Copy of letter follows:

West Valley Citizens Air Watch
10136 Camino Vista Dr
Cupertino, CA 95014
(408) 446-1827
October 4, 2007

Douglas W. Craig
Assistant Director
Department of Conservation
Office of Mine Reclamation (OMR)
801 K Street, MS 09-06
Sacramento, CA 95814

Re: Hanson Permanente Cement Corporation (Hanson Permanente) --
necessity of inclusion of cement plant in reclamation plan amendment and
Draft Environmental Impact Report (DEIR) based on State Mining and
Reclamation Act (SMARA) requirements. Mine Identification No. 91-43-0004

Dear Mr. Craig:

The Hanson Permanente cement plant needs to be included in the upcoming
reclamation plan amendment and Draft Environmental Impact Report (DEIR)
as stated in the OMR letter of September 22, 2006 [1]; as also stated in
the letter from James S. Pompy, Manager Reclamation Unit, OMR, in his
letter of May 18, 2007 [2]; and again stated by Paul Marshall, Senior
Engineering Geologist, Compliance Section, OMR, in his letter of June 7,
2007 [3].

The OMR letter dated, September 22, 2006, pointed out that, "According

to the approved reclamation plan [of 1984], ' . . . crushed rock is transported, for further processing, to the cement plant further to the east.' Because the cement plant includes structures, facilities, equipment, machines, tools, or other materials or property which result from, or are used in, surface mining operations, it meets the definition of 'Mined Lands' contained in Public Resources Code (PRC) § 2729 (SMARA).* Because there is no approved reclamation plan or financial assurance for this area, Hanson has been and is currently operating the cement plant in violation of SMARA. "

"The Department [of Conservation] believes that the reclamation plan for the Hanson Permanente Quarry and Cement Plant needs to be amended to include the cement plant site." [1]

On May 18, 2007, in reviewing the Hanson Permanente Application (dated March 2007), James S. Pompy, Manager Reclamation Unit, OMR, states, "OMR specifically identified the cement plant as an area which meets the definition of "Mined Lands" as stated in PRC Section 2729. The proposed Amendment is not in compliance with Article 1 (commencing with Section 3500) of Title 14 of the CCR that addresses reclamation plan amendments, and will not resolve this outstanding compliance issue." [2], p 2.

On June 7, 2007, in reviewing the Financial Assurance cost estimate for Hanson Permanente, Paul Marshall, Senior Engineering Geologist, Compliance Section, OMR, wrote, "OMR has reviewed the cost estimate and proposed amendment and finds that it specifically excludes Kaiser Cement Corporation's cement plant facilities that are located just east of the existing Permanente quarry pit . . . The proposed amendment is not in compliance with Article 1 (commencing with Section 3500) of Title 14 of the CCR that addresses reclamation plan amendments, and therefore, the cost estimate is inadequate to resolve this outstanding compliance issue." [3] p 1.

To the contrary, after receiving a letter dated July 2, 2007, from Hanson Permanente, on August 23, 2007, the OMR reversed itself, "Based on a review of information provided by the operator of this site, Hanson Permanente Cement, Inc. . . ." However, additional facts have come to our attention which provide for the opposite conclusion and which we have documented below. [4] & [5]

The OMR determination to include the cement plant in the reclamation plan and thus the DEIR needs to be restored; that is, include the cement plant in the upcoming reclamation plan and DEIR. [1] Not including the cement plant appears to violate the State Mining and Reclamation Act (SMARA) and possibly other laws. Hanson's response in their letter of July 2, 2007, to OMR claims that SMARA did not apply to the plant as it met the exclusion criteria for a processing facility."

[4]

To the contrary:

The Surface Mining and Reclamation Act of 1975 (SMARA) section 2714, states:

"This chapter does not apply to any of the following activities:

(c) Operation of a plant site used for mineral processing, including associated onsite structures, equipment, machines, tools, or other materials, including the onsite stockpiling and onsite recovery of mined materials, subject to all of the following conditions: [bold added]

- (1) The plant site is located on lands designated for industrial or commercial uses in the applicable county or city general plan.
- (2) The plant site is located on lands zoned industrial or commercial, or are contained within a zoning category intended exclusively for industrial activities by the applicable city or county.
- (3) None of the minerals being processed are being extracted onsite.
- (4) All the reclamation work has been completed pursuant to the approved reclamation plan for any mineral extraction activities that occurred onsite after January 1, 1976."

*** The cement plant site does not meet any of these four criteria for exclusion, let alone all of the criteria as required under 2714 (c) as quoted above. ***

West Valley Citizens Air Watch would like OMR to now have access to the pertinent facts and accurate information, which it appears they did not previously have, as follows:

Re: Subsection (c) (1)

The location of the cement plant site is within the City of Cupertino Urban Service Area and thus it is located on the City of Cupertino Land Use Map. (It does not fall under the Santa Clara County land use designation). On the City of Cupertino Land Use Map, the area is designated Very Low Density Residential (5-20 Acre Slope Density Formula) . Therefore the fact is the cement plant area is not designated for industrial or commercial use.[6]

In addition, attached is a letter dated August 30, 2007, from the City of Cupertino to SMGB requesting the cement plant be included in the EIR for the reclamation plan amendment.[7]

Re: Subsection (c) (2)

When the cement plant facility was rebuilt in the early 1980's it was moved to a different site from the original location. [8] The new site,

which is the current site, was and is zoned "A Exclusive Agriculture."
(See the Santa Clara County Zoning map) [8] & [9]

Even if the current cement plant was still within the original A1 Zoning category, which it is not, A1 is a General Use District allowing for residential and agricultural uses and other uses through a permit process. It is not zoned industrial or commercial or exclusive industrial. [9]

Therefore the fact is the cement plant is not located on lands zoned for industrial or commercial uses, and it is not contained within a zoning category intended exclusively for industrial activities by the applicable city or county.

Re: Subsection (c) (3)

According to the approved reclamation plan "... crushed rock is transported, for further processing, to the cement plant further to the east." (Reclamation Plan, Kaiser Cement and Permanente Quarry, 1984, p 20) [10]

The cement plant was established after the quarry operation began because of the presence of the limestone onsite. The cement plant was and currently is primarily supplied by limestone from the onsite quarry. Although Hanson states in its letter of July 2, 2007 that it is served by rail, it fails to point out that it is primarily the fuel -- coal and petroleum coke -- which are delivered by rail, along with comparatively small amounts of bauxite and iron ore. Virtually all of the limestone used in the kiln comes from the onsite quarry. And, as was explained to me, Karen Del Compare, by Mr. John Giovanola of Hanson Permanente on an August 14, 2007 tour of the Hanson Permanente site, limestone makes up about 95% of the material needed to make cement. [11]

In a Scoping Meeting for the DEIR for the Reclamation Plan Amendment in the City of Cupertino on July 26, 2007, Hanson Permanente Land Use Director Marvin E. Howell stated "The most important thing I'd like you to take away today from my comments would be the fact that this material is mined here, the material is milled here, and the material is used here." [12]. It is clear that the cement plant is part of an integrated operation, supplied by limestone from the quarry. As quoted above, Hanson's own officials proclaim this in public meetings.

The fact is that the vast majority of the minerals being processed are being extracted onsite.

Re: Subsection (c) (4)

The document in Attachment [13] refers to the current cement plant site being "quarried" after 1976. [13] p 4

In its letter of July 2, 2007, Hanson incorrectly claims that, "The plant is a stand-alone facility that has been operating continuously in the same footprint since its inception in 1939." [4]

It appears that Hanson's position -- that the cement plant should not be included as a part of the reclamation plan -- would circumvent the CEQA process (Division 13, commencing with Section 21000) and produce an EIR which would improperly piecemeal the reclamation plan and would not properly provide for reclamation of a quarried area.

Because SMARA Section 2714, (c) requires all four conditions to be met as a criteria for exemption and because those required conditions are not satisfied (not even one of them), we are requesting redress of this matter, by OMR requiring inclusion of the cement plant in the reclamation plan amendment and the DEIR.

We support the OMR and the Department of Conservation in using your professional expertise to enforce SMARA. Please inform us of progress on this matter.

Thank you for your attention,

Karen Del Compare and Joyce M Eden for West Valley Citizens Air Watch

cc: Bridgett Luther, Director, Department of Conservation
Stephen Testa, Executive Officer, State Mining and Geology Board
Val Alexeeff, Director, Dept. of Planning, Santa Clara County
David W. Knapp, City Manager, City of Cupertino
Sally Lieber, Assemblywoman, 22nd Assembly District

* SMARA § 2729. "Mined lands" includes the surface, subsurface, and ground water of an area in which surface mining operations will be, are being, or have been conducted, including private ways and roads appurtenant to any such area, land excavations, workings, mining waste, and areas in which structures, facilities, equipment, machines, tools, or other materials or property which result from, or are used in, surface mining operations are located.

Attachments:

- [1] OMR letter to Santa Clara County dated September 22, 2006
- [2] OMR letter to Santa Clara County dated May 18, 200

- [3] OMR letter to Santa Clara County dated June 7, 2007
- [4] Hanson Aggregates letter to OMR dated July 2, 2007
- [5] OMR letter to Santa Clara County dated August 23, 2007
- [6] City of Cupertino Land Use Map- Note: an enlargeable pdf is available on the web. Google search, "Cupertino Land Use Map"
- [7] Letter from City of Cupertino to State Mining and Geology Board dated August 30, 2007
- [8] November 28, 1977 Memo from Lucas S. Stamos (SCC Planning) to Board of Supervisors
- [9] Santa Clara County (SCC) Zoning Map
Santa Clara County Land Use Map
Santa Clara County Zoning Descriptions obtained on September 19, 2007 from SCC Planning Office
- [10] Reclamation Plan, Kaiser Cement and Permanente Quarry, 1984, p 20
- [11] Excerpted Notes from visit to quarry and cement factory on August 14, 2007 by members of West Valley Citizens Air Watch
- [12] Hanson Quarry Scoping Meeting Video, July 26, 2007:
<http://cupertino.granicus.com/ViewPublisher.php?view_id=5 <http://cupertino.granicus.com/ViewPublisher.php?view_id=5> >
Scroll down to "OTHER CITY PROGRAMS AND EVENTS", click on "Hanson Quarry Community Scoping Meeting", advance to minute 22:43. DVD available upon request from City of Cupertino.
- [13] Application to Santa Clara County Planning Department for Categorical Exemption Assessment of Kaiser Cement & Gypsum Corporation Proposed Cement Plant Modernization; Permanente, California; Use Permit 23, Issued May 8, 1939; dated, August 1977
Section: Environmental Assessment Factors of Applications to Santa Clara County for Categorical Exemption Assessment of Cement Plant Modernization, August 1977, p4

Subject: Written Communication: Lehigh HeidelbergCement

Date: Tuesday, June 5, 2012 1:09 PM

From: Susan Sievert <spsievert@gmail.com>

To: <planning.commission@pln.sccgov.org>

Cc: Michele Napier <Michele.Napier@pln.sccgov.org>

Conversation: Written Communication: Lehigh HeidelbergCement

6/7/12
Supplemental Packet
Item # 3

Dear Planning Commission,

I'm fascinated by the County of Santa Clara's level of hypocrisy: If the need for cement is the overriding reason why the county continues to allow the Lehigh HeidelbergCement Group, Germany, to violate the United States Clean Water Act, then why was the cement plant excluded from environmental review?

The public isn't so easily fooled: We know the main reason was to avoid a health risk assessment of the 100,000 annual diesel truck trips to the cement plant. Now, if it is at all true that this lack of study precludes the county from applying for the millions available in grant money to mitigate the harm these trucks do to the public's health, then the county's complicit negligence has reached a new low.

Finally, what kind of proceeding allows one side (the applicant) to continuously assert that the need for cement trumps protecting our fragile ecosystem from being poisoned, whilst the other side (the public) is admonished from even mentioning the downsides of cement production? Answer: A **kangaroo court** is a mock court in which the principles of law and justice are disregarded or perverted.

Susan Sievert

Subject: support for Lehigh EMSA project

Date: Sunday, June 3, 2012 4:40 PM

From: Keith Hocker <khocker@juniper.net>

To: "Planning.Commission@pln.co.santa-clara.ca.us"
<Planning.Commission@pln.co.santa-clara.ca.us>

Cc: Keith Hocker <keith.hocker@yahoo.com>

Conversation: support for Lehigh EMSA project

6/7/12
Supplemental Packet
Item # 3

Hi Scott,

I want to send you a note in support of the EMSA project now underway at the Lehigh Hanson Cement Plant. I currently sit on the Lehigh Permanente Community Council (LPCC) which is a group of residents that shares information and ideas with the management team at the plant. It was at one of these meeting a while ago where they presented this project to us. I supported this from the outset as my residence is close to the plant. From my bedroom window, I can see (and hear) the plant and was interested in the idea of building up an area of the hillside to block (visually as well as noise) some of the operations at the plant. While I'm a small minority in support of this project, others are against it I think due mainly to the unsightly nature of the present construction. I believe the Cement plant will ultimately groom and plant this area to blend in with the natural surrounding area as they have presented.

I'm anxious for the work to continue so that they may finalize the area and begin reconstruction of the hill side.

Feel free to contact me if you have any questions

Keith Hocker
21150 Canyon Oak way
Cupertino, ca. 95014

408-316-7423 (cell)

Hand out
Pool Sinks

6/7/12

#3



WMSA July 25, 2010

Free Copy

Supplemental
Packet - Sub
#17 #3
TO: Planning Commissioners

From: Denise East
deast7@yahoo.com
408 571 9203

Sierra Club Cool Cities for Cupertino
Co-leader

Re: Kehigh

MSE Selenium Removal Technology

Solution

MSE and Dr. Twidwell have worked together for more than a decade, developing and demonstrating technologies for arsenic, thallium, and selenium removal from water. The selenium process is very robust in that it is unaffected by the presence of high concentrations of competing anions and works well for all forms of selenium and arsenic. Specifically for selenium removal, MSE and Dr. Twidwell have completed treatability and pilot studies for customers as well as one full-scale treatment system.

MSE Solution
 MSE's selenium removal technology involves using metallic iron as a reductant under specific process conditions to reduce all forms of selenium to the elemental state.

Originally developed by Dr. Larry Twidwell of the Metallurgical Engineering Department at Montana Tech in Butte, MT, MSE refined and demonstrated

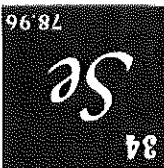
MSE Selenium Removal Technology

MSE's Selenium Removal Technology Case Study Results

Selenium Waters		Feed Conc. (µg/L)	Treated Conc. (µg/L)
California Department of Transportation groundwater from dewatering and pump station facility. Nitrates were also an issue.	1062	58	9.5
Selenium removal from contaminated groundwater at the Kennecott Utah copper smelter near Salt Lake City, Utah.	967	299	51
Selenium removal from highly variable scrubber water for a confidential customer who regenerates spent catalyst for the petroleum refining industry. This water contained extremely high concentrations of sulfate and also a wide variety of metals as well as cyanide. All metals were removed to discharge requirements.	9830	7610	77
Selenium removal from highly variable scrubber water for a confidential customer who recycles lead from batteries. This water also contained lead and antimony, which were also successfully removed.	9830	903	<25
Selenium removal from highly variable scrubber water for a confidential customer who recycles lead from batteries. This water also contained lead and antimony, which were also successfully removed.	700	8320	25
Selenium removal from FGD water for a confidential customer representing a number of electric utilities.	8320	5	5

MSE is at the forefront of developing robust, cost-effective technologies for removal of selenium and other contaminants from water.

The MSE selenium process is very robust in that it is unaffected by the presence of high concentrations of competing anions, and works well for all forms of selenium and arsenic.



For more information contact MSE

406.494.7100
 www.mse-ta.com



MSE Water Treatment - Selenium
 Providing engineering solutions for 30 years.
 We find engineering solutions for our customers. MSE headquarters are on 45 acres in Butte, MT, with offices across the United States



Water Treatment for Selenium

MSE is at the forefront of developing robust, cost-effective technologies to remove selenium and other contaminants from water.

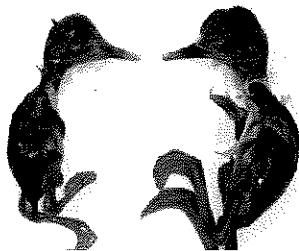
Water Treatment

- Full-Service Testing
- Onsite Sampling
- Onsite Evaluation Services
- Assessment / Resolution Services

MSE Water Treatment for Selenium - Air and Water Issues and what we can do

Selenium — Good and Bad

Selenium is a photosensitive element that occurs in both crystalline and amorphous forms, is obtained chiefly as a by-product in copper refining, and is used especially in glass, semiconductor devices, and alloys. Although selenium is an essential micronutrient for animals and humans—its prime benefit is as an antioxidant—it is the most toxic of the essential elements when it is in excess. The margin between healthy and toxic levels is very narrow and it bioaccumulates, so aquatic life up the food chain is most at risk. In fact, there have been occurrences of severe embryo deformities observed in aquatic life where selenium is elevated.



Deformed Duck Embryos from selenium...from the USGS site <http://www.wr.camml.wr.usgs.gov/Selenium/Trigation.htm>

Selenium ... In the Water

The U.S. Environmental Protection Agency has established limits for selenium in water.

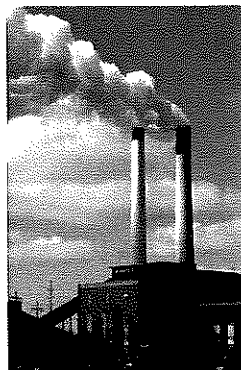
- Drinking water limit 50 micrograms per liter
- Chronic aquatic life limit 5 micrograms per liter

The EPA has also proposed a limit based on concentrations in fish tissue. The limit is very controversial, with no resolution in sight, and could have huge ramifications to coal mining companies. Specifically, processes related to leachate from valley fills resulting from the Mountaintop Mining/Valley Fill coal mining approach in southern West Virginia.

Selenium ... in the Air

Additional uncertainty regarding selenium issues is related to changes in air quality rules by the EPA. Selenium is frequently present in low concentrations in coal used by power plants to generate electricity. In 2005, the EPA implemented the Clean Air Interstate Rule, the Clean Air Mercury Rule, and the Clean Air Visibility Rule. These rules are intended to dramatically reduce sulfur dioxide emissions along with haze in national parks and wilderness areas.

As a result, it is expected that many new, more effective flue gas desulfurization (FGD) scrubbers will be installed by coal-fired power plants. These FGD scrubbers are expected to produce wastewaters containing trace levels of selenium and require treatment prior to discharge.



Coal-Fired Power Plants must deal with emissions standards

Selenium Treatment ... Is it Working?

Selenium is generally present as selenite (HSeO_3^- or SeO_3^{2-}), selenate (SeO_4^{2-}), organic complexes, and, under strongly reducing conditions, selenide (HSe^-). It is very difficult to remove from solution, very soluble, and there are no known precipitants. An incorrect assumption frequently made is that it will behave like arsenic. Most common removal technologies are interfered with by other competing anions present (silicate, bicarbonate, sulfate). The list below shows the difficulties in standard treatments:

- Ferrihydrite adsorption. The EPA's Best Demonstrated Available Technology for selenium removal is ferrihydrite adsorption. However, this approach is only effective for selenite, not the other potential selenium forms, and even for selenite it requires fairly specific conditions, and is significantly interfered with by other anions present in solution.
- Membranes. Membrane processes such as nanofiltration and reverse osmosis, are not selective for selenium species, are energy-intensive, and are subject to scaling.
- Ion exchange. Ion exchange is generally not selective enough for selenium species in the presence of competing anions.
- Selective resins. Selenium-selective resins are being developed, but they are expensive and considered experimental. Their high selectivity can make them very difficult to strip and regenerate.
- Activated alumina adsorption. Adsorption with activated alumina can be fairly effective under proper pH conditions, but suffers from interference from competing anions, and performance is poor for selenate.
- Activated carbon adsorption. Adsorption by activated carbon is ineffective for selenium removal.
- Ferrous hydroxide reduction. The U.S. Bureau of Reclamation developed a process using ferrous hydroxide as a reductant under specific process conditions to reduce selenite and selenate to elemental selenium. While effective, this process has a high reagent requirement and produces significant sludge volumes.
- Biological reduction. Biological reduction. Using bacteria to reduce selenite and selenate to elemental selenium or selenide has been performed effectively; however, biological systems are always vulnerable to upsets in process feed conditions, nutrient delivery, temperature, etc. MSE performed a pilot-scale demonstration project focused on groundwater at a copper smelter near Salt Lake City, Utah. This process was effective, and we will monitor a full-scale system to assess the robustness of the biological treatment.

