County of Santa Clara
Planning Commission

DATE: December 15, 2016, Regular Meeting
TIME: 1:30 PM
PLACE: Lower Level Conference Room
70 W. Hedding Street –
San Jose, CA 95110

AGENDA

In compliance with the Americans with Disabilities Act and the Brown Act, those requiring accommodations in this meeting should notify the Clerk of the Planning Commission no less than 24 hours prior to the meeting at (408) 299-6714, or TDD (408) 993-8272.

Please note: To contact the Commission and/or to inspect any disclosable public records related to an open session item on a regular meeting agenda and distributed by the County to all or a majority of the Board of Supervisors (or any other commission, or board or committee) less than 72 hours prior to that meeting, visit our website at http://www.sccgov.org or contact the Clerk at (408) 299-6714 or 70 W. Hedding Street, San Jose, CA 95110, during normal business hours.

Persons wishing to address the Commission on a regularly scheduled item on the agenda are requested to complete a request to speak form and give it to the Deputy Clerk. (Government Code Section 54953.3.) Individual speakers will be called by the Chairperson and are requested to limit their comments to two minutes. Groups of speakers on a specific item are asked to limit their total presentation to a maximum of twenty minutes for each side of the issue.

COMMUTE ALTERNATIVES: The Board of Supervisors encourages the use of commute alternatives including public transit, bicycles, carpooling, and hybrid vehicles.

For public transit trip planning information, contact the VTA Customer Service Department at 408-321-2300 Monday through Friday between the hours of 6:00 a.m. to 7:00 p.m., and on Saturday from 7:30 a.m. to 4:00 p.m. Schedule information is also available on the web at www.vta.org.

Bicycle parking racks are available in the James McEntee, Sr., Plaza in front of the County Government Center building. If this Board or Commission does not meet in the County Government Center please contact VTA for related routes.

Notice to the Public

The Planning Commission may take other actions relating to the issues as may be determined following consideration of the matter and discussion of the recommended actions.

Opening

1. Call to Order/Roll Call.

Public Comment

2. Public Comment

   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 three 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 on

any items not on the agenda except under special circumstances. Statements that require a response may be placed on the agenda for the next regular meeting of the Commission.

Persons wishing to address the Commission on any item on the agenda are requested to complete a request to speak form and give it to the Deputy Clerk so the Chairperson can call on you when the item comes up for discussion.

Approval of Minutes

3. Approve minutes of September 22 and November 17, 2016

Land Use Hearing Items

4. Public meeting to consider Annual Status Report No. 4 for the period July 1, 2015 to June 30, 2016 regarding compliance by Lehigh Southwest Cement Company with the 2012 Reclamation Plan Amendment conditions of approval, Mitigation Monitoring and Reporting Program (MMRP), annual SMARA inspections and financial assurance cost estimates for Permanente Quarry. File 2250-16PAM; Property Address/Location: 24001 Stevens Creek Blvd., Cupertino, CA 95014; Assessor's Parcel No. 351-09-013, -020, -022, -025; 351-10-005, -033, -037, -038; 351-11-001, -005, -006, -007, -081. (ID# 84182)

   Possible action:

   Accept or reject Annual Status Report No. 4 for Period July 1, 2015 to June 30, 2016.

Other Business

5. Receive report from Chairperson.
6. Receive reports from Commissioners.
7. Receive report relating to San Martin Planning Advisory Committee (SMPAC). (Rauser)
8. Receive report from County Counsel.
9. Receive report from Planning Manager.
10. Receive report relating to activities of the Department of Planning and Development. (Girard)

Correspondence

11. Accept Correspondence

Workshop - To begin No Earlier than 2:00 p.m.

Accept presentation by Open Space Authority staff regarding the purpose and activities of the Santa Clara County Open Space Authority.

Adjourn

Adjourn.

County of Santa Clara
Department of Planning and Development

84182

DATE: December 15, 2016

TO: Planning Commission

FROM: Christopher Hoem, Associate Planner

SUBJECT: Lehigh Status Report 2250

RECOMMENDED ACTION

Public meeting to consider Annual Status Report No. 4 for the period July 1, 2015 to June 30, 2016 regarding compliance by Lehigh Southwest Cement Company with the 2012 Reclamation Plan Amendment conditions of approval, Mitigation Monitoring and Reporting Program (MMRP), annual SMARA inspections and financial assurance cost estimates for Permanente Quarry. File 2250-16PAM; Property Address/Location: 24001 Stevens Creek Blvd., Cupertino, CA 95014; Assessor's Parcel No. 351-09-013, -020, -022, -025; 351-10-005, -033, -037, -038; 351-11-001, -005, -006, -007, -081.

Possible action:

Accept or reject Annual Status Report No. 4 for Period July 1, 2015 to June 30, 2016.

STAFF RECOMMENDATION

Staff recommends that the Planning Commission:

a. Accept the Annual Status Report #4 for Period July 1, 2015 to June 30, 2016.

PROJECT DESCRIPTION

This Annual Report #4 [Attachment A] under consideration by the Planning Commission concerns the reporting period July 1, 2015 through June 30, 2016, regarding the Lehigh-Permanente Quarry (Lehigh) and compliance with the 2012 Reclamation Plan and Mitigation Monitoring and Reporting Program (MMRP). On June 26, 2012, the County Board of Supervisors approved a new reclamation plan for Lehigh. Approval of the Reclamation Plan included certification of an Environmental Impact Report (EIR) prepared for the Reclamation Plan and adoption of a MMRP, implementing the mitigation measures identified in the EIR. Condition #8 of the Reclamation Plan requires the preparation of an Annual Report regarding the status of the Reclamation Plan as follows:

> *An Annual Report shall be prepared by the County each year that summarizes compliance with the Reclamation Plan 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.*

REASONS FOR RECOMMENDATION

The 2012 Reclamation Plan is subject to 89 Conditions of Approval, which include the mitigation measures set forth in the MMRP from the associated certified EIR prepared for this Plan. COA #8 requires the preparation of an Annual Report regarding the status of the Reclamation activities, specifically evaluating (a) compliance with the conditions of approval and MMRP, and (b) the annual SMARA inspection and financial cost estimate for costs associated with reclaiming the site.

The Annual Report No. 4 informs on reclamation activities that took place from July 1, 2015 through June 30, 2016, as well as compliance status for each condition of approval. Throughout the reporting period, reports are prepared documenting the biological investigations, quarry staff and contractor trainings, stormwater sampling and testing, as well as the required SMARA inspections (conducted on September 3, 2015, and January 13, 2016). County staff also conducts monthly "boots-on-the-ground" field inspections to ensure ongoing compliance with the Reclamation Plan conditions and MMRP. The County contracted with Ascent Environmental to prepare the Annual Report No. 4, and included the reporting data in the report Appendices.

The annual report is comprised of three sections: Reclamation Activities; Compliance with Conditions of Approval and MMRP; and SMARA inspections and Financial Assurance Cost Estimate review and certification. The summary for each section is as follows:

a) Reclamation Activities (July 1, 2015 – June 30, 2016)

Between July 1, 2015 and June 30, 2016, the operation in the Reclamation Plan Area included continued mining and processing operations within the Quarry Pit, East Materials Storage Area, and Rock Crusher areas. No new reclamation activities occurred during this

reporting period at the South Quarry Exploration Area. A summary of reclamation activities that have occurred within each of the areas is included below:

Activities within the West Materials Storage Area (WMSA) included the following:

- Grading maintenance of the haul road.
- Repair and replacement of silt fences and wattles at the two topsoil stockpiles.

Activities within the East Materials Storage Area (EMSA) included the following:

- Ongoing implementation of best management practices, including check dams, straw wattles, and drainage to detention Pond #30.
- Additional improvements to the non-limestone cover and drainage facilities are anticipated to address selenium issues.
- Approximately 20 acres of interim reclaimed slopes were successfully hydroseeded in October 2015. Monitoring of the hydroseeding is ongoing.

Activities within the Permanente Creek Restoration Area (PRCA) included the following:

- Plans for restoration are currently being reviewed by regulatory agencies including the U.S. Army Corps of Engineers. Lehigh is also preparing to submit plans to the County.

Activities within the Rock Crusher area included the following:

- Previously installed best management practices were routinely inspected and repaired.

Activities within the Surge Pile/Rock Plant area included the following:

- The surge pile was significantly reduced in size during reporting period.
- Sediment eroding from the surge pile is detained in ponds and by check dams along the roadway.
- Three pipelines installed to route stormwater around the Rock Plant to decrease the volume of stormwater in contact with Rock Plant materials and structures.

b) Compliance with Conditions of Approval and MMRP

General Requirements. An updated storm water pollution prevention plan (SWPPP) was completed in June 2015, training for Lehigh staff, vendors, contractors and consultants who worked onsite was completed in August and September 2015, a revised version of the Financial Assurance Cost Estimate was submitted on September 29, 2015, and the annual report was submitted on October 1, 2016. As such, Lehigh is in compliance with the general requirements of the Reclamation Plan.

Reclamation Requirements. Lehigh completed topographical quarry maps depicting the areas mined and undergoing reclamation, and a map identifying the areas projected for mining and reclamation activities for June 2014 through June 2018. These maps are included on pages 2-2 through 2-10 of Attachment A. Lehigh placed all unusable quarry materials ("overburden") along the northwest wall in the Quarry Pit.

Ongoing reclamation activities also included required maintenance of Best Management Practices (BMP's) to control stormwater on the site.

Copies of all permits issued by the Santa Clara County Department of Environmental Health were provided to the Planning Manager on August 10, 2016.

EIR Mitigation Measures. Lehigh is in the process of documenting the historical features of the Kaiser Permanente Quarry Mining District. The documentation is expected to be included in the 2016-2017 Annual Report. No cultural resources, paleontological resources, or human remains were encountered during the reporting period.
A required, annual report on greenhouse gas emissions inventory is included in Appendix F of Appendix C of Attachment A.

Stormwater Quality Sampling and Testing. Water quality sampling and testing data for general water chemistry, as well as dissolved and total metals, including selenium, was conducted for the WMSA and Quarry Pit (Pond 4A) and the EMSA (Pond 30), consistent with Condition #76, #79, and #80.

- Condition #76 requires Lehigh to perform the following at the Quarry Pit and WMSA/EMSA:
    - *Quarry Pit:*
        - Quarterly water sampling once reclamation of the pit begins and 5 years following reclamation. Analyze water samples for general chemistry, electrical conductivity, pH measurements, and dissolved and total metals.
        - Measure daily volume of water pumped from pit.
        - Annual seep surveys in March or April.
        - Routinely test overburden for leachable concentrations of key metal constituents.
    - *WMSA and EMSA:*
        - Sample and test runoff 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.)

  Lehigh is complying with Condition #76 by sampling, testing, and measuring water, performing seep surveys, and testing overburden. The stormwater sampling and testing data for the Quarry Pit and the EMSA for the current reporting period are included in the Annual Report #4 and summarized in the following table:

(WMSA groundwater currently drains into the Quarry Pit and EMSA groundwater currently drains into Pond 30.)

2015/16 Testing	**Quarry Pit (via Pond 4A) Selenium µg/L**	**EMSA (via Pond 30) Selenium µg/L**
July	No discharge	No discharge
August	No discharge	No discharge
September	17	No discharge
October	20	No discharge
November	16	No discharge
December	47	No discharge
January	11	14 (Jan 13) 14 (Jan 18) 17 (Jan 19) 57 (Jan 29)
February	18	55
March	38	7.9 (Mar 6) 53 (Mar 11) 40 (Mar 13)
April	47 (Apr 13) 45.9 (Apr 24)	No discharge
May	41.5 (May 5) 41.6 (May 11) 36.9 (May 17) 36.8 (May26)	No discharge
June	35.1 (June 2) 34.2 (June 9) 34.9 (June 16) 31.3 (June 23) 25.7 (June 30)	No discharge

- Condition #79 requires Lehigh to have a stormwater monitoring plan for water sampling and testing to monitor the effectiveness of the BMPs during and after reclamation, requiring sampling within 24 hours of a qualifying rain event, and install improved BMPs if test results show elevated selenium levels.

  Lehigh is complying with Condition #79 through proposed improvements at Pond 30 and maintaining BMPs throughout the Quarry.

- Condition #80 requires Lehigh to sample and test water at EMSA, and if two consecutive years show that stormwater discharging into Permanente Creek exceed the Basin Plan Standard (currently 5 micrograms per liter) then a public hearing before the

Planning Commission to determine whether Lehigh is complying with the stormwater discharge requirements, and if not, then Lehigh shall install a treatment system (or alternative).

Lehigh is complying with Condition #80 through the development of an interim treatment system that treats water from the Quarry pit and WMSA areas and by preparing to apply for permits for a final water treatment plant.

The Planning Commission held a public hearing on November 20, 2014, and determined Lehigh was not compliant with stormwater discharge requirements with respect to selenium discharging from the EMSA into Permanente Creek (COA#80), and also determined that treatment for the Quarry Pit and WMSA (Pond 4A, Frontier Systems) stormwater was feasible. The Frontier System interim treatment system was installed and is currently operational and treating stormwater from the Quarry Pit and WMSA.

On April 23, 2015, the Planning Commission determined the following treatment options were not feasible at the EMSA: a) independent direct treatment of EMSA stormwater discharge; b) trucking and piping of EMSA stormwater discharge for direct treatment by the Frontier Water System technology; and c) trucking of EMSA stormwater to the Quarry Pit. The Commission continued until April 2016 determination on the feasibility of piping stormwater to the Quarry Pit and/or enlarging Pond 30, 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 winter season. The above chart shows a downward trend in the concentrations of selenium in discharges, at Pond 4A, from the beginning of April 2016 to the end of June 2016.

Despite the recent covering of the EMSA with non-limestone bearing material, water quality testing from the winter 2015/2016 season revealed that selenium concentrations in stormwater discharged from Pond 30 into Permanente Creek were higher than anticipated and exceeded the applicable standards. As discussed in the July 2016 staff report to the Planning Commission, Lehigh proposed to install several stormwater improvements in 2016 to address this runoff, including the installation of a french drain and enhancement of Pond 30. Lehigh has begun construction on a french drain that is expected to be operational by the end of 2016. The enhancements to Pond 30 have not started due to the presence of a recently discovered California red legged frog in the pond. Lehigh has told staff that they are working with U.S. Fish and Wildlife to relocate the frog in order to construct the improvements. The Pond 30 improvements were discussed at the July 2016 Planning Commission meeting and continued to April 2017 for further evaluation by the Commission. The evaluation will include stormwater runoff test results from the 2016/2017 winter season.

Condition #82 requires the design, pilot testing, and implementation of a treatment facility.

Lehigh is complying with Condition #82 by implementing the interim treatment system at Pond 4A and preparing to apply for a permit to develop a final treatment system with the intention to begin operations by October 2017.

c) SMARA Inspections and Financial Assurance Review

In compliance with the Surface Mining and Reclamation Act, as lead agency for SMARA, the County staff and consultants to the County conducted inspections of Lehigh to ensure mining and reclamation activities were in conformance with the current Reclamation Plan. Inspections during the reporting period included the annual SMARA inspection on September 3, 2015, stormwater best management practices inspection January 13, 2016, and monthly field site inspections to observe onsite operations for compliance with the Reclamation Plan and conditions of approval. The County did not observe any SMARA violations during these inspections.

The County received a revised 2015 Financial Assurance Cost Estimate (FACE) for Lehigh on September 29, 2015. The total cost for reclaiming the quarry was estimated at $51,828,296.00. It covers all the areas disturbed by mining, approximately 640 acres. The bonds held by the County for this work currently total $54,723,295.00, an amount greater than the current 2015 cost estimate by $2,894,999. The County certified the 2015 FACE on October 15, 2015 consistent with SMARA §2774.c and with Surface Mines and Geology Board (SMGB) Reclamation Regulation §3805.

BACKGROUND

a) Lehigh Permanente Quarry History

The Lehigh Permanente Quarry is a limestone and aggregate surface mining operation, located in unincorporated Santa Clara County within the eastern foothills of the Santa Cruz mountain range west of the City of Cupertino. Quarrying activities at the site associated with the harvesting of limestone began in the early 1900's. In 1939, Permanente Corporation acquired approximately 1,500 acres of the quarry site and then continued to acquire surrounding lands over the next several years until the total ownership reached its current size of 3,510 acres. The quarry is currently operated by Lehigh Southwest Cement Company (herein referred to collectively, Lehigh).

On February 2, 2011, the County Board of Supervisors determined that mining operations at Lehigh are a legal nonconforming use (i.e., a vested right) within specific parcels including the current Reclamation Plan area, and as such, continued surface mining within the vested parcels does not require a use permit. However, the State Surface Mining and Reclamation Act (SMARA) requires all surface mines to have an approved reclamation plan. A reclamation plan establishes the processes and timelines for reclaiming (or restoring) a quarry site after surface mining is completed so that quarries are returned to a stable state and do not present a hazard to the public. Pursuant to SMARA, a reclamation plan was approved by Santa Clara County for the quarry in 1985 and amended in June 2012 to include the additional mined areas onsite.

b) Lehigh Cement Plant

The Lehigh cement plant uses mined limestone in the manufacturing of cement, and is located near the entrance to the site of the property, east of the Quarry Pit, and is not required to be within the Reclamation Plan, consistent with the determination made by the State Office of Mine Reclamation (OMR). The cement plant operation is an authorized use operating under a Use Permit (County File No. 173.023) issued in 1939.

c) 2012 Reclamation Plan

The 2012 Reclamation Plan requires restoration 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 Plan include the Quarry Pit, where limestone and aggregated material is harvested, and two areas where overburden (harvested surface materials that are not used) is stockpiled: the West Materials Storage Area (WMSA) and East Materials Storage Area (EMSA). Other areas in the quarry requiring reclamation include the Rock Plant (used to process aggregate), Rock Crusher, Permanente Creek Restoration Area (PRCA), and South Quarry Exploration Area located south of the Permanente Creek. These areas are shown on page 1-4 of Attachment A.

Reclamation of the quarry will occur in three phases:

Phase I will occur over approximately nine years (2012-2021) and involves reclamation activities in the EMSA and South Exploration areas, and continued mining activities in the WMSA and Quarry Pit. Reclamation activities in the EMSA include placement of overburden within a permanent stockpile, contouring to final slopes, covering with non-limestone bearing material and soil, and revegetation. The South Exploration Area was inspected in September 2014 and County inspectors observed the revegetation was completed.

Phase II will occur over approximately five years (2021-2026) and includes reclamation activities within the WMSA, Quarry Pit, and PRCA. During Phase II, the overburden located in the WMSA will be moved via conveyor system to backfill the Quarry Pit, and placement of 63,000 tons of organic matter into the upper 25-50 feet of backfill to create an anaerobic (not exposed to air) environment to reduce the concentration of selenium in the surface and/or groundwater passing through this area into Permanente Creek. The EMSA will be reclaimed and undergo monitoring for vegetation growth to the Reclamation Plan standards.

Phase III will occur over approximately five years (2027-2032) and involves completion of conveying the overburden from the WMSA into the Quarry Pit, complete vegetation installation and monitoring for all remaining areas including the WMSA and Quarry Pit, and removal of equipment, buildings, and several roads.

d) Intra Agency and Public Informational Meetings

Since 2014, County staff has organized and hosted regular meetings with agency staff from regional and state agencies including, Bay Area Air Quality Management District (BAAQMD), California Office of Mine Reclamation, Regional Water Quality Control Board, California Department of Fish and Wildlife, US Fish and Wildlife, as well as staff from Santa

Clara County Departments of Environmental Health, and Planning and Development. The purpose of the meetings is for collaborative discussion and sharing of information among the agencies' staff regarding regulatory oversight of Lehigh. The most recent agency meeting was held on November 3, 2016, followed by a community informational meeting, hosted by Supervisor Simitian on November 16, 2016, to answer public questions from residents regarding the agencies' regulatory oversight and status. These meetings will be scheduled again in 2017.

STAFF REPORT REVIEW

Project Planner: Christopher Hoem, Associate Planner, 408-299-5784, christopher.hoem@pln.sccgov.org

Reviewed by: Rob Eastwood, Planning Manager, 408-299-5770, rob.eastwood@pln.sccgov.org

ATTACHMENTS:

- Attachment A (PDF)

ANNUAL REPORT NO. 4

LEHIGH PERMANENTE QUARRY
RECLAMATION PLAN AMENDMENT (RPA)

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

LEAD AGENCY:

County of Santa Clara

PREPARED BY:

ASCENT ENVIRONMENTAL

DECEMBER 2016

TABLE OF CONTENTS

Appendices

Figures

Photos

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SECTION ES – EXECUTIVE SUMMARY

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 fourth Lehigh Permanente Quarry RPA Annual Report (AR4) and provides public documentation of Quarry compliance for the monitoring period 2015-2016. Section 1 provides an introduction and overview of the content of AR4. 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 (aerials, maps, site inspection information, and technical reports) provided in Appendices A through E. Lehigh is currently in compliance with the 2012 Reclamation Plan Conditions of Approval and Mitigation Monitoring and Reporting Program. Documentation of condition of approval compliance, as well as the previous annual reports, can be found on the County's website at http://www.sccgov.org.

For the fourth annual reporting period, Rob Eastwood, Planning Manager, 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 Rob Eastwood at Rob.Eastwood@pln.sccgov.org or (408) 299-5792.

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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 collectively referred to 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 previously 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 2012, the Reclamation Plan was amended to include all areas of past mining disturbance subject to SMARA. This includes the Rock Plant to the southeast of the mining pit (Main Pit or North Quarry), the East Materials Storage Area (EMSA), the Permanente Creek Restoration Area (PCRA), and South Quarry Exploration Area south of Permanente Creek (see **Figure 1**).

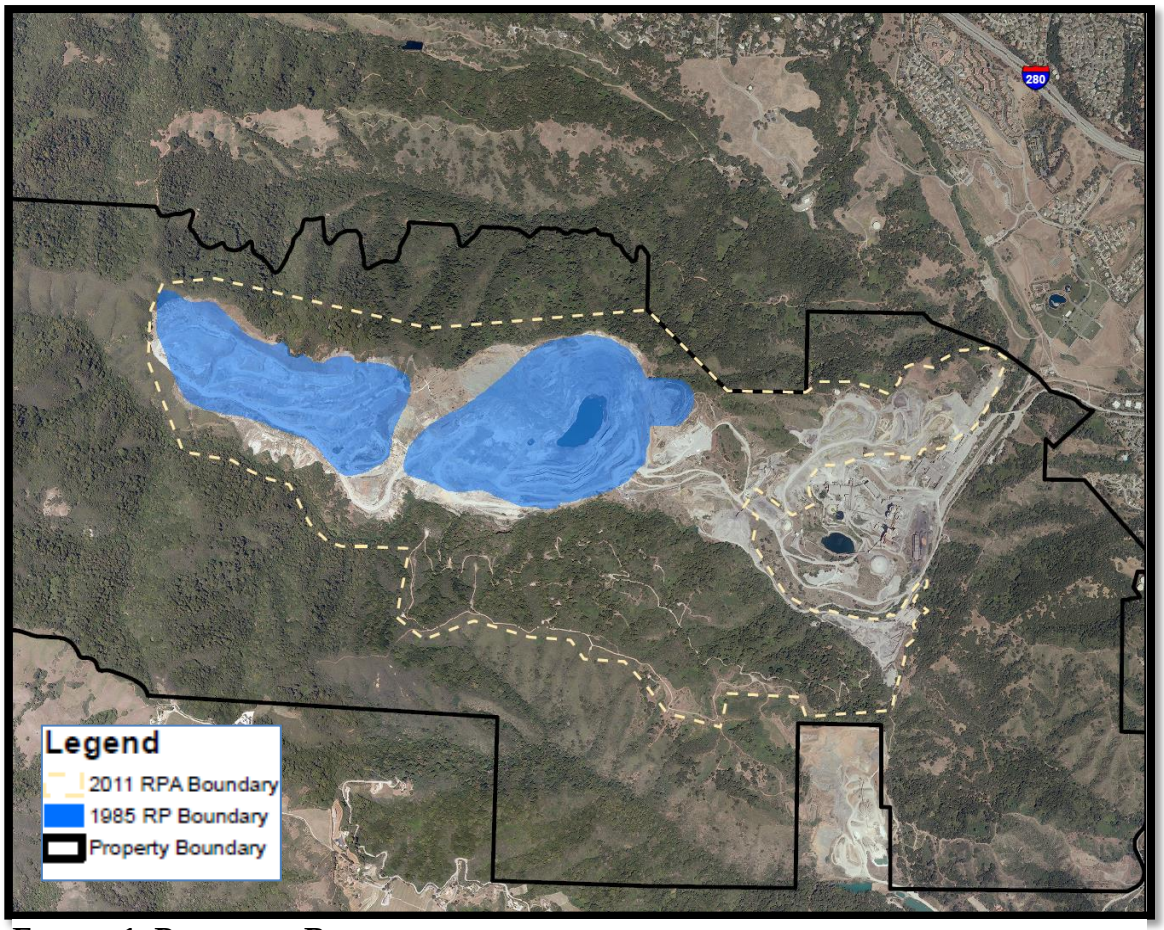

FIGURE 1: PROPERTY BOUNDARY

The 2012 Reclamation Plan Amendment (RPA) covers approximately 1,238.6 acres, includes the Main Pit, West Materials Storage Area (WMSA), EMSA, PCRA, Rock Plant, Rock Crusher and Support Area, and South Quarry Exploration Area and includes stockpiles, processing areas, roads, support features, and other facilities as shown on **Figure 2**. The 2012 RPA, Environmental Impact Report (EIR), and Mitigation Monitoring and Reporting Program (MMRP) were approved by the County Board of Supervisors on June 26, 2012. The 2012 RPA supersedes the 1985 Reclamation Plan and includes 89 conditions of approval (COAs), included as Appendix A of this report.

Neither the 1985 Reclamation Plan nor the current 2012 Reclamation Plan Amendment includes the existing cement plant located on the eastern portion of the site. The cement plant was, and continues to be, operated under a Use Permit originally issued on May 8, 1939, by the County that authorizes the "erection, construction and operation of a cement mill and the storage of cement…" The cement plant permit was issued consistent with 1937 zoning, under which commercial and manufacturing uses were allowed. The permit has no termination date. An August 23, 2007, letter from the Department of Conservation's Office of Mine Reclamation confirmed that the cement plant is not part of the Permanente mining operation.

The County Board of Supervisors made a determination, following a public hearing on February 8, 2011, that the quarry was a vested right on several of the quarry-owned parcels. The "vested" parcels include the parcels containing the Pit, the WMSA, the EMSA, and the access roads within the mine operation. As such, a use permit is not needed for these parcels from the County for ongoing mining operations. Current mining operations are contained within these vested parcels. However, in compliance with the SMARA, a Reclamation Plan is required for all areas affected by mining operations. The 2012 Reclamation Plan Amendment encompasses these areas of mining operations.

Reclamation Plan Amendment activities will be implemented in three phases over a 20-year period. Phase 1 would occur over approximately nine years and involves reclamation activities in the EMSA and South Exploration Area.

Phase 2 would occur over approximately five years 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 use as backfill of the Quarry Pit.

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

A complete copy of the 2012 Reclamation Plan Amendment and its associated EIR are available on the County's web site at:

http://www.sccgov.org

1.2 Annual Reporting Requirements

This 2015-2016 Annual Report is the fourth 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 2: QUARRY COMPONENTS

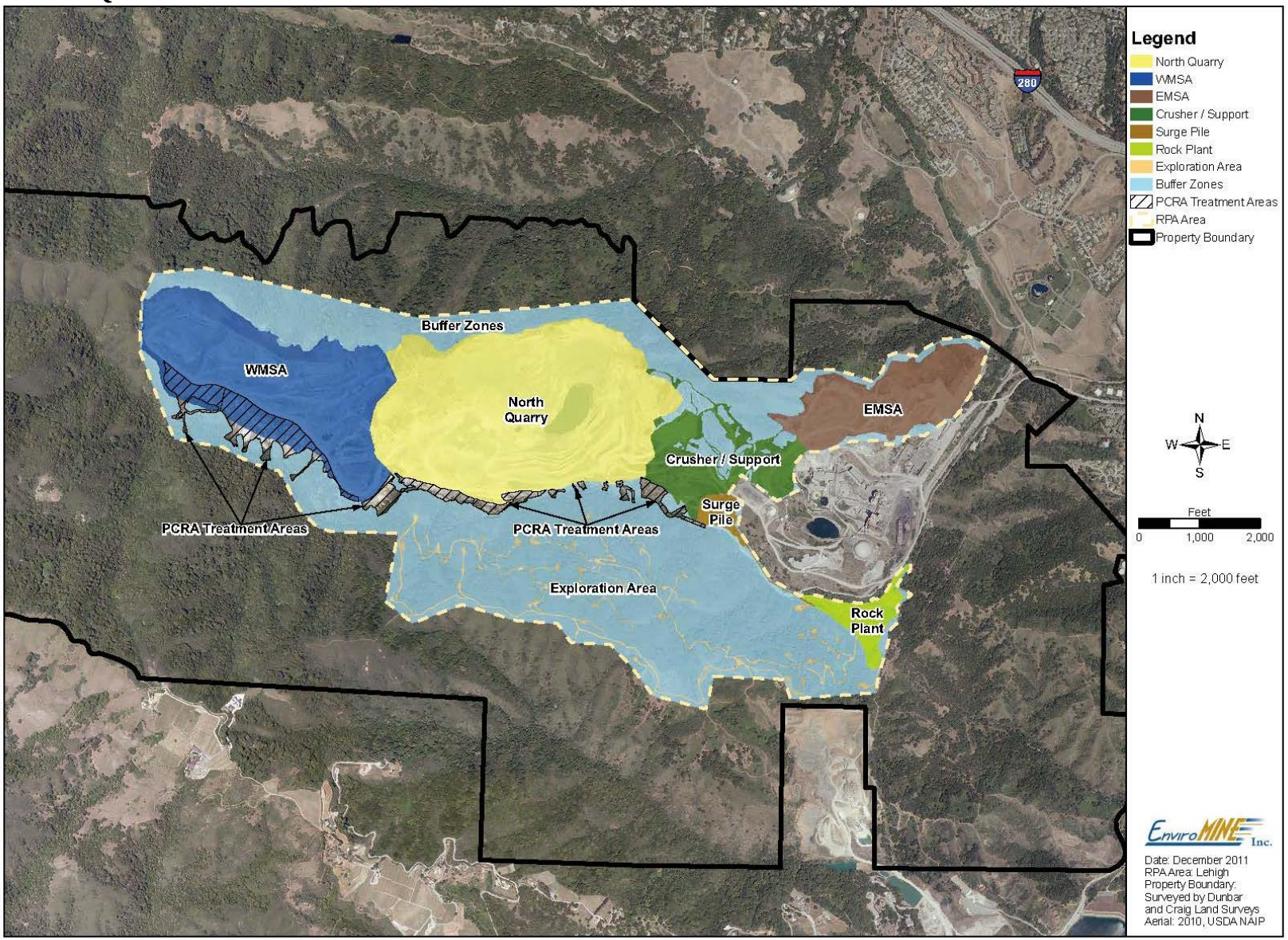

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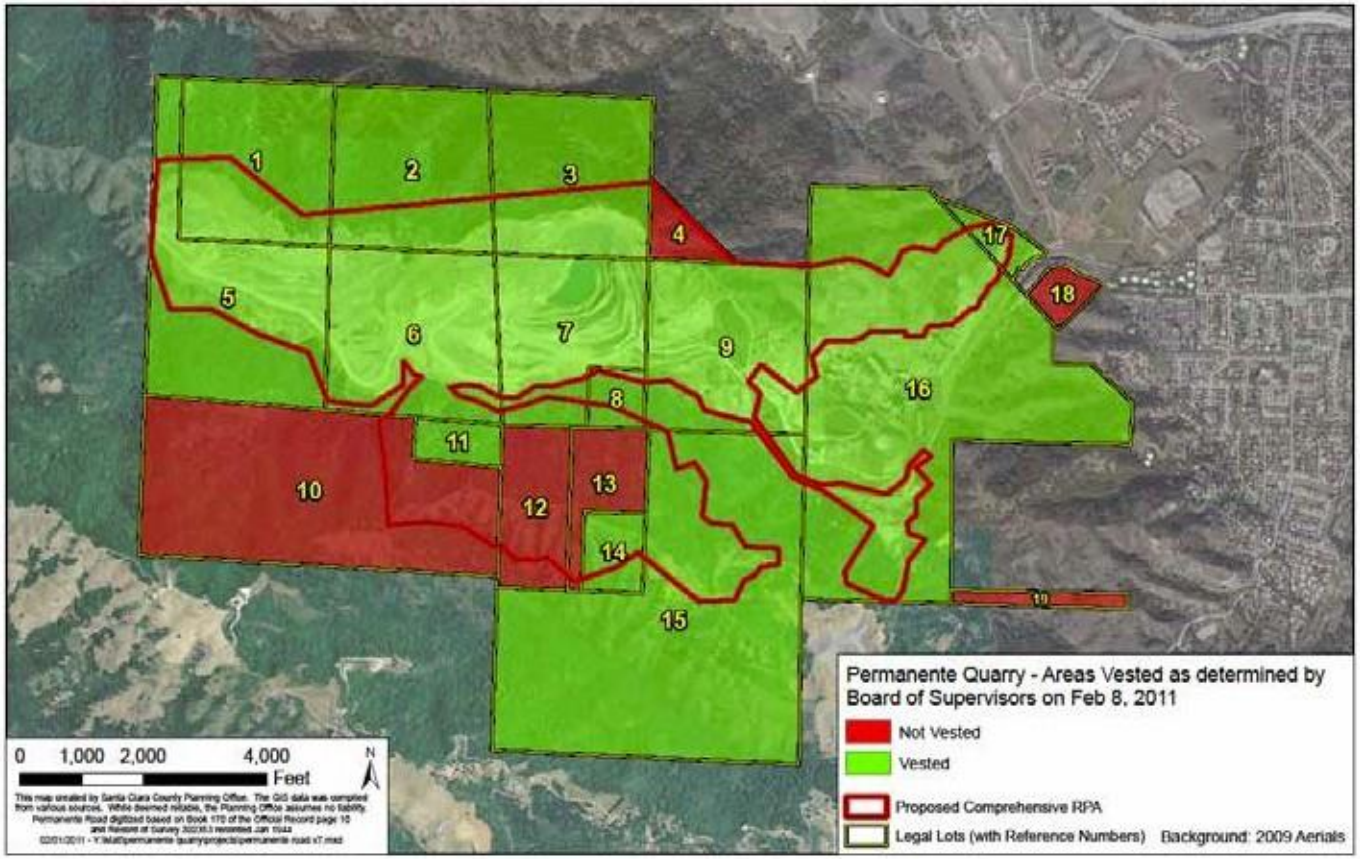
FIGURE 3: LEGAL NON-CONFORMING (VESTED) PARCELS



1.3 Abbreviations Used

AR4	fourth Lehigh Permanente Quarry RPA Annual Report
BMP	best management practice
COAs	conditions of approval
EIR	Environmental Impact Report
EMSA	East Materials Storage Area
FACE	Financial Assurance Cost Estimate
MMRP	Mitigation Monitoring and Reporting Program
msl	mean sea level
PCRA	Permanente Creek Restoration Area
Quarry	Lehigh Permanente Quarry
RPA	2012 Reclamation Plan Amendment
RWQCB	Regional Water Quality Control Board
SMARA	California Surface Mining and Reclamation Act
SWPPP	storm water pollution prevention plan
WMSA	West Materials Storage Area

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 County inspections, technical reports, and other reports submitted from Lehigh. The County inspection report is included as Appendix B to this report. The applicant's information package is included as Appendix C of the report.

Mining

The mine continued to be active during the past year. Changes in the topography of the site due to past, present, and future mining and reclamation activities are shown in **Figures 4 through 6**. **Figures 4a, 4b, and 4c** show the topography of the site as it appeared in June 2014. **Figures 5a, 5b, and 5c** show the site topography as of June 2016. **Figures 6a, 6b, and 6c** show the site topography as it is anticipated to look in June 2018.

A total of 669.2 acres of the Reclamation Plan's 1268.6 acres had active mining disturbances. The current quarry depth is approximately 510 feet above mean sea level (msl), which is approximately 70 feet above the anticipated final depth of 440 msl.

Processing

Quarry materials are processed at the Crusher/Support Area and Rock Plant. The crusher equipment that came online during the previous reporting period connects to the existing conveyer system and replaced prior crushers.

The Rock Plant was also active during the 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 2.5 horizontal (H):1.0 vertical (V). 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 2.0H:1.0V to 1.0H:1.0V.

Revegetation

The Revegetation Plan identifies 40 percent coverage of native tree and shrub habitat interspersed among the remainder native grasses. During the report period (July 1, 2015 to June 30, 2016), approximately 19 acres were hydroseeded using native seed mix combined with "hydromulch" consisting of mulch, fertilizers and tackifiers. The hillside seed mix was used, which consists of native grasses, forbs, subshrubs, and shrubs.

