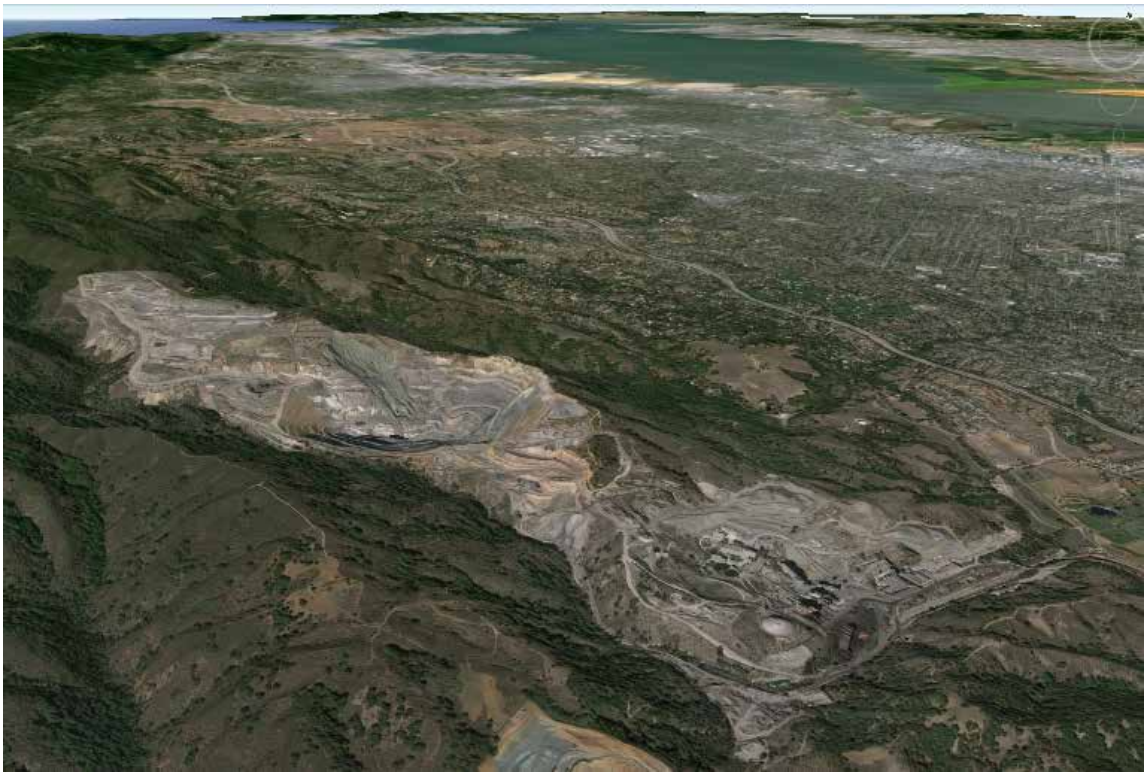
ANNUAL REPORT NO. 3

LEHIGH PERMANENTE QUARRY
RECLAMATION PLAN AMENDMENT (RPA)

Santa Clara County File # 2250-12PAM1
State Mine ID: 91-43-0004



[MARCH 2015]

LEAD AGENCY:

County of Santa Clara

JULY 1, 2014 – JUNE 30, 2015

Due to file size, Appendices D, E, and F are on CD at the back of this report.

Figures

The Lehigh Permanente Quarry (Quarry) is a limestone and aggregate mining operation located in the unincorporated foothills of Santa Clara County. On June 26, 2012, the Santa Clara County Board of Supervisors approved the 2012 Reclamation Plan Amendment (referred to as RPA) for the Quarry. RPA Condition of Approval #8 requires that the County prepare an Annual Report summarizing compliance with the RPA and the associated conditions of approval.

This is the third Lehigh Permanente Quarry RPA Annual Report (AR 3) and provides public documentation of Quarry compliance for the monitoring period July 1, 2014 – June 30, 2015. Section 1 provides an introduction and overview of the content of AR 2. A description of current operations at the Quarry is provided in Section 2. Section 3 provides a summary of compliance with the conditions of approval, with additional information regarding compliance. Additional data including aerials, maps, inspection reports and financial cost estimate for reclaiming the quarry, and other technical reports are provided in Appendices A through E. Lehigh currently is in compliance with the 2012 Reclamation Plan Conditions of Approval and Mitigation Monitoring and Reporting Program.

This report, as well as prior annual reports, can be viewed on the County's website links to Lehigh or Permanente Quarry at http://www.sccplanning.org.

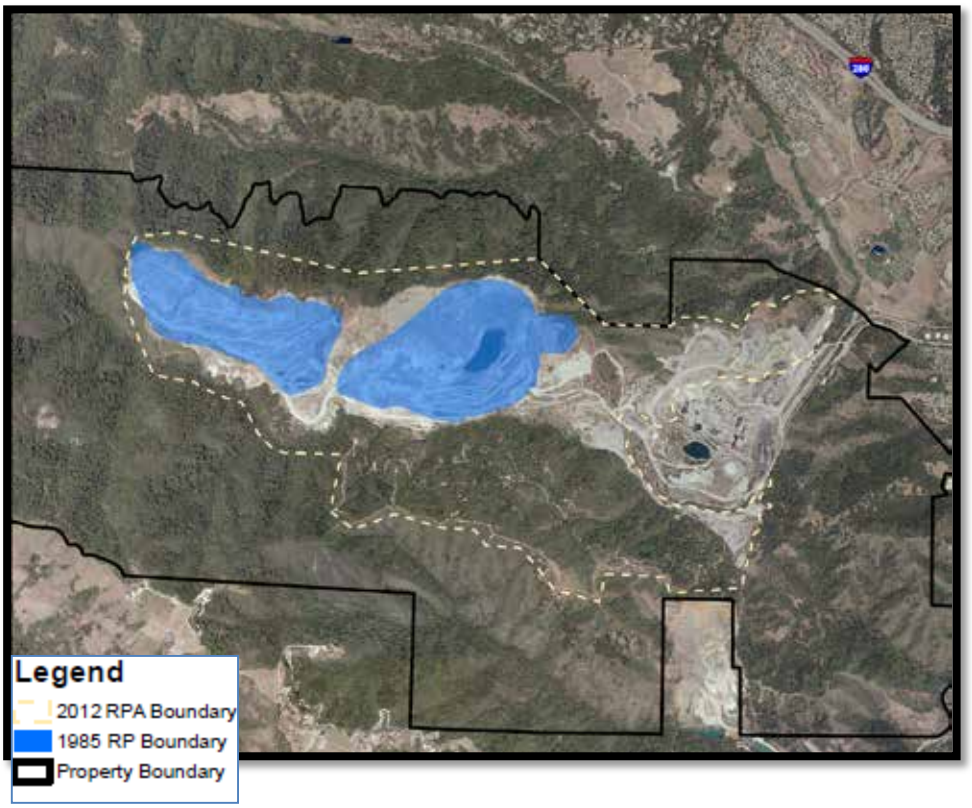
For the current reporting period, Marina Rush, Planner III, was the project manager for the Santa Clara County Planning Office for the Lehigh Permanente Quarry Reclamation Plan condition compliance monitoring. Specific questions regarding this report should be directed to Marina Rush at **Marina.rush@pln.sccgov.org** or (408)299-5784.

This page intentionally left blank.

1.1 Background

The Lehigh Permanente Quarry is a limestone and aggregate mining operation, located in unincorporated Santa Clara County within the eastern foothills of the Santa Cruz mountain range, west of Cupertino. The mine contains a single large pit where limestone and aggregate are quarried. Quarrying operations commenced in the early 1900s. Permanente Corporation, owned by Henry J. Kaiser, acquired approximately 1,500 acres in 1939 and continued acquisition of surrounding land over the next several years to the current size of 3,510 acres. Hanson Permanente Cement, Inc. currently owns the 3,510-acre quarry site, and Lehigh Southwest Cement Company is the operator (herein referred to collectively as Lehigh).

The California Surface Mining and Reclamation Act (SMARA) requires that every mining operation in the state have a lead agency–approved reclamation plan. The County originally approved a Reclamation Plan for the Permanente Quarry in 1985. The 1985 Reclamation Plan covered the quarry pit and the West Materials Storage Area, for a total area of approximately 330 acres. In 2011, an application to amend the 1985 Reclamation Plan was proposed by Lehigh to include all areas of mining disturbance subject to SMARA. The 2012 Reclamation Plan Amendment (RPA), as well as the Environmental Impact Report (EIR), and Mitigation Monitoring and Reporting Program (MMRP) were approved by the County Board of Supervisors on June 26, 2012. It supersedes the 1985 Reclamation Plan, and includes 89 conditions of approval (COAs), and are attached to this report (Attachment A). The 2012 RPA area includes the Quarry Pit, West Materials Storage Area (WMSA), East Materials Storage Area (EMSA), Permanente Creek Restoration Area (PCRA), Rock Plant, Rock Crusher and Support Area, and South Quarry Exploration Area as shown on **Figure 1**.



Neither the 1985 Reclamation Plan nor the current 2012 RPA includes the Lehigh Southwest Cement Plant. The Lehigh Cement Plant operation is an authorized use operating under a Use Permit, County File No. 173.023, issued on May 8, 1939, subsequently modified in June 1950 and May 1955 to add rotary kilns to the operations, and modified on December 5, 1977 authorizing the modernization of the cement plant. The Department of Conservation's Office of Mine Reclamation (OMR) confirmed that the cement plant is not part of the Permanente mining operation and as such, is outside the Reclamation Plan area (OMR correspondence, August 23, 2007).

On February 8, 2011, the County Board of Supervisors made a determination that the quarry is a legal nonconforming use for surface mining activities, or commonly referred to as a vested right, on several of the quarry-owned parcels. Current mining operations are contained within these vested parcels (see **Figure 2)**. In compliance with SMARA, a Reclamation Plan is required for all areas affected by mining operations, and as such, the 2012 Reclamation Plan Amendment encompasses the areas of all mining operations.

Reclamation activities will be implemented in three phases over a twenty year period. Phase 1 would occur over approximately nine years (2012-2022) and involves reclamation of the EMSA, and South Exploration Area.

Phase 2 would occur over approximately five years (2022 – 2027) and includes reclamation activities in the WMSA, Quarry Pit, and PCRA. During Phase II, the WMSA overburden stockpile will be moved via a conveyor system to backfill the Quarry Pit.

Phase 3 would occur over approximately five years (2027-2032) and involves continued reclamation activities in the PCRA and final removal of equipment, buildings, and several roads from within the Reclamation Plan Area.

A complete copy of the 2012 RPA, its associated EIR, and staff reports are available on the County's web site at: http://www.sccplanning.org, "Lehigh."

1.2 Annual Reporting Requirements

This Annual Report for reporting period July 1, 2014 through June 30, 2015 is the third annual report. It has been prepared in accordance with COA 8 to summarize compliance with the Reclamation Plan Amendment, COAs, MMRP, SMARA inspections, and financial assurance requirements.

COA 8 states:

An Annual Report shall be prepared by the County each year that summarizes compliance with the RPA and conditions of approval, Mitigation Monitoring and Reporting Program, and annual SMARA inspections and review of financial assurance cost estimates.

Annual Report shall be presented to the Planning Commission at a public meeting by December of each year, starting in 2013.

Mine Operator shall provide a reasonable amount of funding to the Department of Planning and Development for all aspects of report preparation, including but not limited to reimbursement for staff time, consultant fees, attorney's fees, and direct costs associated with report production and distribution.

Mine Operator shall provide by October 1 of each year, the information requested by the Planning Manager that is needed for the preparation of the Annual Report.

The County will include information provided by the Regional Water Quality Control Board related to the Water Board's determination regarding the Mine Operator's compliance with water quality standards, including waste load allocation and other permitting requirements, and the effectiveness of best management practices (BMPs) on the site.

FIGURE 1 RPA AREA (RPA 1.0-6)

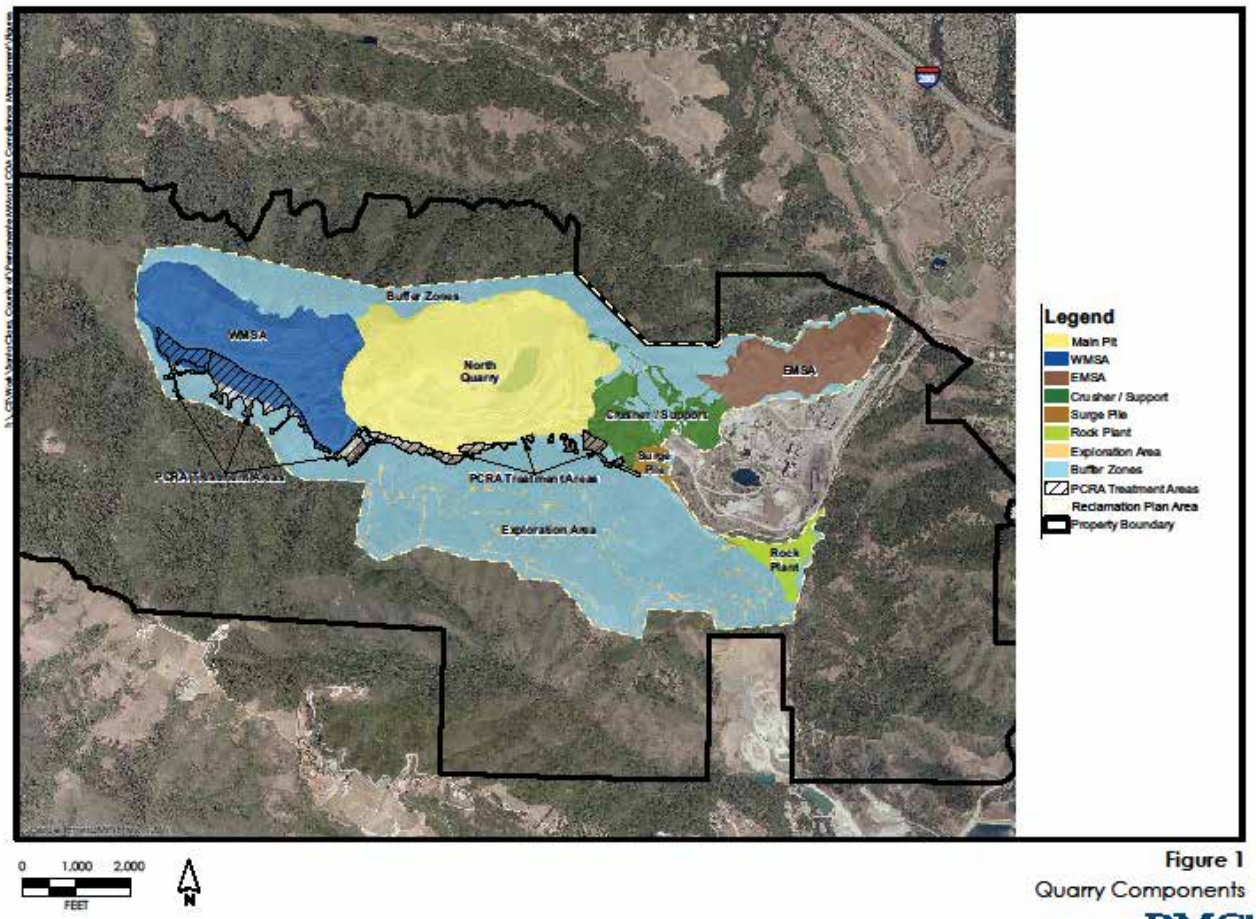
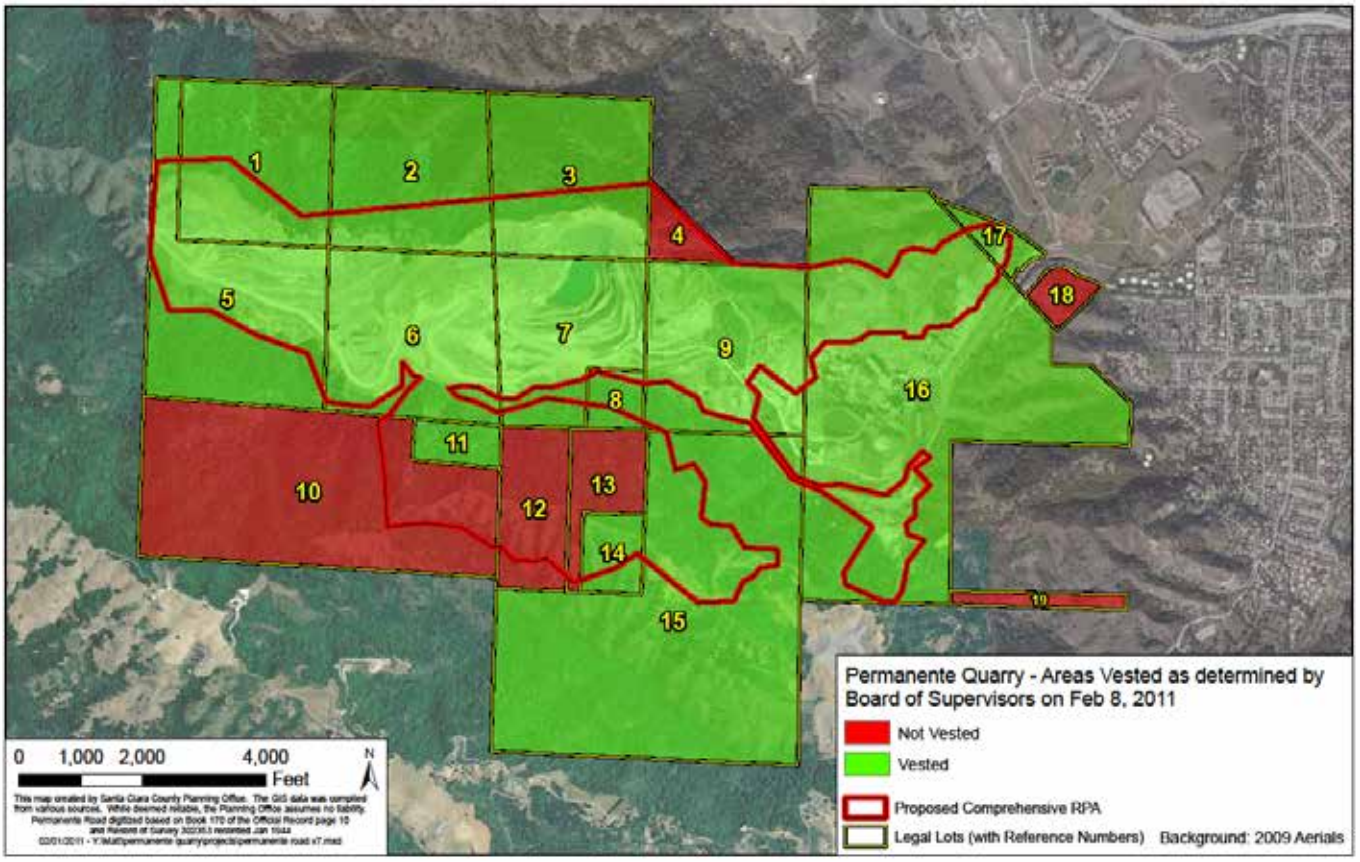


Figure 1
Quarry Components

THIS PAGE INTENTIONALLY LEFT BLANK.

FIGURE 2 LEGAL NON-CONFORMING (VESTED) PARCELS



This page intentionally left blank.

1.3 Abbreviations Used

AR	Annual Report
BAAQMD	Bay Area Air Quality Management District
CDO	Cease and Desist Order
COA	condition of approval
CRLF	California red-legged frog
EIR	environmental impact report
FACE	Financial Assurance Cost Estimate
EMSA	East Materials Storage Area
gpm	gallons per minute
mg/L	milligrams per liter
MMRP	Mitigation Monitoring and Reporting Program
msl	mean sea level
NPDES	National Pollutant Discharge Elimination System
OMR	Office of Mine Reclamation
PCRA	Permanente Creek Restoration Area
RPA	Reclamation Plan Amendment
RWQCB	San Francisco Bay Regional Water Quality Control Board
SMARA	Surface Mining and Reclamation Act
SMGB	State Mining and Geology Board
µg/L	micrograms per liter
WMSA	West Materials Storage Area
WQO	Basin Plan Water Quality Objective

This page intentionally left blank.

The 2012 Reclamation Plan Amendment area includes the North Quarry, WMSA, EMSA, Crusher/Support, Rock Plant and Surge Pile, Permanente Creek Restoration Area (PCRA), and South Exploration Area (see **Figure 1** in Section 1.0).

2.1 Overview of Mining Operations and Reclamation Activity

This chapter provides an overall summary of the mining operations and reclamation activities that occurred during the reporting period, as well as detailed activity for each of the quarry areas. The information is a compilation of data based on the multiple County inspections, technical reports, and other reports submitted from Lehigh.

Mining

The mine continued to be active during the past year. Mining operations and reclamation activities conducted since the 2012 RPA approval through this reporting period is illustrated on **Figure 3**, and anticipated activities for the next two years is in **Figure 4**.

Approximately 620 acres of the Reclamation Plan's 1,268.6 acres had active mining disturbances. The overburden materials were placed in the pit against the toe of the western quarry wall. The current depth of the pit is approximately 675 feet above mean-sea-level (msl). The 2012 RPA identified an anticipated quarried depth of 440 feet msl.

Processing

Quarry materials are processed at the Crusher/Support Area and Rock Plant. This reporting period, the County issued building permits for construction of a new primary and secondary rock crusher equipment located southeast of the quarry pit. The crusher equipment connects to the existing conveyor system and replaced the prior crushers.

The Rock Plant also was operational during this reporting period, and includes the stockpiles of processed aggregate for sale, as well as crushing, sorting and conveying equipment.

Reclamation

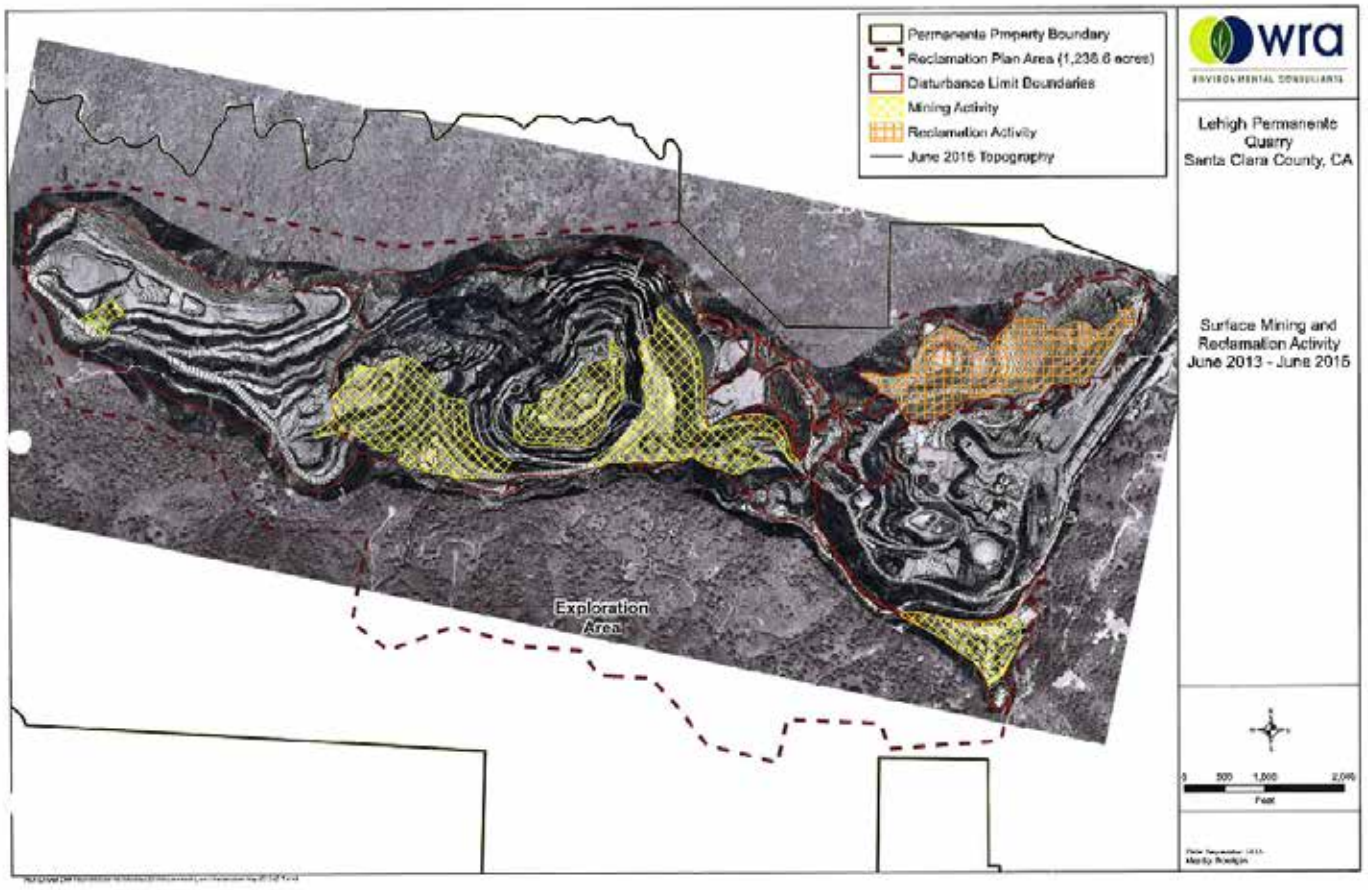
Reclamation will occur generally over three phases. After backfilling the quarry pit, the final reclaimed elevation will be between 990 and 1,750 feet msl. The maximum angle of the western backfill slopes is proposed at 2.5H:1.0V. The maximum overall angle of the quarry rock slopes is proposed at 1.0H:1.0V. The northeastern highwall will not be regraded as part of reclamation, while the eastern highwall will have final rock slopes from 2H:1V to 1H:1V.