There is a way to remove Selenium--->

MSE Technology Applications Inc. U.S.A. Phone (406) 494-7100 www.mse-ta.com

mrk_02_watertreatment_selenium_2c

1) *I started out with a degree in Natural Resources – Soil Science, and now have 34 years experience as a construction inspector.

2). I have seen many large earth-moving operations, vast quantities of rebar and concrete, and have recently been certified as a QSP or Qualified Storm Water Pollution Prevention Plan Practitioner or SWPPP Practitioner. *Denise East, QSP #2650*

3). Per Federal Cleanwater Act of 1972, the State now requires both a Qualified SWPPP Designer and Practitioner for all projects having disturbances over 1 acre as of last September 2011

4). (BOOK) The Report Preparers for this Dec 2011 Proposed Reclamation Plan are 33 authors none of whom is a Qualified SWPPP Designer.

5). Chapter 7 “Unavoidable Environmental Impacts” says this Reclamation Project has the potential of delivering selenium to Permanent Creek from stormwater runoff.

6). These authors did not understand that a state-mandated QSD needs to design a plan to prevent such stormwater runoff.

7). A QSD would develop an Industrial SWPPP that is site specific to control the release of selenium into the Creek.

8). The Lehigh Quarry Mine and/or Cement Plant operates under a State Industrial General Permit No. CAS-50001.

9). This Permit prohibits all discharges which contain hazardous substances in excess of reportable quantities.

10). CWA Section 303(d) lists Permanent Creek as an “impaired” water body due to its high selenium levels.

11). I am in contact with the lead technician for the EPA who is conducting a sampling enforcement study to determine the safe Total Maximum Daily Loads (TMDLs) of selenium that Lehigh will be allowed to release into Permanent Creek.

12). These TMDL limits are concentrations that are not meant to threaten the reproduction of fish, aquatic birds, and other wildlife.

13). This technician will provide the draft report revealing the selenium concentrations found in the creek samples and the required TMDLs sometime this week or next.

14). The selenium found is from naturally occurring rock formation that has been and is being released into the air and water from Lehigh’s mining excavation activities.

15). I have also been in contact with Dr. Dennis Lemly who specializes in the ecotoxicology of selenium.

16). Dr. Lemly forwarded these photos of fish with deformed spines due to selenium poisoning and are biomarkers of toxicity.

17). Dr. Lemly has a 2008 written declaration regarding selenium cycling and bioaccumulation.

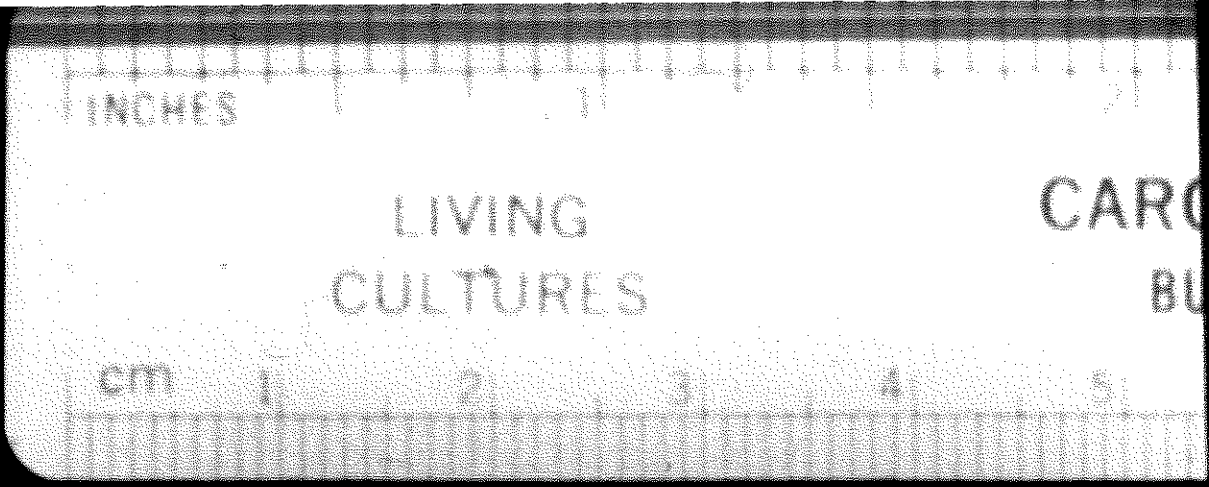
18) His report warns that selenium leachate poses a significant toxic hazard to aquatic life.

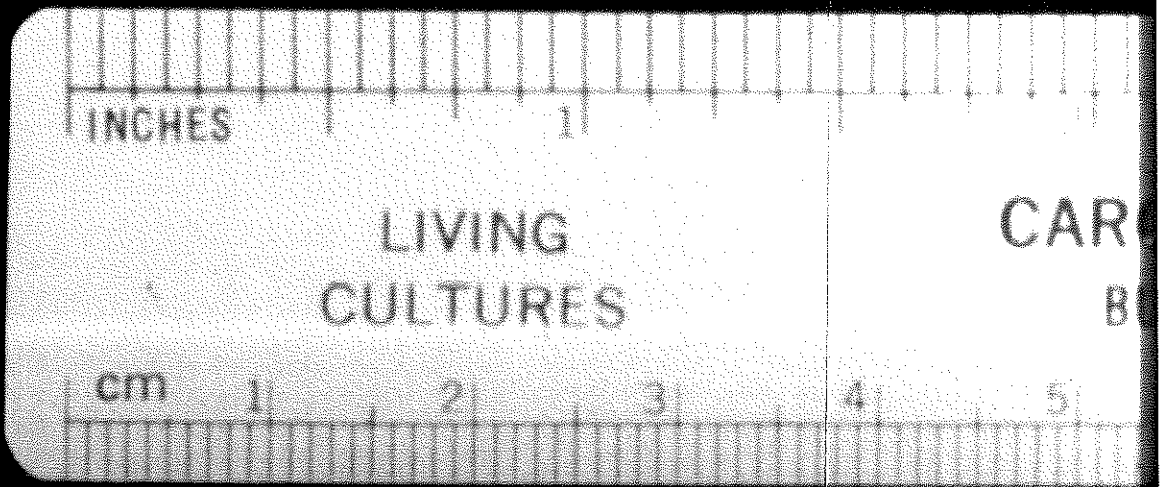
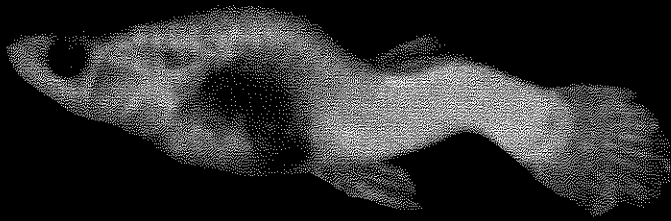
19). QUOTE: “The most important principle to understand when evaluating these threats is the ability of selenium to bioaccumulate.

20). This means that a low concentration of selenium in water has the potential to increase by several orders of magnitude by the time it reaches fish and other wildlife.

21). For example, a water concentration of 10 micrograms/L (or ppb) can increase to over 5000 times that amount in fish tissues.

- 22). Bioaccumulation causes otherwise harmless concentrations of selenium to reach toxic levels.
- 23). Another important principle is that selenium can cycle into the aquatic water and food chain for decades after selenium inputs are stopped.
- 24). Selenium in sediments remains active and provides significant pollution to bottom-dwelling invertebrates (or macroinvertebrates) and fish that feed on them.
- 25). Selenium waste into the water system is detrimental to fish, wildlife and the public health. “ UNQUOTE
- 26). Lehigh's stormwater permit must be for a Risk Level 3 site having direct discharge into receiving waters .
- 27). Per Federal Cleanwater Act, Risk Level 3 sites that disturb more than 30 acres shall conduct benthic macro-invertebrate bioassessments for diversity and density.
- 28). There should be upstream and downstream comparisons of the macroinvertebrates with total selenium concentration analyses because of food-transfer poisoning.
- 29). If upstream/downstream comparisons are not possible then comparison should be made to a nearby local creek similar as possible in size, stream channel/watershed characteristics and flow pattern.
- 30). Has anyone seen reports on this required testing?
- 31). Dr. Lemly states that Lehigh's claim that there is no way to treat selenium runoff is ABSOLUTELY NOT TRUE.
- 32). It is not a question of whether selenium can be removed but rather what method is best for the type of wastewater involved.
- 33). There are two successful primary sources for selenium treatment.
- 34). **(HOLD UP) !! One is MSE Selenium Removal Technology which involves using metallic iron as a reductant to reduce all forms of selenium to its elemental state where it is precipitated out of the water; it is cost-effective and robust _unaffected by presence of high concentrations of competing anions.**
- 35). The other is General Electric's ABMet Biological Technology using anaerobic bacteria attached to activated carbon medium which feed on the oxidized forms of selenium to reduce selenate to selenite and then to elemental selenium which precipitates out of water.
- 36). **The bacteria generate what is called selenium nanospheres which look like Carolina red clay.**
- 37). At last week's meeting, there was a couple I met who live adjacent to Permanente Creek who said there used to be frogs and raccoons around the creek and now there are none.
- 38). **The Sierra Club has similar testimony from other residents about the loss of wildlife in and around the creek.**



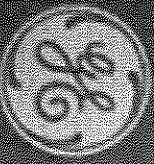


Reprint from: Power Engineering

September 2009

"Bugs" Used to Treat FGD Wastewater

Featuring GE's ABMet Technology



imagination at work

By Steve
Blankinship

Associate
Editor

08/08/2012 12:37

Free Copy

Supplemental
Packet
Info 6/7 #3

June 07, 2012

To: Santa Clara County Commission

From: Cathy Helgerson - Phone: 408-253-0490

Subject: Lehigh Southwest Company

Regarding: EIR and Proposed Reclamation Plan

1) Reference e-mail sent 6-4-2012

Paperwork mentioned The Site Reconnaissance Interview and Observations Report dated 9/21/2011 made by Anitra B rice (Weston solutions, Inc.) and Karen Jurist (US EPA, Region IX) states that they dredge the ponds and the material is stored at the EMSA it also states the kiln dust generated during the wet-kiln process days is also sent to the EMSA.

Problem: Lehigh has stated that there is only dirt in the EMSA and has never mentioned anything about waste material from the dredged ponds or the kiln dust being sent to the EMSA this is a violation of the EIR and the Proposed Reclamation plan. There is a problem with any dust coming form the kiln being sent to the EMSA for storage this should be tested for pollution what is in the dust? Citizen also believes that the bag house dust waste material is also being sent to the EMSA this should also not be happening. The great possibility that the WMSA was also used for decades as a dumping ground for waste from the kiln and bag houses in the form of kiln dust should not have been allowed. The dredged waste material from the ponds should also not have been allowed to be dumped into the EMSA or the WMSA.

- 2) Lehigh's Proposed Changes to Exhibit 1 Conditions of Approval – Condition 70 (d) The geotechnical design recommendations provided by Golder Associates (RPA Appendix C, November 2011) are being implemented as part of the ongoing stockpiling activities within the EMSA and as a condition of approval Project. This condition mentions fine waste materials should be placed in lifts each lift of fine waste should be allowed to dry before being covered by over burden materials. Again Lehigh has mentioned and so has Santa Clara County agreed that the EMSA overburden is only dirt and nothing else that there is no waste material in the soil this indicates that there is waste material being dumped and is a violation. The citizens would like to know what is this waste material that should not be added to the EMSA or the WMSA? This problem will bring back the EIR considerations for review such information was held back from the commission.
- 3) There is mention in the EPA Report Kaiser Cement Corp. Final Report (3) pdf page 22 under 3.4.1 Physical Conditions that states that the Kaiser Cement site had a former aluminum factory that had an unlined dump, known as the Upper Level Landfill, and an impoundment. Citizen has asked Santa Clara County to inspect and test the soil under the EMSA at the former aluminum factory for pollution and they will not. The fact that it is an unlined dump sight should send an

alarm to the EPA, State Regional Water Board and Santa Clara County because there is undetermined pollution at this location which is contaminating the Permanente Creek and the water shed.

- 4) Pictures photos 1 threw 11 show gray matter all over the quarry land and the surrounding areas around the ponds and lakes nothing is being done to clean up this pollution the water from the EMSA is directed to Ponds 19 and 20, pond 19 has been filled in with sediment. The sediment if full of pollution that is a threat to the public and the pond water is going into the Permanente Creek. Sediment can contain Mercury, Selenium, Lead and other pollutants and should be cleaned up.
- 5) Page 23 (3.4.3) Soil and Air Exposure Pathway Conclusion according to the EPA's TIR Program, the site released 33,161.80 pounds of toxic chemicals during the 2010 reporting year. According to the facility's unaudited 2010 TRI report, the site released 22.1 pounds of chromium compounds, 32,521 pounds of hydrochloric acid, 5,548 pounds of lead compounds, and 613.15 pounds of mercury compounds. The releases were generated from fugitive air emissions and point of source air emissions (EPA, 2012a). The citizens believe that this information is under played and the public is and has been at serious risk.
- 6) Article in the Mercury News Paper states that EPA clears Lehigh Plant and that there is no human health risk found; facility won't be put on Superfund list this is not so I spoke to the Super Fund Representatives and they never stated this to the news paper. They have turned me down for a Super Fund Declaration but only because they have the EPA Region 9 investigating the facility and the investigation is still in process. The EPA Region 9 has asked Lehigh for further information and they are waiting for this information which could result in serious violations. The public has been lied to and I have mentioned this to the EPA they need to clear this up with the Mercury News Paper.
- 7) The EPA is waiting for the Water Report they conducted on the Permanente Creek that is coming out soon and this report should be made available to the public.
- 8) The EPA Super Fund Division has mentioned to me today that they have sent out CD's to Santa Clara County and also to the State Regional Water Board on information in their Lehigh Preliminary Assessment for review. I was sent 3 binders about 5 inches thick and 3 cd's on this report and am in the process of reviewing all of this information it will take some time. I suggest that Santa Clara County also review this information before making their decision on the EIR and the Reclamation Plan. I also ask that the SCC Board be provided with this information to make sure they are aware of all of the problems surrounding Lehigh.
- 9) The State Regional Water Board is also still investigating Lehigh and is working closely with the EPA Region 9 my hope is they will soon act as the enforcement agencies in this matter and stop the pollution at Lehigh.

- 10) The EMSA should be moved into the quarry there is plenty of room and it would not even be a problem with the mining. The public wants it moved but we do not want to interfere with the Reclamation of this area on the contrary we want the soil tested under the EMSA and if it is polluted then we want it cleaned up and or moved from the Lehigh property. Then once that takes place we would like the reclamation to begin with a layer of 4 feet or more of top soil to insure that the plants, grasses and trees will have a good chance to grow. The question is how will this area be watered no one has mentioned anything about that in any of the paper work this seemed to be the problem with the WMSA and continues to be a problem. Santa Clara County needs to address this problem because the water run off from the rains and the watering of the site could cause pollution to the Permanente Creek. In the past the WMSA has been a poor example of Reclamation and the public sees that this may also be the same situation all over again. The State Regional Water Board has a problem with watering a site because the runoff could contaminate the water shed and so they should be so the EMSA must be made safe by cleaning it up so no pollution contaminates the Permanente Creek.
- 11) I have added the fact that the citizens suspect that Lehigh will file an application for a new pit as soon as the Reclamation Plan is approved this is not what the citizens want and we will do all we can to stop this serious problem. This application initially was submitted by Lehigh to SCC but a representative of the County Board instructed them to pull it back because they knew it would hold up the EIR and the Reclamation plan is a terrible injustice. The proposed application should have been part of the EIR and the Reclamation plan and should have been turned down for many reasons to many to mention at this time. Lehigh can not operate without polluting and that is a given fact and has been proved to be a great endangerment to the public this must end.
- 12) The fact that Santa Clara County did not allow the Cement Plant or the mining operation to be included in the Reclamation plan is a grave error on their part and the citizens are very upset about that.
- 13) The fact that Santa Clara County gave away the Permanente Road is another grave mistake on the part of SCC this should have not happened.
- 14) The fact that the vested rights issue has caused Lehigh to have the right a way to pollute is another grave mistake that SCC has made the citizens are upset and they should be.
- 15) The fact that the bridge at Permanente Road is unsafe and should be replaced does not seem to bother SCC and I have complained about it no one seems to care.

There are many other things that should be discussed by the citizens and the Santa Clara County Commissions and the Board and we feel that their needs to be a great deal more investigations made in

order to make sure the public is protected from the pollution and harm caused by Lehigh Cement and Quarry.

It has been mentioned by many about the health problems the public has had from the pollution at Lehigh Southwest Cement and Quarry and I have also included the Stevens Creek Quarry when is SCC going to take all of this into consideration and protect the public as they should have all along?

I can only hope that my voice is heard and that Lehigh Southwest Cement and Quarry and the Stevens Creek Quarry will be shut down permanently in order to save the lives of humans and animals alike.

pgs from Lehigh's proposed changes
to: Exhibit 1 Conditions of
approval.
att has total pgs 29 with
paperwork I E-mailed
add to.

Rec'd from
M. Harrink
5-24-12
11:50 AM

LEHIGH'S PROPOSED CHANGES TO:

EXHIBIT 1
CONDITIONS OF APPROVAL

File 2250-10P-10EIR (M1)

pgs from Lehigh's proposed changes to,
Exhibit 1 Conditions of Approval.
total 29 pgs

coroner shall contact the California Native American Heritage Commission, pursuant to subdivision (c) of §7050.5 of the Health and Safety Code and the County Coordinator of Indian affairs. No further disturbance of the site shall be made except as authorized by the County Coordinator of Indian Affairs in accordance with the provisions of state law and the County Ordinance. If artifacts are found on the site, a qualified archaeologist shall be contacted along with the Planning Manager. No further disturbance of the artifacts shall be made except as authorized by the Planning Manager. (Implements Mitigation Measure 4.5-4)

Geological and Soils

68. **Avoidance and containment of shallow slumps and/or fall-back of overburden material.** In all areas requiring the use of excavators for grading within the Permanente Creek Reclamation Area (PCRA) (e.g., access road in-sloping, installation/repair of sedimentation basins, and removal of slide debris), the Mine Operator and/or its contractor shall begin excavations from the top of slope and proceed downward. The Mine Operator and/or its contractor shall not undercut sloped materials unless no other option is feasible as determined by a registered geotechnical engineer (e.g., excessively sloped or otherwise inaccessible terrain). In all areas of the PCRA where excavations would occur in sloped materials, the Mine Operator and/or its contractor shall install barriers immediately downslope of the activity. Downslope barriers shall be designed and installed in a manner that would be adequate to prevent overburden and/or native materials from falling, sloughing or sliding further downslope, or into Permanente Creek. Such measures may consist of temporary interlocking soldier piles, wooden shoring systems, wire mesh or other containment measures(s). The Mine Operator and/or its contractor shall not be permitted to conduct excavation or grading activities downgradient of the barrier, or prior to its installation. The ultimate location, design and installation method of such measures shall be prepared and certified, or reviewed and approved by a California State registered civil geotechnical engineer.