FIGURE 4A NORTH QUARRY JUNE 2014 TOPOGRAPHY

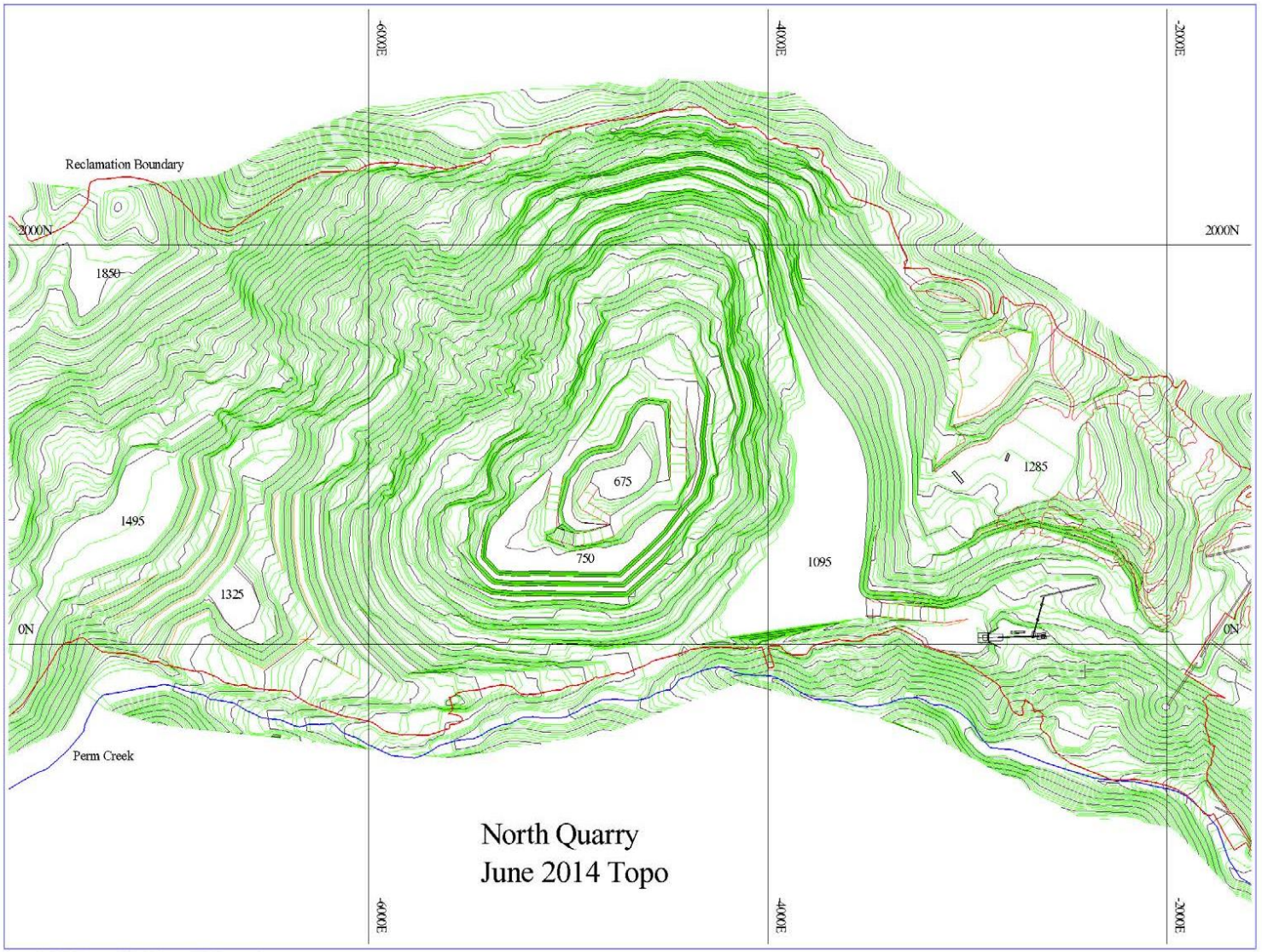


FIGURE 4B WMSA JUNE 2014 TOPOGRAPHY

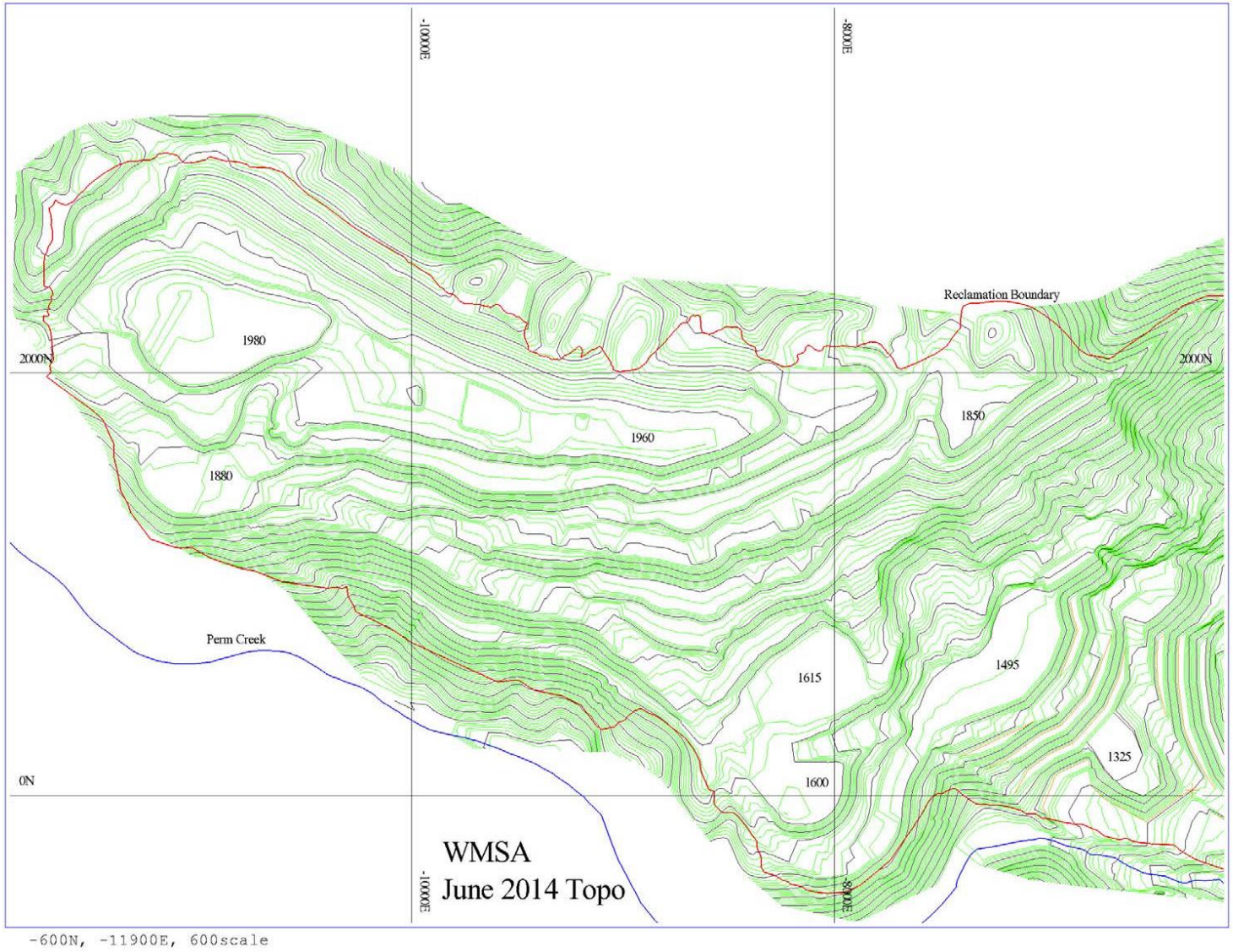


FIGURE 4C EMSA JUNE 2014 TOPOGRAPHY

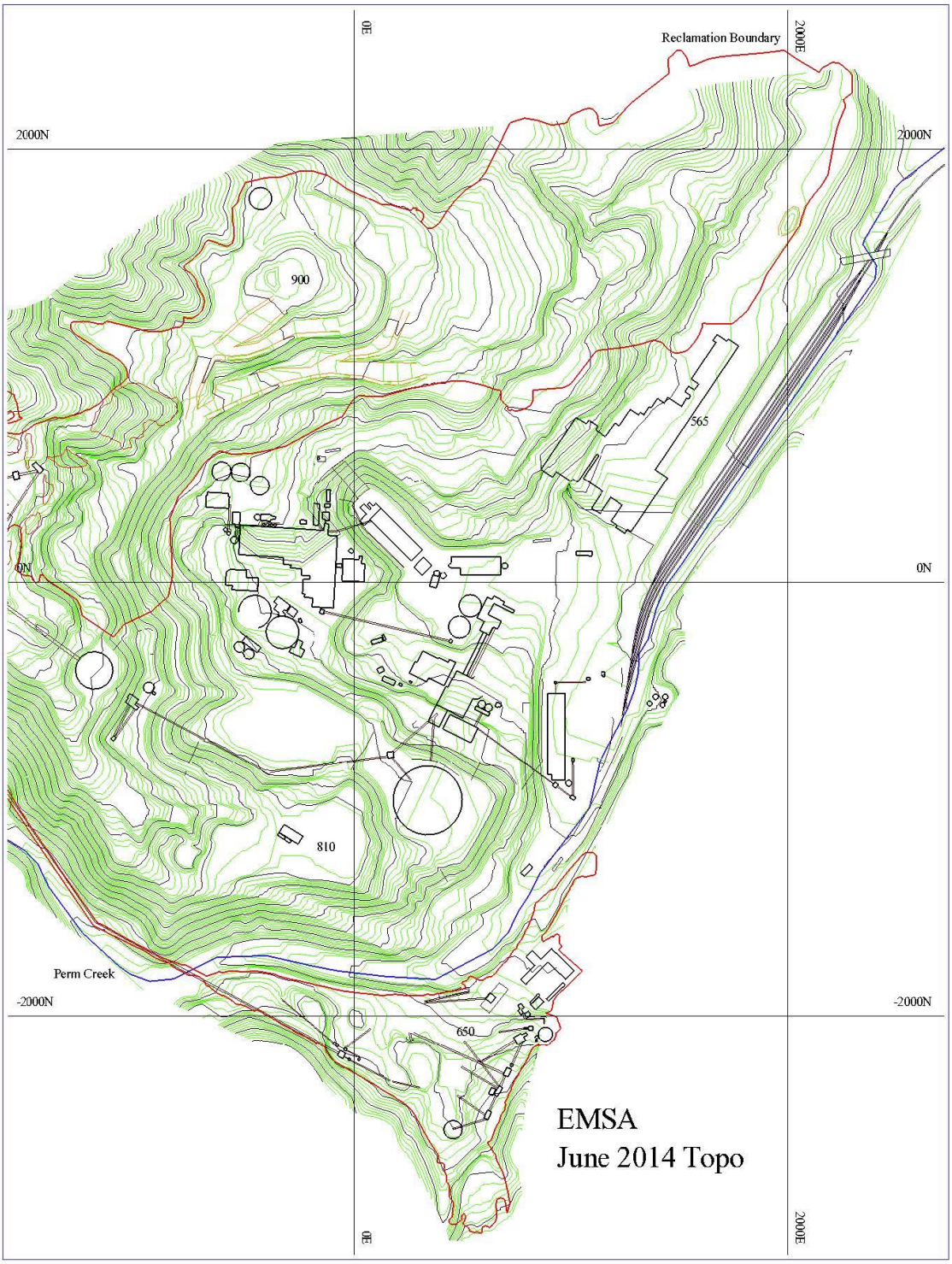


FIGURE 5A NORTH QUARRY JUNE 2016 TOPOGRAPHY

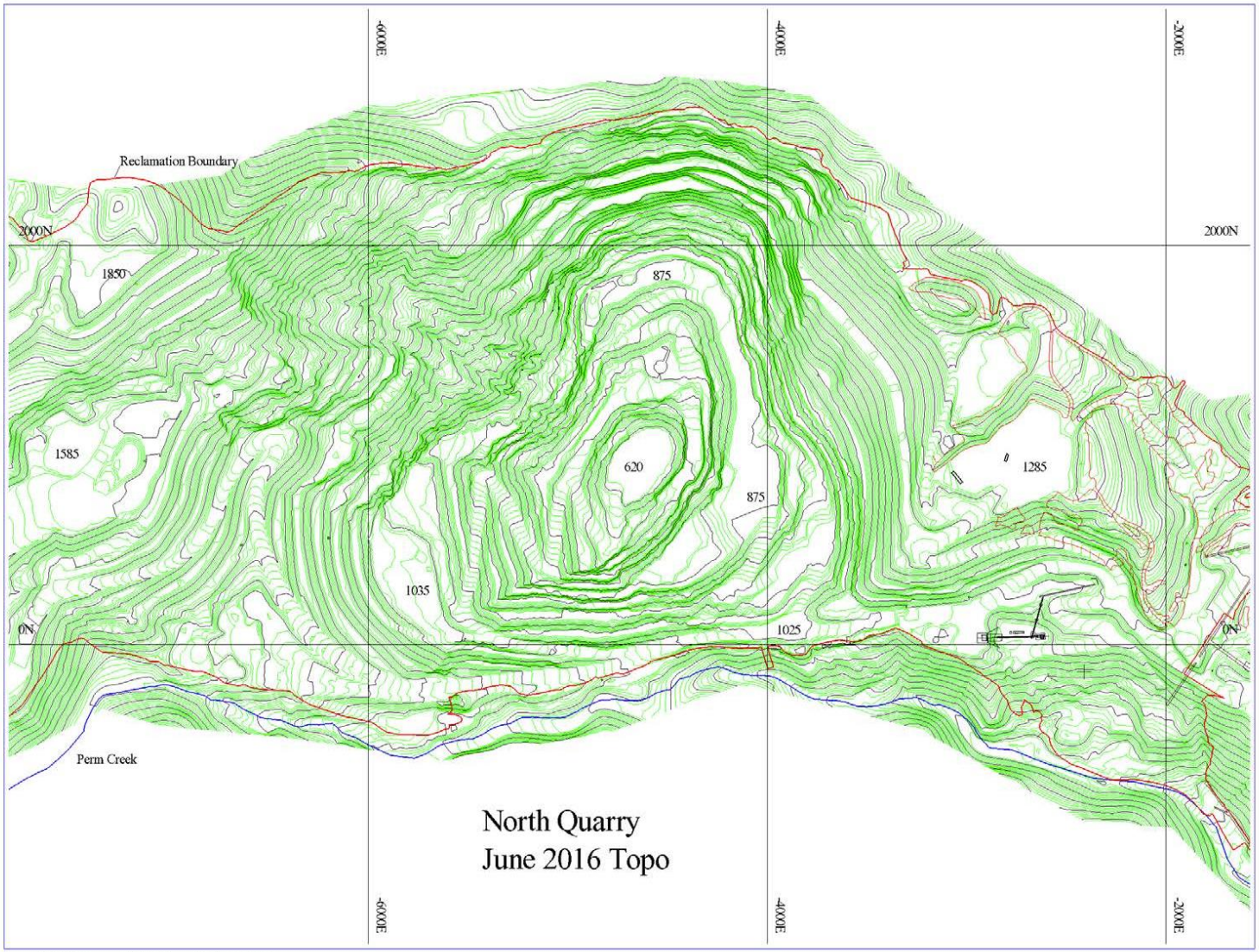


FIGURE 5B WMSA JUNE 2016 TOPOGRAPHY

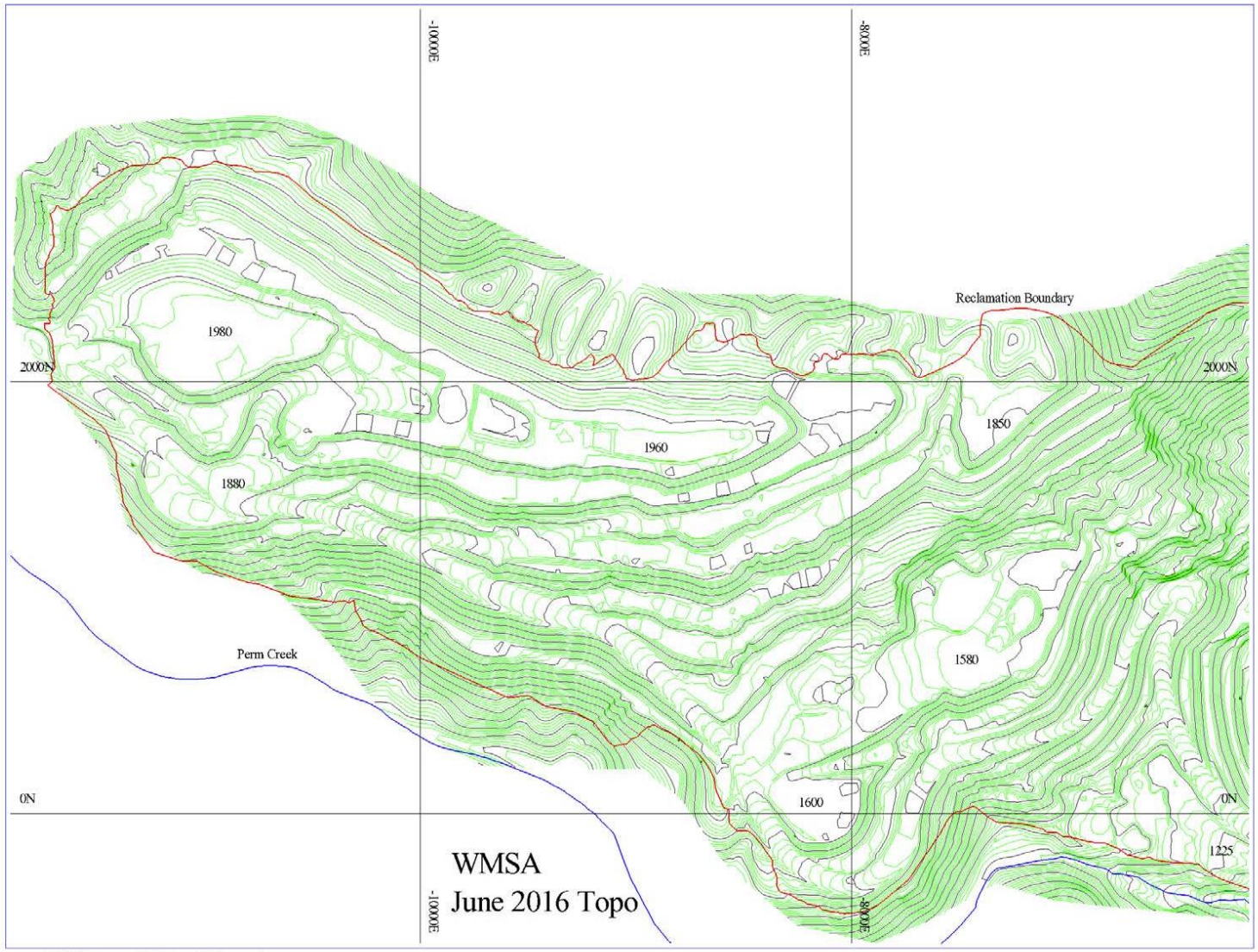


FIGURE 5C EMSA JUNE 2016 TOPOGRAPHY

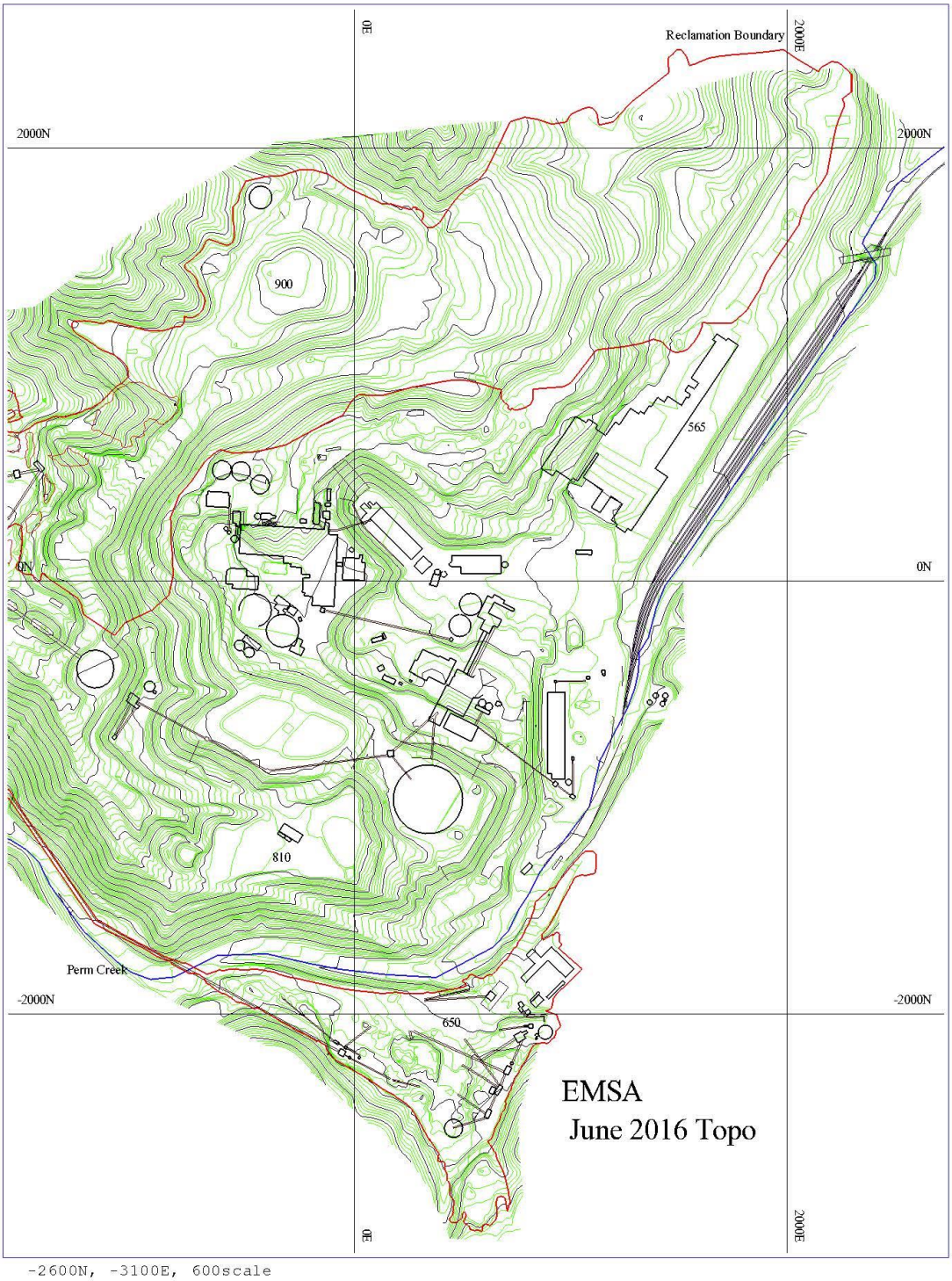


FIGURE 6A NORTH QUARRY JUNE 2018 TOPOGRAPHY

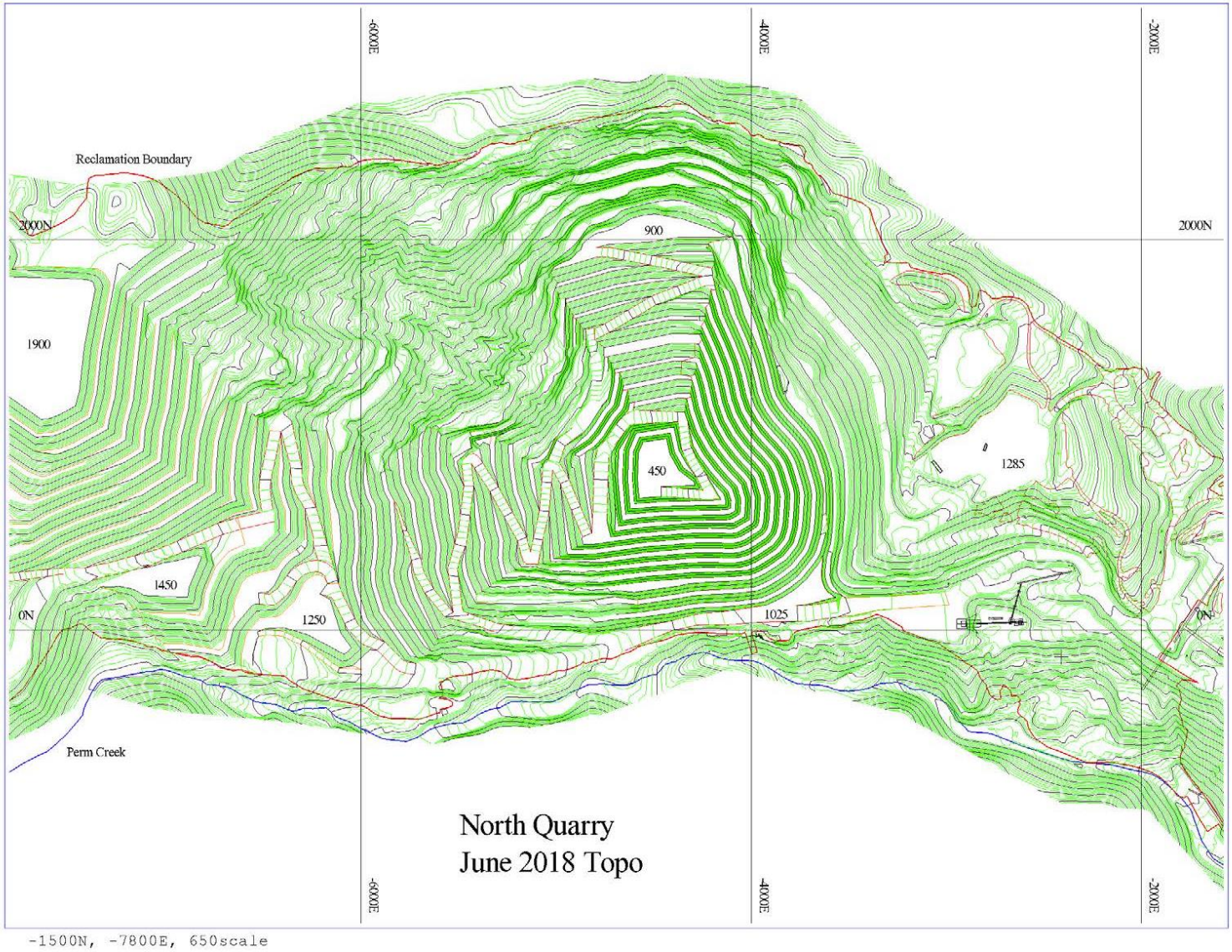


FIGURE 6B WMSA JUNE 2018 TOPOGRAPHY

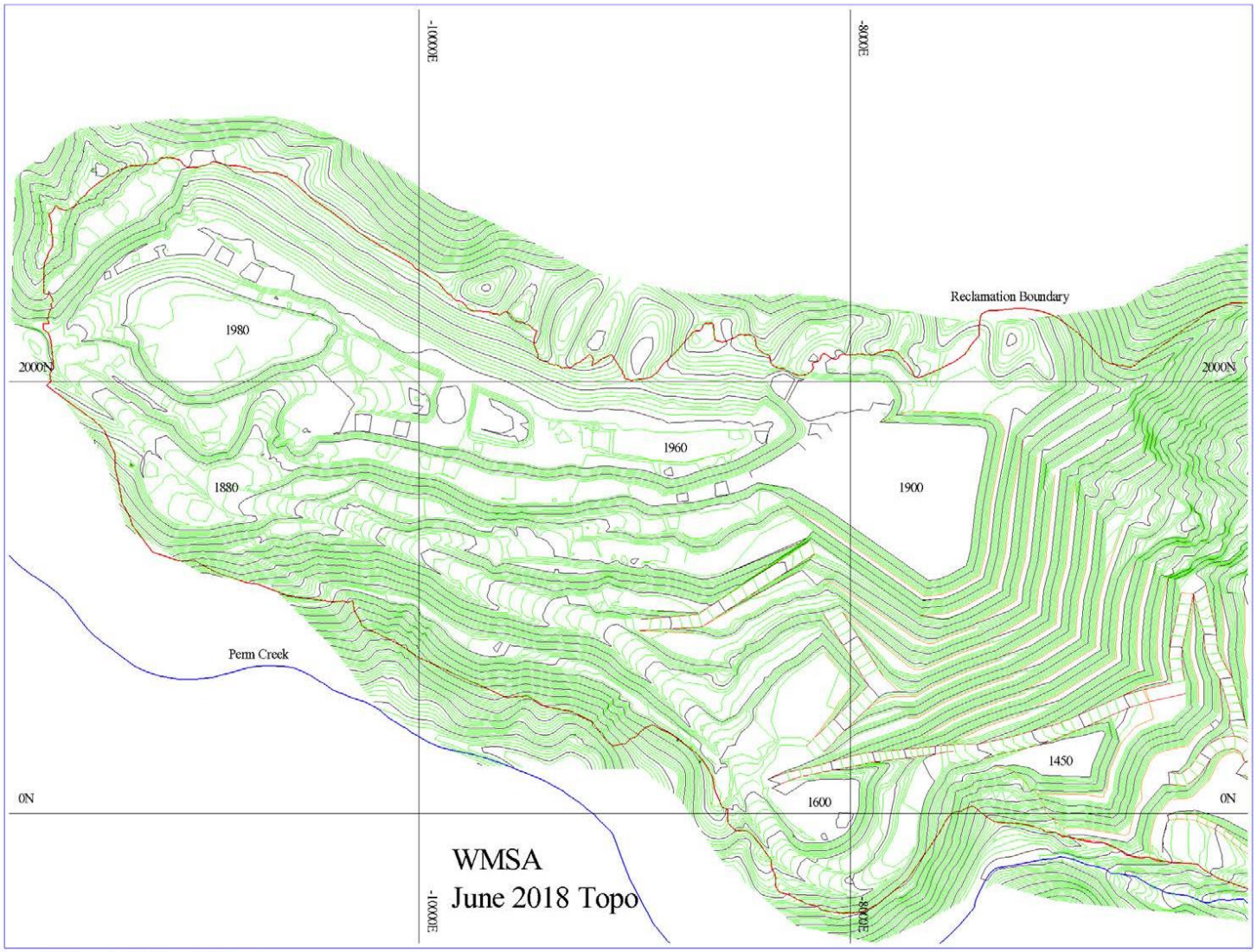
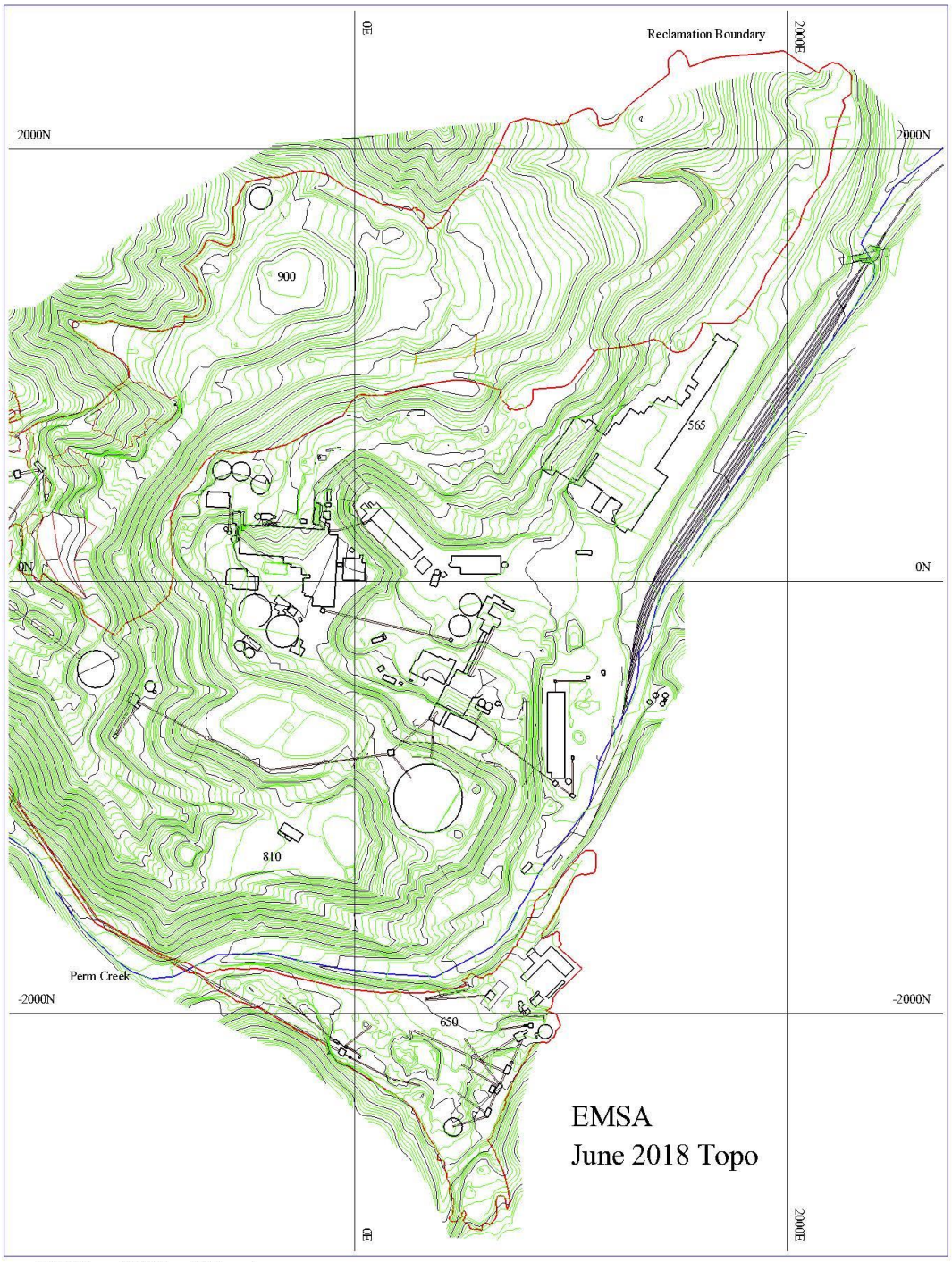


FIGURE 6C EMSA JUNE 2018 TOPOGRAPHY



2.2 Operations and Activities within Each RPA Area

North Quarry (Main Pit)

The bottom of the main pit is approximately 70 feet above the final depth to be reached at the end of mining. The highwalls on the north, east, and south are essentially complete (excavated benches); while the western side of the pit is still being actively mined (blasting and loading). Extraction of limestone was on-going in the main pit (mostly along the southwestern highwall). During the reporting period, no overburden placement occurred in the main pit. However, the County inspection occurred on August 11, 2016, outside of the reporting period. As noted by County staff, overburden materials were placed and compacted against the lower portion of the northwestern highwall. [See Photo 1 and Photo 2] Because the placement of overburden occurred after the current reporting period, it will be addressed in the next annual report.

Photo 1: North Quarry Main Pit (looking northwest)

Photo 2: North Quarry Main Pit (looking south)

West Material Storage Area

No new material was placed in the WMSA. The northeast-facing slopes of the WMSA have well-established vegetation (grasses and same shrubs). [See Photo 3 and Photo 4] Topsoil and organics are stored and covered in the central portion of the WMSA. [See Photo 5 and Photo 6] Most of the material stored in the WMSA will be moved and placed as backfill into the main quarry pit. Topsoil will be used to cover benches for plantings.

Photo 3: WMSA (looking east)

Photo 4: WMSA (looking north)

Photo 5: Topsoil stockpile

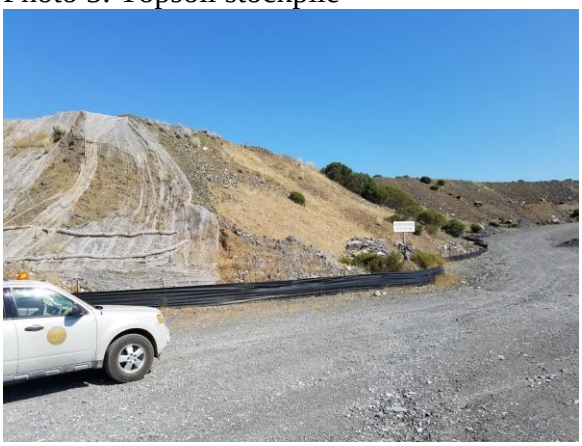


Photo 6: Sign for topsoil stockpile

East Material Storage Area

No new material was placed in the EMSA. The EMSA slopes were finish graded per the approved Reclamation Plan. The final elevations were achieved with non-limestone cover. Best management practices (BMPs) were placed on the slopes (wattles) and along the benches (rock check dams and silt fences). [See Photo 7 and Photo 8] Surface drainage is directed into Pond 30 which is rock-lined with non-limestone rock. [See Photo 9] It discharges through a pipe that outlets onto a rock apron adjacent to the creek. Further refinement of the cover and drainage facilities are anticipated to address selenium issues.

Photo 7: Southern slopes of EMSA (looking east)

Photo 8: EMSA bench with silt fence (looking west)

Photo 9: Pond 30

Crusher/Support Area

The crusher was constructed in 2013 against a 70-foot high retaining wall. Drainage from around the crusher is directed into a sump which overflowed due to a power failure in 2014. As a result, an erosion gulley formed on the steep slope west of the crusher. The operator lined the gully with jute netting and several silt fences. [See Photo 10] Eroded material accumulated at the toe of the slope and extended into the eastern side of pond in PCRA. [See Photo 11] The operator installed a soil-nail wall in the head of the erosion gully located downhill of the sump. [See Photo 12] The crusher and conveyor will be removed prior to final reclamation. The tunnel through which the conveyor travels will need to be filled and sealed. Wildlife protection procedures (outlined in the RPA and COAs) must be followed when the tunnel is backfilled.

Photo 10: Jute netting lined erosion gully below crusher sump

Photo 11: Sediment in side of pond in PCRA

Photo 12: Soil-nail wall in erosion scar below crusher sump

Surge Pile

The surge pile was reduced significantly since last year's inspection. [See Photo 13] Sediment that erodes from the surge pile is detained in ponds and by check dams along the roadway. [See Photo 14] During final reclamation, the surge pile will be removed and the underlying creek channel will be restored during the Creek Restoration work that has not yet been approved.

Photo 13: Surge Pile

Photo 14: Rock check dam on road below Surge Pile

Photo 15: Pond 17 for runoff from the Rock Plant

Rock Plant

The rock plant was not in operation during the inspection. There are numerous stock piles and equipment in the rock plant area. Runoff from the rock plant is directed into Pond 17. [See Photo 15]

South Quarry Exploration Area

Located southwest of Permanente Creek, the area was disturbed by excavation of drilling pad and associated roads to evaluate the mineral resources in that area. However, the quarry operator withdrew the application to expand the mine into that area and has allowed the natural vegetation to reestablish. During the past six years, the growth of grasses and brush appears to have mitigated the previous ground disturbances. Eventually, a ground survey will be needed to confirm the adequacy of the revegetation to meet the performance standard in the RPA prior to the County granting reclamation "closure" of the area.

Permanente Creek Restoration Area

Plans for restoration of Permanente Creek adjacent to the mine are still in review by several regulatory agencies. Once the plans have been approved, the financial assurance cost

estimate (FACE) will be revised to reflect the costs of implementing the "construction" described in the plan. For now, the County considers the area to be in compliance with SMARA pending the outcome of agency reviews.

Buffer Areas

The undisturbed areas around the active mine are intended to protect the quarry from encroachments by other land uses and to protect nearby land uses from adverse effects of the mining. At the time of our inspection, the Buffer Areas appeared undisturbed and providing the buffer effect intended.

2.3 Compliance Inspections

SMARA Compliance

The annual SMARA inspection occurred on August 11, 2016 and was conducted by James Baker, County Geologist. The 2016 inspection concluded that that the quarry is in compliance with the 2012 Reclamation Plan Conditions of Approval and MMRP. The inspection report is included as Appendix B to this report.

BMP Inspections

COA 78 requires regular inspections of all stormwater and erosion controls. Detailed information regarding the inspections and their findings are included in Appendix C to this report.

Monthly Site Visits

From July 2015 through June 2016, biologists inspected the site to check on the adequacy of stormwater BMPs. Inspections were performed once per month during dry months, with multiple inspections occurring during wet months. The results of these inspections are detailed in monthly memos included in Appendix C to this report.

2.4 Financial Assurances

On July 27, 2016, Lehigh submitted to the County a revised FACE. The 2016 FACE calculated the total cost for reclamation to be $53,854,896, which represents a reduction of $746,878. The proposed 2016 FACE is pending review by the County.

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3.1 Current COA Compliance Status

The County Board of Supervisors approved the 2012 Permanente 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 measures identified in the environmental impact report (EIR).

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 - COAs 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. The mine operator, Lehigh, meets these general requirements. Activities during the current reporting year include:

COA 8 requires the mine operator to provide an information package regarding compliance activities and information for the reporting period. Lehigh provided its documentation to the County on October 1, 2016, as required by COA 8. The Lehigh submittal is included as Appendix C of this report.

COA 11 requires the mine operator to provide worker training on the requirements and provisions of the RPA, the COAs, and the MMRP. Lehigh provided worker training in August and September 2015. Documentation regarding the training is included in Appendix C of this report.

COA 12 requires the mine operator to provide updates to the County regarding its storm water pollution prevention plan (SWPPP). The SWPPP was updated as of June 15, 2016. A copy of the updated SWPPP is included within Appendix C of this report.

COA 14 requires the mine operator to submit a Financial Assurance Cost Estimate (FACE) each year. The FACE was submitted to the County Planning Manager on August 1, 2016. Documentation regarding the FACE is included in Appendix C of this report.

Other Agencies/Jurisdictions – COA 15

COA15 This condition requires the mine operator to submit documentation regarding violations or abatement notices from other agencies/jurisdictions. There were no notices issued during the reporting period.

Severability – COAs 16-17

There are no changes or issues to report.

Duty to Defend and Indemnify – COAs 18-21

There are no changes or issues to report.

Reclamation Requirements – COAs 22-37

COA 22 requires that the northern and eastern boundaries of the WMSA and the EMSA be clearly demarcated. This activity was completed and documented in AR1. The boundaries have been maintained, and further discussion regarding this requirement can be found in Appendix C to this report.

COA 23 requires the mine operator to survey the limits of reclamation along with aerial photos every two years, and anticipated mining and reclamation activity for the next two years. Aerial photos were flown on June 15, 2015. Additional details regarding compliance with this condition can be found in Appendix C of this report.

COA 24 requires reclamation of finished slopes and benches be commenced and completed at the earliest feasible date. As discussed in Appendix C of this report, no slopes or benches were finished during the reporting

period (finished slopes for EMSA were completed in 2015) and no reclamation activities were required.

COA 25 provides specific requirements for permanent rockfills. As discussed in Appendix C of this report, no rockfills were required during the reporting period.

COAs 26 and 27 require mapping identifying stockpile locations of topsoil, dirt, and soil amendments, and that protection measures be implemented. Stockpile mapping is included in Appendix C to this report, and depicts current locations of these materials as well as stockpiles of limestone and overburden.

COA 31 requires the removal of equipment, structures, and nonessential road from the project area prior to the area being deemed reclaimed. Final reclamation did not begin during the reporting period, so no equipment, structures, or nonessential roads have been removed.

COA 32 provides specific requirements for placement and testing of overburden. No overburden placement occurred during the reporting period, so testing is not required.

COA 33 requires the quarry basins be maintained in good condition and cleaned as necessary. Sedimentation basins are routinely inspected and cleaned of vegetation and sediment when necessary to maintain good condition and proper function. No sediment basins required cleanout during this reporting period. Additional documentation regarding stormwater and erosion controls can be found in Appendix C of this report.

COA 37 requires the mine operator to provide all new or amended permits from the Santa Clara County Department of Environmental Health to the Planning Manager. Copies of all permits issued by the SCC Department of Environmental Health were provided to the Planning Manager on August 10, 2016.

Permanente Creek Restoration Area - COAs 38-41

There were no relevant activities during the reporting period.

Environmental Conditions and EIR Mitigation Measures – COAs 42-67

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

No activities requiring biological resource surveys were conducted during the reporting period. No regulated or restricted plant materials were transported into or out of the project area during the reporting period.

Cultural Resources

Lehigh is in the process of documenting the historical features of the Kaiser Permanente Quarry Mining District. The documentation is expected to be included in the 2016-2017 Annual Report. No cultural resources, paleontological resources, or human remains were encountered during the reporting period.

Geology and Soils

There are no changes or issues to report.

Greenhouse Gas Emissions (GHG)

COA 71 requires the mine operator to provide an annual report of GHG emissions. The annual inventory is included in Appendix C of this 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. Final reclamation did not begin during the reporting period. Lehigh is documenting that non-limestone overburden

is being placed in the EMSA and upon final placement and refinements, this requirement will be satisfied.

COA 76 requires quarry pit water monitoring as applicable to reclamation activities. Appendix C includes materials that provide a summary of compliance for this condition.

From July 1, 2015 through June 30, 2016, representative samples were collected 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 included in Appendix C to this report. The results also include discharge data from Ponds 17 and 30 from July 1, 2015 through June 30, 2016. Pond 13b did not discharge during the reporting period.

COA 78 requires implementation of stormwater and sediment management controls as well as general BMPs. Appendix C of this report includes the Stormwater and Erosion Control Report and the Wet Season Erosion Control Inspection Reports.

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 through a pilot study.

In accordance with the 2012 RPA conditions, water quality testing was performed during the AR1 (2012-2013), AR2 (2013-2014), and AR3 (2014-2015) reporting periods. During these periods, EMSA selenium levels exceeded the Basin Standard. The Planning Commission on November 20, 2014 determined that the stormwater discharged from the EMSA area during interim reclamation did not meet water quality standards, effectively recognizing that the BMPs were not effective.

In spring 2015, Lehigh notified the County of their intent to begin final reclamation of the EMSA area, including installation of a non-limestone cover, consistent with the final RPA. The cover was installed, and stormwater testing continued during the 2015-2016 winter rain season. Stormwater sampling at several locations showed that stormwater in some drainage areas met water quality standards, while other areas exceeded the standards.

On May 27, 2016, Lehigh submitted a technical report (Golder Associates, May 27, 2016 ["May 27 Golder Report]) that concluded that elevated concentrations of selenium are only measured in areas along the toe of the EMSA slope, indicating that stormwater is percolating through the non-limestone cover, interfacing with the limestone within the EMSA, and then emanating from the seeps at the toe of the EMSA. The May 27 Golder Report also recommended several measures to capture and treat stormwater from the EMSA based on these circumstances.

On July 11, 2016, Lehigh submitted a supplemental report from Golder ("July 11 Golder Report) that included additional details regarding the stormwater improvement measures. The two Golder reports were peer reviewed by the County's third-party consultant, Peter Hudson of Sutro Science. In a July 19, 2016 memo, Sutro concurred that the proposed installation of a French drain and lining of Pond 30 would improve management and control of selenium in stormwater runoff from the EMSA area. The two Golder reports and the Sutro Science memo are included as attachments to the July 28, 2016 staff report, which is included as Appendix D to this report.

In light of the Golder reports and Sutro Science memo, County staff recommended that the Planning Commission continue the public hearing to April 2017 to evaluate further the feasibility of alternatives to treat selenium in stormwater discharged from the EMSA area

(see Appendix D of this report). The Planning Commission voted to continue the item to April 2017 (see Appendix E of this report).

Noise

There are no changes or issues to report.

EMSA Equipment Operation

There are no changes or issues to report.

3.2 Other Topics

San Francisco Bay Regional Water Quality Control Board Activities

The operator continues to work with the Regional Water Quality Control Board (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.

As discussed in the July 28, 2016 staff report (Appendix D), RWQCB staff has participated in meetings with County and Lehigh staff, and will continue to monitor both groundwater and stormwater at the project site.

3.3 SMARA Compliance Status

The annual SMARA inspection for this reporting period occurred on August 11, 2016. The inspection report is included in Appendix B. The inspection confirmed no SMARA violations. The report was submitted to Office of Mine Reclamation on September 23, 2016. Lehigh is in compliance with SMARA regulations, Reclamation Plan Conditions of Approval, and the MMRP.

3.4 FACE Review

On July 27, 2016, Lehigh submitted to the County a revised FACE. The 2016 FACE calculated the total cost for reclamation to be $53,854,896, which represents a reduction of $746,878 from 2015. The proposed 2016 FACE is pending review by the County.

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

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Ascent Environmental

Patrick Angell, AICP, Project Director

Cori Resha, Environmental Planner

Lisa Merry, GIS Specialist

Corey Alling, Graphics Designer

Gayiety Lane, Document Production

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

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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.

90.

State of California
DEPARTMENT OF CONSERVATION
OFFICE OF MINE RECLAMATION
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SURFACE MINING INSPECTION REPORT

(See reverse side of each form page for completion instructions)

I. Mine Name (As Shown on Approved Reclamation Plan)	Inspection Date:	CA MINE ID#
Permanente Quarry (aka Lehigh Quarry)	8-11-2016	91- 43-004

II. Mine Operator		Telephone
Lehigh Hanson, Inc.		(408) 996-4269 - office
Onsite Contact Person		**Telephone**
Sam Barket - Area Environmental Manager		(408) 202-7534 - cell
Mailing Address		
24001 Stevens Creek Blvd.		
City	**State**	**ZIP Code**
Cupertino	CA	95014
E-mail Address (optional)		
sam.barket@lehighhanson.com		

III. Designated Agent		Telephone
Greg Knapp		(925) 244-6570
Mailing Address		
12667 Alcosta Blvd., Suite 400, Bishop Ranch 15		
City	**State**	**ZIP Code**
San Ramon	CA	94583
E-mail Address (optional)		
greg.knapp@hanson.com		

IV. SMARA Lead Agency Name (City, County, BCDC, or SMGB)		
Santa Clara County		
Inspector		**Telephone**
James Baker (Geologist)		(408) 299-5774
Title	**Organization**	
Engineering Geologist	Department of Planning and Development	
Mailing Address		
70 West Hedding Street, East Wing, 7th Floor		
City	**State**	**ZIP Code**
San Jose	CA	95110
E-mail Address (optional)		
jim.baker@pln.sccgov.org		

V. Does the operation have:	P	NR	No	Yes
A Permit to Mine	☐	☐	☑	Permit # - Start and Expiration Dates: vested
Vested Right to Mine	☑	☒	☐	Year of Lead Agency determination: 2011 (exploration in 1935)
A Reclamation Plan	☑	☒	☐	RP# 2250-13-66-84P Date Approved March 1985
Reclamation Plan Amendment	☑	☒	☐	RP Amendment # (as applies): 2250-13-66-10P (M1) Date Approved or Status of Amendment: June 26, 2012

Has the Operator filed a Mining Operation Annual Report (Form MRRC-2) this Year? Check One: ☑Yes ☐No **Year of Most Recent File Annual Report:** 2016

VI. Is this Operation on Federal Land? Check One: ☐Yes ☑No
If "Yes," Provide One or Both of the Federal Mine Land Identification Numbers Below:

California Mining Claim Number (CAMC#):	Latitude/Longitude at Mine Entrance (Decimal Degrees):
NA	lat 37.321034 , lon -122.086118
U.S. Forest Service or BLM Identification Number (Plan of Operations #) :	**Status of Plan of Operations (Current/Expired/In Process):**
NA	NA

Attachment: Attachment A (84182 : Lehigh Status Report 2250)

INSTRUCTIONS FOR COMPLETING SURFACE MINING INSPECTION REPORT

Form MRRC-1 (4/97) Page 1 (Rev. 07/13)

This report is intended to comply with the requirements of California's Surface Mining and Reclamation Act (SMARA – Public Resources Code Sections §§ 2710 et seq., and the associated California Code of Regulations found in Title 14, division 2, beginning at § 3500, hereinafter respectively "PRC" or "CCR") and specifically PRC § 2774(b) and CCR § 3504.5 for operations located on private land and/or partly or solely on Bureau of Land Management (BLM) and U.S. Forest Service (USFS) lands (Title 43, parts 3500, 3600, and 3800 of the Code of Federal Regulations). A Memorandum of Understanding between the U.S Department of Interior, BLM; U.S. Department of Agriculture, USFS; the State of California, Department of Conservation; and the State Mining and Geology Board (SMGB), discusses implementation of SMARA on Federal lands in California that are under the jurisdiction of the BLM and/or the USFS.

As required by PRC § 2774(b) and CCR § 3504.5(g), Lead Agencies shall file an Inspection Notice that includes a statement regarding compliance with SMARA, a copy of this Surface Mining Inspection Report (MRRC-1) and any other supporting documentation with the Department within 30 days of completion of the inspection. The Lead Agency shall also forward a copy of the Inspection Notice, MRRC-1, and any supporting documentation to the operator.

BLOCK I: Enter the name of the Mining Operation, the date of the inspection, and the California Mine ID number.

BLOCK II: Enter the name of the Mine Operator, mailing address, phone number, name, and email address (optional) of the person to serve as the onsite contact.

BLOCK III: Enter the name, mailing address, phone number, and email (optional) of the Designated Agent who, under PRC § 2772(c)(1) and 2207(a)(1), will serve as a contact for any follow-up correspondence or discussions regarding the inspection or noted violations.

BLOCK IV: For "Lead Agency," enter the name of the certified SMARA Lead Agency that is conducting this inspection. Acceptable entries include the name of the city, county, Bay Conservation and Development Commission (BCDC), or State Mining and Geology Board (SMGB). For "Organization," enter the name of the agency, firm or other organization that employs the inspector.

BLOCK V: Check the appropriate boxes.

P	Pending (on appeal or awaiting approval by Lead Agency)
NR, No, Yes	Not required for this operation at the time this inspection was completed
	No
	Yes, supply information

Note: Where appropriate, to aid in determining when the lead agency recognized that the operation has vested mining rights, inspectors are advised to review older agency correspondence, minutes of lead agency hearings, including agendas and staff reports associated with approvals of any kind related to the mining operation.

BLOCK VI: Indicate if the operation is on federal Land; if operation is on federal land, include a California Mining Claim Number and/or a BLM/USFS Identification Number and Plan of Operations Number, if applicable. Give the status of the BLM/USFS Plan of Operations, as indicated. Give the latitude and longitude at the mine entrance in decimal degrees.

DISTRIBUTION INSTRUCTIONS:

One copy of the inspection notice and this completed Inspection Report (all pages) shall be given to the Mine Operator and the operator's designated agent by the lead agency (PRC Section 7374(b).

The Lead Agency must retain the original copy of this Inspection Report and submit one copy of this Inspection Report, along with an original inspection report notice (PRC Subsection 2774(b)), within 30-days of the completion of the inspection, to:

Department of Conservation
Office of Mine Reclamation
801 K St MS 09-06 Sacramento, CA 95814-3529

If any part of the operation inspected is on BLM or USFS land, one copy of this Inspection Report should be forwarded to the appropriate BLM or USFS office.

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SURFACE MINING INSPECTION REPORT

VII. Financial Assurance		Inspection Date: 8-11-2016	CA MINE ID#: 91- 43-004	
Type of Financial Assurance Mechanism(s)	**Financial Assurance Mechanism Number(s)**	**Amount of Mechanism**	**Date of Expiration**	**Date of Lead Agency Approval of Mechanism**
5 bonds posted: 1&2. Travelers Casualty & Surety Company 3. Liberty Mutual Insurance Company 4. Lexon Insurance Company 5. Fidelity & Deposit Company Bond	5 bonds posted: 1. Bond #64S104790142BCM 2. Bond #280331 3, Bond #022033624 4. Bond #1066515 5. Bond #09054091	1. $7,570,047. 2. $ 540,001. 3.$18,963,259. 4. $1,691,220. 5.$25,958,768.	1. none 2. none 3. none 4. none 5. non4	1. 10-19-2007 2. 08-18-2010 3. 02-03-2012 4. 01-28-2011 5. 04-28-2014
	Total Amount of Mechanism(s)	$54.723.295.		

☐ **Financial Assurance Mechanism Pending Review by Lead Agency? If yes, provide date submitted/explanation and amount of pending mechanism:**

Has there been a change of operator since last inspection? If yes provide the date of notice.	**If yes, has the new operator posted a Financial Assurance Mechanism?**	**Does new operator's Notice of Change include a statement of responsibility for reclamation?**
☐Yes ☑No Date of Change: NA	☐Yes ☐No If not, describe status of new operators Financial Assurance Mechanism: NA	☐Yes ☐No

Date and Amount of Most Recent Approved Financial Assurance Cost Estimate:	**Date:** August, 2014 **Amount:** $54,601,774.
■ **Financial Assurance Cost Estimate Pending Review with Lead Agency?**	**Date Submitted/Explanation/Amount of pending estimate:** 7-27-2016 $53,854,896 (proposed reduction of $746,878. pending review by County)
☐ **Financial Assurance Cost Estimate Appealed by Operator?**	**Date Submitted to State Mining and Geology Board or Lead Agency for Appeal/Explanation:** NA
☐ **Other?**	NA

INSTRUCTIONS FOR COMPLETING SURFACE MINING INSPECTION REPORT

BLOCK VII: Type of Financial Assurance Mechanism(s): Fill in the type of mechanism(s) that are on file. PRC § 3803 and SMGB Financial Assurance Guideline number 10 describe Surety Bonds, Trust Funds, or Irrevocable Letters of Credit as acceptable financial assurance mechanisms for non-governmental entity operators. For surface mining operations owned and operated by state and local government entities, Surety Bonds, Trust Funds, Irrevocable Letters of Credit, Pledges of Revenue, and Budget Set Aside are acceptable financial assurance mechanisms.

State the Financial Assurance Mechanism(s) document number(s). State the dollar amount of each Financial Assurance Mechanism(s) currently on file. State the date of expiration of the Financial Assurance Mechanism(s) currently on file. State the date of approval for the most recent lead agency approved Financial Assurance Mechanism(s) on file. State the total dollar amount of mechanisms held for reclamation.

Indicate if any Financial Assurance Mechanisms are pending review by the lead agency and the date and amount of submittal to the lead agency.

Indicate if there has been a change of operator of record since the last inspection and, if so, note the date the change occurred and whether the new operator has signed any document acknowledging reclamation responsibility under the approved reclamation plan and if the new operator has posted a Financial Assurance Mechanism. If a replacement Financial Assurance Mechanism has not been posted, indicate the status of the new operator's replacement Financial Assurance Mechanism. Per PRC § 2773.1(c) and Guideline number 19 of the SMGB's Financial Assurance Guidelines, when operatorship is transferred, "the original financial assurance must remain in effect until the lead agency has approved, following department review, the replacement assurances provided by the successor operator."

The Financial Assurance amount must be adjusted and approved annually to account for new lands disturbed by surface mining operations and lands to be disturbed in coming year, inflation, and reclamation of lands accomplished in accordance with the approved Reclamation Plan (PRC § 2773.1(a)(3) and SMGB Financial Assurance Guideline #16). In order to determine what adjustments, if any, are appropriate to the Financial Assurance Mechanism amount, each mine operator must submit annually a revision of the written Financial Assurance Cost Estimate to the Lead Agency (PRC § 3804(c)). Provide the date of the operator's most recent revision of the Financial Assurance Cost Estimate to the Lead Agency and where appropriate, provide a status of the pending Financial Assurance Cost Estimate. Provide the date and amount of the most recently approved Financial Assurance Cost Estimate.

Also indicate if the Financial Assurance Cost Estimate is under appeal to the lead agency or whether it has been appealed to State Mining and Geology Board as described in PRC § 2770(e).

Use the Financial Assurance "Other" and "Explanation" blocks to provide any other pertinent information regarding the status of Financial Assurance(s). If the operation does not have a sufficient Financial Assurance Cost Estimate and/or Financial Assurance Mechanism, explain in detail.

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VIII. Non-SMARA facility operations conditions solely of local concern (e.g. hours of operation) do not need to be noted here. See Instructions for Block VIII on reverse side of page. **[Use separate sheet(s) where necessary. Refer to item numbers below]**		CA MINE ID # **91-** 43-004	
Potential Reclamation Plan Requirements:	List Reclamation Plan Requirements (Recommended to be filled out prior to field inspection)	Note Site Conditions and Compliance Issues (Note additional comments on Page 5 as necessary)	VN
1) General Information a) Permitted Mineral Product(s) b) Approved Production Amount (Annual/Gross) c) End Date of Operations Per RP d) Permit end date e) End Use	a) limestone cement and aggregate b) 45 million tones total c) 12-31-2030 (RPA, Table 2) d) NA (vested mine) e) open space - hillside (Fig. 2.3-2)	Mine quarry operating in accordance with 2012 RPA. Rock plant not operating. (See additional comments and photos in attached notes.)	
2) Boundaries a) Property Boundary b) Permit Boundary c) Rec. Plan Boundary (RPB) d) Setbacks	a) RPA-Figure 1.0-2 (3.51 acres) b) RPA-Figure 1.0-2 (1238.6 ac.) c) RPA-Figures 1.0-2 & 1.04 (1238.6 ac.) d) variable, see RPA-Figure 3.3-1	Operations are in compliance with boundaries per 2012 RPA.	
3) Slopes – Grading a) Fill Slopes – Note Condition of: i) Slopes – Working (max/current) ii) Slopes – Reclaimed iii) Compaction b) Cut Slopes – Note Condition of: i) Slopes – Working (max./current) ii) Slopes – Reclaimed	Overburden: a.i) 1.5H:1.0V to 2.0H:1.0V a.ii) EMSA: 2H:1V, WMSA: 2.5H:1V, Pit backfill: 2.5H:1V a.iii) see COA 25 & 70. b.i) near vertical cuts between benches b.ii) Pit walls limestone: 1H:1V overall greenstone: 38 to 50 degrees	Quarry slopes are in compliance with 2012 RPA criteria. WMSA slopes comply, but will be regraded for final reclamation. EMAS slopes comply and meet elevation restrictions of 2012 RPA.	
4) Erosion Control a) BMPs b) Grading c) Vegetation	a) 10-22-2012 SWPPP, RPA 3.9 b) RPA Appendix F (Chang, 12/12/2012) c) RPA Appendix B (WRA, 12/2011); RPA 3.18, 3.19; COAs 70, 78, to 81	BMPs and stromwaer management program is active and winterization will be completed before rains begin. (See attached notes regarding repair of crusher blowout.)	
5) Ponds a) Design – Function b) Capacity (area/depth/volume) c) Maintenance	a., b & c) RPA Table 8; RPA-Appenedix F; 12-22-2012 SWPPP; COA 33 & 83	Ponds are all functioning as required.	
6) Stream & Wetland Protection a) Buffers (distance to channel) b) Berms (distance/length/height) c) Best Management Practices d) Drainage e) Grading & Slopes f) Stockpiles g) Stream Diversions	a to g) RPA 3.18, 3.19; RPA - Appendix D, Table 2; RPA Figure 3.3-1; COA 57 to 61	Check dams are in-place and clear. Stockpiles are covered. Permanente Creek Restoration Plan (PCRP) has been submitted to State and Federal agencies for review in accordance with the settlement agreement.	
7) Sensitive Wildlife & Plant Protection a) List Species b) Protection Measures	a) RPA 2.9, 3.17.1; Appendix B; b) RPA-Appendix D (50-foot setback)	Wildlife surveys were conducted prior to mining disturbances. On-going protection measures have been implemented as per RPA & COA.	