The Revegetation Plan identifies 40 percent coverage of native tree and shrub habitat interspersed among, and the remainder native grasses. A five-year test-plot study was completed evaluating the efficacy of different revegetation treatments to best meet the 2012 RPA performance standards. The report data concluded that a greater diversity of native shrubs and herbaceous plants can succeed from seed mix and container plantings were unsuccessful due to dry and poor soil conditions and deer, but would benefit from mulch and straw wattles.

EMSA Test Plot, variety species evident following five year growth (photo taken Sept. 2015).

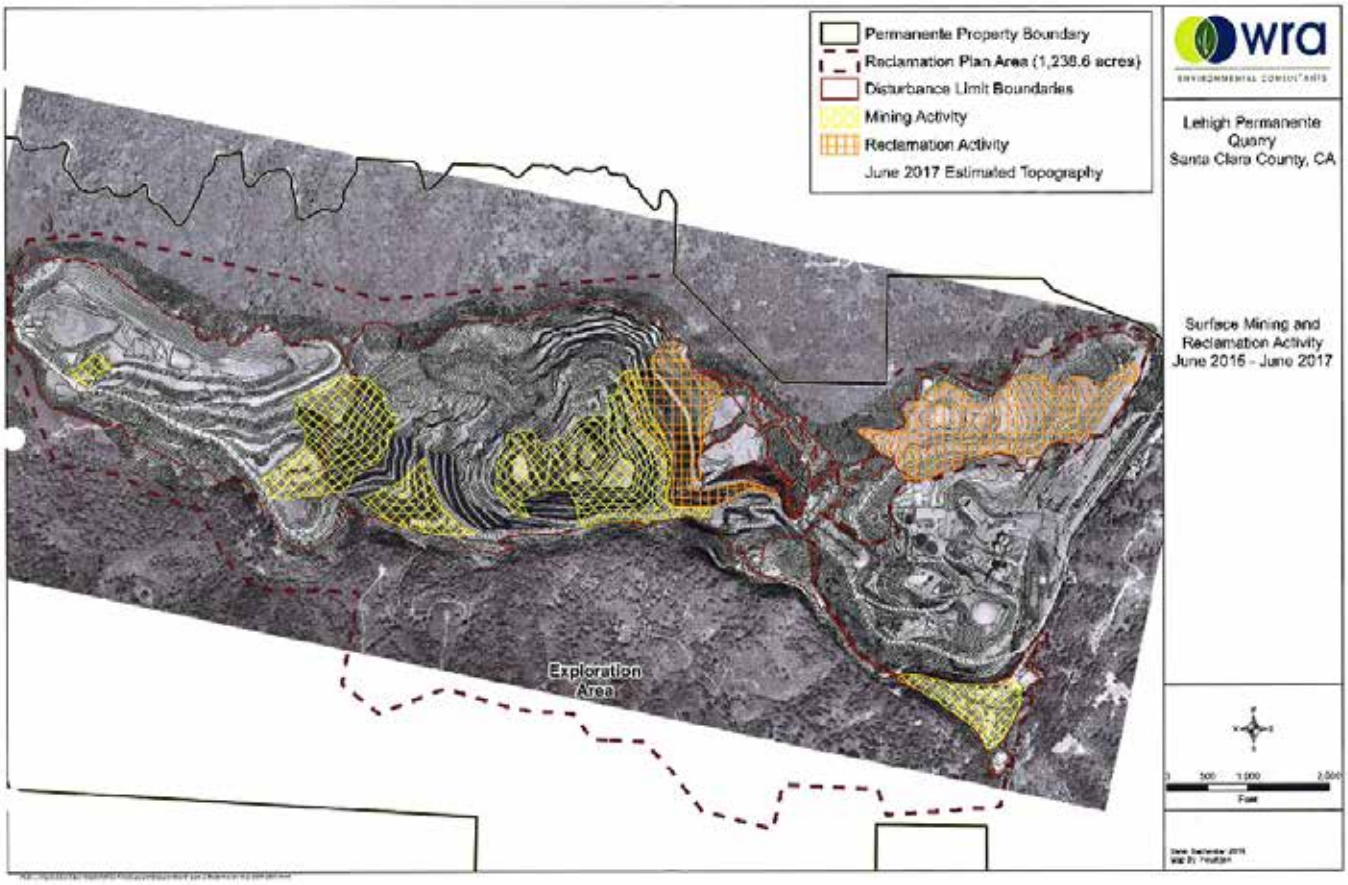
This page intentionally left blank.

FIGURE 3 SURFACE MINING AND RECLAMATION ACTIVITY JUNE 2013- JUNE 2015



This page intentionally left blank.

FIGURE 4 ESTIMATED SURFACE MINING AND RECLAMATION ACTIVITY JULY 2015 – JUNE 2017



This page intentionally left blank

2.2 Activities within Each RPA Area

Quarry Pit

Quarrying activities continued through the current reporting period. The overburden material (unusable material extracted from the quarry pit) continues to be placed soley in the Quarry Pit, along the southwestern wall.

Quarry Pit west wall, overburden placed in benches (photo taken Sept. 2015).

As part of the site's stormwater management, rock checkdams are installed along the haul roads to help manage stormwater and sedimentation. The check dams are non-limestone greenstone rock.

Check dams installed on haul roads, greenstone rock materials (photo taken Sept. 2015).

West Material Storage Area (WMSA)

No new activity occurred in the WMSA. The WMSA will be reclaimed, in accordance with the 2012 RPA, during Reclamation Phase 3. The reclamation activities requires conveying the overburden materials to the quarry pit, bringing the WMSA back to the natural grades, and revegetation.

WMSA overburden material, reclamation will convey material and backfill into the Quarry Pit (photo taken Sept. 2015)

East Material Storage Area (EMSA)

No new deposits of overburden were placed within the EMSA during this reporting period. Stormwater surface runoff from the EMSA drains to lower most stormwater pond, Pond 30, when full it discharges runoff through a culvert into Permanente Creek.

EMSA and Pond 30 (Photo taken Sept. 2015).

The EMSA is in reclamation Phase 1, and during this reporting period the final grades

were completed and non-limestone small diameter rock material cover was installed. Upon completion of this work, the County Surveyor re-surveyed (October 10, 2015) the EMSA elevation grades and location to ensure compliance with the Reclamation Plan. The survey confirmed the EMSA elevations and grades are compliant and the placement of material is a smaller footprint than what was permitted by the 2012 RPA.

EMSA final slopes graded and BMPs installed (photo taken Sept. 2015)

In December 2014, the Quarry received approximately 10 inches of rain over a seven-day span and the BMPs at the EMSA were impacted at the access road where it cuts sharply from north to south, the runoff inundated Pond 30 with sediment. Lehigh identified the problem during the storms and corrected immediate site issues, including additional silt fencing, mats, fiber rolls, and improved berms and check dams, and reconfigured drainage ditches.

Crusher/Support Area

The Crusher and Support area lies southeast of the Quarry Pit. It contains the primary and secondary crushers and numerous conveyors that transport limestone rock either to the cement plant or to the Surge Pile/Rock Plant.

Primary crusher structure (photo taken Sept. 2015).

Reclamation of the Crusher area will begin in Phase 3, following the completion of mining and backfilling of the North Quarry. The conveyors and associated structures will be removed.

Rock Plant

The Rock Plant area contains crushing, sorting and conveying equipment, along with stockpiles of processed aggregate. Runoff from the area is directed to the northeast into Pond 17 located east of the access road in the area of the Rock Plant gate. The 2012 RPA requires that the Surge Pile area be reclaimed to pre-mining conditions during Phase 3. Following the removal of all stockpiled materials, the structures, including vibrating screens and conveyor belts, will be dismantled and transported off-site, and the natural topography would be restored.

Rock Plant aggregate stockpiled, BMPs installed on adjacent slopes (photo taken Sept. 2015)

Pond 17, currently dry, collects runoff from Rock Plant area (photo taken Sept. 2015).

South Quarry Exploration Area

The South Quarry Exploration Area lies south of Permanente Creek and had mine drilling holes for exploration work done in 2009. That Use Permit application was withdrawn by Lehigh in 2011 and there is no mineral extraction authorized at this time. During the reporting year, no new exploration activity has occurred, and the access roads and drill pads have been revegetated and functioning properly.

Revegetated area, East Road in South Quarry.

Revegetated area in South Quarry Exploration area.

Permanente Creek Restoration Area (PCRA)

Permanente Creek flows eastward along the southern edge of the quarrying area through the Lehigh property. Disturbance of the creek by mining activities pre-dates the 1976 SMARA legislation while some areas of disturbance continued post-1976. The 2012 RPA identifies seven subareas along the creek and for area-specific reclamation activities. The design of the reclamation for the PRCA will be submitted to all pertinent agencies for permitting approvals. The plans and application materials are in process of being prepared, however, during this reporting year, no applications for permitting were submitted to the agencies.

Permanente Creek segment, pre-SMARA disturbance.

2.3 County Inspections

SMARA Annual Inspection

The annual SMARA inspection occurred on September 4 and 5, 2014. The County contracts with a licensed geologist consultant to provide technical support with this inspection. The 2014 SMARA inspection concluded the quarry was in compliance with the Reclamation Plan Conditions of Approval and MMRP. The September 2014 SMARA inspection report is Appendix D to this report.

BMP Inspections

To ensure ongoing compliance with Reclamation Plan and SMARA requirements, County inspectors conduct focused winter inspection of the Best Management Practices (BMP) installed to control stormwater on site.

As mentioned in the prior section (p. 2-8), on December 10 and 18, 2014 the County inspector observed and documented areas in the quarry that were non-compliant with regards to maintaining adequate BMPs in the EMSA and Primary Rock Crusher areas. The County issued Lehigh a Corrective Action Notice, requiring immediate corrective actions including replacing and improving specific BMPs, implementing soil stabilization measures at the rock crusher area, and completion of a corrective action plan to evaluate the storm water measures. Lehigh completed the work required by the County, and the Corrective Action Notice and Work Plan documents are Appendix E to this report.

Monthly Site Visits

In addition to the SMARA and BMP inspections, the County conducted monthly site visits to assess activities at the facility on a more frequent basis. These site visits have helped to identify site changes and potential issues early and make corrections if needed.

2.4 Financial Assurances

On February 21, 2014, the 2013 Financial Assurance Cost Estimate (FACE) is $54,601,774.00. County certified the estimate as adequate and in line with the Financial Assurance Guidelines published by the State Mining and Geology Board. The financial assurances for this quarry, held by the County, are $54,723,295.00, greater than current estimate. The 2014 FACE is included in Appendix D to this report.

2.5 Interagency Meeting

On September 24, 2014, the County facilitated a meeting with several regulatory agencies. The purpose of the meeting was to improve public agency communication involving regulatory activities for Permanente Quarry. Representatives from the following agencies attended the meeting: Bay Area Air Quality Management District, California Department of Conservation Office of Mine Reclamation, San Francisco Bay Regional Water Quality Control Board, California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, Santa Clara County Planning and Development Department, Santa Clara County Environmental Health Department, Santa Clara Valley Water District, cities of Cupertino and Sunnyvale, and the Town of Los Altos Hills. Topics of round-table discussion included the selenium treatment program, cement stack/ventilation system replacement project, and the Permanente Creek Restoration Project. No agency decisions were made at the meeting, and attendees expressed desire to schedule these annually.

3.1 Current COA Compliance Status

The County Board of Supervisors approved the 2012 Permanent Quarry Reclamation Plan Amendment (RPA) on June 26, 2012. Eighty-nine conditions of approval (COAs) were applied that addressed both SMARA and non-SMARA requirements, and incorporated the mitigation and monitoring measures identified in the Environmental Impact Report.

This chapter summarizes the compliance activities that occurred during the current reporting period. Conditions not listed in this section had no reportable changes.

General Requirements COA# 1-14

General requirements are primarily standard conditions of approval that are required for most land development permits issued by the County and include COAs 1 through 14. Lehigh meets these general requirements. The activities completed during the current reporting year include:

COA 7 relates to payment for County staff time. The County invoiced Lehigh on a bi-monthly basis and Lehigh remitted all payments on a timely basis.

COA 8 relates to documentation submittal; Lehigh submitted AR3 reporting documents throughout the year and by October 1, 2015.

COA 11 requires training for mining staff, including outside vendors, contractors, and consultants who are responsible for any part of mine operations or reclamation was performed for compliance with the conditions of approval. Training was conducted in September 2014.

COA 12 an updated stormwater water pollution prevention plan (SWPPP) was completed in October 2014.

COA 14 relates to annual Financial Assurance Cost Estimates (FACE). As noted in Chapter 2, the 2014 FACE was submitted in August 2014 and estimated costs to reclaim the quarry are $54,601,774.00. Staff contracted with a certified engineering geologist to provide technical support with reviewing the estimate to ensure current site conditions were addressed and complied with the SMARA Guidelines. The surety bonds, held by the County are $54,723,295.00, and exceed the cost estimate.

Other Agencies/Jurisdictions COA#15

This condition requires Lehigh submit documentation regarding violations or abatement notices from other agencies/jurisdictions. There were no notices issued during this reporting period.

Severability COA# 16-17

There are no changes or issues to report.

Duty to Defend and Indemnify COA #18-21

There are no changes or issues to report.

Reclamation Requirements COA #22-37

COA 22 requires that the northern and eastern boundaries of the WMSA and the EMSA be clearly demarcated, this activity was originally done during AR1. Additional metal T-posts were installed during this reporting year.

COA 23 requires that the operator survey coordinates of the limits of reclamation along with aerial photos every two years, and anticipated mining and reclamation activity for the next two years. The EMSA was surveyed and is confirmed for height and location is consistent with the Reclamation Plan, and the aerial coordinate's survey was conducted June 2015 and submitted to the County.

COA 24 requires reclamation of finished slopes and benches be commenced and completed at the earliest feasible date. The finished slopes for the EMSA were completed

during the current reporting year, and the required non-limestone material cover was installed. Golder Associates report documents the cover material and placement, included in Appendix F to this report.

COA 26 and 27 requires mapping showing stockpile locations of topsoil, dirt, and soil amendments locations and protection measures be implemented. Stockpile mapping is included in Appendix F to this report, and depicts current locations of these materials as well as stockpiles of limestone and overburden.

COA 28 and 29 requires Lehigh to report on the re-vegetation test plots. A report on the monitoring of the test plots was included with Annual Report #2. The data results indicate the revegetation performance criteria can be met following the guidelines of the testing plots for revegetation, and that straw bales and mulching around container plantings would promote successful growth.

COA 33 requires the quarry basins be maintained in good condition and cleaned as necessary. As noted in Chapter 2, some of the installed BMPs were inadequate, primarily at the EMSA and the Rock Crusher areas resulting in basins filling with sedimentation. A Notice of Correction was issued, and field corrections completed. These documents are included in Appendix E.

Permanente Creek Restoration Area (PCRA) COA #38-41

Silt fencing and straw wattles were installed in the PRCA. No other reportable activities occurred during this reporting year.

Environmental Conditions and EIR Mitigation Measures COA #46-67

Light and Glare

There are no changes or issues to report.

Air Quality – Health Hazards Risk

There are no changes or issues to report.

Biological Resources

Twelve biological survey reports were conducted consistent with the MMRP and Conditions of Approval. The surveys were primarily for areas where groundwater monitoring wells were installed throughout the quarry. The report results were submitted to the County, all mitigation measures were complied with (Appendix F, Lehigh documentation).

Cultural Resources

There are no changes or issues to report.

Geology and Soils

There are no changes or issues to report.

Greenhouse Gas Emissions (GHG)

There are no changes or issues to report.

Hydrology and Water Quality

COA 74 requires California-certified engineering geologist verification that non-limestone run-of-mine rock is used as cover during reclamation. The overburden material generated during mining activities along the southeast portion of the quarry was inspected and samples collected for laboratory analysis. Selenium was not detected in any samples, and the overburden was determined to be suitable for use as cover material. As the area was mined, material was transported to the EMSA and segregated for later use as cover material by stockpiling at two designated areas.

COA 76 (a through e) requires quarry pit water monitoring as applicable to reclamation activities. During this reporting period, overburden is being placed as backfill into the pit. As such, water samples were collected quarterly from the quarry pit via Pond 4a. (Note: quarterly samples were also collected from Ponds 13a, 13b, 17, and 30). Samples were

analyzed for general water chemistry and dissolved and total metals, including selenium. Daily volumes of water pumped from the pit area to Pond 4a were also measured, along with measurements of electrical conductivity and pH of quarry water. Seep surveys were performed. Results are included in Appendix C to this report.

COAs 79 through 82 address selenium in stormwater runoff. The COAs require various BMPs for selenium control, including ongoing sampling and testing for selenium and further evaluation of an interim treatment system (ITS) through a pilot study.

COA 79 and 80 require a stormwater sampling and testing program, and water quality testing to monitor the effectiveness of the EMSA BMPs in controlling selenium levels in stormwater discharges to Permanente Creek.

Water quality testing was performed during the AR1, AR2 and AR3 wet season in accordance with the Interim Stormwater Monitoring Plan (Appendix C as well as in Lehigh annual documentation in Appendix D). The EMSA discharges are measured at the outfall structure at Pond 30. Samples were collected and showed selenium concentrations exceeding the Basin Plan Water Quality Objective (WQO) of 5 µg/L for total recoverable selenium. The AR3 storm water sample testing results are included in Appendix C to this report.

The selenium levels exceeded the basin standard. This was the second consecutive year for exceedances. In accordance with COA #80, the Planning Commission held a public hearing and on November 20, 2014 determined Lehigh was not compliant with stormwater discharge requirements with respect to selenium discharging into Permanente Creek. The Commission determined it was feasible to treat selenium from the WMSA and Quarry Pit with the Frontier System Water Treatment, currently being pilot testing at Pond 4A, and continued the public hearing with respect to the making a determination on whether it is feasible to install a treatment facility or alternative at the EMSA.

Based on data analyzed, the Commission on April 23, 2015, determined the following operation are not feasible a) independent direct treatment of the EMSA stormwater discharge; b) trucking and piping of EMSA stormwater discharge for direct treatment by the Frontier System technology; and c) trucking of EMSA to the Quarry Pit. The Commission continued the determination of the feasibility of piping stormwater to the Quarry Pit and/or enlarging Pond 30 twelve months in order to determine the effectiveness of the placement of the new non-limestone cover over the EMSA as a selenium source control measure to be evaluated through the next rain season (AR #4).

COA 82 implements the pilot system testing and design of a treatment facility to reduce the levels of selenium in discharges to Permanente Creek. In AR #2, Lehigh installed a pilot treatment system using Frontier Water Systems technology. The Planning Commission determined this using the Frontier System treatment facility for impacted stormwater from the WMSA and the Quarry Pit was feasible.

Noise

There are no changes or issues to report regarding noise related to quarry activities. Noise complaints were received regarding noise seemingly originating from the Lehigh Cement facility.

EMSA Equipment Operation

There are no changes or issues to report.

3.2 Other Topics

<u>San Francisco Bay Regional Water Quality Control Board Activities</u>

The operator continues to work with the RWQCB to investigate water quality impacts from mining, which includes providing permit applications, work plans, technical reports, and monitoring reports that address water quality requirements for the mine waste rock, stormwater, groundwater, and process waters. Notable activities during the reporting year are summarized below.

The RWQCB web site provides links to Lehigh Permanente documents at: http://www.waterboards.ca.gov/sanfranciscobay/water_issues/hot_topics/lehigh.shtml.

Lehigh operates under a NPDES permit, which allows for discharges to Permanente Creek from effluent generated at six locations at the facility: Ponds 4a, 13b, 9, 17, 20, and 30, and it sets forth specific effluent limitations for each discharge point. Discharge point 001 corresponds to Pond 4a. Maximum discharge rates and selenium limits, along with other effluent limitations, have been adopted for discharge point 001, which corresponds to Pond 4a (see Permanente Creek Selenium Testing, below). Discharges from points 002 through 006 are prohibited except as a result of precipitation or to discharge retained stormwater. The permit identifies other standard provisions that must be implemented and monitoring and reporting requirements, along with Special Provisions. Those provisions allow for the RWQCB to modify or reopen the Order prior to its expiration date in certain circumstances as allowed by law. Other Special Provisions include requirements for an effluent characterization study and report, an ambient background study and report, a pollutant minimization program, a facility reliability assurance plan and status report, and stormwater BMPs for discharge points 002 through 006. The Order required Lehigh to submit an updated SWPPP by May 16, 2014. The updated SWPPP was completed and included in AR #2, and an updated SWPPP was submitted October 14, 2014 and updated July 2015 (report included in Appendix F).

3.3 SMARA Compliance Status

SMARA inspections occurred on September 4 and5, 2014 for this reporting period. The inspection report is included in Appendix D. The inspection confirmed no SMARA violations. The report was submitted to Office of Mine Reclamation on November 14, 2014. As indicated previously in this report, the FACE was certified as consistent with the SMARA Guidelines and the Financial Assurance mechanism, surety bonds, are sufficient (Appendix D). Lehigh is in compliance with SMARA regulations, Reclamation Plan Conditions of Approval, and the MMRP.

4.0 OTHER INFORMATION

4.1 References

Santa Clara County. *2012 Reclamation Plan Amendment for Permanente Quarry (State Mine ID # 91-43-0004).* Prepared by Enviromine Inc., San Diego, CA. Approved on June 26, 2012. http://www.sccgov.org/sites/planning/PlansPrograms/SMARA/PermanenteQuarry/Pages/PermanenteMain.aspx.

4.2 Report Preparers

Santa Clara County

Department of Planning and Development
70 West Hedding Street, East Wing, 7th Floor
San Jose, CA 95110

Marina Rush, Planner III

Rob Eastwood, Planning Manager

Kirk Girard, Director

County documents relating to Lehigh may be found on the County Website at www.sccplanning.org. If you would like additional information or have questions, please contact Marina Rush by email: Marina.rush@pln.sccgov.org or phone: (408)299-5784

This page intentionally left blank.