Thirty days (30) prior to the start of all excavation / grading activities as described above, submit to Planning Manager a plan showing the installation of all downslope barriers as described above. (Implements Mitigation Measure 4.7-1)

69. Within thirty (30) days following approval of the RPA, submit a Geotechnical Engineer's Plan Review letter that confirms the RPA, as modified by other conditions of approval, conforms with the recommendations presented in Golder's Report (RPA Appendix C, dated November 2011). In regards to the EMSA, specifically, the letter must verify that the plans indicate where the native slope is steeper than 2.5H:1V, the topsoil and colluvium will be over-excavated within the area extending inward 100 feet from the toe of the outer slope.

70. The geotechnical design recommendations provided by Golder Associates (RPA Appendix C, November 2011) are being implemented as part of the ongoing stockpiling activities within the EMSA and as a condition of approval Project.

look at
MET D

pgs. from Lehigh's proposed changes to:
Exhibit 1 Conditions of approval.
total 29 pgs.

The measures are identified below:

- a. Foundation preparation should be completed prior to fill placement of the outer 50 feet beneath the EMSA fill. Foundation preparation should consist of over-excavation of outer 50 feet of topsoil, organic materials (trees, brush, grasses), fine-grained colluvium with a Plastic Index greater than 25, or other unsuitable soils until firm bedrock, granular soils, or clay soils with a Plastic Index less than 25 are exposed. If the exposed foundation surface is inclined at 5H:1V or steeper, the over-excavation distance from the outer slope should be extended from 50 feet to 100 feet. Furthermore, the fill placed on slopes of 5H:1V or steeper should be benched into the slope with individual bench heights of at least 2 feet and up to approximately 5 feet.
- b. A qualified California Registered Professional Geologist, Certified Engineering Geologist, or a California Registered Civil Engineer with geotechnical experience should inspect the foundation preparation to ensure all unsuitable materials are removed prior to placement of the outer 50 to 100 feet of EMSA fill.
- c. If seepage or wet zones are observed in the foundation, suitable drainage provisions should be incorporated into the foundation prior to fill placement. Suitable drainage provisions include the placement of a blanket of free-draining sand or gravel over the seepage/wet zone in conjunction with a perforated, polyvinyl (PVC) or high-density polyethylene (HDPE) drain pipe that drains positively toward and daylights at the slope face. The sand or gravel drainage material should be fully covered with a minimum 8-oz/square yard, non-woven, geotextile filter to provide separation from the EMSA materials.
- d. The fine waste materials shall be placed in lifts not to exceed 8-feet, and offset a minimum of 30 feet from the final slope face. Each lift of fine waste should be allowed to dry before being covered by overburden material. Each lift shall be overlain by a minimum 25-foot thick lift of overburden.
- e. Any modification to the EMSA fill geometry including increases to the maximum overall slope inclination, maximum inter-bench slope inclination, slope height, or footprint shall require an additional or revised slope stability analysis.

where is this coming from?

Greenhouse Gas Emissions (GHG)

71. Develop Annual GHG Inventory. The Mine Operator shall become a reporting member of The Climate Registry. Beginning with the first year of the Project and continuing for the duration of the Project, the Mine Operator shall conduct an annual inventory of GHG emissions and shall report those emissions to The Climate Registry. The annual inventory shall be conducted according to The Climate Registry protocols and third-party verified by a verification body accredited through The Climate Registry.

Pgs. from Lehigh's proposed changes to:
Exhibit 1 Conditions of approval
total pgs 29

hauling equipment, respectively. A minimum of three passes should be performed for each lift.

26. Within 60 days of RPA approval, Mine Operator shall submit a site plan identifying area(s) where topsoil, dirt, soil amendments shall be retained and used in the reclamation and re-vegetation process. Soil stored for reclamation purposes shall be clearly identified and marked in the field.
27. The Mine Operator shall safeguard stockpiles of topsoil or overburden to be used for reclamation from wind and erosion by using controls including, but not limited to, hydroseeding, erosion control mats, and coir wattles (aka "straw wattles").
28. ~~The Mine Operator shall use soil amendments to improve the effectiveness of the soils used for re-vegetation of final slopes. Re-vegetation shall satisfy the criteria identified in the RPA. Reporting of the test plots for the re-vegetation criteria identified in the RPA shall be submitted to the County as part of the Mine Operator's annual report. Re-vegetation shall include only plant materials identified in the re-vegetation palette contained in the approved RPA. The Mine Operator shall follow the "test plot" program in the RPA to determine the appropriateness and success rates of the proposed re-vegetation palette identified in the RPA. Reporting on the test plot program shall be part of the Mine Operator's annual report submitted by the County and shall be prepared by a qualified biologist.~~
29. Re-vegetation of all reclaimed slopes within the RPA Boundary shall meet the minimum success criteria listed in the approved RPA before any completed phase of reclamation may be deemed reclaimed by the County and Office of Mine Reclamation (OMR).
30. The Planning Manager shall have authority to administratively review and approve minor revisions to the re-vegetation palette contained in the approved RPA.
31. Equipment, structures, nonessential roads, as identified in the RPA, shall be removed from the project area prior to that area being deemed reclaimed by the County and OMR.
32. Construction or demolition waste or any other foreign materials are prohibited from being stored in overburden or used in reclamation. Overburden shall be compacted, tested, and documented to demonstrate it will support post-mining uses. Documentation shall be submitted to the Planning Manager.
33. Stilling basins shall be maintained in good conditions and cleaned of silt and debris as necessary. A report shall be submitted to the Planning Manager as part of the Annual Report, fully depicting total quantities of silt removed from the basins (reported in cubic yards or tons) and where such silt is placed on the site or off the site.

Very Important!

Kaiser-Cement-Corp-Permanente-Plant - Final-Report PPF / ask if that Day Lehigh WAS not operating Cement plant?

SITE RECONNAISSANCE INTERVIEW AND OBSERVATIONS REPORT

DATE: September 21, 2011

OBSERVATIONS MADE BY: Anitra B. Rice (Weston Solutions, Inc.) and Karen Jurist (US EPA, Region IX)

SITE: Kaiser Cement Corp Permanente Plant

EPA ID: CAD009109539

A Site reconnaissance visit was conducted on September 21, 2011. We were escorted throughout the site by Scott Renfrew, Environmental Manager and Henrik Wesseling, the Plant Manager. The following information was obtained and photographs were taken:

The Kaiser Cement Corp Permanente Plant is currently operated under the name of Lehigh Southwest Cement Company and is located at 24001 Stevens Creek Boulevard, Cupertino, California. The Site is not fenced but is guarded at the front entrance of the site. The site is situated in the foothills just west of the City of Cupertino, access to the site is limited. Mr. Renfrew indicated trespassers have gained access from the active railroad track leading into the eastern portion of the site. There are approximately 155 full time permanent employees and 20 contracted employees at the site.

Storm water run-off, groundwater, and dust supersession from the site are collected in sedimentation basins then pumped through a series of pipes to various ponds located throughout the site. Pumps are equipped with a turbidity meter set to turn off if turbidity reaches 30 NTU.

Water from the Quarry bottom is pumped to Pond 4 then to Permanente Creek. Water from the Primary Crusher is diverted to Pond 13B then to Pond 13A, then to Pond 13 before it enters an open metal channelized portion of Permanente Creek. Most of the water generated on the eastern portion of the site is directed to Pond 11 (The Lake) via the Main Lift Station, formerly known as Pearl Harbor. Water from Pond 11 is used back in the process as a gas conditioner in the towers. Pond 11 is only partially lined and does overflow particularly when the kiln is shut down. Water from the Rock Plant is diverted to Pond 9 and 17 then to Permanente Creek. Pond 16, also known as the Dinky Shed Basin also discharges to Pond 9. Ponds 14 and Ponds 19 through 22 are located on the northeast portion of the site. Water from the Eastern Material Storage Area (EMSA) is directed to Ponds 19 and 20. However, Pond 19 has been filled in with sediment.

The California Red-Legged Frog (CRLF), a federally listed endangered species, has been observed in Ponds 14, 21, and 22. Successful breeding of the CRLF has also been documented in Pond 22. The fact that the site discharges to Permanente Creek via these ponds have generated much debate as to whether the site is operating under the correct storm water permit with the San Francisco Regional Water Quality Control Board (RWQCB).

low!
The ponds are periodically dredged and the material is stored at the EMSA. In addition, kiln dust generated during the wet-kiln process days, was also sent to the EMSA. These areas are maintained to prevent erosion. The site wishes to expand the EMSA area, however, the County of Santa Clara has not approved Lehigh's Reclamation Plan.

No schools or daycare centers were observed on or in the vicinity of the site.

collection contaminated

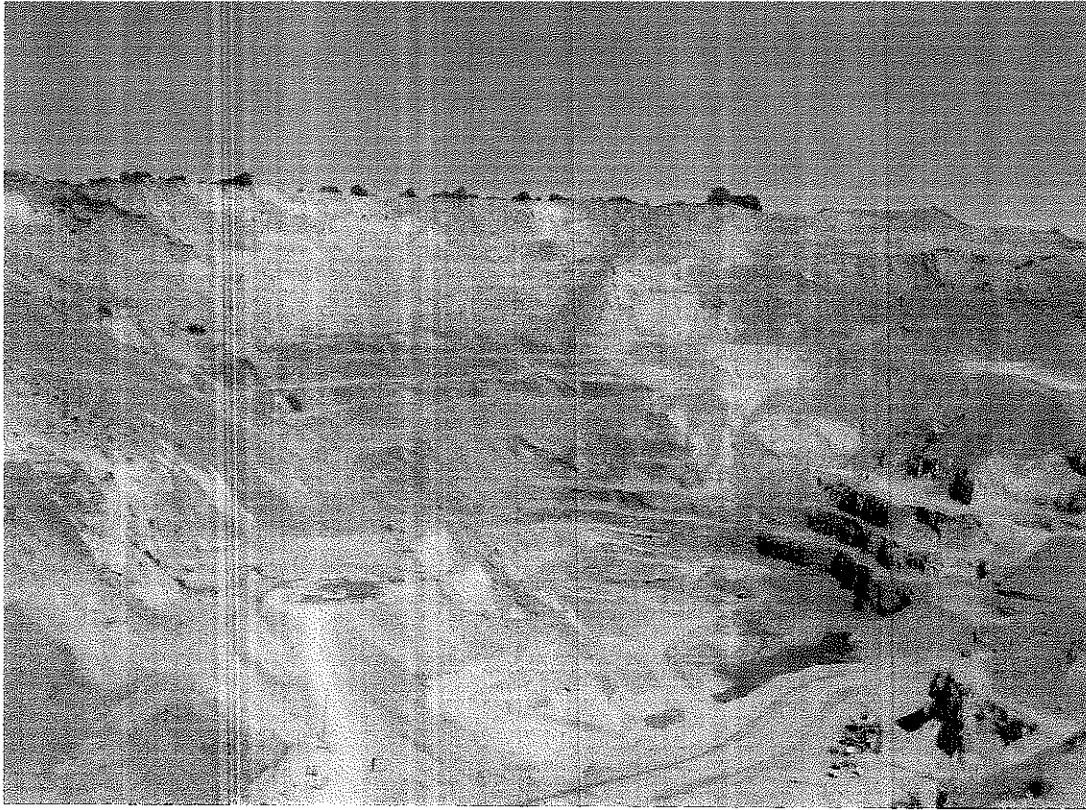


Photo 1: View of the quarry facing north. Groundwater from this area is diverted to Pond 4.

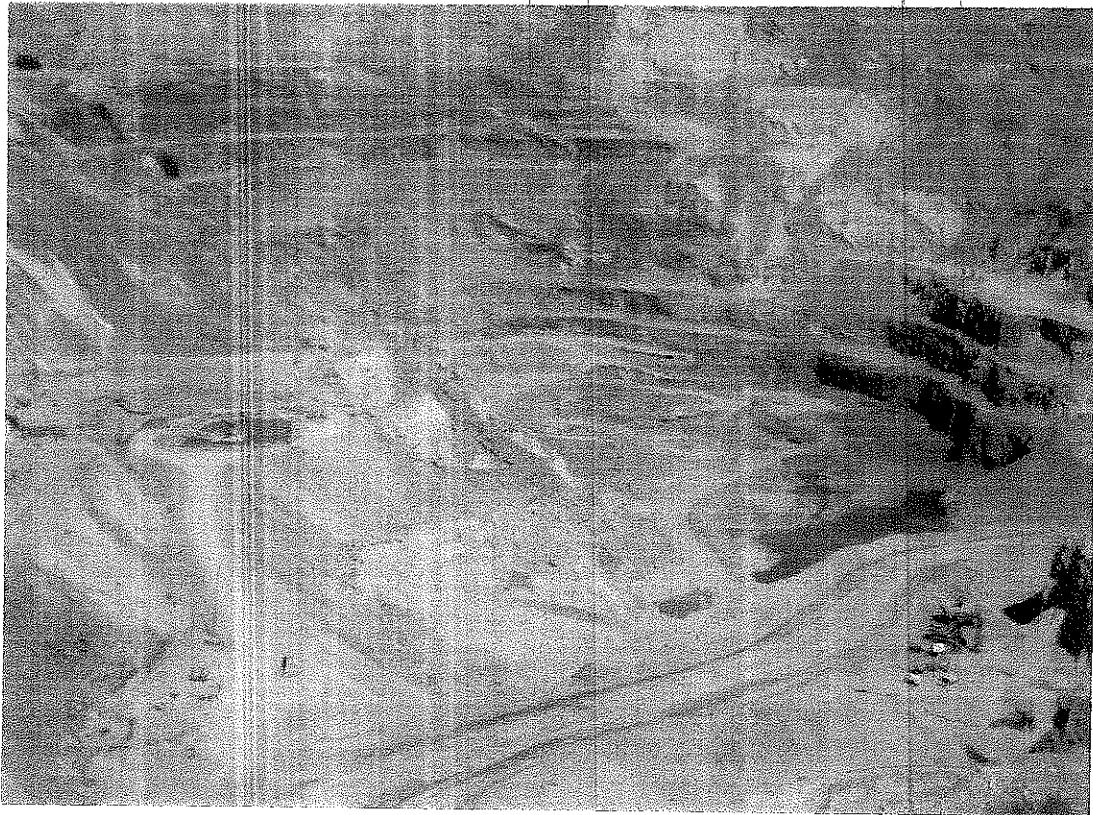


Photo 2: Closer view of the quarry pit.

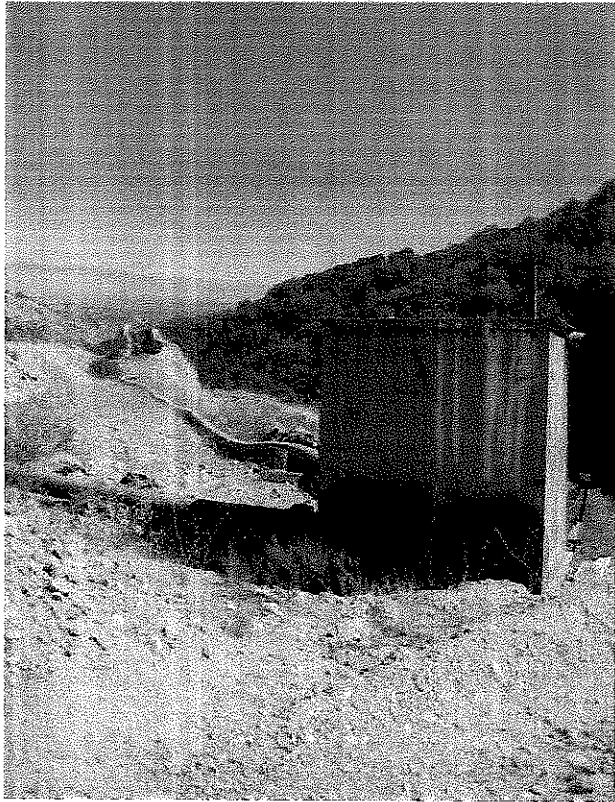


Photo 3: View of piping diverting water from the quarry pit to Pond 4 in the distance.

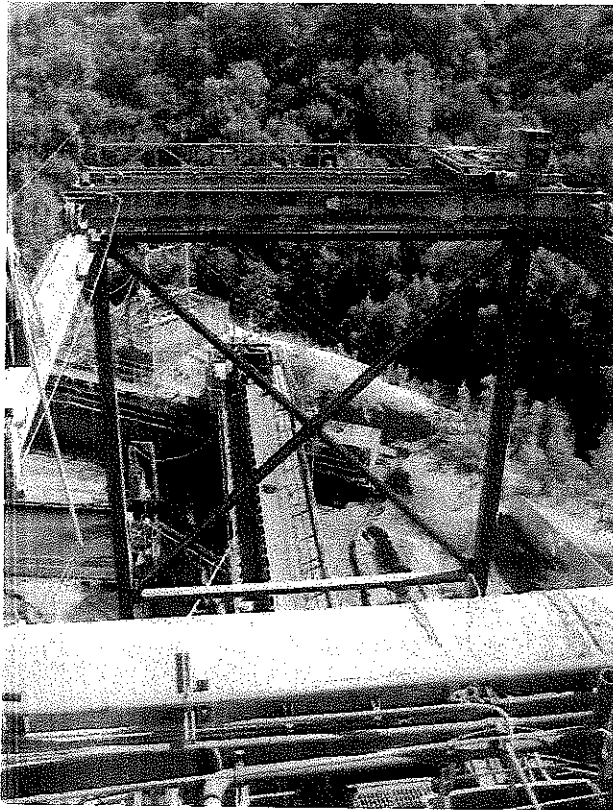


Photo 4: Primary Crusher with Permanente Creek below (not shown).

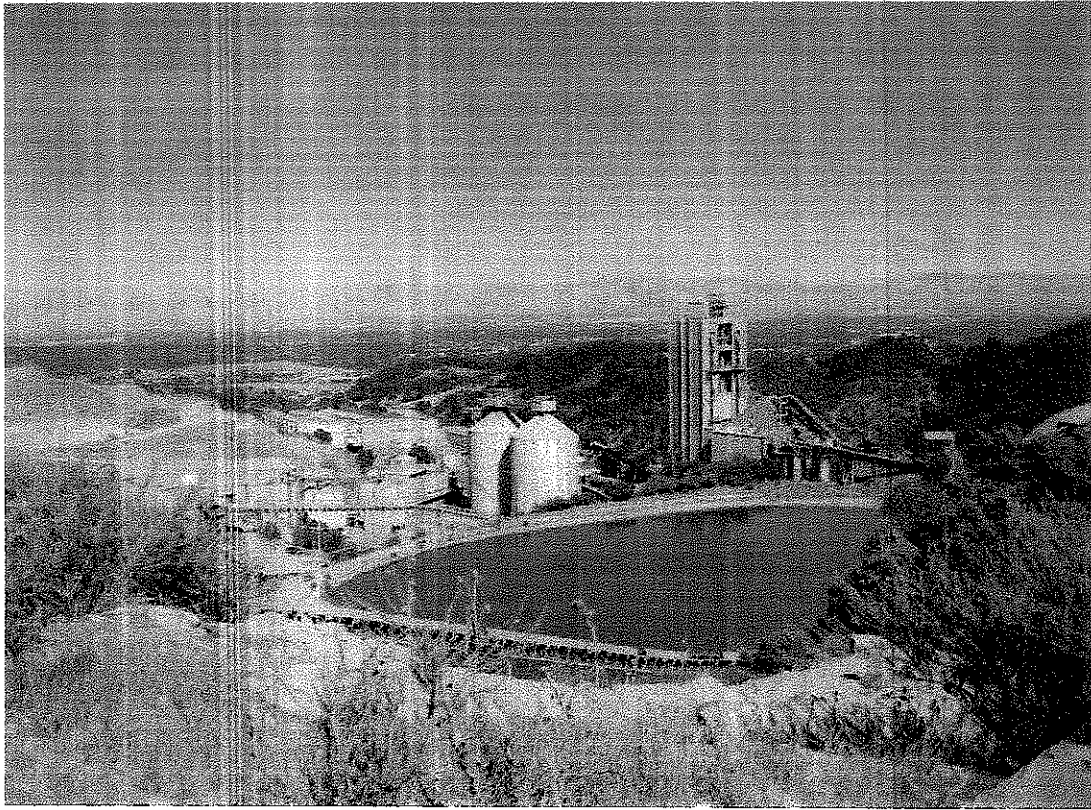


Photo 5: Pond 11 (The Lake), with the Preheater Tower to the right and the cement silos to the left.