INSTRUCTIONS FOR COMPLETING SURFACE MINING INSPECTION REPORT

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BLOCK VIII: INSTRUCTIONS FOR EACH DATA COLUMN:

Potential Reclamation Plan Requirements (Column 1)**:** Under CCR § 3504.5(f), "Inspections may include, but shall not be limited to the following: the operation's horizontal and vertical dimensions, volumes of materials stored on the site; slope angles of stock piles, waste piles and quarry walls; potential geological hazards; equipment and other facilities; samples of materials; photographic or other electronic images of the operation; any measurements or observations deemed necessary by the inspector or the lead agency to ensure the operation is in compliance with Public Resources Code Chapter 9." Column 1 provides a list of items that may be included in the approved reclamation plan, either expressly or by reference as described in PRC § 2772(d), which may include conditions of approval, other permit requirements and supplementary documents, including environmental documents, prepared for the project pursuant to Division 13 (commencing with Section 21000).

It is not expected that all reclamation plans will include each item of Section VIII, or be limited to the items listed. Items in Column 1 that are not operative requirements in the reclamation plan may not need to be addressed by the inspection. Operative reclamation plan requirements not listed in Items 1 through 12 may be listed in Item 13, under "Other Reclamation Plan Requirements."

Reclamation Plan Requirements (Column 2)**:** Prior to field inspection, it is recommended that the inspector review the approved reclamation plan and any amendments, as well as any other documents included by reference, including conditions of approval, other permit requirements and supplementary documents, such as environmental documents prepared for the project pursuant to Division 13 (commencing with Section 21000) that specifically relate to reclamation of the mine site. The most recently approved Financial Assurance Cost Estimate and any pending or ongoing enforcement actions should also be reviewed. Conditions of approval that relate to facility operations solely of local concern, such as hours of operation, noise, and dust control are not subject to the inspection.

Column 2 is intended to provide the inspector a place to match any items noted in Column 1 with those items included in the approved reclamation plan either expressly or by reference as described in PRC § 2772(d), which may include conditions of approval, other permit requirements and supplementary documents, including environmental documents prepared for the project pursuant to Division 13 (commencing with § 21000). Also note any Interim Management Plan (IMP) requirements where the mine is subject to an IMP pursuant to PRC § 2770(h).

Indicate the source document for the reclamation plan requirements at the end of the entry in parenthesis; i.e. (COA) (POO) (EIR) (WDR) (SWPPP), etc. Conditions of approval that relate to facility operations solely of local concern, such as hours of operation, noise, and dust control should not be included in Column 2. If items listed in Column 1 of Section VIII of the form are not included in the reclamation plan or other documents included by reference, write not applicable or "NA" in Column 2.

Specific reclamation requirements may not apply to an operation at the time of inspection, but they are important to be aware of to ensure current activity at the site will not prohibit reclamation in accordance with the approved reclamation plan.

A copy of the Surface Mining and Reclamation Act of 1975 and 1993 SMGB regulations may be obtained at http://www.conservation.ca.gov/omr/lawsandregulations/Pages/SMARA.aspx.

Site Conditions and Compliance Issues (Column 3)**:** Describe current site conditions and compliance issues noted for both operating and reclaimed surfaces that pertain to the reclaimed condition of the mining site. Block IX is provided for additional space to describe site conditions and/or compliance issues. Attach additional sheets as necessary. Evaluations of slope stability and engineered compaction should be prepared by qualified professionals only. PRC § 2774(b)) states "The lead agency may cause an inspection to be conducted by a state licensed geologist, state licensed civil engineer, state licensed landscape architect, or state licensed forester, who is experienced in land reclamation and who has not been employed by a surface mining operation within the jurisdiction of the lead agency in any capacity during the previous 12 months."

VN? (Column 4)**:** Use this box to indicate if violations were noted for any of the specific items under the corresponding item group heading (e.g., Boundaries, Slopes-Grading, etc.) during field inspection of the site. Enter number of violations in the box.

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VIII. Non-SMARA facility operations conditions solely of local concern (e.g. hours of operation) do not need to be noted here. See Instructions for Block VIII on reverse side of page. **[Use separate sheet(s) where necessary. Refer to item numbers below]**		CA MINE ID # **91-** 43-004	
Potential Reclamation Plan Requirements:	List Reclamation Plan Requirements (Recommended to be filled out prior to field inspection)	Note Site Conditions and Compliance Issues (Note additional comments on Page 5 as necessary)	VN
8) Soil/Overburden Stockpile Management a) Topsoil i) Location ii) Slope Stability iii) BMPs b) Overburden i) Location ii) Slope Stability iii) BMPs c) Topsoil Application i) Amendments ii) Depth iii) Moisture iv) Application Methods	RPA 2.6, 3.17.3.1; RPA Figure 2.6-1 ai&bi) WMSA & EMSA (COA 26) aii&bii) temporary angle of repose aiii&biii) 12-22-2012 SWPPP; COA 27 ci) RPA 3.4, 3.10; RPA Appendix B cii) RPA Appendix B ciii) RPA Appendix B civ) RPA 3.17.3	Two topsoil storage areas in WMSA and one in EMSA. BMPs in place for topsoil storage areas. All overburden and washout fines being placed in North Quarry as buttress of pit's lower highwall. Soil/overburden stockpiles managed in compliance with 2012 RPA. (See attached inspection report for more information.)	
9) Revegetation a) Test Plots b) Species Mix c) Density d) Percent Cover e) Species Richness f) Protection g) Success Monitoring h) Invasive Species Control	a) RPA 3.17.3.3; RPA Appendix B; RPA Figure 2.9-1; COA 28, 29, 77 b) RPA-Tables 3 and 6 c) RPA Table 7 d) RPA Table 7 e) RPA Table 7 f) RPA 3.17.3.2 g) RPA 3.17.3.5 h) RPA 3.17.3.4	Final test plot report submitted 10-2014. (See attached inspection report for comments on EMSA re-veg.) South Exploration Area has been revegetated and continues to be evaluated for success via air-photos. (No longer accessible.)	
10) Structures	RPA 3.20; COA 31	New crusher is operational. Overflow erosion repaired with soil-nail wall. Old crusher removed. New mine office structure completed.	
11) Equipment	RPA 3.20; COA 31	Both fixed and mobile equipment will be removed as part of final reclamation.	
12) Closure of Adits	During final reclamation, conveyor tunnel (from crusher to cement plant) will be filled and sealed.	Converyor tunnel is open and will be closed during final reclamation after mining ceases.	
13) Other Reclamation Plan Requirements	No limestone on surface (COA 74). Remove limestone from contact with stormwater (COA 39). Reclaim PCRA after plan is approved by other agencies (COA 38 & 40). (Water quality treatment must reduce selenium discharges in compliance with requirements of SFBRWQCB per mediated agreement.)	Limestone rock will be removed from drainage controls. Restoration plan for PCRA submitted and being reviewed by State agencies. SFBRWQCB issued consolidated WDR/NPDES permit R2-2014-0010, CA0030210 on 3-12-2014. Interim plant for mine water treatment is operational. (See attached inspection report for more information.)	

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SURFACE MINING INSPECTION REPORT

IX. List comments/description/sketches to support observations of mine site conditions, including violations. Where any violations are noted, list in numerical order, along with suggested corresponding corrective actions. Also describe preventative measures recommended by the inspector to avoid or remedy potential violations. Indicate if you have attached photos, sketches, and/or notice(s) of violation(s) or other documents to this form.
(Add additional sheets as necessary)

The mine was active during the 2016 inspection. The 2012 approved Reclamation Plan Amendment identifies nine areas within the mining boundary:
1. North Quarry (main pit)
2. West Materials Storage Area (WMSA)
3. East Materials Storage Area (EMSA)
4. Crusher/conveyor
5. Surge Pile
6. Rock Plant
7. South Quarry Exploration Area
8. Permanente Creek Restoration Area (PCRA)
9. Buffer Areas that surround active mining areas.

The attached notes describe our observations in each of the areas and the PHOTOs illustrate what the inspectors observed at or from the Map Locations indicated on the attached AIR-PHOTO].

No SMARA violations were noted during the 2016 inspection of the mine.

The County's inspectors found that the Lehigh Quarry (formerly Hanson-Permanente Quarry) is currently in compliance with the provisions of SMARA. In addition, the operator is making progress in complying with the requirement of the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) with regard to water treatment and discharge permits.

When the PCRA plan is approved by the SFBRWQCB and other permitting agencies, the plan must be incorporated into the RPA. Until then, the erosion control measures installed along Permanente Creek must be monitored and repaired as needed to prevent impacts on the creek.

Additional sheets/documents attached: ☑ Yes ☐ No

CA MINE ID #
91- 43-004

Inspection Date:
8-11-2016

Weather Code(s):
CR

Duration of Inspection: 5 hours

Start Time: 9 AM

End Time: 2 PM

Status of Mine Code(s):
OP

Status of Reclamation Code(s):
R (South Exploration Area)

Approximate Acreage Under Reclamation:
19.5 acres

Approximate Acreage the lead agency has determined reclaimed in accordance with the approved reclamation plan:

Approximate Total Disturbed Acreage:
669.2 of 1268.6 areas

Approximate Pre-SMARA Disturbed Acreage:
49.2 acres

Disturbed Acreage Identified in Most Recent Financial Assurance Cost Estimate:
590 acres

Previous Inspection Date (and Number of Violations then Noted):
9-3-2015: no violations

Violations Corrected? (explain in block to left)
none

Inspection Attendees and Affiliations:

Sam Barket - Lehigh
Manjunath Shivalingappa - Lehigh
Erich Schickenberg - WRA
Jim Baker - SCCo.
Robert Salsbury - SCCo.
Steve Beams - SCCo.

X. Number of Current Violations:	Inspectors Signature:	If inspector is a contractor for the lead agency give license type and number:
0	Date Signed:	

Attachment: Attachment A (84182 : Lehigh Status Report 2250)

INSTRUCTIONS FOR COMPLETING SURFACE MINING INSPECTION REPORT

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BLOCK IX

Inspectors may use the large open block for comments to describe violations, corresponding corrective actions, or preventative measure(s) suggested by the inspector to address noted violations or avoid potential violations, and to explai any limitations on the inspection conducted. The inspector can also use this space to describe the status of any pending o current enforcement actions. Separate violations that are the subject of existing enforcement actions from violations observed during the current inspection.

Enter California Mine ID Number and Date of Inspection.

Weather Codes: CR = Clear; CL = Cloudy; RN = Rain; SN = Snow; WD = Windy

For "Duration of Inspection," indicate the start and end times of the inspection (do not include travel time).

SMARA Status Codes (based on annual report and reported production under CCR § 3695, indicate the appropriate status code):

NP = Newly Permitted (surface mining operation not begun)
OP = Operation Not Idle (Per § 2727.1) or abandoned (Per §2770 (h)(6))
I = Idle (Per § 2727.1)
AB = Abandoned (Per § 2700 (h)(6))
NOP-NC = Not in Operation, Reclamation NOT Completed
NOP-C = Not in Operation, Reclamation Completed

If idle, indicate either the date operation became idle as defined by PRC Section 2727.1, the date an IMP was approved, or th status of any pending IMP.

Status of Reclamation Codes:

RN = Reclamation not begun
R = Reclamation in progress
P = Post reclamation monitoring
RC = Reclamation complete

Enter approximate acreage under reclamation (the number of acres actively being reclaimed in accordance with the approved reclamation plan).

Enter approximate acreage determined to be reclaimed in accordance with the approved reclamation plan by Lead Agency

Enter approximate total disturbed acreage. This includes all acreage disturbed by the surface mining operation, as defined by PRC § 2729: "'Mined Lands' includes the surface, subsurface, and ground water of an area in which surface mining operations will be, are being, or have been conducted, including private ways and roads appurtenant to any such area, land excavations, workings, mining waste, and areas in which structures, facilities, equipment, machines, tools or other materials o property which result from, or are used in, surface mining operations are located." This should include acreage under reclamation that has not been determined to be reclaimed in accordance with the approved reclamation plan by the Lead Agency.

Enter the total number of acres within or adjacent to the disturbance area of the operation disturbed pre-SMARA (disturbance before January 1, 1976, that has not had mining related disturbance after January 1, 1976).

Enter the disturbed acreage identified in the most recent Financial Assurance Cost Estimate (i.e., the disturbed acreage that was used to calculate the most recent Financial Assurance Cost Estimate.

Enter the date of the previous lead agency inspection and number of violations noted during that inspection.

Attendees: Provide the names and affiliations of parties in attendance at the inspection.

BLOCK X:

Enter the number of violations noted during the inspection. Sign and date the Inspection Report. If the inspector is a consultant to the lead agency, include the inspector's certification (PE, PG, CEG, etc.) and license number, if applicable. The lead agency may cause an inspection to be performed by contracting with private consultants, specifically: state licensed geologist, state licensed civil engineer, state licensed landscape architect, or state licensed forester per § 2774(b)

County File 2250-16PAM - Lehigh Quarry (formerly Permanente Quarry)

Notes and photographs* from 2016 Annual SMARA mine inspection conducted on 8-11-2016

by James Baker, CEG#1021, County Geologist

(***PHOTOs** were taken from the numbered locations indicated on the attached air-photo, panoramas were created by stitching adjacent photos together automatically)

The 2016 annual SMARA mine inspection of Lehigh Quarry was conducted for 4 hours on August 11, 2016. In attendance were the following persons (affiliation indicated):

James Baker (County Planning)
Robert Salisbury (County Planning)
Steve Beams (County LDE)
Erich Schickenberg (WRA)
Manjunath Shivalingappa (Lehigh Hanson)
Sam Barket (Lehigh)

The 2012 approved Reclamation Plan Amendment identifies nine areas within the mining boundary:

1. North Quarry (main pit)
2. West Materials Storage Area (WMSA)
3. East Materials Storage Area (EMSA)
4. Crusher/conveyor
5. Surge Pile
6. Rock Plant
7. South Quarry Exploration Area
8. Permanente Creek Restoration Area (PCRA)
9. Buffer Areas that surround active mining areas.

The mine was active during the 2016 inspection. The following paragraphs describe our observations in each of the areas [with **PHOTOs** and captions that illustrate what we observed at or from the Map Locations indicated on the attached **AIR-PHOTO**].

1. North Quarry (Main Pit)

The bottom of the main pit is approximately 70 feet above the final depth to be reached at the end of mining. The highwalls on the north, east, and south are essentially complete (excavated benches); while the western side of the pit is still being actively mined (blasting and loading). Extraction of limestone was on-going in the main pit (mostly along the southwestern highwall). Overburden materials were being places and compacted against the lower portion of the northwestern highwall. [See **PHOTO #1** taken from Map Location 90 and **PHOTO #2** taken from Map Location 61.]

2. WMSA

No new material was being place in the West Materials Storage Area (WMSA). The northeast-facing slopes of the WMSA have well-established vegetation (grasses and same shrubs). [See **PHOTO #3** taken from Map Location 8 and **PHOTO #4** taken from Map Location 21.] Topsoil and organics are stored and covered in the central portion of the WMSA. [See **PHOTOs #5 and #6** taken at Map Location 1.] (Most of the material stored in the WMSA will be moved and placed as backfill into the main quarry pit. Topsoil will be used to cover benches for plantings.)

3. EMSA

No new material was being placed in the EMSA. The EMSA slopes have been finish graded per the approved Reclamation Plan. The final elevations have been achieved with limestone cover. BMPs have been placed on the slopes (waddles) and along the benches (rock check dams and silt fences). [See **PHOTO #7** taken from Map Location 97 and **PHOTO #8** taken from Map Location 110.] Surface drainage is directed into Pond 30 which is rock-lined with non-limestone rock. [See **PHOTO #9** taken at Map Location 111.] It discharges through a pipe that outlets onto a rock apron adjacent to the creek.

4. Crusher/Conveyor

The crusher was constructed in 2013 against a 70-foot high retaining wall. Drainage from around the crusher is directed into a sump which overflowed due to a power failure in 2014. As a result, an erosion gulley formed on the steep slope west of the crusher. The operator has had the gully lined with jute netting and several silt fences. [See **PHOTO #10** taken from Map Location 81.] Eroded material accumulated at the toe of the slope and extended into the eastern side of pond in PCRA. [See **PHOTO #11** taken at Map Location 118.] The operator had a soil-nail wall installed in the head of the erosion gully located downhill of the sump. [See **PHOTO #12** taken at Map Location 77.] The crusher and conveyor will be removed prior to final reclamation. The tunnel through which the conveyor travels will need to be filled and sealed. Wildlife protection procedures (outlined in the RPA and COAs) must be followed when the tunnel is backfilled.

5. Surge Pile

The surge pile has been reduced significantly since last year's inspection. [See **PHOTO #13** taken from Map Location 83.] Sediment that erodes from the surge pile is detained in ponds and by check dams along the roadway. [See **PHOTO #14** taken at Map Location 113.] During final reclamation, the surge pile will be removed and the underlying creek channel will restored during the Creek Restoration work that has not yet been approved.

6. Rock Plant

The rock plant was not in operation during the inspection. There are numerous stock piles and equipment in the rock plant area. Runoff from the rock plant is directed into Pond 17. [See **PHOTO #15** taken from Map Location 124.]

7. South Quarry Exploration Area

Located southwest of Permanente Creek, the area was disturbed by excavation of drilling pad and associated roads in order to evaluate the mineral resources in that area. However, the quarry operator

withdrew the application to expand the mine into that area and has allowed the natural vegetation to become reestablished there. During the past 6 years, the growth of grasses and brush appears to have mitigated the previous ground disturbances. [See attached **AIR-PHOTO** taken on 4-6-2016.] Eventually, a ground survey will be needed to confirm the adequacy of the revegetation to meet the performance standard in the RPA prior to the County granting reclamation "closure" of the area.

8. Permanente Creek Restoration Area (PCRA)

Plans for restoration of Permanente Creek adjacent to the mine are still in review by several regulatory agencies. Once the plans have been approved, the FACE will need to be revised to reflect the costs of implementing the "construction" described in the plan. For now, the County considers the area to be in compliance with SMARA pending the outcome of agency reviews.

9. Buffer Areas

The undisturbed areas around the active mine are intended to protect the quarry from encroachments by other land uses and to protect nearby land uses from adverse effects of the mining. At the time of our inspection, the Buffer Areas appeared undisturbed and providing the buffer effect intended.

VIOLATIONS

No SMARA violations were noted during the 2016 inspection of the mine.

CONCLUSIONS

The County of Santa Clara finds that the Lehigh Quarry (formerly Permanente Quarry) is currently in compliance with the provisions of SMARA and is making progress in complying with the requirement of the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) with regard to water quality and discharge permits.

The elements that have been constructed to minimize erosion and control sedimentation by runoff must be monitored and maintained as necessary to prevent adverse impacts to areas adjacent to the mine.

Each year, prior to the annual inspections, the operator should provide the County with updated maps that show the locations of stockpiles.

When the PCRA plan is approved by the SFBRWQCB and other permitting agencies, the plan must be incorporated into the RPA. Until then, the erosion control measures installed along Permanente Creek must be monitored and repaired as needed.

FINANCIAL ASSURANCE COST ESTIMATE (FACE) and MECHANISM (FAM)

The operator submitted to the County a revised financial assurance cost estimate (FACE) dated July 27, 2016. The County's final review of the 2016 FACE is pending in conjunction with the annual inspection. After the County certifies the 2016 FACE, we will forward the calculations to OMR for the 45-day review. Subsequently, the County will require the operator to adjust (increase or decrease) the FAM in accordance with the determined deficit or surplus of the 2015 FAM.

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Lehigh Permanente Quarry Reclamation Plan Amendment Conditions of Approval Compliance

2015-2016 Annual Report Information Package

SANTA CLARA COUNTY, CALIFORNIA

Prepared For:

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October 1, 2016

ENVIRONMENTAL CONSULTANTS

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COA	**Requirement**	**Summarized Description**	**Annual Report Requirement (Yes/No)**	**Frequency**	**Required Submittal Date**	**Date Submitted**	**Comments**	**Appendix**
1	The conditions supersede all previous COAs	The following conditions of approval (COAs) shall supersede and replace all previous COAs from the 1985 Reclamation Plan approval.	No	Maintain	NA	NA	Noted.	
2	All activity must be consistent with the following COAs	All development, operations, and reclamation that occur under this RPA shall be consistent with the approved plans, unless modified by these conditions.	No	Maintain	NA	NA	Noted.	
3	RPA Re-Submittal. Final conformed documents to SCC	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.	No	One Occurrence	8/24/2012	8/24/2012	Documents were submitted on or before the required submittal date.	
4	Legal Descriptions to be submitted for all parcels subject to the RPA	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.	No	One Occurrence	8/24/2012	8/24/2012	Documents were submitted on or before the required submittal date.	
5	RPA Expiration Date	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.	No	One Occurrence	NA	NA	Noted.	
6	Hillside open space will be the end use	The proposed end use following reclamation is hillside open space.	No	One Occurrence	NA	NA	Noted.	
7	Payment for all reasonable costs.	The Mine Operator shall be responsible for paying all reasonable costs associated with work by, or for, 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.	No	Maintain	NA	NA	Noted.	
8	Annual report	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. (See COA Text)	Yes	Annual	10/1/2016	10/1/2016	This document, and attached appendices, represents the Mine Operator's fulfillment of its 2015-2016 report year COA 8 obligation.	
9	Planning manager ensures compliance	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.	No	Ongoing	NA	NA	Noted.	
10	Copies of RPA, MMRP, and Conditions of Approval Maintained on Site	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.	No	Maintain	NA	NA	Copies of the RPA Mitigation Monitoring and Reporting Program, approved plans, conditions of approval are maintained in a binder in the quarry office with quarry management staff. Additionally, a wall poster of the COAs is posted in the office.	

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11	Issue report summary of employee training performed	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	Yes	Annual	10/1/2016	10/1/2016	Training for workers and subcontractors has been completed.	Appendix C: Reclamation Plan Ammendment and Final Conditions of Approval Annual Worker Training
12	SWPPP to County	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	No	Update	8/24/12. And as needed	5/16/2014	The SWPPP was updated as of June 15, 2016. A copy of the updated SWPPP was provided as an appednix to the 2015-2016 annual report as Appendix E.	Appendix E: Updated Stormwater Pollution Prevention Plan
13	Mitigation measures adopted as COAs	All mitigation measures contained within the Mitigation Monitoring and Reporting Program (MMRP) prepared for the project are adopted as conditions of approval .	No	Maintain	NA	NA	Noted.	
14	Update FACE	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.	Yes	Annual	8/1/2016	8/1/2016	Financial Assurance Cost Estimates have been submitted to the Planning Manager for review on August 1, 2016. See Appendix J for proof of transmittal.	Appendix J: Financial Assurance Cost Estimate Transmittal
15	Submit copies of any violations, abatement notices, or any agency permit mod to SCC	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.	Yes	At County Request	NA	NA	No requests for copies of violations, abatement notices or agency permit modifications were received by Lehigh. No actions were needed to fulfill this COA.	
16	An invalidation of one condtion does not invalidate the remaining conditions.	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.	No	Ongoing	NA	NA	Noted.	
17	If any conditions are invalidated, the Planning Commission can replace the invalidated condition with a feasible alternative.	IF any condition(s) of approval is invalidated by a court of law, and said invalidations 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.	No	Ongoing	NA	NA	Noted.	

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18	The Mine Operator will carry the cost of any action brought against the County.	As a condition of RPA approval, the Mine Operator agrees to defend, at the Mine Operator's sole expense, any action brought against the County by a third party, and indemnify the County against settlements and judgments arising from any such action.	No	Ongoing	NA	NA	Noted.	
19	The Mine Operator will reimburse the County for any legal costs incurred in its defense.	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	No	Ongoing	NA	NA	Noted.	
20	The Mine Operator holds harmless the County and its employees from any legal action taken to challenge the EIR or RPA.	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.	No	Ongoing	NA	NA	Noted.	
21	Approval of the RPA does not relieve or limit the Mine Operator's previous legal liabilities.	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.	No	Ongoing	NA	NA	Noted.	
22	Maintain demarcation of EMSA, Rock Plant, and WMSA RPA Boundaries	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.	Yes	Annual	8/24/2012, and annually with updates	10/1/2016	The RPA limits have not changed and the demarcations of these boundries have been maintaned. See Appendix I: Improved Reclation Plan Boundary Demarcation Memo	Appendix I: Improved Reclamation Plan Boundary Demarcation Memo

All COAs								
COA	**Requirement**	**Summarized Description**	**Annual Report Requirement (Yes/No)**	**Frequency**	**Required Submittal Date**	**Date Submitted**	**Comments**	**Appendix**
23	GPS and Aerial Data prepared by Licensed Surveyor to SCC for Review and Approval.	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 to demonstrate how the topography will look two years later. The aerial photographs must be flown and taken biennially 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.	Yes	Annual	10/1/2012, and annually with updates	10/1/2016	The surveyed coordinate list file identifying the limits of reclamation has not changed since the 2012/2013 annual report. See Appendix H for mining activity occurring in the past 24 months and planned for the next 24 months. Aerial photos were flown on June 16, 2015.	Appendix H: Maps of Past 24 Months Surface Mining and Reclamation Activity and Future 24 Months Estimated Activity
24	Reclamation of Finished Slopes and Benches	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.	Yes	During Final Reclamation	NA	NA	No slopes or benches were finished during the time period covered by this report. No reclamations activities were required.	
25	Specification for Permanent Rock Fills	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.	Yes	During Final Reclamation	NA	NA	No rockfills were required during time period covered by this report.	
26	Submit Site Plan showing Topsoil and Amendment Storage Areas	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.	No	One Occurrence	10/1/2013 and annually with updates	10/1/2016	A map of current and future proposed stockpiles is provided as Appendix G.	Appendix G: 2015-2016 Map of Existing and Proposed Stockpiles
27	Stockpiles of topsoil or overburden protected from wind and erosion	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").	No	Maintain	NA	NA	All stockpiles of topsoil or overburden to be used for reclamation have been treated.	Appendix A: 2015-2016 Stormwater and Erosion Controls Report
28	Test Plot annual report	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.	Yes	Annually to 2014	10/1/2014	10/1/2014	The final, re-vegetation test plot monitoring report was provided as an appednix to the 2013-2014 Annual Report	

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	Topsoil shall use amendments	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. (See COA Text)	Yes	During Final Reclamation	NA	NA	Final reclamation did not begin during the time period covered by this report. Data regarding soil effectiveness is not required at this time. Any reclamation requiring revegetation have considered the test-plot results for vegetative palette.	
29	Revegetation success criteria	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).	Yes	During Final Reclamation	NA	NA	Final reclamation did not begin during the reporting period.	
30	Change to Revegetation plan	The Planning Manager shall have authority to administratively review and approve minor revisions to the re-vegetation palette contained in the approved RPA.	Yes	During Final Reclamation	NA	NA	Any reclamation requiring revegetation have considered the test-plot results for vegetative palette.	
31	Removal of Equipment	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	Yes	During Final Reclamation	NA	NA	Final reclamation did not begin during the time period covered by this report. No equipment, structures, or roads are yet required to be removed.	
32	Overburden requirements	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.	Yes	During Final Reclamation	NA	NA	No overburden placement has been completed to require compaction testing during this report period.	
33	Basin Clean out Reports showing quantities removed and disposition	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.	Yes	Annual	NA	10/1/2016	Sedimentation basins are routinely inspected and cleaned of vegetation and sediment when necessary to maintain good condition and proper function. No sedimentation basins required cleanout during this report year.	Appendix A: 2014-2015 Stormwater and Erosion Controls Report
34	Provide all amended or newly issued permits from RWQCB and comply with such permits	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.	No	Ongoing	As Needed	10/1/2014	A new NPDES permit was issued on March 12, 2014. A copy of the permit was provided as an appendix to the 2013-2014 Annual Report. There were no new permits from RWQCB issued during this report year.	

All COAs								
COA	**Requirement**	**Summarized Description**	**Annual Report Requirement (Yes/No)**	**Frequency**	**Required Submittal Date**	**Date Submitted**	**Comments**	**Appendix**
35	Criteria for Final reclamation completion	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.	No	Final Reclamation	NA	NA	For Final Reclamation Completion.	
36	Provide all amended or newly issued permits from BAAQMD and comply with such permits	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.	No	At County Request	As Needed	NA	Lehigh is in compliance with the conditions of permits and plans required by and issued by BAAQMD. No request by the County has been received by Lehigh for additional permit information.	
37	Provide all amended or newly issued permits from SCC Department of Environmental Health and comply with such permits	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.	No	Ongoing	NA	8/10/2016	Copies of all permits issued by the SCC Department of Environmental Health were provided to the planning manager on August 10, 2016.	
38	Submit schedule of implementation for sedimentation control and boulder removal during the Summer and Fall of 2012	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.	No	One Occurrence	8/26/2012	8/26/2012	A memorandum documenting attempts to remove boulders was submitted as an appdendix in the 2013-2014 Annual Report. Slope stabilization measures have been installed and maintenance is ongoing.	
39	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).	Ongoing	One Occurrence	12/15/2012	9/28/2012	Removal of boulder(s) identified as feasibly removed from Permanente Creek was completed in 2013. Slope stabilization measures have been installed and maintenance is ongoing. Refer to 2013 Annual Report.	

All COAs								
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40	PCRA Phase III Restoration Plan	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.(See COA Text)	Yes	One time	NA	NA	Phase III was not initiated during the time period covered by this report.	
41	Permits for Grading in Jurisdictional Waters	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).	Yes	Ongoing	NA	NA	There were no grading activities which affected jurisdictional waters during the time period covered by this report.	
42	EMSA Light Prohibition	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.	Yes	Ongoing	NA	7/26/2013	No lighting is allowed on any location within the EMSA that would be visible from public locations on the Santa Clara Valley floor. Signs are posted in Quarry vehicles and around the property.	
43	ORD Inventory RPA	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. (See COA Text)	Yes	One-time	9/24/2012	9/25/2012	Not applicable. See COA 45	
44	ORD Inventory EMSA	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 (See COA Text)	Yes	Annual	9/24/2012	9/25/2012	Not applicable. See COA 45	
45	Caretakers Residence Control (in lieu of COA 43 and 44)	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	No	One-time	9/24/2012	9/25/2012	Complete.	

All COAs								
COA	**Requirement**	**Summarized Description**	**Annual Report Requirement (Yes/No)**	**Frequency**	**Required Submittal Date**	**Date Submitted**	**Comments**	**Appendix**
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. 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.(See COA Text)	No	Ongoing	As Needed	NA	No activities requiring biological resources surveys were performed during the 2015-2016 reporting year.	
	Contract for Ornithologist to perform Avian Surveys	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.	No	One-time		9/25/2012	Lehigh continues to use WRA, Inc as a qualified orinthologist.	
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.	No	Ongoing	As Needed	NA	No activities requiring biological resources surveys were performed during the 2015-2016 reporting year	
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.	No	Ongoing	As Needed		No bat surveys occurred within the non-roosting season	
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. 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. (See COA Text)	No	Ongoing	As Needed	NA	No activities requiring biological resources surveys were performed during the 2015-2016 reporting year	

All COAs								
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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	No	Ongoing	As Needed	NA	No activities requiring biological resources surveys were performed during the 2015-2016 reporting year	
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.	No	Ongoing	As Needed		No trees were felled during the 2015-2016 reporting year.	
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. (See COA Text)	No	Ongoing	As Needed	NA	No special-status bat roosts have been destroyed. No mitigation for bat roost replacement has been warranted to date.	
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. 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. (See COA Text)	No	Ongoing	As Needed	NA	No activities requiring biological resources surveys were performed during the 2015-2016 reporting year	
54	Proper Food Waste Disposal	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	No	Ongoing	NA	NA	Proper waste receptacles are available onsite and are emptied on a regular basis. Signs have been posted.	
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 (See COA Text)	Yes	Ongoing	NA	NA	No plant material was transported into or out of the Project Area.	
56	Sudden Oak Death Prevention	To reduce the possibility of spreading Sudden Oak Death to oak woodlands in the Study Area, the Mine Operator shall implement control measures (See COA Text)	No	Ongoing	NA	NA	All equipment which does not remain onsite, including: shoes, tools, and vehicles are decontaminated prior to, and after, any work in vegetated areas. Sanitation kits are kept at the Quarry office.	

All COAs								
COA	**Requirement**	**Summarized Description**	**Annual Report Requirement (Yes/No)**	**Frequency**	**Required Submittal Date**	**Date Submitted**	**Comments**	**Appendix**
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. 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).(See COA Text)	No	One Occurrence and Ongoing	As Needed	7/31/2012	No wetlands were disturbed during the reporting period.	
58	Wetland Mitigation Plan	If filling of jurisdictional waters or wetlands is to be performed ~~not feasible~~, control measures shall be implemented: (See COA Text)	Yes	Ongoing	NA	NA	No wetlands were disturbed during the reporting period.	
59	PCRA Grading During Dry Season to Avoid California red Legged Frog Impact	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.	Yes	Ongoing	NA	NA	No grading or construction activity took place within PCRA subareas 4,5,6,or 7 during the reporting period.	
60	CRLF Pre-construction survey	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	Yes	Ongoing	NA	NA	No grading or construction activity took place within PCRA subareas 4,5,6,or 7 during the reporting period.	
61	PRCA Work during Daylight hours for CRLF Avoidance	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	Yes	Ongoing	NA	NA	No restoratoin, grading or construction activity took place within PCRA subareas 4,5,6,or 7 during the reporting period.	
62	Document History of Kaiser Permanente Quarry Mining District	The Mine Operator shall document the physical characteristics and their historic context of the contributing features of the Kaiser Permanente Quarry Mining District (See COA Text)	Yes	60 Days Prior to modification of conveyor	NA	NA	Lehigh is in the process of documenting the historical features of the Kaiser Permanente Quarry Mining District. The documentation is expected in the 2016/2017 Annual Report.	
63	Salvage Permanente Quarry Conveyor System	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. (See COA Text)	Yes		NA	NA	Lehigh is in the process of documenting the historical features of the Kaiser Permanente Quarry Mining District. The documentation is expected in the 2016/2017 Annual Report.	
64	Prepare Public Information Prior to Conveyor Salvage	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, (See COA Text)	Yes		NA	NA	No modification to the historic conveyor system took place during the 2015-2016 reporting period.	

All COAs								
COA	**Requirement**	**Summarized Description**	**Annual Report Requirement (Yes/No)**	**Frequency**	**Required Submittal Date**	**Date Submitted**	**Comments**	**Appendix**
65	Cease Activity if Cultural Resources Are Found	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 (See COA Text)	Yes	Ongoing	NA	NA	No cultural resources were encountered during the 2015-2016 reporting period.	
66	Cease Activity if Paleontological Resources Are Found	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 (See COA Text)	Yes	Ongoing	NA	NA	No paleontological resources were encountered during the 2015-2016 reporting period.	
67	Notify County Coroner if Any Human Remains are Found	In the event that human skeletal remains are encountered, the Mine Operator is required to immediately notify the County Coroner.(See COA Text)	Yes	Ongoing	NA	NA	No human remains were encountered during the 2015-2016 reporting period.	
68	Avoidance of Slope Material Falling Into Creek in PRCA Areas	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. (See COA Text)	Yes	Ongoing	NA	NA	No grading activity took place within PCRA during the reporting period.	
69	Submit Geotechnical Plan Review	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).(See COA Text)	No	One Occurrence	7/26/2012	7/26/2012	Complete.	
70	Follow Geotechnical Design for EMSA Filling	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(See COA Text)	No	Ongoing	NA	NA	Noted.	
71	Prepare GHG Inventory for Reclamation Activities	the Mine Operator shall conduct an annual inventory of GHG emissions and shall report those emissions (See COA Text)	Yes	Ongoing	10/1/2016	10/1/2016	An annual report greenhouse gas emmissions inventory is provided in Appendix F.	Appendix F: Annual Greenhouse Gas Inventory Report
	Register with Climate registry	The Mine Operator shall become a reporting member of The Climate Registry	No	Ongoing		9/25/2012	Registration was not possible for Lehigh Permanente Quarry. An attempt to register was made in 2012, however, they were denied as a single mining operation.	

All COAs								
COA	**Requirement**	**Summarized Description**	**Annual Report Requirement (Yes/No)**	**Frequency**	**Required Submittal Date**	**Date Submitted**	**Comments**	**Appendix**
72	GHG 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. (See COA Text) The Greenhouse Gas Emissions Reduction Plan shall be submitted to the Planning Manager within 90 days of final RPA Approval.	No	Ongoing	9/24/2012	9/25/2012	Complete.	
73	Obtain GHG 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. (See COA Text)	Yes	Ongoing	NA	NA	The project produced less than 1,100 metric tons of CO2. See Appendix F.	Appendix F: Annual Greenhouse Gas Inventory Report
74	Verification of Non-Limestone-Containing Material Used as Cover in EMSA and WMSA	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).(See COA Text)	Yes	Ongoing	NA	NA	Final reclamation did not begin during the time period covered by this report. Lehigh is documenting that non-limestone overburden is being placed in the EMSA, and upon final placement, this requirement will be satisfied.	
75	The County may retain a third party geologist.	1. 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.	No	Ongoing	NA	NA	Noted.	
76	Water Quality Monitoring Program	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. (See COA Text)	Yes	Ongoing	10/1/2016	10/1/2016	See Appendix D.	Appendix D: Water Quality Monitoring Memo
77	Reclamation is Complete when all WQS are met	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.	Yes		NA	NA	Final reclamation did not begin during the time period covered by this report.	
78	Stormwater BMPs	Within 90 days of RPA approval, the Mine Operator shall implement 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. (See COA Text)	Yes	Ongoing	10/1/2016	10/1/2016	Stormwater and sediment management controls in addition to general BMPs required by the SWPPP in active and inactive reclamation areas have been installed and maintenance is ongoing.	Appendix A: 2015-2016 Stormwater and Erosion Controls Report Appendix B: 2015-2016 Wet Season Erosion Control Inspection Reports

All COAs								
COA	**Requirement**	**Summarized Description**	**Annual Report Requirement (Yes/No)**	**Frequency**	**Required Submittal Date**	**Date Submitted**	**Comments**	**Appendix**
79	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. (See COA Text)	Yes	Ongoing	10/1/2012	8/24/2012	Water quality testing has been conducted in accordance with the Interim Stormwater Monitoring Plan.	Appendix D: Water Quality Monitoring Memo
80	Monitor BMP Effectiveness for EMSA	Within 30 days of RPA approval, sampling and testing shall occur within 24 hours after a qualifying rain event. For purposes of triggering Planning Commission review, the sampling shall occur at locations where water discharges to Permanente Creek. (See COA Text)	Yes	Ongoing	NA		Water quality testing has been conducted in accordance with the Interim Stormwater Monitoring Plan.	Appendix D: Water Quality Monitoring Memo
81	Monitor BMP Effectiveness for WMSA and Quarry	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 (See COA Text)	Yes	Ongoing	NA		Water quality testing has been conducted in accordance with the Interim Stormwater Monitoring Plan. The Interim Treatment System (ITS) has been installed for runoff originating in the WMSA.	Appendix D: Water Quality Monitoring Memo
82	Design, Pilot Testing, and Implementation of Selenium Treatment Facility	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. (See COA Text)	Yes	Ongoing	NA	9/19/2014	Water quality testing has been conducted in accordance with the Interim Stormwater Monitoring Plan. A feasiibility report for the Interim Treatment System was composed 9/19/2014 and submitted to the County.	

All COAs								
COA	**Requirement**	**Summarized Description**	**Annual Report Requirement (Yes/No)**	**Frequency**	**Required Submittal Date**	**Date Submitted**	**Comments**	**Appendix**
83	Construct of Onsite Water Detention Facility	The Mine Operator shall design and construct detention facilities that would 1) manage increased runoff caused by the reclaimed Quarry pit, (See COA Text)	Yes		NA	NA	Final reclamation did not begin during the time period covered by this report. No excess runoff was caused by the reclaimed Quarry Pit.	
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).(See COA Text)	Yes		NA	NA	Final reclamation did not begin during the time period covered by this report.	
85	Mosquito Control for Ponded Water	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.	Yes	Ongoing	NA	NA	All bodies of water created during the operation of the quarry have been maintained to provide mosquito control and prevent the creation of any health hazards or public nuisance.	
86	Provide Plans for Riprap Energy Dissipaters	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.	No	Once	8/24/2012	8/24/2012	Complete.	
87	Prohibit Night Operations in EMSA	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.).	Yes	Ongoing	NA	7/26/2012	No nighttime equipment operations occur in the EMSA.	
88	Caretakers Residence Control or Prohibit EMSA Operations within 1600 feet	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.	No	Once	NA	7/26/2012	Complete.	
89	Signage within EMSA regarding Light Prohibitions and Noise restrictions (COA 42 and 87)	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.	No	Maintain	7/26/2012	7/26/2012	Complete - Signs are in place and in good condition.	

APPENDIX A:

2015-2016 STORMWATER AND EROSION CONTROLS REPORT

EXECUTIVE SUMMARY

The purpose of this report is to document the stormwater and erosion control actions that have been completed to comply with the requirements of the Conditions of Approval (COAs) for the Permanente Quarry Reclamation Plan Amendment (RPA) during the period of July 1, 2015 to June 30, 2016.

Between July 1, 2015 and June 30, 2016, WRA, Inc. (WRA) oversaw the completion of several actions that ensured compliance with various COAs at the Quarry. This report lists those actions completed and previously reported to Santa Clara County (County) and describes those actions that have been initiated, and/or completed since the last submittal (October 1, 2015). Actions include installation of erosion control Best Management Practices (BMPs) in order to prevent soil erosion in areas of topsoil stockpiling; maintenance and repair of previously installed BMPs; diversions of water runoff to containment basins; and hydroseeding of reclaimed areas and topsoil stockpiles with native seed mixes. Figures depicting erosion control BMP installations and compliance activities from the 2015-2016 reporting year are provided in Appendix A. Further actions are ongoing as required by the RPA and COAs.

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LIST OF APPENDICES

1.0 INTRODUCTION

The RPA for Lehigh Permanente Quarry (Quarry) located at 24001 Stevens Creek Boulevard, in unincorporated Santa Clara County, 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 (SMARA) of 1975. The RPA encompasses 1,238.7 acres within the Mine Operator's 3,510-acre ownership.

Reclamation activities are being implemented in three phases over an estimated 20-year period. The Quarry is currently in Phase I, which involves reclamation activities in the East Material Storage Area (EMSA) and the Permanente Creek Restoration Area (PCRA) and continuation of existing mining activities in the Western Material Storage Area (WMSA) and Quarry Pit.

2.0 PURPOSE

The purpose of this compliance actions report is to document the stormwater and erosion control actions that have been completed to comply with the requirements of the Santa Clara County Conditions of Approval (COAs), approved by the Planning Commission, June 7, 2012 and modified by the Board of Supervisors on June 26, 2012. This compliance actions report includes those actions that have been ongoing or completed since the last submittal and refer to past actions submitted in previous reports.

3.0 REPORTING REQUIREMENTS

Generally, the COAs call for an annual report to be completed by the County by December 1 of the year and for the mine operator, Lehigh Hanson (Lehigh), to present all data and compliance actions to the County by October 1. To inform the annual report, Lehigh wishes to present a report of the stormwater and erosion control actions carried out to date in order to comply with the COAs. This report will serve to provide a record to the County and track the reclamation actions that have been completed to date.

4.0 COMPLIANCE ACTIONS

4.1 Compliance Actions Reported in Previous Submittals

Stormwater and erosion control actions taken to address COA compliance began immediately after RPA finalization in June 2012 and continue to present. Actions taken to address COA compliance are required to be reported annually as per COA #8. Lehigh has submitted annual reports of COA compliance actions as required per COA #8 in 2013 (WRA 2013), 2014 (WRA 2014), and 2015 (WRA 2015).

4.2 Compliance Actions Completed Since 2014-2015 Annual Report Submittal

Actions to complete or advance the fulfillments of the COAs since the 2014-2015 Annual Report submittal (October 1, 2015) are described below. All erosion control BMPs previously reported from previous annual reports have been maintained and repaired as needed. To date, only BMPs that have been deemed entirely non-essential have been removed.

4.2.1 PCRA Subareas

The RPA calls for erosion control actions in all of the Permanente Creek Restoration Area (PCRA) treatment areas within Phase 1, and Lehigh has begun erosion control assessments

and work in all PCRA Subareas (Subareas). The first year of the approximately nine-year Phase 1 was 2012. Prior to November 29, 2012, erosion control actions were completed in Subareas 4-7, and were started in Subareas 1 and 2. During the current reporting year, erosion control actions were completed in Subarea 2 and all previously installed erosion controls were inspected for deficiencies and corrected as necessary. For a complete description of all previous erosion control actions in the PCRA Subareas, and associated figures and photographs, see the 2013 Annual Report (WRA 2013), the 2013-2014 Annual Report (WRA 2014), and 2014-2015 Annual Report (WRA 2015).

Subarea 1

Subarea 1 is located in the westernmost portion of the PCRA, and is composed of an upper (northern) portion consisting primarily of fill slopes. The lower (southern) portion is mostly undisturbed except for an access road established previous to the RPA. All previously installed erosion control BMPs below the access road were routinely inspected and repaired as needed (see Appendix B photograph 8). No substantial evidence of erosion has been observed over the 2015-2016 period.

Subarea 2

Subarea 2 is located along the southern border of the WMSA, directly east of Subarea 1. Subarea 2 can be divided into the portions above and below the pre-RPA access road. The portion above the access road (and below the WMSA haul road) is protected by the existing berm on the downhill side of the access road. Previous breaches in the berm along the access road have been reinforced with straw bales staked down with T-posts. The BMPs used to repair the breaches in the berm have been routinely inspected and replaced when necessary. An additional erosion control BMP, consisting of approximately 15-feet of wire back erosion control silt fence, was installed just below the edge of the downhill side of the access road near the border of Subarea 1 and 2 (see Appendix B, photograph 1). All previously installed erosion control BMPs below the access road were routinely inspected and repaired as necessary. No substantial evidence of erosion has been observed over the 2015-2016 period (see Appendix A - attached map book pages 2, 16, and 18).

Subarea 3

Subarea 3 is located at the southeastern border of the WMSA directly east of Subarea 2, and is generally extremely steep terrain without feasible access. In January of this reporting year, a superficial slide occurred just below the berm along the WMSA haul road in PCRA subarea 3. The superficial slide resulted in the loss of approximately 160 feet of previously installed wire back silt fence. In response to the slide, exploratory drilling was conducted in the haul road near the slide to analyze the stability of the slope in Subarea 3. The area was determined to be stable and approximately 400 feet of wire back silt fence was installed at the toe of the slope in order to prevent additional material from moving downhill (see Appendix A - attached map book pages 2, 16, and 18). All other previously installed erosion control BMPs in Subarea 3 have been routinely inspected and repaired as necessary. No additional erosion was observed over the 2015-2016 reporting period.

Subarea 4

Subarea 4 is located at the southwestern border of the North Quarry directly east of Subarea 3 and generally parallels the North Quarry haul road. Limestone is stockpiled south of the haul road near the border of Subarea 4. The primary BMP used in this subarea is the large berm

along the border of Subarea 4 and the North Quarry. Additional erosion control BMPs, including wire-backed silt fence, jute netting, wattles, and hydroseed, have been installed throughout much of Subarea 4 in prior years. All previously installed erosion control BMPs have been inspected regularly and repaired as necessary, throughout the 2015-2016 reporting year (see Appendix A - attached map book pages 4, 16, and 19).

Subarea 5

Subarea 5 is located at the southern border of the North Quarry, directly east of Subarea 4, south of Pond 4A and the Interim Treatment System (ITS), which treats stormwater and process water before discharging into Permanente Creek. The majority of Subarea 5 is extremely steep with limited access. No new erosion control measures were implemented in Subarea 5. All previously installed erosion control BMPs below the access road were routinely inspected and repaired as necessary. No substantial evidence of erosion has been observed over the 2015-2016 reporting period.

Subarea 6

Subarea 6 is located along the southeastern border of the North Quarry directly east of Subarea 5, and generally parallels the North Quarry haul road. Subarea 6 is composed of areas of historic fill and other undisturbed, vegetated areas. Subarea 6 is generally extremely steep with limited access. The primary BMP used to stabilize hillside material is the large berm along the border of Subarea 6 and the North Quarry. Erosion control BMPs were previously installed below the new mining area in order to stabilize slopes and filter stormwater, in compliance with COA #68. All previously installed BMPs have been inspected regularly and repaired as necessary (see Appendix A - attached map book pages 6 and 19).

Subarea 7

Subarea 7 is located directly east of Subarea 6, and south of the North Quarry and Crusher/Support Area. Subarea 7 is composed of areas of historic mining disturbance and more recent erosion control activities, interspersed with undisturbed areas. The majority of Subarea 7 is extremely steep and inaccessible, and moderately covered with vegetation, making erosion control BMP installation not feasible or unnecessary. During a large rain event in December 2014, there was a slope failure in Subarea 7. To reduce further erosion on the exposed slopes, erosion control materials were installed during the 2014-2015 reporting year. The previously installed BMPs include approximately 18,000 square feet of jute netting, fiber rolls, and approximately 200 feet of wire-backed silt fence. In addition, an approximately 100 foot stormwater diversion ditch was dug across the debris slide, and lined with visqueen fabric to divert any additional stormwater and debris originating from the debris slide into Sedimentation Basin 13B. In order to complete slope stabilization and repairs in this area, additional actions were taken during the current reporting year. Actions taken during the 2015-2016 reporting year include the installation of approximately 25 soil nails and the application of “shotcrete” to the upper portion of the failed slope (see Appendix B, photograph 3). In addition, the visqueen lining on the stormwater diversion ditch was deemed unnecessary and removed. All necessary repairs relating to slope failure in Subarea 7 were completed during the current reporting year (see Appendix A - attached map book pages 7 and 8). All previously installed erosion control BMPs below the access road were routinely inspected and repaired as necessary.

4.2.2 WMSA

The WMSA is an overburden storage area located to the west of the North Quarry. All stormwater and erosion control BMPs previously installed within the WMSA were routinely inspected and repaired as needed throughout the 2015-2016 reporting year (see Appendix A - attached map book pages 15, 16, 17, and 18). Routine maintenance actions of existing BMPs included:

- Grading maintenance of the haul road.
- Repair and replacement of erosion control silt fences and fiber rolls securing the two topsoil stockpiles.

Routine inspection is ongoing. Approximately 140 feet of erosion control silt fence was determined to be unnecessary and removed. No additional stormwater and erosion control BMPs were deemed necessary in the WMSA.