ATTACHMENT A

FINAL CONDITIONS OF APPROVAL

Approved by Planning Commission, June 7, 2012 and modified by the Board of Supervisors on June 26, 2012

(ATTACHMENT TO THE RESOLUTION, EXHIBIT 1)

MEETING DATE: June 7, 2012

FILE NUMBER 2250-13-66-10P-10EIR (M1)

NAME (Mine Operator): Hanson Permanente Cement, Inc. (Lehigh Southwest Cement)

PROJECT DESCRIPTION:

Reclamation Plan Amendment (RPA) for Lehigh Permanente Quarry, located at 24001 Stevens Creek Boulevard, in unincorporated Santa Clara County. The RPA amends and supersedes the previously approved 1985 Permanente Quarry Reclamation Plan for a 20-year period to satisfy the reclamation requirements of the Surface Mining and Reclamation Act of 1975. The RPA encompasses 1,238.7 acres within the Mine Operator's 3,510-acre ownership. The reclamation activities will be implemented in three phases over an estimated 20-year period. Phase I is approximately nine years, and involves reclamation activities in the EMSA and continuation of existing mining activities in the WMSA and Quarry Pit. Phase II is approximately five years, and includes reclamation activities within the WMSA and Quarry Pit. During Phase II, the WMSA overburden stockpile will be moved via a conveyor system to use as backfill of the Quarry Pit. The EMSA will be reclaimed during Phase II or sooner. Phase III is approximately 5 years, and involves removing the equipment, buildings and unnecessary roads from the Project area. Reclamation activities in the Permanente Creek Reclamation Area will occur during all three phases described above.

The conditions of approval of the RPA are not intended by the Planning Commission to prevent or interfere with more stringent requirements that have or may be imposed by the RWQCB or any other agency or court. Nothing in these conditions alters or has any limiting effect on the jurisdiction of any other agency, including the Regional Water Quality Control Board and the California Air Resources Board.

APPLICATION APPROVED SUBJECT TO CONDITIONS STATED BELOW BASED ON PLANS AS SUBMITTED.

GENERAL REQUIREMENTS:

1. The conditions of approval contained herein shall supersede and replace all previous conditions of approval from the 1985 Reclamation Plan approval.

2. All development, operations, and reclamation that occur under this RPA shall be consistent with the approved plans, unless modified per these conditions. The approved plans include maps, drawings, tables, and a narrative description within the RPA prepared by EnviroMINE Incorporated, including Attachments A through J, dated December 13, 2011 and received by the County on December 15, 2011. Plans also include engineered drawings prepared by Chang Consultants, dated December 12, 2011 (appended to the RPA), and Reclamation Water Quality prepared by Strategic Engineering & Science, Inc., dated December 2011 (RPA, Attachment G), and replacement Sheet 7 of 13 for Basin 40A by Chang Consultants, received by the County on March 13, 2012.

3. Within 60 days of approval of the RPA, Mine Operator shall submit six (6) copies plus one electronic copy of a "Final" RPA, incorporating changes required per the conditions of approval for the RPA, Mitigation Monitoring and Reporting Program, and Final Environmental Impact Report.

4. Within 60 days following approval of the RPA, the Mine Operator shall submit to the Planning Manager or the Manager's designee (hereinafter referred to as Planning Manager), legal descriptions for all affected parcels of real property. Pursuant to Section 2772.7 of the Public Resources Code, specifically referred to as SMARA, the County will record a Notice of Reclamation Plan Approval with the County Recorder's Office covering those parcels affected by the approved RPA. The notice shall read: *"Mining Operations conducted on the hereinafter described real property are subject to a RPA approval by the County of Santa Clara Planning Commission. A copy of said approved RPA is on file with the Department of Planning and Development, located the Santa Clara County Government Center, East Wing, 7th Floor, 70 W. Hedding Street, San Jose, CA 95110."* The Mine Operator shall be responsible for all the reasonable costs associated with recording said notice.

5. If reclamation is not complete on or before June 30, 2032, the Mine Operator shall file an application for an amendment to the reclamation plan prior to that date.

6. The proposed end use following reclamation is hillside open space.

7. The Mine Operator shall be responsible for paying all reasonable costs associated with work by the Department of Planning and Development, or with work conducted under the supervision of the Department of Planning and Development, in conjunction with, or in any way related to the conditions of approval identified in this RPA, the mitigations contained in the Mitigation Monitoring and Reporting Program, and the annual SMARA inspections and annual review of financial assurance cost estimates. This includes but is not limited to costs for staff time, attorney's fees, consultant fees, and direct costs associated with report production and distribution.

8. An Annual Report shall be prepared by the County each year that summarizes compliance with the RPA and conditions of approval, Mitigation Monitoring and

Reporting Program, and annual SMARA inspections and review of financial assurance cost estimates.

a. Annual Report shall be presented to the Planning Commission at a public meeting by December of each year, starting in 2013.

b. Mine Operator shall provide a reasonable amount of funding to the Department of Planning and Development for all aspects of report preparation, including but not limited to reimbursement for staff time, consultant fees, attorney's fees, and direct costs associated with report production and distribution.

c. Mine Operator shall provide by October 1 of each year, the information requested by the Planning Manager that is needed for the preparation of the Annual Report.

d. The County will include information provided by the Regional Water Quality Control Board related to the Water Board's determination regarding the Mine Operator's compliance with water quality standards, including waste load allocation and other permitting requirements, and the effectiveness of best management practices (BMPs) on the site.

9. If at any time the Planning Manager determines that the Quarry is not in compliance with the RPA, Mitigation Monitoring and Reporting Program, or any condition of approval, and as such is in violation of the RPA, the Director may take any and all actions necessary to ensure compliance with the Plan in accordance with applicable laws and regulations.

10. Copies of the RPA Mitigation Monitoring and Reporting Program, approved plans, conditions of approval shall be maintained at the premises of the Permanente Quarry, 24001 Stevens Creek Boulevard, at all times: one copy of all the documents shall be stored in the administration building at this location and one copy of all the documents shall be stored in the mine operations office.

11. By October 1 of each year, starting in 2012, the Mine Operator shall provide to the Planning Manager a report summarizing the date of the annual training, topics reviewed, and list of all employees attending the training. The Mine Operator shall annually train all mining staff, including outside vendors, contractors, or consultants who are responsible for implementation of any part of the mine operations or reclamation at Permanente Quarry, on the requirements and provisions of the RPA, the conditions of approval, and the MMRP.

12. Within 60 days following approval of the RPA, the Mine Operator shall submit to the Planning Manager a copy of its Storm Water Pollution Prevention Plan (SWPPP) of the approved RPA, which is hereby appended to the RPA by reference. The Mine Operator is responsible for providing the Department of Planning and Development with any and all updates to the SWPPP.

13. All mitigation measures contained within the Mitigation Monitoring and Reporting Program (MMRP) prepared for the project are adopted as conditions of approval and noted as such. The language contained within the MMRP shall be the guiding language for implementation of the condition or measure unless as modified within these conditions of approval.

14. By August 1st of each year, or as required by the Santa Clara County SMARA Inspection Program, the Mine Operator shall submit annually Financial Assurance Cost Estimates (FACE) to the Planning Manager for review and approval, which shall serve as the basis for the amount of financial assurances required of the Mine Operator, account for disturbed and those lands to be disturbed in the following year by the surface mining operations, inflation, and reclamation of lands accomplished in accordance with the approved RPA. Cost estimates shall utilize the most up to date cost figures for the San Francisco Bay Area and shall include appropriate costs for all materials to be utilized, labor rates, and equipment rates utilized in calculating the FACE. Upon approval of the FACE by the County and review by the State Office of Mine Reclamation (OMR), the Mine Operator shall post an acceptable Financial Assurance mechanism with the Department of Planning and Development prior to commencing any disturbance in areas not previously disturbed by the mining operation.

OTHER AGENCIES/JURISDICTIONS

15. Copies of all violations or abatement notices, requests for reports or information related to this RPA and its authorized uses by federal, state, or local jurisdictions/agencies, or subsequent modification of another agency's permit or submission of an application for any permit to another agency shall be provided to the Planning Manager within 10 business days of the County's request.

SEVERABILITY

16. If any of the RPA conditions of approval, or RPA approval, are held to be invalid, that holding shall not invalidate any of the remaining conditions or limitations set forth.

17. If any condition(s) of approval is invalidated by a court of law, and said invalidation would change the findings and/or mitigation measures associated with the approval of this RPA, the amendment may be reviewed, at the discretion of the Planning Commission, and substitute feasible condition(s)/mitigation measures may be imposed to adequately address the subject matter of the invalidated condition(s).

DUTY TO DEFEND AND INDEMNIFY

18. As a condition of RPA approval, including adjustment, modification or renewal, the Mine Operator agrees to:

    a. Defend, at the Mine Operator's sole expense, any action brought against the County by a third party challenging either its decision to approve the RPA or the manner in which the County is interpreting or enforcing the conditions of the RPA; and

    b. Indemnify the County against any settlements, awards, or judgments, including attorney's fees, arising out of or resulting from any such action.

19. Upon demand from the County, the Mine Operator shall reimburse the County for any court costs and or attorney's fees which the County may be required by a court to pay as a result of any such action the Mine Operator defended or which it had control of the defense. The County may, at its sole discretion, participate in the defense of any such action, but such participation shall not relieve the Mine Operator of its obligations under this condition.

20. The Mine Operator agrees to defend, indemnify and hold harmless the County, its agents, officers and employees, from any claim, action or proceeding against the County, to challenge any portions of the EIR certification, reclamation plan process or approval. In addition to damages, indemnification includes reimbursing the County for staff and consultant cost, and attorney's fees (including claims for private Attorney General fees).

21. Neither the approval of the RPA or compliance with conditions of approval shall relieve the Mine Operator from any responsibility otherwise imposed by law for damage to persons or property, nor shall the issuance of any RPA or related permit serve to impose any liability upon the County of Santa Clara, its officers, employees or agents for injury or damage to persons or property.

RECLAMATION REQUIREMENTS

22. Within 60 days of RPA approval, the RPA limit of disturbed area surrounding the northern and eastern edges of the EMSA, the northern and western edges of the WMSA, and the perimeter of the Rock Plant area shall be clearly demarcated in the field and shall remain in place until final reclamation has been completed. On an annual basis, demarcation shall be modified to encompass the RPA boundaries nearest the areas subject to surface mining and reclamation, as shown on aerials submitted per Condition #23. Demarcated areas shall be located and marked in the field by a licensed land surveyor or registered civil engineer authorized to practice land surveying. Demarcation shall use orange construction fencing or other brightly colored material acceptable to the Planning Manager.

23. At the same time as the proposed Annual Report each year, the operator shall submit to the Planning Manager a surveyed coordinate list file obtained by Global Positioning System (GPS), prepared by a licensed land surveyor or registered civil engineer authorized to practice land surveying, to be reviewed and approved by

the County Surveyor, identifying the limits of reclamation, with aerial photographs of the RPA area, annotated to illustrate (a) where surface mining and reclamation activity occurred within the prior 24 months and (b) areas where mining and reclamation activities will occur in the next 24 months. Existing topographic data shall be included with the aerial photographs, and the operator shall provide projected topographic data demonstrate how the topography will look two years later. The aerial photographs must be flown and taken biennually between June 1 and June 30 starting with June 2013. If requested by the Planning Manager or Planning Commission the materials shall be in a readable scale.

24. Reclamation of finished slopes and benches shall commence at the earliest feasible date once the slopes and benches are established, as set forth in the RPA.

25. Rockfills, where used, should be spread in lifts not exceeding five-feet in thickness by tracked equipment, and compacted by track-walking or wheel-rolling using heavy dozers (Caterpillar D-9 or larger) and/or fully loaded rubber-tired 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, in accordance with the RPA, 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. Status report shall be given to the Planning Commission after any revisions and presented at the next available Planning Commission meeting.

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. Regarding compaction, testing, and documentation of the overburden, documentation shall be submitted to the Planning Manager within 30 days of completion.

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.

34. The Mine Operator shall comply with the conditions of permits and plans required by and issued from the Regional Water Quality Control Board (RWQCB), including but not limited to approval of the Permanente Creek Restoration Plan and water discharge permits. The Mine Operator shall provide copies of all permits to the Planning Manager within 10 business days of issuance by RWQCB.

35. Reclamation shall be deemed complete by the County and State Office of Mine Reclamation (OMR) once reclamation has been performed to the terms of the approved RPA, and required monitoring and inspections have demonstrated compliance with the reclamation performance standards and mitigation measures as prescribed in the Mitigation, Monitoring and Reporting Program, including compliance with all pertinent permits or other requirements for reclamation issued by non-Santa Clara County public agencies, including but not limited to the RWQCB and the State Department of Fish and Game.

36. The Mine Operator shall comply with the conditions of permits required by and issued from the Bay Area Air Quality Management District (BAAQMD). Upon request by the County, the Mine Operator shall provide copies of all permits, and amendments to the Planning Manager within 10 business days of the request.

37. The Mine Operator shall obtain and comply with all applicable permits required by the Santa Clara County Hazardous Materials Division of the Department of Environmental Health. The Mine Operator shall provide copies of all permits to the Planning Manager within 10 business days of issuance.

Permanente Creek Restoration Area (PCRA)

38. Within 30 days of final RPA approval, submit to the Planning Manager a detailed schedule describing the implementation actions to control sedimentation, remove limestone boulders, and stabilize slopes within the Permanente Creek Restoration Area in the Summer and Fall of 2012, consistent with the RPA.

39. **Limestone Boulder Removal**. By October 15, 2012, per the RPA, identified limestone boulders in the PCRA shall be removed. In addition, any limestone boulders identified in the future shall be removed. Submit to the Planning Manager by August 1, 2012, a report and map summarizing the field inspection and identification of all limestone boulders in the PCRA. Submit to the Planning Manager by December 15, 2012, a report and summarizing the actions to remove all limestone boulders in the PRCA, consistent with the "Best Management Practice for Removal of Limestone Boulders from Permanente Creek" (Attachment J to the RPA).

40. **Permanente Creek Restoration**. Prior to the start of Permanente Creek restoration activities in Phase III for PCRA subareas 3, 4, 5 and 7, as identified in the RPA, the Mine Operator shall submit to the Planning Manager a Permanente Creek Restoration Plan. The Restoration Plan shall include the elements of the Permanente Creek Long Term Restoration Plan (URS, March 11, 2011) to the extent set forth in the RPA. The Restoration Plan shall include, at minimum, engineered drawings for creek restoration, a riparian re-vegetation plan, hydrology / hydro-geomorphology studies supporting concepts to be used in creek restoration, and a long term monitoring and reporting program. The Creek Restoration Plan shall be reviewed and approved by the County prior to implementation. The Mine Operator shall obtain all necessary permits and approvals from all applicable local, state, and federal authorities, including without limitation the Regional Water Quality Control Board, Department of Fish and Game, and U.S. Army Corps of Engineers to implement the work.

41. Prior to the start of any grading or any grading activity that affects jurisdictional resources of the California Department of Fish and Game, Regional Water Quality Control Board, or U.S. Army Corps of Engineers, the Mine Operator must provide to the Planning Manager proof of permits / clearances (or documentation that a permit is not needed).

ENVIRONMENTAL CONDITIONS AND EIR MITIGATION MEASURES

Light and Glare:

42. No night lighting shall be allowed or permitted on the east-facing slope of the EMSA or any other location within the EMSA that would be visible from public locations on the Santa Clara Valley floor including roadways. *(Implements Mitigation Measure 4.1-7)*

Air Quality – Health Hazards Risk:

43. Within 90 days of final RPA approval, the Mine Operator shall submit to the County and BAAQMD a comprehensive inventory of all RPA-related off-road construction equipment expected to be used during any portion of the RPA period. The inventory shall include the horsepower rating, engine production year, and projected hours of use or fuel throughout for each piece of equipment. The inventory shall be updated and submitted annually to the Planning with the Annual Report, throughout the duration of the RPA. *(Implements Mitigation Measure 4.3-3a).*

44. Within 90 days of final RPA approval, the Mine Operator shall provide a plan for approval by the Planning Manager and BAAQMD demonstrating that off-road equipment to be used for Reclamation of the EMSA would achieve an average 35 percent reduction in Diesel Particulate Matter (DPM) emissions compared to the proposed fleet described in the ALG report (Ashworth Leininger Group, December 13, 2011) during RPA Phase I. The plan shall be updated and submitted annually to the Planning Manager, with the Annual Report each year throughout the duration of the RPA. Options for reducing emissions may include, but are not limited to:

    a. Using newer model engines (e.g. engines that meet US EPA interim/final Tier 4 engine standards).

    b. Use of Retrofit Emission Control Devices that consist of diesel oxidation catalysts, diesel particulate filters, or similar retrofit equipment control technology verified by CARB (www.arb.ca.gov/diesel/verdev/verdev.htm)

    c. Use of low emissions diesel products or alternative fuels;

    d. Use of alternative material handling options (e.g. conveyor system); or other options as may become commercially available and verifiable. *(Implements Mitigation Measure 4.3-3b).*

45. In lieu of Condition No. 43 and No. 44 (Mitigation Measures 4.3-3a and 4.3-3b), the Mine Operator may submit within 90 days of the RPA approval evidence establishing to the Planning Manager's satisfaction that there are legally binding restrictions precluding any occupancy of the caretaker's residence located at 2961 Stevens Creek Boulevard, Cupertino (APN 342-63-003) during the entirety of Phase I of the Project. *(Implements Mitigation Measure 4.3-3c)*

Biological Resources- Avian Species

46. **Avian Species - Preconstruction Surveys.** Ground disturbance into undisturbed areas and vegetation (tree and shrub) removal should occur between September 1 and January 30, outside of the breeding season for most bird species. If ground disturbance or tree and shrub removal occurs between February 1 and June 15, preconstruction surveys will be performed within 14 days prior to such activities to determine the presence and location of nesting bird species. If ground disturbance or removal of vegetation occurs between June 16 and August 31, pre-construction surveys will be performed within 30 days prior to such activities.

Thirty (30) days prior to the start of any ground disturbance into undisturbed areas or vegetation removal, the Mine Operator shall submit to the Planning Manager a copy of a contract with a qualified ornithologist to conduct pre-activity surveys.

The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the start of such activities. If the tree removal or vegetation clearing shall occur during the non-nesting season, submit documentation both before and after tree removal / vegetation clearing confirmation completion of work within this time frame.

47. **Avian Species - Use of Buffers for to Avoid Nests**. If preconstruction surveys determine that active nests are found close enough to the land clearing and tree removal area to be disturbed by these activities, the ornithologist, in consultation with CDFG, will determine the extent of a construction-free buffer zone (typically 250 feet) to be established around the nest to prevent nest abandonment and direct mortality during construction.

Biological Resources- Bat Species

48. **Bat Species - Non-Roosting Season**. Removal of potential bat roost habitat (buildings, large trees, snags, vertical rock faces with interstitial crevices) or construction activities within 250 feet of potential bat roost habitat should occur in September and October to avoid impacts to bat maternity or hibernation roosts. *(Implements Mitigation Measure 4.4-2a).*

49. **Bat Species – Maternity Roosting Season.** If removal of potential bat roost habitat cannot occur during September and October, bat roost surveys will be conducted to determine if bats are occupying roosts.

    Nighttime evening emergence surveys and/or internal searches within large tree cavities shall be conducted by a qualified biologist during the maternity season (April 1 to August 31) to determine presence/absence of bat maternity roosts within 100 feet of wooded Project boundaries. All active roosts identified during surveys shall be protected by a minimum buffer determined by a qualified bat biologist, in consultation with California Department of Fish and Game (CDFG). The buffer shall be determined by the type of bat observed, topography, slope aspect, surrounding vegetation, sensitivity of roost, type of potential disturbance. Each exclusion zone shall remain in place until the end of the maternity roosting season. If no active roosts are identified, then work may commence as planned. Survey results are valid for 30 days from the survey date. Should work commence later than 30 days from the survey date surveys shall be repeated. Operations may continue for many years. Surveys do not need to be repeated annually unless additional clearing of potential roosting or hibernation habitat could occur outside of the non-roosting season.

    Thirty days prior to the removal of potential bat roost habitat, the Mine Operator shall submit to the Planning Manager a copy of a contract with a qualified

biologist to conduct pre-activity surveys. The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the removal of any potential habitat. *(Implements Mitigation Measure 4.4-2b).*

50. **Special Status Bat Species- Hibernation Season**. During the November 1 to March 31 hibernation season, work shall not be conducted within 100 feet of any woodland habitat (as identified in the Draft EIR Figures 4.4-1 through 4.4-4), unless a qualified bat biologist determines that woodland areas do not provide suitable hibernating conditions for bats and they are unlikely to be present in the area.

    Submit a report by a qualified bat biologist to the Planning Manager verifying the absence of suitable habitat as described above if work is proposed within 100 feet of woodland habitat between November 1 and March 31. *(Implements Mitigation Measure 4.4-2a)*

51. **Special Status Bat Species - Maternity Season Emergence.** Any trees felled during vegetation removal will not be chipped or otherwise disturbed for a period of 48 hours to allow any undetected bats potentially occupying these trees to escape. *(Implements Mitigation Measure 4.4-2b).*

52. **Bat Roost Replacement.** All special-status bat roosts destroyed by the Project shall be replaced by the Mine Operator at a 1:1 ratio onsite with a roost suitable for the displaced species (e.g., bat houses for colonial roosters). The design of such replacement habitat shall be in consultation with CDFG. The new roost shall be in place prior to the time that the bats are expected to use the roost (e.g., prior to April 1 if the roost destroyed by the Project was used by a maternity colony), and shall be monitored periodically for 5 years to ensure proper roosting habitat characteristics (e.g., suitable temperature and no leaks). The roost shall be modified as necessary to provide a suitable roosting environment for the target bat species. *(Implements Mitigation Measure 4.4-2c)*

Biological Resources- Dusky Footed Woodrat

53. **San Francisco Dusky Footed Woodrat.** Within 30 days prior to initial ground disturbance in woodland or scrub/chaparral communities, (as identified in the Draft EIR Figures 4.4-1 through 4.4-4), conduct pre-construction surveys for active woodrat stick nests that could be directly impacted. Surveys should take place in all suitable habitat types within the Project Area. Any stick nests within active work areas will be flagged and dismantled under the supervision of a biologist. If young are encountered during the dismantling process, the material shall be placed back on the nest and remain unmolested for three (3) weeks in order to give the young enough time to mature and leave of their own accord. After that period, the nest dismantling process may begin again. Nest material shall be moved to suitable adjacent areas (oak woodland, scrub, or chaparral) that will not be disturbed. If construction does not occur within 30 days of the pre-construction survey, surveys shall be repeated.

Sixty (60) days prior to initial ground disturbance within woodland or scrub / chaparral communities, the Mine Operator shall submit to the Planning Manager a copy of a contract with a qualified biologist to conduct pre-activity surveys. The pre-construction surveys shall be submitted to the Planning Manager no later than five business days prior to the start of initial ground disturbance.

54. To reduce indirect impacts on San Francisco dusky-footed woodrat by attracting urban-adapted predators, trash and food waste shall be disposed of in proper waste receptacles and emptied on a regular basis. Additionally, quarry personnel, contractors, and visitors shall not feed wildlife within the Permanente Property and appropriate site signage and employee education shall facilitate this condition.

Biological Resources- Invasive Plants, Sudden Oak Death

55. **Introduction of Invasive Plants or Pathogens**. If regulated or restricted plant materials are to be transported between the Project Area and a location in a non-infested county or state, the spread of the Sudden Oak Death pathogen shall be avoided by obtaining the necessary certificates of transport pursuant to the regulations described in the Biological Resources Assessment prepared for the Lehigh Permanente Quarry by WRA Environmental Consultants, dated December 2011.