Photo 6: Pond 13B which discharges to Pond 13A then to Pond 13.



Photo 7: Pond 13A which discharges to Pond 13.



Photo 8: Pond 13 which discharges to Permanente Creek. Photo taken from walking path over weir.

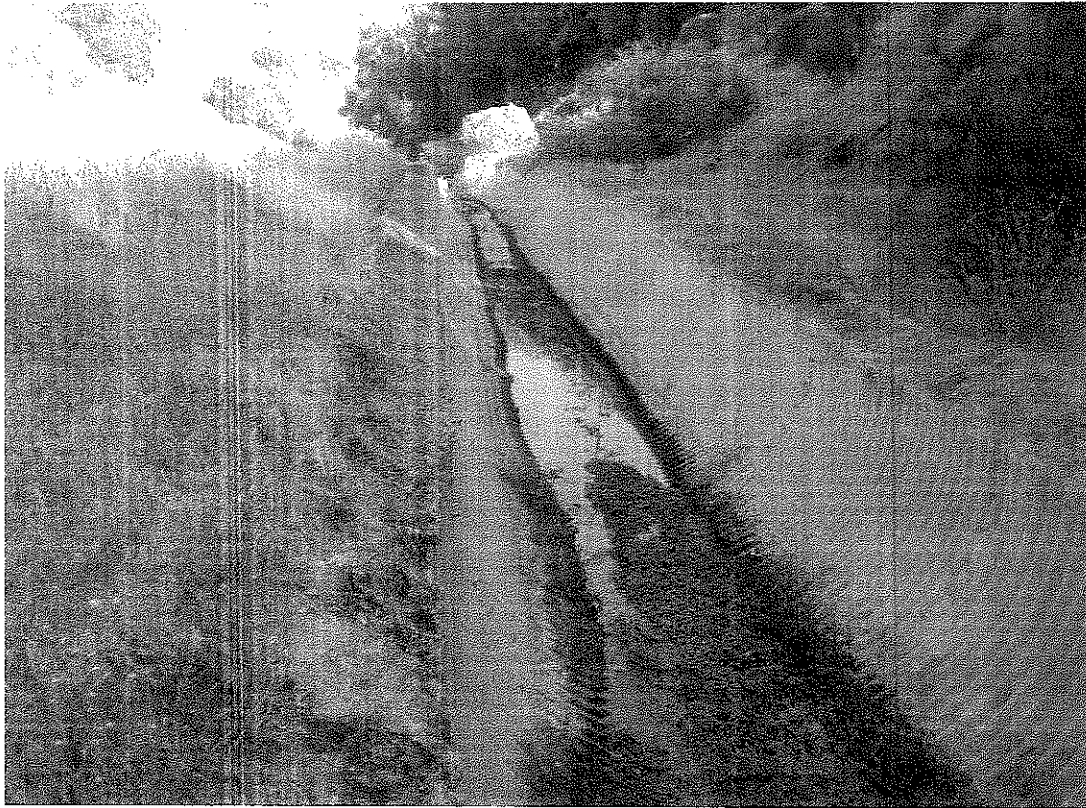


Photo 9: Discharged area from Pond 13 into Permanente Creek (open culvert).



Photo 10: View of Pond 14 and the diversion structures which allows water to flow to Pond 22.

address

CONTACT REPORT #2

AGENCY/AFFILIATION: California Water Service Company		
DEPARTMENT: Water Quality		
ADDRESS/CITY: 341 N. Delaware Street, San Mateo		
COUNTY/STATE/ZIP: Santa Clara, California 94401		
CONTACT(S)	TITLE	PHONE
Sam Silva	Project Manager	(650) 558-7841
408-690-2003		DATE: 08/18/2011
PERSON MAKING CONTACT: Anitra Rice		Revised 12/05/11
SUBJECT: Drinking Water Well		
SITE NAME: Kaiser Cement Corp. Permanente Plant		EPA ID#: CAD009109539

The following information was obtained from Mr. Silva:

Population Served: 55,512

Source of supply: Approx 80% annual purchased from Santa Clara Valley Water District West Pipeline supplied from Surface Water Source (Rinconada), 20% from district groundwater supply.

Active Wells: 22, Standby Wells: 0

reservoir treatment plant

Blending of Wells with Surface Water: Yes. We are in process of hydraulic modeling of the distribution system as there is isolation of some sources from the purchased water. We do not fully know the influence of the blending.

Inactive / Destroyed Well Status: There are several sources that have been inactivated due to nitrates. Two sources are in question due to compromised casing and respective Iron / Manganese content above the secondary MCL levels. Re activation of the nitrate impacted sources is in progress, however due to new well construction standards (Sanitary Seal Depth), several do not qualify and are candidates for destruction.

Aquifer Depth / Screening: Our district does not have a hydro geological model that accurately represents the respective aquifers for our sources. Screening will have a range dependent upon each individual source.

Mr. Silva emailed additional information regarding historical drinking water well testing in relation to arsenic and selenium. No historical detections of cadmium have been detected in drinking water wells.

CONTACT REPORT #3

AGENCY/AFFILIATION: City of Sunnyvale		
DEPARTMENT: Public Works – Water Division		
ADDRESS/CITY: Public Works/Field Services, Attn: Water, PO Box 3707, Sunnyvale		
COUNTY/STATE/ZIP: Santa Clara, California 94088-3707		
CONTACT(S)	TITLE	PHONE
Val Conzet	Manager	(408) 730-7560
PERSON MAKING CONTACT: Anitra Rice		DATE: 9/15/2011
SUBJECT: Drinking Water Well		
SITE NAME: Kaiser Cement Corp. Permanente Plant		EPA ID#: CAD009109539

According to Mr. Conzet the City of Sunnyvale operates five active drinking water wells and one standby. Groundwater accounts for approximately 2-3% of the drinking water. The remaining 97-98% is purchased surface water from Santa Clara Valley Water. Surface water is obtained more than 15 miles from the site. Surface water is blended with the groundwater prior to distribution. No wells have been permanently closed due to contamination. Mr. Conzet did not know what aquifer the drinking water is screened in but stated the screen is located between 300 to 350 feet below ground surface. The City of Sunnyvale provides water to approximately 141,000 people.

CONTACT REPORT #4

AGENCY/AFFILIATION: Cupertino Unified School District		
DEPARTMENT: Facilities		
ADDRESS/CITY: 10301 Vista Drive, Cupertino		
COUNTY/STATE/ZIP: Santa Clara, California 95014		
CONTACT(S)	TITLE	PHONE
Donna Bills	Secretary	(408) 252-3000 x341
PERSON MAKING CONTACT: Anitra Rice		DATE: 9/15/2011
SUBJECT: Drinking Water Well		
SITE NAME: Kaiser Cement Corp. Permanente Plant		EPA ID#: CAD009109539

According to Ms. Bills there is one groundwater well located at the Cupertino School; however this well is used for irrigation purposes. The school is not open but the grounds are maintained.

From: Cathy Helgerson <sharpset1@aol.com>

To: balmon <balmon@pacbell.net>; comment <comment@sonic.net>; ignatius.ding <ignatius.ding@set-solar.com>; evarieber <evarieber@yahoo.com>; barry4cupertino <barry4cupertino@gmail.com>

Cc: marina.rush <marina.rush@pln.sccgov.org>; planning.commission <planning.commission@pln.sccgov.org>

Subject: Fwd: Preliminary Assessments for Stevens Creek Quarry and Lehigh Southwest Cement Plant

Date: Mon, Jun 4, 2012 10:16 am

Attachments: Helgerson_Transmittal_Letter_5_31_12.pdf (2455K), Decision_Memo_5_31_12.pdf (4035K), Kaiser_Cement_Corp_Permanente_Plant_-_Final_Report.pdf (3178K), Helgerson_Transmittal_Letter_SCQ_5_31_12.pdf (1623K), Decision_Memo_SCQ_5_31_12.pdf (3176K), Stevens_Creek_Quarry_-_Final_Report.pdf (4245K), CWA_Section_308_Transmittal_Letter.pdf (137K), CWA_Section_308_Information_Collection_Request.pdf (996K), Lehigh_Cement_Info_Request_Ltr_EPCRA_313.PDF (159K), TRI_Factsheet_Jan_2012.pdf (510K), Lehigh_052312.pdf (10439K)

Hello all,

I already sent this to Bill but in my review decided to send it to all of you because there is a great deal of very valuable information that the EPA put into this Preliminary Assessment.

I am in the process of reviewing this information initially with them and want to know exactly why they turned me down.

In a conversation with them they stated Lehigh qualified at 28.5 % which is what is needed anything over that qualifies them so I am not sure what is going on they need to provide more information to me and I may need to file a FOIA request to get the water report that they did any any other reports that they did not provide me with.

The Site Reconnaissance Interview and Observations Report states that they dredge the ponds and the material is stored at the EMSA it also states the kiln dust generated during the wet-kiln process days is also sent to the EMSA.

The paperwork states that Storm water run-off, groundwater, and dust supersession from the site are collected in sedimentation basins then pumped through a series of pipes to various ponds located throughout the site. Pumps are equipped with turbidity meter set to turn off if turbidity reaches 30 NTU.

Water from the Quarry Bottom is pumped to Pond 4 then to Permanente creek. Water from the Primary Chrusher is diverted to Pond 13B then to Pond 13A, then to Pond 13 before it enters an open metal channelized portion of Permanente Creek. Most of the water generated on the eastern portion of the site is directed to Pond 11 (The Lake) via the Main Lift Station, formerly known as Pearl Harbor, Water from Pond 11 is used back in the process as a gas conditioners in the towers. Pond 11 is only partially lined and does overflow particularly when the kiln is shut down. Water from the Rock Plant is diverted to Pond 9 and 17 then to Permanente Creek. Pond 16, also know as the Dinky Shed Basin also discharges to Pond 9. Ponds 14 and Ponds 19 through 22 are located on the northeast portion of the site. Water from the Eastern Material Storage Area (EMSA) is directed to Ponds 19 and 20., Pond 19 has been filled in with sediment.

You must read the information provided by the California Water Service Co. they purchase 80% of their water annually from the Santa Clara Water District. They also are blending well water with surface water. Population 55,512. Note: I am checking with a Sam Silva at Cal. Water Service Co. to see what City they are talking about it is not on the paperwork I believe it may be Cupertino or part of it.

The City of Sunnyvale operates five active drinking water wells and one standby. Groundwater accounts approximately 2-3% of the drinking water. The remaining 97-98% is purchased surface water from Santa Clara Valley Water. Surface water is obtained more than 15 miles from the site. Surface water is blended with groundwater prior to distribution. The City of Sunnyvale Manager did not know what aquifer the drinking water is screened in but state the screen is located between 300 and 350 feet below ground surface. The City of Sunnyvale provides water to approximately 141,000 people.

There is an excellent map that also show the areas of Selenium Cadmium and Arsenic and the levels.

I am asking that you all look at this paperwork ASAP there maybe information that you could use for the meeting in SCC on Thursday.

I am in the process of an appeal with the EPA and also setting up conversations with them and the possibility of a meeting.

Please Mitchel disburse this to all of the commissions for their interest and review very important information and pictures to view from the EPA Region 9 Super Fund Division.

Note: I wanted the Commissions to be aware of this information so I decided to send it to them I hope they will take the time to review it carefully.

If you have any questions e-mail me.

Thanks,

Cathy Helgerson

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file

Thu, Jun 7, 2012 9:15 AM

Michele Napier

Subject: What does Lehigh Southwest have to do with the Roman Empire?

Date: Wednesday, June 6, 2012 6:40 PM

From: Rhoda Fry <fryhouse@earthlink.net>

To: <planning.commission@pln.sccgov.org>

Cc: <marina.rush@pln.sccgov.org>

Conversation: What does Lehigh Southwest have to do with the Roman Empire?

Dear Planning Commission –

What does Lehigh Southwest have to do with the Roman Empire?

Did you know that cement built the Roman Empire?

Did you know that poor water quality (and a few other things, like corruption) is in part responsible for the fall of the Roman Empire?

You know where I'm going with this . . . should water quality trump Lehigh's desire for higher profits? I don't think so.

Lehigh Southwest claims that its profits would be compromised if stricter rules were put in place but:

- * for land use at the state level they're trying to dilute the ab-3098 regulation
- * for air emissions (they're going for the lowest common denominator for air quality and no longer plan to build the promised smokestack that would have spared local residents from higher levels of pollution – all due to cost)
- * for land use at the county level, they're trying to get away with removing the requirement to put in soil amendments that would make plants grow. **I hope you won't allow it.** And then of course, there's OUR SCENIC EASEMENT.

There are 10 cement plants in California, and as far as I can tell, only two sit on quarries and both are owned by Lehigh Southwest. Together with the Cupertino location in a centralized urban hub is a HUGE competitive advantage that must not be ignored. The Cupertino plant was built to build Shasta Dam, now there's a quarry and cement plant there which has less toxic limestone and a new facility (with by far fewer labor violations – the Cupertino facility standing at \$.5 million in labor violations for 2012 and 2011, the vast majority unpaid).

Did you know that since Colonial times we've been trading building materials (and butter and more and fur) with Europe? A limestone quarry is **not** required for the Bay Area economy!!! In order to make decent cement, they're supplementing it with limestone from Canada! And of course, in order to put the limestone to use, they have to IMPORT petroleum coke, bauxite, gypsum, toxic flu gas waste as a cement additive, and more. So saying that this quarry is vital is just plain silly. Saying that we must compromise environmental rules that would be imposed on any other business, is even

sillier. Given the significant competitive advantage that Lehigh Southwest has, at a minimum, it must comply with the rules.

I sincerely hope that the remaining SMARA sections CCR 3706 and CCR 37010 are done in a public forum.

Regards,

Rhoda Fry

Michele Napier

Free Copy
Mon, Jun 4, 2012 11:14 AM

Subject: Fwd: Preliminary Assessments for Stevens Creek Quarry and Lehigh Southwest Cement Plant

Date: Monday, June 4, 2012 10:16 AM

From: Cathy Helgerson <sharpset1@aol.com>

To: <balmon@pacbell.net>, <comment@sonic.net>, <ignatius.ding@set-solar.com>, <evarieber@yahoo.com>, <barry4cupertino@gmail.com>

Cc: <marina.rush@pln.sccgov.org>, <planning.commission@pln.sccgov.org>

Conversation: Preliminary Assessments for Stevens Creek Quarry and Lehigh Southwest Cement Plant

Hello all,

I already sent this to Bill but in my review decided to send it to all of you because there is a great deal of very valuable information that the EPA put into this Preliminary Assessment.

I am in the process of reviewing this information initially with them and want to know exactly why they turned me down.

In a conversation with them they stated Lehigh qualified at 28.5 % which is what is needed anything over that qualifies them so I am not sure what is going on they need to provide more information to me and I may need to file a FOIA request to get the water report that they did any any other reports that they did not provide me with.

The Site Reconnaissance Interview and Observations Report states that they dredge the ponds and the material is stored at the EMSA it also states the kiln dust generated during the wet-kiln process days is also sent to the EMSA.

The paperwork states that Storm water run-off, groundwater, and dust supersession from the site are collected in sedimentation basins then pumped through a series of pipes to various ponds located throughout the site. Pumps are equipped with turbidity meter set to turn off if turbiditey reaches 30 NTU.

Water from the Quarry Bottom is pumped to Pond 4 then to Permenante creek. Water from the Primary Chrusher is diverted to Pond 13B then to Pond 13A, then to Pond 13 before it enters an open metal channelized portion of Permanente Creek. Most of the water generated on the eastern portion of the site is directed to Pond 11 (The Lake) via the Main Lift Station, formerly known as Pearl Harbor, Water from Pond 11 is used back in the process as a gas conditioners in the towers. Pond 11 is only partially lined and does overflow particularly when the kiln is shut down. Water from the Rock Plant is diverted to Pond 9 and 17 then to Permanente Creek. Pond 16, also know as the Dinky Shed Basin also discharges to Pond 9. Ponds 14 and Ponds 19 through 22 are located on the northeast portion of the site. Water from the Eastern Material Storage Area (EMSA) is directed to Ponds 19 and 20., Pond 19 has been filled in with sediment.

You must read the information provided by the California Water Service Co. they purchase 80% of their water annually from the Santa Clara Water District. They also are blending well water with surface water. Population 55,512. Note: I am checking with a Sam Silva at Cal. Water Service Co. to see what City they are talking about it is not on the paperwork I believe it may be Cupertino or part

of it.

The City of Sunnyvale operates five active drinking water wells and one standby. Groundwater accounts approximately 2-3% of the drinking water. The remaining 97-98% is purchased surface water from Santa Clara Valley Water. Surface water is obtained more than 15 miles from the site. Surface water is blended with groundwater prior to distribution. The City of Sunnyvale Manager did not know what aquifer the drinking water is screened in but state the screen is located between 300 and 350 feet below ground surface. The City of Sunnyvale provides water to approximately 141,000 people.

There is an excellent map that also show the areas of Selenium Cadmium and Arsenic and the levels.

I am asking that you all look at this paperwork ASAP there maybe information that you could use for the meeting in SCC on Thursday.

I am in the process of an appeal with the EPA and also setting up conversations with them and the possibility of a meeting.

Please Mitchel disburse this to all of the commissions for their interest and review very important information and pictures to view from the EPA Region 9 Super Fund Division.

Note: I wanted the Commissions to be aware of this information so I decided to send it to them I hope they will take the time to review it carefully.

If you have any questions e-mail me.

Thanks,

Cathy Helgerson

--



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

MAY 31 2012

Cathy Helgerson
20697 Dunbar Drive
Cupertino, CA 95014

RE: Kaiser Cement Corp Permanente Plant
EPA ID No.: CAD009109539

Dear Ms. Helgerson:

Enclosed is a Preliminary Assessment of the Kaiser Cement Corp Permanente Plant site. This site is also known as the Lehigh Southwest Cement Permanente Plant. This report contains the results of an evaluation conducted by Weston Solutions, Inc. for the U.S. Environmental Protection Agency (EPA) under Section 104 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended [42 U.S.C. 9404], commonly known as Superfund. The purpose of the Preliminary Assessment is to determine if additional investigation of possible air, water, or soil contamination is warranted under CERCLA.

EPA conducted the Preliminary Assessment as a result of our receipt and acceptance of your February 28, 2011 petition asking EPA to conduct a Preliminary Assessment of this site. CERCLA Section 105(d) allows any person who may be affected by a release or threatened release of a hazardous substance, pollutant or contaminant to petition EPA to perform a Preliminary Assessment of the hazards to human health and the environment associated with such release.

The Preliminary Assessment determined that there are potential impacts to Permanente Creek and the San Francisco Bay from the site's discharges. Ongoing discharges from the site are regulated by the Regional Water Quality Control Board (RWQCB) and EPA under the Clean Water Act, which is the most effective way to address potential impacts from the facility. The San Francisco RWQCB has issued multiple Notices of Violations to the site since 2010. In partnership with the RWQCB, the Water Division of EPA conducted sampling at the site in March 2012. The sampling results are expected in summer 2012 and will be made available to the public. On May 22nd, EPA issued the facility an information collection request for the purpose of gathering additional information to assess the facility's compliance with the requirements of the Clean Water Act.