4.2.3 North Quarry

The North Quarry is where mineral extraction currently takes place, and is located directly east of the WMSA and north of PCRA Subareas 4-7. All stormwater and erosion control BMPs previously installed within the North Quarry were routinely inspected and repaired as needed throughout the 2015-2016 reporting year (see Appendix A - attached map book page 19). No additional actions were taken during the 2015-2016 reporting year.

4.2.4 Crusher/Support Area

The Crusher/Support Area is located directly east of the North Quarry, and contains primary and secondary crushing stations, the Quarry offices, and maintenance areas. All stormwater and erosion control BMPs previously installed within the Crusher/Support Area were routinely inspected and repaired, replaced, or removed as needed throughout the 2015-2016 reporting year (see Appendix A - attached map book pages 7, 8, 9, and 13). In June 2016, Lehigh began stockpiling topsoil near the border of the EMSA along the haul road. This stockpile along with the installation of necessary erosion control BMPs are expected to be completed in October 2016. In addition to the routine inspection and maintenance of existing BMPs, several actions were taken in response to consecutive rain events which occurred in December 2014. The following actions are summarized below.

C-Station Sedimentation Basins

A large sedimentation basin with three sub-basins was constructed below the C-Station in 2013 to capture mining fines that had previously been stockpiled around the C-Station (WRA 2013). Lehigh began removing mining fines from the historic stockpile and regrading in accordance with the RPA during the 2014-2015 reporting year. In order to access the historic stockpile, the sedimentation basins were removed and a temporary access road was created in their place. Upon the completion of this work in October of 2015, straw wattles were installed, hydroseed was applied, and a large sedimentation basin with two sub-basins was constructed in the same location as the previously existing basin (see Appendix A - attached map book pages 8, 9, 10, 13, and 14 *and Appendix B, photograph 4*). This work was completed before the onset of rains.

4.2.5 EMSA

The EMSA is an overburden storage area located to the northeast of the Crusher/Support Area. All stormwater and erosion control BMPs previously installed within the EMSA were routinely inspected and repaired, replaced, or removed as needed throughout the 2015-2016 reporting year (see Appendix A - attached map book pages 10, 11, 13, and 14). In addition to the routine inspection and maintenance of existing BMPs, several major stormwater and erosion control actions were taken this year, and are discussed below.

EMSA Hydroseeding

As discussed above, hydroseeding at Lehigh Permanente Quarry is part of the Revegetation Plan (WRA 2011) and ongoing erosion control BMP measures for COA compliance. As per the Revegetation Plan developed for the RPA, the Quarry cleared and re-graded areas are required to be revegetated by hydroseeding with native seed mixes. In addition to cleared and re-graded areas, topsoil stockpiles are required to be protected from erosion and weed establishment through erosion control measures including hydroseeding as per COA #27 (see Appendix B, photographs 5 and 6).

Approximately 20 acres of interim reclaimed slopes and topsoil stockpiles in the EMSA were hydroseeded in October 2015. The native hydroseed mixes developed from the Revegetation Plan (WRA 2011) Revegetation Test Plot Program (see Appendix A of the 2013-2014 Annual Report), were used along with the standard hydromulch mix. The “hillside seed mix”, which consists of native grasses, forbs and shrubs, was used for the majority of the EMSA. For the temporary topsoil stockpile, the “erosion control seed mix”, consisting of four native grass species and one subshrub, was used. Monitoring of hydroseeded areas in the EMSA is ongoing and revegetation of hydroseeded areas in the EMSA has been successful (see Appendix C - Hydroseeding Memo; see Appendix B, photographs 10, 11, 13, and 14). Additional hydroseeding touchup efforts are planned for October 2016.

4.2.6 Surge Pile/Rock Plant

The Surge Pile/Rock Plant area contains an existing stockpile of crushed aggregate, known as the Surge Pile, and rock processing facilities known as the Rock Plant. The Surge Pile/Rock Plant area is located to the southeast of the Crusher/Support Area, and PCRA Subarea 7. Lehigh installed three pipelines in the Rock Plant to help improve the quality of storm water from that location. These pipelines are designed to collect storm water run-on from the adjacent hillside, route it around the Rock Plant, and discharge it to the creek at Outfall 004. Lehigh believes that by decreasing the volume of storm water in contact with the Rock Plant materials and structures, the pollutant loading from that location will be reduced. Additionally, a new topsoil stockpile was established in the Rock Plant and erosion control silt fence was installed around the stockpile (see Appendix B, photograph 2). All stormwater and erosion control BMPs previously installed within the Surge Pile/Rock Plant area were routinely inspected and repaired as needed throughout the 2015-2016 reporting year (see Appendix A - attached map book pages 12, 13, and 14).

4.2.7 Sedimentation Basin Cleanout

As per COA #33, sedimentation basins are routinely inspected and cleaned of vegetation and sediment when necessary to maintain good condition and proper function. Among the sedimentation basins within the RPA boundary, Pond 4a required vegetation removal. No other

sedimentation basins required cleanout or maintenance during this reporting year. Sedimentation basin clean out is expected to occur during the 2016-2017 reporting year.

4.3 Planned Future Compliance Actions

Beyond the routine inspection and maintenance of existing BMPs, actions are already planned to take place during the 2016-2017 reporting year for COA compliance. This is not meant to be a complete list of next year's actions and actions taken during the upcoming year will follow the adaptive management process. Actions to complete or advance the fulfillments of the COAs that are planned to take place during the 2016-2017 reporting year are described below.

4.3.1 Planned Hydroseeding

In order to comply with COAs #27 and #78b, Lehigh plans to hydroseed all new topsoil stockpiles to be used for reclamation and interim reclaimed areas that directly or indirectly drain to Permanente Creek. The fall 2016 hydroseeding efforts are planned for early October and will include approximately two acres of interim reclaimed slopes, and approximately one acre of stockpiled topsoil in the EMSA and Rock Plant. Planned hydroseeding areas will receive either the "erosion control seed mix" or the "hillside hydroseeding mix", based on whether the area is a temporary topsoil stockpile or interim reclaimed slope.

Areas to receive the erosion control seed mix include two temporary topsoil stockpiles in the lower Crusher/Support Area and Rock Plant. Areas to receive the hillside hydroseeding mix include areas any areas that require touching up in the lower and upper EMSA.

4.3.2 Potential BMP Removal

Select BMP's, such as silt fences and straw wattles, are expected to be removed, rather than replaced after the 2016-2017 rainy season. Given the stability of the slopes as evidenced by lack of material accumulating at select BMP's and the increase in vegetation from hydroseeding and natural recruitment around those BMP's, some may not be necessary. BMP's will be evaluated based on local conditions and their potential to be effective. Those BMP's that are not necessary and require replacement (due to weathering) will be removed rather than replaced.

5.0 SUMMARY

During the 2015-2016 reporting year, Lehigh took several erosion control actions to fulfill and comply with the requirements of the COAs and the RPA. Beginning in 2013, the County requires compliance reports to be submitted annually, and this report represents a portion of the overall annual report as required by COA #8. Monitoring will continue to take place, and actions will continue to be implemented in all areas to keep within compliance.

6.0 REFERENCES

[WRA] WRA, Inc. 2011. Revegetation Plan – Permanente Quarry, Santa Clara County, California. Prepared for Lehigh Southwest Cement Company. December

WRA. 2012. Permanente Quarry Reclamation Plan Amendment and Conditions of Approval Compliance – Fall 2012 Compliance Actions, Lehigh Permanente Quarry, Cupertino, Santa Clara County, California. Prepared for Lehigh Hanson. November.

WRA. 2013. Lehigh Permanente Quarry Reclamation Plan Amendment Conditions of Approval Compliance 2013 Annual Report, Santa Clara County, California. Prepared for Lehigh Southwest Cement Co. August.

WRA. 2014. Lehigh Permanente Quarry Reclamation Plan Amendment Conditions of Approval Compliance 2013-2014 Annual Report, Santa Clara County, California. Prepared for Lehigh Southwest Cement Co. August.

WRA. 2015. Lehigh Permanente Quarry Reclamation Plan Amendment Conditions of Approval Compliance 2014-2015 Annual Report, Santa Clara County, California. Prepared for Lehigh Southwest Cement Co. September .

APPENDIX A

2015-2016 REPORTING YEAR COMPLIANCE ACTIONS AND BMP INSTALL FIGURES

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wra
ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarr
Santa Clara County,
California

Subarea 1

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Wire Back Silt Fence

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Map By: fhourigan

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarr
Santa Clara County,
California

Subarea 2

Subarea 1

Subarea 2

Subarea 3

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Wire Back Silt Fence

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarr
Santa Clara County,
California

Subarea 3

Subarea 3

Permanente Property Boundary
Cement Factory
Crusher/Support Area
EMSA
North Quarry
PCRA Subareas
Surge Pile/Rock Plant
WMSA
Wire Back Silt Fence

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wra
ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarr
Santa Clara County,
California

Subarea 4

Subarea 4

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Wire Back Silt Fence

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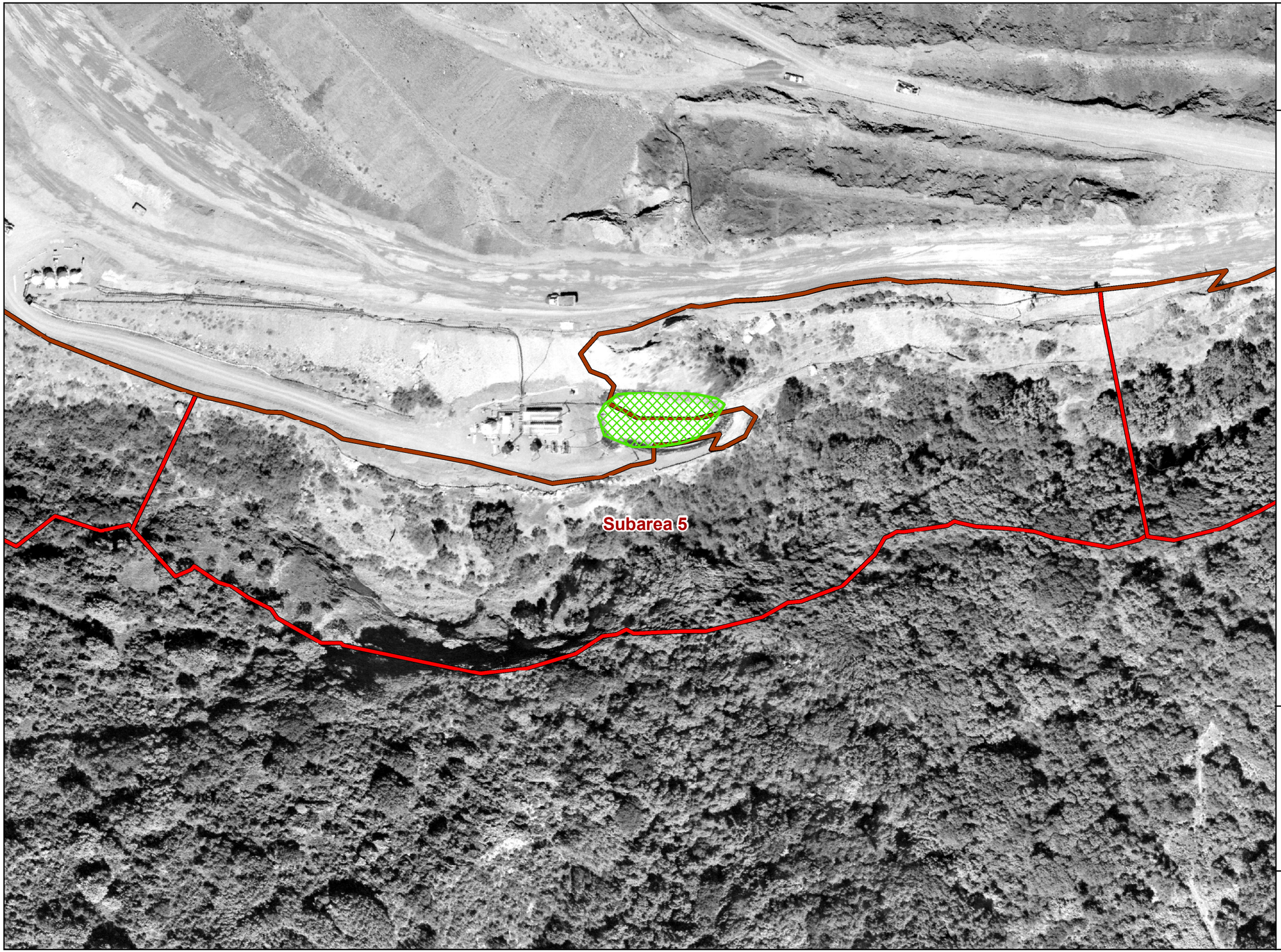

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarr
Santa Clara County,
California

Subarea 5

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Vegetation Cleanout

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarr
Santa Clara County,
California

Subarea 6

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Wire Back Silt Fence

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarr
Santa Clara County,
California

Subarea 7

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Shotcrete & Soil Nails
- Wire Back Silt Fence

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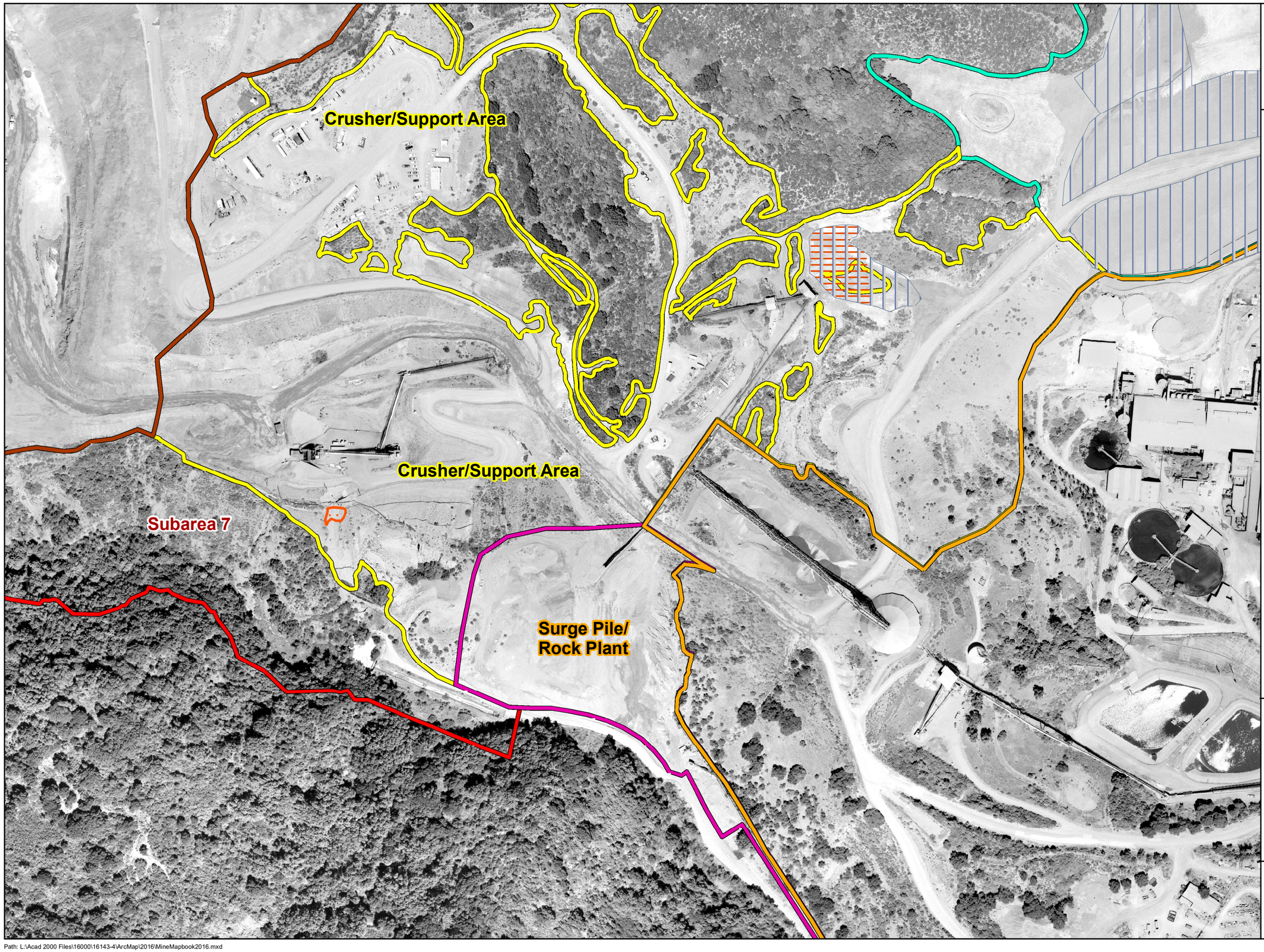

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarr
Santa Clara County,
California

Crusher/Support South

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Hydroseeding
- Shotcrete & Soil Nails
- Wattles

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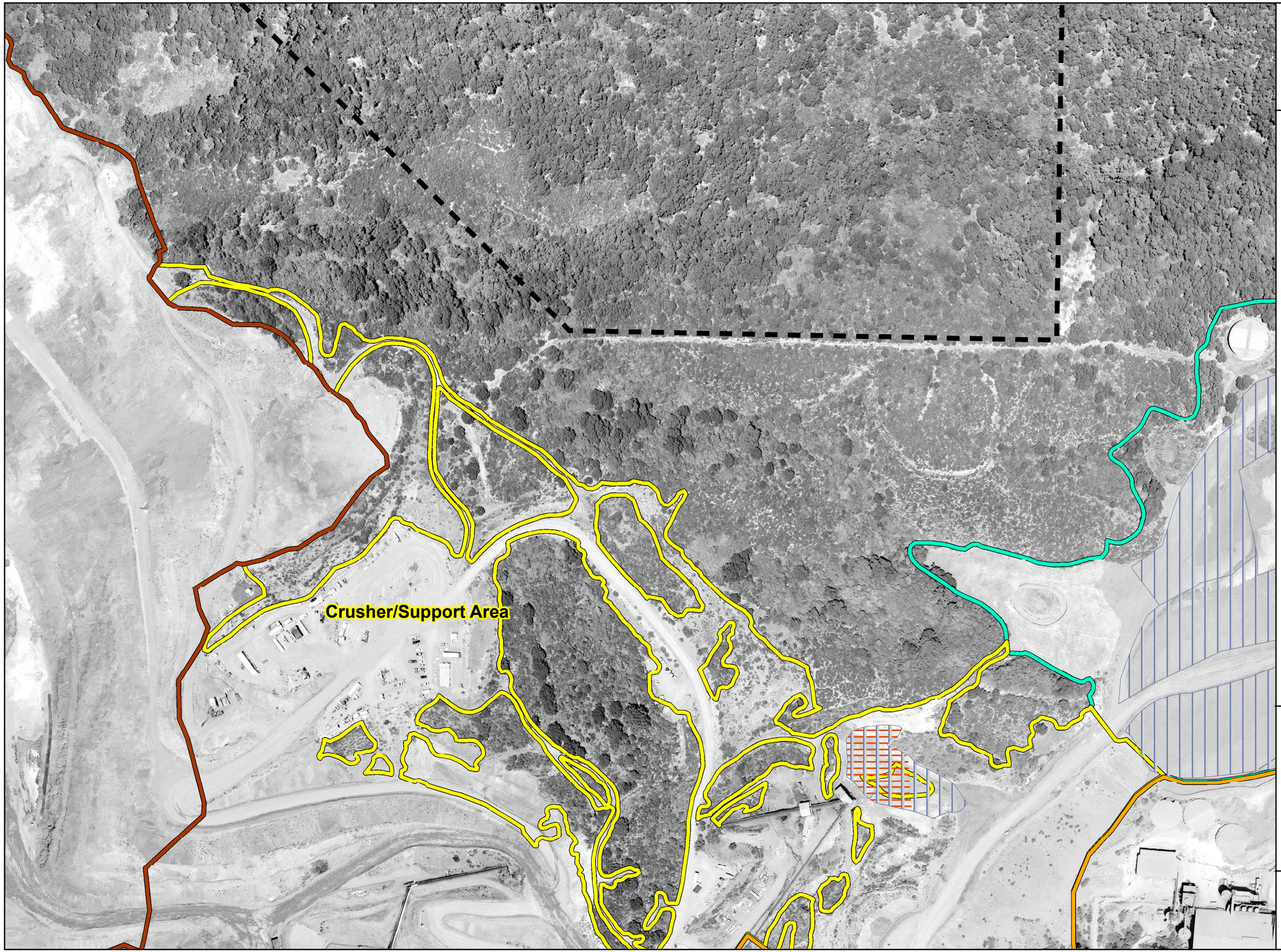
ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarr
Santa Clara County, California

Crusher/Support North



- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Hydroseeding
- Wattles

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarr
Santa Clara County, California

EMSA West

EMSA

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Hydroseeding
- Wattles

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarr
Santa Clara County,
California

EMSA East

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Hydroseeding
- Wire Back Silt Fence

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarr
Santa Clara County,
California

Surge Pile/Rock Plant Eas

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Wire Back Silt Fence

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarr
Santa Clara County,
California

Cement Plant West

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Hydroseeding
- Shotcrete & Soil Nails
- Wattles
- Wire Back Silt Fence

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarr
Santa Clara County,
California

Cement Plant East

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Hydroseeding
- Wattles
- Wire Back Silt Fence

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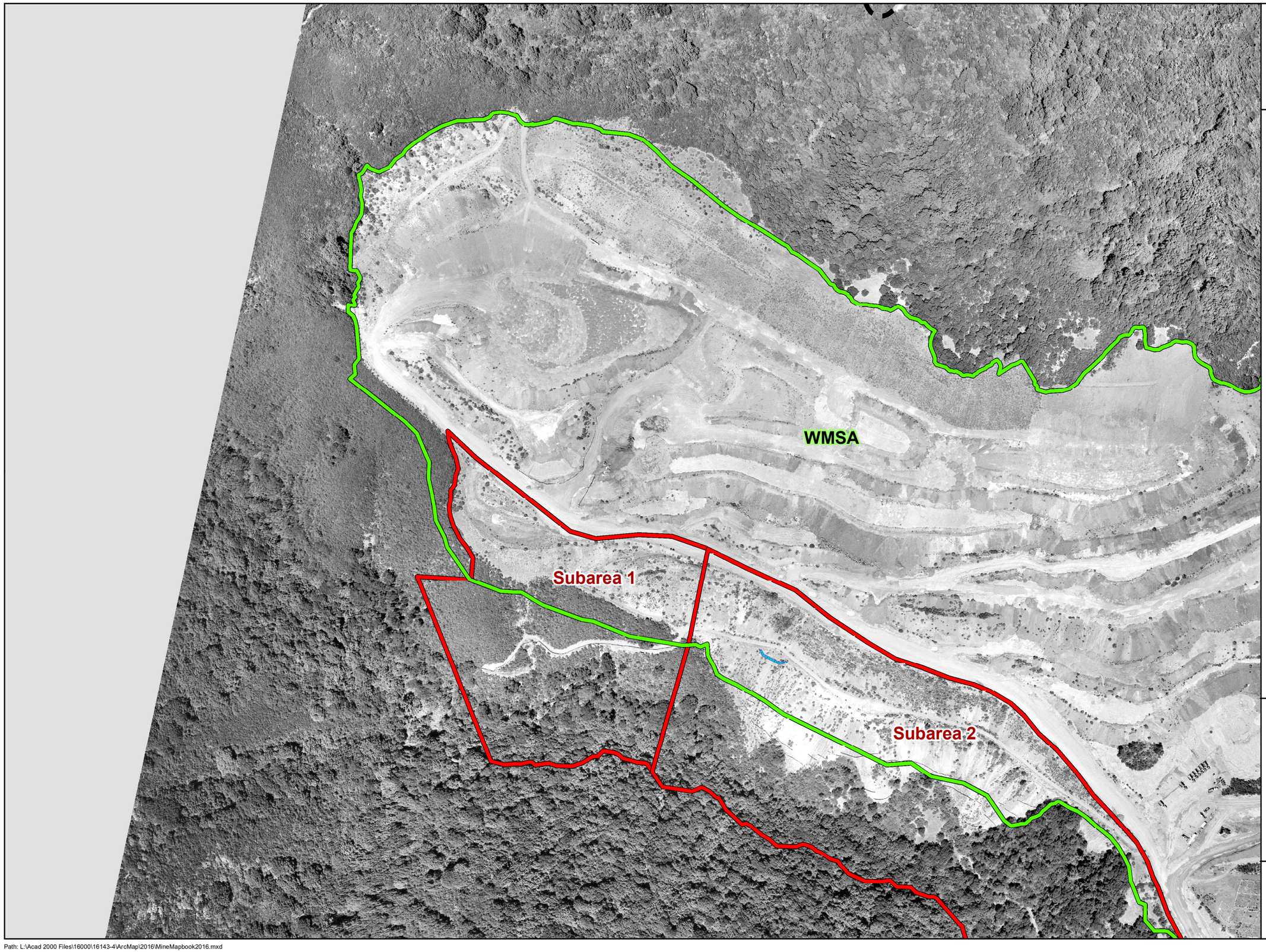
ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarr
Santa Clara County,
California

WMSA West



- Permanente Property Boundary
- Cement Factory
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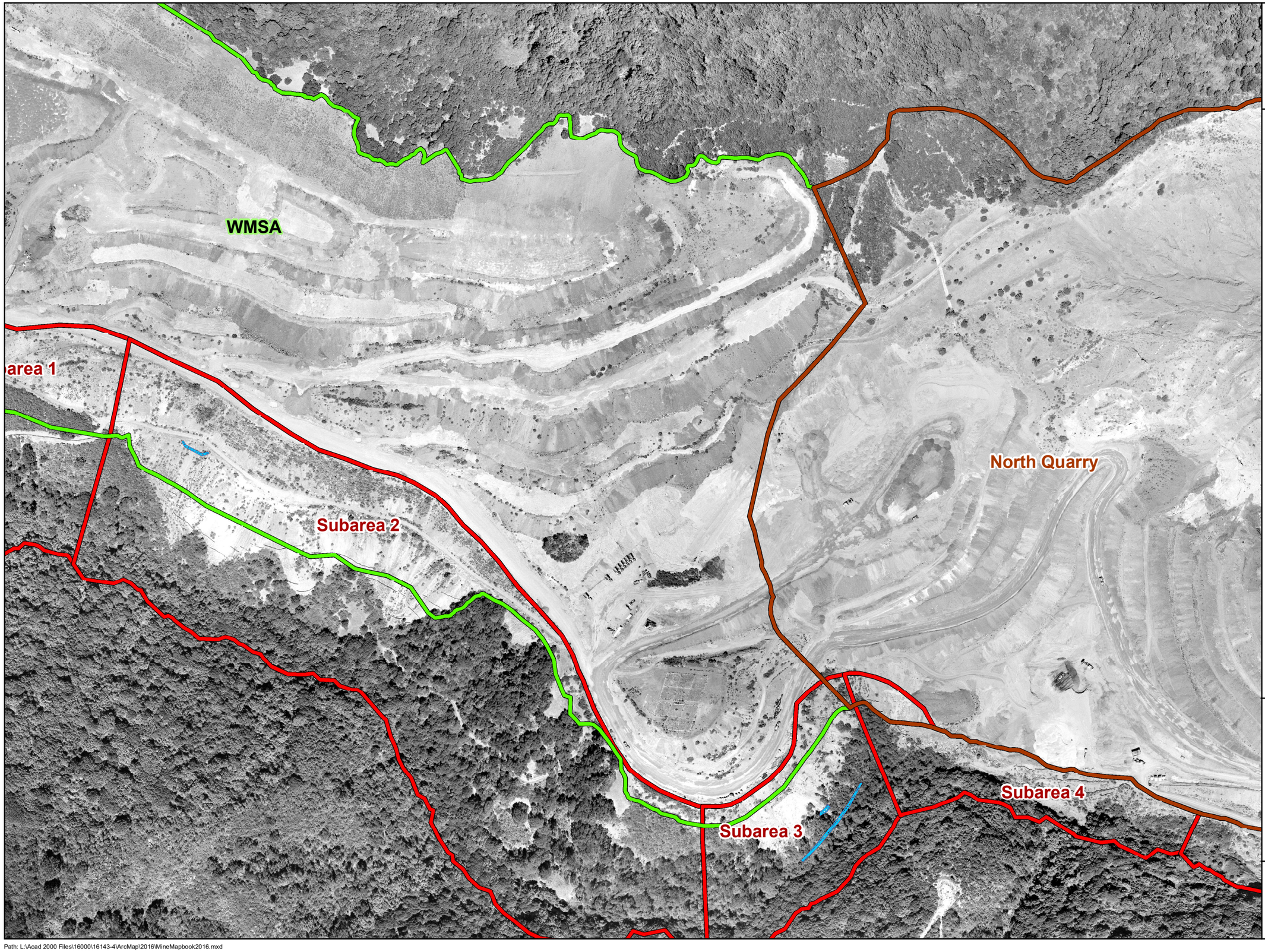
ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarr
Santa Clara County, California

WMSA East



- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
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- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Wire Back Silt Fence

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarr
Santa Clara County,
California

WMSA West (closeup)

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA

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WMSA

Subarea 1

Subarea 2

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarr
Santa Clara County, California

WMSA East (closeup)

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Wire Back Silt Fence

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarr
Santa Clara County,
California

North Quarry West

North Quarry

Subarea 2

Subarea 3

Subarea 4

Subarea 5

Subarea 6

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Vegetation Cleanout
- Wire Back Silt Fence

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APPENDIX B

REPRESENTATIVE STORMWATER AND EROSION CONTROL BMP PHOTOGRAPHS

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Photograph 1. Wire-backed erosion control silt fence installed on downhill side of access road in PCRA Subarea 1.

Photograph taken January 18, 2016.

Photograph 2. Erosion control silt fence installed around the topsoil stockpile in the Rock Plant.

Photograph taken January 18, 2016.

Photograph 3. Soil nail installation and slope stabilization below the crusher.

Photograph taken December 7, 2015.

Photograph 4. Newly reclaimed slope below C-Station in the Crusher/Support Area hydroseeded with the hillside seed mix and straw wattles.

Photograph taken October 16, 2014.

Photograph 5. New non-limestone lined stormwater conveyance ditch with checkdams and newly hydroseeded slope along EMSA haul road.

Photograph taken April 25, 2016.

Photograph 6. Erosion control straw wattles and silt fences installed on interim reclaimed slopes in the EMSA.

Photograph taken July 29, 2015

Photograph 7. Hydroseed germination and erosion control silt fence around a temporary topsoil stockpile in the lower EMSA near Pond 30.

Photograph taken March 14, 2016.

Photograph 8. Wire back erosion control silt fence below the PCRA Subarea 1 access road.

Photograph taken January 18, 2016.

APPENDIX C

2015-2016 RPA HYDROSEEDING MONITORING MEMO

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wra
ENVIRONMENTAL CONSULTANTS

Memorandum

To: Sam Barket, Lehigh Hanson
Cc: Greg Knapp, Lehigh Hanson
Cliff Maddocks, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: September 19, 2016
Subject: October 2015 RPA Area Hydroseeding

The purpose of this memorandum is to summarize the October 2015 hydroseeding activities performed within the Reclamation Plan Amendment (RPA) boundary of Lehigh Permanente Quarry (Quarry), for the purpose of preventing soil erosion and establishing native vegetation on temporary stockpiles and interim reclaimed slopes.

Hydroseeding at Lehigh Permanente Quarry is part of the reclamation Revegetation Plan (WRA 2011) and the ongoing erosion control BMP measures for Conditions of Approval compliance. As per the Revegetation Plan developed for the Reclamation Plan Amendment, (RPA) (EnviroMINE 2011) cleared and re-graded areas are required to be revegetated by hydroseeding with native seed mixes. In addition to cleared and re-graded areas, topsoil stockpiles are required to be protected from erosion and weed establishment through erosion control measures including hydroseeding as per COA #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”).

In general, hydroseeding is the application of seed for the establishment of vegetation using a mixture of water, seed, mulch, fertilizer, and tackifiers. As per the RPA, hydroseeding at the Quarry should take place in the fall (between September 1 and December 1) to take advantage of warm soil temperatures and winter rains for successful germination and establishment.

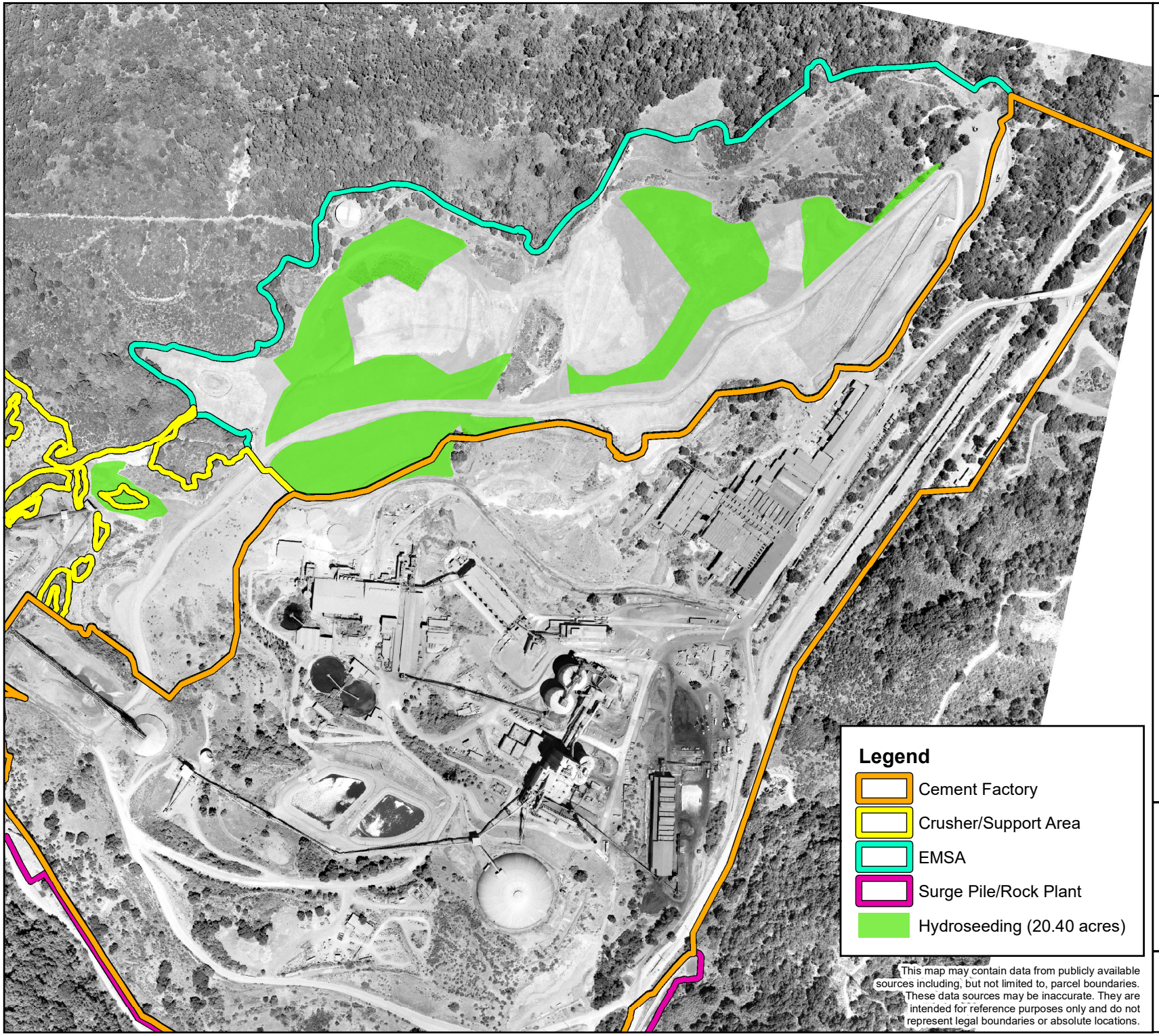
Approximately 19 acres were hydroseeded during the 2015-2016 reporting year (July 1, 2015 to June 30, 2016) using native seed mix combined with “hydromulch” consisting of mulch, fertilizers and tackifiers. The hillside seed mix was used, which consists of native grasses, forbs, subshrubs, and shrubs.

A figure showing the approximate areas that were hydroseeded is provided as an attachment to this memo. The preliminary results of the October 2015 hydroseeding as well as regular observations throughout the 2015-2016 reporting year are summarized below.

Preliminary Results

The overall establishment of hydroseeded plants from previous years (2014-2015 reporting year, and 2013-2014 reporting year) are progressing well, with perennial shrubs, in particular California buckwheat (*Eriogonum fasciculatum*), establishing successfully. Overall vegetative cover appears to be increasing from year to year, and there have not been any significant signs of erosion in areas

that have been hydroseeded. WRA biologist Erich Schickenberg has continued to monitor hydroseeded areas throughout the year, and reports that the areas continue to demonstrate signs of successful establishment and the onset of favorable conditions for the succession of California native plants, nitrogen-fixing plants, and other vegetation that is effective in controlling erosion. He also reports that the establishment and expected improvement of these areas will effectively cover interim reclaimed slopes and provide a slope stabilizing function.



ENVIRONMENTAL CONSULTAN

Lehigh Permanent Quarry

Santa Clara Count California

Figure 1.

EMSA & Crusher /Support Area Hydroseeding Statu

October 2015

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Map Prepared Date: 9/21/2016
Map Prepared By: fhourigan
Base Source: Esri Streaming - NAIP 2014
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APPENDIX B:

2015-2016 WET SEASON EROSION CONTROL INSPECTION REPORTS

ENVIRONMENTAL CONSULTANTS

Memorandum

To: Greg Knapp, Lehigh Hanson
Cc: Sam Barket, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: July 31, 2015
Subject: Permanente Quarry – July 2015 Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…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." And
>
> "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."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on the haul roads.
- Erosion control blankets, straw wattles, and silt fence installations within the RPA area.
- Berms where stockpiles are placed.
- Sedimentation and stormwater collection ponds.
- Water conveyance berms and ditches.

During the month of July 2015, Erich Schickenberg, WRA biologist, conducted weekly inspections of the site for erosion control deficiencies. There were no deficiencies to record on the Erosion Controls Checklist and/or site maps, which are typically used to illustrate the location of deficiencies found during the site visit.

This inspection occurred during the dry season, and there were no qualifying rain events prior to the inspection. Areas inspected include the PCRA Subareas up to Pond 13, and the East Materials Storage Area (EMSA). The Quarry Pit, WMSA, and PCRA areas upstream of Pond 13 were inaccessible on the day of inspection due to blasting in the Quarry Pit. WRA will return to assess those areas as soon as possible.

All erosion controls were intact and did not need repair at the time of inspection. There were no deficiencies to note from the July 2015 monthly site inspections.

WRA will continue to perform monthly site inspections to ensure that any deficiencies that develop in existing erosion control materials are addressed and fixed in a timely manner. Succeeding a qualifying rain event (0.5”), WRA will perform a similar inspection in order to ensure that installed erosion control BMPs are functioning as planned, as well as to better understand how stormwater moves throughout the site. Regular inspections will also allow WRA to identify the need for additional BMPs.

If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

ENVIRONMENTAL CONSULTANTS

Memorandum

To: Greg Knapp, Lehigh Hanson
Cc: Sam Barket, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: August 31, 2015
Subject: Permanente Quarry – August 2015 Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…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." And
>
> "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."

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If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

ENVIRONMENTAL CONSULTANTS

Memorandum

To: Greg Knapp, Lehigh Hanson
Cc: Sam Barket, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: September 30, 2015
Subject: Permanente Quarry – September 2015 Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…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." And
>
> "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."

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- Check dams on the haul roads.
- Erosion control blankets, straw wattles, and silt fence installations within the RPA area.
- Berms where stockpiles are placed.
- Sedimentation and stormwater collection ponds.
- Water conveyance berms and ditches.

During the month of September 2015, Erich Schickenberg, WRA biologist, conducted weekly inspections of the site for erosion control deficiencies. There were no deficiencies to record on the Erosion Controls Checklist and/or site maps, which are typically used to illustrate the location of deficiencies found during the site visit.

This inspection occurred during the dry season, and there were no qualifying rain events prior to the inspection. Areas inspected include the PCRA Subareas up to Pond 13, and the East Materials Storage Area (EMSA). The Quarry Pit, WMSA, and PCRA areas upstream of Pond 13 were inaccessible on the day of inspection due to blasting in the Quarry Pit. WRA will return to assess those areas as soon as possible.

All erosion controls were intact and did not need repair at the time of inspection. There were no deficiencies to note from the September 2015 monthly site inspections.

WRA will continue to perform monthly site inspections to ensure that any deficiencies that develop in existing erosion control materials are addressed and fixed in a timely manner. Succeeding a qualifying rain event (0.5”), WRA will perform a similar inspection in order to ensure that installed erosion control BMPs are functioning as planned, as well as to better understand how stormwater moves throughout the site. Regular inspections will also allow WRA to identify the need for additional BMPs.

If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

ENVIRONMENTAL CONSULTANTS

Memorandum

To: Greg Knapp, Lehigh Hanson
Cc: Sam Barket, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: October 31, 2015
Subject: Permanente Quarry – October Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…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." And
>
> "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."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on the haul roads.
- Erosion control blankets, straw wattles, and silt fence installations within the RPA area.
- Berms where stockpiles are placed.
- Sedimentation and stormwater collection ponds.
- Water conveyance berms and ditches

On October 28, 2015, Erich Schickenberg, WRA biologist, conducted a site inspection after a rain event in order to observe and record any deficiencies in erosion control and stormwater BMPs and to investigate the need for additional erosion control, stormwater and/or siltation containment measures. The storm on October 27, 2015 produced 0.03 inches of precipitation, significantly less than the 0.5 inches within one day necessary for this event to be considered a "qualifying rain event". However, the storm produced enough rainfall to create surface flow and demonstrate the adequacy or deficiency of inspected BMPs.

Areas that were inspected include the Quarry, WMSA and EMSA haul roads and check dams, Pond 4a, the PCRA Subareas, Crusher area, Pond 17, and newly hydroseeded areas in the EMSA. All erosion controls were observed to be intact after the rain event on October 27, 2015, and do not require repair. No further actions should be completed at this time.

If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

wra
ENVIRONMENTAL CONSULTANTS

Memorandum

To: Greg Knapp, Lehigh Hanson
Cc: Sam Barket, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: November 30, 2015
Subject: Permanente Quarry – November Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…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." And
>
> "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."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on the haul roads.
- Erosion control blankets, straw wattles, and silt fence installations within the RPA area.
- Berms where stockpiles are placed.
- Sedimentation and stormwater collection ponds.
- Water conveyance berms and ditches.

This memorandum summarizes the erosion control inspections conducted by WRA biologist Erich Schickenberg throughout the month of November 2015. Permanente Quarry received 2.54 inches of rainfall over the month of November, with one qualifying rain event (events totaling 0.5 inches rainfall or greater within 24 hours) occurring on November 2. Five additional days of rain occurred throughout the month. However, none of these additional days had rainfall totals large enough to be considered "qualifying rain events".

Erosion control inspections were conducted on November 9, 12, 13, and 16 in order to document the need for repairs to existing stormwater and erosion control BMPs and to identify the need for additional erosion controls. All areas of the Lehigh Permanente Quarry were inspected throughout the month of November during WRA's erosion control inspections. Areas that were inspected include the WMSA, North Quarry, Crusher/Support Area, EMSA, PCRA Subareas, and the Surge Pile/Rock Plant Area. All stormwater conveyances, check dams, and sedimentation basins were also inspected regularly.

Most erosion controls inspected during the month of November were intact and did not require repair. Deficiencies in erosion control measures were limited to damage to silt fences in the Crusher/Support area.

Sections of silt fence below the new crusher were found to be weathered and in need of repair. The silt fences below the new crusher were put in place as temporary, construction-related erosion control measures during the construction of the new crusher in 2013. For the most part, these silt fences have been effective in preventing erosion. The damage to the torn or downed silt fence sections appeared to have been caused by weathering and wind, as significant erosion was not evident uphill of the damaged sections. The downed sections of silt fence were repaired in November, and the remaining intact silt fence in this area will be evaluated through the 2015-2016 winter season to determine whether it is still needed.

If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

ENVIRONMENTAL CONSULTANTS

Memorandum

To: Greg Knapp, Lehigh Hanson
Cc: Sam Barket, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: December 31, 2015
Subject: Permanente Quarry – December Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…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." And
>
> "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."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on the haul roads.
- Erosion control blankets, straw wattles, and silt fence installations within the RPA area.
- Berms where stockpiles are placed.
- Sedimentation and stormwater collection ponds.
- Water conveyance berms and ditches.

This memorandum documents the erosion control inspections conducted by WRA biologist Erich Schickenberg throughout the month of December 2015. Permanente Quarry received 3.8 inches of rainfall over the month of December, with three qualifying rain events (totaling 0.5 inches rainfall or greater within one day) occurring on December 13, 21, and 24. Erosion control inspections were conducted on December 12, 24, and 30 in order to document the need for repairs to existing stormwater and erosion control BMPs, and to identify the need for additional erosion controls. Eleven additional days of rain occurred throughout the month, however, none of these days had rainfall totals large enough to be considered "qualifying rain events".

All areas of the Lehigh Permanente Quarry were inspected during the month of December during WRA erosion control inspections. Areas that were inspected include the WMSA, North Quarry, Crusher/Support Area, EMSA, PCRA Subareas 1 through 7, and the Surge Pile/Rock Plant Area. All stormwater conveyances, check dams, and sedimentation basins were inspected regularly.

Most erosion controls inspected during the month of December were intact and did not require repair. Deficiencies in erosion control measures were limited to damage to silt fences in the WMSA and sedimentation within the inlet to a culvert beneath the lower EMSA haul road.

Sections of silt fence surrounding stockpiles within the WMSA were found to be weathered and in need of repair. These silt fences have been effective in preventing erosion, however, the damage to the torn silt fence sections appeared to have been caused by weathering and wind, as significant erosion was not evident uphill of the damaged sections. The sections of damaged silt fence were replaced in December.

The inlet to the culvert installed underneath the EMSA haul road leading to SB7 was found in need of maintenance. In 2015, the EMSA haul road was re-graded, and non-limestone check dams were installed within a stormwater conveyance ditch on the side of the road. The check dams have been effective at slowing runoff and trapping sediment before entering the culvert. However, some sediment managed to reach the culvert, and clogged the inlet. The sediment was removed from the inlet in December.

If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

ENVIRONMENTAL CONSULTANTS

Memorandum

To: Greg Knapp, Lehigh Hanson
Cc: Sam Barket, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: January 31, 2016
Subject: Permanente Quarry – January Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…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." And
>
> "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."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on the haul roads.
- Erosion control blankets, straw wattles, and silt fence installations within the RPA area.
- Berms where stockpiles are placed.
- Sedimentation and stormwater collection ponds.
- Water conveyance berms and ditches.

This memorandum documents the erosion control inspections conducted by WRA biologist Erich Schickenberg throughout the month of January 2016. Permanente Quarry received 7.58 inches of rainfall over the month of January, with six qualifying rain events (totaling 0.5 inches rainfall or greater within one day) occurring on December 5, 6, 18, 19, 22, and 28. Erosion control inspections were conducted on December 5, 15, and 25 in order to document the need for repairs to existing stormwater and erosion control BMPs and to identify the need for additional erosion controls. Eleven additional days of rain occurred throughout the month, however, none of these days had rainfall totals large enough to be considered "qualifying rain events".

All areas of the Lehigh Permanente Quarry were inspected during the month of January during WRA erosion control inspections. Areas that were inspected include the WMSA, North Quarry, Crusher/Support Area, EMSA, PCRA Subareas 1 through 7, and the Surge Pile/Rock Plant Area. All stormwater conveyances, check dams, and sedimentation basins were inspected regularly. All erosion controls inspected during the month of January were intact and did not require repair. No further actions should be completed at this time. If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

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Memorandum

To: Greg Knapp, Lehigh Hanson
Cc: Sam Barket, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: February 29, 2016
Subject: Permanente Quarry – February Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…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." And
>
> "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."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on the haul roads.
- Erosion control blankets, straw wattles, and silt fence installations within the RPA area.
- Berms where stockpiles are placed.
- Sedimentation and stormwater collection ponds.
- Water conveyance berms and ditches.

A total of 1.46 inches of rain fell on the Lehigh Permanente Quarry during the month of February 2016. Precipitation totals for the month were considered below normal (approximately 31 percent of normal) when compared with long-term precipitation data from nearby Los Gatos (WETS Station #5123)[1]. One qualifying rain event (0.5 inches rainfall or greater within a 24-hour period) occurred during the month, on February 17, 2016. WRA biologist Erich Schickenberg inspected the site before and after the qualifying rain event to ensure the integrity of stormwater and erosion control BMPs. All erosion controls are intact and do not need repair. No further actions are required.

If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

1 U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2016. WETS Station Los Gatos, #5123. 1971-2000 analysis. http://www.wcc.nrcs.usda.gov/climate/clim-reports.html

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Memorandum

To: Greg Knapp, Lehigh Hanson
Cc: Sam Barket, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: March 31, 2016
Subject: Permanente Quarry – March Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…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." And
>
> "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."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on the haul roads.
- Erosion control blankets, straw wattles, and silt fence installations within the RPA area.
- Berms where stockpiles are placed.
- Sedimentation and stormwater collection ponds.
- Water conveyance berms and ditches.

A total of 8.22 inches of rain fell on the Lehigh Permanente Quarry during the month of March 2016. Precipitation totals for the month were considered above normal (approximately 209 percent of normal) when compared with long-term precipitation data from nearby Los Gatos (WETS Station #5123)[1]. Five qualifying rain events (0.5 inches rainfall or greater within a 24-hour period) occurred during the month: March 5, March 6, March 7, March 11, and March 13. WRA biologist Erich Schickenberg inspected the site before, during, and after qualifying rain events during the month to ensure the integrity of stormwater and erosion control BMPs.