56. **Sudden Oak Death.** To reduce the possibility of spreading Sudden Oak Death to oak woodlands in the Study Area, the Mine Operator shall implement the following measures:

    a. Prior to any reclamation work within the Project Area, equipment shall be sanitized, including shoes, pruning equipment, trucks, and heavy equipment such as earthmoving, tree trimming, chipping, or mowing equipment. Except for trucks, this equipment shall remain onsite for the duration of Project activities and shall not be transferred between this and other worksites, as doing so increases the potential of transferring infected spores to or from another site.

    b. After the completion of work activities, any accumulation of plant debris (especially leaves), soil, and mud shall be washed off of equipment or otherwise removed onsite, and air filters shall be blown out.

    c. All contractors shall have sanitation kits onsite for cleaning equipment. Sanitation kits should contain chlorine bleach (10/90 mixture bleach to water) or Clorox Clean-Up or Lysol, scrub brush, metal scraper, boot brush, and plastic gloves.

    d. All organic material imported for mixing with Quarry pit backfill shall have been composted at a facility that meets the standards of Title 14 California Code of Regulations, Division 7, Chapter 3.1; alternative sources of organic material may be used if approved by the County of

Santa Clara Agricultural Commissioner as being as effective as the composting process to sanitize SOD-infected materials.

e. All other imported fill material, soil amendments, gravel, etc. required for construction and/or restoration activities to be placed within the upper 12 inches of the ground surface shall be free of vegetation or plant material. *(Implements Mitigation Measure 4.4-7)*

Biological Resources- Wetlands

57. **Wetland Identification and Avoidance.** A qualified wetland biologist shall physically delineate all federal and state waters and wetland features identified in the 2008 wetland delineation (WRA, 2008) before any Permanente Creek Reclamation Area (PCRA) activities begin, and when feasible, reclamation activities shall avoid filling these areas unless authorized by the appropriate permitting agencies. Silt fence or other appropriate barriers and buffer zones shall be installed between jurisdictional waters or wetlands and areas sprayed with hydroseed to prevent filling of wetlands with tackifier or other hydroseed material; alternatively, the use of hand-seeding or working with hand tools may be utilized to avoid filling wetlands. *(Implements Mitigation Measure 4.4-8a)*

    Prior to the start of PCRA activities, the wetland biologist shall submit a report to the Planning Manager showing the wetland areas delineated and the installation of all fencing and barriers (photos and map).

    This condition shall not apply to Phase III Permanente Creek Restoration Activities in subareas 3, 4, 5 and 7, as identified in the RPA. Such Activities are expected to require an independent review and permitting process, as described in the RPA.

58. **Wetland Mitigation Plan.** If filling of jurisdictional waters or wetlands is not feasible, the following measures shall be implemented:

    a. A qualified wetland biologist shall prepare a wetland Mitigation and Monitoring Plan (MMP) for impacts to wetlands and waters under state or federal jurisdiction. The MMP shall be submitted for review and approval by the Planning Manager, and as required by law by the Regional Water Quality Control Board and US Army Corps of Engineers. The MMP shall outline any anticipated mitigation obligations for temporary and permanent impacts to waters of the state and/or U.S., including wetlands, resulting from PCRA activities. The MMP shall include:

        i. Baseline information;

        ii. Anticipated habitat enhancements to be achieved through compensatory actions, including whether mitigation will occur within the Project Area along Permanente Creek or at an offsite location, as well as including mitigation site location and hydrology;

iii. When possible, a preference for mitigation within the Permanente Quarry property, for impacts to both jurisdictional waters and wetlands;

iv. Performance and success criteria for habitat enhancement of Permanente Creek or other waterways to compensate for impacts to Other Waters, including:

1. A replanting plan for appropriate native riparian woody vegetation, including but not limited to arroyo willow, white alder, California wild rose, and snowberry, bigleaf maple, western creek dogwood, and Oregon ash;

2. An 80% overall re-vegetation planting success for all mitigation areas over a ten-year period;

3. A minimum overall mitigation ratio of 1.1:1 acres for permanent impacts and 1:1 acres for temporary impacts;

4. Plantings that are self-reliant, exhibit average or better health and vigor and have observable growth in stems and leaves at least two years prior to the end of the ten-year monitoring period;

5. Visual inspection of all re-vegetation sites during each growing season, with qualitative and quantitative measures of plant cover and performance;

6. Observations of total percent plant cover in the planting area, natural recruitment of native species, and establishment of new non-native species; and

7. Annual monitoring reports submitted to CDFG and RWQCB documenting re-vegetation conditions, including recommendations to adapt maintenance and replacement of failed plantings.

b. Performance and success criteria for wetland creation or enhancement including, but not limited to, the following:

i. At least 70 percent survival of installed plants for each of the first three years following planting.

ii. Performance criteria for vegetation percent cover in Years 1-4 as follows:

1. at least 10 percent cover of installed plants in Year 1;

2. at least 20 percent cover in Year 2;

3. at least 30 percent cover in Year 3;

4. at least 40 percent cover in Year 4.

c. A performance criteria for hydrology in Years 1-5 as follows:

i. Fourteen or more consecutive days of flooding, ponding, or a water table 12 inches or less below the soil surface during the growing season at a minimum frequency of three of the five monitoring years; OR establishment of a prevalence of wetland obligate plant species.

ii. Invasive plant species that threaten the success of created or enhanced wetlands should shall not be allowed to contribute relative cover greater than 35 percent in year 1, 20 percent in years 2 and 3, 15 percent in year 4, and 10 percent in year 5.

d. MMP monitoring reports shall be submitted to the Planning Manager and responsible permitting agencies. *(Implements Mitigation Measure 4.4-8b)*

Biological Resources- California Red Legged Frog (CRLF)

59. To minimize disturbance to dispersing or foraging CRLF, all grading activity within PCRA subareas 4 through 7 shall be conducted during the dry season, generally between May 1 and October 15, or before the onset of the rainy season, whichever occurs first, unless exclusion fencing is utilized. Construction that commences in the dry season may continue into the rainy season if exclusion fencing is placed around the construction zone to keep the frog from entering the construction area.

60. Pre-construction surveys for CRLF shall be conducted prior to construction activities within PCRA subareas 4 through 7. If CRLF are observed in the construction area or access areas, they shall be removed from the area by a USFWS permitted biologist and temporarily relocated to nearby suitable aquatic habitat.

61. Because dusk and dawn are often the times when CRLF are most actively foraging, all restoration activities within PCRA subareas 4 through 7 shall cease one half hour before sunset and shall not begin prior to one half hour after sunrise. Additionally, restoration activities shall not occur during rain events, as CRLF are most likely to disperse during periods of precipitation.

Cultural Resources

62. The Mine Operator shall document the physical characteristics and their historic context of the contributing features of the Kaiser Permanente Quarry Mining District, including archival photo-documentation, mapping, and recording of historical and engineering information including measured drawings about the property according to the standards of the Historic American Building Survey/Historic American Engineer Record/Historic American Landscapes Survey (HABS/HAER/HALS), to be placed in a local public archive such as the Archives of the County of Santa Clara.

Verification of documentation as described above shall be submitted to the Planning Manager within sixty (60) days prior to removal of the Permanente Quarry Conveyor System as described under Condition #63. *(Implements Mitigation Measure 4.5-1a)*

63. Prior to any of the following: modification, relocation, removal, or demolition of the Permanente Quarry Conveyor System, the Mine Operator shall salvage and/or relocate a representative portion of the Permanente Quarry Conveyor System and the remains of the early 1940s crusher, which constitute character-defining features that otherwise would be lost as a part of implementation of the Project.

    Verification of salvage / relocation as described above shall be submitted to the Planning Manager within thirty (30) days prior to start of mining / reclamation activities in the existing Conveyor System and 1940's crusher area. Conveyor is located west of the EMSA and southeast of the Quarry Pit, the crusher is located south of the Quarry Pit adjacent to Permanente Creek (reference Historic Resource Evaluation, Permanente Quarry Facility Comprehensive Reclamation Plan Project – Lehigh Southwest Cement Company, prepared by Archives and Architecture, LLC, October 2011). *(Implements Mitigation Measure 4.5-1b)*

64. At least sixty (60) days prior to commencement of any work as described above Condition #63, the Mine Operator shall prepare public information programs to educate the general public on the historic nature of the potential Kaiser Permanente Quarry Mining District, including but not limited to exhibits at the Quarry office, publications available at the Quarry office, and an online presentation available on the their website (currently, www.lehighpermanente.com). Verification of documentation as described shall be submitted to the Planning Manager. *(Implements Mitigation Measure 4.5-1c)*

65. If cultural resources are encountered during Project implementation the Mine Operator shall notify the Planning Manager and all activity within 100 feet of the find shall stop until the cultural resource is evaluated by a qualified archaeologist and a Native American representative. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse.

    If the archaeologist and Native American representative determine that the resources may be significant and cannot be avoided, they shall notify the Planning Manager and an appropriate treatment plan for the resources shall be developed by the Mine Operator in consultation with the Planning Manager, and the archaeologist. Measures in the treatment plan could include preservation in place (capping) and/or data recovery. The archaeologist shall consult with Native

American representatives in determining appropriate treatment for prehistoric or Native American cultural resources. Ground disturbance shall not resume within 100 feet of the find until an agreement has been reached as to the appropriate treatment of the find. *(Implements Mitigation Measure 4.5-2)*

66. If a paleontological resource is encountered during implementation of the RPA the Mine Operator shall notify the Planning Manager, and all activity within 100 feet of the find shall stop until it can be evaluated by a qualified paleontologist as defined by the Society of Vertebrate Paleontology Guidelines (SVP, 1995). The paleontologist shall evaluate the resource and determine its significance. If significant, the paleontologist shall notify the Planning Manager. The Mine Operator, in consultation with the County and the paleontologist, shall prepare a treatment plan such that the fossil would be recovered and scientific information preserved. The paleontologist shall implement the treatment plan in consultation with the Planning Manager and Mine Operator, prior to allowing work in the 100-foot radius to resume. *(Implements Mitigation Measure 4.5-3)*

67. In the event that human skeletal remains are encountered, the Mine Operator is required by Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98, Title 14 California Code of Regulations Section 15064.5(e), and County Ordinance No. B6-18 to immediately notify the County Coroner. Upon determination by the County Coroner that the remains are Native American, the 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. 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.

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.

    Within 90 days of approval of the RPA, the Mine Operator shall submit documentation verifying registration with The Climate Registry to the Planning Manager. Copies of annual reporting to Climate Registry shall be submitted to the Planning Manager by October 1 of each year. *(Implements Mitigation Measure 4.8-1a)*

72. **Greenhouse Gas Emissions Reduction Plan.** The Mine Operator shall prepare, submit for County and BAAQMD approval, make available to the public, and implement a Greenhouse Gas Emissions Reduction Plan (GHG Plan) containing quantifiable strategies to ensure that the Project-related incremental increase of GHG emissions does not exceed 1,100 MT Co2e per year. The GHG Plan shall include, but not be limited to, the following measures:

    a. Replacement of on-road and off-road vehicles and construction equipment with lower GHG-emitting engines, such as electric or hybrid.

    b. Use of the Overland Conveyor System, powered by electric motors, to move more than 75 percent of the waste rock from the WMSA to reclaim the Quarry pit.

    The Greenhouse Gas Emissions Reduction Plan shall be submitted to the Planning Manager within 90 days of final RPA Approval. *(Implements Mitigation Measure 4.8-1b)*

73. **Greenhouse Gas Offsets.** If the Mine Operator is unable to reduce the Project-related incremental increase of GHG emissions to below 1,100 MT Co2e per year per Condition #72, the Mine Operator shall offset all remaining Project incremental emissions above that threshold. Any offset of emissions related to the RPA shall be demonstrated to be real, permanent, verifiable, and enforceable. To the maximum extent feasible, as determined by the County in coordination with the BAAQMD, offsets shall be implemented locally. Offsets may include but are not limited to, the following (in order of preference):

    a. Onsite offset of Project emissions, for example through development of a renewable energy generation facility or a carbon sequestration project (such as a forestry or wetlands project for which inventory and reporting protocols have been adopted). If the Mine Operator develops an offset project, it must be registered with the Climate Action Reserve or otherwise approved by the BAAQMD in order to be used to offset Project emissions. The number of offset credits produced would then be included in the annual inventory, and the net (emissions minus offsets) calculated.

    b. Funding of local projects, subject to review and approval by the BAAQMD, that would result in real, permanent, verifiable, enforceable, and additional reduction in GHG emissions. If the BAAQMD or County of Santa Clara develops a GHG mitigation fund, the Mine Operator may instead pay into this fund to offset Project incremental GHG emissions in excess of the significance threshold.

    c. Purchase of carbon credits to offset Project incremental emissions to below the significance threshold. Carbon offset credits must be verified and registered with The Climate Registry, the Climate Action Reserve, or other source that is approved by the California Air Resources Board as being consistent with the policies and guidelines of the California Global Warming Solution Act of 2006 (AB 32), or available through a County- or BAAQMD-approved local GHG mitigation bank or fund.

    Documentation verifying that offsets have been accomplished, if required, must be submitted for review and approval to the Planning Manager and BAAQMD within 90 days of final RPA Approval. *(Implements Mitigation Measure 4.8-1b)*

Hydrology and Water Quality:

74. **Certified Geologist Verification of Non-Limestone-Containing Material Use.** A California Certified Engineering Geologist shall be onsite during reclamation to verify that non-limestone run-of-mine rock is used as cover on the EMSA and WMSA. In addition, the Geologist shall observe and document activities associated with placing the final overburden on the Quarry Pit (i.e., ensuring that organic material is mixed to specifications). Using visual and field testing methods, with occasional bulk sampling and laboratory analysis, the geologist shall observe and document the type of rock placed over the limestone-containing material during reclamation activities. The geologist shall inspect and document whether limestone is present at the source area (Quarry Pit and WMSA), whether

limestone rock is transported from the source area to segregation stockpiles, and whether limestone is present within the lifts of the proposed 1-foot layer of run-of-mine cover rock (in the EMSA, WMSA, and Quarry Pit). Inspection involves observing the excavation, hauling, stockpiling, and placement of the non-limestone cover material, performing a visual assessment of the rock, and conducting random spot sampling and field testing of suspect rock fragments. If observation, field-testing, or laboratory analysis indicates that significant amounts of limestone are intermixed with the supposed non-limestone cover material, the geologist shall document its presence, temporarily halt fill operations, and notify the Planning Manager and field superintendent. Once notified, the Mine Operator shall remove the limestone-containing materials and then perform verification field sampling in addition to laboratory verification. *(Implements Mitigation Measure 4.10-1a)*

Within ninety (90) days of final RPA Approval, the Mine Operator shall submit to the Planning Manager a copy of a contract or an employee resume employed by the Mine Operation that is a California-certified Engineering Geologist responsible to conduct monitoring as described above. Quarterly reports shall be submitted from the Geologist to the Planning Manager describing effectiveness of mitigation and monitoring during final reclamation as described above.

75. The County reserves the right to retain, if it deems necessary, at the expense of the Mine Operator, a third-party California-certified Engineering Geologist, to provide independent oversight or monitoring to implement Condition #74.

76. **Verification and Water Quality Monitoring**. Within ninety (90) days of RPA approval, the Mine Operator shall begin and continue throughout the backfilling and reclamation phases and for 5 years following completion of reclamation and for 5 years following the start of groundwater discharge from the Quarry Pit into Permanente Creek as described on page 4.10-39 of the Final Environmental Impact Report, a Verification and Water Quality Monitoring Program. The Mine Operator shall implement the following:

    a. Collect quarterly Quarry pit water samples and analyze for general water chemistry and dissolved and total metals, including selenium.

    b. Perform quarterly electrical conductivity and pH measurements of the Quarry water.

    c. Measure and record daily volume of any water that is pumped from the pit area.

    d. Conduct annual seep surveys in March or April of each year within the Quarry pit. Any seeps identified shall be sampled for general water chemistry and minerals and dissolved metals, and the seep flow rate shall be estimated.

    e. Perform routine testing of each of the various rock types that comprise the overburden to further characterize bulk and leachable concentrations of key metal constituents (selenium in particular). Such testing shall be

performed until the average concentrations and the variability within a rock type is no longer changing significantly as new data are gathered.

f. Sample and test runoff from the EMSA and WMSA throughout and following reclamation to confirm the concepts and closure plans (i.e., that cover with non-limestone material and re-vegetation results in runoff water quality that meets Basin Plan Benchmarks and all other applicable water quality standards, including, but not limited to, a site specific NPDES permit for the Quarry and a TMDL for selenium in Permanente Creek. Stormwater runoff monitoring and sampling shall be conducted following the placement and final grading of the 1-foot run-of-mine non-limestone cover material to ensure that surface water discharging from this cover does not contain selenium at concentrations exceeding Basin Plan Benchmark values. Three rounds of representative surface water samples shall be collected and analyzed to verify rock cover performance prior to the placement of the vegetative growth layer.

g. Sample and test groundwater discharge from the Quarry Pit into Permanente Creek following reclamation as described on page 4.10-39 of the Final Environmental Impact Report to confirm that water quality in discharge meets Basin Plan Benchmarks and all other applicable water quality standards.

h. The data obtained through this mitigation measure shall be used to reevaluate the water balance components such as runoff and groundwater inflow and the water quality associated with these within the last five years of active mining. Based on the results of any refined water balance and water quality projections, the Mine Operator shall also review and refine the water management procedures. *(Implements Mitigation Measures 4.4-5 and 4.10-1b.)*

All testing data shall be submitted to the Planning Office with the Annual Report by October 1 of each year.

77. Reclamation of the Quarry Pit, EMSA, and WMSA areas shall not be considered complete until 5 years of water quality testing as described above demonstrate to the satisfaction of the Planning Manager that selenium in surface water runoff and any point source discharges has been reduced below all applicable water quality standards, including Basin Plan Benchmarks.

78. Within 90 days of RPA approval, the Mine Operator shall implement the following stormwater and sediment management controls in addition to general BMPs required by the SWPPP in active and inactive reclamation areas throughout Phase I, II, and III of the RPA. The Mine Operator shall:

    a. Segregate limestone materials from the non-limestone materials (breccia, graywacke, chert, and greenstone) by way of operational phasing to ensure that non-limestone materials are placed beneath and are covered by non-

limestone materials. A California Professional Geologist shall oversee stockpiling, segregation, and placement of non-limestone materials.

b. Stabilize inactive areas, such as temporary stockpiles or dormant excavations that drain directly or indirectly to Permanente Creek using an appropriate combination of BMPs to cover the exposed rock material, intercept runoff, reduce its flow velocity, release runoff as sheet flow, and provide a sediment control mechanism (such as silt fencing, fiber rolls, or hydroseeded vegetation). Standard soil stabilization BMPs include geotextiles, mats, erosion control blankets, vegetation, silt fence surrounding the stockpile perimeter, and fiber rolls at the base and on side slopes.

c. Temporarily stabilize active, disturbed reclamation areas undergoing fill placement before and during qualifying rain events expected to produce site runoff. Stabilization methods include combined BMPs that protect materials from rain, manage runoff, and reduce erosion. Reclamation activities involving grading, hauling, and placement of backfill materials cannot take place during periods of rain.

d. In areas such as the WMSA where fill slopes are steep and composed of loose material, controls shall be in place to prevent material from sloughing off into the PCRA and Permanente Creek. These controls shall include debris/silt fencing placed on outer edge of grading and excavation operations back-sloping excavations to prevent grade slope towards the creek, operations buffer areas that require the use of smaller grading equipment, temporary berms along the outer extent of operations closest to the creek, Mine Operator training regarding the prevention of triggering debris slides.

e. Cover active haul roads with non-limestone materials where exposed limestone surfaces are present. Roads that undergo dust control by watering must have fiber rolls or equivalent runoff protection installed along the road side to reduce runoff and avoid drainage to Permanente Creek.

f. Divert all runoff generated from disturbed active and inactive reclamation areas to temporary basins, the Quarry pit, or temporary vegetated infiltration basins and kept away from drainage pathways entering Permanent Creek. To the extent possible, drainage of the non-limestone materials shall be diverted directly to sediment control facilities and natural surface drainages.

g. Install up-gradient berms where limestone fines or stockpiles are placed, to protect against stormwater run-on, and install ditches and down-gradient berms to promote infiltration rather than run-off.

h. Replace the limestone rock and materials that are currently used in the existing BMP ditches and cover or otherwise separate runoff from limestone rock in the existing sediment pond embankments.

i. Cover large limestone surfaces that would remain exposed during the rainy season with interim covers composed of non-limestone rock types.

j. Inspect and maintain BMPs after each qualifying rain event to ensure their integrity.

k. Reconstruct or reline all existing stormwater conveyances and check dam structures that are constructed or lined with limestone rock using non-limestone material (greenstone, breccias, greywacke, metabasalt), available at the Quarry.

l. Regularly inspect all stormwater and erosion controls, especially before and following qualifying rain events. Inspections shall be documented and periodically reported. Any violations shall be corrected immediately.

m. Provide adequate erosion control training to all equipment and mine operators, site superintendants, and managers to ensure that stormwater and erosion controls are maintained and remain effective.

n. Use only jute netting or other suitable replacement for erosion control in the PCRA; no plastic monofilament shall be used for erosion control or other purposes, as California Red Legged Frogs and other wildlife may become entangled in it.

o. Ensure that all stormwater, erosion, and sediment control BMPs are installed, inspected, maintained, and repaired under the direction of either a California certified engineer, geologist, or landscape architect, a registered professional hydrologist, or a certified erosion control specialist.

Implementation of the Best Management Practices described above shall begin within 30 days of final RPA Approval. Prior to October 1, 2012, the Operator shall provide a report, with photos, documenting and demonstrating that the aforementioned BMP's are being implemented in all areas as described above. Prior to October 15 of each year, a County Inspector shall verify installation of the aforementioned BMP's. Inspection of BMP's by a County Inspector shall occur monthly between October 15 and April 15 for each year when interim reclamation activities occur. *(Implements Mitigation Measures 4.4-5 and 4.10-2a)*

79. **Interim Stormwater Monitoring Plan.** Prior to the start of reclamation activities, the Mine Operator shall develop a Stormwater Monitoring Plan for sampling and testing stormwater, that would supplement preexisting surface water monitoring required by General Industrial Storm Water and Sand and Gravel NPDES Permit and any other applicable permits designed to specifically monitor surface water during reclamation activities in active and inactive excavation and backfill areas, and locations where water discharges to Permanente Creek. The purpose of this plan is to evaluate performance of temporary BMPs and completed reclamation phases and to identify areas that are sources of selenium (measured on recoverable basis), sediment, or high TDS. At a minimum, the plan shall require the Mine Operator to inspect BMPs and collect water samples for analysis of TDS and metals, including selenium, within 24 hours after a

qualifying rain event and sample non-stormwater discharges when they occur. If elevated selenium, sediment, or TDS is identified through sample analysis, the Mine Operator shall identify the source and apply any new or modified standard BMPs available. BMPs that show sign of failure or inadequate performance shall be repaired or replaced with a more suitable alternative. Following implementation, the Mine Operator shall retest surface water to determine the effectiveness of such modifications, and determine whether additional BMPs are necessary. *(Implements Mitigation Measures 4.4-5 and 4.10-2b)*

For Phase I, submit the Stormwater Monitoring Plan for Phase I to the Planning Manager for review and approval prior to October 1, 2012.

For Phase II and III, submit a Monitoring Plan to the Planning Manager for review and approval sixty (60) days prior to the start of Phase II.

Stormwater testing results shall be submitted to Planning Manager on a monthly basis between October 15 and April 15 of each year. If a qualifying rain event did not occur during any month during this period (and stormwater testing was not conducted), notification shall be submitted to the Planning Manager in lieu of testing results.