The Bay Area Air Quality Management District (BAAQMD) is the lead permitting authority for controlling air pollution from facilities in the Bay Area, and EPA oversees implementation of BAAQMD's federally approved permitting programs. The Title V permit regulates air emissions and incorporates all Clean Air Act requirements. The Title V operating permit was renewed by BAAQMD in April 2012. In addition, this facility is part of the California Air Toxics Hot Spots (AB 2588) Program. As part of this state program, the facility

prepared a comprehensive Health Risk Assessment. BAAQMD reviewed the Health Risk Assessment and can be contacted directly to obtain the results as well as the BAAQMD's conclusion regarding the assessment. Continued regulatory oversight by the BAAQMD and EPA's Clean Air Act will continue to ensure that current standards for controlling air toxics are effectively implemented and enforced. On May 23rd, EPA issued Lehigh an information collection request for the purpose of gathering additional information to assess the compliance of the three Lehigh facilities in California, including the Cupertino plant, with the requirements of the Clean Air Act.

Because this facility is being actively regulated by the programs and agencies described above, further evaluation under Superfund is not warranted at this time. However, if air and water regulatory activities reveal new information that suggests that additional work under Superfund may be needed to protect public health or the environment, we will consider appropriate action at that time.

Please forward any written comments on the enclosed report to:

Karen Jurist
Site Assessment Manager
U.S. Environmental Protection Agency
75 Hawthorne Street, SFD-6-1
San Francisco, CA 94105

If you have any questions, please call Karen Jurist at 415/972-3219.

Sincerely,



Deborah Schechter, Chief
Brownfields and Site Assessment Section
Superfund Division

EPA ID: CAD009109539 Site Name: KAISER CEMENT CORP PERMANENTE PLANT State ID:
 Alias Site Names: LEHIGH SOUTHWEST CEMENT PERMANENTE PLANT
 KAISER CEMENT CORP PERMANENTE PLT

City: PERMANENTE

Refer to Report Dated: 5/1/2012 County or Parish: SANTA CLARA State: CA

Report Developed By: Weston Solutions Report Type: PRELIMINARY ASSESSMENT 003

<input type="checkbox"/>	1. Further Remedial Site Assessment Under CERCLA (Superfund) is not required because:
<input checked="" type="checkbox"/>	2. Further Assessment Needed Under CERCLA: Low priority for further assessment

Discussion/Rationale:

The Kaiser Cement Corp Permanente Plant site occupies approximately 3,500 acres in unincorporated Santa Clara County, just west of the City of Cupertino. The site currently operates under the name of Lehigh Southwest Company, Permanente Plant. The site consists of open land, a quarry, and the cement plant production facility. The facility has operated since 1939, with discharges to the air, surface water and soils. Discharges of up to 2.5million gallons of water daily can contain selenium, arsenic, mercury and other constituents of concern. Permanente Creek, which receives these water discharges, flows from headwaters in the Santa Cruz Mountains through the facility, the Rancho San Antonio Open Space Preserve and the communities of Los Altos and Mountain View before entering the San Francisco Bay. Permanente Creek supports habitats necessary for the preservation of rare, threatened, or endangered species. There are no drinking water intakes in Permanente Creek or the San Francisco Bay within the target distance limit from the site. The site is also a major air pollution source for the federal air permitting programs for nitrogen oxides, sulfur oxides, carbon monoxide, and air toxics.

Mercury, PCBs, cadmium, and selenium have been detected at elevated concentrations in site soils. Mercury, arsenic, beryllium, cadmium, chromium, and lead have been detected at elevated concentrations in cement kiln dust from the site. Cadmium, selenium, and arsenic have been detected in on-site monitoring wells. Antimony, arsenic, hexavalent chromium, barium, boron, cadmium, copper, manganese, nickel, selenium, thallium, vanadium, and zinc have been detected in surface water collected from the quarry bottom. Based on the results of the quarry water sampling, the facility concluded that water in the quarry may contain concentrations of selenium that exceed water quality standards and, when discharged through the quarry dewatering system pursuant to the Storm Water Pollution Prevention Plan, could be contributing to exceedances of the water quality standards for selenium in Permanente Creek.

Potential hazardous substance sources at the site include, but may not be limited to, quarry waters contaminated with arsenic, cadmium, hexavalent chromium, copper, nickel, selenium, and zinc; on-site soils contaminated with arsenic, barium, chromium, cadmium, mercury, selenium, and PCBs; and emissions to ambient air of chromium, lead, and mercury.

The Lehigh PA evaluated a release of contaminants to ambient air based on self-reported TRI information, and mobile atmospheric mercury trailer data. In 2008, the San Francisco Estuary Institute conducted monitoring using EPA R9's mobile atmospheric mercury trailer. Atmospheric mercury was monitored at three locations: at the fence-line of the site, at an urban site, and at a rural site. Although mercury was detected, the results at the Lehigh site were significantly below Regional Screening Levels for mercury.

The PA did not indicate any impact to drinking water supplies. The nearest drinking water well is located approximately 2 miles from the site and meets federal and state standards for drinking water quality.

The PA determined that there are potential impacts to Permanente Creek and the SF Bay from this facility's discharges, based on sampling data from the quarry bottom and from Permanente Creek downstream from the facility. The California Red-Legged Frog, Steelhead trout, and rainbow trout have been documented in Permanente Creek. Selenium is the main pollutant of concern discharging from the facility. New permits under the Clean Water Act may force the facility to better manage their selenium discharges.

REMEDIAL SITE ASSESSMENT DECISION - EPA REGION IX

Page 2 of 2

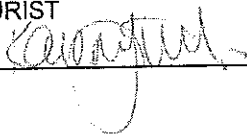
EPA ID: CAD009109539 **Site Name:** KAISER CEMENT CORP PERMANENTE PLANT**State ID:**

Ongoing discharges from the site are regulated by the Regional Water Quality Control Board (RWQCB) and EPA under the Clean Water Act, which is the most effective way to address potential impacts from the facility. The San Francisco RWQCB has issued multiple Notices of Violations to the site since 2010. In partnership with the RWQCB, the Water Division of EPA conducted sampling at the site in March 2012. The sampling results are expected in summer 2012 and will be made available to the public. On May 22nd, 2012 EPA issued the facility an information collection request for the purpose of gathering additional information to assess the facility's compliance with the requirements of the Clean Water Act.

The Bay Area Air Quality Management District (BAAQMD) is the lead permitting authority for controlling air pollution from facilities in the Bay Area, and EPA oversees implementation of BAAQMD's federally approved permitting programs. The title V permit regulates air emissions and incorporates all Clean Air Act requirements. The title V operating permit was renewed by BAAQMD in April 2012. In addition, this facility is part of the California Air Toxics Hot Spots (AB 2588) Program. As part of this state program, the facility prepared a comprehensive Health Risk Assessment. BAAQMD reviewed the Health Risk Assessment and can be contacted directly to obtain the results as well as the BAAQMD's conclusion regarding the assessment. Continued regulatory oversight by the BAAQMD and EPA's Clean Air Act will continue to ensure that current standards for controlling air toxics are effectively implemented and enforced. On May 23rd, EPA issued Lehigh an information collection request for the purpose of gathering additional information to assess the compliance of the three Lehigh facilities in California, including the Cupertino plant, with the requirements of the Clean Air Act.

The EPA's Toxics Release Inventory, commonly referred to as TRI provides communities valuable information on more than 650 toxic chemicals that are managed or released by various industries. The chemical information in the inventory is estimated by industrial facilities and reported to the EPA, as required by Emergency Planning and Community Right-to-Know Act (EPCRA), Section 313. The TRI's enforcement program inspects facilities to ensure they comply with EPCRA requirements. EPA may issue a civil administrative complaint to any person or company who violates EPCRA. The complaint may impose a civil penalty, including recovery of any economic benefit of non-compliance, and may also require correction of the violation. On May 10th, the program sent a letter to request information from the Lehigh Cupertino facility about its estimates of TRI chemicals manufactured, processed, or otherwise used and about its releases of those chemicals.

Because this facility is being actively regulated by the programs and agencies described above, further evaluation under Superfund is not warranted at this time. However, if air and water regulatory activities reveal new information that suggests that additional work under Superfund may be needed to protect public health or the environment, EPA will consider appropriate action at that time.

Site Decision Made by: K.JURIST**Signature:** _____**Date:** 05/31/2012

**Preliminary Assessment Report
Kaiser Cement Corp. Permanente Plant
Cupertino, California**

**EPA ID No.: CAD009109539
USACE Contract No.: W91238-05-F-0052
Document Control No.: 20074.0063.023.1004**

May 2012

**Prepared for:
U.S. Environmental Protection Agency
Region 9**

**Prepared by:
Weston Solutions, Inc.
9301 Oakdale Avenue, Suite 320
Chatsworth, CA 91311**

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Appendix C:	Contact Reports
Appendix D:	Latitude and Longitude Calculations Worksheet
Appendix E:	EPA Quick Reference Fact Sheet
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LIST OF ACRONYMS

AST	Above Ground Storage Tank
BAAQMD	Bay Area Air Quality Management District
bgs	below ground surface
BMPs	Best Management Practices
CAO	Cleanup and Abatement Order
CCC	Criterion Continuous Concentration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CRLF	California Red Legged Frog
CWSC	California Water Service Company
DEH	County of Santa Clara, Department of Environmental Health
DTSC	Department of Toxic Substances Control
EPA	United States Environmental Protection Agency
GEM	Gaseous Elemental Mercury
HRA	Health Risk Assessment
HRS	Hazard Ranking System
HWTS	Hazardous Waste Tracking System
MCL	Maximum Contaminant Level
MEIR	Maximum Exposure Individual Resident

MEIW	Maximum Exposure Individual Worker
mg/kg	milligrams per kilogram
mg/l	milligrams per liter
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFRAP	No Further Remedial Action Planned
ng/m ³	nanograms per meter cubed
NO _x	Nitrogen oxides
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
PA	Preliminary Assessment
PCB	Polychlorinated biphenyls
PMI	Point of Maximum Impact
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
RCRAInfo	Resource Conservation and Recovery Act Information
RSL	Regional Screening Levels
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SCVWD	Santa Clara Valley Water District
SO ₂	Sulfur dioxide
SWPPP	Storm Water Pollution Prevention Plan
SQG	Small Quantity Generator
SSI	Screening Site Inspection
TAC	Toxic Air Contaminants
TPH	Total Petroleum Hydrocarbons
TPH-d	Total Petroleum Hydrocarbons-diesel
TPH-g	Total Petroleum Hydrocarbons-gasoline
TRI	Toxic Release Inventory
UST	Underground Storage Tank
WDID	Waste Discharge Identification Number

1. INTRODUCTION

Under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), Weston Solutions, Inc. (WESTON®) has been tasked to conduct a Preliminary Assessment (PA) of the Kaiser Cement Corp. Permanente Plant (Kaiser Cement) site, located in Cupertino, Santa Clara County, California.

The purpose of the PA is to review existing information on the site and its environs, to assess the threat(s), if any, posed to public health, welfare, or the environment, and to determine if further investigation under CERCLA/SARA is warranted. The scope of the PA includes the review of information available from federal, state, and local agencies and performance of an on-site reconnaissance visit.

Using the sources of existing information, the site is then evaluated using the U.S. Environmental Protection Agency's (EPA's) Hazard Ranking System (HRS) criteria to assess the relative threat associated with actual or potential releases of hazardous substances at the site. The HRS has been adopted by the EPA to help set priorities for further evaluation and eventual remedial action at hazardous waste sites. The HRS is the primary method of determining a site's eligibility for placement on the National Priorities List (NPL). The NPL identifies sites at which the EPA may conduct remedial response actions. This report summarizes the findings of these preliminary investigative activities.

The Kaiser Cement site was identified as a potential hazardous waste site and entered into the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) on June 1, 1981 (EPA ID No.: CAD009109539). The site is currently owned by Heidelberg Cement but operates under the name of Lehigh Southwest Cement Company, Permanente Plant (EPA, 2011a; Lehigh, 2011a).

More information about the Superfund program is available on the EPA web site at <http://www.epa.gov/superfund>. The attached fact sheet describes EPA's site assessment process (Appendix E).

1.1 APPARENT PROBLEM

The apparent problems at the site, which contributed to EPA's determination that a PA was necessary, are as follows:

- The Kaiser Cement site has been used for excavating limestone from an on-site quarry for use in the manufacturing of cement since 1939. Water from the quarry bottom has routinely been pumped and discharged into Permanente Creek, which flows through the site and discharges into the San Francisco Bay. Permanente Creek is listed in the Clean Water Act's Section 303(d) Impaired Waters List for diazinon, selenium, toxicity, and trash (E&E, 1991; Google, 2010; Lehigh, 2011a; RWQCB, 2010a; RWQCB, 2011b; SWRCB, 2012).

- Releases of chromium, lead, mercury and hydrochloric acid into ambient air have been documented (EPA, 2012a).
- On-site soils are contaminated with cadmium, chromium, mercury, polychlorinated biphenyls (PCBs), and selenium. In addition, groundwater collected from on-site monitoring wells indicates the presence of cadmium, selenium, and arsenic (E&E, 1991; EMCON, 1993).
- The EPA received a citizen petition for this Site on February 28, 2011. CERCLA Section 105(d) provides the public with an opportunity to formally petition the Federal Government to conduct a PA, if the public is concerned about a potential release of hazardous substances from a site (Helgerson, 2011). On April 18, 2011, EPA notified the petitioner that EPA would conduct a PA at the Site (EPA, 2011b).

2. SITE DESCRIPTION

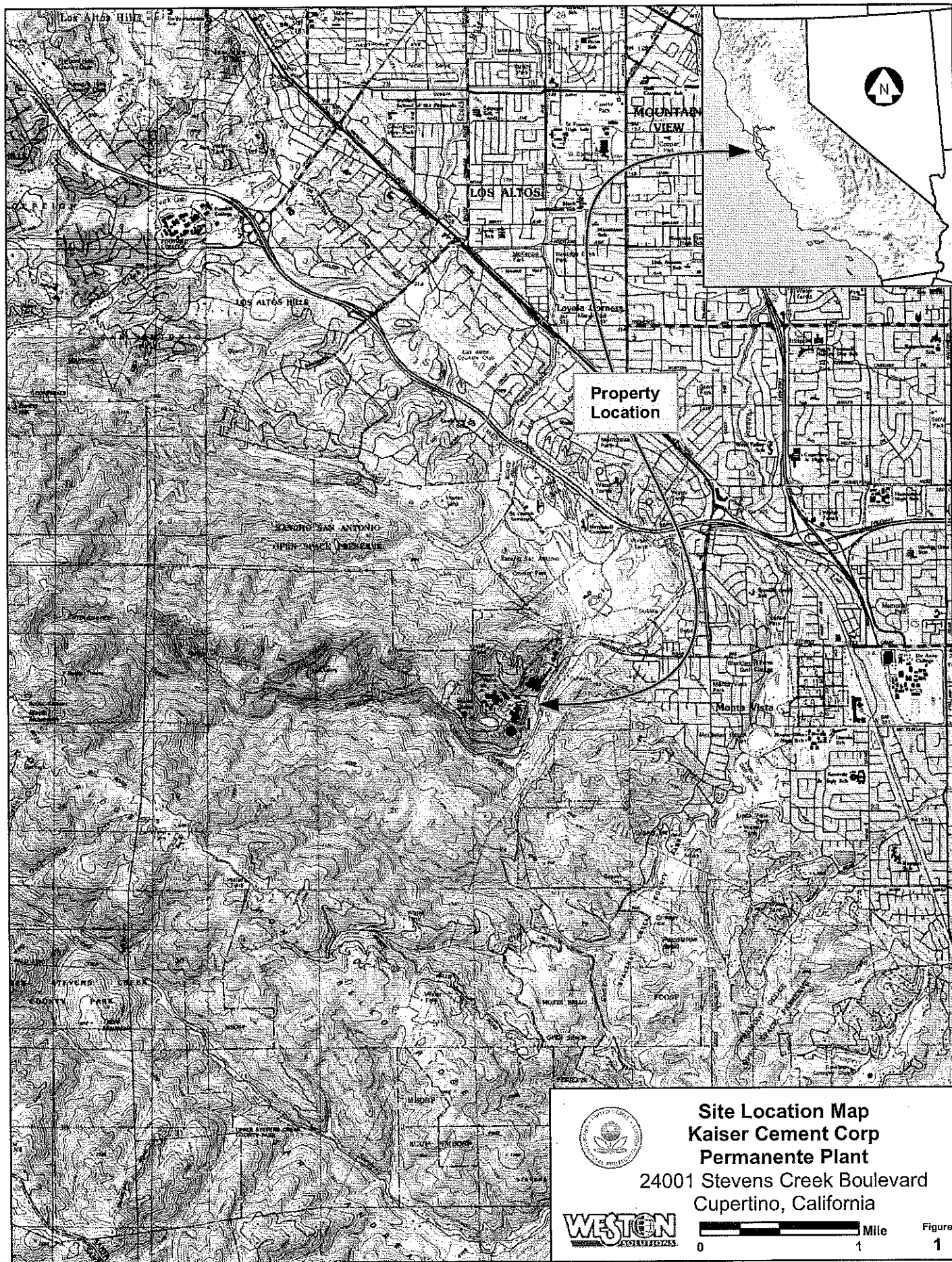
2.1 LOCATION

The Kaiser Cement site is located at 24001 Stevens Creek Boulevard, Cupertino, Santa Clara County, California. The geographic coordinates of the site are 37° 19' 03" North latitude and 122° 05' 35" West longitude (EPA, 2011a; Google, 2010; Appendix D). The location of the site is shown in Figure 1.

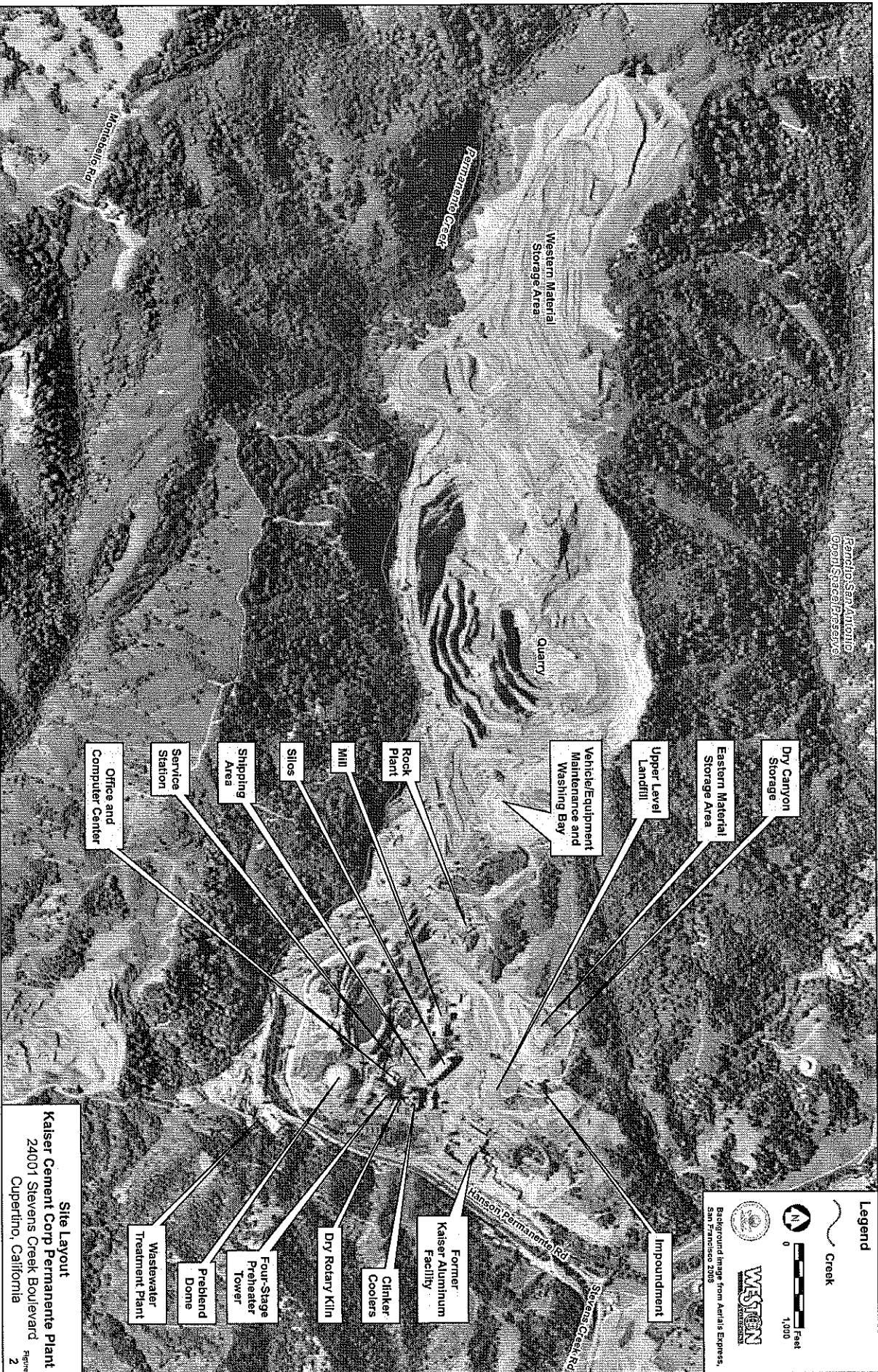
2.2 SITE DESCRIPTION

The Kaiser Cement site occupies approximately 3,600 acres in unincorporated Santa Clara County, just west of the City of Cupertino. A residential development is located less than 0.5 mile southeast of the site in the City of Cupertino. The Rancho San Antonio Open Space Preserve, a 3,988 acre public recreational facility consisting of hiking, biking, and equestrian trails, surrounds the site to the north and west. Permanente Creek flows eastward through the site then flows north until it reaches the San Francisco Bay, approximately 8 miles north of the site's entrance (Google, 2010; MROSD, 2012; URS, 2010; Appendix B).