Deficiencies in erosion control measures included multiple locations with wind-tattered silt fence, a few locations with downed silt fences due to vehicle traffic, and a location where silt fence was found to be slumped due to an excessive amount of sediment being caught in one particular location. The following provides details as to the location of the deficiency in addition to the recommended action:

1 U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2016. WETS Station Los Gatos, #5123. 1971-2000 analysis. http://www.wcc.nrcs.usda.gov/climate/clim-reports.html

- A portion of silt fence that borders Pond 30 is wind-tattered, and should be replaced with non-wire-backed silt fence (patch).
- A portion of silt fence that surrounds the topsoil stockpile within the EMSA is wind-tattered, and should be replaced with non-wire-backed silt fence (patch).
- A section of silt fence that lines the toe of rock stockpiles within the rock plant is slumped due to a large accumulation of sediment in a particular location, and should be dug out by hand. Following the hand excavation of the existing silt fence, the bent T-posts should be replaced with new posts, and the replaced span should be patched with wire-backed silt fence.
- A small portion of silt fence that runs across a small access road adjacent to Pond 13 is downed due to vehicle access, and should be replaced with non-wire-backed silt fence as soon as regular vehicle access to this area is discontinued.
- A portion of silt fence running along the bottom of the topsoil stockpile located in the upper WMSA is wind-tattered, and should be patched with non-wire-backed silt fence. Due to high winds in this area, this silt fence is anticipated to require regular housekeeping practices to keep it functioning appropriately.
- A number of areas within PCRAs in the far western portion of the property are exhibiting wind-tattered silt fences that should be repaired as soon as feasible. These areas can be accessed from the side-hill road that can be accessed across from the “Turner Ready Line” or below the hillside by hiking alongside Permanente Creek.
- A portion of silt fence that borders the southern side of the side-hill access road across from the “Turner Ready Line” is wind-tattered, and can be patched by fastening the existing silt fence material to the adjacent T-post as well as the existing wire portion of the silt fence, which remains appropriately placed.
- A small portion of silt fence that lines the drainage sill that runs along the lower EMSA towards Pond 31A is wind-tattered, and should be replaced with new wire-backed silt fence between the existing T-posts.

Attention to all noted deficiencies should be given as soon as feasible. If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

ENVIRONMENTAL CONSULTANTS

Memorandum

To: Greg Knapp, Lehigh Hanson
Cc: Sam Barket, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: April 30, 2016
Subject: Permanente Quarry – April Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…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." And
>
> "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."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on the haul roads.
- Erosion control blankets, straw wattles, and silt fence installations within the RPA area.
- Berms where stockpiles are placed.
- Sedimentation and stormwater collection ponds.
- Water conveyance berms and ditches.

A total of 1.44 inches of rain fell on the Lehigh Permanente Quarry during the month of April, 2016. Precipitation totals for the month were considered above normal (approximately 121 percent of normal) when compared with long-term precipitation data from nearby Los Gatos (WETS Station #5123)[1]. One qualifying rain event (0.5 inches rainfall or greater within a 24-hour period) occurred during the month, on April 22, 2016. WRA biologist Erich Schickenberg inspected the site before, during, and after the qualifying rain event during the month to ensure the integrity of stormwater and erosion control BMPs. All areas of the Lehigh Permanente Quarry were inspected during the month of January during WRA erosion control inspections. Areas that were inspected include the WMSA, North Quarry, Crusher/Support Area, EMSA, PCRA Subareas 1 through 7, and the Surge Pile/Rock Plant Area. All stormwater conveyances, check dams, and sedimentation basins were inspected regularly. All erosion controls inspected during the month of January were intact and did not require repair. No further actions should be completed at this time. If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

1 U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2016. WETS Station Los Gatos, #5123. 1971-2000 analysis. http://www.wcc.nrcs.usda.gov/climate/clim-reports.html

ENVIRONMENTAL CONSULTANTS

Memorandum

To: Greg Knapp, Lehigh Hanson
Cc: Sam Barket, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: May 31, 2016
Subject: Permanente Quarry – May 2016 Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…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." And
>
> "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."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on the haul roads.
- Erosion control blankets, straw wattles, and silt fence installations within the RPA area.
- Berms where stockpiles are placed.
- Sedimentation and stormwater collection ponds.
- Water conveyance berms and ditches.

During the month of May 2016, Erich Schickenberg, WRA biologist, conducted weekly inspections of the site for erosion control deficiencies. There were no deficiencies to record on the Erosion Controls Checklist and/or site maps, which are typically used to illustrate the location of deficiencies found during the site visit.

This inspection occurred during the dry season, and there were no qualifying rain events prior to the inspection. Areas inspected include the PCRA Subareas up to Pond 13, and the East Materials Storage Area (EMSA). The Quarry Pit, WMSA, and PCRA areas upstream of Pond 13 were inaccessible on the day of inspection due to blasting in the Quarry Pit. WRA will return to assess those areas as soon as possible.

All erosion controls were intact and did not need repair at the time of inspection. There were no deficiencies to note from the May 2016 monthly site inspections.

WRA will continue to perform monthly site inspections to ensure that any deficiencies that develop in existing erosion control materials are addressed and fixed in a timely manner. Succeeding a qualifying rain event (0.5”), WRA will perform a similar inspection in order to ensure that installed erosion control BMPs are functioning as planned, as well as to better understand how stormwater moves throughout the site. Regular inspections will also allow WRA to identify the need for additional BMPs.

If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

ENVIRONMENTAL CONSULTANTS

Memorandum

To: Greg Knapp, Lehigh Hanson
Cc: Sam Barket, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: June 30, 2016
Subject: Permanente Quarry – June 2016 Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…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." And
>
> "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."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on the haul roads.
- Erosion control blankets, straw wattles, and silt fence installations within the RPA area.
- Berms where stockpiles are placed.
- Sedimentation and stormwater collection ponds.
- Water conveyance berms and ditches.

During the month of June 2016, Erich Schickenberg, WRA biologist, conducted weekly inspections of the site for erosion control deficiencies. There were no deficiencies to record on the Erosion Controls Checklist and/or site maps, which are typically used to illustrate the location of deficiencies found during the site visit.

This inspection occurred during the dry season, and there were no qualifying rain events prior to the inspection. Areas inspected include the PCRA Subareas up to Pond 13, and the East Materials Storage Area (EMSA). The Quarry Pit, WMSA, and PCRA areas upstream of Pond 13 were inaccessible on the day of inspection due to blasting in the Quarry Pit. WRA will return to assess those areas as soon as possible.

All erosion controls were intact and did not need repair at the time of inspection. There were no deficiencies to note from the June 2016 monthly site inspections.

WRA will continue to perform monthly site inspections to ensure that any deficiencies that develop in existing erosion control materials are addressed and fixed in a timely manner. Succeeding a qualifying rain event (0.5”), WRA will perform a similar inspection in order to ensure that installed erosion control BMPs are functioning as planned, as well as to better understand how stormwater moves throughout the site. Regular inspections will also allow WRA to identify the need for additional BMPs.

If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

Photograph 1. Repaired silt fence on south side of side-hill access road across from “Turner Ready Line” noted in March 2016 Erosion Control Inspection Report.

Photograph 2. Repaired silt fence surrounding the topsoil stockpile located in the EMSA noted in the March 2016 Erosion Control Inspection Report.

Photograph 3. Repaired silt fence surrounding Pond 30, noted in the March 2016 Erosion Control Inspection Report.

Photograph 4. Repaired silt fence on the downhill side of the sill that drains portions of the lower EMSA towards Pond 31A. This repair was recommended as part of the March 2016 Erosion Control Inspection Report.

Photograph 5. Repaired silt fence located on an access road adjacent to Pond 13, noted in the March 2016 Erosion Control Inspection Report. This portion of silt fence was replaced after regular vehicle traffic through this area was ceased.

Photograph 6. Repaired silt fence located within the rock plant, noted in the March 2016 Erosion Control Inspection Report. A portion of silt fence was hand-dug out and replaced with new T-posts and non-wire-backed silt fence.

Photograph 7. Repaired silt fence surrounding the topsoil stockpile in the EMSA; also documented earlier in this compilation of photographs (Photograph 2).

Photograph 8. Repaired silt fence located at the toe of the slope of the topsoil stockpile located in the upper WMSA. This area was originally noted as in need of repair in the March 2016 Erosion Control Inspection Report.

Photograph 9. Repaired silt fence located in multiple PCRAs. Sections of these silt fences were wind-tattered and originally noted in the March 2016 Erosion Control Inspection Report.

Photograph 10. Repaired silt fence located on an access road adjacent to Pond 13, noted in the March 2016 Erosion Control Inspection Report. This portion of silt fence was replaced after regular vehicle traffic through this area was ceased (also pictured as Photograph 5).

APPENDIX C:

RECLAMATION PLAN AMMENDMENT AND FINAL CONDITIONS OF APPROVAL ANNUAL WORKER TRAINING

LEHIGH HEIDELBERGCEMENT Group Permanente Plant	Lehigh Hanson ENVIRONMENTAL ANNUAL TRAINING TOPIC RPA Provisions and Conditions of Approval	Annual 2015

Santa Clara County: Reclamation Plan Amendment (RPA)

RECLAMATION PLAN AMENDMENT AND FINAL CONDITIONS OF APPROVAL TRAINING TOPICS

Per the Final Conditions of Approval number 11 (COA 11), Lehigh 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.

Reclamation Plan Amendment (RPA) and Provisions

Approval of the project would amend the existing reclamation plan for the Quarry and would result in the reclamation of an approximately 1,238-acre project area within the Applicant's overall 3,510-acre ownership. The Project is designed to make the reclaimed lands suitable for future open space uses. It includes site-specific activities to satisfy the reclamation requirements of the Surface Mining and Reclamation Act of 1975 and the County's surface mining ordinance and surface mining and land reclamation standards. The Project would be implemented in three phases over an approximately 20-year period, expected to begin in 2012 and conclude with final reclamation by approximately 2030.

As part of the RPA approval process, mitigation measures and provisions were agreed upon for the project. The Project Draft Environmental Impact Report (EIR) and Final EIR describe the various conditions and activities that the quarry must adhere to through the project. Quarry staff shall be aware of the conditions of approval that correspond to their job descriptions and responsibilities. These are listed and described throughout the Reclamation Plan Amendment, which is available for all quarry staff to view as needed.

Final Conditions of Approval

The County issued a Final Conditions of Approval which contains 89 different Conditions of Approval which shall be met by the Quarry. Quarry staff shall be aware of the COA's and be knowledgeable in those COA's which correspond to their job descriptions and responsibilities. A copy of the Final COAs is available for all quarry staff to view as needed.

LEHIGH HEIDELBERGCEMENT Group Permanente Plant	Lehigh Hanson ENVIRONMENTAL ANNUAL TRAINING TOPIC RPA – Prevention of Triggering Debris Slides	**Annual** **2015**

Santa Clara County: Reclamation Plan Amendment (RPA)

PREVENTION OF TRIGGERING DEBRIS SLIDES

As a condition of approval for the Reclamation Plan Amendment, the County has mandated that mine operators shall be trained in the prevention of triggering debris slides. This is targeted at keeping sediment, especially limestone-based materials, from entering Permanente Creek and PCRA areas.

Please discuss the following topics with all employees:

1. General awareness of the causes and impacts of debris slides.

   Debris slides can occur on steep hillsides where consolidation of the substrate cannot support the loads above. Slides usually happen where fill slopes are steep and composed of loose materials. Any loosening or disturbance of supporting materials can cause a debris slide.

2. Maintaining thorough and adequate erosion control measures.

   Controls to prevent materials from sloughing off 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, and berms along the outer extent of operations closest to the creek.

   At the Permanente Quarry, the main control is the haul road berms to prevent materials from entering the PCRA. Secondary controls are installed on the slopes below the haul road berm in various subareas on the creek slopes including erosion control matting, straw wattles, and wire-backed silt fencing.

3. Prevention of actions that may cause or exacerbate debris slide conditions

   Avoid unnecessarily removing vegetation, boulders and other substrates. Restrict vehicle operations to maintained roads. Stockpile fill and other debris in appropriate areas as designated with the haul road berms.

4. Regularly inspect areas with a high potential for slides and report any suspected conditions that might cause a debris slide into Permanente Creek and PCRA areas.

Lehigh Permanente Quarry

EROSION CONTROL TRAINING TOPICS

Erosion control is the practice of preventing or controlling wind or water erosion in agriculture, land development and construction. Effective erosion controls are important techniques in preventing water pollution and soil loss. Erosion controls are used in natural areas, agricultural settings or urban environments. Erosion controls often involve the creation of a physical barrier, such as vegetation or rock, to absorb some of the energy of the wind or water that is causing the erosion. On construction sites they are often implemented in conjunction with sediment controls such as sediment basins and silt fences.

On the Permanente Quarry Site, the main erosion controls include:

- Haul road berms to keep water out of the creek and directed toward siltation basins or ponds
- Siltation basins or ponds to settle out sediment and control waters leaving the site
- Silt fences, straw wattles, and erosion control blankets on the creek side of the haul road berms in select locations
- Silt fences, straw wattles, and erosion control blankets on the topsoil stockpiles

6 *Goals Of Erosion Control*

1. *No Sediment Leaves the Site*
2. *Lines of Defense Everywhere* & *Always*
3. *Cover Quickly*
4. *Protect the Swale, Ditch ,and Channel*
5. *Keep Clean Water Clean*
6. *Inspect, Clean* & *Fix*

Inlet Barriers (i.e.: sand bags, gutter buddies, straw wattles)

- Is the structure deteriorating
- Is sediment >1/2 the height of structure?
- Evidence of water/sediment getting around or under barrier?
- Are there other structures that require inlet barriers?

Sediment Barriers (i.e.: haul road check dams, ditch checks)

- Are they trenched in or falling down?
- Evidence of sediment/water getting around or under barrier?
- Is sediment more than 1/2 height of structure?
- Are there areas where more sediment barriers are required or need extended?

Perimeter Control (i.e.: Haul road berms, silt fence, straw wattles)

- Is all the off-site water being diverted where applicable?
- Evidence of water/sediment getting around or under barrier?
- Are there areas that need extended or additions to other locations?
- Are the barriers in good condition or in need of repair?
- Straw Blankets-are they deteriorating and need replaced?
- Are the haul road berms preventing water from entering the creek?

Stabilized Construction Entrance

- Evidence of sediment being tracked off site onto public streets?

Soil and Fines Stockpiles

- An earth berm must be constructed upstream around the area to prevent runoff from contacting stockpile and a downstream ditch to prevent waters from leaving the stockpile site

Sediment Basins

- Note the basin depth. Is the basin more than half full of sediment from original design?
- Condition of basin side slopes
- Evidence of water overtopping embankments
- Condition of outfall

General Site Conditions

- Trash barrels-any evidence of trash lying around site
- Location of porta potties
- Leaking vehicles
- Concrete Washouts Designated

LEHIGH HEIDELBERGCEMENT Group Permanente Plant	Lehigh Hanson ENVIRONMENTAL ANNUAL TRAINING TOPIC RPA – SWPPP: Best Management Practices	**Annual** **2015**

Santa Clara County: Reclamation Plan Amendment (RPA)

STORM WATER POLLUTION PREVENTION PLAN: BMPs

Best Management Practices (BMPs) are practices used to reduce the amount of pollution entering surface waters. Based on the potential pollutant areas identified at the facility, existing and recommended BMPs for the facility are discussed below.

Please discuss the following areas with all employees:

1) **Truck Loading Areas**
   a. Continue to immediately cleanup any spilled cement or aggregate.

2) **Raw Material Storage**
   a. Any total suspended solids (TSS) generated by stormwater contact with the aggregate storage areas is directed to detention ponds or basins which are designed to remove TSS prior to discharge. BMP in these areas would be to insure that stormwater runoff from aggregate storage or cement loading areas does not leave the property, but indeed goes to ponds or basins.
   b. Maintain bag houses to prevent dust from cement. Immediately cleanup any spill material to limit exposure to stormwater.

3) **Secondary Containment Storage**
   a. Secondary containment walls should be maintained, inspected and repaired when necessary to prevent leaks. Secondary containment is defined as spill containment for the contents of the single largest tank plus sufficient freeboard to allow for a 25 year, 24 hour storm event.
   b. Maintain the equipment and hoses within the containment area used to transfer the materials. Clean inside walls when necessary.

4) **Diesel Tanks**
   a. Fuel overflows during storage tank filling can be a major source of spills. Watch the transfer constantly to prevent overfilling and spilling.
   b. Clean up any spills or drips immediately.
   c. Verify that drain plug is installed.
   d. Discourage topping off of fuel tanks.
   e. Properly protect portable fuel tanks, pumps and hoses from contact with trucks and other mobile equipment.
   f. Install secondary containment around tank pump and piping if not already done, this would prevent a leak or spill from entering ponds, basins or from leaving the property.

LEHIGH HEIDELBERGCEMENT Group Permanente Plant	Lehigh Hanson ENVIRONMENTAL ANNUAL TRAINING TOPIC RPA – SWPPP: Best Management Practices	**Annual** **2015**

5) **Oil Storage Areas**
   a. Place all drums and lubricants on drip containment pallets.
   b. Clean up any spills or drips with sorbent materials immediately.
   c. Maintain valves to prevent leaks.
   d. Clean out within containment when necessary. Inspect for residue prior to rainwater release.
   e. Remove old & unused barrels

6) **Ponds and Basins**
   a. Inspect basins regularly for damage, erosion, waste, and sediment buildup.
   b. Clean out basins when necessary to prevent a stormwater overflow.
   c. Reduce amount of sediment and processed water to keep basins level low.
   d. Inspect outfall regularly for dry weather discharge.

7) **Sediment Drying Areas**
   a. Inspect area regularly for damage, erosion, waste, and sediment buildup.
   b. Clean out area when necessary to prevent a stormwater overflow.
   c. Reduce amount of sediment to keep sediment levels low.

8) **Equipment Wash Areas**
   a. Continue to wash mobile equipment to the basins and direct all wash water to prevent it from leaving the containment area
   b. Keep area swept and free of aggregates, fines and trash that could enter the ponds, basins or leave property.
   c. Inspect area regularly for damage and erosion.

REMEMBER:
Keep tanks inside secondary containment.

- **Prevent a leak or spill from entering the ponds, basins or leaving the property.**

LEHIGH HEIDELBERGCEMENT Group Permanente Plant	Lehigh Hanson ENVIRONMENTAL ANNUAL TRAINING TOPIC RPA – Prevention of Triggering Debris Slides	**Annual** **2015**

Santa Clara County: Reclamation Plan Amendment (RPA)

CULTURAL RESOURCES IDENTIFICATION AND PRESERVATION

Because cultural artifacts have been encountered on the Quarry site, mine operators shall be trained in the identification of archaeological artifacts and preservation of those resources. Please discuss the following topics with all employees:

1. General awareness of COA 65.
   If cultural resources are encountered 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. 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

2. Identification of Cultural Resources:
   a. Prehistoric Archaeological Materials might include:
      i. obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris;
      ii. culturally darkened soil (“midden”) containing heat-affected rocks, artifacts, or shellfish remains;
      iii. stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones.
   b. Historic-period materials might include:
      i. stone, concrete, or adobe footings and walls;
      ii. filled wells or privies;
      iii. deposits of metal, glass, and/or ceramic refuse.

Figure 1. A grinding stone or ‘metate’ found on Permanente Quarry property.

Lehigh Southwest Cement Company
Permanente Quarry

2015 Reclamation Plan Amendment Staff Training

8/26/2015

Training Topics

1) Reclamation Plan Amendment (RPA)
2) Environmental Impact Report (EIR) Mitigation Monitoring and Reporting Plan (MMRP)
3) Conditions of Approval (COA's)
4) Storm Water Pollution Prevention Plan (SWPPP)
5) Prevention of Triggering Debris Slides
6) Erosion Control Training

Sign-in Sheet

Name	Department	Date
Jorge Moreno	Quarry	8-27-2015
Michael Ambrosio	Quarry	8-27-15
FIDEL A. CASTILLO	QUARRY	8-27-15
Joel Hernandez	[signature]	8-27-15
Edwin Trabanino	[signature]	8-27-15
CHRISTOPHER PACHECO	QUARRY	8-27-15
Marcos Lutin	Quarry	8-27-15
VICENTE CORTES	Quarry	8/27/15
NATHEN CASTRO	Quarry	8-27-15
George Dias	Quarty	8-27-15
Jesse Vallejos	Quarry	8/27/15
Jose E. Rivas	[signature]	
Jose Solorio	Quarry	8-27-15
Courtney Perry	Quarry	8-27-15
[signature]	Quarry	8-27-15
Cody Combs	Quarry	8-27-15
Larry Bread	Quarry	8-27-15
Cory Brent	quarry	8-27-15

Lehigh Southwest Cement Company
Permanente Quarry

Name	Department	Date
Kaleb sherrill	~~Quarry~~ TCI	8-27-15
Kyle Johnson	TCI	8-27-15
Johnathan Jerrells	TCI	8-27-15
[illegible]	TCI	8-27-15
Travis Brown	TCI	8-27-15
Jeff Card	TCI	8-27-15
Greg Murray	TCI	8-27-15
Matt Jarvis	TCI	8-27-15
Anthony Baker	TCI	8-27-15
[illegible]	TCI	8-27-15
[illegible]	TCI	8/27/15
[illegible]	TCI	8/27/15
Gilbert Rodriguez	Intech	8/27/15
Mario Beltran	Quarry.	8-27-15
Hector Martinez	Quarry.	8-27-15
Antonio Barraza	QUARRY	8/27/15
F Navarro & Navarro	Quarry	8-27-15
ROGELIO FLORES	Quarry	8/27/15
Joey Gonzalez	Quarry	8-27-15
PASTOR G LOPEZ	QUARRY	8 27-15
George Taylor	Quarry	8/27/15
TERRY DUKE	Quarry	8-27-15
Jimmy [illegible]	Quarry	8/27/15
Jose Valdez	Quarry	8/27/15
Adan Vaca	Quarry	8/27/15
Vicente Aceves	ECI	8/27/15
Jesus Ibarra	ECI	8-27-15

Lehigh Southwest Cement Company
Permanente Quarry

2015 Reclamation Plan Amendment Staff Training

8/26/2015

Training Topics

1) Reclamation Plan Amendment (RPA)
2) Environmental Impact Report (EIR) Mitigation Monitoring and Reporting Plan (MMRP)
3) Conditions of Approval (COA's)
4) Storm Water Pollution Prevention Plan (SWPPP)
5) Prevention of Triggering Debris Slides
6) Erosion Control Training

Sign-in Sheet

Name	Department	Date
	TCI	8-27-15
Chad Albertson	TCI	8-27-15
	TCI	8-27-15
	TCI	8/27/15
	TCI	8/27/15
	TCI	8/27/15
	TCI	08/27/15
Albert Engle	TCI	8/27/15

Lehigh Hanson - Heidelberg Cement Group
Permanente Quarry

2015 Reclamation Plan Amendment Staff Training

Training Topics

1) Reclamation Plan Amendment (RPA)
2) Environmental Impact Report (EIR) Mitigation Monitoring and Reporting Plan (MMRP)
3) Conditions of Approval (COA's)
4) Storm Water Pollution Prevention Plan (SWPPP)
5) Prevention of Triggering Debris Slides
6) Erosion Control Training

Sign-in Sheet

Name	Department	Date
David Zwick	E.S. WRA	8/27/15
Erik Schickedanz	ES WRA	8/28/15
Megan Stromberg	LA WRA	8/28/15
BEN SARAGUSA	E.S. WRA	9/1/15
Nick Brinton	Wildlife WRA	9/1/15
	ES ish	9/8/15
	E.S. WRA	9/8/15
	WILDLIFE WRA	9/8/15

APPENDIX D:

WATER QUALITY MONITORING MEMO

TECHNICAL MEMORANDUM

Date:	9/22/16	**Project No.:**	1655230
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, 2015 through June 30, 2016 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, 2015 through June 30, 2016, representative samples were collected 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 17 and 30 from July 1, 2015 through June 30, 2016. Pond 13b did not discharge during this time period.

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

Electrical conductivity measurements were not taken as samples were analyzed for TDS directly (i.e., EC is a surrogate for TDS laboratory data). Total dissolved solids (TDS) 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, 2016, Golder performed a seep survey within the Quarry pit. Two seeps (Seep-750 and Seep 850) were identified during the survey similar to previous years. A third seep (Seep-1000) was also identified. The seeps were located as follows:

- Seep-850: this seep was located in the southwest portion of the pit where it day-lighted on the 900 and 850 feet elevation benches.
- Seep-750: this seep was located by the western/northwestern portion of the pit emanating from above the pit floor along the northwestern pit wall.
- Seep-1000: this seep was located along the southeast pit wall in an area of recent mining activity.

Golder did not identify any additional seeps within the Quarry pit. During the seep survey, the three 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. The results for Seep-750 and

Seep-850 are generally consistent with previous years. Selenium results from the three samples ranged from 2.3 micrograms per Liter (ug/L) to 34 ug/L and nickel results ranged from 4.3 ug/L to 37 ug/L. The highest concentrations were noted for Seep-850.

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

Samples of the primary overburden materials located within the pit were collected and analyzed in 2014. The samples were collected of the Santa Clara Formation, greenstone, and graywacke and were submitted for laboratory analysis for total selenium and for leaching potential via the waste extraction test (WET). Total selenium was not detected above the laboratory method detection limit of 0.022 milligrams per kilogram (mg/kg). WET results ranged from non-detect to 1.5 ug/L.

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.

During the 2015/2016 wet season, samples were collected of runoff from the EMSA cover during storm events. Golder prepared a technical memorandum, dated May 27, 2016, summarizing investigatory activities and to provide recommendations to reduce selenium in the Pond 30 discharge. Lehigh submitted the technical memorandum to Santa Clara County. Golder prepared a follow-up letter, dated July 11, 2016, in response to the County's comments and to provide additional details on proposed activities. Copies of these two documents are attached. Note that the implementation of the proposed Pond 30 recommendations has been delayed because of the potential presence of the California red-legged frog in the work area. Lehigh is currently evaluating options to address this concern.

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.

This task is to be completed after reclamation activities are complete.

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.

This task is ongoing.

Appendices

Tables 1 and 2
Technical Memorandum: EMSA Storm Water Runoff Evaluation, May 27, 2016
Letter: French Drain and Pond 30 Workplan, July 11, 2016

TABLES

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2016

Pond 4A:																Chronic Toxicity	
Date	Flow Rate	TSS	O&G	Temp	pH	Total Res Chlorine	Settleable Matter	Chromium (VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Survival	Reproductive
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	TUc
Sample Type		Grab	Grab		Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	C-24	C-24	
July 2015	***No discharge for the month***																
August 2015	***No discharge for the month***																
9/1/2015	0																
9/2/2015	0																
9/3/2015	0																
9/4/2015	76,100	2.7		24.13	8.2	ND							960	6.2			
9/5/2015	0																
9/6/2015	0																
9/7/2015	0																
9/8/2015	0																
9/9/2015	0																
9/10/2015	0																
9/11/2015	0																
9/12/2015	0																
9/13/2015	218,200																
9/14/2015	253,500				8.1	0.1								2.4			
9/15/2015	128,800				8.5	0.1								3.7			
9/16/2015	476,100	0.60	ND<1.7	22.27	9.3	0.1	ND<0.10	5.4	0.00252	7.2	17	0.37 J	900	1.9	100%	1.8	3.5
9/17/2015	315,500				9.7	0.0								5.6			
9/18/2015	0																
9/19/2015	0																
9/20/2015	0																
9/21/2015	0																
9/22/2015	0																
9/23/2015	0																
9/24/2015	0																
9/25/2015	0																
9/26/2015	0																
9/27/2015	0																
9/28/2015	83,000				8.0	0.1								2.5			
9/29/2015	0																
9/30/2015	226,300	1.1		20.81	8.4	0.1		2.7		7.0		0.15 J	920	2.0			
10/1/2015	226,300				-	-											
10/2/2015	104,200				7.9	0.0								2.6			
10/3/2015	94,400																
10/4/2015	0																
10/5/2015	0				8.1	0.1								2.6			
10/6/2015	84,400				8.5	0.1								2.4			
10/7/2015	145,600				7.9	0.1								2.2			
10/8/2015	0				-	-											
10/9/2015	212,900				7.9	0.0								2.8			
10/10/2015	523,300	7.8		22.01				ND<0.055		16		0.15 J	990				
10/11/2015	655,100																

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2016

Pond 4A:																Chronic Toxicity	
Date	Flow Rate	TSS	O&G	Temp	pH	Total Res Chlorine	Settleable Matter	Chromium (VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Survival	Reproductive
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	TUc
Sample Type		Grab	Grab		Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	C-24	C-24	
10/12/2015	1,012,000				7.6	0.1								8.2			
10/13/2015	560,900				7.2	0.1								9.1			
10/14/2015	675,000				6.9	0.0								14.4			
10/15/2015	376,200	3.8			7.3	0.1							1000	10.0			
10/16/2015	559,600				7.1	0.0								13.9			
10/17/2015	563,400																
10/18/2015	470,600																
10/19/2015	823,700				7.3	0.1								9.2			
10/20/2015	697,800				7.6	0.1								16.8			
10/21/2015	557,800	5.6	ND<1.7	20.11	6.3	0.0	ND<0.10	ND<0.055	0.00067	31	20	0.12 J	1100	15.7			
10/22/2015	671,800				7.0	0.0								17.5			
10/23/2015	698,000				6.6	0.1								17.2			
10/24/2015	725,600																
10/25/2015	622,200																
10/26/2015	637,100				7.6	0.0								7.3			
10/27/2015	614,600				6.9	0.1								7.8			
10/28/2015	647,500	2.8		19.14	7.3	0.1							900	9.2			
10/29/2015	472,600				7.2	0.0								10.1			
10/30/2015	611,500				7.4	0.0								9.2			
10/31/2015	525,600																
11/1/2015	558,300																
11/2/2015	544,700				7.2	0.0								8.5			
11/3/2015	425,100				6.8	0.0								9.0			
11/4/2015	454,400	3.6		16.38	7.3	0.0							980	9.6			
11/5/2015	588,300	4.3			7.2	0.0								10.2			
11/6/2015	1,187,400				7.8	0.1								9.0			
11/7/2015	650,100																
11/8/2015	488,500																
11/9/2015	876,700				8.1	0.0								9.2			
11/10/2015	425,400	2.8	ND<1.7		7.5	0.0	ND<0.10	1.7	0.00919	66	16	ND<0.10	860	9.5			
11/11/2015	270,500				7.2	0.0								9.6			
11/12/2015	481,800				7.4	0.0								9.2			
11/13/2015	349,100				7.3	0.0								9.8			
11/14/2015	0																
11/15/2015	0																
11/16/2015	379,900				7.6	0.0								14.0			
11/17/2015	413,300				8.1	0.0								10.0			
11/18/2015	208,200				7.9	0.0								13.0			
11/19/2015	502,800				6.9	0.0								7.3			
11/20/2015	568,600	5.8			7.1	0.0							760	10.4			
11/21/2015	189,700																
11/22/2015	155,500																

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2016

Pond 4A:																Chronic Toxicity	
Date	Flow Rate	TSS	O&G	Temp	pH	Total Res Chlorine	Settleable Matter	Chromium (VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Survival	Reproductive
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	TUc
Sample Type		Grab	Grab		Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	C-24	C-24	
11/23/2015	598,000				7.6	0.0								8.2			
11/24/2015	568,200	1.5			8.1	0.0		2.5		48		0.18 J	840	16.4			
11/25/2015	719,100				7.9	0.0								12.3			
11/26/2015	312,300																
11/27/2015	199,000																
11/28/2015	194,200																
11/29/2015	183,600																
11/30/2015	677,000				7.6	0.0								11.4			
12/1/2015	387,900				7.8	0.0								12.5			
12/2/2015	636,700				6.9	0.0								13.8			
12/3/2015	625,800	1.4			7.4	0.0							900	10.3			
12/4/2015	726,900				7.6	0.0								12.3		2.2	4.6
12/5/2015	359,200																
12/6/2015	360,800																
12/7/2015	807,900				7.6	0.0								10.2			
12/8/2015	517,600				7.8	0.0								12.3			
12/9/2015	520,500	0.90	ND	15.47	7.1	0.0	ND	5.9 [2]	0.00178	410	47	0.14 J	820	9.4	100		
12/10/2015	578,500				7.9	0.0								12.6			
12/11/2015	435,000				7.6	0.0								10.8			
12/12/2015	22,100																
12/13/2015	0																
12/14/2015	300,500				7.0	0.0								13.8			
12/15/2015	52,700				7.2	0.0								11.9			
12/16/2015	89,900				7.7	0.0								12.7			
12/17/2015	138,500	2.9		10.37	7.4	0.0				240		0.19 J	720	10.4			
12/18/2015	73,000				7.6	0.0								10.7			
12/19/2015	126,300																
12/20/2015	0																
12/21/2015	104,900	3.8			7.9	0.0							760	13.9			
12/22/2015	295,200				7.4	0.0								12.4			
12/23/2015	280,000				7.4	0.0								13.1			
12/24/2015	235,600				7.3	0.0								10.6			
12/25/2015	234,700																
12/26/2015	327,600																
12/27/2015	180,400																
12/28/2015	254,700	16			7.2	0.0		27					600	13.7			
12/29/2015	428,400				7.7	0.0								10.6			
12/30/2015	574,200				7.3	0.0								12.9			
12/31/2015	448,100				7.4	0.0								9.6			
1/1/2016	586,000																
1/2/2016	439,300																
1/3/2016	346,600																

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2016

Pond 4A:																Chronic Toxicity	
Date	Flow Rate	TSS	O&G	Temp	pH	Total Res Chlorine	Settleable Matter	Chromium (VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Survival	Reproductive
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	TUc
Sample Type		Grab	Grab		Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	C-24	C-24	
1/4/2016	244,459				7.2	0.0								13.6			
1/5/2016	594,200	13			7.6	0.0							600	10.4			
1/6/2016	605,000				7.9	0.0								11.6			
1/7/2016	244,459				7.4	0.0								12.4			
1/8/2016	215,800				7.6	0.0								13.6			
1/9/2016	0																
1/10/2016	0																
1/11/2016	0																
1/12/2016	0																
1/13/2016	0																
1/14/2016	0																
1/15/2016	0																
1/16/2016	0																
1/17/2016	136,700																
1/18/2016	426,000																
1/19/2016	322,500	31	ND<1.7		7.6	0.0	ND<0.10	35	0.0362	15	11	0.26 J	520	10.4			
1/20/2016	665,300				7.4	0.0								11.3			
1/21/2016	529,600				7.3	0.0								10.7			
1/22/2016	606,800				7.7	0.0								12.2			
1/23/2016	650,000																
1/24/2016	649,600																
1/25/2016	652,900				7.8	0.0								9.7			
1/26/2016	626,000				7.7	0.0								10.3			
1/27/2016	642,600	4.4		12.34	8.1	0.0		47		8.2		0.29 J	480	10.0			
1/28/2016	644,400				8.2	0.0								12.5			
1/29/2016	652,000				7.9	0.0								9.3			
1/30/2016	671,200																
1/31/2016	648,400																
2/1/2016	655,300				8.4	0.0								9.8			
2/2/2016	439,300				8.3	0.0								9.0			
2/3/2016	346,600				8.4	0.0								9.0			
2/4/2016	352,400				8.3	0.0								8.9			
2/5/2016	12,200	6.3			8.2	0.0							590	8.7			
2/6/2016	0																
2/7/2016	352,400																
2/8/2016	0																
2/9/2016	0																
2/10/2016	0																
2/11/2016	0																
2/12/2016	0																
2/13/2016	0																
2/14/2016	0																

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
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Pond 4A:																Chronic Toxicity	
Date	Flow Rate	TSS	O&G	Temp	pH	Total Res Chlorine	Settleable Matter	Chromium (VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Survival	Reproductive
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	TUc
Sample Type		Grab	Grab		Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	C-24	C-24	
2/15/2016	0																
2/16/2016	0																
2/17/2016	0																
2/18/2016	0																
2/19/2016	0																
2/20/2016	0																
2/21/2016	0																
2/22/2016	0																
2/23/2016	0																
2/24/2016	190,500				8.3	0.0								9.2			
2/25/2016	324,700	7.2	ND	17.6	8.3	0.0	ND	35	0.00679	9.6	18	0.33 J	630	9.4			
2/26/2016	278,100				8.3	0.0								8.9			
2/27/2016	309,500																
2/28/2016	312,500																
2/29/2016	201,300	2.3			8.3	0.0		42		5.6		0.38 J	710	9.0			
3/1/2016	183,800				7.9	0.0								5.6			
3/2/2016	0				7.6	0.0								4.8			
3/3/2016	243,900				7.2	0.0								5.2			
3/4/2016	0				7.4	0.0								3.5			
3/5/2016	685,000				7.9	0.0								4.7			
3/6/2016	232,600				8.1	0.0								4.7			
3/7/2016	0				8.0	0.0								4.9			
3/8/2016	0				7.6	0.0								4.3			
3/9/2016	27,200				7.8	0.0								4.9			
3/10/2016	400,100				7.5	0.0								4.6			
3/11/2016	1,081,900	2.6			7.9	0.0		3.0		7.5		0.29 J	730	5.2			
3/12/2016	1,625,600				8.1	0.0								3.6			
3/13/2016	696,500				7.6	0.0								3.8			
3/14/2016	746,900				7.6	0.0								3.7			
3/15/2016	1,573,300				7.5	0.0								5.8			
3/16/2016	2,186,400				7.6	0.0								5.3			
3/17/2016	2,871,000				7.7	0.0								4.8			
3/18/2016	2,434,400	5.6			8.3	0.0							1100	4.9			
3/19/2016	945,800				8.3	0.0								4.8			
3/20/2016	1,902,000				8.1	0.0								4.5			
3/21/2016	1,462,700				8.0	0.0								5.6			
3/22/2016	1,769,800				7.5	0.0								3.9	100		
3/23/2016	1,412,500				7.7	0.0								4.6			
3/24/2016	1,335,900	3.4	ND<0.76		7.7	0.0	ND<0.10	9.8	0.00173	48	38	0.20 J	1100	5.3			
3/25/2016	886,900				7.7	0.0								5.7			
3/26/2016	1,042,700				7.6	0.0								3.5			
3/27/2016	1,000,200				7.5	0.0								3.7			

Table 1: Monitoring Data Summary
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Pond 4A:																Chronic Toxicity	
Date	Flow Rate	TSS	O&G	Temp	pH	Total Res Chlorine	Settleable Matter	Chromium (VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Survival	Reproductive
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	TUc
Sample Type		Grab	Grab		Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	C-24	C-24	
3/28/2016	757,100				7.5	0.0								3.5		1	2.8
3/29/2016	611,800				8.2	0.0								2.5			
3/30/2016	352,000	1.9		16.58	7.5	0.0							970	2.2			
3/31/2016	767,800				7.5	0.0								2.0			
4/1/2016	1,865,770				7.4	0.0								3.3			
4/2/2016	1,850,530				7.8	0.0								4.9			
4/3/2016	1,179,190				7.4	0.0								3.2			
4/4/2016	1,276,230				7.7	0.0								2.9			
4/5/2016	1,433,740	2.6			7.9	0.0							1200	3.7			
4/6/2016	1,286,300				7.8	0.0								4.4			
4/7/2016	1,004,080				7.2	0.0								3.7			
4/8/2016	1,360,650				7.7	0.0								2.9			
4/9/2016	2,808,100				7.5	0.0								3.7			
4/10/2016	2,488,240				7.6	0.0								3.5			
4/11/2016	1,642,350				7.8	0.0								2.9			
4/12/2016	3,112,840				7.9	0.0								2.3			
4/13/2016	2,865,960	1.4	ND<0.76		8.0	0.0	ND<0.10	7.8	0.00243	77	47	0.26 J	1100	3.2			
4/14/2016	3,160,160				8.0	0.0								3.5			
4/15/2016	2,867,780				8.2	0.0								2.6			
4/16/2016	2,710,210				7.8	0.0								2.4			
4/17/2016	2,600,060				7.8	0.0								2.8			
4/18/2016	1,721,630				7.9	0.0								2.2			
4/19/2016	2,715,110				7.9	0.0								2.5			
4/20/2016	2,522,950	1.5		17.53	7.9	0.0		0.66		88		0.23 J		2.1			
4/21/2016	2,761,130				8.3	0.0								5.6			
4/22/2016	2,805,580				7.9	0.0								3.1			
4/23/2016	2,510,330				8.0	0.0								3.7			
4/24/2016	2,394,560	0.80			8.0	0.0	ND<0.10				45.9		1200	4.0			
4/25/2016	2,500,070				7.9	0.0								3.6			
4/26/2016	2,330,760				8.0	0.0								3.2			
4/27/2016	2,770,790				7.8	0.0								3.5			
4/28/2016	2,154,950				7.7	0.0								3.9			
4/29/2016	2,572,020				7.6	0.0								4.0			
4/30/2016	2,337,110				7.3	0.0								4.9			
5/1/2016	2,325,400				7.7	0.0								3.3			
5/2/2016	2,343,500				7.4	0.0								4.9			
5/3/2016	2,462,300				7.4	0.0								3.2			
5/4/2016	1,307,400				7.9	0.0								2.9			
5/5/2016	1,841,600	5.6	ND<0.76	19.25	7.3	0.0	ND<0.10	0.40	0.00081	80	41.5	0.18 J	1200	3.7			
5/6/2016	2,318,500				7.6	0.0								4.4			
5/7/2016	1,942,500				7.7	0.0								3.7			
5/8/2016	1,617,400				8.0	0.0								2.9			

Table 1: Monitoring Data Summary
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Pond 4A:																Chronic Toxicity	
Date	Flow Rate	TSS	O&G	Temp	pH	Total Res Chlorine	Settleable Matter	Chromium (VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Survival	Reproductive
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	TUc
Sample Type		Grab	Grab		Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	C-24	C-24	
5/9/2016	1,338,400				7.7	0.0								2.2			
5/10/2016	2,473,300				7.7	0.0								2.1			
5/11/2016	2,462,500	1.6		20.43	7.9	0.0	ND<0.10				41.6		1100	3.3			
5/12/2016	2,522,900				7.1	0.0								4.0			
5/13/2016	2,537,200				7.6	0.0								3.6			
5/14/2016	2,383,400																
5/15/2016	2,360,800																
5/16/2016	2,879,700				8.0	0.0								2.6			
5/17/2016	2,609,900	1.1			7.9	0.0	ND<0.10	4.6		83	36.9	0.28 J	1100	2.5			
5/18/2016	1,988,600				7.4	0.0								2.5			
5/19/2016	2,262,600				7.5	0.0								5.0			
5/20/2016	2,690,900				7.7	0.0								2.6			
5/21/2016	1,684,300																
5/22/2016	2,855,400																
5/23/2016	1,982,000				7.5	0.0								2.3			
5/24/2016	2,293,100				7.6	0.0								1.2			
5/25/2016	2,633,500				7.7	0.0								2.3			
5/26/2016	2,683,400	1.0		19.60	7.8	0.0	ND<0.10				36.8		1100	2.7			
5/27/2016	1,559,100				7.5	0.0								2.5			
5/28/2016	2,550,600																
5/29/2016	2,813,700																
5/30/2016	3,106,500				7.5	0.0								2.5			
5/31/2016	2,719,000				7.5	0.0								3.1			
6/1/2016	1,765,066				7.5	0.0								2.9			
6/2/2016	2,226,089	1.1	ND<0.76	20.57	7.5	0.0	ND<0.10	0.23	0.00098	91	35.1	0.17 J	1200	6.3			
6/3/2016	987,305				7.9	0.0								4.5			
6/4/2016	1,317,490																
6/5/2016	2,371,277																
6/6/2016	2,088,225				7.4	0.0								2.8			
6/7/2016	2,841,335				7.4	0.0								2.7			
6/8/2016	2,872,444				7.3	0.0								2.5			
6/9/2016	2,551,605	0.50		18.95	7.3	0.0	ND<0.10				34.2		1100	2.9			
6/10/2016	2,567,654				7.4	0.0								3.2			
6/11/2016	2,750,488																
6/12/2016	756,854																
6/13/2016	1,743,708				7.0	0.0								3.3			
6/14/2016	2,202,129				6.7	0.0								6.0			
6/15/2016	2,596,870				8.0	0.0								3.6			
6/16/2016	2,085,591	ND<0.62		19.74	7.6	0.0	ND<0.10	0.46		95	34.9	0.24 J	1100	3.6			
6/17/2016	2,863,315				7.1	0.0								3.3			
6/18/2016	2,460,402																
6/19/2016	2,569,034																

Table 1: Monitoring Data Summary
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Pond 4A:						Total Res	Settleable	Chromium								Chronic Toxicity	
Date	Flow Rate	TSS	O&G	Temp	pH	Chlorine	Matter	(VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Survival	Reproductive
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	TUc
Sample Type		Grab	Grab		Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	C-24	C-24	
6/20/2016	1,188,623				7.2	0.0								3.7			
6/21/2016	2,577,572				7.3	0.0								5.3			
6/22/2016	2,784,006	1.4			6.6	0.0	ND<0.10				31.3			3.9			
6/23/2016	2,123,121			21.39	7.3	0.0							1200	12.5	100	1.4	3.8
6/24/2016	1,744,662				7.3	0.0								13.9			
6/25/2016	2,542,577																
6/26/2016	2,772,307																
6/27/2016	2,470,947				7.6	0.0								4.7			
6/28/2016	2,397,860				7.6	0.0								3.9			
6/29/2016	2,514,433				7.7	0.0								3.5			
6/30/2016	2,207,109	1.7		20.74	7.2	0.0	ND<0.10				25.7		1100	3.6			

Table 1: Monitoring Data Summary
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Pond 17:					Settleable			Chromium				
Date	Flow Rate	TSS	O&G	pH	Matter	Turbidity	Conductivity	(VI)	Mercury	Nickel	Selenium	Thallium
Units	gpd	mg/L	mg/L	s.u.	mL/L/hr	NTU	umhos/cm	ug/L	ug/L	ug/L	ug/L	ug/L
Sample Type		Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
July 2015	***No discharge for the month***											
August 2015	***No discharge for the month***											
September 2015	***No discharge for the month***											
October 2015	***No discharge for the month***											
November 2015	***No discharge for the month***											
12/1/2015												
12/2/2015												
12/3/2015												
12/4/2015												
12/5/2015												
12/6/2015												
12/7/2015												
12/8/2015												
12/9/2015												
12/10/2015												
12/11/2015												
12/12/2015												
12/13/2015												
12/14/2015												
12/15/2015												
12/16/2015												
12/17/2015												
12/18/2015												
12/19/2015												
12/20/2015												
12/21/2015												
12/22/2015												
12/23/2015												
12/24/2015	16,816	180	ND	7.39	ND	24.1	1627	15	0.0453	41	110	0.25 J
12/25/2015	51,722											
12/26/2015	44,885											
12/27/2015	28,894											
12/28/2015	18,295											
12/29/2015	11,362											
12/30/2015	4,147											
12/31/2015	3,125											
1/1/2016												
1/2/2016												
1/3/2016												

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
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Pond 17:					Settleable			Chromium				
Date	Flow Rate	TSS	O&G	pH	Matter	Turbidity	Conductivity	(VI)	Mercury	Nickel	Selenium	Thallium
Units	gpd	mg/L	mg/L	s.u.	mL/L/hr	NTU	umhos/cm	ug/L	ug/L	ug/L	ug/L	ug/L
Sample Type		Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
1/4/2016												
1/5/2016	50,600											
1/6/2016	178,500	51	ND<1.7	8.53	ND<0.10	81.5	732	8.0	0.0559	17	16	ND<0.10
1/7/2016	81,800											
1/8/2016	61,200											
1/9/2016	50,700			8.11		2.02						
1/10/2016	31,400											
1/11/2016	18,400											
1/12/2016	18,100											
1/13/2016	43,200											
1/14/2016	21,000											
1/15/2016	12,000											
1/16/2016	8,600											
1/17/2016	9,400											
1/18/2016	18,000											
1/19/2016	144,000											
1/20/2016	21,600											
1/21/2016	34,300											
1/22/2016	36,400											
1/23/2016	16,100											
1/24/2016	4,200											
1/25/2016												
1/26/2016												
1/27/2016												
1/28/2016												
1/29/2016												
1/30/2016												
1/31/2016												
February 2016	***No discharge for the month***											
3/1/2016												
3/2/2016												
3/3/2016												
3/4/2016												
3/5/2016	108,900											
3/6/2016	244,800											
3/7/2016	315,500											
3/8/2016	82,900											
3/9/2016	67,800											
3/10/2016	55,300											

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2016

Pond 17:					Settleable			Chromium				
Date	Flow Rate	TSS	O&G	pH	Matter	Turbidity	Conductivity	(VI)	Mercury	Nickel	Selenium	Thallium
Units	gpd	mg/L	mg/L	s.u.	mL/L/hr	NTU	umhos/cm	ug/L	ug/L	ug/L	ug/L	ug/L
Sample Type		Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
3/11/2016	188,500											
3/12/2016	192,500											
3/13/2016	660,200											
3/14/2016	214,000											
3/15/2016	79,000											
3/16/2016	78,700											
3/17/2016	69,300											
3/18/2016	23,700											
3/19/2016	5,700											
3/20/2016	1,000											
3/21/2016	<1,000											
3/22/2016												
3/23/2016												
3/24/2016												
3/25/2016												
3/26/2016												
3/27/2016												
3/28/2016												
3/29/2016												
3/30/2016												
3/31/2016												
April 2016	***No discharge for the month***											
May 2016	***No discharge for the month***											
June 2016	***No discharge for the month***											

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2016

Pond 30:				Settleable			Chromium				
Date	Flow Rate	TSS	pH	Matter	Conductivity	O&G	(VI)	Mercury	Nickel	Selenium	Thallium
Units	gpd	mg/L	s.u.	mL/L/hr	umhos/cm	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L
Sample Type		Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
July 2015	***No discharge for the month***										
August 2015	***No discharge for the month***										
September 2015	***No discharge for the month***										
October 2015	***No discharge for the month***										
November 2015	***No discharge for the month***										
December 2015	***No discharge for the month***										
1/1/2016											
1/2/2016											
1/3/2016											
1/4/2016											
1/5/2016											
1/6/2016											
1/7/2016											
1/8/2016											
1/9/2016											
1/10/2016											
1/11/2016											
1/12/2016	12,500										
1/13/2016	63,200	6.5	8.18	ND<0.10	1347	ND<1.7	2.2	0.00978	11	14	0.14 J
1/14/2016	57,900										
1/15/2016	110,900										
1/16/2016	51,700										
1/17/2016	59,300										
1/18/2016	32,400	8.3	8.27	ND<0.10	1293	ND<1.7	2.6	0.00664	12	14	0.11 J
1/19/2016	195,500	64	7.75	ND<0.10	1499	ND<1.7	2.1	0.0168	23	17	0.30 J
1/20/2016	58,900										
1/21/2016	31,300										
1/22/2016	31,500										
1/23/2016	26,700										
1/24/2016	25,600										
1/25/2016	21,100										
1/26/2016	17,600										
1/27/2016	14,000										
1/28/2016	11,800										
1/29/2016	9,700				2973					57	
1/30/2016	7,700										
1/31/2016	7,300										
2/1/2016	5,300									55	
2/2/2016	3,300										
2/3/2016	3,100										

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2016

Pond 30:											
Date	Flow Rate	TSS	pH	Settleable Matter	Conductivity	O&G	Chromium (VI)	Mercury	Nickel	Selenium	Thallium
Units	gpd	mg/L	s.u.	mL/L/hr	umhos/cm	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L
Sample Type		Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
2/4/2016	2,500										
2/5/2016	1,200										
2/6/2016											
2/7/2016											
2/8/2016											
2/9/2016											
2/10/2016											
2/11/2016											
2/12/2016											
2/13/2016											
2/14/2016											
2/15/2016											
2/16/2016											
2/17/2016											
2/18/2016											
2/19/2016											
2/20/2016											
2/21/2016											
2/22/2016											
2/23/2016											
2/24/2016											
2/25/2016											
2/26/2016											
2/27/2016											
2/28/2016											
2/29/2016											
3/1/2016											
3/2/2016											
3/3/2016											
3/4/2016											
3/5/2016											
3/6/2016	5,000	9.4		ND<0.10		ND<1.7	3.4	0.00714	4.8	7.9	0.16 J
3/7/2016	77,500										
3/8/2016	318,600										
3/9/2016	412,900										
3/10/2016	405,900										
3/11/2016	369,700	9.0		ND<0.10 H		ND<0.76	2.0	0.00698	12	53	ND<0.10
3/12/2016	375,900										
3/13/2016	332,600	5.7		ND<0.10 H		ND<0.76	1.8	0.00739	10	40	0.10 J
3/14/2016	461,900										

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2016

Pond 30:											
Date	Flow Rate	TSS	pH	Settleable Matter	Conductivity	O&G	Chromium (VI)	Mercury	Nickel	Selenium	Thallium
Units	gpd	mg/L	s.u.	mL/L/hr	umhos/cm	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L
Sample Type		Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
3/15/2016	470,100										
3/16/2016	549,700										
3/17/2016	463,000										
3/18/2016	389,300										
3/19/2016	326,600										
3/20/2016	273,100										
3/21/2016	219,300										
3/22/2016	191,400										
3/23/2016	120,900										
3/24/2016	79,700										
3/25/2016	45,500										
3/26/2016	30,700										
3/27/2016	33,700										
3/28/2016	43,300										
3/29/2016	42,300										
3/30/2016	19,700										
3/31/2016											
April 2016	***No discharge for the month***										
May 2016	***No discharge for the month***										
June 2016	***No discharge for the month***										

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2016

Pond 30: Discharge 006		Parameter	Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Silver	Zinc	TDS	Turbidity
Additional Parameters		Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	NTU
	Date	Method	200.8	200.8	200.8	200.8	200.8	200.8	200.8	200.8	200.8	SM2540.C	Field
Pond 30	1/13/2016		0.19 J	1.4	<0.14	0.41 J	10	7.3	0.16 J	<0.10	100	1000	-
Pond 30	1/18/2016		0.34 J	1.2 J	<0.14	0.27 J	3.5	4.3	0.60 J	<0.10	64	1000	-
Pond 30	1/19/2016		0.49 J	<0.70	<0.14	0.78 J	11	14	2.2	<0.10	190	1300	-

Pond 30: Discharge 006		Parameter	Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Silver	Zinc	TDS	Turbidity
Additional Parameters		Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	NTU
	Date	Method	200.8	200.8	200.8	200.8	200.8	200.8	200.8	200.8	200.8	SM2540C	Field
Pond 30	3/6/2016		0.41 J	<0.70	<0.14	0.15 J	4.8	4.5	0.34 J	<0.10	29	670	18.3
Pond 30	3/11/2016		0.71 J	2.0	<0.14	0.17 J	4.2	13	0.26 J	<0.10	56	-	-
Pond 30	3/13/2016		0.71 J	1.6 J	<0.14	0.15 J	3.2	10	0.29 J	<0.10	67	-	-

MG = million gallons; MGD = million gallons per day; gpd = gallons per day; H analyzed past hold time

Table 2: Quarry Pit Seep Data
Lehigh Permanente Facility
September 2016

Quarry Pit Seeps	Seep-750	Seep-850	Seep-1000
Metals (dissolved, 200 series)	**4/28/2016**	**4/28/2016**	**4/28/2016**
Antimony (ug/L)	0.58 J	2.6	7.1
Arsenic (ug/L)	6.9	2.7	4.5
Beryllium (ug/L)	<0.050	<0.050	<0.050
Cadmium (ug/L)	<0.034	0.037 J	0.048 J
Chromium (ug/L)	<0.15	<0.15	<0.15
Copper (ug/L)	13	16	12
Lead (ug/L)	<0.021	<0.021	<0.021
Mercury (ug/L)	<0.030	<0.030	<0.030
Nickel (ug/L)	4.3	37	10
Selenium (ug/L)	3.9	34	2.3
Silver (ug/L)	<0.015	<0.015	<0.015
Thallium (ug/L)	<0.025	0.086 J	0.035 J
Zinc (ug/L)	4.8 J	34	7.6
Additional Parameters			
Calcium (mg/L)	22	190	160
Magnesium (mg/L)	6.0	63	91
Potassium (mg/L)	1.8	1.9	2.1
Sodium (mg/L)	240	22	39
Bicarbonate (mg/L)	190	230	270
Total Dissolved Solids (mg/L)	870	870	940
Total Suspended Solids (mg/L)	27	6.8	<0.83
Nitrate as NO3	2.4	8.9	0.21 J
Chloride (mg/L)	7.6	15	130
Fluoride (mg/L)	0.086	0.076	0.27
Sulfate (mg/L)	350	460	330
Hardness	79	720	780
Turbidity - Field (NTU)	45.2	1.89	0.30
pH - Field (s.u.)	8.48	8.17	8.93
Temperature - Field (°C)	22.72	17.54	16.46
DO - Field (mg/L)	4.13	4.59	6.35
Electrical Conductivity - Field (µS/cm)	1172	1203	1427
ORP - Field (mV)	242.8	244.2	270.2
Estimated Flow Rate (GPM)	2	300	10

Notes:

Samples for dissolved metals analysis were field filtered; J= Estimated Value

APPENDIX A

Technical Memorandum: EMSA Storm Water Runoff Evaluation

TECHNICAL MEMORANDUM

Date:	5/27/16	**Project No.:**	1655230
To:	Sam Barket	**Company:**	Lehigh Hanson
From:	George Wegmann, PG Bill Fowler, PG, CEG		
cc:	Greg Knapp	**Email:**	Sam.Barket@LehighHanson.com
RE:	EMSA Storm Water Runoff Evaluation, Lehigh Permanente Facility		

1.0 INTRODUCTION

Golder Associates (Golder) has prepared this technical memorandum to summarize investigatory activities performed at the Eastern Material Storage Area (EMSA) of Lehigh Southwest Cement Company's Permanente facility located at 24001 Stevens Creek Boulevard and to provide recommendations to reduce selenium in the Pond 30 discharge.