80. **Monitoring and Determination of BMP Effectiveness for the EMSA**:

    a. Within 30 days of RPA approval, sampling and testing shall occur within 24 hours after a qualifying rain event. If no qualifying rain event occurs within 30 days of RPA approval, then testing shall begin at the first qualifying rain event. Testing shall be conducted in accordance with the Interim Stormwater Monitoring Plan developed and approved in accordance with Condition #79.

    b. If test results for two consecutive years show that stormwater discharging from the EMSA into Permanente Creek exceeds total recoverable selenium of Basin Plan Water Quality Objective, currently 5 µg/L (micrograms per liter), or other applicable discharge requirement as determined by the RWQCB, then the County shall schedule a public hearing before the Planning Commission to determine whether the Mine Operator is complying with stormwater discharge requirements. For purposes of triggering Planning Commission review, the sampling shall occur at locations where water discharges to Permanente Creek.

    c. If the Planning Commission determines that the Mine Operator is not complying with discharge requirements, then the operator shall install a treatment system (or alternative) as described in Condition #82. *(Implements Mitigation Measures 4.4-5 and 4.10-2c)*

81. **Monitoring and Determination of BMP Effectiveness for the WMSA and Quarry Pit**

a. Within 30 days of the start of reclamation activities for Phase II, the Mine Operator shall conduct monthly water sampling and testing results in compliance with the Interim Stormwater Monitoring Plan, as described under Condition #79.

b. If test results for two consecutive years show that selenium levels are higher than base levels, then the County shall schedule a public hearing before the Planning Commission to determine whether the reclamation activities are causing an increase in total selenium above the base levels. "Base levels" shall be defined as water testing results for an average for two years immediately prior to start of Phase II reclamation for discharge into Permanente Creek from the WMSA and Quarry Pit. For purposes of triggering Planning Commission review, the sampling shall occur at locations where water discharges to Permanente Creek.

c. If the Planning Commission finds that reclamation activities are causing an increase in selenium over base levels, then the Mine Operator shall install a treatment system (or alternative) as described under Condition #82. *(Implements Mitigation Measures 4.4-5 and 4.10-2d.)*

82. **Design, Pilot Testing, and Implementation of Selenium Treatment Facility or Alternative for the EMSA and/or WMSA and Quarry Pit.**

a. Within 30 days of RPA approval, the Mine Operator shall begin designing a treatment facility (or alternative) and pilot system for discharge into Permanente Creek. The treatment shall be designed to achieve the Basin Plan Water Quality Objective for selenium (total recoverable selenium of 5 μg/L) for discharge from the EMSA as defined in Condition #80, and/or to achieve the "base level" standard for the WMSA and Quarry Pit as defined in Condition #81 *(reference to Mitigation Measures 4.10-2d).*

b. The Mine Operator shall complete design, pilot testing, and feasibility analysis for a treatment facility within 24 months of RPA approval or by such other time as may be prescribed by the RWQCB.

c. The Planning Commission shall hold a public hearing no later than 30 months after RPA approval to determine feasibility of the treatment facility (or alternative). The Planning Commission may defer the public hearing if the RWQCB determines that additional time is necessary to complete the design, pilot testing, and feasibility analysis. If the Planning Commission determines that a treatment facility is feasible, the Planning Commission shall also establish a timeline for implementing the treatment facility.

d. Construction, installation, and operation of a treatment facility (or alternative) shall be required if discharge requirements are not met as described under Conditions # 80 and # 81 based on a determination of the Planning Commission, and if it has been determined feasible by the Planning Commission following a public hearing. *(Implements Mitigation Measures 4.4-5 and 4.10-2e.)*

Downstream Flood Protection

83. **Construction of Onsite Detention Facility.** The Mine Operator shall design and construct detention facilities that would 1) manage increased runoff caused by the reclaimed Quarry pit, 2) reduce excessive discharges to Permanente Creek, and 3) develop the capacity to detain and release the 100-year flow using onsite detention pond basins while optimizing groundwater infiltration. The final drainage design shall ensure that offsite, downstream flows would not cause an increased flooding potential or lead to hydro-modification effects. Design considerations for onsite detention basins shall include the following performance standards:

    a. Maintain turbidity of receiving water outflows within discharge limitations for Permanente Creek, as set forth by the San Francisco Bay Regional Water Quality Control Board Basin Plan or other more stringent, site-specific limitations set forth by the RWQCB.

    b. Effectively drain between storm events within the period of time specified by the Santa Clara County 2007 Drainage Manual.

    c. Enhance the settlement of fine sediment while limiting the potential for sediment-laden water to be discharged to Permanente Creek.

    d. Incorporate appropriate sediment traps (i.e., low areas that promote sediment settlement) in areas away from outflow structures to limit discharge of sediment at high flow periods.

    e. Control surface water inflows to the detention facility using energy reduction features (i.e., rip-rap aprons, vegetated swales) to reduce inflow velocity and agitation of sediment within the basin.

    f. Infiltrate surface water, to the extent practicable and consistent with the water-quality recommendations for the backfill material as described in the RPA, while accounting for and protecting the local groundwater condition and water quality.

    g. In addition to the detention facilities for the Quarry pit, the Mine Operator shall ensure that the desiltation ponds proposed in other smaller project areas such as the EMSA, are engineered to function as detention basins and attenuate stormwater flows to the extent practical. The Mine Operator shall also consider a broader watershed approach and consult with Santa Clara Valley Water District (SCVWD) on ways to detain peak flows offsite in relation to areas of existing flooding and to the current SCVWD flood control improvement project. *(Implements Mitigation Measure 4.10-4)*

84. **Stormwater Control to Avoid Ponded Water and Selenium Accumulation.** The Mine Operator shall incorporate drainage features into the final drainage design for the Quarry pit area to eliminate the potential for surface ponding on the floor of the Quarry pit once it has reached its final elevation (990 amsl). The drainage design for the finished Quarry pit fill shall include engineered elements (e.g., conveyance channels, infiltration galleries) that facilitate groundwater

recharge and percolation from limestone area to groundwater in the Quarry backfill with the objective of accommodating high groundwater elevation without creating surface water bodies that may contain elevated levels of selenium. These measures shall be incorporated into the design of the proposed basin for the floor of the Quarry pit once the floor is raised to its final elevation. (*Implements Mitigation Measure 4.10-6*)

Prior to the start of Phase III, submit final drainage design demonstrating compliance with the standards described above.

85. Any body of water created during the operation of the quarry, both during excavation and processing the material, shall be maintained to provide for mosquito control and to prevent creation of any health hazards or public nuisance.

86. Sixty (60) days following RPA approval, the Mine Operator shall provide to the Planning Manager revised plans that show redesigned rip-rap energy dissipaters per the Association of Bay Area Governments (ABAG) standard for the 25 year storm for all discharge points on the reclamation plans.

Noise

87. The Mine Operator shall prohibit all heavy equipment operations in the northeasterly 11.5 acres of the EMSA (as shown in Draft EIR, Figure 4.13-8) during nighttime hours (i.e., between 10:00 p.m. to 7:00 a.m.). *(Implements Mitigation Measure 4.13-1a)*

88. The Mine Operator shall either: (1) limit all operations in the EMSA within 1,600 feet of the caretaker's residence (as shown in Figure 4.13-8) to no more than one 8-hour shift per day, or (2) submit evidence establishing to the County's satisfaction that there are legally-binding restrictions precluding any occupancy of the caretaker's residence during the entirety of Phase 1 of the RPA. *(Implements Mitigation Measure 4.13-1b)*

EMSA Equipment

89. Within thirty (30) days of the RPA Approval, the Mine Operator shall post a sign inside all mine equipment operating in the EMSA area with the text from Condition #42 (Light and Glare) and Conditions # 87 and # 88 (Noise). The sign shall be posted prominently within view of the vehicle operator. Within 30 days of the RPA approval, the Mine Operator shall submit to the Planning Manager photo documentation demonstrating compliance of this.

ATTACHMENT B

County of Santa Clara Planning Commission and Board of Zoning Adjustment
Minutes
April 23, 2015

1. Call to Order/Roll Call

The regular meeting of the County of Santa Clara Planning Commission and Board of Zoning Adjustment was called to order at 1:06 p.m. by Chairperson Schmidt in the Board of Supervisors' Chambers at 70 W. Hedding Street, San Jose. A quorum was present.

Call to Order/Roll Call

Commissioners Present:	Cauble, Lefaver, Resendez, Rauser, and Schmidt
Commissioner Absent:	Moore, Ruiz
Interim Commission Secretary:	Rob Eastwood
Recording Secretary:	Michele Napier

Advisory Staff: Kirk Girard, Acting Director, Department of Planning and Development
Rob Eastwood, Interim Planning Manager, Department of Planning and Development
Kavitha Kumar, Principal Planner, Department of Planning and Development
Chris Cheleden, Deputy County Counsel
Elizabeth Pianca, Deputy County Counsel
Dawn Cameron, Roads and Airports Department

2. Public Comments

This portion of the meeting is reserved for persons desiring to address the Commission on any matter not on the agenda. Speakers are limited to 3 minutes, if there are 5 or fewer speakers; 2 minutes, if there are 6 to 14 speakers; and, 1 minute, if there are 15 or more speakers. The law does not permit Commission action or extended discussion of any item not on the agenda except under special circumstances. All statements that require a response may be placed on the agenda for the next regular business meeting.

Rhoda Fry, citizen of Santa Clara County, expressed concern for noise at Lehigh Quarry in the early hours of the morning. She requested that the Planning Commission agendize the issue for future discussion.
Cathy Helgeson, citizen of Santa Clara County, expressed concern for Lehigh Quarry, petroleum plants, and power plants causing climate change.
Rebecca Acosta expressed concern for failed adoptions and the foster care program in Santa Clara County.

Chairperson Schmidt presented a Resolution of Commendation to outgoing Commissioner Terri Couture in appreciation for her service as a Commissioner to the County of Santa Clara Planning Commission.

3. Consent Items

All Consent Items marked with an asterisk in front of the item will be acted upon by the Planning Commission in one motion and without discussion. Any Commissioner or member of the public wishing to discuss a particular item may request the Chairperson remove the item from the Consent listing and consider it separately following Consent Item action by the Commission.

Chairperson Schmidt requested that the minutes of March 26, 2015 be pulled from the consent calendar.

*4. Approval of Minutes

Chairperson Schmidt recommended that the minutes of March 26, 2015 be amended to reflect that on Page 3, line 3, changing, "the Commission agreed to review the document…" to read, "the Commission reviewed document…"

On motion of Commissioner Rauser, seconded by Commissioner Cauble, the Commission voted to approve the minutes of March 26, 2015, as amended.

The vote was as follows:

AYES:	Cauble, Lefaver, Rauser, Resendez, and Schmidt
ABSENT:	Moore and Ruiz

On order of the Chairperson, hearing no objection, the agenda was taken out of order.

6. File 671-14P-12A-12G-12EA Owner/Applicant: Church of the Redeemer;
Project Planner: Colleen Tsuchimoto (408) 299-5797, Colleen.Tsuchimoto@pln.sccgov.org

Public hearing to consider modifications to the Use Permit, Architecture and Site Approval, and Grading Approval for a new building for a fellowship hall, administrative office space, kindergarten to 8th grade school, Sunday school classrooms, and for one annual weekend festival. The existing fellowship hall and Sunday school/administration building will be demolished.

Property Location: southeast side of Magdalena Avenue at Interstate 280
Property Address: 380 Magdalena Avenue, Los Altos APN: 331-03-073
General Plan: Los Altos General Plan – Public & Quasi Public Facilities 3 – Public & Institutional Uses.
Parcel Size: 2.09 acres Supervisorial District: 5 Zoning: R1E-1Ac
Williamson Act: No; Existing Land Use: Religious Institution

Colleen Tsuchimoto, Associate Planner, staff for the project, provided an overview of the project. She stated staff recommendation to continue the project to a date uncertain to provide additional time for preparation of a supplemental traffic analysis, a noise study, and to evaluate and prepare conditions for the revised project conditions for the revised project proposal. Further, she advised applicant had requested a continuance to prepare supplemental analysis and for additional community outreach meetings to resolve concerns as addressed in the public comment letters.

Chairperson Schmidt opened the public input portion of the public hearing. Leila Djavaheri Johansson, Mel Kahn, Gary Maggard, Sandy Mingia, and John Tollefson, neighbors to property location, expressed concern about the project. Hearing nothing further, Chairperson Schmidt closed the public input portion of the item.

On motion of Commissioner Cauble, seconded by Commissioner Lefaver, the Commission voted to continue the item to a date uncertain.

The vote was as follows:
AYES: Cauble, Lefaver, Rauser, Resendez, and Schmidt
ABSENT: Moore and Ruiz

5. File No. 2250-12PAM Owner: LEHIGH SOUTHWEST CEMENT COMPANY
Project Staff: Marina Rush (408) 299-5784 marina.rush@pln.sccgov.org

Continued from January 22, 2015. Public hearing to determine the feasibility of an alternative to treat selenium from water discharged from the East Materials Storage Area (EMSA) pursuant to final conditions of approval No. 82 of the 2012 Reclamation Plan Amendment.

Address: 24001 Stevens Creek Blvd., Cupertino, CA 95014;
APN: 351-09-013, -020, -022, -025; 351-10-005, -033, -037, -038; 351-11-001, -005, -006, -007, -081.
General Plan: Hillsides and Cupertino Urban Service Area;
Zoning District: A-d1, A1-d1, A1-20s-d1, HS-d1, HS-d1-sr, HS;
Parcel Size: 1,238 acres; Supervisorial District: 5; Williamson Act: No.

Marina Rush narrated a PowerPoint presentation outlining Lehigh Reclamation Plan, Conditions of Approval No. 80 and 82; Selenium Treatment Evaluation at East Materials Storage Area (EMSA); and analysis and recommendation.

Commissioner Resendez announced that he had reviewed all hearing documents from prior hearings of January 22, 2015 and November 20, 2014 and that he would participate in the hearing.

Chairperson Schmidt opened the public input portion of the hearing.

Rhoda Fry, Cathy Helgeson, Karen Del Compare, and Libby Lucas, citizens, and Bill Almon, Quarry No, spoke to th project.

Hearing no other comments, Chairperson Schmidt closed the public input portion of the hearing.

On motion of Commissioner Rauser, seconded by Commissioner Cauble, the Commission voted to support staff recommendation to: 1) determine the following options are not feasible: a) Independent direct treatment of EMSA storm water discharge; b) Trucking and piping of EMSA storm water discharge for direct treatment by the Frontier Water Systems technology; and, c) Trucking of EMSA storm water to the Quarry Pit; and, 2) Continue the determination of the feasibility of piping storm water to the Quarry Pit and/or enlargement of Pond 30 twelve months until the effectiveness of the placement of interim non-limestone bearing cover material over the EMSA as a selenium source control measure can be evaluated.

The vote was as follows:
AYES: Cauble, Lefaver, Rauser, Resendez, and Schmidt
ABSENT: Moore and Ruiz

7. File 10571-14CP Owner/Applicant: County of Santa Clara
Project Planners: Colleen Tsuchimoto (408) 299-5797, Colleen.Tsuchimoto@pln.sccgov.org; and Manira Sandhir (408) 299-5787, Manira.Sandhir@pln.sccgov.org

Public hearing to consider amendments to the Santa Clara County General Plan and Zoning Ordinance addressing local serving policy provisions for the rural unincorporated areas of the County, and proposed set of guidelines "Size, Scale and Intensity Guidelines: Industrial, Commercial, and Institutional Uses in Rural Areas." The purpose of this hearing is to introduce the item for discussion and consideration by the Planning Commission and to receive comments from the public and interested parties. No action will be taken by the Planning Commission at this hearing.
Property Location: County-wide
Zoning: RR, A, HS, AR General Plan: Rural Residential, Agriculture, Hillsides, Agricultural Ranchlands

Colleen Tsuchimoto, Associate Planner, narrated a PowerPoint presentation and led the discussion regarding Santa Clara County General Plan and Zoning Ordinance addressing local serving policy provisions for the rural unincorporated areas of the County.

Chairperson Schmidt opened the public input portion of the hearing. Hearing no one, she closed the public input portion of the hearing.

Commissioner Lefaver suggested that the floor area ratio (FAR) not be used as a local serving criterion since it is a more urban measure of development.

Commissioner Cauble suggested that the criteria should be rural compatible rather than local serving.

Chairperson Schmidt suggested that documentation to be considered by the Commission in May should clearly identify existing and specific changes.

8. Consider Planning Commission Work Plan for FY2015-2016 and authorize staff to forward it to the HLUET Committee and the Board of Supervisors on behalf of the Commission.

On motion of Commissioner Lefaver, seconded by Commissioner Rauser, the Commission voted to authorize staff to forward the Planning Commission Work Plan for FY2015-2016 to the Housing, Land Use, Environment and Transportation Committee (HLUET) and the Board of Supervisors on behalf of the Commission.

The vote was as follows:
AYES: Cauble, Lefaver, Rauser, Resendez, and Schmidt
ABSENT: Moore and Ruiz

9. Other Business

Report of the Chairperson – There was no report.
Report of Planning Commissioners
a) San Martin Planning Advisory Committee report (Rauser) – Noted.
b) Other reports from Commission members: Report out from Commissioners who attended the APA National; Conference in Seattle, April 18-21, 2015 - Noted.
Report of County Counsel (Pianca/Cheleden) – There was no report.
Report of the Planning Manager/Secretary (Eastwood) - Noted.

10. Update regarding activities of the Department of Planning and Development (Girard) - Noted.

11. Correspondence/Announcements: There was none.

12. ADJOURN: Hearing nothing further, the meeting was adjourned at 3:44 p.m.

Rob Eastwood, Interim Secretary, Planning Commission

Kathy Schmidt, Chairperson

County of Santa Clara

Department of Planning and Development
Planning Office

County Government Center, East Wing, 7th Floor
70 West Hedding Street
San Jose, California 95110-1705
(408) 299-5770 FAX (408) 288-9198
www.sccplanning.org

STAFF REPORT
Planning Commission
April 23, 2015
Item # 5

Contact: Marina Rush, Planner III
(408) 299-5784, marina.rush@pln.sccgov.org

File: 2250-12PAM1
Lehigh/Permanente Quarry

Summary: Continued public hearing from January 22, 2015, to consider the feasibility of a facility, or alternative, to treat selenium in stormwater discharged from the East Materials Storage Area (EMSA) of Lehigh Permanente Quarry

Applicant: Lehigh Southwest Cement Company/Permanente Quarry
Owner: Lehigh Southwest Cement Company
Address: 24001 Stevens Creek Boulevard, Cupertino

RECOMMENDED ACTIONS

It is recommended that the Planning Commission:

1) Determine the following options are not feasible:

a) Independent direct treatment of EMSA stormwater discharge.

b) Trucking and piping of EMSA stormwater discharge for direct treatment by the Frontier Water Systems technology.

c) Trucking of EMSA stormwater to the Quarry Pit.

2) Continue the determination on the feasibility of piping stormwater to the Quarry Pit and/or enlargement of Pond 30 twelve months until the effectiveness of the placement of interim non-limestone bearing cover material over the EMSA as a selenium source control measure can be evaluated.

PROJECT DESCRIPTION

On June 26, 2012, the County Board of Supervisors adopted a Reclamation Plan for Lehigh Permanente Quarry (Lehigh), establishing the requirements for reclaiming the quarry in compliance with the state Surface Mining and Reclamation Act (SMARA). Condition of Approval (COA) #80 of the Reclamation Plan requires the Planning Commission to determine whether Lehigh is complying with stormwater discharge limitations for selenium from the East Materials Storage Area (EMSA). COA #82 of the Reclamation Plan requires the Planning Commission to determine the feasibility of a treatment facility, or alternative, for the removal of selenium from stormwater discharge from the EMSA. The full text of COA's #80 and #82 are included in the Background section of this report.

On November 20, 2014, the Planning Commission determined Lehigh was not currently compliant with stormwater discharge requirements with respect to selenium discharging from the EMSA into Permanente Creek (COA #80). However, the Planning Commission continued the hearing with respect to making a determination on whether it is feasible to install a treatment facility, or alternative, to treat selenium discharged from the EMSA into Permanente Creek (COA #82).

The continued hearing occurred on January 22, 2015, where the Planning Commission received public testimony and considered additional evidence. The Planning Commission again continued the hearing to April 23, 2015, to allow Lehigh sufficient time to complete geotechnical data collection on one of the alternatives being considered and to allow staff additional time to analyze reports submitted by Lehigh.

This staff report summarizes the evidence submitted to date, establishes review criteria and presents staff analysis, conclusions and recommendations.

REASONS FOR RECCOMENDATION

Review Criteria

As COA #82 originates from mitigation measures with the Final EIR prepared for the 2012 Reclamation Plan, the term "feasible" must be evaluated based on its definition in CEQA. The term "feasible" under CEQA has a specific meaning—"capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." (Pub. Res. Code § 21061.1.) CEQA's Guidelines add that a determination of feasibility may take into account "legal" factors. (Cal. Code of Regulations, tit. 14, § 15364.)

Report Submittals

In September 2014, Lehigh submitted a report titled, *"Feasibility of Water Treatment for Discharges from the Permanente Quarry Containing Selenium*" (Attachment A). In January 2015, Lehigh submitted a second report, titled, "*Supplemental Report on Feasibility of Alternatives to Water Treatment for Discharges from the East Materials Storage Area*"

(Attachment B). In March 2015, Lehigh submitted a third report prepared by Golder Associates titled, "*Pond 30 Expansion - Geotechnical Report*" (Attachment C).

Independent Consultant Evaluation and Regional Water Quality Control Board Staff Review

The County retained an independent third-party consultant, Peter Hudson from Environmental Science Associates (ESA), to provide hydrology /water quality consulting and to complete peer reviews of Lehigh reports and documentation. Mr. Hudson's analysis and findings are presented in a Peer Review Technical Memo dated March 27, 2015 (Attachment D).

The County also submitted all reports and documentation submitted by Lehigh, Peter Hudson's (ESA) Peer Review Memo, and the 2014/15 storm water test results from December 2, 12, and 22, 2014, and February 7, 2015 to the San Francisco Bay Regional Water Quality Control Board (RWQCB). Subsequently, on Wednesday, April 8, 2015, the County and RWQCB staff conducted a conference call and discussed EMSA treatment options. The RWQCB provided comments on the alternatives, April 15, 2015 (Attachment H).

Analysis of Evidence and Conclusions

Peter Hudson concluded that the *"individual alternatives evaluated are not currently capable of reducing selenium discharge concentrations to Permanent Creek to a less than or equal to the Basin Plan Water Quality Objective for total recoverable selenium of 5 micrograms per Liter (µg/L)."* (Peter Hudson Memo, p. 1.). This conclusion was based on the analysis of all the reports submitted by Lehigh, including the most recent report prepared by Golder Associates analyzing the EMSA detention pond (Pond 30) expansion alternative (Attachment C).

The RWQCB provided the following feedback regarding alternatives to a treatment facility:

- Trucking water from Pond 30 to the Quarry Pit or the Frontier Water System during wet conditions could create a severe safety hazard since the trucks have to operate on steep, slippery dirt haul roads.
- Enlarging Pond 30 would prevent a short-term reduction of selenium discharges to Permanente Creek, but would not reduce the mass of selenium discharging to surface waters over the long-term and concentrations in the pond would likely increase due to evaporation. If this alternative is required, it would also require additional management practices (e.g. water treatment, sediment removal), and if designed to be unlined would require additional studies for potential impacts to groundwater.
- RWQCB supports a pollution prevention approach, and recommends evaluating the capping of the EMSA and testing before designing and implementing a final treatment system.

Staff offers the following analysis, conclusions and recommendations on the feasibility of a treatment facility and alternatives.

1) *Feasibility of a Treatment Facility to Treat Selenium Discharged From the EMSA*

The treatment of selenium by a facility such as the Frontier Water System, currently being used to treat discharges from the Lehigh Quarry Pit, requires a constant water source that is stable in

temperature and composition. The EMSA stormwater flows are intermittent and only occur during the wet season. The intermittent and occasional water flows from the EMSA cannot support installation of a water treatment system similar to the Frontier. This technology challenge was initially identified by CH2MHill during 2012 under contract to the County on the 2012 Reclamation Plan and EIR in identifying selenium treatment technologies that could be used onsite. In addition, other selenium treatment technologies have been previously studied for their potential application at the Quarry (wetlands, reverse osmosis), but these technologies were deemed infeasible due to their cost and size constraints. To date, no technology has been identified that could treat selenium in the stormwater discharges from the EMSA to achieve the Basin Plan Water Quality Objective for selenium (total recoverable selenium less than 5 μg/L). **Therefore, staff reaffirms the conclusion reached in the November 20, 2014 Planning Commission report (Attachment G, pp. 21-24), that construction of an independent selenium treatment system at the EMSA is not feasible.**

2) Analysis of Alternatives to a Treatment Facility

COA #82 requires Lehigh to also consider alternatives to a direct treatment facility to address selenium impacts. Three potential alternatives that have been identified include (i) piping or trucking water from the EMSA to the Frontier System at the Quarry Pit, (ii) piping or trucking water from the EMSA to Quarry Pit, and (iii) enlarging EMSA Pond 30 to detain stormwater runoff and minimize selenium discharges to Permanente Creek. Each of these alternatives was introduced and initially analyzed in the November 20, 2014 staff report (pp. 22-24), the Planning Commission continued the hearing to allow additional time to further evaluate the three alternatives identified in the staff report.