The Kaiser Cement site consists of open land, a quarry, overburden and waste material storage areas, a sand and gravel processing plant (rock plant), a waste water treatment plant, a laboratory, a service station, underground storage tanks (USTs), above ground storage tanks (ASTs), a shipping area, an office and computer center, a former aluminum factory with an unlined dump, known as the Upper Level Landfill, and an impoundment. Cement production consists of, among other activities, crushers, a series of conveyor belts, a preblend dome, storage areas, mills, silos, a four-stage pre-heater tower, a 1.6 million ton capacity dry rotary kiln, clinker coolers, and a roll press. The site layout is shown in Figure 2 (E&E, 1991; EMCON, 1993; Hanson, 2000a; Hanson, 2000b; Radian, 1999).



Site Location Map
 Kaiser Cement Corp
 Permanente Plant
 24001 Stevens Creek Boulevard
 Cupertino, California



Site Layout
Kaiser Cement Corp Permanente Plant
 24001 Stevens Creek Boulevard
 Cupertino, California
 Figure 2

The cement manufacturing process begins at the quarry where limestone is mined. The raw limestone is then crushed, mixed with bauxite and iron, and ground to create the raw meal. The raw meal is heated in the kiln to create clinker. The clinker is pressed and mixed with gypsum and ground to make the final product (Lehigh, 2011a).

Generally, industrial process water and storm water are diverted to sedimentation ponds on site before being discharged into Permanente Creek, which flows into the San Francisco Bay (Appendix B).

There are 23 ASTs located at the site. The ASTs are used to contain oils, solvents, antifreeze, grinding aids, sodium hypochlorate, and fuels. All ASTs have secondary containment (Hanson, 2000a).

Between 1985 and 1993, approximately 10 USTs were removed from the site. A description of the removals can be found in the Regulatory Involvement section of this report (Radian, 1999).

2.3 OPERATIONAL HISTORY

Based on information currently available, it is known that since 1939 the Kaiser Cement site has been used for excavating limestone from an on-site quarry, then using the limestone in the on-site manufacturing of cement. The site initially operated under the name Permanente Cement Company. The site was originally built to help provide cement for the Shasta Dam. As the company diversified, the site became the Kaiser Cement and Gypsum Corporation in 1964. In 1986, the site was purchased by the British firm, Hanson PLC. On August 10, 1995, Kaiser Cement purchased the adjacent Kaiser Aluminum property. Although Kaiser Aluminum and Kaiser Cement share the Kaiser name, they were completely separate and unrelated corporate entities. However, the former Kaiser Aluminum facility is currently considered part of the Kaiser Cement site. In January 1999, the site operated under the name Hanson Permanente Cement, under the parent company Hanson Building Materials America. In 2007, Heidelberg Cement purchased Hanson PLC and merged the site with Heidelberg's Lehigh Cement Companies. Today the site operates under the name of Lehigh Southwest Cement Company, Permanente Plant (Lehigh) (E&E, 1991; EMCON, 1993; Lehigh, 2011a; Appendix B).

When the site began operating in 1939, it utilized a wet kiln process to produce clinker (cement). The wet kiln process consisted of six kilns and was expensive due to the large amounts of water and heat required for the process. One-half million gallons of water a day carried the raw materials in a slurry to the kilns, where the mixture was calcined. A portion of the wet kilns was lined with cement kiln bricks to help buffer the kilns' interior from the extreme temperatures. Between 1950 and 1993, Kaiser Cement disposed of these bricks in the unlined Upper Level Landfill on the Kaiser Aluminum facility. The bricks were reported to contain 20 percent chromic oxide. In addition, precalcinated material that spilled from the cement production process was also disposed of at the landfill (EMCON, 1993; E&E, 1991; Lehigh, 2011a).

In 1977, the Kaiser Cement site began construction of the new dry kiln process. In March 1981, the Kaiser Cement site finalized the conversion from a wet kiln process to the new single dry kiln

process. In September 1981, the wet kiln process was shut down. The new kiln was the largest single preheater in the United States with an annual capacity of 1.6 million tons (E&E, 1991; Lehigh, 2011a).

Currently, the cement manufacturing process begins with the mining of limestone from the on-site quarry. Limestone is processed through a two-stage crusher system and then stockpiled. Feeders below the stockpiles work in conjunction with a cross-belt quality analyzer to blend and create the preblended limestone. The material is then crushed for a third time and sent to a covered preblend storage dome. As the crushed limestone enters the preblend dome, a slewing stacker creates a circular pile that further homogenizes the material. The preblend limestone is mixed with bauxite and iron and then ground in ball mills to create the raw meal for the pyro process. The raw meal is stored in two large silos to allow for further blending as the material is sent to the next step of the process (Lehigh, 2011a).

Raw meal is then sent to the top of the dual four-stage preheater tower where it is heated to approximately 1,650°F before entering the kiln. The kiln then heats the material to approximately 2,400°F where it becomes clinker. The clinker enters the cooler where it is cooled before being stored in a set of two clinker silos. A baghouse is utilized in this phase to control the amount of pollutants emitted into the atmosphere (Lehigh, 2011a; Appendix B).

The cooled clinker is sent to the Roll Press, where it is crushed and pressed between two hydraulic rolls creating "clinker cake". The clinker cake is then mixed with gypsum and ground in one of the finish mills to make the final product of Portland cement for construction aggregate. Cement is transported off the site by bulk truck or bags (Lehigh, 2011a; Appendix B).

Between 1984 and 1992, soil and groundwater samples were collected from the Kaiser Aluminum facility on behalf of Kaiser Aluminum. Soil samples were collected at approximately 60 locations. Mercury was detected at concentrations ranging from 27.1 to 346 milligrams per kilogram (mg/kg) in the former Research Building. Mercury was also detected in the Impoundment area at a maximum concentration of 32.5 mg/kg. PCBs were detected in the Dry Canyon Storage Area at a maximum concentration of 400 mg/kg. Cadmium was detected in the Impoundment area at a maximum concentration of 104 mg/kg, and in the Upper Level Landfill at a maximum soluble concentration of 1.95 milligrams per liter (mg/l). Selenium was detected in soils in the Impoundment area at a maximum soluble concentration of 1.37 mg/l. To understand the relative risk of these contaminants, the results are compared to EPA's Regional Screening Levels (RSLs) in Table 1. No selenium data were provided in mg/kg; therefore, comparison to RSLs is not applicable (EMCON, 1993).

Table 1: Soil Results from the Kaiser Cement site (mg/kg)

Contaminant	Maximum Result	RSL*
Mercury	346	43
PCBs	400	0.74**
Cadmium	104	800

*Regional Screening Levels (RSL) for Industrial Soil, June 2011

**The specific PCB sampled was not indicated; Aroclor 1248 was used as it was the most conservative.

In 1990, the Kaiser Aluminum facility collected a sample of the cement kiln dust solids from the overburden pile near the quarry. The following metal concentrations were detected in this sample: mercury at 25 mg/kg, arsenic at 9.93 mg/kg, beryllium at 6.12 mg/kg, cadmium at 21.3 mg/kg, chromium at 35.9 mg/kg, and lead at 61.5 mg/kg. For comparison purposes, these results are compared to EPA's RSLs in Table 2 (EPA, 2011a; E&E, 1991).

Table 2: Cement Kiln Dust Solids from the Overburden Pile (mg/kg)

Contaminant	Result	RSL*
Arsenic	9.93	1.6
Beryllium	6.12	2,000
Cadmium	21.3	800
Chromium	35.9	--
Lead	61.5	800
Mercury	25	43

*Regional Screening Levels (RSL) for Industrial Soil, June 2011

-- Benchmark not available.

Kaiser also collected one soil sample from the portion of the unlined landfill that Kaiser Cement used to dispose of the cement kiln bricks. The soil analyses indicated barium at a concentration of 1,060 mg/kg, chromium at 152 mg/kg, mercury at 12.6 mg/kg, and total petroleum hydrocarbons (TPH) at 1,200 mg/kg. For comparison purposes these concentrations are compared to EPA's RSLs in Table 3 (EPA, 2011a; E&E, 1991).

Table 3: Soil Results from the Upper Level Landfill (mg/kg)

Contaminant	Result	RSL*
Barium	1,060	1.6
Chromium	152	--
Mercury	12.6	43
Total Petroleum Hydrocarbons	1,200	--

*Regional Screening Levels (RSL) for Industrial Soil, June 2011

-- Benchmark not available.

In July 1991, EMCON conducted groundwater sampling at the site to determine whether site activities had impacted groundwater. Cadmium, selenium, and arsenic were detected in on-site monitoring wells. Sampling results are presented in Figure 3. Cadmium was detected in monitoring well KC-1 at a concentration of 0.003 mg/l and in monitoring well KC-2 at a concentration of 0.004 mg/l. Selenium was detected in monitoring well KC-2 at a concentration of 0.004 mg/l, KC-12 at a concentration of 0.012 mg/l, and KC-14 at a concentration of 0.025 mg/l. Arsenic was detected in monitoring well KC-7 at a concentration of 0.008 mg/l and in KC-28 at a concentration of 0.02 mg/l. Background concentrations could not be determined from the information within the report; therefore, naturally-occurring levels could not be compared to the concentrations indicated in the sampling event. Depth to water in most of the wells ranged from 25 to 90 feet below ground surface (bgs). To understand the relative risk of these contaminants, the results are compared to Maximum Contaminant Levels (MCLs) in Table 4 (EMCON, 1993).

Table 4: Monitoring Well Results from Kaiser Cement site (mg/l)

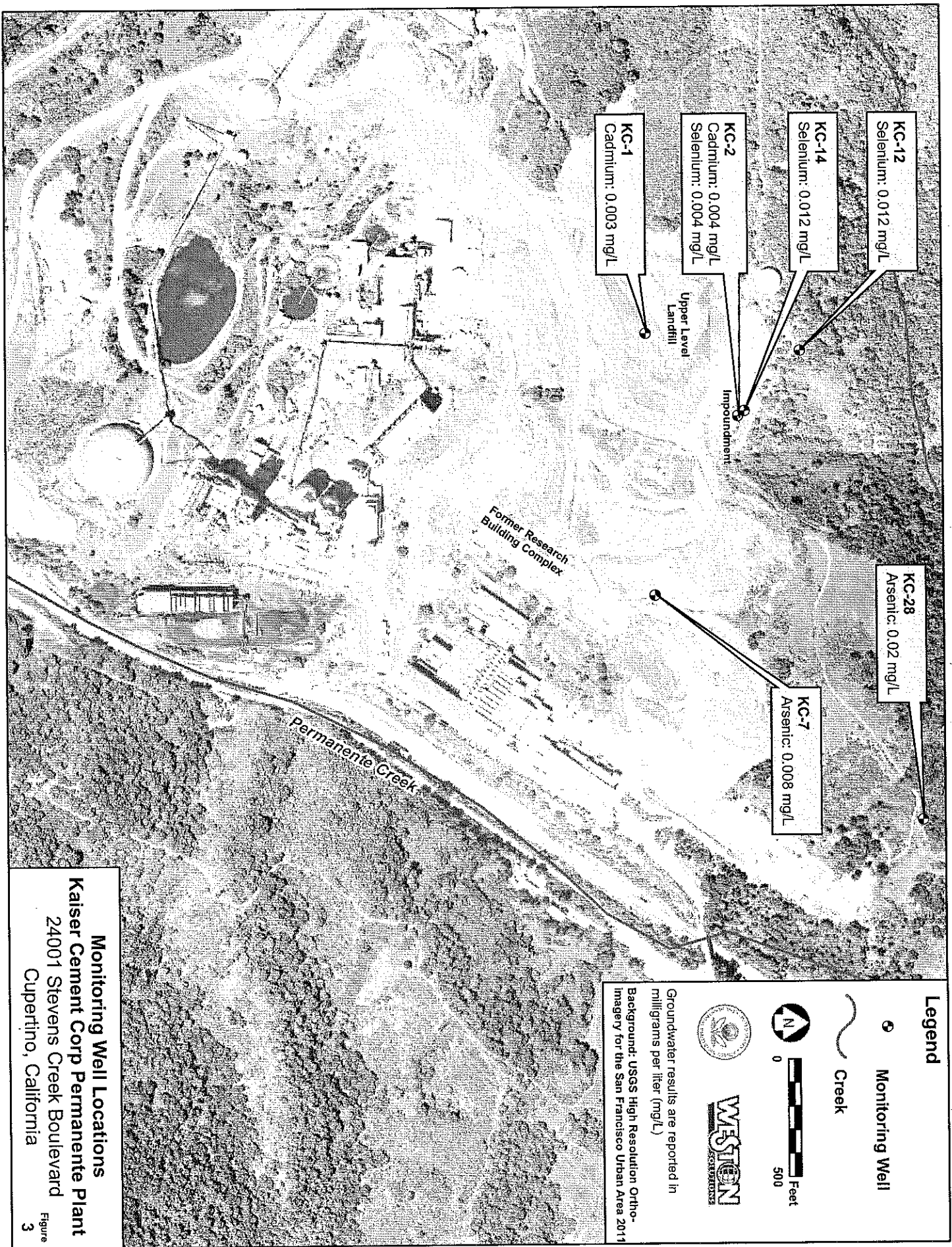
Contaminant	Maximum Result	Maximum Contaminant Level (MCL)
Cadmium	0.004	0.005
Selenium	0.025	0.05
Arsenic	0.02	0.01

mg/l: milligrams analyte per kilogram groundwater

MCL: Maximum Contaminant Level

The same monitoring wells sampled in July 1991 were previously sampled in August 1989, and showed elevated levels of cadmium, chromium, lead, selenium, and mercury. However, these results are of questionable quality due either to inadequate time between well development and sampling, or to inadequate volumes of water extracted during well development or purging to assure representative sampling (EMCON, 1993).

In January 2010, Lehigh collected quarry water samples in anticipation of the Regional Water Quality Control Board (RWQCB) proposal to list the Permanente Creek as water quality impaired by selenium under the Clean Water Act (Geosyntec, 2010). Results from the sampling event indicated the following maximum concentrations: antimony at 8.2 micrograms per liter ($\mu\text{g/L}$), arsenic at 4.5 $\mu\text{g/L}$, hexavalent chromium at 2.0 $\mu\text{g/L}$, barium at 41 $\mu\text{g/L}$, boron at 69 $\mu\text{g/L}$, cadmium at 0.53 $\mu\text{g/L}$, copper at 1.5 $\mu\text{g/L}$, manganese at 21 $\mu\text{g/L}$, nickel at 160 $\mu\text{g/L}$, selenium at 82 $\mu\text{g/L}$, thallium at 0.39 $\mu\text{g/L}$, vanadium at 400 $\mu\text{g/L}$, and zinc at 120 $\mu\text{g/L}$ (Geosyntec, 2010). To understand the relative risk of these contaminants, the quarry water samples are compared to EPA's compilation of national recommended water quality criteria, Criterion Continuous Concentrations (CCC) in Table 5. The CCCs are an estimate of the highest concentration of a hazardous substance in surface water to which an aquatic community can be exposed indefinitely without resulting in an unacceptable effect (Geosyntec, 2010; EPA, 2012b).



Legend

- Monitoring Well
- Creek

Groundwater results are reported in milligrams per liter (mg/L)

Background: USGS High Resolution Ortho-imagery for the San Francisco Urban Area 2011

WESTON SOLUTIONS

0 500 Feet

Monitoring Well Locations
Kaiser Cement Corp Permanente Plant
 24001 Stevens Creek Boulevard
 Cupertino, California

Figure 3

Table 5: Surface Water Results from Quarry Water Sampling Location ($\mu\text{g/l}$)

Contaminant	Result	Screening Reference*
Antimony	8.2	--
Arsenic	4.5	150
Barium	41	--
Boron	69	--
Cadmium	0.53	0.25
Chromium VI	2.0	11
Copper	1.5	9
Manganese	21	--
Nickel	160	52
Selenium	82	5
Thallium	0.39	--
Vanadium	400	--
Zinc	120	120

* <http://water.epa.gov/scitech/swguidance/standards/current/index.cfm#cmc> (EPA, 2012b)

-- Benchmark not available.

Based on the results of the quarry water sampling, Lehigh concluded that water being collected in the quarry may contain concentrations of selenium that exceed water quality standards and, when discharged through the quarry dewatering system pursuant to the Storm Water Pollution Prevention Plan (SWPPP), could be contributing to exceedances of the water quality standards for selenium in Permanente Creek (Geosyntec, 2010). Lehigh speculated that elevated selenium levels in the quarry water may result from stormwater and groundwater coming in contact with naturally occurring selenium in the soils and/or sediments located in the quarry and surrounding area (Geosyntec, 2010).

The hazardous materials inventory for the Kaiser Cement site is divided into areas. These areas include the Acetylene Storage, Clinker Process, Concrete Lab, Cooling Towers, Garage, Grinding Aid, Kiln Drive Area, Lab/Warehouse, Oil House II, Pack House, Quarry, Rock Plant, Upper Waste Storage, Water Treatment Plant, Finish Mill Flats, and the Gas Station area. Hazardous materials used on site include propylene, isopropyl alcohol, formaldehyde, diesel fuel, gasoline, batteries, and isopropanol (Lehigh, 2011b).

The Toxic Release Inventory (TRI) is a publicly-accessible EPA database containing information on disposal and other releases of over 650 toxic chemicals from more than 20,000 U.S. industrial facilities. According to the TRI database, 33,161.80 pounds of toxic chemicals were released from the Kaiser Cement site during the 2010 reporting year. The facility's unaudited TRI report indicates that during 2010 the site released 22.1 pounds of chromium compounds, 32,521 pounds of hydrochloric acid, 5.548 pounds of lead compounds, and 613.15 pounds of mercury compounds. According to Lehigh, the reported releases were attributed to fugitive air emissions and point source air emissions (EPA, 2012a).

The San Francisco Estuary Institute conducted a study of the transport of atmospheric mercury in the San Francisco Bay Area air basin. As part of the study, atmospheric mercury was monitored at the Kaiser Cement site to represent an industrial source of mercury. Mercury was also monitored at two

control sites; one urban and one rural. Moffett Field, the urban site, is located approximately 7 miles from the Kaiser Cement site, and Calero Reservoir, the rural site, is located approximately 20 miles from the site. Samples collected in 2008 indicate that gaseous elemental mercury (GEM) ranged from 0.749 to 19.5 nanograms per cubic meter (ng/m³) near the Kaiser Cement site, 0.100 to 8.19 ng/m³ at Moffett Field, and 0.100 to 11.7 ng/m³ at the Calero Reservoir location. To understand the relative risk of these contaminants the air samples are compared to EPA's RSLs in Table 6 (EPA, 2011c; Rothenberg, 2009).