To ascertain potential sources of selenium concentrations associated with the Pond 30 discharge, Lehigh requested Golder to collect runoff samples during storm events at 14 locations in the EMSA on the newly installed non-limestone cover to assess the performance of the cover during the first winter season. The analytical results of those samples indicate the direct runoff from the non-limestone cover overall displays selenium concentrations below 5 µg/L. Repeated sampling at 11 of the locations on the newly-placed cover itself revealed selenium concentrations predominately below 5 µg/L. At three locations on the cover, however, sampling showed concentrations above 5 µg/L. In addition, sampling detected elevated selenium in the swale at the base of the EMSA which directs runoff into Pond 30. The non-limestone cover layer described here is only the first component of the ultimate EMSA cover. An additional layer of revegetation growth media remains to be placed pursuant to the Reclamation Plan.

This data, combined with an evaluation of topographic maps and field observations, suggest net infiltration and subsequent discharge of precipitation as seepage may be contributing to the concentration of selenium in certain areas. Golder recommends additional improvements to the EMSA water management system, such as lining Pond 30 and the drainage swale prior to the upcoming 2016/2017 wet season, to improve the water quality of the Pond 30 discharge.

2.0 EMSA SAMPLING & EVALUATION

In March 2016, Golder collected up to four rounds of samples from 14 different locations within the EMSA's non-limestone cover, and three locations along the Pond 30 swale, as noted on Figure 1, for a total of 48 individual samples. All samples on the non-limestone cover were collected on the surface of the non-

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limestone rock placed in 2015. The final growth-medium and vegetative layer that is the next stage in the reclamation process has not been placed to date.

2.1 Sampling Procedure

Under the direction of a California Professional Geologist, field staff collected 48 surface water samples on field dates that coincided with significant rainfall events. The daily precipitation totals for March are listed on Table 1. The first two rounds of samples consisted of sample locations EC-11 through EC-17, which were sampled on March 6 and 7, 2016. Golder collected the samples during a three-day period of rainfall starting on March 5, 2016 that totaled 4.5 inches. Golder did not collect samples on March 5, 2016 because no significant runoff or accumulation of runoff was evident on the EMSA cover. Additional rainfall of 2.8 inches the following week prompted two more rounds of sampling, which Golder completed on March 11 and 13, 2016. For the last two rounds, the sampling effort was expanded to also include EC-18 through EC-24 and three samples from the storm water drainage swale that runs to Pond 30 (P-30 Swale Entry, P-30 Swale West, and P-30 Swale East).

During the rain events, Golder inspected the EMSA for runoff and/or sheet flow to target these areas for sampling. Rainfall appeared to readily infiltrate the EMSA material in locations where no significant runoff or sheet flow was observed by field staff during the storm events. For several of the sample locations (e.g., EC-22) samples were collected of water that accumulated on the cover material. Samples were also collected from water that appeared to be emanating as seeps from the toe of the EMSA slopes (e.g., EC-16). The type of sample is noted on Table 2.

Samples were collected in accordance with Golder's Standard Operating Procedures and transported to a certified analytical laboratory in a chilled cooler under chain of custody documentation. A dedicated plastic scoop was used to collect water samples. Golder then transferred the samples to laboratory supplied sample bottles preserved with nitric acid. The laboratory analyzed the samples for total selenium via EPA Method 200.8.

2.2 Sampling Results

The results of the sampling events are included on Table 2 and illustrated on Figure 1. Photographs of sampling locations are included in Appendix A. Consistently low levels of selenium below 5 µg/L were detected in samples of water that accumulated on the cover material, considered representative of direct surface runoff. Four samples, EC-11 EC-13, EC-15, and EC-16, were collected along the toe of the upper EMSA fill slope, but above the main EMSA haul road (Figure 1). These samples are considered more representative of seeps emanating from the toe of the slopes than direct runoff of the cover material. Elevated selenium concentrations were observed at three of these sample locations (EC-13, EC-15, and EC-16).

Two rounds of samples were collected from the drainage swale that leads to Pond 30. The drainage swale is part of the main drainage that conveys storm water to Pond 30 from throughout the EMSA. The upgradient drainage swale sample (P-30 Swale Entry) exhibited lower concentrations than the two downgradient swale samples (P-30 Swale West and P-30 Swale East). This suggests that higher selenium containing water is entering the drainage swale downgradient of the P-30 Swale Entry sample location and further down the channel by the P-30 Swale West and East sample locations. The P-30 Swale West and East sample locations are along the drainage swale directly downgradient of a former cut bench at the toe of the low hills that the EMSA was founded on.

2.3 Topographic Map Evaluation and Field Observations

Golder reviewed the 2015 topographic map of the EMSA, representing the current EMSA configuration, to evaluate sub-drainage basin limits and likely flow paths of storm water runoff with respect to the sample locations (Figure 2). Based on the drainage map, runoff from direct precipitation to the EMSA cover is expected to coalesce in each sub-drainage basin and flow to the drainage swale along the north side of the main haul road. However, field observations during storm events indicated that channelized or sheet flow on the cover was limited and that little surface flow was evident in the drainage swales along the haul roads. Additionally, the soils and colluvium that comprise the original ground surface may have a significantly lower permeability than the overlying EMSA overburden material. Based on the observations made by Golder field staff, storm water may infiltrate certain areas of the non-limestone cover, contact the less-permeable original ground surface, and emerge as seeps at the base of certain EMSA slopes. This view is generally supported by mapping of the 2007 ground surface, which indicates subsurface drainage paths in the vicinity of certain seeps (Figure 3). Notably, field staff inspected areas surrounding and directly upgradient of the sampling points EC-13, EC-15, and EC-16 on April 8, 2016 and found minimal (<2%) limestone present.

3.0 SUMMARY

Low levels of selenium below 5 µg/L were detected in the majority of the samples collected from ponding or limited runoff on or directly from the cover. Results from the EMSA sampling suggest that elevated selenium concentrations are confined to specific areas along the bases of certain slopes. It appears that rainfall percolates into the overburden material in some areas, moves downward through the overburden material until it encounters less-permeable materials, and then emerges downslope as seepage.

4.0 RECOMMENDATIONS

Lehigh has requested that Golder provide recommendations for reducing selenium concentrations in the Pond 30 discharge, with an emphasis on measures that can be accomplished during the 2016 dry season before the onset of 2016/2017 rains. Golder recommends the following actions.

4.1 Line Pond 30 and Pond 30 Drainage Swale

Golder recommends lining Pond 30 and the drainage swale directly upgradient of Pond 30 to allow for the effective conveyance of storm water and eliminate seepage. A geomembrane or concrete liner will reduce seepage in and out of the pond and the drainage swale and will allow for easier maintenance and removal of sediments that accumulate within the pond throughout the wet season. The accumulated sediments may partially be comprised of limestone; therefore, routine sediment removal will help reduce the residence time that any water stored within Pond 30 is in contact with potentially limestone-containing sediments.

The type of liner to be used will be evaluated further during the design phase. One potential option will consist of a geomembrane-lined swale and pond combined with a concrete access ramp and sump in the pond to facilitate sediment removal.

4.2 Construct Drainage Trench

In concert with lining Pond 30 and the drainage swale, we recommend that the seepage emerging from the toe of the slope directly upgradient of Pond 30 is diverted to prevent it from entering the Pond 30 conveyance system. This could be achieved by constructing a trench or "French drain" between the toe of the slope and the Pond 30 swale area to collect any seepage along this bench (Figure 2). The trench would be approximately 300 feet long, 3 feet wide, and 5 feet deep and backfilled with coarse material. A vertical riser will be installed in the drain with a submersible pump and float valve to facilitate management of the collected water. The collected water could be pumped to a holding tank and emptied as needed by a water truck or it could be conveyed to the cement plant reclaim water system.

Additional trenches and collection systems may be considered at the other seepage areas identified with elevated selenium located north of the existing main haul road (e.g., EC-13, EC-15, and EC-16) pending the effectiveness of the trench directly upgradient of the Pond 30 drainage swale.

4.3 Manage Pond 30 Water

Golder recommends that Lehigh remove water that accumulates in Pond 30 between rain events during the wet season, where feasible based on weather conditions and breaks between anticipated storm systems. This will allow for access to Pond 30 to perform routine maintenance activities, including sediment removal, and reduce the residence time that water remains in contact with potentially limestone-containing sediment. The method of removal would depend on the quality of water present in Pond 30. Where representative sampling demonstrates that water is acceptable for discharge to Permanente Creek, water in the pond will be pumped out via the discharge pipe through outfall 006. Where sampling reveals water quality that is not acceptable for discharge to Permanente Creek, water will be transferred to water trucks and delivered to the Reclaim Water System. Samples would be tested on an expedited basis.

4.4 Manage Storm Water Run-on

Lehigh made improvements during the 2015/2016 wet season to divert storm water run-on from upgradient facility areas outside of the EMSA boundary from entering the EMSA drainage area. Golder recommends that these improvements are reviewed and inspected to ensure they are functioning as intended throughout the 2016/2017 wet season. If deemed necessary from the inspections, additional improvements will be made to divert potential run-on from entering the EMSA drainage area.

4.5 Evaluate Performance

Golder recommends performing ongoing sampling, testing and monitoring during the 2016/2017 wet season, and comparison to this year's results, to evaluate the effectiveness of the proposed improvements listed above. It is expected that these measures will result in improvement in the quality of any Pond 30 discharges, from improved management of seeps and the expectation that the recently-placed cover material will become less permeable over time as voids fill with finer materials. Further improvement can be expected as well after placement of the vegetative growth layer on top of the non-limestone cover. Based on this evaluation and if deemed necessary, recommendations for future actions will be proposed prior to placing the final growth medium and vegetative layer pursuant to the Reclamation Plan.

Attachments:

Figure 1 – EMSA Selenium Concentrations 2016
Figure 2 – EMSA Sampling Locations and 2015 Topography
Figure 3 – EMSA Sampling Locations and 2007 Topography
Table 1 – Precipitation Data
Table 2 – EMSA Total Selenium Results
Attachment A – EMSA Sampling Location Field Photos
Attachment B – EMSA Field Observation Field Photos

TABLES

Table 1
Precipitation Totals
Lehigh Permanente
March 2016

Date	Precipitation (in)	Temperature Hi	Temperature Low
1	0.01	69.1 °F	52.4 °F
2	0.01	75.3 °F	50.4 °F
3	0	67.6 °F	52 °F
4	0.27	64.6 °F	55.5 °F
5	2.53	60.3 °F	51.8 °F
6	1.32	60.8 °F	46.9 °F
7	0.62	53.8 °F	45.2 °F
8	0.02	59.5 °F	41.8 °F
9	0	70 °F	49.7 °F
10	0.03	69.4 °F	55.5 °F
11	1.2	57.2 °F	45.6 °F
12	0.23	58.6 °F	43.8 °F
13	1.38	58.8 °F	52.6 °F
14	0.02	59.1 °F	44.9 °F
15	0.01	64.8 °F	43.9 °F
16	0.01	70.4 °F	48.1 °F
17	0.02	74.9 °F	51.8 °F
18	0.06	67.7 °F	49.1 °F
19	0.01	70.3 °F	47.4 °F
20	0.04	69.3 °F	47.7 °F
21	0.24	62.3 °F	46.5 °F
22	0.03	61.6 °F	44.2 °F
23	0	65.9 °F	45.9 °F
24	0	68.9 °F	46.1 °F
25	0.03	69.8 °F	46.9 °F
26	0.04	72.4 °F	47.2 °F
27	0	66.6 °F	50.5 °F
28	0	59.1 °F	44.4 °F
29	0.04	62.9 °F	42.1 °F
30	0.01	63.9 °F	42 °F
31	0.02	67.7 °F	47.4 °F

Notes: Data obtained from Cupertino, CA weather station KCACUPER47.

Table 2
EMSA Total Selenium Results
Lehigh Permanente
March 2016

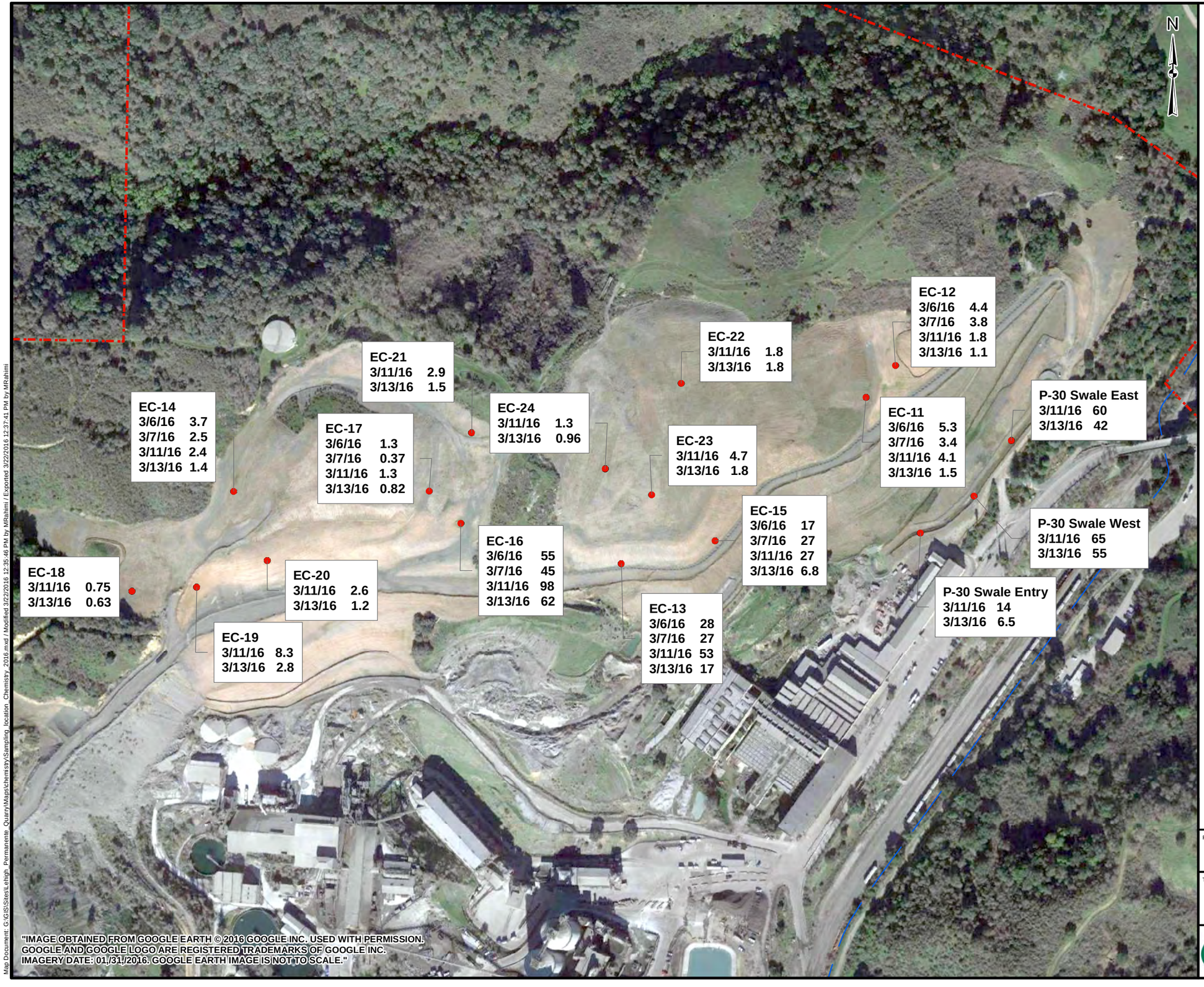
Sample Location	Sample Type	Total Selenium via EPA 200.8	Date Sampled 3/6/16	3/7/16	3/11/16	3/13/16
EC-11	Seep	µg/L	**5.3**	**3.4**	**4.1**	**1.5**
EC-12	Cover	µg/L	**4.4**	**3.8**	**1.8**	**1.1**
EC-13	Seep	µg/L	**28**	**27**	**53**	**17**
EC-14	Cover	µg/L	**3.7**	**2.5**	**2.4**	**1.4**
EC-15	Seep	µg/L	**17**	**27**	**27**	**6.8**
EC-16	Seep	µg/L	**55**	**45**	**98**	**62**
EC-17	Cover	µg/L	**1.3**	**0.37**	**1.3**	**0.82**
EC-18	Cover	µg/L	**NS**	**NS**	**0.75**	**0.63**
EC-19	Cover	µg/L	**NS**	**NS**	**8.3**	**2.8**
EC-20	Cover	µg/L	**NS**	**NS**	**2.6**	**1.2**
EC-21	Cover	µg/L	**NS**	**NS**	**2.9**	**1.5**
EC-22	Cover	µg/L	**NS**	**NS**	**1.8**	**1.8**
EC-23	Cover	µg/L	**NS**	**NS**	**4.7**	**1.8**
EC-24	Cover	µg/L	**NS**	**NS**	**1.3**	**0.96**
P-30 Swale Entry	Seep/Runoff	µg/L	**NS**	**NS**	**14**	**6.5**
P-30 Swale West	Seep/Runoff	µg/L	**NS**	**NS**	**65**	**55**
P-30 Swale East	Seep/Runoff	µg/L	**NS**	**NS**	**60**	**42**

Notes:

µg/L - micrograms per liter (ppb)

NS - not sampled

FIGURES



LEGEND

- Sampling Locations
- Date Selenium(ug/L)
- Property Boundary

300 0 300 Feet

1 in = 300 feet

PROJECT

LEHIGH PERMANENTE
SANTA CLARA COUNTY, CA

TITLE

EMSA SELENIUM CONCENTRATIONS 2016

Golder Associates

PROJECT No.	01655230		FILE No. Sampling_location_Chemistry_2016.mxd
DESIGN	MM	4/2/2013	SCALE: 1:3,600 REV. 0
GIS	MR	3/22/2016	
CHECK	GW	3/22/2016	FIGURE 1
REVIEW	GW	3/22/2016	

LEGEND

- SURFACE WATER WATERSHED
- EC-22 SAMPLE LOCATION

0 100 200
1" = 100' FEET

CLIENT
LEHIGH PERMANENTE
SANTA CLARA COUNTY, CALIFORNIA

CONSULTANT
Golder Associates

PROJECT
EMSA Storm Water Runoff Evaluation

TITLE
EMSA SAMPLING LOCATIONS AND □□□□TOPOGRAP□Y

YYYY-MM-DD	2014-11-07
DESIGNED	MBR
PREPARED	MBR
REVIEWED	JL
APPROVED	GW

PROJECT NO. 16655230 | REV. A | FIGURE 2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

Path: \\Denver.golder.gds\acad\12\123-81500\PRODUCTION\EMSA 2016\ | File Name: cupertino_ june16_2015_MBR.dwg

EC-22
EC-12
EC-11
EC-21
EC-24
EC-23
EC-14
EC-17
EC-16
EC-15
EC-13
EC-20
EC-18
EC-19
Pond 30 Swale East
Pond 30 Swale West
Pond 30 Swale Basin
Dense Trees
Piles

LEGEND

RUNOFF FLOW PATH

EC-22 SAMPLE LOCATION

0 100 200
1" = 100' FEET

CLIENT
LEHIGH PERMANENTE
SANTA CLARA COUNTY, CALIFORNIA

CONSULTANT
Golder Associates

YYYY-MM-DD	2016-05-09
DESIGNED	MRB
PREPARED	MBR
REVIEWED	JL
APPROVED	GW

PROJECT
EMSA Storm Water Runoff Evaluation

TITLE
EMSA SAMPLING LOCATIONS AND 2□□□ TOPOGRAP□Y

PROJECT NO.	REV.	FIGURE
16655230	A	3

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Path: \\Denver\golder\gds\acad\121\23-81502\PRODUCTION\EMSA 2016\ | File Name: Perm all topo update 4-09-2007_MBR RevB.dwg

ATTACHMENT A

PHOTO A1: EC-11

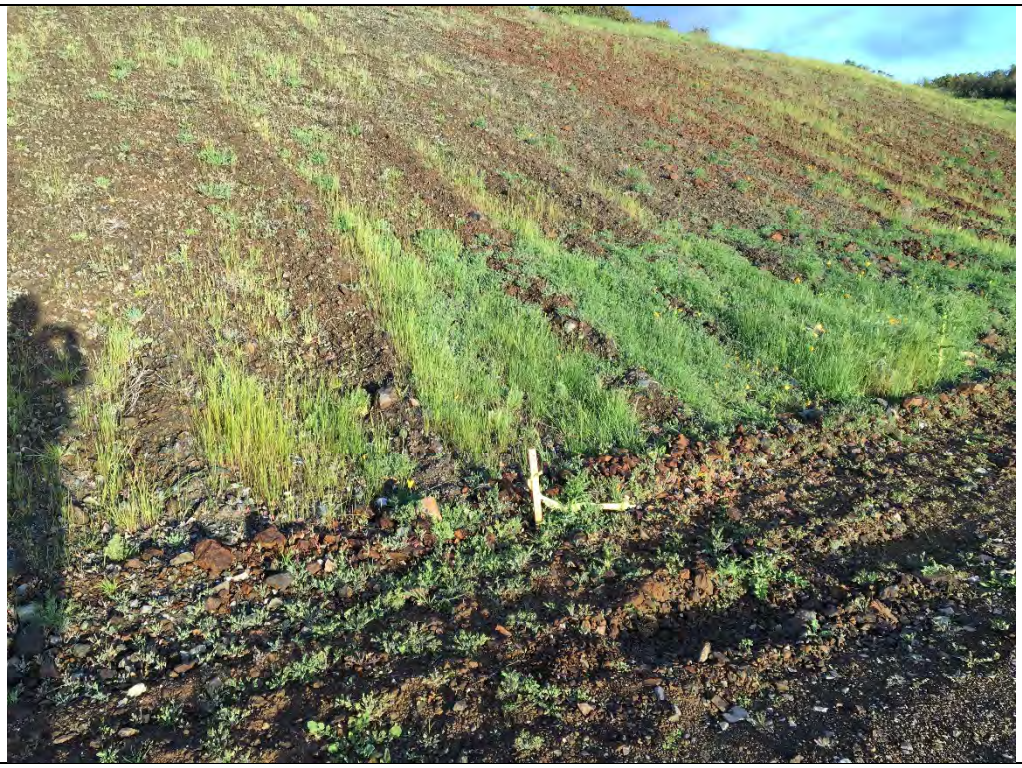


PHOTO A2: EC-12

PHOTO A3: EC-13

PHOTO A4: EC-14

PHOTO A5: EC-15

PHOTO A6: EC-16

PHOTO A7: EC-17

PHOTO A8: EC-18

PHOTO A9: EC-19

PHOTO A10: EC-20

PHOTO A11: EC-21

PHOTO A12: EC-22

PHOTO A13: EC-23

PHOTO A14: EC-24

PHOTO A15: P-30 SWALE ENTRY

PHOTO A16: P-30 SWALE WEST

PHOTO A17: P-30 SWALE EAST

ATTACHMENT B

PHOTO B1: WATER ACCUMULATION AT EC-16

PHOTO B2: EMSA SURFACE MATERIAL

PHOTO B3: EC-15 AND HAUL ROAD DRAINAGE SWALE

PHOTO B4: EC-13 AND HAUL ROAD DRAINAGE SWALE

PHOTO B5: EC-11

PHOTO B6: TOE OF EMSA, ADJACENT TO POND 30 SWALE

APPENDIX B

Letter: French Drain and Pond 30 Workplan

July 11, 2016 1655230

Sam Barket
Lehigh Southwest Cement Co.
24001 Stevens Creek Boulevard
Cupertino, California 95014 USA

RE: FRENCH DRAIN AND POND 30 WORKPLAN, LEHIGH HANSON PERMANENTE FACILITY, SANTA CLARA COUNTY, CA

Dear Sam:

Golder Associates Inc. (Golder) has prepared this letter to provide additional detail regarding the recommended actions listed in our May 27, 2016 Technical Memorandum for the East Material Storage Area (EMSA) and Pond 30. Those action items requested by Santa Clara County include:

- French Drain conceptual drawings showing location in plan view with structures and typical sections and details for trench excavation and sump for a designated pump;
- Workplan of items and schedule to implement the design and construction of the French Drain and upgrade of Pond 30 and channel with geomembrane liner;
- Estimate the volume reporting to the French Drain; and,
- Collection of additional parameters/field observations during the 2016/2017 wet season for any sampling that may be required.

1.0 DISCUSSION

1.1 French Drain

Golder has produced two conceptual level drawings showing the French Drain alignment and structure locations in plan view with associated typical sections and details. The French Drain will be located along a west-east alignment between the EMSA toe and the Pond 30 channel to intercept the seepage from the EMSA toe. Seepage collected by the proposed French Drain will be pumped to the proposed tank. The collected water will be managed by Lehigh. Conceptual drawings are included as Attachment 1.

1.2 Workplan

Golder has produced a schedule with an itemized list of the process to be implemented by Lehigh for the EMSA Pond 30 area. The schedule includes review by Santa Clara County, detailed engineering design, and construction of the proposed French Drain with a riser sump and pump as well as upgrades to Pond 30 and the associated channel by placing geomembrane liner within the existing facilities. The workplan schedule is included as Attachment 2. The main items to be completed are noted below:

- Complete French Drain conceptual design
- Complete survey of Pond 30 and location of French Drain to supplement existing survey data
- Allow review by Santa Clara County on the proposed improvements

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

- Prepare detailed design drawings of the improvements to Pond 30 and the drainage swale and construction of the French Drain
- Select construction contractor and procurement
- Implement and complete construction
- Complete as-built survey data, equipment test, and construction quality assurance (CQA) to produce record documents

1.3 Seepage Volume

Golder estimates that the seepage flow rate into the French Drain will be 10 gallons per minute (gpm) during the wet season based on the limited data available and field observations during the 2015/2016 wet season. The French Drain riser sump has been sized to house a 50 gpm pump to account for any potential transient increases in flow rate.

1.4 2016/2017 EMSA Sampling

Any future sampling that is to be completed as part of the EMSA sampling program will include the following in addition to be analyzed for selenium:

- Estimate of flow
- Temperature
- Color
- Turbidity
- Standing or flowing water
- Possible origin of water (e.g., runoff sample vs seep)

For the collection of seep samples, Golder will attempt to sample the seeps prior to the seeps comingling with other sources of water, such as water from along the haul road. If it appears the seeps are comingling with additional sources, we will attempt to install horizontal pipes at the toe of the slopes in an effort to isolate the seeps and facilitate sampling.

2.0 CLOSING

Golder Associates Inc. appreciates the opportunity to continue working on this interesting project with Lehigh Southwest Cement Co. If you have any questions or concerns regarding the information provided in this letter, please call the undersigned at (408) 220-9223.

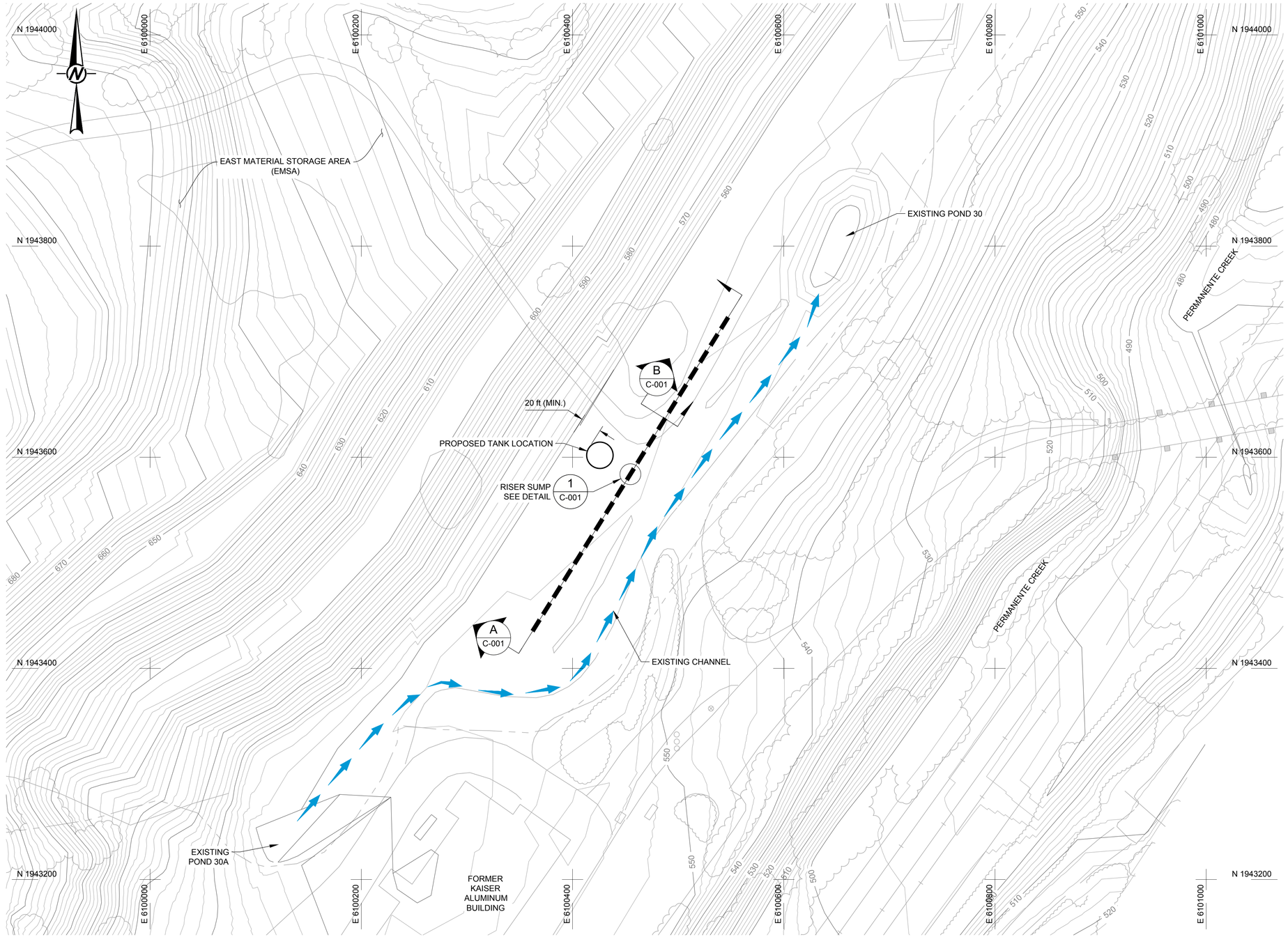
GOLDER ASSOCIATES INC.

George C. Wegmann, PG
Senior Consultant

William L. Fowler, PG, CEG
Principal, Senior Program Leader

Attachments: Attachment 1 – French Drain Conceptual Drawings
Attachment 2 – Workplan Schedule

ATTACHMENT 1
FRENCH DRAIN CONCEPTUAL DRAWINGS



GENERAL LEGEND

- 3600 — EXISTING GROUND CONTOUR (ft -MSL)
- EXISTING ROADS
- EXISTING FENCELINE
- EXISTING VEGETATION (i.e. TREES AND SHRUBS)
- EXISTING POWER POLE OR POST
- EXISTING CHANNEL FLOW (APPROXIMATE)
- FRENCH DRAIN ALIGNMENT (APPROXIMATE)
- A / C-0002 — CROSS-SECTION CALLOUT, SECTION ID, DRAWING SHEET LOCATION

NOT FOR CONSTRUCTION

0 50 100
1" = 50' FEET

REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
B	2016-07-08	ISSUED FOR PERMITTING	CDJ	JHR	GCW	WLF
A	2016-07-07	ISSUED FOR INTERNAL REVIEW	CDJ	JHR	GCW	WLF

CLIENT
LEHIGH SOUTHWEST CEMENT CO.
PERMANENTE PLANT
SANTA CLARA COUNTY, CALIFORNIA

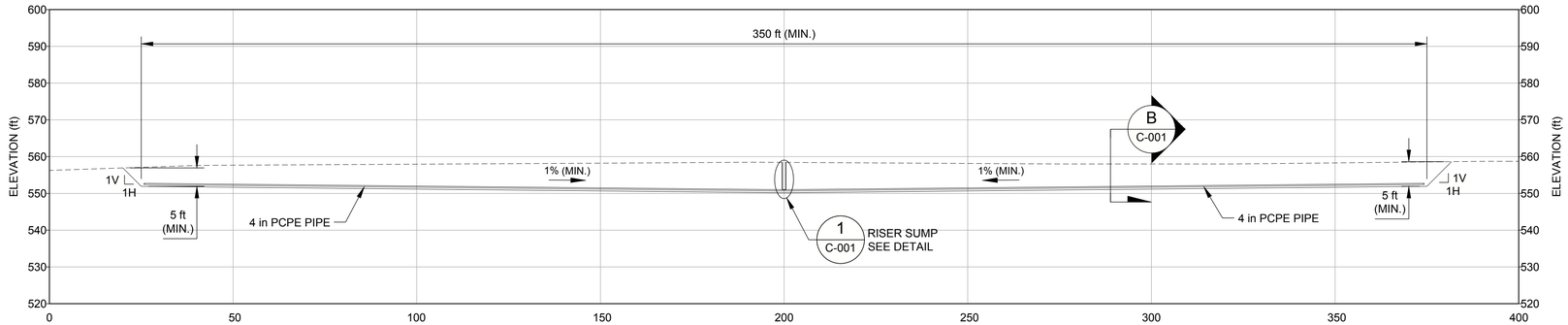
CONSULTANT
Golder Associates

TUCSON OFFICE
4730 N. ORACLE ROAD SUITE 210
TUCSON, ARIZONA
UNITED STATES OF AMERICA
[+1] (520) 888 8818
www.golder.com

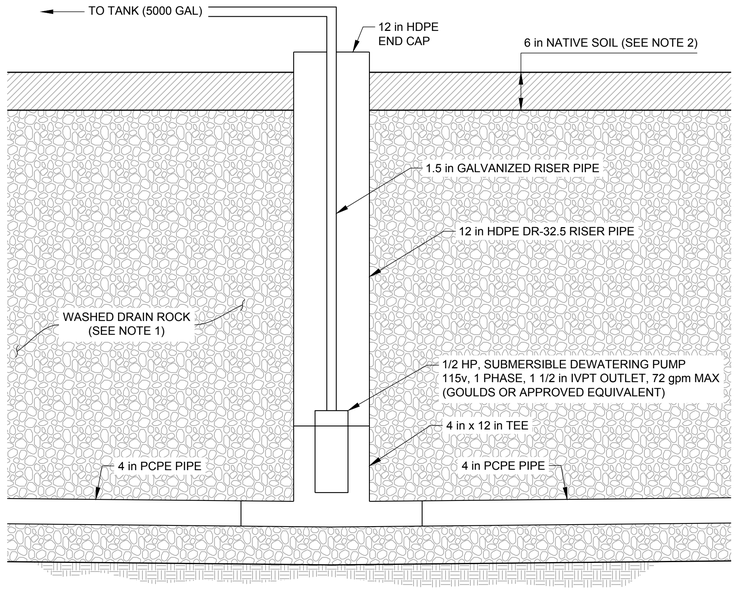
PROJECT
POND 30 FRENCH DRAIN
CONCEPTUAL DRAWINGS

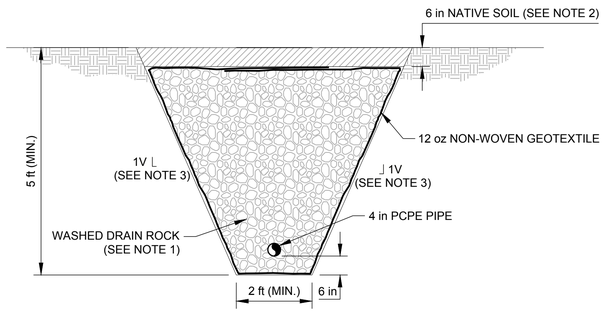
TITLE
GENERAL LAYOUT

PROJECT NO.	CONTROL	REV.		DRAWING
1655230	0001	B	1 of 2	G-001



SCALE 1" = 20' A C-001 FRENCH DRAIN ALIGNMENT





NOT TO SCALE B C-001 TYPICAL FRENCH DRAIN SECTION

NOT TO SCALE 1 C-001 RISER SUMP DETAIL

NOTE(S)

1. DRAIN ROCK SHALL CONSIST OF A MAXIMUM PARTICLE SIZE OF 1 1/2 INCHES. LESS THAN 5 PERCENT PASSING #200 SIEVE, AND NO PLASTICITY.
2. DRAIN ROCK MAY BE PLACED TO THE CREST OF THE TRENCH EXCAVATION PER OWNER REQUEST.
3. CONTRACTOR IS RESPONSIBLE FOR SLOPING EXCAVATIONS TO MAINTAIN SAFE WORKING CONDITIONS IN ACCORDANCE WITH APPLICABLE STANDARDS.

NOT FOR CONSTRUCTION

0 20 40
1" = 20' FEET

REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
B	2016-07-08	ISSUED FOR PERMITTING	CDJ	JHR	GCW	WLF
A	2016-07-07	ISSUED FOR INTERNAL REVIEW	CDJ	JHR	GCW	WLF

CLIENT
LEHIGH SOUTHWEST CEMENT CO.
PERMANENTE PLANT
SANTA CLARA COUNTY, CALIFORNIA

CONSULTANT
Golder Associates

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4730 N. ORACLE ROAD SUITE 210
TUCSON, ARIZONA
UNITED STATES OF AMERICA
[+1] (520) 888 8818
www.golder.com

PROJECT
POND 30 FRENCH DRAIN
CONCEPTUAL DRAWINGS

TITLE
TYPICAL SECTIONS AND DETAILS

PROJECT NO.	CONTROL	REV.		DRAWING
1655230	0001	B	2 of 2	C-001

ATTACHMENT 2
WORKPLAN SCHEDULE

ATTACHMENT 2
WORKPLAN SCHEDULE

ID	Task	Description	Start Date	Duration (Days)	End Date	Notes
1	French Drain Conceptual Design	Plan view with typical sections and details for estimated seepage volume	6-Jul-2016	2	8-Jul-2016	Assume 5-day work week
2	Schedule Workplan	Schedule of items and associated description to implement French Drain installation and construction for lining of Pond 30 and channel	6-Jul-2016	2	8-Jul-2016	Assume 5-day work week
3	Santa Clara County Review	Review proposed design and schedule	11-Jul-2016	10	22-Jul-2016	Assume 5-day work week
4	Santa Clara County Planning Commission Meeting		28-Jul-2016	1	29-Jul-2016	Assume 5-day work week
5	Pond 30 Surrounding Area Detailed Survey	Detailed survey of Pond 30 surrounding area from former aluminum plant to EMSA access road and from EMSA toe to Permanente Creek. Also include crest and toe of Pond 30, channel, channel outlet, and the outlet drain pipe invert with the alignment towards the concrete box.	11-Jul-2016	10	22-Jul-2016	Assume 5-day work week
6	Pond 30 and Channel Detailed Design Drawings	Quantities, details, and control points for geomembrane-lined pond with concrete access ramp and concrete sump for silt removal	1-Aug-2016	15	9-Sep-2016	Assume 5-day work week
7	French Drain Detailed Design Drawings	Quantities, details, and control points for French Drain excavation and placement of pipe and drain gravel with a riser sump and pump.	1-Aug-2016	10	9-Sep-2016	Assume 5-day work week
8	Construction Contract and Procurement	Procure materials (liner, pipes, pumps, etc.) and mobilize contractor	29-Aug-2016	15	16-Sep-2016	Assume 5-day work week
9	French Drain Construction	Excavate, geotextile placement, drain gravel, and sump riser and pump install	19-Sep-2016	12	1-Oct-2016	Assume 6-day work week
10	Pond 30 and Channel Construction	Excavate, subgrade preparation, geomembrane liner placement, and concrete ramp and sump	3-Oct-2016	24	29-Oct-2016	Assume 6-day work week
11	French Drain Equipment Test and Record Drawings	As-built survey data and equipment test to produce record documents	31-Oct-2016	20	2-Dec-2016	Assume 5-day work week
12	Pond 30 and Channel Record Drawings and CQA Report	As-built survey data and CQA test results to produce record documents	31-Oct-2016	20	2-Dec-2016	Assume 5-day work week

APPENDIX E:

UPDATED STORMWATER POLLUTION PREVENTION PLAN

STORMWATER POLLUTION PREVENTION PLAN

STORMWATER POLLUTION PREVENTION PLAN

Lehigh Southwest Cement Company
Permanente Plant and Quarry
24001 Stevens Creek Boulevard
Cupertino, California

Submitted To: Lehigh Southwest Cement Company and Hanson Permanente Cement, Inc.
24001 Stevens Creek Blvd.
Cupertino, CA 95014

Submitted By: Golder Associates Inc.
425 Lakeside Drive
Sunnyvale, CA 94085

June 15, 2016

Project No. 123-8150-201

Golder Associates

Stormwater Pollution Prevention Plan (SWPPP)
Project Information and Certification

May 2014
Regional Water Quality Control Board Order No. R2-2014-0010
NPDES Permit No. CA0030210

Project Information

Prepared for: Lehigh Southwest Cement Company and Hanson Permanente Cement, Inc.
24001 Stevens Creek Blvd.
Cupertino, CA 95014

Contact: Alan Sabawi, Plant Manager

(408) 996-4231

CIWQS Place No.: 273205

Reviewing Agency

Jurisdiction: Regional Water Quality Control Board, Central Coast Region
Permit Number: CA0030210
Contact: John Madigan, P.E. at (510) 622-2405

Project Engineer

Prepared by: Golder Associates Inc.
425 Lakeside Drive
Sunnyvale, CA 94085
(408) 220-9223
(408) 220-0224 (fax)

Contact: Tim Bauters, Ph.D., P.E.

Project Number: 123-8150-201

Plan Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Alan Sabawi
Plant Manager

6/20/16
Date

Record of Revisions

Revision Number	Prepared by	Description of Revision	Date of Revision
	Original Issue Golder	All	May 2014
002	Sam Barket	All	February 2016
003	Sam Barket	Added contact information	June 2016

Table of Contents

List of Tables

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1.0 INTRODUCTION

Golder Associates Inc. (Golder) has prepared this Stormwater Pollution Prevention Plan (SWPPP) for the Lehigh Southwest Cement Company's Permanente Plant (Facility) located at 24001 Stevens Creek Blvd., Cupertino, Santa Clara County, California. The Facility is a limestone quarry and cement production facility that also produces construction aggregate. Lehigh Southwest Cement Company operates and Hanson Permanente Cement, Inc., (Lehigh) owns the Facility.

The Facility's surface water discharges, including stormwater, are regulated by waste discharge requirements (WDRs) in Order Number R2-2014-0010, National Pollutant Discharge Elimination System (NPDES) Permit Number CA0030210 (NPDES Permit), and Cease and Desist Order (CDO) Number R2-2014-0011. With an effective date of May 1, 2014, the NPDES permit prohibits any process water-related discharges except through a single, treated, discharge point (Discharge Point 001, Pond 4A), such that all remaining discharge points are comprised of stormwater and/or authorized non-stormwater. The CDO allows limited process water discharges until October 1, 2014 and establishes other interim prohibitions as well as interim effluent limitations that apply to the Facility discharges until October 1, 2017 when the prohibitions and limitations in the NPDES Permit will be in full effect.