(i) *Piping/Trucking Stormwater to the Frontier Technology Site*

Although it is not feasible to install an independent Frontier Water System at the EMSA, one alternative analyzed is piping or trucking the stormwater directly to the Frontier Water System for treatment. This process was explained in the November 20, 2014 staff report (p. 22). The Frontier System uses a bioremediation process requiring a constant water source with a stable temperature and chemistry composition, which is currently provided from the Quarry Pit water. The introduction of storm water from the EMSA with a different temperature and chemical composition would not be compatible with this requirement. **Pumping or trucking EMSA water directly to the Frontier system is not feasible.**

(ii) *Piping or Trucking Stormwater to the Quarry Pit*

An alternative to trucking or piping the water directly to the Frontier Water System would be transporting the EMSA stormwater directly to the Quarry Pit. Under this approach, the stormwater would be deposited into the Quarry Pit where it would intermix with existing pit water before being collected and pumped to the Frontier System for treatment. This intermixing would allow the EMSA water to equalize with the Quarry Pit water, in terms of temperature and composition, allowing it to be treated by the Frontier System.

To transport the volume of stormwater by truck, it is estimated for the 100 year storm that it would require 56 truck trips per hour are needed and a fleet of 84 trucks, and for the 10-year storm would require 9 truck trips per hour and a fleet of 14 trucks. Based on the analysis, trucking water directly

to the Quarry Pit has the following technical challenges: 1) volume of water discharged will be too large to truck during storm events (which studied the 10 year and 100 year storm event) and 2) it is hazardous and impractical to mobilize and drive water trucks during peak rainfall. **Trucking water to the Quarry Pit is not feasible.**

Piping stormwater from Pond 30 to the Quarry Pit, would require approximately 1.9 miles of pipeline and a series of pumps to lift water over a 700-800 foot vertical gradient in order to cross the ridge separating the two areas. It is unknown whether these pipelines can actually be built and secured at the high pumping rate and further engineering design and study would be necessary to develop a more refined design and accurate cost model. The engineering design and construction would take approximately two years and cost approximately $4 million. **As a practical matter, given this lengthy lead-time and high cost, piping stormwater could only be feasible if the interim reclamation period was in excess of 3 to 4 years and discharges during the interim reclamation period chronically exceeded 5 μg/L, forcing the implementation of corrective measures.**

(iii) *Enlargement of Pond 30.*

A third alternative to addressing selenium in EMSA stormwater is the enlargement of Pond 30. Pond 30 is an unlined pond with a design capacity of approximately .184 acre feet (8,000 cubic feet). The pond is located on a relatively flat pad at the eastern base of the EMSA. Stormwater is routed to Pond 30 through a series of ditches, swales, and intermediate basins. When water levels in Pond 30 are sufficiently high, water enters a standpipe and is routed for discharge to Permanente Creek. The Geotechnical Report for the Expansion of Pond 30, Golder Associates, concluded that Pond 30 could be increased to a storage capacity of approximately 7.5 acre feet.

However, the enlargement of Pond 30 to this capacity would not prevent stormwater from discharging from Pond 30 into Permanente Creek for larger storm events (10 year event or greater) or a series of smaller sequential storm events and the concentration of selenium during these peak discharges could exceed water quality thresholds. If the Pond were designed to prevent all discharges through a combination of sizing and high-capacity pumping during storm events then this alternative could be potentially effective, but **the feasibility of this alternative requires additional engineering design, intra-agency review, and possibly intra-agency permit approvals.**

3) Selenium Source Control Measures

The overall objective of evaluating EMSA treatment facilities and alternatives is to reduce selenium discharges to compliant levels. COA #79 of the Reclamation Plan, requires Lehigh to identify the source and Best Management Practices (BMPs) if elevated selenium, sediment, or TDS (total dissolved solids) is identified through water sampling and testing analysis (see Background section). Given the exceedances in water quality standards for selenium in EMSA stormwater, Lehigh has initiated covering the EMSA with a layer of non-limestone bearing earthen material in effort to avoid stormwater contact with selenium bearing materials.

Lehigh's September 2014 Feasibility Report, states Lehigh would commence installing the cover in October 2014. Staff conducted a site visit in October 2014 and confirmed that placement of the

non-limestone cover had commenced. Lehigh, in correspondence received on April 14, 2015, states they anticipate the completion of the cover by May 31, 2015 (Attachment E).

In consultations with RWQCB about the feasibility of EMSA treatment alternatives, their staff suggested the best approach to minimize selenium at the EMSA is to control the source by preventing water from contacting limestone bearing materials. Their staff felt that covering the EMSA with non-limestone materials would cap and isolate the source, lessening the potential for selenium discharge in stormwater.

Additionally, the technical memorandum prepared by Peter Hudson concluded that upon completion of the installation of the non-limestone cap on the EMSA [and WMSA], and installation and operation of the permanent treatment facility at Pond 4A, it will be feasible to reduce discharge concentrations of selenium to below the Basin Plan Water Quality Objective (5 μg/L).

Staff Recommendation

Given the RWQCB and Peter Hudson's assessments, staff recommends the Planning Commission postpone the determination on the feasibility of piping stormwater to the Quarry Pit and/or enlargement of Pond 30, until the effectiveness of the placement of non-limestone bearing cover material over the EMSA can be evaluated over the next twelve months.

This would involve a continuation of this hearing for approximately one year and the submittal by Lehigh of a report of completion of the covering operation and stormwater monitoring data during the 2015-2016 rainy season consistent with current requirements.

During this period the Planning Commission could also seek additional information from Lehigh on the feasibility of enlargement of Pond 30. Given the potential that source control measures could alleviate the need to enlarge the pond, staff feels the generation of this additional information could be postponed until after 2015-2016 rain season stormwater quality results are known.

BACKGROUND

The 2012 Lehigh Reclamation Plan requires reclamation of approximately 1,238 acres that have been disturbed by surface mining at the quarry. The reclamation is to occur over a 20-year period in accordance with the reclamation requirements of SMARA. The main areas encompassed within the Reclamation Plan include *the Quarry Pit,* where limestone and aggregate material is harvested, and two areas where overburden (surface materials that are not harvested) is stockpiled - *the West Materials Storage Area (WMSA)* and *East Materials Storage Area (EMSA).*

In adopting the 2012 Reclamation Plan, the County determined that further evaluation was required to determine the feasibility of installing and operating a treatment facility (or alternative) at the EMSA, WMSA, and Quarry Pit to treat selenium in water to meet adopted water quality standards. This requirement was incorporated as COA #82, which required Lehigh to begin designing and testing a selenium treatment facility at the quarry and present its findings regarding the feasibility of installing and operating a treatment facility (or alternative) to treat all water affected by reclamation activities and selenium within a two year period (24 months). This

information must be presented within 30 months to the Planning Commission. The Planning Commission must determine whether it is feasible (as that term is defined under CEQA) to install and operate a water treatment system that is capable of controlling selenium to levels consistent with current discharge standard during interim reclamation activities. COA #82 states:

> ***82. Design, Pilot Testing, and Implementation of Selenium Treatment Facility or Alternative for the EMSA and/or WMSA and Quarry Pit.***
>
> *a. Within 30 days of RPA approval, the Mine Operator shall begin designing a treatment facility (or alternative) and pilot system for discharge into Permanente Creek. The treatment shall be designed to achieve the Basin Plan Water Quality Objective for selenium (total recoverable selenium of 5 µg/L) for discharge from the EMSA as defined in Condition #80, and/or to achieve the "base level" standard for the WMSA and Quarry Pit as defined in Condition #81 (reference to Mitigation Measures 4.10-2d).*
>
> *b. The Mine Operator shall complete design, pilot testing, and feasibility analysis for a treatment facility within 24 months of RPA approval or by such other time as may be prescribed by the RWQCB.*
>
> *c. The Planning Commission shall hold a public hearing no later than 30 months after RPA approval to determine feasibility of the treatment facility (or alternative). The Planning Commission may defer the public hearing if the RWQCB determines that additional time is necessary to complete the design, pilot testing, and feasibility analysis. If the Planning Commission determines that a treatment facility is feasible, the Planning Commission shall also establish a timeline for implementing the treatment facility.*
>
> *d. Construction, installation, and operation of a treatment facility (or alternative) shall be required if discharge requirements are not met as described under Conditions # 80 and # 81 based on a determination of the Planning Commission, and if it has been determined feasible by the Planning Commission following a public hearing. (Implements Mitigation Measures 4.4-5 and 4.10-2e.)*

Per COA #80, a determination that Lehigh is not complying with stormwater discharge requirements necessitates installation of a selenium treatment facility (or alternative), if the Planning Commission determines a treatment facility (or alternative) is feasible.

> ***80. Monitoring and Determination of BMP Effectiveness for the EMSA:***
>
> *a. Within 30 days of RPA approval, sampling and testing shall occur within 24 hours after a qualifying rain event. If no qualifying rain event occurs within 30 days of RP A approval, then testing shall begin at the first qualifying rain event. Testing shall be conducted in accordance with the Interim Stormwater Monitoring Plan developed and approved in accordance with Condition #79.*
>
> *b. If test results for two consecutive years show that stormwater discharging from the EMSA into Permanente Creek exceeds total recoverable selenium of Basin Plan Water Quality Objective, currently 5 µg/L (micrograms per liter), or other applicable discharge requirement as determined by the R WQCB, then the County shall schedule a public hearing be.fore the Planning Commission to determine whether the Mine Operator is complying with stormwater discharge requirements.*

For purposes of triggering Planning Commission review, the sampling shall occur at locations where water discharges to Permanente Creek.

c. *If the Planning Commission determines that the Mine Operator is not complying with discharge requirements, then the operator shall install a treatment system (or alternative) as described in Condition #82. (Implements Mitigation Measures 4. 4-5 and 4.10-2cf*

In addition, consistent with COA #79, if elevated selenium, sediment, or TDS is identified through water sampling and testing analysis, then Lehigh is required to identify the source and apply any new or modified standard Best Management Practices (BMPs). Condition #79 states:

79. Interim Stormwater Monitoring Plan.

Prior to the start of reclamation activities, the Mine Operator shall develop a Stormwater Monitoring Plan for sampling and testing stormwater, that would supplement preexisting surface water monitoring required by General Industrial Storm Water and Sand and Gravel NPDES Permit and any other applicable permits designed to specifically monitor surface water during reclamation activities in active and inactive excavation and backfill areas, and locations where water discharges to Permanente Creek. The purpose of this plan is to evaluate performance of temporary BMPs and completed reclamation phases and to identify areas that are sources of selenium (measured on recoverable basis), sediment, or high TDS. At a minimum, the plan shall require the Mine Operator to inspect BMPs and collect water samples for analysis of TDS and metals, including selenium, within 24 hours after a qualifying rain event and sample non-stormwater discharges when they occur. If elevated selenium, sediment, or TDS is identified through sample analysis, the Mine Operator shall identify the source and apply any new or modified standard BMPs available. BMPs that show sign of failure or inadequate performance shall be repaired or replaced with a more suitable alternative. Following implementation, the Mine Operator shall retest surface water to determine the effectiveness of such modifications, and determine whether additional BMPs are necessary. (Implements Mitigation Measures 4.4-5 and 4.10-2b)

Stormwater Testing (December 2014 – February 2015)

Lehigh collected and tested stormwater samples from Pond 30 on December 2, December 12, December 22, 2015 and February 7, 2015 (Attachment F). These samples were obtained following storm events that caused Pond 30 to discharge to Permanente Creek. The concentration of total recoverable selenium in the December 2 water sample was 26 μg/L [or equivalently or parts per billion (ppb)]. The second stormwater sample collected by Lehigh from the Pond 30 discharge was on December 12, 2014, and the total recoverable selenium concentration detected was 65 μg/L. The third stormwater sample obtained from the Pond 30 discharge was on December 22 and the total recoverable selenium concentration was 81μg/L. Finally, Lehigh collected samples on February 7 from the Pond 30 and the total recoverable selenium was detected in the water sample at 31 μg/L. All four water testing results were well above the 5μg/L Basin Plan Objective.

ESA's report concludes that the rainfall data recorded in the vicinity of the EMSA and the detected concentrations of total recoverable selenium indicate that during the period of significant rainfall in December 2014, selenium concentrations increased considerably at the Pond 30 discharge to Permanente Creek. Given the grading activity (rough grading and installation of non-limestone

cover) on the EMSA in December of 2014 and the amount of rainfall over a relatively short period of time in this area, it is reasonable to expect the stormwater runoff to contain elevated level of selenium. The sample results from February 2015 represent the first significant rainfall event following the December storms and although the February selenium concentrations were lower, they were still elevated above the 5 μg/L threshold. It is also reasonable to infer from the December 2014 and February 2015 water sample data that stormwater Best Management Practices (BMPs) on the EMSA, that are required under the Final Conditions of Approval (COA Nos. 78 and 79) for the Reclamation Plan Amendment (RPA), were either not in place, not functioning properly and/or were not designed to adequately manage the precipitation intensity and magnitude of stormwater flows that occurred during the December and February storm events.

The recommended Planning Commission determinations are supported by the 2012 Reclamation Plan Conditions of Approval, the results of stormwater discharge monitoring and evidence in the record for the feasibility of a treatment facility or alternative.

PUBLIC OUTREACH

Item was continued to a date certain from the November 20, 2014 hearing. Original noticing was conducted in accordance with the County Zoning Code and to interested parties via email and US Postal Service. Email notices were sent to the Lehigh Interested Party list on April, 14, 2015.

STAFF REPORT REVIEW

Approved by: Kirk Girard, Planning Manager

ATTACHMENTS

Attachment A – September 2014, Feasibility of Water Treatment for Discharges from the Permanente Quarry Containing Selenium, prepared by Lehigh Southwest Cement Company.

Attachment B – January 22, 2015, Supplemental Report on Feasibility of Alternatives to Water Treatment for Discharges From the East Materials Storage Area, Prepared by Lehigh Southwest Cement Company.

Attachment C – Geotechnical Report for the Expansion of Pond 30 (Golder Associates, February 2015).

Attachment D – Peer Review Reports, Peter Hudson, Environmental Services Associates.

Attachment E – Lehigh correspondence, April 15, 2015, Regarding EMSA Cover Schedule.

Attachment F – Lehigh Storm Water Testing Results (December 2014-February 2015).

Attachment G – Planning Commission Staff Report, November 20, 2014.

Attachment H – San Francisco Bay Regional Water Quality Control Board correspondence, April 15, 2015, regarding Feasibility of Treating Runoff from the East Materials Storage Area.

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

San Francisco Bay Regional Water Quality Control Board

April 15, 2015

Rob Eastwood
Principal Planner, County of Santa Clara
County Government Center, East Wing, 7th Floor
70 West Hedding Street
San Jose, CA 95110

Subject: Feasibility of Treating Runoff from the East Material Storage Area at Lehigh

Dear Mr. Eastwood:

Counsel and staff from the San Francisco Bay Area Region Regional Water Quality Control Board attended the Board of Supervisors meeting on November 20, 2014 regarding Lehigh Southwest Cement Company (Lehigh). The issue of the feasibility of addressing selenium impacts was continued until January 22, 2015, and again continued until April 23, 2015, to allow Lehigh to prepare additional technical documents. Herein we provide comments for the Santa Clara County Planning Commission's consideration at its April 23, 2015, hearing.

As noted by County staff in its November 20, 2014, Staff Report (see pg. 21), Condition of Approval No. 82 to the Reclamation Plan requires Lehigh to consider a treatment system or other alternatives to address selenium impacts. Lehigh and County staff evaluated three alternatives in regard to the potential to reduce selenium stormwater discharges from the East Materials Storage Area (EMSA). The alternatives were:

(1) Piping or trucking water from the EMSA to the Frontier Treatment system;
(2) Piping or trucking water from the EMSA to the Quarry Pit; and
(3) Enlarging EMSA Pond 30.

Alternatives 1 and 2: Based on our experience at the site just after a rain storm, we concur that trucking water from Pond 30 to the Quarry Pit or the Frontier Treatment system to prevent discharges to Permanente Creek could create a severe safety hazard since the trucks would have to operate on steep, slippery dirt roads during and after rain events.

Alternative 3: Enlarging Pond 30 would provide a short-term reduction of selenium discharges to Permanente Creek prior to the deadlines set forth in the Reclamation Plan, but without additional management practices it would not reduce the mass of selenium discharging to surface waters over the long-term. Very little of the selenium would volatilize, so most would remain in Pond 30 either in particulate or dissolved form, with water concentrations likely to increase due to evaporation. If Santa Clara County does require an expansion of Pond 30 to reduce the frequency of selenium discharges, it should also require additional management practices(e.g., water treatment, sediment removal) to ensure that selenium does not accumulate in the Pond 30 sediments or water. If the enlarged Pond 30 is designed to allow water to infiltrate into the subsurface (e.g., natural pond bottom without an impermeable barrier),

additional studies of potential impacts to groundwater and a monitoring system to document groundwater protection would be required.

As opposed to containing or moving contaminated water around the facility, we support a pollution prevention approach. We recommend evaluating the results of ongoing source control measures (i.e., capping the EMSA with non-limestone materials) at the end of the next rainy season before designing and implementing a final treatment system to include pumping Pond 30 water up to the Quarry Pit or Frontier Treatment system.

We will evaluating the results of Lehigh's efforts at controlling sources of selenium to surface waters by capping the EMSA with non-limestone materials. The cap, if properly installed and maintained, could significantly reduce the discharge of selenium from the EMSA to waters of the State. The results of the source control efforts should be apparent from water quality samples taken during the next rainy season, if the capping project is completed during this dry season.

The Water Board issued an individual NPDES permit and accompanying Cease and Desist Order (CDO) to Lehigh on March 12, 2014. The CDO requires the interim selenium treatment system currently in place, and a final selenium treatment system to be operational by October 1, 2017. The final selenium treatment system must meet permit limits at Discharge Point No. 001 (Pond 4A), consistent with the settlement agreement with the Sierra Club. Installation of additional management practices such as the non-limestone cap at the EMSA could also enable Lehigh to meet its interim and final stormwater limits at Discharge Point Nos. 002 through 006 (Ponds 13B, 9, 17, 20, and 30).

We recommend that the County find that source control measures such as isolating selenium bearing rock and mining waste are the preferred alternative to protecting water quality. We conclude by noting that our input is meant to inform your decision and nothing stated herein limits the Water Board's ability to take enforcement for Lehigh's failure to meet existing water quality standards.

Please do not hesitate to contact me or my staff if you have any further questions.

Sincerely,

Dyan Whyte
Assistant Executive Officer

cc: Lehigh Interested Parties List

ATTACHMENT C

TECHNICAL MEMORANDUM

Date:	9/21/15	**Project No.:**	1040500502
To:	Sam Barket	**Company:**	Lehigh Southwest Cement Company
From:	George Wegmann, PG Bill Fowler, PG, CEG		
cc:	Greg Knapp	**Email:**	Sam.Barket@LehighHanson.com

RE: COA 76 ANNUAL SUMMARY, LEHIGH PERMANENTE QUARRY

Golder Associates (Golder) has prepared this technical memorandum to document the activities completed at the Lehigh Permanente Quarry from July 1, 2014 through June 30, 2015 related to the Reclamation Plan Condition of Approval (COA) 76. COA 76 pertains to water quality monitoring and states the following:

> Within ninety (90) days of RPA approval, the Mine Operator shall begin and continue throughout the backfilling and reclamation phases and for 5 years following completion of reclamation and for 5 years following the start of groundwater discharge from the Quarry Pit into Permanente Creek as described on page 4.10-39 of the Final Environmental Impact Report, a Verification and Water Quality Monitoring Program. The Mine Operator shall implement the following:
>
> a. Collect quarterly Quarry pit water samples and analyze for general water chemistry and dissolved and total metals, including selenium.
> b. Perform quarterly electrical conductivity and pH measurements of the Quarry water.
> c. Measure and record daily volume of any water that is pumped from the pit area.
> d. Conduct annual seep surveys in March or April of each year within the Quarry pit. Any seeps shall be sampled for general water chemistry and minerals and dissolved metals, and the seep flow rate shall be estimated.
> e. Perform routine testing of each of the various rock types that comprise the overburden to further characterize bulk and leachable concentrations of key metal constituents (selenium in particular). Such testing shall be performed until the average concentrations and the variability within a rock type is no longer changing significantly as new data are gathered.
> f. Sample and test runoff from the EMSA and WMSA throughout and following reclamation to confirm the concepts and closure plans (i.e., that cover with non-limestone material and re-vegetation results in runoff water quality that meets Basin Plan Benchmarks and all other applicable water quality standards, including, but not limited to, a site specific NPDES permit for the Quarry and a TMDL for selenium in Permanente Creek). Stormwater runoff monitoring and sampling shall be conducted following the placement and final grading of the 1 foot run-of-mine non-limestone cover material to ensure that surface water discharging from this cover does not contain selenium at concentrations exceeding Basin Plan Benchmark values. Three rounds of representative surface water samples shall be collected and analyzed to verify rock cover performance prior to the placement of the vegetative growth layer.
> g. Sample and test groundwater discharge from the Quarry Pit into Permanente Creek following reclamation as described on page 4.10-39 of the Final Environmental Impact Report to confirm that water quality in discharge meets Basin Plan Benchmarks and all other applicable water quality standards.

Golder Associates Inc.
425 Lakeside Drive
Sunnyvale, CA 94085 USA
Tel: (408) 220-9223 Fax: (408) 220-9224 www.golder.com

h. The data obtained through this mitigation measure shall be used to reevaluate the water balance components such as runoff and groundwater inflow and the water quality associated with these within the last five years of active mining. Based on the results of any refined water balance and water quality projections, the Mine Operator shall also review and refine the water management procedures. *(Implements Mitigation Measures 4.4-5 and 4.10-1b.).* All testing data shall be submitted to the Planning Office with the Annual Report by October 1 of each year.

The following provides a summary of tasks completed:

a. Collect quarterly Quarry pit water samples and analyze for general water chemistry and dissolved and total metals, including selenium.

From July 1, 2014 through June 30, 2015, Golder collected samples from the Quarry pit via Pond 4A. The samples were analyzed for total metals and general water chemistry parameters. The sampling results of the Quarry pit water are listed on the attached Table 1. Table 1 also includes the discharge data from Ponds 13b, 17, and 30 from July 1, 2014 through June 30, 2015.

b. Perform quarterly electrical conductivity and pH measurements of the Quarry water.

Electrical conductivity and pH measurements of the Quarry water (Pond 4a) are included on Table 1.

c. Measure and record daily volume of any water that is pumped from the pit area.

Daily records of volume of water pumped from the pit are included on Table 1 under Pond 4a.

d. Conduct annual seep surveys in March or April of each year within the Quarry pit. Any seeps shall be sampled for general water chemistry and minerals and dissolved metals, and the seep flow rate shall be estimated.

On April 28, 2014, Golder performed a seep survey within the Quarry pit. Two seeps were identified during the survey: one seep (Seep-850) was located in the southwest portion of the pit where it day-lighted on the 900 and 850 ft elevation benches; and the second seep (Seep-750) was identified by the western/northwestern portion of the pit emanating from above the pit floor along the northwestern pit wall by the Main Slide. Golder did not identify any additional seeps within the Quarry pit. During the seep survey, the two identified seeps were sampled and analyzed for general water chemistry and dissolved metals. The results of the sampling and the estimated flow rates are shown on Table 2 below.