Table 6: Ambient Gaseous Elemental Mercury (GEM) Results (ng/m³)

Location	Result	Screening Reference*
Kaiser Cement site	0.749 - 19.5	310
Moffett Field	0.100 - 8.19	310
Calero Reservoir	0.100 - 11.7	310

*Regional Screening Levels (RSL) for Residential Air, June 2011

The site also generates hazardous waste. Approximately 152 tons of California waste (primarily waste oil) and 0.06 tons of Resource Conservation and Recovery Act (RCRA) hazardous waste (classified as barium) were manifested from the site in 2011 (DTSC, 2012).

2.4 REGULATORY INVOLVEMENT

2.4.1 U.S. Environmental Protection Agency

The Kaiser Cement site was previously identified as a potential hazardous waste site and entered into the EPA's CERCLIS database on June 1, 1981. The site is listed in the Resource Conservation and Recovery Act Information (RCRAInfo) database as a small quantity generator (SQG) under the name of Hanson Permanente Cement (EPA, 2011d; E&E, 1988).

In January 1986, the Department of Toxic Substances Control (DTSC) completed a PA of the Kaiser Cement site per the direction of the EPA. The DTSC noted the disposal of the waste kiln bricks on the former Kaiser Aluminum facility, wastewater discharges into Permanente Creek, leaking USTs that contained oil or fuel, a septic system with leach lines, and a dry well that was used to dispose of wastes. The waste that was disposed of in the dry well was reported as laboratory wastewater. Analytical data was not provided in the document reviewed. The DTSC recommended the site be listed as "medium priority" and recommended a site investigation be conducted on the Kaiser Cement site (DTSC, 1986).

On August 12, 1988 the EPA completed a reassessment of the 1986 PA. Based on documented releases of wastewater to Permanente Creek, the presence of sensitive environments, suspected subsurface contamination with solvents, domestic groundwater use, and potentially significant waste quantities, the EPA's reassessment recommended that a site inspection of the Kaiser Cement site be completed. The EPA characterized the site as medium priority (E&E, 1988).

On February 4, 1991, the EPA completed a Screening Site Inspection (SSI) of the Kaiser Cement site. In the SSI, the EPA noted cement kiln bricks containing 20 percent chromic oxide being disposed of in the unlined landfill at the former Kaiser Aluminum facility, and cement kiln dust being disposed of at an overburden pile near the quarry. Cement kiln dust is referred to as the by-product of the raw materials that have gone through the kiln. The heat inside the kiln volatilizes metals from the limestone causing them to be entrained in dust that is vented from the kiln and preheater tower. The SSI noted that the site was adequately fenced to prevent public access, surface water was not used for drinking water purposes, and the nearest drinking water well was located between two and three miles away. Therefore, the EPA characterized the site as No Further Remedial Action Planned (NFRAP) under CERCLA. The site was archived by the EPA on February 14, 1991 (EPA, 2011a; E&E, 1991).

On March 10, 2010, the EPA issued a Notice of Violation (NOV) to the Lehigh Southwest Cement Company for violating sections of the Clean Air Act. The EPA stated that Lehigh Southwest Cement Company violated the Prevention of Significant Deterioration (PSD) and Title Operating Permit Program requirements of the Act when the Lehigh Southwest Cement Company conducted a series of physical modifications to the facility from 1996 through 1999. The modified equipment resulted in an increase in production of cement and an increase in emissions of air pollutants to the atmosphere. EPA alleged that these modifications should have undergone pre-construction PSD permit review, but the owners of the facility at the time failed to apply for a PSD permit, which would have required additional emissions controls for nitrogen oxides (NO_x) and sulfur dioxide (SO₂) (BAAQMD, 2010; EPA, 2010).

On September 9, 2010, EPA amendments to the National Air Toxics Emission Standards and New Source Performance Standards for Portland Cement Manufacturing were adopted and published. The amended rule sets emission limits for mercury, total hydrocarbons, and particulate matter that apply both to kilns that are major sources of air toxics and to kilns that are area sources. Existing kilns, such as the one at the Kaiser Cement site, must comply with the new limits by 2013 (EPA, 2011f; Appendix C-1).

On October 11, 2011, the EPA listed Permanente Creek on the Clean Water Act's Section 303(d) Impaired Water's List for diazinon, selenium, toxicity and trash. Details of the selenium concentrations are further discussed in Section 2.4.4 (SWRCB, 2012).

According to the EPA's TRI Program, 33,161.80 pounds of toxic chemicals were released during the 2010 reporting year. The facility's unaudited TRI report indicates that during 2010 the site released 22.1 pounds of chromium compounds, 32,521 pounds of hydrochloric acid, 5,548 pounds of lead compounds, and 613.15 pounds of mercury compounds. According to Lehigh, the reported releases were attributed to fugitive air emissions and point source air emissions (EPA, 2012a).

2.4.2 Department of Toxic Substances Control

The DTSC maintains the Hazardous Waste Tracking System (HWTS). The site address had two EPA identification numbers, CAC001342232 under the generator name of Kaiser Cement and CAD981384357 under the generator name of Lehigh Southwest Cement Company. It appears that CAD981384357 is the active EPA generator identification number. According to the HWTS,

approximately 152.9 tons of California waste and 0.06 of RCRA hazardous waste were manifested from the site in 2011. Two other EPA identification numbers (CAC002603872 and CAL000143345) were also listed, but waste information was not available (DTSC, 2012).

2.4.3 Bay Area Air Quality Management District (BAAQMD)

Since July 2004, the BAAQMD has issued several NOV's to the Lehigh facility. The violations can be characterized as emissions-related, administrative, or permit-related in nature. Violations noted in the NOV's include excessive visible emissions of dust or smoke from various facility sources, record keeping deficiencies, late reporting of required reports, and unpermitted material stockpiles. The site has conducted corrective action on these violations and has been brought back into compliance (BAAQMD, 2010).

On April 28, 2008, the Lehigh Southwest Cement Company submitted an application to renew its Title V Permit. A Title V Permit is a compilation of all existing applicable air quality requirements including emissions limits and standards, monitoring, record keeping, and reporting requirements. Approximately one hundred individuals or groups provided comments on the draft Title V permit renewal during a public hearing (BAAQMD, 2010).

On January 5, 2010, the BAAQMD withdrew the proposed permit renewal due to the EPA's amended National Emission Standards for Hazardous Air Pollutants (NESHAP) rule, which would result in additional emission controls and monitors for Toxic Air Contaminants (TACs). The final EPA rule amendments were adopted and published on September 9, 2010. The BAAQMD then incorporated the new standards from the amended NESHAP rule into the permit before it was presented for public comments. The BAAQMD submitted the permit for EPA review on February 16, 2012. The EPA completed its review of the permit on March 23, 2012. The BAAQMD issued the final renewal permit on April 17, 2012 (BAAQMD, 2011a; BAAQMD, 2011b; BAAQMD, 2012; EPA, 2012c; Appendix C-1).

In 2009, the BAAQMD and the EPA installed ambient air monitoring equipment at the Stevens Creek Elementary School, located approximately 1.5 miles from the Kaiser Cement site. The air monitoring was conducted to measure hexavalent chromium as part of BAAQMD's School Air Toxics Monitoring Initiative. From June 30 through September 10, 2009, 13 samples were collected. Three samples were collected when the plant was not operating all of the main units that emit into the air. Of the 10 samples collected when all main units were operating, hexavalent chromium was not detected in five samples and was detected in very small amounts in the other five (ranging from 0.001 to 0.020 nanograms per cubic meter (ng/m³)) (EPA, 2011e).

In September 2010, the BAAQMD began a one-year air monitoring study in Cupertino. The purpose of the study was to determine if the residents of Cupertino were exposed to elevated pollution levels associated with the site. The air monitoring instruments are housed in a trailer at Monte Vista Park, located approximately one mile east of the Kaiser Cement site. Pollutants continuously measured included ozone, sulfur dioxide, particulate matter, nitrogen oxide, nitrogen dioxide, and carbon monoxide. In addition, 24-hour samples of toxic gases such as benzene, vinyl

chloride, acetone, methyl ethyl ketone, chloroform, tetrachloroethene, and formaldehyde were analyzed. Metals such as chromium, mercury, and lead were also analyzed. Arsenic had a maximum concentration of 0.05 ng/m³, chromium had a maximum concentration of 0.53 ng/m³, formaldehyde had a maximum concentration of 5.67 ng/m³, and mercury had a maximum concentration of 0.05 ng/m³. When compared to analytes also analyzed at the San Jose station, only methyl ethyl ketone, chloroform, and cobalt concentrations were above the San Jose maximum average. It should be noted that mercury was not analyzed in the San Jose station and, therefore, does not provide a comparison for the Cupertino station. For comparison purposes these concentrations are presented with EPA RSLs in Table 7 (BAAQMD, 2011c; BAAQMD, 2011e; EPA, 2011e).

Table 7: Ambient Air Results from the Monte Vista Sampling Location (ng/m³)

Contaminant	Result	RSL*
Arsenic	0.05	0.57
Chromium	0.53	--
Formaldehyde	5.67	--
Mercury	0.05	310

*Regional Screening Levels (RSL) for Residential Air, June 2011

-- Benchmark not available.

In 2009, the BAAQMD requested that the Lehigh Southwest Cement Company conduct an AB 2588 Health Risk Assessment (HRA) for emissions from the site. The purpose of the AB2588 program is to identify and rank facilities based on their estimated emissions of TACs to evaluate the potential health risks to the surrounding community, to notify communities if health risk exceed a specific level, and to mitigate emission sources exceeding specified regulatory notification levels (BAAQMD, 2010; BAAQMD, 2011d; AMEC, 2011).

The HRA was submitted to the BAAQMD on September 14, 2010. The BAAQMD provided several comments and required a more refined HRA. The Lehigh Southwest Cement Company submitted a revised HRA on March 30, 2011. Selected facility emission rates from the HRA for 2010 are presented in Table 8. On November 8, 2011, the BAAQMD completed a review of the revised HRA, and approved it as final. Based on current operating conditions and newly installed abatement systems, risk levels were below Air Toxics Hot Spots Program action levels for public notification and mandatory risk reduction. The BAAQMD noted that Lehigh had committed to further risk reduction by installing additional abatement equipment and a new exhaust stack within two years, in order to meet pending federal requirements of the Portland Cement National Emission Standards for Hazardous Air Pollutants. The BAAQMD stated that Lehigh is in compliance with the Air Toxics Hot Spots Program (BAAQMD, 2011d; AMEC, 2011).

Table 8: 2010 Lehigh Facility Emission Rates

Hazardous Substance	Average Annual Production (pounds/year)	Maximum Hourly Production (pounds/hour)
Arsenic	1.43	0.000483
Beryllium	0.463	0.000147
Cadmium	0.654	0.000222
Chromium VI	1.35	0.000397
Copper	9.64	0.00344
Hydrochloric acid	65,100	15.5
Lead	1.21	0.000384
Mercury	546	0.129
Nickel	32.4	0.0104
Selenium	3.32	0.000899

2.4.4 Regional Water Quality Control Board

The facility originally obtained coverage under the National Pollutant Discharge Elimination System's (NPDES) General Permit for Discharges of Storm Water Associated with Industrial Activities, Excluding Construction Activities, Permit No. CAS000001 (Industrial Storm Water Permit) in 1992. The site's Waste Discharge Identification Number (WDID) is 2 43I006267, and the current version of the Industrial Storm Water Permit is Order No. 97-03-DWQ (RWQCB, 2011b).

Between 1998 and 1999, the RWQCB inspected the site and observed sediment-laden water discharging into Permanente Creek from various locations at the site. The water clarity in Permanente Creek was observed to be significantly more turbid downstream than upstream of the site (RWQCB, 1999). On September 17, 1998, the RWQCB issued the site a NOV for discharging sediment laden storm water into Permanente Creek (RWQCB, 1999).

On July 27, 1999, the RWQCB issued Cleanup and Abatement Order (CAO) No. 99-018 (RWQCB, 1999). The CAO required the site to submit a technical report containing an updated storm water monitoring plan, and a number of work plans (RWQCB, 1999).

In 2002 and 2003, the RWQCB collected water samples from Permanente Creek in order to evaluate the watershed under the Clean Water Act section 303(b) reporting and 303(d) listing process. Three out of six samples collected during 2002 exceeded the National Toxic Rule CCC for total selenium (5 µg/l). Total selenium concentrations detected in Permanente Creek above 5 µg/l are as follows: 5.84 µg/l, 10.3 µg/l, and 18.7 µg/l. The samples were collected approximately 0.6 miles downstream of the Lehigh site's entrance (Google, 2010; RWQCB, 2007).

On February 10, 2010, an EPA contractor conducted an Industrial Storm Water Inspection of the site on behalf of the RWQCB (RWQCB, 2010a). On March 26, 2010 the RWQCB issued the site a NOV for violating the NPDES General Permit for Discharges of Storm Water associated with Industrial Activities and the San Francisco Bay Water Quality Control Plan (RWQCB, 2010a). The violations included the following; an inadequate site map, inadequate and non-representative

sampling locations, discharge of pollutants to Permanente Creek due to inadequate Best Management Practices (BMPs), inadequate source control BMPs, inadequate material handling and storage BMPs at the vehicle and equipment maintenance and washing bay, discharge of prohibited non-storm water, failure to identify non-storm water discharges, failure to implement the SWPPP, and incorrectly installed and maintained erosion and sediment controls (RWQCB, 2010a).

On September 15, 2010, a local resident reported an increase in stream flow in the Permanente Creek in the vicinity of Portland Drive and Miramonte Avenue in Los Altos (RWQCB, 2010b). Santa Clara Valley Water District (SCVWD) notified the RWQCB and on October 4, 2010, the RWQCB followed up on the lead and called the site to inquire (RWQCB, 2010b). The site's environmental compliance manager stated the site was pumping water from the quarry bottom, routing the water through Pond #4, and discharging the water into Permanente Creek (RWQCB, 2010b). According to the site manager, this type of discharge is routine (RWQCB, 2010b). On November 29, 2010, the RWQCB ordered Lehigh to submit a Technical Report by January 7, 2011 characterizing any and all non-stormwater discharges that occurred during mid-to-late September 2010 and a description of any and all non-stormwater discharges to Permanente Creek from the site operations during the past three years (RWQCB, 2010b). Lehigh submitted the Technical Report on December 13, 2010 (Lehigh, 2010).

On February 18, 2011, the RWQCB issued an order to Lehigh to obtain coverage for discharges under an Individual NPDES Permit (RWQCB, 2011b). According to the RWQCB's evaluation, Lehigh's discharges of process waste water are not authorized under the State's Industrial General Permit for storm water (RWQCB, 2011b).

On April 29, 2011, the RWQCB recommended imposing an administrative civil liability of \$10,000 to Lehigh for one day of discharge (RWQCB, 2011a; RWQCB, 2011b).

2.4.5 County of Santa Clara Department of Environmental Health (DEH)

On June 27, 1994, the DEH issued violations to the site for improper record keeping, improper hazardous materials handling, and improper secondary containment. On January 29, 1997, DEH issued violations for improper labeling, improperly maintained secondary containment, improper tank closure, unauthorized discharges from oil containers, improper storage of hazardous materials, inadequate site map, failure to have a written UST monitoring or response plan, and failure to have a written monitoring plan for aboveground hazardous materials storage (DEH, 1994; DEH, 1997).

From November 2007 through January 22, 2008, the DEH conducted additional inspections of the site. The violations observed consisted of similar violations recorded previously by DEH. The violations included an incomplete hazardous materials inventory, inadequate monitoring records, improper labeling, improper management of spilled materials, improperly maintained secondary containment, improper manifest utilized, failure to sign manifests, failure to submit the 2007 Source Reduction Plan to the DTSC, improper storage of hazardous and universal waste, and failure to recertify the hazardous materials inventory (Hanson, 2008).

2.4.6 Santa Clara Valley Water District (SCVWD)

The SCVWD provided oversight of 10 USTs removed from the Kaiser Cement site. In 1985, six USTs were removed from the site. Four USTs had a capacity of 1,000 gallons and stored diesel fuel. One 5,000-gallon UST and one 8,000-gallon UST formerly contained unleaded gasoline. During the removal of the 1,000 gallon USTs, floating product was observed on the water in the excavation and soils had diesel fuel odors. Holes were observed in three of the four USTs. The 5,000-gallon and 8,000-gallon USTs appeared to be undamaged and no leaks were observed. No soil or groundwater samples were collected at that time. The excavation was backfilled with clean fill and paved over (Radian, 1999).

One 4,000-gallon UST that formerly contained diesel fuel was removed from the site. The tank appeared undamaged but the associated connecting lines and plumbing showed signs of leakage. Excavated soils had a diesel fuel odor and the excavation contained product. No soil or groundwater samples were collected; the excavation was backfilled with clean fill and paved over (Radian, 1999).

In December 1985, three monitoring wells were installed to monitor groundwater near three 10,000-gallon USTs that formerly contained unleaded gasoline. The USTs were subsequently removed and the RWQCB granted closure for this area in December 1995. In 1993, three new USTs containing secondary containment and a leak monitoring protection system were installed. The groundwater monitoring wells were determined to no longer be needed and were removed. No monitoring data from the on-site monitoring wells was available for review (Radian, 1999; RWQCB, 1995).

On May 2, 1999, the SCVWD requested further investigation of the above mentioned USTs. From May 10-12, 1999 samples were collected from five locations. Contaminants detected included benzene at a maximum concentration of 0.006 mg/kg, toluene with concentrations ranging from non detect to 0.046 mg/kg, ethylbenzene with concentrations ranging from non detect to 3.4 mg/kg, xylenes at concentrations ranging from non detect to 4.6 mg/kg, total petroleum hydrocarbons in the gasoline range (TPH-g) were detected at concentrations ranging from 4.8 to 730 mg/kg, and total petroleum hydrocarbons in the diesel range (TPH-d) were detected at concentrations ranging from 260 to 6,000 mg/kg. Benzene was detected in groundwater at a maximum concentration of 340 µg/L, TPH-d range were detected at a maximum concentration of 2,900,000 µg/l, TPH-g was detected at 12,000 µg/l, ethylbenzene was detected at a maximum concentration of 130 µg/l, and xylene was detected at a maximum concentration of 35 µg/l (Radian, 1999; SCVWD, 1999a).

On October 13, 1999, the SCVWD requested further investigation. The SCVWD requested the installation of monitoring wells to characterize the dissolved plume and conduct groundwater monitoring. On January 24, 2001, the SCVWD found the site investigation and corrective actions conducted by Kaiser Cement were in compliance and issued a no further action related to the petroleum releases at the site (SCVWD, 1999b; SCVWD, 2001; URS/Radian, 2000).

Although discussed, petroleum hydrocarbons are excluded as hazardous substances as defined by CERCLA Section 101(14).

3. HAZARD RANKING SYSTEM FACTORS

3.1 SOURCES OF CONTAMINATION

For HRS purposes, a source is defined as an area where a hazardous substance has been deposited, stored, disposed, or placed, plus those soils that have become contaminated from migration of a hazardous substance.

Potential hazardous substance sources associated with the Kaiser Cement site include, but may not be limited to:

- Quarry bottom waters contaminated with hazardous substances from mining activities, which have been discharged into the creek. Hazardous substances detected in quarry bottom waters include, but are not limited to, arsenic, cadmium, hexavalent chromium, copper, nickel, selenium, and zinc (Geosyntec, 2010).
- On-site soils contaminated with hazardous substances from historical site activities. Hazardous substances detected in site soils include, but are not limited to, arsenic, barium, chromium, cadmium, mercury, selenium, and PCBs (E&E, 1991; EMCON, 1993).
- Hazardous substances emitted to ambient air from site activities including, but not limited to, chromium, lead, and mercury (AMEC, 2011).