Golder has prepared this SWPPP on behalf of Lehigh consistent with Provision C.6.a of the NPDES Permit and item a in Table 4 of the CDO. The NPDES Permit requires Lehigh to prepare a SWPPP that contains information and describes measures consistent with the requirements in Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities, NPDES General Permit No. CAS000001 (State Water Board Order No. 97-03-DWQ), Section A, Storm Water Pollution Prevention Plan Requirements (General Permit). The NPDES Permit Provision VI.C.6 also provides SWPPP requirements.

The CDO requires Lehigh to prepare a SWPPP that identifies measures to ensure compliance with NPDES Permit prohibitions and discharge limitations applicable to stormwater discharges. The prohibitions limit discharges from Discharge Point Nos. 002 – 006 (Ponds 13B, 9, 17, 20, and 30) except as a result of precipitation, or to discharge stored water and the effluent limitations include numerical limits applied to total suspended solids (TSS), oil and grease (O&G), pH, settleable matter, and turbidity. The NPDES Permit also includes stormwater action levels for certain metals, conductivity, visible oil, and visible color that will be considered in this SWPPP.

Stormwater in several drainage areas, or catchment areas, of the Facility are comingled with process waters, and, therefore, the NPDES Permit requires that these catchment areas be discharged through a single, treated discharge point (Discharge Point No. 001) after October 1, 2014. The CDO requires a separate pollution prevention plan for the catchments that have comingled process water and stormwater, which will be discharged through a single, treated discharge point (Discharge Point No. 001).

The purpose of the SWPPP is to protect surface water quality by reducing the amount of pollutants in stormwater runoff for Discharge Point Nos. 002 through 006. The industrial activities at the Facility generally include mining, processing of minerals, production of Portland cement, storage of construction aggregates.

The SWPPP has two major objectives:

- To identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of stormwater discharges from the Facility; and
- To identify and implement site-specific Best Management Practices (BMPs) to reduce or prevent pollutants associated with industrial activities in stormwater discharges.

Preparation of this SWPPP does not guarantee compliance with the CDO or NPDES Permit. It is the responsibility of Lehigh to implement the necessary BMPs and recommendations set forth in this document.

This SWPPP has been prepared by Golder for the exclusive use of Lehigh. Golder prepared this SWPPP based upon information provided by Lehigh and a site visit conducted by George Wegmann and Mark Naugle, PE of Golder on April 21, 2014. This SWPPP is revised as needed.

2.0 STORMWATER PLANNING AND ORGANIZATION

This section of the SWPPP identifies specific individuals that comprise the Lehigh Pollution Prevention Team (PPT) that are responsible for developing, implementing, and revising the SWPPP. The PPT will review the SWPPP annually and update the SWPPP as necessary. This SWPPP is a public domain document.

2.1 Position Responsibilities

The Plant Manager provides overall management of the implementation of this SWPPP. The Stormwater Team Leader/ Environmental Manager provides coordination of the implementation of this SWPPP.

2.2 Pollution Prevention Team

The PPT will help the Plant Manager implement the SWPPP, identify necessary SWPPP revisions, and conduct required monitoring activities. The Lehigh PPT is further described in the following sections.

Table 1, Pollution Prevention Team

Position	Name	Contact
Plant Superintendent	Juan Yanez	408-996-4209
Environmental Manager	Sam Barket	408-996-4269, 408-202-7534
Environmental Engineer	Courtney Perry	408-996-4022, 408-204-0364
Environmental Engineer	Manju Shivalingappa	408-996-4236
Quarry Manager	George Taylor	408-996-4190, 408-691-8830

2.2.1 Team Responsibilities

The PPT is comprised of several key individuals as shown in Table 1. Each member is listed in the table along with his/her job title and responsibilities. The PPT is responsible for:

- Implementing the SWPPP.
- Assisting in SWPPP maintenance and modification.
- Holding regular meetings to review the overall operation of BMPs.
- Establishing responsibilities for sampling, inspections, operations and maintenance, and availability for emergency situations.
- Arranging for training of all team members in the operation, maintenance and inspections of BMPs.
- Conducting good housekeeping inspections of the Facility. Any spills, leaks or other potential sources of pollutants will be identified and removed.

2.2.2 Responsible Persons

Alan Sabawi, Plant Manager, is the Responsible Person (RP) for stormwater pollution prevention at this facility, and is responsible for oversight of:

- SWPPP development
- Implementation and revision of the SWPPP
- Implementation of monitoring program activities required in the NPDES Permit

The designated Alternate RP, production manager Juan Yanez, will perform these duties in the absence of the RP.

2.3 Other Requirements and Existing Facility Plans

The Facility's air emissions are regulated by a Title V - Major Facility Review Permit issued by the Bay Area Air Quality Management District (BAAQMD). According to BAAQMD Condition 24621, Lehigh maintains and implements a Fugitive Dust Control Plan (Lehigh 2010) consistent with the Title V permit. Control measures identified in this plan will reduce the generation of particulates that could be exposed to stormwater at the Facility.

The NPDES Permit requires that Lehigh develop a Facility Reliability Assurance Plan (FRAP) no later than May 16, 2014 that describes measures in place to ensure the reliability of the Facility's system in preventing inadequately treated wastewater from being discharged and in preventing catastrophic failures of ponds. Wastewater will be referred to herein as process water and includes process water from the Reclaim Water System, Quarry, and Primary Crusher and stormwater which comingles with process water.

The NPDES Permit requires that Lehigh maintain a BMP Plan in usable condition and available for reference and use by all appropriate personnel. The BMP Plan shall be developed and implemented to minimize the potential impact of periodic discharges to Permanente Creek, to prevent the accidental release of toxic or hazardous substances into the environment, and to minimize and mitigate the effects of any such releases using equipment and techniques available and practical for such use. The BMP Plan will be consistent with U.S. EPA's Guidance Manual for Developing Best Management Practices (October 1993, EPA 833-B-93-004) and will, at minimum, include BMPs described in NPDES General Permit No. CAS000001 (State Water Board Order No. 97-03-DWQ), Section A, Storm Water Pollution Prevention Plan Requirements.

Other plans that describe the management of materials and practices at this facility, which may affect the management of stormwater include the following (these plans are NOT a part of the SWPPP).

- Spill Prevention Control and Countermeasure Plan (SPCC)

- Hazardous Materials Business Plan (HMBP)
- Emergency Contingency Plan
- Reclamation Plan Amendments

3.0 FACILITY DESCRIPTION

The following sections describe the Facility layout, industrial activities, and significant materials. Significant materials are those materials that should be considered when assessing potential stormwater pollutants.

3.1 Facility Location and Layout

The Facility is located at 24001 Stevens Creek Road in the southern San Francisco Bay Area, in the foothills of unincorporated western Santa Clara County, just west of the City of Cupertino, California, as shown on Figures 1 and 2. The climate of the southern San Francisco Bay Area is Mediterranean, characterized by mild, wet winters, and warm, dry summers.

Lehigh mines and processes minerals at the Facility and produces Portland cement from limestone and stone quarried onsite. As shown on Figure 2, the Facility consists mainly of an active mining area (quarry), primary crusher, a cement plant, rock plant, material storage areas, roads, and a conveyor system for transporting the processed materials.

3.2 Surrounding Activities and Structures

Land to the west of the Facility is open space. Stevens Creek Quarry is located to the south of the Facility (Figure 2) along with rural residential areas and small agricultural operations including some vineyards. Land uses to the east of the Facility include open space and recreational areas along with residential subdivisions. North of the Facility is open space and recreational areas. The areas surrounding the Facility that might produce run-on include vegetated slopes.

3.3 Site Drainage

The Facility lies within the Permanente Creek watershed. Permanente Creek discharges into southern San Francisco Bay. Precipitation that falls within the Facility is managed within six catchment areas. These catchment areas are shown on Figure 3. The catchment areas are identified by the retention basins or ponds where stormwater runoff within the catchment areas is captured. The ponds discharge via standpipe and culverts to Permanente Creek.

The pond discharges are identified in the NPDES permit as Discharge Point Nos. 001 through 006. The stormwater related catchment areas and associated discharge locations are listed below:

- Pond 13B (Discharge Point No. 002)
- Pond 9 (Discharge Point No. 003)
- Pond 17 (Discharge Point No. 004)
- Pond 20 (Discharge Point No. 005)
- Pond 30 (Discharge Point No. 006)

Each of the stormwater drainage areas is described in the following sections. As noted previously, stormwater in several catchment areas (Discharge Point 001, Reclaim Water System including the Cement Plant and Truck Wash) of the Facility are comingled with process waters. The CDO requires a separate pollution prevention plan for these catchment areas, which provides further detail about the Reclaim Water System sources.

The following table summarizes the estimated stormwater runoff.

Catchment	Catchment Area (acres)	Estimated Peak Runoff 10-yr, 6-hr storm (cfs)
Pond 9	~2	48.2
Pond 13B	11	10
Pond 17	110	93.6
Pond 20	~5	44.5
Pond 30	95	40.4

Source: Golder 2014 Facility Reliability Assurance Plan.

3.3.1 Pond 13B (Discharge Point No. 002)

Pond 13B is located upgradient of the north bank of Permanente Creek. Stormwater runoff runs down the slope to Pond 13B. The location of Pond 13B and the associated catchment are provided in Figure 4.

Water in Pond 13B is typically retained, evaporates, and/or infiltrates. Pond 13B also has an overflow pipe to allow direct discharge to Permanente Creek if the water level in the pond reaches the elevation of the overflow pipe. The inlet to the overflow pipe is at the top of the pond side slope at the downgradient end of the pond. The overflow pipe is a 24 inch corrugated metal pipe (CMP) that conveys the overflow waters down the slope, approximately fifty feet, in a controlled fashion, into Permanente Creek. Since at least May 2007, no direct discharge from Pond 13B through this overflow pipe has been observed. In the future, Lehigh plans to install a low permeability liner in Pond 13B to reduce infiltration.

3.3.2 Pond 9 (Discharge Point No. 003)

Pond 9 is located adjacent to a road, near the north bank of Permanente Creek, south of the cement plant. The location of Pond 9 and the associated catchment, including the Dinky Shed Catchment, is provided in Figure 5. Formerly, Pond 9 received stormwater runoff from upgradient roads and hillsides, the Surge Pile, the cement plant stockpile storage, upper equipment storage area, and pumped water from the Dinky Shed Catchment. Pond 9 also used to receive excess process and/or storm water from the Reclaim Water System that was pumped from Pond 11, (which was permitted under the CDO until October 1, 2014).

Since the presence of the California red-legged frog (a threatened species), was discovered in Pond 9, Lehigh has worked to redirect any storm waters flowing through process areas from reaching the pond. This pond now only receives storm water from adjacent slopes, and upwelling ground water from beneath the pond. A groundwater seep originating near the western portion of the rock plant may reach Pond 9 via a half CMP pipe and drainage swale.

The Dinky Shed Catchment now receives stormwater runoff that has been diverted from Pond 9, as well as water from a lower section of the Facility's Rock Plant access road. (Runoff from the upper section of the road flows to Pond 17.) Water from the Dinky Shed Catchment is pumped into the new Reservoir.

3.3.3 Pond 17 (Discharge Point No. 004)

Pond 17 was designed to discharge stormwater flows from the Rock Plant area into Permanente Creek. It is comprised of several settling basins separated by check dams. Currently, some of the Rock Plant storm water is diverted toward the Dinky Shed.

The storm water in this area includes rain falling directly on the Rock Plant; storm water from the adjacent hillsides now is diverted by pipeline.

3.3.4 Pond 20 (Discharge Point No. 005)

Pond 20 is located at the base of a slope south of the historical, non-operational, former Aluminum Plant and general plant entry road. The location of Pond 20 and the associated catchment is provided in Figure 6. Pond 20 is a shallow depression that receives stormwater runoff from the slope, former Aluminum Plant, the cement plant stockpile storage, and the entry road directly or from Pond 19, which drains the same catchment area. A portion of the stormwater runoff from the upper, western portion of Pond 20 catchment is conveyed downslope in a trench located next to the access road along the southern boundary of this catchment area, and into detention basin SB-7 (Figure 7). (An outlet structure in SB-7 and discharge from this basin is no longer conveyed through an underground pipe and trench to Pond 20; it has been diverted to the new storm water Reservoir.) Pond 20 also receives some water from the Rock Plant road. The discharge from Pond 20 continues to flow easterly through vegetation, including Pond 21, and enters Permanente Creek near the entry road overpass.

3.3.5 Pond 30 (Discharge Point No. 006)

Pond 30 receives stormwater from the East Materials Storage Area (EMSA) and access roads. The location of Pond 30 and the associated catchment is provided in Figure 7. Stormwater runoff from the access road starting near the cement plant is conveyed downslope alongside the access road and is collected in detention basins (Ponds 31A and 31B) near the top of the slope and is conveyed via pipeline and drainage swales down to Pond 30. The operational areas around the eastern portion of the EMSA have been redirected to route flow into Pond 30. There is an outlet standpipe in Pond 30 that overflows

through an underground pipe towards the east into vegetation and enters Permanente Creek near the entry road overpass. The EMSA has been completely covered with non-limestone materials to reduce storm water contact with limestone.

3.3.6 Reclaim Water System

The Reclaim Water System is a complex combination of stormwater and non-stormwater process water from the Quarry, Primary Crusher, Cement Plant, and Truck Wash, the control of which is not specifically included in this SWPPP. Further detail about the Reclaim Water System sources is included in the Pollution Prevention Plan.

3.4 Locations of Exposed Industrial Activities and Industrial Materials

Significant industrial activities and materials that could be exposed to stormwater in catchment areas for Discharge Point Nos. 002, 003, 004, 005, and 006 include:

- Settled dust and particulate matter from mining of limestone and overburden in the Quarry
- Settled dust and particulate matter from rock crushing at the Primary Crusher
- Onsite material transport by trucks along facility roads
- Fueling and servicing of equipment and vehicles
- Cement plant stockpile storage
- Settled dust and particulate matter from cement processing
- Electrical and/or vehicle and equipment storage areas
- Truck washing

The locations of these activities and materials are shown on Figure 3.

3.5 Erosion Potential

The Facility is primarily unpaved, except for in the cement plant area. Erosion of non-vegetated areas can cause sediment mobilization and increased sediment loading in stormwater discharges. Additional sources of disturbed sediments includes erosion from haul roads. The majority of the drainage pathways at the Facility flow toward retention ponds or are pumped from low lying areas into the respective retention ponds.

4.0 DESCRIPTION AND ASSESSMENT OF INDUSTRIAL ACTIVITIES AND MATERIALS, POTENTIAL POLLUTANT SOURCES, AND POLLUTANTS

The NPDES Permit establishes the monitoring program for stormwater and includes discharge limitations or action levels for the following potential stormwater pollutants:

- Discharge Limitations:
  - total suspended solids (TSS)
  - oil and grease (O&G)
  - pH
  - settleable matter
  - turbidity
- Action Levels:
  - conductivity
  - metals: chromium VI, mercury, nickel, selenium, thallium
  - visible oil
  - visible color

Industrial activities and materials at the facility that are potential sources of these pollutants include: materials the facility mines, crushes, transports, and processes; materials storage; equipment fueling and maintenance; truck and equipment transport, repairs, maintenance, and washing; settled dust and particulate matter resulting from facility operations; and wastewater treatment.

Lehigh mines and processes limestone at the facility and produces Portland cement. Overburden and limestone that are not suitable for cement manufacturing is deposited in materials storage areas. Finished Portland cement is shipped by bulk truck or trucked in bags to offsite commercial markets. Additionally, regulated hazardous materials are stored at the facility for use in all aspects of facility operations. An HMBP for the facility has been prepared and a copy is kept onsite and provided to local enforcement agencies.

Table 2 lists materials used outside of the Reclaim Water System and Discharge Point 001 that could be potential stormwater pollutants. The table provides a summary of industrial activities where stormwater run-off could originate along with potential sources of pollutants, potential pollutants, and the BMPs to prevent pollutants from entering the stormwater discharges. (Note, the Reclaim Water System and Discharge Point 001 are included in the PPP and BMP Plan). The most likely sources of stormwater pollutants are industrial processes that result in the release of dust and particles, oil and grease, metals, and high pH liquids. Potential pollutant sources are discussed further by area and process in the following sections.

4.1 Quarry, Primary Crusher, Rock Plant, and Cement Plant

As discussed in Section 1.0 and 3.3, the catchment areas that include stormwater from the Quarry, Rock Plant, and Cement Plant are not included in this SWPPP; however, dust generated from activities in these areas can migrate to other catchment areas, settle on exposed surfaces and potentially pollute stormwater. Fugitive dust emissions are controlled by implementing the Fugitive Dust Control Plan (Lehigh 2010). Also, as identified in Table 3, the Facility frequently sweeps paved areas to remove settled dust.

4.2 Surge Pile

Rock sourced from the quarry operation is stockpiled in the Surge Pile. Stormwater contacting the Surge Pile can be exposed to pollutants including TSS, high pH, settleable matter, turbidity, conductivity, and metals. Stormwater runoff is conveyed through a drainage ditch along an access road to the Dinky Shed. Several rock check dams within the ditch slow the runoff flows to reduce the particulate loading in this runoff water.

During a rain event, portions of the dust suppression water applied to the rock on the conveyor may come into contact with stormwater that drains to the Dinky Shed. The Facility will implement measures to collect the dust suppression water in sumps for conveyance to the Reclaim Water System prior to October 1, 2014.

4.3 Rock Plant Equipment Storage

The Facility stores inactive vehicles, tires, and equipment including process equipment in this area, which is located along the western portion of the Rock Plant. The equipment is stored outdoors and exposed to stormwater. Stormwater in this area may be exposed to TSS, O&G, settleable matter, turbidity, conductivity, metals, visible oil, and visible color. Stormwater from this area flows to the Dinky Shed along an access road. The Facility maintains BMPs to reduce the flow velocity to reduce the amount of particles in the stormwater. As part of good housekeeping procedures outlined in Section 5.0, these materials will be removed or covered.

4.4 EMSA

Soils and rock types not used in the cement process that are also mined are collectively described as overburden. Overburden and any unsuitable limestone have been deposited in the EMSA according to a design described in the Quarry Reclamation Plan. Stormwater contacting the EMSA may be exposed to pollutants including TSS, high pH, settleable matter, turbidity, conductivity, and metals. Stormwater runoff from the EMSA flows through two retention ponds (Ponds 31A and 31B), drainage ditches, and culverts to Pond 30 to settle particles and reduce potential pollutants before discharge. The entire EMSA was

covered with non-limestone materials and hydroseeded in 2016 to reduce the risk of storm water exposure to limestone.

4.5 Cement Plant Stockpile Storage

Limestone is stockpiled in this storage area prior to processing in the cement plant. The limestone is transported by conveyor to the Cement Plant. Berms are present in the area to reduce stormwater run-on. Stormwater contacting limestone can be exposed to pollutants including TSS, high pH, settleable matter, turbidity, conductivity, and metals. The stormwater falling within the Cement Plant Stockpile Storage area flows in approximately equal proportions to the Dinky Shed, the new storm water Reservoir, and Pond 20. The stormwater flows along access roads and the Facility maintains BMPs to reduce the flow velocity to reduce the amount of particles in the stormwater.

4.6 Electrical, Vehicle, and Equipment Storage Area

The Facility stores inactive vehicles, tires, and equipment including process equipment in this area. The Facility also stores fuel and materials for equipment maintenance in this area (oils, lubricants, etc.). The materials for equipment maintenance are stored indoors within secondary containment. The electrical substation for the Facility is also located in this area.

Although stored indoors, spill and leaks associated with the transfer of the materials used for equipment maintenance (See Section 4.6) can be tracked outdoors and be exposed to stormwater. The tires, vehicles, equipment, and process equipment are stored outdoors and exposed to stormwater. Stormwater in the Electrical, Vehicle, and Equipment Storage Area may be exposed to TSS, O&G, settleable matter, turbidity, conductivity, metals, visible oil, and visible color. Stormwater from this area flows to the Dinky Shed along an access road. The Facility maintains BMPs to reduce the flow velocity to reduce the amount of particles in the stormwater. Water from the Dinky Shed is pumped to the new storm water Reservoir.

4.7 Truck and Equipment Maintenance

Heavy equipment and trucks are used, repaired, and maintained at the Facility. Routine fueling and maintenance are performed in specific maintenance and fueling areas that are in catchment areas not included in this SWPPP; however, repairs and maintenance can occur at any location of the facility due to equipment malfunction or due to operational constraints. Materials stored in the covered fuel and maintenance area or on the quarry service trucks that may pollute stormwater include diesel fuel, new and used motor oil, miscellaneous lubricants, hydraulic fluids, and anti-freeze. These materials are delivered to the site on an as-needed basis. The site maintains an SPCC plan in regard to spill prevention of petroleum materials, including providing SPCC procedures to third party suppliers.

Leaks and spills of oil from containers and filters during transfer operations can expose stormwater to pollutants. Leaks and spills of oil from the tanks or drums could expose these materials to stormwater. Oil

and fluid leaks from equipment during Facility operations could expose these materials to stormwater. The potential sources of stormwater pollutants from truck and equipment maintenance include:

- Leaks and spills of petroleum products during transfer operations
- Leaks and spills of used oil from the tank and drums
- Leaking of oil and fluids from trucks

4.8 Truck Washing Area

The Facility maintains wheel and vehicle washers near the Facility entrance. The washwater is collected and pumped to the Reclaim Water System. Customer vehicles and/ or equipment pass through the washers to prevent trackout onto public roads. Facility vehicles also pass through the washer before exiting the Facility. This area is routinely inspected to ensure washwater is contained and properly conveyed to the Reclaim Water System.

4.9 Former Aluminum Plant Equipment Storage

In an area directly northwest of the former Aluminum Plant, the Facility stores inactive vehicles and process equipment. The equipment is stored outdoors and is exposed to stormwater. Stormwater in this area appears to pond adjacent to the Former Aluminum Plant and may be exposed to TSS, O&G, settleable matter, turbidity, conductivity, metals, visible oil, and visible color.

4.10 Additional Areas

4.10.1 QC Laboratory

The Facility includes a materials testing or Quality Control (QC) Laboratory located along the northeast portion of the site (Figure 3). Chemical storage is indoors; however, raw materials including gravel are currently stored outdoors at the QC Laboratory Parking Lot.

4.10.2 Wastewater Treatment Plant

The Facility operates a small wastewater treatment plant to treat domestic wastewater. This plant is permitted, and discharges effluent to a thickener tank to be used as part of the Reclaim Water System. Sodium Hypochlorite is stored within this plant under cover and in secondary containment. While not anticipated to be significant in amount, any stormwater runoff from the Wastewater Treatment Plant will be directed to the western access road and retained on-site.

4.11 Non-Stormwater Discharges

The Facility will implement measures to ensure non-stormwater process water discharges in contact with industrial areas do not occur.

5.0 BEST MANAGEMENT PRACTICES

Non-structural, or operational, BMPs generally consist of processes, prohibitions, procedures, schedule of activities, etc., that reduce potential for exposure of stormwater discharges. The following BMPs are applicable to Facility activities within catchments for Discharge Points Nos. 002 through 006. The Facility activities and associated BMPs are summarized on Table 3. Additionally, as noted in Section 2.3, a separate BMP Plan will be prepared and maintained at the Facility.

5.1 Good Housekeeping

The Facility will implement the good housekeeping BMPs described below.

- Observe all outdoor areas associated with industrial activities including stormwater discharge locations, drainage areas, conveyance systems, waste handling/disposal areas, and perimeter areas impacted by off-Facility materials or stormwater run-on to determine housekeeping needs. Any identified debris, waste, spills, tracked materials, or leaked materials shall be cleaned and disposed of properly.
- Before the wet season, inspect storm drain inlets and other conveyances, sedimentation traps and basins, retention ponds, and other BMPs in place at the Facility to assess efficacy. Remove accessible deposited sediment or debris as needed.
- Sweep paved areas of the Facility daily during the storm season (October 1 through May 30) and weekly during the remainder of the year. Use a regenerative truck sweeper and sweep inaccessible areas by hand. Conduct comprehensive and focused sweeping of paved areas before forecasted rain events.
- Place drip pans under equipment stored or parked for a week or longer.
- Minimize or prevent materials tracking.
- Minimize or reduce dust generated from industrial activities.
- Ensure that Facility areas impacted by rinse/wash waters are cleaned as soon as possible.
- Cover stored industrial materials that can be readily mobilized by contact with stormwater.
- Contain stored easily transported industrial materials (liquid, powder, etc.) that can be transported or dispersed via wind or contact with stormwater.
- Prevent disposal of any rinse waters, wash waters, or industrial materials into the stormwater system.
- Minimize or reduce stormwater discharges from non-industrial areas (e.g., stormwater flows from upland, non-industrial areas or from employee parking area) that contact industrial areas of the Facility.

Good housekeeping measures are implemented in the maintenance areas to avoid spills or leaks being tracked outside. Per the Facility's SPCC Plan (LFR Inc. 2006), the following activities occur:

- A member of the PPT observes parking lots, driveways, and storage areas and removes trash and debris on a regular basis.

- Oils, other liquids, chemicals and used oils/liquids are stored in labeled containers with tight-fitting lids and secondary containment in the maintenance area or appropriate storage area.
- Suitable spill kits are maintained near the maintenance area and oil storage area.
- Facility personnel promptly implement established spill cleanup procedures for leaks and spills. These procedures are detailed in the SPCC Plan.
- In the event that vehicle or movable equipment maintenance or repairs are performed in uncovered areas, a member of the PPT inspects the area where the maintenance or repair occurred and ensures that waste products, including pollutant-containing fluids deposited or spilled on the ground as a result of the maintenance or repair are cleaned up.

Additionally, per the Reclamation Plan, the BMPs within the reclamation plan boundary are inspected during the rainy season at least once a month and after any significant rain event[1].

5.2 Preventative Maintenance

The Facility implements the preventative maintenance procedures described below.

- Identify equipment and systems used outdoors that may spill or leak potential stormwater pollutants
- Observe the identified equipment and systems to detect leaks, or identify conditions that may result in the development of leaks
- Establish an appropriate schedule for maintenance of identified equipment and systems
- Establish procedure for prompt maintenance and repair of equipment, and maintenance of systems when conditions exist that may result in the development of spills of leaks

A member of the PPT performs monthly visual inspections using checklists that include checking for signs of deterioration of equipment, containers, and metal accessories that are stored outside. The inspection identifies corrosion, structural failure, spills, leaks, etc. and equipment is repaired/ replaced as needed. The Facility performs inspections consistent with the SPCC, the HMBP, and this SWPPP. An example SWPPP BMP inspection form is included in Appendix A. Completed forms can be maintained in Appendix A and must be maintained for five years.

5.3 Spill and Leak, Prevention and Response

The Facility implements the spill prevention procedures described below consistent with the Facility SPCC and HMBP.

- Establish procedure and/or controls to minimize spills and leaks.
- Develop and implement spill and leak response procedures to prevent industrial materials from discharging through the stormwater conveyance system. Spilled or leaked material shall be cleaned and disposed of properly.
- Identify and describe all necessary and appropriate spill and leak response equipment, location(s) of spill and leak response equipment, and spill or leak response equipment maintenance procedures.

[1] Completed by facility environmental personnel, WRA personnel, or both.

- Identify and train appropriate spill and leak response personnel

Facility personnel properly label and use lids to seal cans and drums storing liquids and use spigots, pumps, and funnels to dispense and transfer liquids to reduce the possibility of spills. Drip pans or other protective devices are used for liquid transfer operations to catch incidental spillage and drips from dispensing products from drums, barrels, or dispenser pumps. Used liquids, including petroleum hydrocarbons and coolant, are stored under cover and within secondary containment pending removal by a hazardous waste disposal contractor. Containers of products like paint, solvents, or cleaners are completely emptied before disposal in the solid waste garbage, returned to the supplier, or handled as hazardous waste if not empty. Spill cleanup kits are maintained near the material storage areas consistent with the SPCC.

Spills must be immediately reported to proper authorities. Reporting is required for spills of oil or hazardous substances greater than the reportable quantities described in CFR Title 40, Parts 302.4 and 117 and the Facility's SPCC and HMBP. Forms for describing significant spills and leaks and recording response procedures are included in the Facility's SPCC and HMBP.

5.4 Material Handling and Waste Management

The following material handling and waste management procedures are implemented as described below.

- Control dust generation by implementing the control measures in the Fugitive Dust Control Plan (Lehigh 2010).
- Prevent or minimize handling of industrial materials or wastes that can be readily mobilized by contact with stormwater during a storm event.
- Cover waste disposal containers and materials storage containers when not in use.
- If practicable, cover outdoor materials 48 hours ahead of likely storm events forecast at 50 percent or greater probability.
- Divert run-on and stormwater generated from within the Facility away from all stockpiled materials.
- Clean all spills of industrial materials/wastes that occur during handling in accordance with the spill response procedures in the Facility's SPCC and HMBP.
- Observe and clean as appropriate, any other material/waste handling equipment or containers that can be contaminated by contact with industrial materials or wastes.

Equipment leak prevention and spill cleanup procedures are discussed in Sections 5.2 and 5.3.

5.5 Fuel, Oil, Used Oil, and Antifreeze Delivery and Pickup

Fuel, oil delivery and used oil and used antifreeze pickup are attended by a Facility representative. The lower-most drain and outlets of delivery vehicles are inspected for evidence of leakage prior to filling and prior to departure. The ground surface is inspected for spills and drips and corrective action is taken as needed. The drains and outlets are tightened, adjusted, or replaced to prevent liquid discharge while in

transit. If a spill due to a hose connection/equipment failure were to occur, the spilled material would be contained using spill kit material, and the resulting contaminated clean-up materials would be transferred to a storage container for off-site disposal. These procedures as well as a notification to vendors providing these services are included in the Facility's SPCC plan.

5.6 Leakage of Oil from Stored Equipment and Vehicles

Occasionally fuel, hydraulic oil, or engine oil may drip from stored vehicles and equipment. Any such leakage should be identified during daily inspection of the Facility and reported to the Stormwater Team Leader so that corrective actions can be taken to:

- Repair the equipment to eliminate the leak
- Contain the leak, using absorbent "diapers" or pads, or a pan or bucket, until equipment can be repaired
- Containerize and properly dispose of used absorbent materials, and replace that material used in the spill kit

5.7 Equipment/Vehicle Fueling

Equipment and vehicle fueling activities have the potential to contribute spillage of gasoline or diesel fuel. To ensure this activity does not contribute to hydrocarbon contamination of stormwater, the following BMPs are implemented and these activities are performed consistent with the Facility's SPCC:

- Fueling during heavy rainfall events should be avoided (when possible).
- Fueling of equipment or vehicles will be attended by an operator.
- Spill response kits with appropriate absorbent materials (oil dry, absorbent booms and pillows/pads) will be maintained and absorbents deployed at the time of a spill to insure complete and immediate clean up.
- Used absorbent materials will be containerized and properly disposed of and materials used will be replaced in the spill kit.

5.8 Erosion and Sediment Control

The majority of the Facility ground surface is unpaved. To prevent soil erosion and sediment transport in stormwater, the Facility implements the erosion and sediment control procedures described below to the extent practicable.

- Maintain effective perimeter controls; site entrances and exits are paved and swept to control discharges or tracking of erodible materials
- Control dust generation by implementing the control measures in the Fugitive Dust Control Plan (Lehigh 2010)
- Divert runoff from within the Facility away from erodible materials
- Maintain drainage and erosion control systems and all-weather working surfaces at the site

- Maintain vegetation on intermediate slopes, including track walking, hydroseeding and placement of mulch or straw on sparsely vegetated inactive earth surfaces prior to October 1 of each year. Advanced erosion and sediment control, structural controls, and specific implementation details are also discussed in Section 6.

5.9 Employee Training Program

The Facility implements the employee training program procedures described below and consistent with the SPCC and HMBP.

- Ensure that all team members implementing the various compliance activities in the SWPPP are adequately trained to implement the requirements of the NPDES Permit, including but not limited to: BMP implementation, BMP effectiveness evaluations, visual observations, and monitoring activities.
- Prepare or acquire appropriate training manuals or training materials
- Identify which personnel need to be trained, their responsibilities, and the type of training they shall receive
- Provide a training schedule
- Maintain documentation of all completed training classes and the personnel that received training in the SWPPP

The Facility has an established training program. The PPT will provide annual training for current and future employees. The PPT will provide training for new employees within 30 days. This training will include good housekeeping procedures, preventive maintenance, spill prevention and response, BMP maintenance, and record keeping.

Facility employees that have direct responsibilities in areas of the Facility that have the potential to impact stormwater will receive SWPPP training annually. More frequent training will be conducted as necessary to address employee turnover. All PPT and employee training is to be documented and the records will be stored with the SWPPP. Records of employee training are to be kept for at least 5 years. Employee training records may be kept on the form provided in Appendix B.

5.10 Quality Assurance and Record Keeping

The Facility implements the quality assurance and record keeping procedures described below.

- Develop and implement management procedures to ensure that appropriate staff implements all elements of the SWPPP, including the monitoring and reporting program in the NPDES Permit
- Develop a method of tracking and recording the implementation of BMPs identified in the SWPPP (BMP Inspection and Preventative Maintenance Log, Appendix A)
- Maintain the BMP implementation records, training records, and records related to any spills and clean-up related response activities for a minimum of five (5) years

The PPT or plant manager is responsible for ensuring that all elements of the SWPPP are implemented, that BMP implementation is tracked and recorded, and that all records required by the NPDES Permit and

SWPPP are maintained for a minimum of 5 years. Quality assurance activities undertaken will be documented and entered into the SWPPP records.

6.0 ADVANCED STRUCTURAL, SOURCE CONTROL, AND TREATMENT BMPS

Structural BMPs are to be considered when non-structural BMPs have been ineffective. Structural BMPs consist of structural devices that reduce or prevent pollutants in stormwater discharges. Examples include:

- Overhead coverage
- Retention ponds, basins or surface impoundments
- Berms or other run-on/run-off channeling devices
- Secondary containment structures
- Treatment through inlet controls, filtration, or vegetative swales that reduce the pollutants in surface waters discharged from the site

The following structural controls are implemented at the Facility.

6.1 Overhead Coverage

The Facility stores petroleum products and other fluids and materials associated with equipment maintenance under cover to the extent practicable. This overhead coverage reduces or prevents the potential for stormwater pollutants associated with these activities from contacting or entering stormwater. These potential pollutants include TSS, O&G, metals, and visible oil.

6.2 Stormwater Detention Basins

Several stormwater detention basins are located at the Facility: Pond 9, Pond 13B, Pond 17, Pond 30, Pond 31A, Pond 31B, and SB-7. The locations of the stormwater detention basins are shown on Figure 3 and more detailed views are shown on Figures 4, 5, 6, and 7. Per the NPDES Permit requirement, the Pond 4A quarry water discharge will be treated (up to 400 gallons per minute) starting October 1, 2014. Pond 20, given its configuration as a drainage throughput, and not a traditional “pond,” and does not contain freeboard necessary to accomplish retention of stormwater flows.

Detention basins allow particulates to settle before stormwater is discharged. Potential pollutants mitigated by the retention basins include TSS, settleable matter, turbidity, conductivity, and metals. Annual sediment removal from these basins should be performed to maintain retention capacity and reduce potential pollutant exceedances associated with particulates.

6.3 Particle Filtration

The facility operates a particle filtration system near Pond 4A to filter process water before discharge. The filtration system consists of cartridge filters. Pond 11 water is pumped through the filtration system prior to discharge into Pond 4A.

6.4 Secondary Containment

The Facility uses secondary containment for the storage of petroleum products and other fluids and materials associated with equipment maintenance and hazardous materials. The secondary containment reduces or prevents the potential exposure of these materials to stormwater.

6.5 Advanced Erosion and Sediment Control

Activities that generate the potential for erosion and sediment migration include transport and storage of limestone, unsuitable limestone, and overburden rock and soil. Operations at the site expose slopes and access roads to erosion. Erosion or sediment controls are generally commenced as soon as practicable following completion of soil/ rock disturbing activities. The storm water drainage systems in place have been designed to divert storm water away from operational areas and to stormwater retention basins.

Specific narrative descriptions of BMPs that are implemented at the Facility, to the extent practicable, are listed by category in each of the following sections. Additionally, copies of California Stormwater Quality Association (CASQA) BMP Handbook fact sheets for erosion and sediment control BMPs are included for implementation guidance and reference in Appendix C.

6.5.1 Erosion Control

Erosion control, also referred to as soil stabilization, consists of source control measures that are designed to prevent soil particles from detaching and becoming transported in storm water runoff. Erosion control BMPs protect the soil surface by covering and/or binding soil particles. The Facility will incorporate erosion control measures that are effective and result in the reduction of sediment related pollutants in stormwater discharges. The Facility will implement the following practices for effective temporary and longer-term erosion control during soil disturbing activities:

- Preserve existing vegetation where practicable and when feasible.
- Implement temporary erosion control measures with focused implementation prior to the wet season.
- Stabilize non-active areas prior to the wet season.
- Control erosion in concentrated flow paths by applying erosion control products and maintaining swales as required.
- Apply hydroseed for vegetation development or other longer-term erosion control such as non-limestone rock to areas deemed available for longer-term controls (e.g. areas no longer planned for soil disturbance).

Sufficient erosion control materials will be maintained on-site to allow implementation in conformance with the SWPPP. This includes implementation of BMPs in active areas and non-active areas before the onset of rain.

The BMPs that should be considered for implementation to prevent erosion include:

- Scheduling: Operating activities will be scheduled with the incorporation of both soil stabilization and sediment control measure BMPs to reduce the discharge of pollutants. The schedule will limit exposure of disturbed soil to wind, rain, and stormwater run-on and run-off where practicable.
- Preservation of Existing Vegetation: Existing vegetation will be maintained to the extent practicable.
- Hydroseeding: Hydroseeding or other longer-term erosion control such as placement of non-limestone rock will be applied in areas deemed available for longer-term controls to protect disturbed soil areas from soil erosion. The hydroseeding materials will be applied after final grading operations. The application of hydroseeding materials will be performed in accordance with manufacturer's specifications.
- Geotextile and Mats: Geotextile, erosion control matting (ECM), or non-limestone rock should be installed in all v-ditches where the erosive potential exceeds the resistance of the native compacted soil; the application of ECM will be performed in accordance with manufacturer's specifications. ECMs, should not include any synthetic component because of this material's potential adverse impact to Wildlife
- Slope Protection:
  - Slope drains consist of a pipe used to intercept and direct surface runoff into a stabilized watercourse, trapping device, or retention basin. Slope drains are used with earth dikes and drainage ditches to intercept and direct surface flow away from slope areas to protect cut or fill slopes.
  - Compost Blankets can be applied to protect disturbed soil areas from soil erosion, and can be used as an alternative to hydroseeding, particularly on steeper slopes.
- Soil Binders
  - Soil binding consists of application and maintenance of a soil stabilizer to exposed soil surfaces including unpaved roads. Soil binders are materials applied to the soil surface to temporarily prevent water and wind induced erosion of exposed soils. Examples of soil binders that are recommended include:
    - Earthguard®: a useful soil stabilizing emulsion specifically formulated to reduce erosion and sediment runoff. Earthguard can be applied by water truck or by spray application.
    - Gorilla-Snot®: a useful biodegradable liquid copolymer used to stabilize and solidify any soil or aggregate as well as provide erosion control and dust suppression.
    - Posi-Shell®: a spray-applied, mineral mortar coating, similar to stucco that is the ideal erosion control solution when immediate performance is imperative. Posi-Shell effectively stabilizes steep slopes, controls dust and controls erosion.

6.5.2 Sediment Control

Sediment controls are structural measures that are intended to complement and enhance the selected erosion control measures and reduce sediment discharges from disturbed soil areas. Sediment controls are designed to intercept and settle out or filter soil particles that have been detached and transported by the force of water.

Sufficient quantities of temporary sediment control materials will be maintained on-site to allow implementation of temporary sediment controls in the event of predicted rain and for rapid response. This includes implementation requirements of BMPs in active areas and non-active areas that require deployment before the onset of rain. The BMPs that should be considered for implementation to prevent sediment migration from disturbed soil areas include:

- Fiber Rolls (or straw wattles): Fiber rolls or straw wattles can be installed surrounding the entire outside perimeter of the disturbed soil area as well as surrounding stockpiles. Fiber rolls should be placed along the toe, top, face, and at grade breaks of exposed and erodible slopes to shorten slope lengths and spread runoff as sheet flow Fiber rolls, should not include any synthetic component because of this material's potential adverse impact to Wildlife.
- Check Dams: Check dams are small dams, which can be either temporary or permanent, built across a minor channel, v-ditch, swale, bioswale, or larger drainage ditch. Check dams reduce erosion and gullying in the channel or ditch and allow sediments and pollutants to settle by slowing down the surface waters.
- Gravel Bag Berm: Gravel bag berms can be installed along the down gradient perimeter of disturbed soil areas to prevent run-off if there is a sufficient structural base for support and stabilization of the gravel bags. Gravel bags can also be used alongside access roads to reduce flow velocities and settle out particles.
- Sweeping: Paved areas will be swept daily during the storm season (October 1 through May 30) and weekly during the remainder of the year. The Facility uses a truck sweeper and sweeps inaccessible areas by hand. Comprehensive and focused sweeping of the paved areas is conducted before anticipated rain events.
- Storm Drain Inlet Protection: Drain inlets (DIs) within the facility should receive drain inlet protection. The DIs will consist of filter fabric (inverse witches' hats) to filter out any sediment and pollutants before run-off enters the storm drainage systems. DI protection will be installed in a manner that will not cause ponding or pose a threat to traffic safety. If ponding does cause an issue, the source of the ponding will be identified and corrective actions taken if necessary. During critical operations where potential exists of non-stormwater entering the storm drain inlet, the inlet should be sealed off with urethane sheets, plastic covers, or an equivalent product. Once the critical operation is completed the DIs should be opened up again.
- Flocculent: Flocculent use may need to be approved by the RWQCB. Floc logs introduce a flocculent into the stormwater to promote and accelerate sedimentation in the stormwater basins. The placement of floc logs should be upstream of the stormwater basins to introduce the flocculent upstream, so it is well mixed with the surface water run-off.

7.0 MONITORING AND REPORTING PROGRAM

The monitoring and reporting program (MRP) is provided in Attachment E to the NPDES Permit. The NPDES Permit Section VI.C.6.a includes requirements for this SWPPP and an annual report. According to VI.C.6.b, the Annual Stormwater Report must be submitted by July 1 providing data for the previous wet weather season. The Annual Stormwater Report will include, at a minimum, the following:

- tabulated summary of all sampling results and a summary of visual observations taken during inspections;
- comprehensive discussion of the compliance record and any corrective actions taken or planned to ensure compliance with this Order; and
- comprehensive discussion of source identification and control programs for constituents that do not have effluent limitations (see action levels Section 4.0).

8.0 REFERENCES

Golder Associates, 2014. Facility Reliability Assurance Plan Lehigh Southwest Cement Company Permanente Plant and Quarry, 24001 Stevens Creek Boulevard, Cupertino, California. May 16, 2014.

Lehigh Southwest Cement Company Permanente Cement Plant (Lehigh). 2010. Fugitive Dust Control Plan. September 10, 2010. Revised January 20, 2011.

LFR Inc. 2006. Spill Prevention, Control and Countermeasures (SPCC) Plan. June 21, 2006. Revised by Lehigh November 10, 2011.

Established in 1960, Golder Associates is a global, employee-owned organization that helps clients find sustainable solutions to the challenges of finite resources, energy and water supply and management, waste management, urbanization, and climate change. We provide a wide range of independent consulting, design, and construction services in our specialist areas of earth, environment, and energy. By building strong relationships and meeting the needs of clients, our people have created one of the most trusted professional services organizations in the world.

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www.golder.com

Golder Associates Inc.
425 Lakeside Drive
Sunnyvale, CA 94085
Tel: 408.220.9223

Golder Associates

Engineering Earth's Development, Preserving Earth's Integrity

APPENDIX F:

ANNUAL GREENHOUSE GAS INVENTORY REPORT

ENVIRONMENTAL CONSULTANTS

September 23, 2016

Mr. Sam Barket
Lehigh Hanson
Area Environmental Manager

Re: Annual Reclamation Plan Amendment Activities Greenhouse Gas Inventory

Dear Mr. Barket,

This letter is an annual analysis of the Greenhouse Gas Emissions (GHG) associated with Reclamation Plan Amendment activities at the Lehigh Southwest Cement Company's Permanente Quarry (Quarry) in Santa Clara County, California. This inventory is pursuant to Conditions of Approval (COA) 71, 72, and 73 of the 2012 Reclamation Plan Amendment, for the reporting period of July 31, 2015 through June 30, 2016.

Methods and Thresholds

The methodology used in this memo to analyze the project's contribution to global climate change includes a calculation of GHG emissions associated with Reclamation Plan Amendment Activities, beyond baseline levels as described in the EIR[1], and a comparison of GHG emissions with the thresholds set forth in the COA. GHG emission would be considered significant and require mitigation if they exceed 1,100 metric tons of Carbon Dioxide equivalent ($CO2_e$) within a year. Reclamation Plan Amendment activities included, but not limited to, the following:

- Reclamation of slope, grading, and hauling of materials
- Maintenance of erosion control features
- Hydroseeding activities
- Sediment basin maintenance

The Bay Area Air Quality Management District (BAAQMD) recommends use of the California Emissions Estimator Model™ (CalEEMod) to estimate GHG emissions associated with construction of individual development projects and operational GHG emissions.[2] CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential

[1] Activities that are within the baseline, mining activities, ongoing before the 2012 Reclamation Plan Amendment are not included in these GHG calculations.

[2] BAAQMD CEQA Guidelines: Available at *http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES.aspx*

criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects.[3] The mobile source emission factors used in the model (EMFAC2011) includes the Pavley standards and Low Carbon Fuel standards into the mobile source emission factors. The model was developed in collaboration with the air districts of California. Default data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions.

GHG emissions associated with the projects were modeled using CalEEMod version 2013.2.2 using general project information provided to WRA. Project inputs and assumptions are summarized in the Table 1 below.

Table 1. Off-Road Reclamation Activities Diesel Equipment

Model	Equipment Type	Total Hours	HP*
2001 Freightliner FL70	Off-Highway Truck	32	290
2014 John Deere 460E	Off-Highway Truck	1788	481
2010 Caterpillar D8T	Dozer	421	347
2015 Caterpillar 745C	Dozer	414	496
2012 Volvo Excv. 340c	Excavator	362	189
2008 Volvo A40E WtrTr	Off-Highway Truck	110	469
2012 Volvo Excv. 460c	Excavator	151	239
2014 John Deere 872G	Grader	41	287

**Horsepower (HP) figures are based on available information from equipment manufacturer specification sheets. Not all manufacturers listed gross HP figures; therefore net HP was utilized for calculations.*

Greenhouse Gas Inventory Results

An inventory of reclamation activity emissions was taken for the period of July 1, 2015 to June 30, 2016. Appendix A shows the results of the modeling of this inventory. Total emissions for the study period were 887.7908 metric tons of $CO2_e$. Emissions were below the threshold of 1,100 metric tons of $CO2_e$ as set in COA 71. Therefore, no offset or additional actions are required to mitigate for GHG emissions.