Table 2: Quarry Pit Seep Data

Quarry Pit Seeps	Seep-750	Seep-850
Sample Date	4/29/2015	4/29/2015
Metals (dissolved, 200 series)		
Antimony (ug/L)	0.87 J	2.9
Arsenic (ug/L)	1.9 J	1.4 J
Barium (ug/L)	73	32
Beryllium (ug/L)	ND	ND
Cadmium (ug/L)	ND	0.86 J
Chromium (ug/L)	2.4 J	1.7 J
Cobalt (ug/L)	0.083 J	0.17 J
Copper (ug/L)	3.8	2.4
Lead (ug/L)	ND	ND

Quarry Pit Seeps	Seep-750	Seep-850
Sample Date	4/29/2015	4/29/2015
Mercury (ug/L)	ND	ND
Molybdenum (ug/L)	39	130
Nickel (ug/L)	3.1	53
Selenium (ug/L)	5.6	29
Silver (ug/L)	0.026 J	ND
Thallium (ug/L)	ND	0.18 J
Vanadium (ug/L)	58	120
Zinc (ug/L)	ND	130
Calcium (mg/L)	32	190
Magnesium (mg/L)	7.3	65
Potassium (mg/L)	1.8	1.6
Sodium (mg/L)	59	22
Additional Parameters		
Bicarbonate (mg/L)	71	280
Total Dissolved Solids (mg/L)	410	1000
Total Suspended Solids (mg/L)	25	1.3
Hardness	110	750
Nitrate as NO3	ND	2.9
Chloride (mg/L)	2.4	17
Fluoride (mg/L)	0.091	0.13
Sulfate as SO4 (mg/L)	170	490
Turbidity (NTU)	9.12	0.42
pH - Field (s.u.)	8.44	7.00
Temperature - Field (°C)	25.67	16.91
DO - Field (mg/L)	6.82	10.14
Electrical Conductivity - Field (µS/cm)	478	1256
ORP - Field (mV)	68.6	79.7
Estimated Flow Rate (GPM)	Less than 1	350

Notes:
Samples for dissolved metals analysis were field filtered.
J= Estimated Value (CLP Flag); ND = Non-detect

e. Perform routine testing of each of the various rock types that comprise the overburden to further characterize bulk and leachable concentrations of key metal constituents (selenium in particular). Such testing shall be performed until the average concentrations and the variability within a rock type is no longer changing significantly as new data are gathered

In 2014, Golder and WRA collected samples of the following overburden material located within the pit: Santa Clara Formation, Greenstone, and Graywacke. The samples were submitted for laboratory analysis for selenium. The results are summarized below:

Table 3: Quarry Overburden Data

Sample Type	Selenium TTLC (mg/kg)	Selenium STLC (mg/L)
Santa Clara Formation	ND	ND
Greenstone	ND	0.00062
Graywacke	ND	0.00150
Method Detection Limit	0.022	0.00026

ND = Not detected above the laboratory method detection limit; TTLC = total threshold limit concentration; STLC = soluble threshold limit concentration.

f. Sample and test runoff from the EMSA and WMSA throughout and following reclamation to confirm the concepts and closure plans (i.e., that cover with non-limestone material and re-vegetation results in runoff water quality that meets Basin Plan Benchmarks and all other applicable water quality standards, including, but not limited to, a site specific NPDES permit for the Quarry and a TMDL for selenium in Permanente Creek). Stormwater runoff monitoring and sampling shall be conducted following the placement and final grading of the 1 foot run-of-mine non-limestone cover material to ensure that surface water discharging from this cover does not contain selenium at concentrations exceeding Basin Plan Benchmark values. Three rounds of representative surface water samples shall be collected and analyzed to verify rock cover performance prior to the placement of the vegetative growth layer.

These tasks will be completed going forward when appropriate based on the timeline outlined in COA 76.

Attachments

Table 1

Table 1: Mo ng Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 4A: Discharge						Total Res	Settleable	Chromium								
Date	Flow Rate	TSS	O&G	Temp	pH	Chlorine	Matter	(VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Chronic Tox
Units	gpd	mg/L	mg/L	degree C	s.u.	mg/L	mL/L/hr	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	NTU	% survival	TUc
July 2014		***No discharge for the month***														
August 2014		***No discharge for the month***														
9/1/2014	0															
9/2/2014	0															
9/3/2014	0															
9/4/2014	0															
9/5/2014	0															
9/6/2014	0															
9/7/2014	0															
9/8/2014	0															
9/9/2014	0															
9/10/2014	0															
9/11/2014	0															
9/12/2014	72,200	7.4			8.60	ND							900	4.78		
9/13/2014	0															
9/14/2014	5,700															
9/15/2014	0															
9/16/2014	0				8.39	ND								3.27		
9/17/2014	253,800				8.08	ND								2.79		
9/18/2014	35,300	3.3	ND<1.2		8.18	ND		2.3		11		0.14 J	940	2.41		
9/19/2014	1,600				8.01	ND								2.11		
9/20/2014	0															
9/21/2014	0															
9/22/2014	395,000				7.66	ND								1.53		
9/23/2014	498,700				8.18	ND								1.16		
9/24/2014	156,800	1.3			8.38	ND	ND<0.10	4.1	0.00336	5.5	9.1	0.22 J	860	1.45	100	
9/25/2014	5,000				8.24	ND								4.67		
9/26/2014	0				8.03	ND								1.26		<1
9/27/2014	0															
9/28/2014	0															
9/29/2014	0			24.76	7.96	ND								1.80		
9/30/2014	235,500			22.91	8.54	ND								2.30		
10/1/2014	382,600	2.9			8.42	ND		4.0		5.4		0.17 J	990	2.22		
10/2/2014	282,900				8.48	ND								2.36		
10/3/2014	186,800				7.87	ND								2.10		
10/4/2014	0															
10/5/2014	0															
10/6/2014	0															
10/7/2014	0															
10/8/2014	0															
10/9/2014	0															
10/10/2014	0															

Table 1: Mo ng Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 4A: Discharge						Total Res	Settleable	Chromium								
Date	Flow Rate	TSS	O&G	Temp	pH	Chlorine	Matter	(VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Chronic Tox
Units	gpd	mg/L	mg/L	degree C	s.u.	mg/L	mL/L/hr	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	NTU	% survival	TUc
10/11/2014	0															
10/12/2014	0															
10/13/2014	673,000	2.8			6.94	ND							820	2.49		
10/14/2014	0															
10/15/2014	0															
10/16/2014	0															
10/17/2014	0															
10/18/2014	0															
10/19/2014	0															
10/20/2014	0															
10/21/2014	338,300	3.2		19.7	8.06	ND							810	1.85		
10/22/2014	361,000				8.27	ND								2.83		
10/23/2014	0				8.19	ND								2.35		
10/24/2014	0															
10/25/2014	0															
10/26/2014	640,100															
10/27/2014	180,300	0.90	<1.2	17.92	7.94	ND	<0.10	5.1	0.00536	9.4	12	0.35 J	910	2.57		
10/28/2014	0			19.89	7.43	ND								2.77		
10/29/2014	15			17.43	8.00	ND								2.04		
10/30/2014	6,660				7.91	ND								2.58		
10/31/2014	66,155				7.92	ND								2.43		
11/1/2014	139,082															
11/2/2014	134,092															
11/3/2014	163,248	5.6		16.5	7.89	ND							970	1.86		
11/4/2014	144,752			14.9	6.98	ND								1.59		
11/5/2014	155,822			15.5	7.55	ND								1.45		
11/6/2014	161,437			16.3	7.88	ND								1.12		
11/7/2014	116,781			15.9	7.58	ND								1.27		
11/8/2014	51,668															
11/9/2014	67,394															
11/10/2014	108,580				7.67	ND								2.69		
11/11/2014	140,411				7.27	ND								1.46		
11/12/2014	185,200	3.0	ND<1.2	16.4	7.12	ND	ND<0.10	0.072 J	0.00100	21	23	ND<0.10	980	2.02	100	<1
11/13/2014	165,233				7.24	ND								1.77		
11/14/2014	124,735				7.22	ND								3.28		
11/15/2014	208,045															
11/16/2014	245,095															
11/17/2014	220,856				7.05	ND								0.78		
11/18/2014	251,020	1.6			7.18	ND							820	1.92		
11/19/2014	227,822				7.28	ND								0.80		
11/20/2014	172,683				7.39	ND								1.85		
11/21/2014	122,407				7.35	ND								1.20		

Table 1: Mo ıg Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 4A: Discharge						Total Res	Settleable	Chromium								
Date	Flow Rate	TSS	O&G	Temp	pH	Chlorine	Matter	(VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Chronic Tox
Units	gpd	mg/L	mg/L	degree C	s.u.	mg/L	mL/L/hr	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	NTU	% survival	TUc
11/22/2014	120,726															
11/23/2014	121,714															
11/24/2014	118,853				7.40	ND								2.70		
11/25/2014	98,461	2.5			7.39	ND		ND<0.055		17		ND<0.10	600	1.58		
11/26/2014	112,260				7.08	ND								2.75		
11/27/2014	120,862				7.53									6.97		
11/28/2014	121,559				7.40	ND								1.9		
11/29/2014	121,627															
11/30/2014	124,533															
12/1/2014	154,349				7.3	ND								1.91		
12/2/2014	123,168	3.3	<1.2		7.08	ND	<0.10	<0.055	0.00126	14	6.8	<0.10	990	19.4		
12/3/2014	135,413				7.1	ND								3.18		
12/4/2014	113,186				6.89	ND								4.70		
12/5/2014	191,708				6.98	ND								1.91		
12/6/2014	134,290															
12/7/2014	181,117															
12/8/2014	342,124				7.10	ND								1.98		
12/9/2014	505,011				7.16	ND								2.84		
12/10/2014	431,182				7.29	ND								1.92		
12/11/2014	101,352															
12/12/2014	47,961	7.8			7.18	ND							900	1.80		
12/13/2014	173															
12/14/2014	173															
12/15/2014	139,802			12.47	7.0	ND								2.49		
12/16/2014	548,726			11.75	7.1	ND								1.07		
12/17/2014	374,540			14.9	6.8	ND								6.49		
12/18/2014	439,804				6.65	ND								10.96		
12/19/2014	860,145	3.3			7.57	ND		2.9		44		0.15 J	980	7.12		
12/20/2014	625,969															
12/21/2014	931,956															
12/22/2014	823,051	3.1		17.3	7.47	ND							1100	1.96		
12/23/2014	798,129				7.21	ND								8.21		
12/24/2014	1,102,524				6.99	ND								3.63		
12/25/2014	1,392,139															
12/26/2014	1,541,127															
12/27/2014	1,825,710				7.55	ND								4.28		
12/28/2014 [1]	1,671,929			14.02	7.83	ND								2.01		
12/29/2014	1,620,122	1.6		14.66	7.71	ND							1200	2.29		
12/30/2014	1,541,912				7.25	ND								3.43		
12/31/2014	1,533,341				7.54	ND								3.13		
1/1/2015	1,542,395				7.15	ND								4.19		
1/2/2015	1,410,446				6.92	ND								2.89		

Table 1: Mo ıg Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 4A: Discharge						Total Res	Settleable	Chromium								
Date	Flow Rate	TSS	O&G	Temp	pH	Chlorine	Matter	(VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Chronic Tox
Units	gpd	mg/L	mg/L	degree C	s.u.	mg/L	mL/L/hr	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	NTU	% survival	TUc
1/3/2015	924,656				6.16	ND								2.98		
1/4/2015	790,100															
1/5/2015	1,494,303				6.80	ND								2.98		
1/6/2015	2,342,003			14.5	7.59	ND								0.97		
1/7/2015	1,801,537	1.4		15.0	7.13	ND							1200	3.97		
1/8/2015	1,780,542			15.6	6.9	ND								3.2		
1/9/2015	1,467,450			15.5	7.6	ND								3.92		
1/10/2015	1,557,740															
1/11/2015	1,556,797															
1/12/2015	1,538,545			15.4	7.1	ND								2.06		
1/13/2015	1,216,537			14.94	7.69	ND								2.32		
1/14/2015	764,625	1.7		12.73	7.0	ND		2.4		22		0.12 J	1000	8.42		
1/15/2015	922,553			13.9	7.33	ND								5.50		
1/16/2015	629,026			10.65	7.76	ND								6.98		
1/17/2015	827,275															
1/18/2015	1,530,765															
1/19/2015	609,463				7.05	ND								11.86		<1.0
1/20/2015	731,028				6.99	ND								10.01		
1/21/2015	546,286				6.88	ND								10.98		
1/22/2015	1,147,526	3.8			7.34	ND							1000	11.20		
1/23/2015	2,172,932				8.0	ND								2.66		
1/24/2015	2,884,176															
1/25/2015	2,148,403															
1/26/2015	2,149,863	2.5	ND<1.2	16.82	7.94	ND	ND<0.10	1.2	0.00360	56	40	0.24 J	1200	4.32		
1/27/2015	2,007,617			16.23	6.9	ND								3.88		
1/28/2015	1,750,481			16.1	7.7	ND								3.47		
1/29/2015	863,688				7.39	ND								11.2		
1/30/2015	790,775				7.29	ND								10.63		
1/31/2015	584,307															
2/1/2015	722,200															
2/2/2015	689,700			14.6	6.9	ND								15.2		
2/3/2015	1,731,100	3.0		15.0	7.4	ND							1100	9.03		
2/4/2015	1,736,800			15.8	7.5	ND								4.03		
2/5/2015	1,544,400			16.2	7.1	ND								3.45		
2/6/2015	1,454,100				7.49	ND								4.02		
2/7/2015	1,533,700															
2/8/2015	676,300															
2/9/2015	12,600			14.58	7.42	ND								12.3		
2/10/2015	460,000	12		15.5	7.9	ND							660	4.87		
2/11/2015	770,600	1.7		17.24	7.52	ND		2.3		54		0.21 J		4.10		
2/12/2015	616,700				7.52	ND								5.80		
2/13/2015	710,900				7.56	ND								2.10		

Table 1: Mo ıg Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 4A: Discharge						Total Res	Settleable	Chromium								
Date	Flow Rate	TSS	O&G	Temp	pH	Chlorine	Matter	(VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Chronic Tox
Units	gpd	mg/L	mg/L	degree C	s.u.	mg/L	mL/L/hr	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	NTU	% survival	TUc
2/14/2015	905,300															
2/15/2015	1,288,800															
2/16/2015	1,423,100	1.6		17.07	7.30	ND							1100	1.32		
2/17/2015	1,257,600			15.8	7.5	ND								1.95		
2/18/2015	1,156,700				7.17	ND								2.86		
2/19/2015	1,398,600				7.21	ND								1.25		
2/20/2015	1,356,400				7.24	ND								2.18		
2/21/2015	1,250,300															
2/22/2015	1,386,700															
2/23/2015	1,269,700				7.23	ND								2.19		
2/24/2015	1,269,000			14.8	7.21	ND								3.31		
2/25/2015	974,700	1.7	ND<1.2	16.63	6.79	ND	ND<0.10	0.39	0.00167	77	38	0.13 J	1100	1.76	100	
2/26/2015	1,137,900				7.24	ND								2.61		
2/27/2015	1,132,800				7.3	ND								3.11		
2/28/2015	639,300															
3/1/2015	736,300															
3/2/2015	718,200				7.27	ND								1.88		
3/3/2015	894,700	2.4		14.60	7.47	ND							430	4.19		
3/4/2015	1,129,700				7.63	ND								5.87		
3/5/2015	933,200				7.62	ND								5.62		
3/6/2015	2,106,700				7.65	ND								4.36		
3/7/2015	2,782,900															
3/8/2015	3,229,200															
3/9/2015	2,324,500				7.78	ND								2.35		
3/10/2015	3,111,500	2.0	ND<1.2	16.55	7.77	ND	ND<0.10	3.2	1.91	66	36	0.20 J	1100	2.24		
3/11/2015	1,543,500				7.86	ND								2.55		
3/12/2015	1,008,600			15.5	7.2	ND								5.56		
3/13/2015	1,711,700				7.58	ND								3.51		
3/14/2015	1,899,200															
3/15/2015	1,376,400															
3/16/2015	3,034,300				7.49	ND								5.72		
3/17/2015	2,377,800			17.7	7.3	ND								2.71		
3/18/2015	2,786,800	1.2		15.2	7.7	ND							1100	3.11		
3/19/2015	2,899,800			15.3	7.72	ND								3.3		
3/20/2015	2,508,700			16.1	7.64	ND								2.86		
3/21/2015	2,533,500															
3/22/2015	3,239,500															
3/23/2015	2,522,800				7.42	ND								2.54		
3/24/2015	2,835,900	2.1		15.31	7.60	ND		0.64		86		0.28 J	1100	2.91		
3/25/2015	2,161,700				7.63	ND								3.32		
3/26/2015	2,968,500				7.55	ND								3.11		
3/27/2015	2,653,400				7.79	ND								3.06		

Table 1: Mo ıg Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 4A:	Discharge					Total Res	Settleable	Chromium								
Date	Flow Rate	TSS	O&G	Temp	pH	Chlorine	Matter	(VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Chronic Tox
Units	gpd	mg/L	mg/L	degree C	s.u.	mg/L	mL/L/hr	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	NTU	% survival	TUc
3/28/2015	2,471,300															
3/29/2015	2,626,400															
3/30/2015	2,419,100	1.9		16.0	7.80	ND							960	3.10		
3/31/2015	2,787,200				7.70	ND								3.94		
4/1/2015	3,580,200				7.70	ND								3.70		
4/2/2015	2,557,800				7.55	ND								4.93		
4/3/2015	3,150,500				7.63	ND								4.00		
4/4/2015	3,047,000															
4/5/2015	2,861,800															
4/6/2015	2,612,900				7.58	ND								3.52		
4/7/2015	2,487,800	4.1		14.35	7.68	ND							900	6.18		
4/8/2015	2,590,900				7.90	ND								5.00		
4/9/2015	2,039,300				7.28	ND								3.87		
4/10/2015	1,180,300				7.77	ND								4.21		
4/11/2015	1,592,800															
4/12/2015	1,572,400															
4/13/2015	1,308,100	2.1	ND<1.7	18.60	7.35	ND	ND<0.10	ND<0.055	0.00128	62	27	ND<0.10	960	3.57	100	
4/14/2015	1,360,900				7.50	ND								6.37		
4/15/2015	1,107,400				7.00	ND								5.26		
4/16/2015	881,300				7.10	ND								5.04		
4/17/2015	1,913,500				7.46	ND								4.09		
4/18/2015	1,829,300															
4/19/2015	1,655,000															
4/20/2015	1,709,000				7.37	ND								3.55		
4/21/2015	1,139,600	1.8		18.53	7.35	ND							920	2.35		
4/22/2015	72,800				7.20	ND								2.18		
4/23/2015	120,400			20.58	7.66	ND		ND<0.055		41		ND<0.10		3.58		
4/24/2015	0				7.51	ND								5.87		
4/25/2015	0															
4/26/2015	0															
4/27/2015	418,900				7.13	ND								15.2		
4/28/2015	1,305,200				7.38	ND								5.78		
4/29/2015	1,533,900	2.2		18.28	7.44	ND							1000	2.22		<1.0
4/30/2015	1,498,200				7.50	ND								2.59		
5/1/2015	1,631,500				7.38	ND								2.32		
5/2/2015	1,396,500															
5/3/2015	1,717,600															
5/4/2015	1,230,300				7.35	ND								3.37		
5/5/2015	625,900	2.6	<1.7	18.76	7.39	ND	<0.10	<0.055	0.00062	35	15	<0.10	980	2.79		
5/6/2015	883,100				7.34	ND								2.22		
5/7/2015	609,500				7.03	ND								7.60		
5/8/2015	601,500				7.12	ND								6.44		

Table 1: Mo ıg Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 4A: Discharge						Total Res	Settleable	Chromium								
Date	Flow Rate	TSS	O&G	Temp	pH	Chlorine	Matter	(VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Chronic Tox
Units	gpd	mg/L	mg/L	degree C	s.u.	mg/L	mL/L/hr	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	NTU	% survival	TUc
5/9/2015	576,500															
5/10/2015	501,400															
5/11/2015	828,300				7.53	ND								3.83		
5/12/2015	804,500	1.0		16.38	7.49	ND							930	4.63		
5/13/2015	654,500				7.41	ND								7.58		
5/14/2015	556,200				7.23	ND								17.9		
5/15/2015	612,400				6.83	ND								33.6		
5/16/2015	601,900															
5/17/2015	752,300															
5/18/2015	712,400				6.75	ND								35.2		
5/19/2015	693,800				7.56	ND								24.2		
5/20/2015	626,900				7.42	ND								18.8		
5/21/2015	600,700				7.32	ND								20		
5/22/2015	648,700	1.0		16.98	7.06	ND		<0.055		19		<0.10	1000	13.9		
5/23/2015	606,300															
5/24/2015	540,400															
5/25/2015	616,000															
5/26/2015	611,500				7.24	ND								19.2		
5/27/2015	686,900	4.0		18.51	7.17	ND							960	22.0		
5/28/2015	577,900				6.99	ND								23.0		
5/29/2015	675,500				7.07	ND								19.7		
5/30/2015	584,300															
5/31/2015	602,500															
6/1/2015	670,200				7.32	ND								19.8		
6/2/2015	570,000				7.07	ND								21.9		
6/3/2015	606,700	3.4			7.61	ND							1100	11.8		
6/4/2015	620,300			15.5	6.86	ND								10.9		
6/5/2015	636,000				7.04	ND								13.1		
6/6/2015	611,700															
6/7/2015	590,100															
6/8/2015	562,500				7.37	ND								11.6		
6/9/2015	615,400				7.34	ND								13.9		
6/10/2015	541,700	1.2	ND<1.7	20.66	7.24	ND	ND<0.10	ND<0.055	0.00059	13	3.7	ND<0.10	1000	15.4		
6/11/2015	603,700				7.29	ND								15.6		
6/12/2015	659,800				7.33	ND								12.8		
6/13/2015	477,800															
6/14/2015	228,700															
6/15/2015	185,200				7.51	ND								22.3		
6/16/2015	466,700				7.33	ND								54		
6/17/2015	439,300	2.4		20.45	7.31	ND							1000	46.5		
6/18/2015	492,000				7.27	ND								30.5		
6/19/2015	580,800				7.33	ND								41		

Table 1: Mo ıg Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 4A: Discharge						Total Res	Settleable	Chromium								
Date	Flow Rate	TSS	O&G	Temp	pH	Chlorine	Matter	(VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Chronic Tox
Units	gpd	mg/L	mg/L	degree C	s.u.	mg/L	mL/L/hr	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	NTU	% survival	TUc
6/20/2015	348,400															
6/21/2015	205,100															
6/22/2015	241,800				7.25	ND								18.0		
6/23/2015	99,300				7.28	ND								36		
6/24/2015	272,700				7.30	ND								16.8		
6/25/2015	537,900	2.6		21.64	7.35	ND		ND<0.055		14		ND<0.10	1000	33.0		
6/26/2015	511,900				7.25	ND								12.8		
6/27/2015	345,700															
6/28/2015	223,600															
6/29/2015	355,300				7.33	ND								34.9		
6/30/2015	199,200	1.6		23.14	7.51	ND							940	17.7		

1: Additional Metals Results from 12/28/14:

Antimony	Arsenic	Berylium	Cadmium	Chromium	Copper	Lead	Silver	Zinc
ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
4.98	1.29	ND<0.043	0.823	0.429	0.934	ND<0.005	ND<0.0200	93.3

J = estimated value below reporting limit (DNQ)

Table 1: Moni g Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 13b Discharge												
Date	Flow Rate	TSS	O&G	pH	Settleable Matter	Turbidity	Conductivity	Chromium (VI)	Mercury	Nickel	Selenium	Thallium
	gpd	mg/L	mg/L	s.u.	mL/L/hr	NTU	umhos/cm	ug/L	ug/L	ug/L	ug/L	ug/L
July 2014		***No discharge for the month***										
August 2014		***No discharge for the month***										
September 2014		***No discharge for the month***										
October 2014		***No discharge for the month***										
November 2014		***No discharge for the month***										
December 2014		***No discharge for the month***										
January 2015		***No discharge for the month***										
February 2015		***No discharge for the month***										
March 2015		***No discharge for the month***										
April 2015		***No discharge for the month***										
May 2015		***No discharge for the month***										
June 2015		***No discharge for the month***										

Table 1: Moni g Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 17 Discharge												
Date	Flow Rate	TSS	O&G	pH	Settleable Matter	Turbidity	Conductivity	Chromium (VI)	Mercury	Nickel	Selenium	Thallium
	gpd	mg/L	mg/L	s.u.	mL/L/hr	NTU	umhos/cm	ug/L	ug/L	ug/L	ug/L	ug/L
July 2014	***No discharge for the month***											
August 2014	***No discharge for the month***											
9/25/2014	400	1	ND<1.2	8.18	ND<0.10	1	2477	0.8	0.00363	9.7	61	0.16 J
9/26/2014	400											
10/25/2014	2,160											
10/31/2014	1,440											
11/5/2014	2880											
11/6/2014	1440	17	ND<1.4	7.96	ND<0.10	1.02	1646	0.77	0.00236	6.7	30	ND<0.10
11/13/2014	1440											
11/20/2014	1440											
11/21/2014	1440											
12/2/2014	3,676											
12/3/2014	4,811											
12/11/2014	2,201											
12/12/2014	703											
January 2015	***No discharge for the month***											
2/7/2015 [1]	1,100											
2/8/2015 [1]	900											
2/9/2015 [1]	2,800											
2/10/2015 [1]	700											
2/11/2015	***No discharge for the month***											
2/12/2015	***No discharge for the month***											
2/13/2015	***No discharge for the month***											
2/14/2015	***No discharge for the month***											

1: Pond 17 outlet is capped and sealed off; flow is likely from area seepage entering discharge pipe at some point downgradient from Pond 17 (flow not from Pond 17) to Permanente Creek during storm event.