3.2 GROUNDWATER PATHWAY

In determining a score for the groundwater migration pathway, the HRS evaluates: 1) the likelihood that sources at a site actually have released, or potentially could release, hazardous substances to groundwater; 2) the characteristics of the hazardous substances that are available for a release (i.e., toxicity, mobility, and quantity); and 3) the people (targets) who actually have been, or potentially could be, impacted by the release. For the targets component of the evaluation, the HRS focuses on the number of people who regularly obtain their drinking water from wells that are located within 4 miles of the site. The HRS emphasizes drinking water usage over other uses of groundwater (e.g., food crop irrigation and livestock watering), because, as a screening tool, it is designed to give the greatest weight to the most direct and extensively studied exposure routes.

3.2.1 Hydrogeological Setting

The Kaiser Cement site lies on the eastern slopes of the Santa Cruz Mountains. The regional geology consists of Mesozoic Franciscan rocks that are partially overlain by Tertiary rocks of the Santa Clara Formation as well as Quaternary surficial deposits. The Santa Cruz Mountains lie to the west of the South Bay Groundwater Sub-basin, which contains Quaternary sediments that comprise the principal aquifer in the region (DWR, 2004).

The Franciscan Formation is a complex assembly of Jurassic to Cretaceous-age marine sediments (limestone, shale, sandstone) as well as mafic (greenstone/meta-basalt) and ultra-mafic (serpentine)

meta-igneous complexes associated with an oceanic terrane. Franciscan rocks are typically highly deformed and variably metamorphosed throughout the Santa Cruz Mountains (Golder, 2010).

The Kaiser Cement site consists of fill, alluvium, Santa Clara Formation, and rocks of the Franciscan Complex. Typically the fill material is gravelly sand, sandy silt, and silty clay. The Santa Clara Formation is approximately 20 to 70 feet thick. The thickness of the underlying Franciscan Complex could not be determined. No major water-bearing units are present at the Kaiser Cement site. The Santa Clara Formation and the Franciscan Complex rocks contain minor amounts of groundwater in fractures, and do not yield substantial amounts of water to wells. It appears that the Kaiser Cement site is in an area of bedrock and is separated from the adjacent unconfined alluvial aquifer of the Santa Clara Valley groundwater basin. Groundwater in the area was encountered at approximately 25 to 90 feet below ground surface (EMCON, 1993).

3.2.2 Groundwater Targets

The nearest drinking water well is located between two and three miles from the Kaiser Cement site and is operated by California Water Service Company (CWSC). CWSC operates a blended drinking water system that consists of 22 active drinking water wells that serve a population of approximately 55,512. CWSC obtains 20 percent of its drinking water from groundwater. Eight of the 22 wells operated by CWSC are within four miles of the site. Concentrations of arsenic and selenium have been detected in drinking water wells operated by CWSC. Arsenic concentrations ranged from 0.24 to 1.0 µg/l, and selenium was detected with concentrations ranging from 0.852 to 7.0 µg/l. The MCLs for arsenic and selenium are 5 µg/l and 50µg/l, respectively. None of the drinking water wells have been closed due to arsenic or selenium contamination (EPA, 2011g; Appendix C-2).

The City of Sunnyvale operates a blended drinking water system that consists of five active drinking water wells that serve a population of approximately 141,000. The City of Sunnyvale obtains three percent of its drinking water from groundwater. All five wells operated by the City of Sunnyvale are within four miles of the site (EPA, 2011g; Appendix C-3).

Although the EPA Region 9 GIS Report for the Kaiser Cement site indicated that Montebello School District operates a well within one to two miles of the site, it was determined that this well is only used for irrigation purposes at a now closed school (EPA, 2011g; Appendix C-4).

3.2.3 Groundwater Pathway Conclusion

During the July 1991 groundwater sampling event, cadmium, selenium, and arsenic were detected at elevated concentrations in on-site monitoring wells. However, background sampling locations were not available for comparison. Groundwater beneath the site is estimated to be between 25 and 90 feet bgs. There are at least 14 drinking water wells within four miles of the site that serve an apportioned population of approximately 101,182 (EPA, 2011g; EMCON, 1993; Appendices C-3, C-4, C-5).

Although arsenic and selenium have been detected in drinking water wells within the target distance limit from the site, both contaminants were detected in levels below their corresponding MCLs.

Arsenic had a maximum concentration of 1.0 µg/l (MCL = 5 µg/l) and selenium had a maximum concentration of 7.0 µg/l (MCL = 50µg/l). None of the drinking water wells have been closed due to arsenic or selenium contamination (EMCON, 1993; EPA, 2011c; Appendices C-3, C-4, C-5).

3.3 SURFACE WATER PATHWAY

In determining the score for the surface water pathway, the HRS evaluates: 1) the likelihood that sources at a site actually have released, or potentially could release, hazardous substances to surface water (e.g., streams, rivers, lakes, and oceans); 2) the characteristics of the hazardous substances that are available for a release (i.e., toxicity, persistence, bioaccumulation potential, and quantity); and 3) the people or sensitive environments (targets) who actually have been, or potentially could be, impacted by the release. For the targets component of the evaluation, the HRS focuses on drinking water intakes, fisheries, and sensitive environments associated with surface water bodies within 15 miles downstream of the site.

3.3.1 Geologic Setting

The discharges of pollutants in storm water and industrial process waste water into Permanente Creek from the Kaiser Cement site is of concern due to, among other reasons, the potential impact of these pollutants on the flora and fauna within Permanente Creek and the San Francisco Bay. These pollutants include, but are not limited to, naturally occurring mercury and selenium associated with the site's geology. Mercury deposits associated with serpentinite bodies in the Coast Ranges are potentially present at the Kaiser Cement site. Serpentinites are very common as mappable units along the southeastern margin of the Santa Clara Valley as well as in smaller, unmappable units throughout the Franciscan to the Santa Cruz Mountains (Golder, 2010; Norfleet, 2011; Appendix B).

Serpentinite is a high-magnesium rock formed by the hydrous metamorphism of ultramafic rocks commonly associated with ophiolite suites that occur as small to large lenses throughout the Franciscan Formation. Serpentinite consists of the mineral serpentine as well as a number of secondary minerals. The Cupertino/W. San Jose and Mindego Hill Geologic Maps identify a large ophiolite complex, as well as several small lenses of ophiolite and serpentinite, along the eastern boundary of the San Andreas Fault. At least one mappable exposure of serpentinite exists within 1.5 miles of the Kaiser Cement site (Dibblee, 2007a; Dibblee, 2007b; Norfleet, 1998; Norfleet, 2011).

The United States Geological Survey Mineral Resources Database indicates a number of mercury mines located approximately 12 miles northwest of the Kaiser Cement site and approximately 11 miles to the southeast of the site. These mercury mines lie along a fault trend that projects into the region of the site. This indicates that the limestones of the site potentially may be impacted by mercury mineralization associated with the regional serpentinite deposits. No mercury mines exist in the Permanente Creek watershed; however, the geologic trends indicate that the conditions for mercury mineralization (i.e. the occurrences of limestone with serpentinite) exist, suggesting the potential for the presence of mercury-bearing bedrock in the site vicinity (Dibblee, 2007a; Dibblee, 2007b; USGS, 2011).

3.3.1.1 Watershed

Permanente Creek drains a watershed of approximately 17.5 square miles on the northeast-facing slopes of the Santa Cruz Mountains. The headwaters originate near Black Mountain along the Montebello Ridge. The main stem flows east through unincorporated County land for about five miles, then turns to the north at the base of the foothills and continues for another eight miles along the valley floor, finally draining to the Lower South San Francisco Bay, located approximately 8 miles from the site. The major tributaries of Permanente Creek are West Branch Permanente Creek and Hale Creek (SCVURPPP, 2011).

Unlike most watersheds in the Santa Clara Basin, the headwaters of the main stem of Permanente Creek are not protected as open space, but are developed for light industry and mining, including the Kaiser Cement site. The majority of the watershed downstream of the site is developed as high-density residential neighborhoods, with commercial development clustered along major surface streets such as El Camino Real (SCVURPPP, 2011).

3.3.2 Surface Water Targets

There are no surface water intakes in Permanente Creek or San Francisco Bay within the target distance limit from the Kaiser Cement site (EPA, 2011g).

The California Red-Legged Frog (CRLF), a federally listed threatened species, has been observed in Ponds 14, 21, and 22. Successful breeding of the CRLF has also been documented in Pond 22. Steelhead trout, a federally listed endangered species, and rainbow trout have been documented in Permanente Creek. In addition, the following federally listed endangered species have been observed in areas surrounding Permanente Creek: Tiger Salamander, Clapper Rail, California Least Tern, and the Salt Marsh Harvest Mouse (Appendix B; EPA, 2011g; Leidy, 2005).

3.3.3 Surface Water Pathway Conclusion

In January 2010, Lehigh collected quarry water samples in anticipation of the RWQCB proposal to list the Permanente Creek as water quality impaired by selenium under the Clean Water Act (Geosyntec, 2010). Hazardous substances detected in quarry bottom waters include, but are not limited to, arsenic, cadmium, hexavalent chromium, copper, nickel, selenium, and zinc (Geosyntec, 2010). Sampling results are presented in Table 5.

In 2002 and 2003, the RWQCB collected water samples from Permanente Creek in order to evaluate the watershed under the Clean Water Act section 303(b) reporting and 303(d) listing process. Total selenium concentrations in samples collected from approximately 0.6 mile downstream of the Kaiser Cement site ranged from 5.84 $\mu\text{g/l}$ to 18.7 $\mu\text{g/l}$ (RWQCB, 2007).

On October 11, 2011, the EPA listed Permanente Creek on the Clean Water Act's 303 (d) list as impaired waters for diazinon, selenium, toxicity, and trash. Permanente Creek supports habitats necessary for the preservation of rare, threatened, or endangered species. There are no drinking

water intakes in Permanente Creek or the San Francisco Bay within the target distance limit from the Kaiser Cement site (EPA, 2011g; SWRCB, 2012; USFWS, 2012; Appendix B).

3.4 SOIL EXPOSURE AND AIR PATHWAYS

In determining the score for the soil exposure pathway, the HRS evaluates: 1) the likelihood that there is surficial contamination associated with the site (e.g., contaminated soil that is not covered by pavement or at least 2 feet of clean soil); 2) the characteristics of the hazardous substances in the surficial contamination (i.e., toxicity and quantity); and 3) the people or sensitive environments (targets) who actually have been or potentially could be, exposed to the contamination. For the targets component of the evaluation, the HRS focuses on populations that are regularly and currently present on or within 200 feet of surficial contamination. The four populations that receive the most weight are residents, students, daycare attendees, and terrestrial sensitive environments.

In determining the score for the air migration pathway, the HRS evaluates: 1) the likelihood that sources at a site actually have released, or potentially could release, hazardous substances to ambient outdoor air; 2) the characteristics of the hazardous substances that are available for a release (i.e., toxicity, mobility, and quantity); and 3) the people or sensitive environments (targets) who actually have been, or potentially could be, impacted by the release. For the targets component of the evaluation, the HRS focuses on regularly occupied residences, schools, and workplaces within 4 miles of the site. Transient populations, such as customers and travelers passing through the area, are not counted.

3.4.1 Physical Conditions

The Kaiser Cement site occupies approximately 3,600 acres in unincorporated Santa Clara County, just west of the City of Cupertino. A residential development is located less than 0.5 mile southeast of the site in the City of Cupertino. The Rancho San Antonio Open Space Preserve surrounds the site to the north and west. Permanente Creek flows eastward through the site then flows north until it reaches the San Francisco Bay, approximately 8 miles north of the site's entrance (Google, 2010; MROSD, 2012; URS, 2010; Appendix B).

The Kaiser Cement site consists of open land, a quarry, overburden and waste material storage areas, a sand and gravel processing plant (rock plant), a waste water treatment plant, a laboratory, a service station, USTs, ASTs, a shipping area, an office and computer center, a former aluminum factory with an unlined dump, known as the Upper Level Landfill, and an impoundment. Cement production consists of, among other activities, crushers, a series of conveyor belts, a preblend dome, storage areas, mills, silos, a four-stage pre-heater tower, a 1.6 million ton capacity dry rotary kiln, clinker coolers, and a roll press. The site is approximately 95 percent unpaved with some paved roads and buildings. The site is partially fenced, and access is limited. Trespassers have gained access from the active railroad track leading into the eastern portion of the site (E&E, 1991; EMCON, 1993; Hanson, 2000a; Hanson, 2000b; Radian, 1999; Appendix B).

3.4.2 Soil and Air Exposure

There are currently 155 full-time permanent employees and 20 contracted employees at the site. No residents, schools or daycare facilities were observed on or in the vicinity of the site. There are eight residents located between $\frac{1}{4}$ and $\frac{1}{2}$ mile from the site, and 553 residents living within $\frac{1}{2}$ and 1 mile from the site (EPA, 2011g; Appendix B).

3.4.3 Soil and Air Exposure Pathway Conclusion

The San Francisco Estuary Institute conducted a study of the transport of atmospheric mercury in the San Francisco Bay Area air basin. As part of the study, atmospheric mercury was monitored at the Kaiser Cement site to represent an industrial source of mercury. Mercury was also monitored at two control sites; one urban and one rural. Moffett Field, the urban site, is located approximately 7 miles from the Kaiser Cement site, and Calero Reservoir, the rural site, is located approximately 20 miles from the site. Samples collected in 2008 indicate that GEM ranged from 0.749 to 19.5 nanograms per cubic meter (ng/m^3) near the Kaiser Cement site, 0.100 to 8.19 ng/m^3 at Moffett Field, and 0.100 to 11.7 ng/m^3 at the Calero Reservoir location (see Table 6) (EPA, 2011c; Rothenberg, 2009).

According to the EPA's TRI Program, the site released 33,161.80 pounds of toxic chemicals during the 2010 reporting year. According to the facility's unaudited 2010 TRI report, the site released 22.1 pounds of chromium compounds, 32,521 pounds of hydrochloric acid, 5.548 pounds of lead compounds, and 613.15 pounds of mercury compounds. The releases were generated from fugitive air emissions and point source air emissions (EPA, 2012a).

4. EMERGENCY RESPONSE CONSIDERATIONS

The National Contingency Plan [40CFR 300.415 (b) (2)] authorizes the EPA to consider emergency response actions at those sites that pose an imminent threat to human health or the environment. For the following reasons, a referral to Region 9's Emergency Response Office does not appear to be necessary:

- The RWQCB, the BAAQMD, and the EPA are actively involved with the regulatory issues at the Kaiser site. Because of the agencies' active involvement the site does not appear to pose an imminent threat to human health or the environment

5. SUMMARY

The Kaiser Cement site occupies approximately 3,600 acres at 24001 Stevens Creek Boulevard, Cupertino, Santa Clara County, California. Based on information currently available, it is known that since 1939 the Kaiser Cement site has been used for excavating limestone from an on-site quarry, then using the limestone in the on-site manufacturing of cement. The cement manufacturing process begins at the quarry where limestone is mined. The raw limestone is then crushed, mixed with bauxite and iron, and ground to create the raw meal. The raw meal is heated in the kiln to create clinker. The clinker is pressed and mixed with gypsum and ground to make the final product.

Permanente Creek flows eastward through the site then flows north until it reaches the San Francisco Bay, approximately 8 miles north of the site's entrance. Generally, industrial process water and storm water are diverted to sedimentation ponds on site before being discharged into Permanente Creek.

Mercury, PCBs, cadmium, and selenium have been detected at elevated concentrations in site soils. Mercury, arsenic, beryllium, cadmium, chromium, and lead have been detected at elevated concentrations in cement kiln dust from the site. Cadmium, selenium, and arsenic have been detected in on-site monitoring wells. Antimony, arsenic, hexavalent chromium, barium, boron, cadmium, copper, manganese, nickel, selenium, thallium, vanadium, and zinc have been detected in surface water collected from the quarry bottom. Based on the results of the quarry water sampling, the facility concluded that water in the quarry may contain concentrations of selenium that exceed water quality standards and, when discharged through the quarry dewatering system pursuant to the Storm Water Pollution Prevention Plan, could be contributing to exceedances of the water quality standards for selenium in Permanente Creek. The facility's unaudited Toxic Release Inventory report indicates that during 2010 the site released 22.1 pounds of chromium compounds, 32,521 pounds of hydrochloric acid, 5.548 pounds of lead compounds, and 613.15 pounds of mercury compounds. Atmospheric mercury samples collected at the Kaiser Cement site in 2008 indicated that gaseous elemental mercury (GEM) ranged from 0.749 to 19.5 nanograms per cubic meter (ng/m^3).

The site is listed in the Resource Conservation and Recovery Act Information database as a small quantity generator. On March 10, 2010, the EPA issued a Notice of Violation (NOV) to the facility for violating sections of the Clean Air Act. On October 11, 2011, the EPA listed Permanente Creek on the Clean Water Act's Section 303(d) Impaired Waters List for diazinon, selenium, toxicity and trash.

The facility originally obtained coverage under the National Pollutant Discharge Elimination System's (NPDES) General Permit for Discharges of Storm Water Associated with Industrial Activities, Excluding Construction Activities Permit No. CAS000001 (Industrial Storm Water Permit) in 1992. The site's Waste Discharge Identification Number (WDID) is 2 43I006267, and the current version of the Industrial Storm Water Permit is Order No. 97-03-DWQ. On July 27, 1999, the Regional Water Quality Control Board (RWQCB) issued Cleanup and Abatement Order (CAO) No. 99-018 to the facility. On March 26, 2010 the RWQCB issued the site a NOV for violating the NPDES General Permit for Discharges of Storm Water associated with Industrial Activities and the

San Francisco Bay Water Quality Control Plan. On February 18, 2011, the RWQCB issued an order to the facility to obtain coverage for discharges under an Individual NPDES Permit. According to the RWQCB's evaluation, the site's discharges of process waste water are not authorized under the State's Industrial General Permit for storm water.

Since July 2004, the Bay Area Air Quality Management District (BAAQMD) has issued several NOV's to the facility. In 2009, the BAAQMD requested that the Lehigh Southwest Cement Company conduct an AB 2588 Health Risk Assessment (HRA) for emissions from the site. On November 8, 2011, the BAAQMD completed a review of the revised HRA, and approved it as final. Based on current operating conditions and newly installed abatement systems, risk levels were below Air Toxics Hot Spots Program action levels for public notification and mandatory risk reduction. The BAAQMD noted that Lehigh had committed to further risk reduction by installing additional abatement equipment and a new exhaust stack within two years, in order to meet pending federal requirements of the Portland Cement National Emission Standards for Hazardous Air Pollutants. The BAAQMD stated that Lehigh is in compliance with the Air Toxics Hot Spots Program.

The following pertinent Hazard Ranking System factors are associated with the site:

- Potential hazardous substance sources associated with the Kaiser Cement site include, but may not be limited to, quarry waters contaminated with arsenic, cadmium, hexavalent chromium, copper, nickel, selenium, and zinc; on-site soils contaminated with arsenic, barium, chromium, cadmium, mercury, selenium, and PCBs; and emissions to ambient air of chromium, lead, and mercury.
- Cadmium, selenium, and arsenic have been detected at elevated concentrations in on-site monitoring wells.
- There are at least 14 drinking water wells within four miles of the site that serve an apportioned population of approximately 101,182.
- Permanente Creek supports habitats necessary for the preservation of rare, threatened, or endangered species. There are no drinking water intakes in Permanente Creek or the San Francisco Bay within the target distance limit from the Kaiser Cement site.
- There are currently 155 full-time permanent employees and 20 contracted employees at the site. No residents, schools or daycare facilities were observed on or in the vicinity of the site. There are eight residents located between $\frac{1}{4}$ and $\frac{1}{2}$ mile from the site, and 553 residents living within $\frac{1}{2}$ and 1 mile from the site.

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