J = estimated value below reporting limit (DNQ)

Table 1: Moni g Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 30 Discharge											
Date	Flow Rate	TSS	pH	Settleable Matter	Conductivity	O&G	Chromium (VI)	Mercury	Nickel	Selenium	Thallium
	gpd	mg/L	s.u.	mL/L/hr	umhos/cm	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L
July 2014		***No discharge for the month***									
August 2014		***No discharge for the month***									
September 2014		***No discharge for the month***									
October 2014		***No discharge for the month***									
November 2014		***No discharge for the month***									
12/2/2014	69,405	7100	7.74	80	1037	<1.2	1.5	2.47	890	26	3.2
12/3/2014	170,263										
12/4/2014	11,512										
12/5/2014	14,457										
12/6/2014	31,007										
12/7/2014	9,936										
12/8/2014	7,261										
12/9/2014	4,607										
12/10/2014	1,484										
12/11/2014	159,326										
12/12/2014[1]	181,984		7.84		2306			<0.033	14	65	0.24 J
12/13/2014	192,735										
12/14/2014	152,598										
12/15/2014	126,437										
12/16/2014	130,721										
12/17/2014	120,940										
12/18/2014	111,068										
12/19/2014	109,978										
12/20/2014[1]	92,734		8.04		3148			<0.033	21	81	<0.20
12/21/2014	60,632										
12/22/2014	57,855										
12/23/2014	46,997										
12/24/2014	41,737										
12/25/2014	16,059										
12/26/2014	6,699										
12/27/2014	4,327										
12/28/2014	1,133										
January 2015		***No discharge for the month***									
2/6/2015	30,100										

Table 1: Moni[illegible]g Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 30 Discharge											
Date	Flow Rate	TSS	pH	Settleable Matter	Conductivity	O&G	Chromium (VI)	Mercury	Nickel	Selenium	Thallium
	gpd	mg/L	s.u.	mL/L/hr	umhos/cm	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L
2/7/2015	34,200	23	8.53	0.10	1524	ND<1.2	2.5	0.0423	9.0	31	0.12 J
2/8/2015	99,300										
2/9/2015	159,300										
2/10/2015	164,400										
2/11/2015	155,700										
2/12/2015	137,100										
2/13/2015	107,300										
2/14/2015	88,900										
2/15/2015	73,800										
2/16/2015	52,600										
2/17/2015	21,400										
2/18/2015	10,700										
2/19/2015	4,800										
2/20/2015	2,600										
2/21/2015	2,100										
March 2015		***No discharge for the month***									
April 2015		***No discharge for the month***									
May 2015		***No discharge for the month***									
June 2015		***No discharge for the month***									

1: Additional Parameters from 12/12/14 and 12/20/14:

Pond 30 Discharge	Parameter	Antimony	Arsenic	Berylium	Cadmium	Chromium	Copper	Lead	Silver	Zinc	TDS
	Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
12/12/2014		1.1 J	3.4	<0.23	0.26 J	3.9	9.6	0.15 J	<0.10	67	170
12/20/2014		<0.22	3.9 J	<0.46	0.31 J	3.3 J	8.3	0.25 J	<0.20	60	2800

J = estimated value below reporting limit (DNQ)

Lehigh Hanson
HEIDELBERGCEMENT Group

Gregory Knapp
Director Environmental Affairs, Region West
12667 Alcosta Blvd , San Ramon, CA 94583
(925) 244-6570

March 2, 2015

Mr. Rob Eastwood
Principal Planner, County of Santa Clara
Santa Clara County Planning Department

RE: Pond 30 February Stormwater Results

Dear Mr. Eastwood

Attached are the lab sheets for the February 2015 stormwater analysis results from discharge out of Pond 30. An explanation of these is as follows:

Sample Date February 7

Total Recoverable Selenium: 31 micrograms/liter (ug/L or parts per billion)
Mercury 0.042 ug/L
Oil & Grease: Non Detect (ND)
Settleable Solids: 0.1 milliliters per liter/hour (ml/L-hr)
Total Suspended Solids (TSS): 23 milligrams/liter (mg/L)
Hexavalent chromium ("Chromium 6"): 2.5 ug/L
Total Recoverable Nickel: 9.0 ug/L
Thallium: 0.12 ug/L

Any page labeled "Quality Control" indicates reported laboratory method tests using spiked samples to assure actual result accuracy. These results are not actual samples from Pond 30. Any page labeled "Chain of Custody" indicates the transfer of samples from the field through the various laboratories.

Please contact me with any questions.

Gregory A Knapp

Gregory Knapp
Director Environmental Affairs
Lehigh Hanson Region West

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 02/26/2015

George Wegmann

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Client Project:	063-7109-916
BCL Project:	Lehigh NPDES
BCL Work Order:	1503204
Invoice ID:	B196722

Enclosed are the results of analyses for samples received by the laboratory on 2/9/2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Vanessa Sandoval
Client Service Rep

Authorized Signature

Golder Associates
CHAIN OF CUSTODY

15-03204

Page 1 of 1

Quotation No.

PROJECT NO.:	SITE NAME: (Quarterly)
063-7109-916	Lehigh NPDES
SAMPLER(S): David Walter (printed) / David C Walt (signature)	
CONTRACT LABORATORY: BC Labs	
TURN-AROUND TIME: Standard	

EDD required? ☑ Yes ☐ No

EDF required? ☐ Yes ☑ No

Sample I.D.	Lab I.D.	Collection Date	Collection Time	Matrix	Depth	Container Info	Type/Vol.	Filter	Preserv.	Tot Set Matter TSS	O&G	Cr 6+	Hg	Ni, Se, Tl	Cont. Qty.	Remarks
							1L	1L	250ml	500ml	500ml					
							N	N	N	N	N					
							—	HCL	Crbt Buffer	—	HNO3					
EFF-005	-1	2-7-15	1000	W			1	1	1	1	1				5	
EFF-006	-2	↓	1040	↓			1	1	1	1	1				5	
EFF-003	-3	↓	1130	↓			1	1	1	1	1				5	
FB-2-7-15	-4	2-7-15	1000	W						1					1	

ANALYSES

SHORT HOLDING TIME
Cr^{+6} NO_2 NO_3 OP (SS)
DO Cl_2 BOD MBAS COT

CHK BY DISTRIBUTION
MA/MT SLM
SUB-OUT ☒

Relinquished by: (signature)	Received by: (signature)	Date/Time:
David C Walt		2915 1000
Relinquished by: (signature)	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Received by: (signature)	Date/Time:

SEND RESULTS TO:
Attn: George Wegmann, Greg Knapp, Chow Yip
Golder Associates Inc.
425 Lakeside Drive
Sunnyvale, CA 94085
Phone (408) 220-9223
Fax (408) 220-9224

white: lab copy yellow: project file

Shipped via Fed Ex

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Chain of Custody and Cooler Receipt Form for 1503204 Page 1 of 2

Report ID: 1000328743

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Chain of Custody and Cooler Receipt Form for 1503204 Page 2 of 2

BC LABORATORIES INC. **COOLER RECEIPT FORM** Rev. No. 18 09/04/14 Page 1 Of 1

Submission #: 15-03204

SHIPPING INFORMATION
Federal Express ☑ UPS ☐ Hand Delivery ☐
BC Lab Field Service ☐ Other ☐ (Specify)_____

SHIPPING CONTAINER
Ice Chest ☑ None ☐ Box ☐
Other ☐ (Specify)_____

FREE LIQUID
YES ☐ NO ☐

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ (Intact? Yes ☐ No ☐) Containers ☐ (Intact? Yes ☐ No ☐) None ☑ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☑ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 208 Date/Time 2915 1000

Temperature: (A) 0.9 °C / (C) 0.7 °C Analyst Init MMB

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL	A	A	A							
PT PE UNPRESERVED 2oz Cr+6	B	B	B							
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS	C	C	C							
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA ~~413.1, 413.2, 418.1~~ 1664	D	D	D							
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz Amber EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR	E	E	E	A						
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:
Sample Numbering Completed By: MM Date/Time: 2/9/15@1115 [S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC]
A = Actual / C = Corrected

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 02/26/2015 10:12
Project: Lehigh NPDES
Project Number: 063-7109-916
Project Manager: George Wegmann

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1503204-01	**COC Number:**	---	**Receive Date:**	02/09/2015 10:00
	Project Number:	---	**Sampling Date:**	02/07/2015 10:00
	Sampling Location:	EFF-005	**Sample Depth:**	---
	Sampling Point:	EFF-005	**Lab Matrix:**	Water
	Sampled By:	David Walter	**Sample Type:**	Water
1503204-02	**COC Number:**	---	**Receive Date:**	02/09/2015 10:00
	Project Number:	---	**Sampling Date:**	02/07/2015 10:40
	Sampling Location:	EFF-006	**Sample Depth:**	---
	Sampling Point:	EFF-006	**Lab Matrix:**	Water
	Sampled By:	David Walter	**Sample Type:**	Water
1503204-03	**COC Number:**	---	**Receive Date:**	02/09/2015 10:00
	Project Number:	---	**Sampling Date:**	02/07/2015 11:30
	Sampling Location:	EFF-003	**Sample Depth:**	---
	Sampling Point:	EFF-003	**Lab Matrix:**	Water
	Sampled By:	David Walter	**Sample Type:**	Water
1503204-04	**COC Number:**	---	**Receive Date:**	02/09/2015 10:00
	Project Number:	---	**Sampling Date:**	02/07/2015 10:00
	Sampling Location:	FB-2-7-15	**Sample Depth:**	---
	Sampling Point:	FB-2-7-15	**Lab Matrix:**	Water
	Sampled By:	David Walter	**Sample Type:**	Blank Water

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 02/26/2015 10:12
Project: Lehigh NPDES
Project Number: 063-7109-916
Project Manager: George Wegmann

EPA Method 1664

BCL Sample ID:	1503204-02	Client Sample Name:	EFF-006, EFF-006, 2/7/2015 10:40:00AM, David Walter

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Oil and Grease	ND	mg/L	5.0	1.2	EPA-1664A HEM	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-1664A HEM	02/11/15	02/11/15 09:45	MAM	MAN-SV	1	BYB1255

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 02/26/2015 10:12
Project: Lehigh NPDES
Project Number: 063-7109-916
Project Manager: George Wegmann

Water Analysis (General Chemistry)

BCL Sample ID: 1503204-02 | **Client Sample Name:** EFF-006, EFF-006, 2/7/2015 10:40:00AM, David Walter

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Suspended Solids (Glass Fiber)	**23**	**mg/L**	**0.50**	**0.50**	**SM-2540D**	ND		1
Settleable Solids	**0.10**	**ml/L-hr**	**0.10**	**0.10**	**SM-2540F**		**S05**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	SM-2540D	02/11/15	02/11/15 15:15	VV1	MANUAL	1.053	BYB1003
2	SM-2540F	02/10/15	02/10/15 07:15	HPR	KONE-1	1	BYB0911

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 02/26/2015 10:12
Project: Lehigh NPDES
Project Number: 063-7109-916
Project Manager: George Wegmann

Metals Analysis

BCL Sample ID: 1503204-02 | **Client Sample Name:** EFF-006, EFF-006, 2/7/2015 10:40:00AM, David Walter

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**2.5**	**ug/L**	**0.20**	**0.055**	**EPA-218.6**	0.074		1
Total Recoverable Nickel	**9.0**	**ug/L**	**2.0**	**0.19**	**EPA-200.8**	ND		2
Total Recoverable Selenium	**31**	**ug/L**	**2.0**	**0.19**	**EPA-200.8**	ND		2
Total Recoverable Thallium	0.12	ug/L	1.0	0.10	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-218.6	02/09/15	02/09/15 21:14	BMW	IC-4	1	BYB0742
2	EPA-200.8	02/11/15	02/12/15 05:35	EAR	PE-EL2	1	BYB0967

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 02/26/2015 10:12
Project: Lehigh NPDES
Project Number: 063-7109-916
Project Manager: George Wegmann

EPA Method 1664

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYB1255						
Oil and Grease	BYB1255-BLK1	ND	mg/L	5.0	1.2	

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 02/26/2015 10:12
Project: Lehigh NPDES
Project Number: 063-7109-916
Project Manager: George Wegmann

EPA Method 1664

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BYB1255										
Oil and Grease	BYB1255-BS1	LCS	33.950	40.200	mg/L	84.5		78 - 114		

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 02/26/2015 10:12
Project: Lehigh NPDES
Project Number: 063-7109-916
Project Manager: George Wegmann

EPA Method 1664

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BYB1255	Used client sample: N										
Oil and Grease	DUP	1428224-89	ND	ND		mg/L			18		
	MS	1428224-89	ND	37.950	40.200	mg/L		94.4		78 - 114	
	MSD	1428224-89	ND	37.600	40.200	mg/L	0.9	93.5	18	78 - 114	

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 02/26/2015 10:12
Project: Lehigh NPDES
Project Number: 063-7109-916
Project Manager: George Wegmann

Water Analysis (General Chemistry)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYB1003						
Total Suspended Solids (Glass Fiber)	BYB1003-BLK1	ND	mg/L	0.50	0.50	

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 02/26/2015 10:12
Project: Lehigh NPDES
Project Number: 063-7109-916
Project Manager: George Wegmann

Water Analysis (General Chemistry)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BYB0911	Used client sample: Y - Description: EFF-005, 02/07/2015 10:00										
Settleable Solids	DUP	1503204-01	5.1000	5.1000		ml/L-hr	0		10		
QC Batch ID: BYB1003	Used client sample: Y - Description: EFF-005, 02/07/2015 10:00										
Total Suspended Solids (Glass Fiber)	DUP	1503204-01	1855.0	1854.0		mg/L	0.1		10		

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 02/26/2015 10:12
Project: Lehigh NPDES
Project Number: 063-7109-916
Project Manager: George Wegmann

Metals Analysis

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYB0742						
Hexavalent Chromium	BYB0742-BLK1	0.074000	ug/L	0.20	0.055	J
QC Batch ID: BYB0967						
Total Recoverable Nickel	BYB0967-BLK1	ND	ug/L	2.0	0.19	
Total Recoverable Selenium	BYB0967-BLK1	ND	ug/L	2.0	0.19	
Total Recoverable Thallium	BYB0967-BLK1	ND	ug/L	1.0	0.10	

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 02/26/2015 10:12
Project: Lehigh NPDES
Project Number: 063-7109-916
Project Manager: George Wegmann

Metals Analysis

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BYB0742										
Hexavalent Chromium	BYB0742-BS1	LCS	19.993	20.000	ug/L	100		90 - 110		
QC Batch ID: BYB0967										
Total Recoverable Nickel	BYB0967-BS1	LCS	103.00	100.00	ug/L	103		85 - 115		
Total Recoverable Selenium	BYB0967-BS1	LCS	102.14	100.00	ug/L	102		85 - 115		
Total Recoverable Thallium	BYB0967-BS1	LCS	39.423	40.000	ug/L	98.6		85 - 115		

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 02/26/2015 10:12
Project: Lehigh NPDES
Project Number: 063-7109-916
Project Manager: George Wegmann

Metals Analysis

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BYB0742	Used client sample: N										
Hexavalent Chromium	DUP	1503198-01	1.2030	1.1140		ug/L	7.7		10		
	MS	1503198-01	1.2030	22.104	20.202	ug/L		103		90 - 110	
	MSD	1503198-01	1.2030	22.268	20.202	ug/L	0.7	104	10	90 - 110	
QC Batch ID: BYB0967	Used client sample: N										
Total Recoverable Nickel	DUP	1503050-08	1.6810	1.6340		ug/L	2.8		20		J
	MS	1503050-08	1.6810	84.539	100.00	ug/L		82.9		70 - 130	
	MSD	1503050-08	1.6810	82.349	100.00	ug/L	2.6	80.7	20	70 - 130	
Total Recoverable Selenium	DUP	1503050-08	0.41700	ND		ug/L			20		
	MS	1503050-08	0.41700	105.75	100.00	ug/L		105		70 - 130	
	MSD	1503050-08	0.41700	102.74	100.00	ug/L	2.9	102	20	70 - 130	
Total Recoverable Thallium	DUP	1503050-08	ND	ND		ug/L			20		
	MS	1503050-08	ND	43.080	40.000	ug/L		108		70 - 130	
	MSD	1503050-08	ND	41.561	40.000	ug/L	3.6	104	20	70 - 130	

basic laboratory
www.basiclab.com
2218 Railroad Avenue, Redding, California 96001 voice 530.243.7234 fax 530.243.7494
3860 Morrow Lane, Suite F, Chico, California 95928 voice 530.894.8966 fax 530.894.5143

February 24, 2015

Lab ID: 15B0501

VANESSA SANDOVAL
B C LABORATORIES INCORPORATED
4100 ATLAS COURT
BAKERSFIELD, CA 93308
RE: HG 1631 TESTING 1503204

Dear VANESSA SANDOVAL ,

Enclosed are the analysis results for Work Order number 15B0501. All analysis were performed under strict adherence to our established Quality Assurance Plan. Any abnormalities are listed in the qualifier section of this report.

If you have any questions regarding these results, please feel free to contact us at any time. We appreciate the opportunity to service your environmental testing needs.

Sincerely,

For Ricky Jensen

Ricky D. Jensen
Laboratory Director
California ELAP Certification Number 1677

Page 1 of 3

basic laboratory
www.basiclab.com
2218 Railroad Avenue Redding, California 96001 voice 530.243.7234 fax 530.243.7494
3860 Morrow Lane, Suite F Chico, California 95928 voice 530.894.8966 fax 530.894.5143

Report To: B C LABORATORIES INCORPORATED
4100 ATLAS COURT
BAKERSFIELD, CA 93308
Attention: VANESSA SANDOVAL
Project: HG 1631 TESTING 1503204

Lab No: 15B0501
Reported: 02/24/15
Phone: (661) 327-4911
P.O. #

Metals - Total

Analyte		Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
1503204-01 Water (15B0501-01) Sampled:02/07/15 10:00 Received:02/10/15 13:50 Temp (C): 6.8										
Mercury		ng/l	5170	QC-08	20.0	50.0	EPA 1631E	02/18/15	02/18/15	B5B1112
1503204-02 Water (15B0501-02) Sampled:02/07/15 10:40 Received:02/10/15 13:50 Temp (C): 7.8										
Mercury		ng/l	42.3		0.20	0.50	EPA 1631E	02/18/15	02/18/15	B5B1112
1503204-03 Water (15B0501-03) Sampled:02/07/15 11:30 Received:02/10/15 13:50 Temp (C): 8.3										
Mercury		ng/l	84.9		0.20	0.50	EPA 1631E	02/18/15	02/18/15	B5B1112
1503204-04 Water (15B0501-04) Sampled:02/07/15 10:00 Received:02/10/15 13:50 Temp (C): 9.6										
Mercury		ng/l	ND		0.20	0.50	EPA 1631E	02/18/15	02/18/15	B5B1112

Quality Control Data

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Metals - Total										
Batch B5B1112 - BrCl Digestion										
Blank										
Mercury	ND	0.50	ng/l							
Blank										
Mercury	ND	0.50	ng/l							
Blank										
Mercury	ND	0.50	ng/l							QC-08
LCS										
Mercury	20.3	0.50	ng/l	20.0		102	84.1-120			
Matrix Spike Source: 15B0501-02										
Mercury	63.7	0.50	ng/l	20.0	42.3	107	74.3-125			
Matrix Spike Source: 15B0503-01										
Mercury	20.4	0.50	ng/l	20.0	1.20	96.2	74.3-125			
Matrix Spike Dup Source: 15B0501-02										
Mercury	62.2	0.50	ng/l	20.0	42.3	99.6	74.3-125	2.40	24	
Matrix Spike Dup Source: 15B0503-01										
Mercury	20.0	0.50	ng/l	20.0	1.20	93.9	74.3-125	2.33	24	

Approved By

Basic Laboratory, Inc.
California ELAP Cert #1677 and #2718

basic laboratory
www.basiclab.com
2218 Railroad Avenue Redding, California 96001 voice 530.243.7234 fax 530.243.7494
3860 Morrow Lane, Suite F Chico, California 95928 voice 530.894.8966 fax 530.894.5143

Report To: B C LABORATORIES INCORPORATED
4100 ATLAS COURT
BAKERSFIELD, CA 93308
Attention: VANESSA SANDOVAL
Project: HG 1631 TESTING 1503204

Lab No: 15B0501
Reported: 02/24/15
Phone: (661) 327-4911
P.O. #

Notes and Definitions

QC-08	An increased concentration of BrCl was necessary to fully oxidize this sample. As required by EPA 1631E, a laboratory method blank containing the additional BrCl was analyzed with the sample.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
<	Less than reporting limit
≤	Less than or equal to reporting limit
>	Greater than reporting limit
≥	Greater than or equal to reporting limit
MDL	Method Detection Limit
RL/ML	Minimum Level of Quantitation
MCL/AL	Maxium Contaminant Level/Action Level
mg/kg	Results reported as wet weight
TTLC	Total Threshold Limit Concentration
STLC	Soluble Threshold Limit Concentration
TCLP	Toxicity Characteristic Leachate Procedure
Note 1	Received Temperature - according to EPA guidelines, samples for most chemistry methods should be held at ≤6 degrees C after collection, including during transportation, unless the time from sampling to delivery is <2 hours. Regulating agencies may invalidate results if temperature requirements are not met.
Note 2	According to 40 CFR Part 136 Table II, the following tests should be analyzed in the field within 15 minutes of sampling: pH, chlorine, dissolved oxygen, and sulfite.

Approved By
Basic Laboratory, Inc.
California ELAP Cert #1677 and #2718

Page 3 of 3

15B0501

SUBCONTRACT ORDER

BC Laboratories

1503204

1 15B0501

Due 2-2015

SENDING LABORATORY:

BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Phone: 661-327-4911
FAX: 661-327-1918
Project Manager: Vanessa Sandoval

RECEIVING LABORATORY: BSCLB

Basic Laboratory, Inc.
2218 Railroad Ave.
Redding, CA 96001
James E. Hawley
Phone: 530-243-7234
FAX: --

Analysis	Due	Expires	Comments	
Sample ID: 1503204-01 **Water**	**Sampled:**	**02/07/15 10:00**	Standard TAT	6.8°C
EPA 1631 - Mercury	02/24/15 17:00	08/07/15 10:00		
Containers supplied:				
Sample ID: 1503204-02 **Water**	**Sampled:**	**02/07/15 10:40**	Standard TAT	7.8°C
EPA 1631 - Mercury	02/24/15 17:00	08/07/15 10:40		
Containers supplied:				
Sample ID: 1503204-03 **Water**	**Sampled:**	**02/07/15 11:30**	Standard TAT	8.3°C
EPA 1631 - Mercury	02/24/15 17:00	08/07/15 11:30		
Containers supplied:				
Sample ID: 1503204-04 **Water**	**Sampled:**	**02/07/15 10:00**	Standard TAT	9.6°C
EPA 1631 - Mercury	02/24/15 17:00	08/07/15 10:00		
Containers supplied:				

Released By	Date	Received By	Date
	2915	T Wilhelmson	2/10/15 13:50
		P. Oclan	2.11.15 16:56

Released By Date Received By Date

BSCLB

Page 1 of 1

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 02/26/2015 10:12
Project: Lehigh NPDES
Project Number: 063-7109-916
Project Manager: George Wegmann

Notes And Definitions

J	Estimated Value (CLP Flag)
MDL	Method Detection Limit
ND	Analyte Not Detected at or above the reporting limit
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
A07	PQL's were raised due to sample dilution caused by high analyte concentration or matrix interference.
S05	The sample holding time was exceeded.