Sincerely,

Erich Schickenberg
Scientist / Environmental Planner

[3] http://www.caleemod.com/

Appendix A: CalEEMod GHG Inventory Results

Model	Equipment Type	CO2e Metric Tons
Freightliner F70	Off-Highway Truck	
	Total Freedlun	3.2033
Cat 950	Small Loader	
Caterpillar 992G	Loader	
Freightliner FL70	Off-Highway Truck	
Gradeall 5200	Excavator	
John Deere 460E	Off-Highway Truck	
Caterpillar D8T	Dozer	
Caterpillar D8T	Dozer	
Volvo Excv. 340c	Excavator	
	Total Off-Highway Trucks	883.7741
Total Emissions		**887.7908**

APPENDIX G:

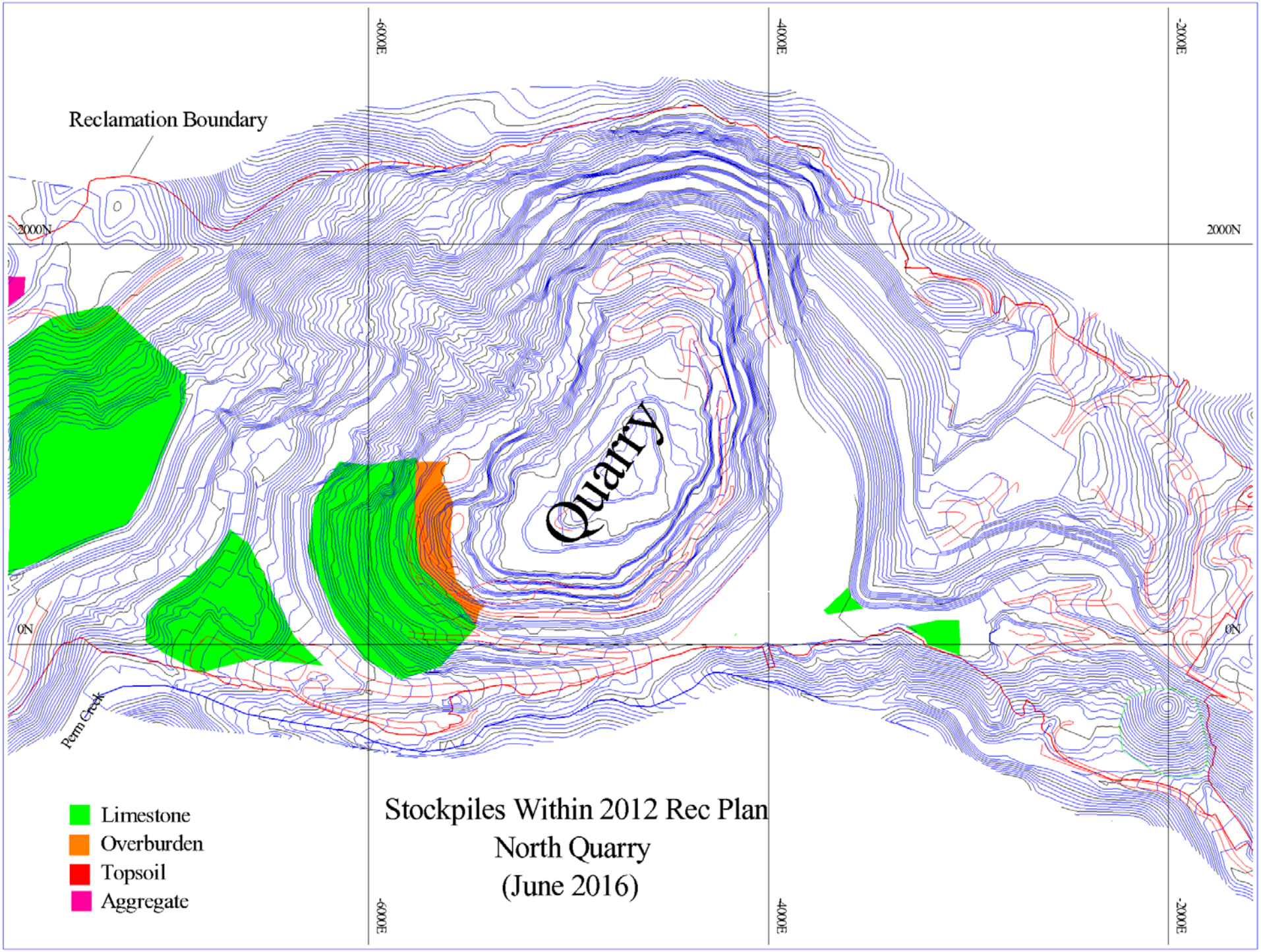
2016-2017 MAP OF EXISTING AND PROPOSED STOCKPILES

HANSON PERMANENTE

Stockpiles Within 2012 Rec Plan (June 2016)

C. Maddocks

Aug 8, 2016



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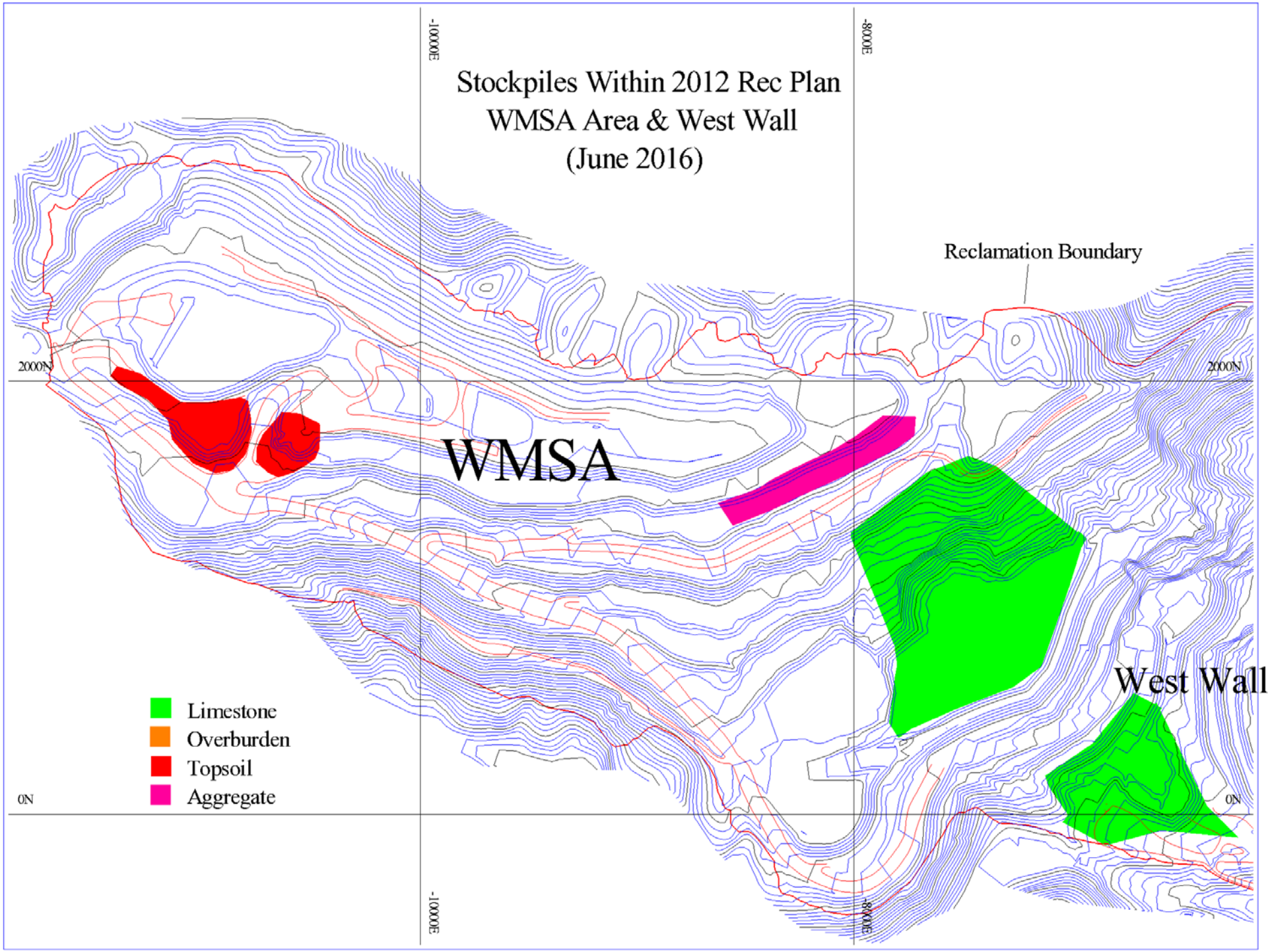

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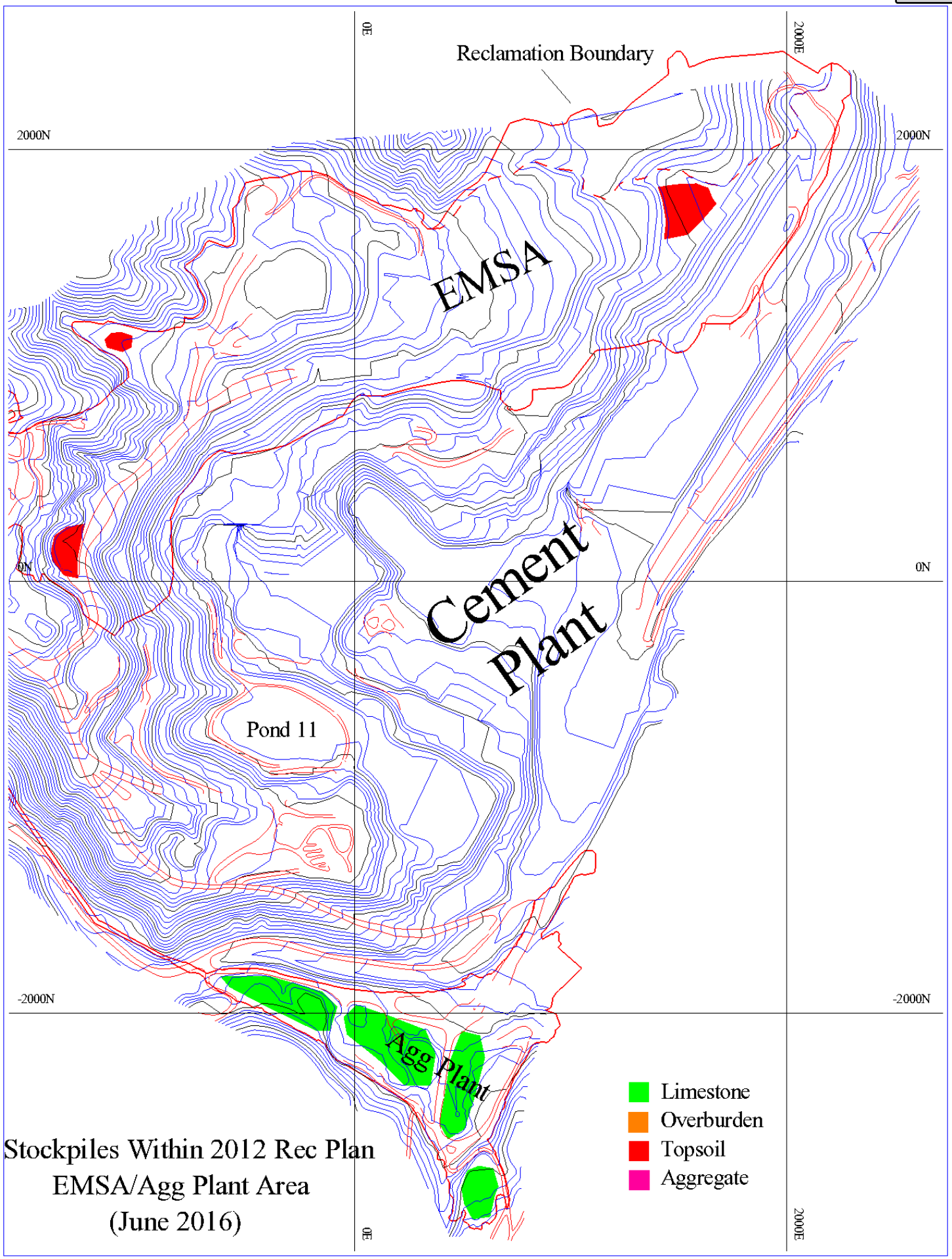


Stockpiles Within 2012 Rec Plan
EMSA/Agg Plant Area
(June 2016)

Pivot: -3100N, -1600E, 600scale

Stockpile July 2016

	Centroid		Total Area
Material	North	East	acres
Limestone	-2339	496	
	-2120	163	
	-1919	-333	
	-431	-2025	
	150	-3680	
	41	-3138	
	215	-3627	
	350	-1347	
	137	-6667	25.0
Overburden	1145	-7487	
	581	-5435	20.0
Topsoil	1790	-11042	
	1697	-10605	
	1107	-1077	
	156	-1347	
	1760	1534	6.0
Aggregate	1582	-8155	3.0

Note: survey coordinates in local Lehigh grid

APPENDIX H:

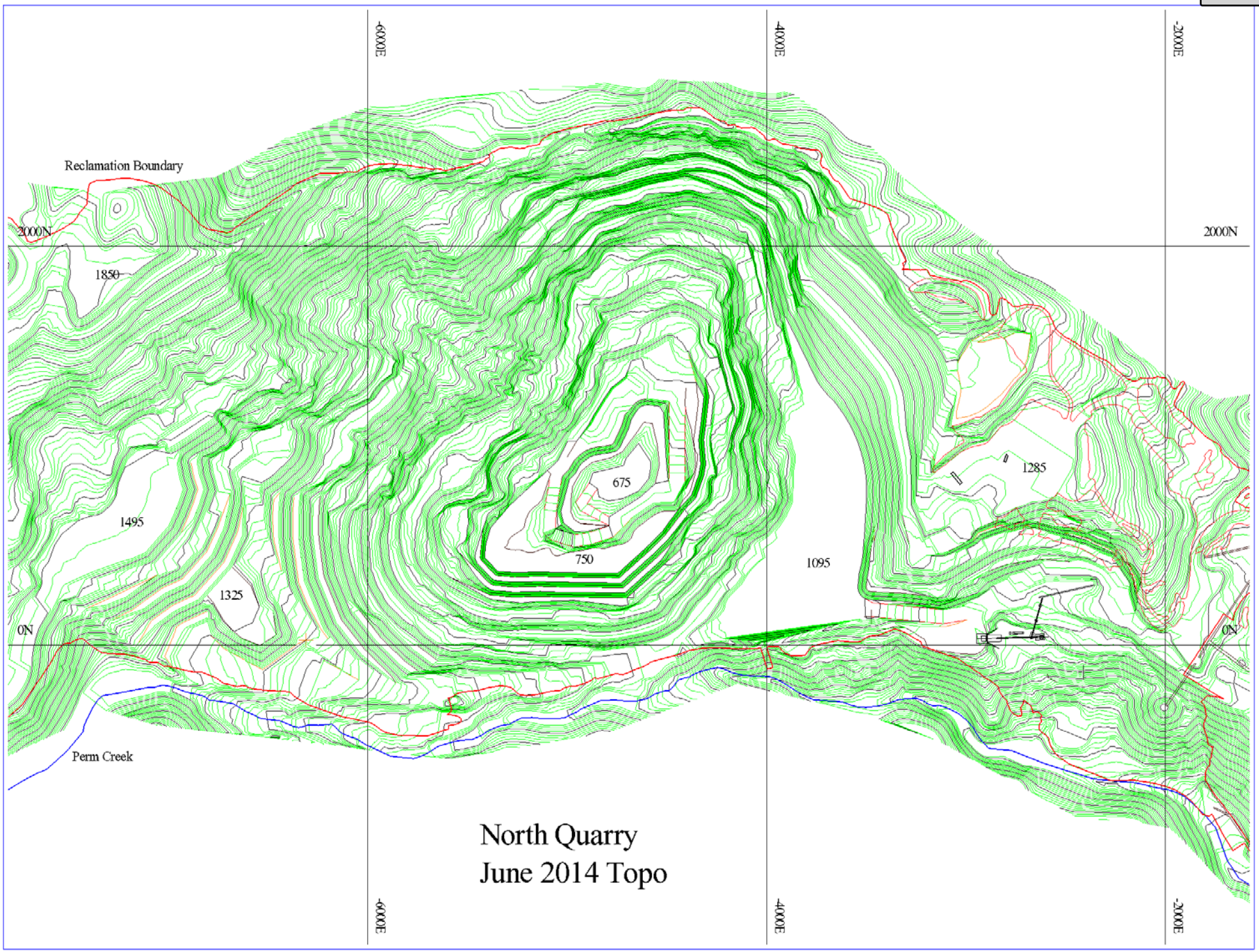
MAPS OF PAST 24 MONTHS SURFACE MINING AND RECLAMATION ACTIVITY AND FUTURE 24 MONTHS ESTIMATED ACTIVITY

LEHIGH HANSON - PERMANENTE

Quarry, WMSA, and EMSA Topo (June – 2014, 2016, 2018)

C. Maddocks

September 9, 2016



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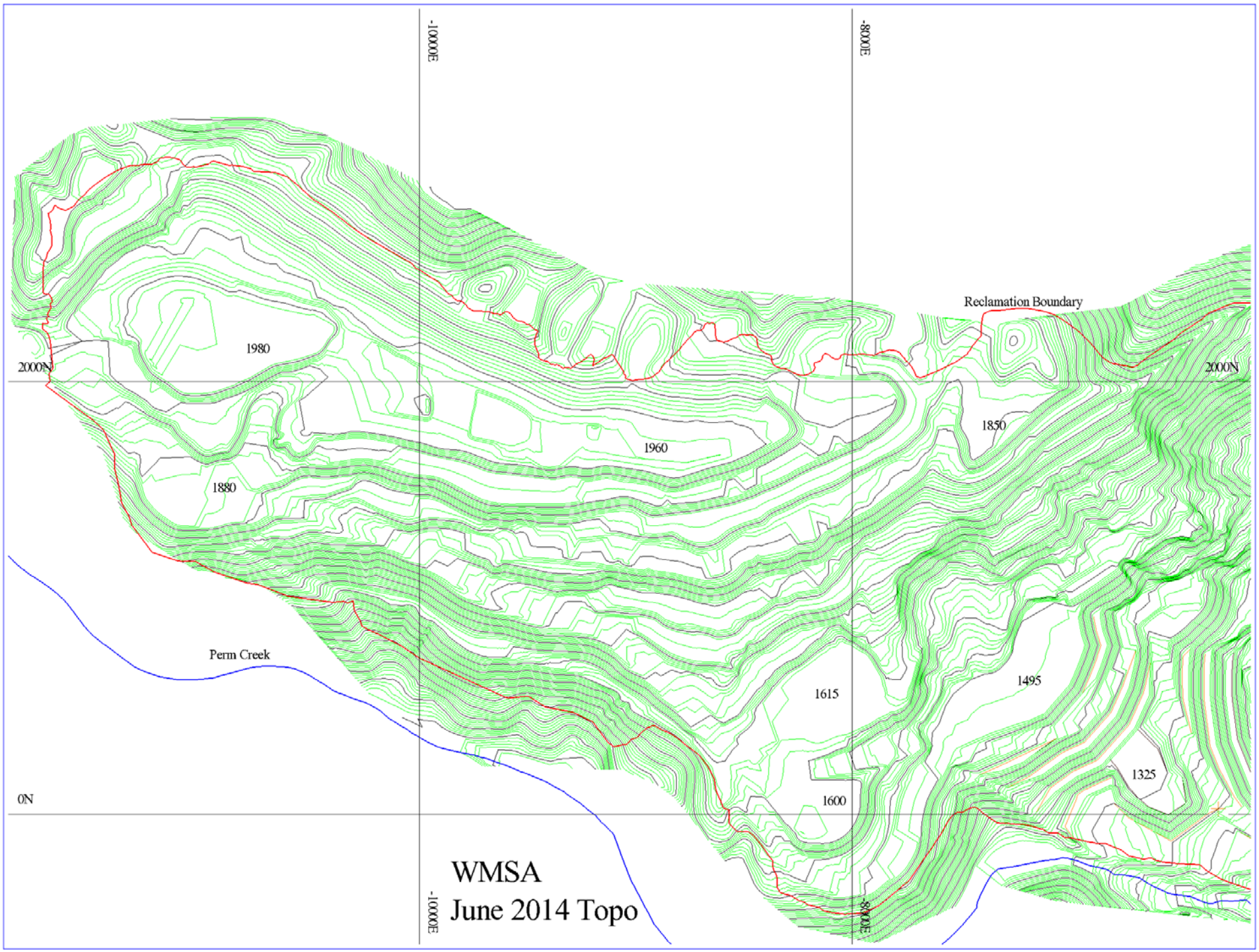

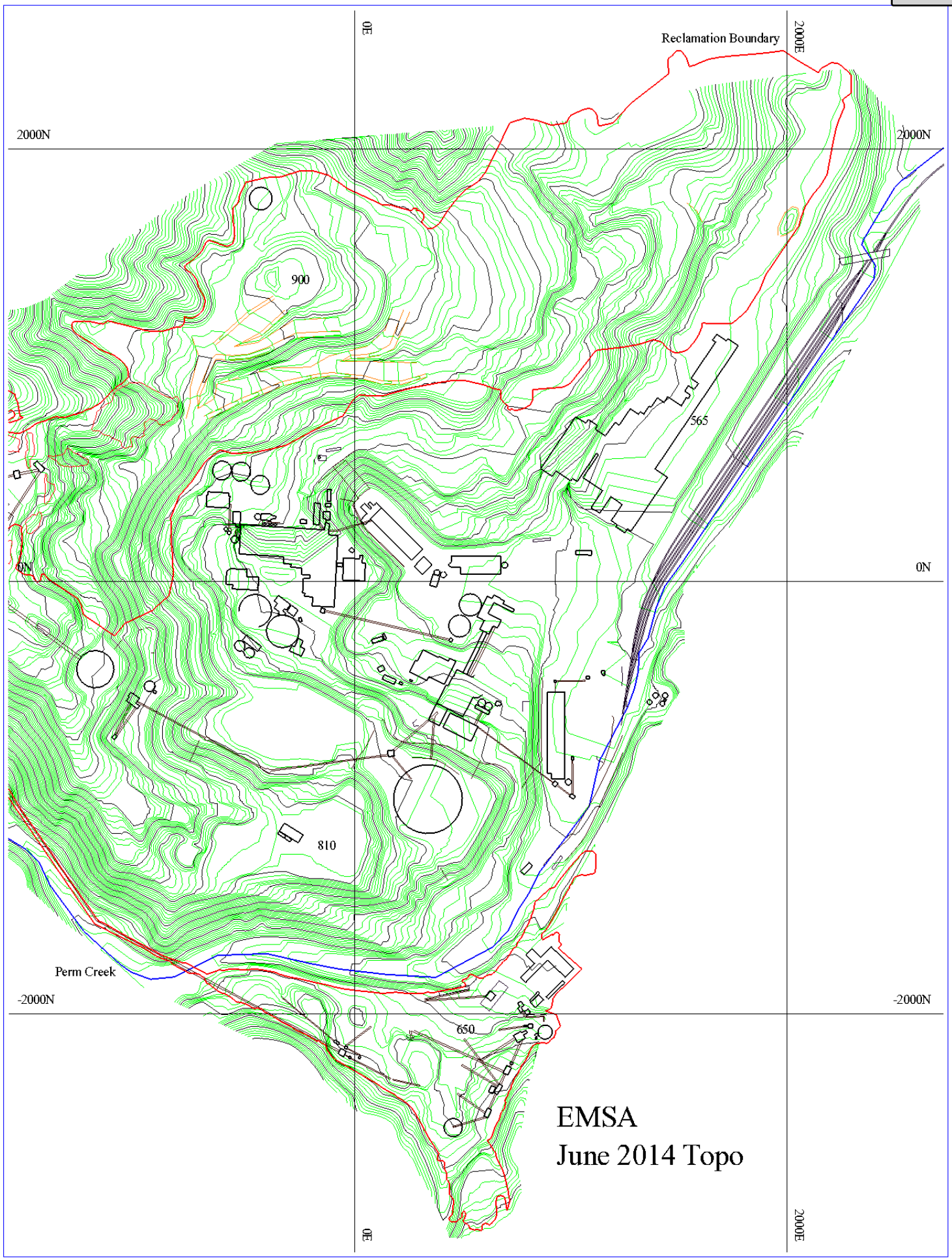

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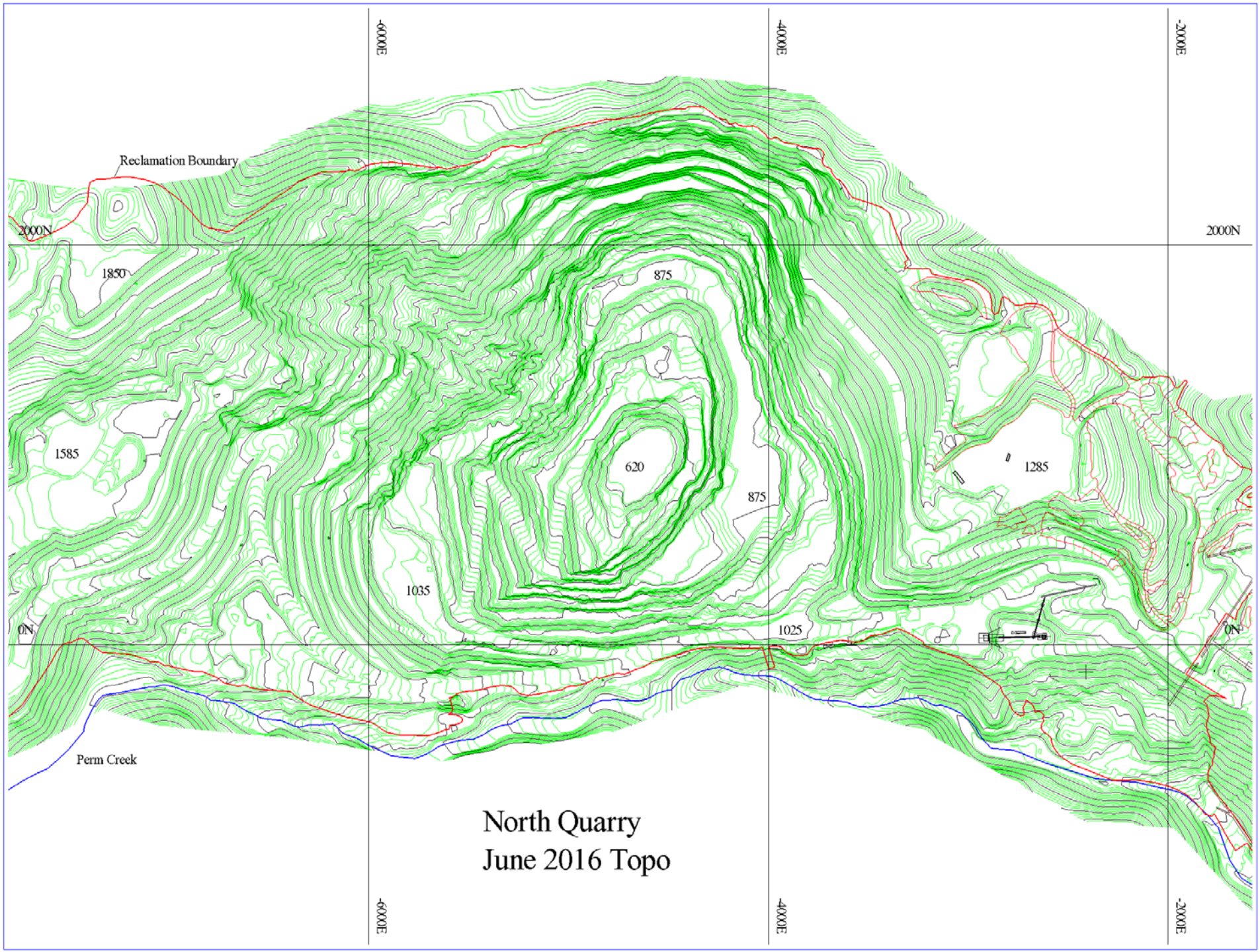

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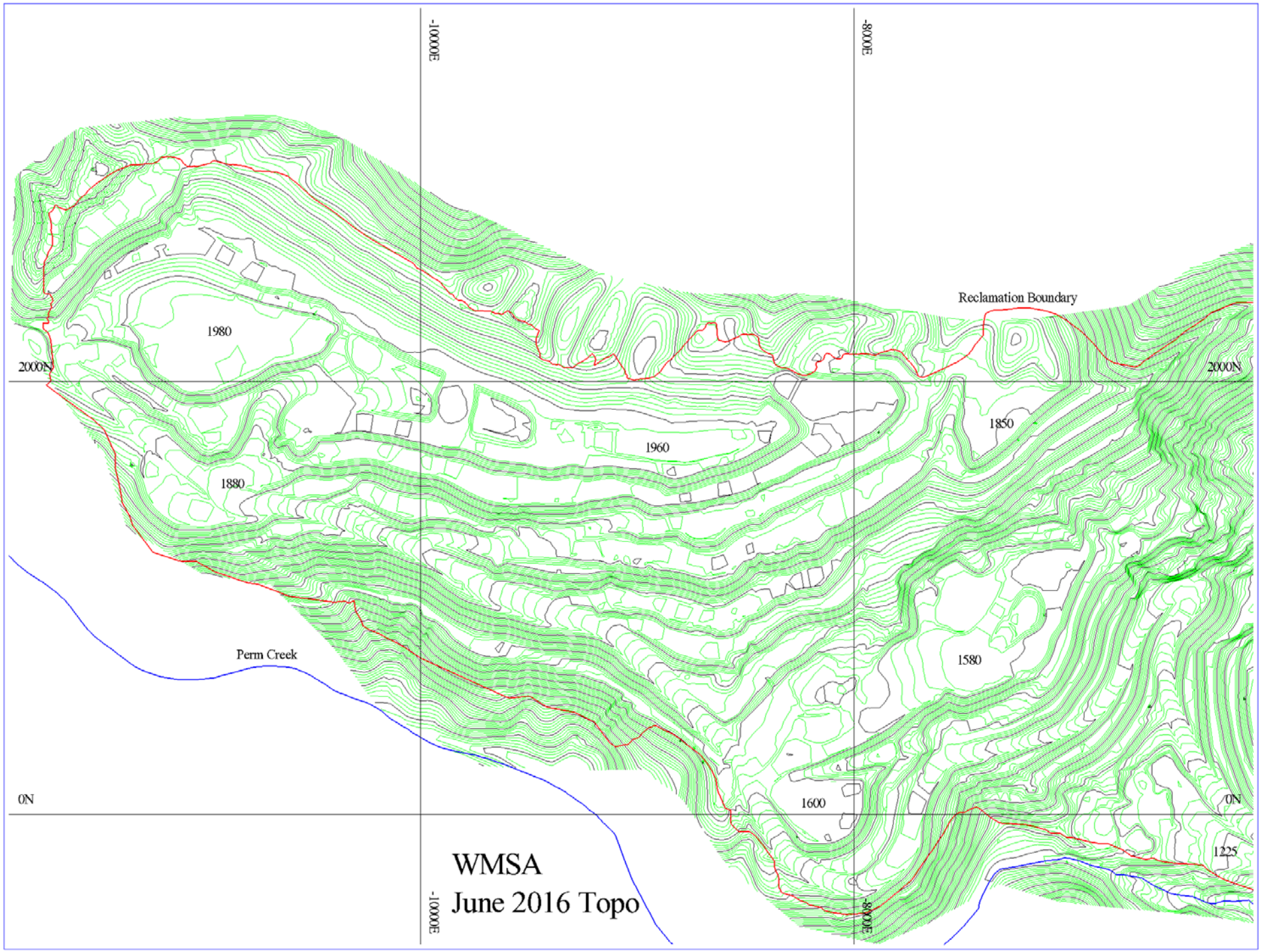

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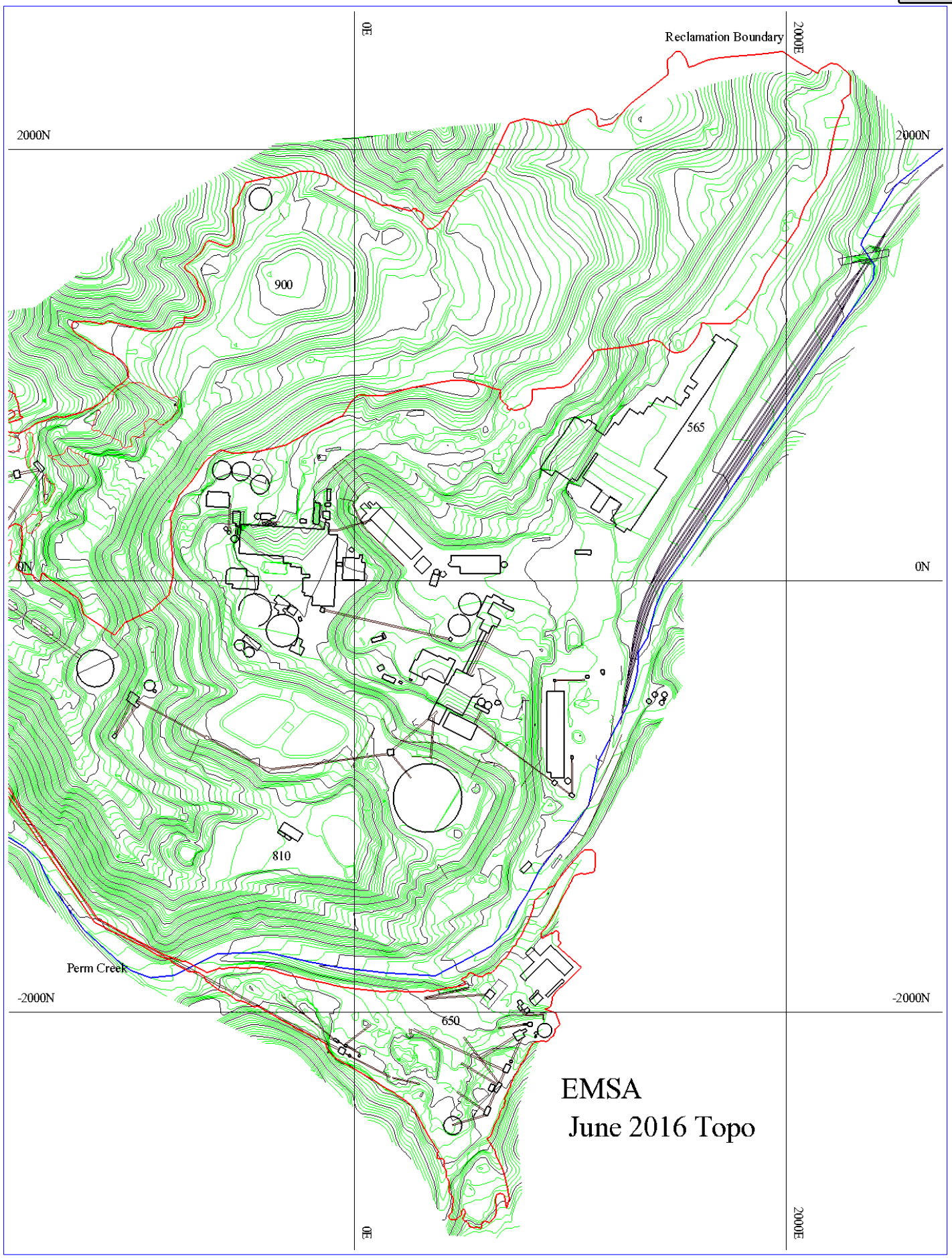

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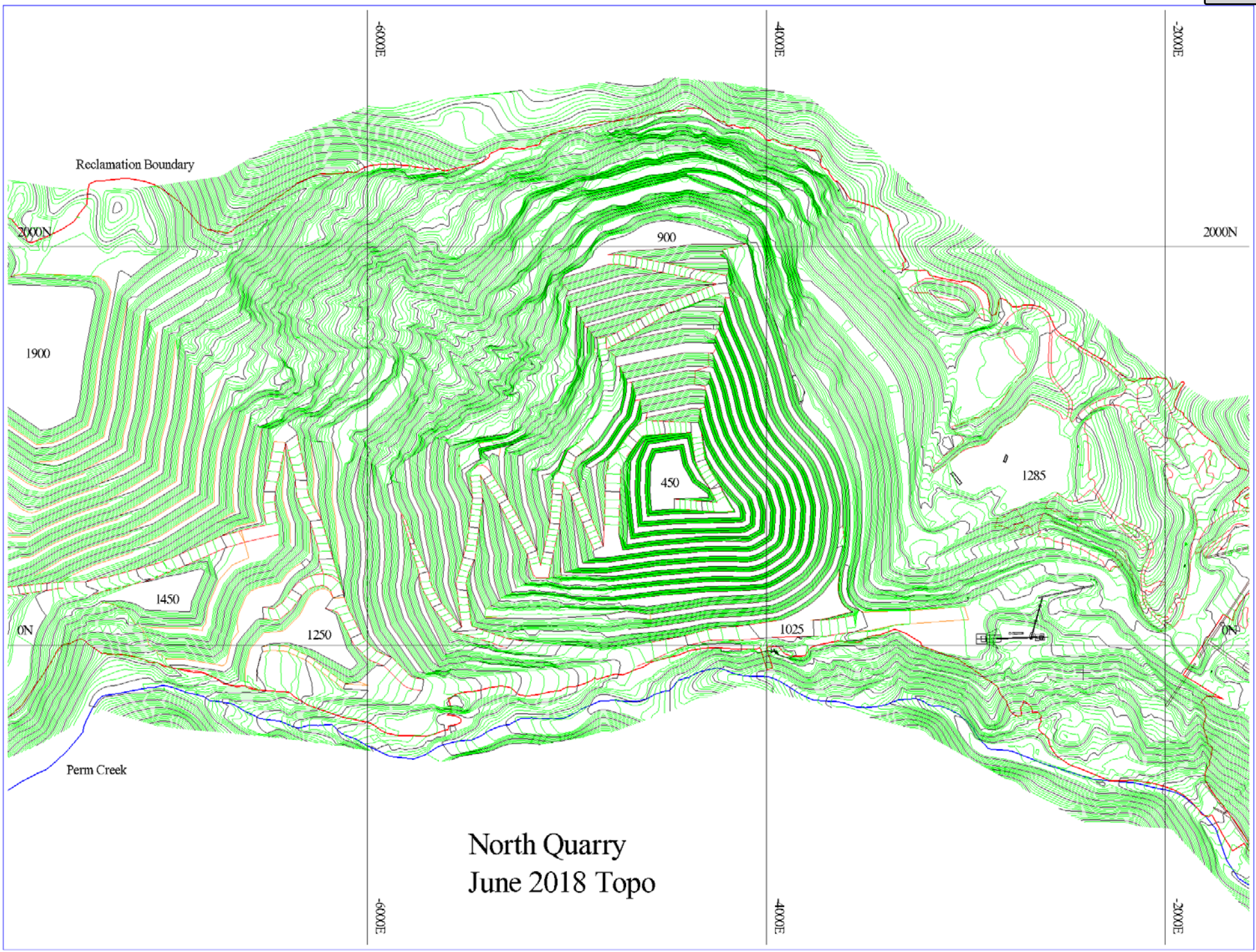

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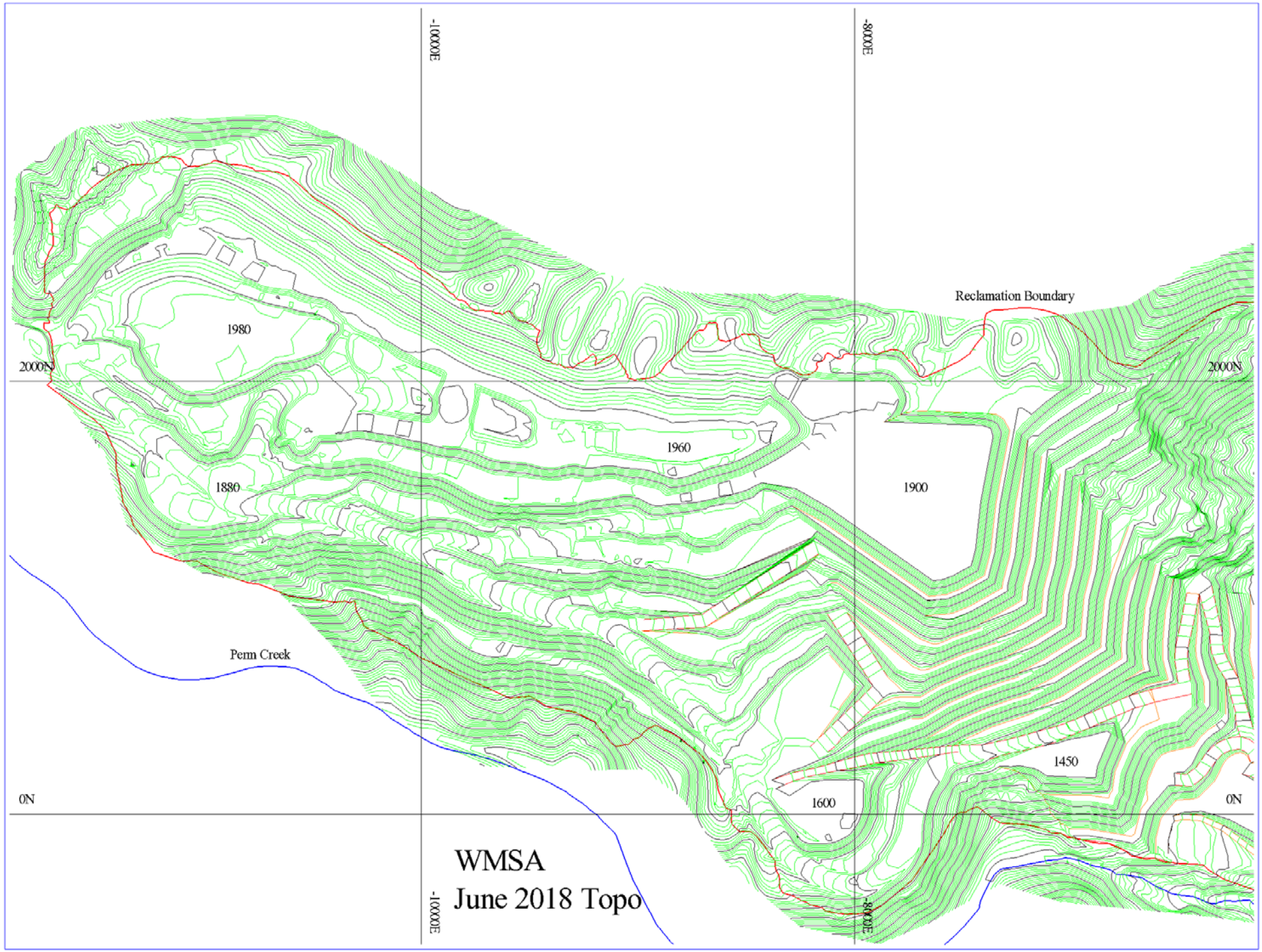

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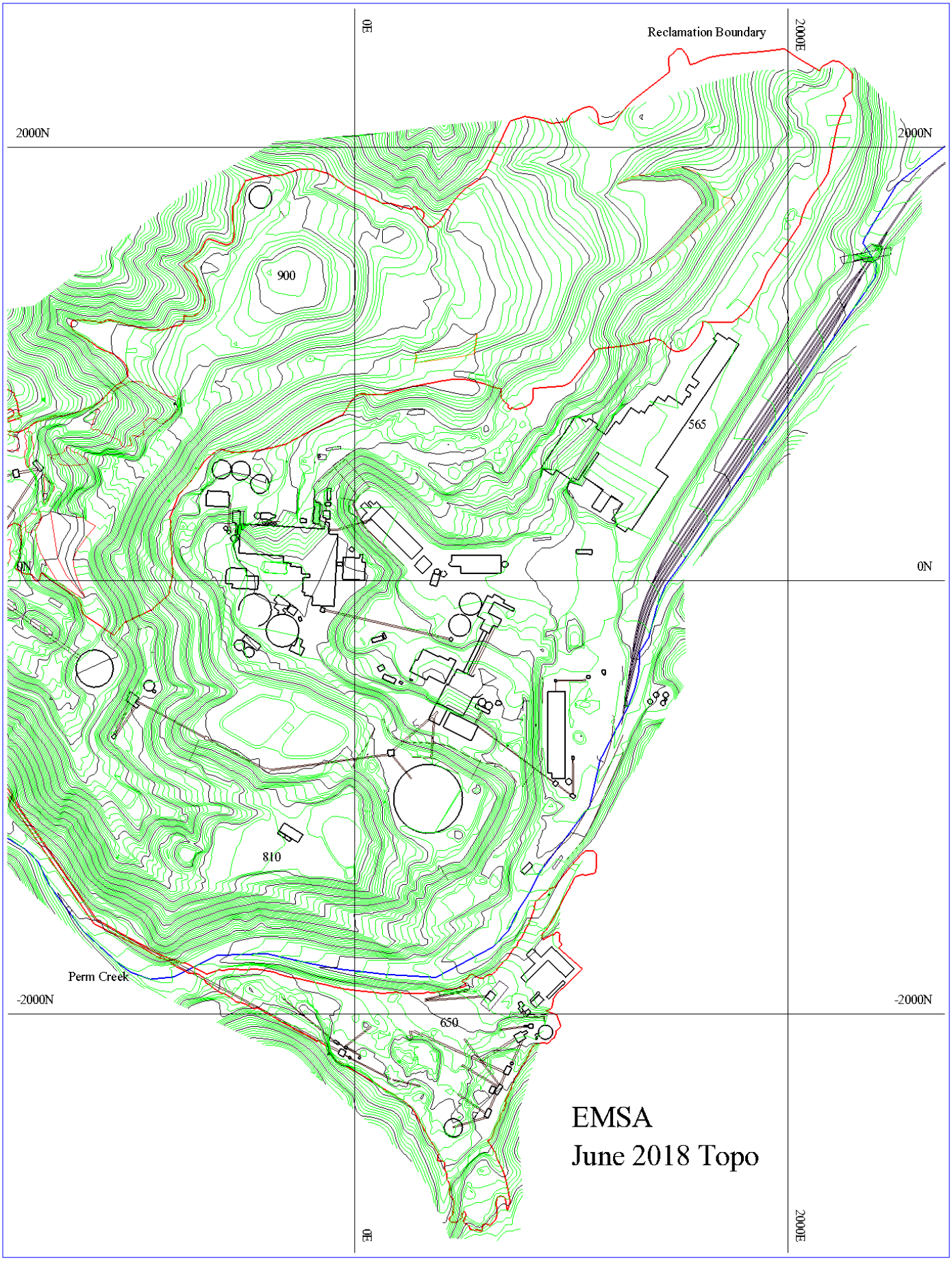

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APPENDIX I:

IMPROVED RECLAMATION PLAN BOUNDARY DEMARCATION MEMO

ENVIRONMENTAL CONSULTANTS

Memorandum

To: Greg Knapp, Lehigh Hanson

Cc: Sam Barket, Lehigh Hanson

George Taylor, Lehigh Hanson

Cliff Maddocks, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: September 15, 2016

Subject: Improved Reclamation Plan Boundary Demarcation

In order to maintain compliance with Santa Clara County Final Conditions of Approval number 22, the T-posts that served to demarcate the EMSA, WMSA, and Rock Plant Reclamation Plan Amendment (RPA) Boundaries were repainted with high visibility pink spray paint. This was done to improve the visibility of the demarcation boundary (see Demarcation Maps, Figures 1-3).

Conditions of Approval Requirements

Conditions of Approval (COA) number 22 of the Santa Clara County Final Conditions of Approval specify the measures to be taken to maintain the demarcation of the EMSA, WMSA, and Rock Plant Reclamation Plan Amendment Boundary.

The relevant COA is summarized below:

> **COA 22. Maintain Demarcation of EMSA, Rock Plant, and WMSA RPA Boundaries.**
> 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 number 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.

EMSA, Rock Plant, and WMSA RPA Boundary Demarcation Improvements

On April 25, 2016 a WRA, Inc. (WRA) biologist repainted the existing T-post markers, which demarcated the EMSA, Rock Plant, and WMSA RPA boundaries. The T-posts were painted with high visibility orange paint. The demarcation boundary did not move as quarry activities are not planned in or near those areas and there are no plans in place to go beyond the demarcation line. Additional markers were not needed in other areas because future quarry activities are not scheduled to be located near other portions of the RPA boundary.

Summary

In order to maintain compliance with COA 22, improvements to the durability and visibility of the RPA Boundary were made by repainting the existing T-posts. All T-posts were observed to be standing in the exact locations as when they were placed.

Per the Final Conditions of Approval, all requirements for maintaining the demarcation of the EMSA, Rock Plant, and WMSA RPA Boundaries have been met.

Figure 1. Location of RPA Boundary Demarcation in the EMSA.

Figure 2. Location of RPA Boundary Demarcation in the WMSA.

Figure 3. Location of RPA Boundary Demarcation in the Rock Plant.

Photo 1. Repainted RPA Boundary demarcation T-post in the Rock Plant.

Photo 2. Repainted RPA Boundary demarcation T-post in the Rock Plant.

Photo 3. Repainted RPA Boundary demarcation T-posts near Pond 31a.

Photo 4. Repainted RPA Boundary demarcation T-posts in the lower EMSA along the Cement Plant undary.

APPENDIX J:

FINACIAL ASSURANCE COST ESTIMATE

COPY

Lehigh Hanson
HEIDELBERGCEMENT Group

Lehigh Hanson Region West
12667 Alcosta Blvd., Ste 400
San Ramon, CA 94583
Phone 925 244 6500
Fax 925 244 6565

www.lehighhanson.com

July 06, 2016

Mr. Jim Baker
County of Santa Clara
Department of Planning and Development
County Government Center, East Wing, 7th Floor
70 West Hedding Street
San Jose, CA 95110-1705

Re: Financial Assurance DECREASE Mine ID Number 91-43-0004
Hanson Permanente Cement, Inc.

Dear Mr. Baker,

Please accept the enclosed Decrease Rider for Financial Assurance No. 64S104790142BCM to meet the 2015 FACE revised as per the attached letter from Marina Rush on October 15, 2015. This letter sets out the 2015 FACE at $51,828,296 of which this Rider is one of five that meet that required amount. The other four FA's on file for this Mine Site are:

FA 280331 -	$540,001.00
FA 1066515 -	$1,691,220.00
FA 022033624 -	$18,963,259.00
FA 09054091 -	$25,958,768.00

These four listed above along with the Decrease Rider in the amount of $4,675,048.00 attached make up the 2015 FACE requirement of $51,828,296.00

Thank you for your help with this matter and please let me know if you have questions or if further information is needed. I can be reached at 925-244-6502.

Sincerely,

Patty Sanders
Land Specialist
12667 Alcosta Blvd., Ste 400
San Ramon, CA 94583
Lehigh Hanson Region West

cc: Ana N. Damonte, Lehigh Hanson Regional Counsel
Sam Barket, Lehigh Southwest Cement Company

APPENDIX E-5

CA Mine ID # 91-43-0004

DEPARTMENT OF CONSERVATION
OFFICE OF MINE RECLAMATION
and the

COUNTY/~~CITY~~ OF Santa Clara

RECLAMATION PERFORMANCE BOND ~~INCREASE~~/DECREASE RIDER

To be attached to and form a part of Surety Company Bond No. 64S104790142BCM, written by Travelers Casualty and Surety Company of America as SURETY, on behalf of Hanson Permanente Cement, Inc. as PRINCIPAL, in the penal sum of Seven Million Five Hundred Seventy Thousand Forty Seven and NO/100-------- DOLLARS ($7,570,047.00----------), in favor of the County/~~City~~ of Santa Clara and, in the alternative, the Department of Conservation, Office of Mine Reclamation, and, in the alternative, the N/A
(Third Party Public Agency)
and executed on October 24, 2006.

Whereas, the County/City of _____ issued approval of a surface mining and reclamation project, Permit No. _____, dated on _____, and renewals and revisions numbered and dated _____ pursuant to the application of the Principal,

OR

Whereas, either the County/~~City~~ of Santa Clara or, in the alternative, the State Mining and Geology Board approved reclamation plan No. 2250-13-66-84P _____, dated on March 22, 1985, and renewals and revisions numbered and dated March 2007 pursuant to the application of the Principal;

and

Whereas, said bond and rider shall cover any and all land affected or to be affected by the mining operation under the above mentioned permit and reclamation plan or the reclamation plan, and revisions and renewals since the date of the issuance of the permit and reclamation plan or the reclamation plan,

Now, therefore, the amount of this bond is ~~increased~~/decreased by Two Million Eight Hundred Ninety Four Thousand Nine Hundred Ninety Nine and NO/100---------- Dollars ($ 2,894,999.00----------), to a total penal sum of Four Million Six Hundred Seventy Five Thousand Forty Eight and NO/00---------- Dollars ($ 4,675,048.00----------), to cover the additional/reduced cost of reclaiming all affected lands for the payment of which sum we hereby jointly and severally bind ourselves, our successors and assigns. It is further understood and agreed that all other terms and conditions of this bond shall remain unchanged.

APPENDIX E-5

CA Mine ID # 91-43-0004

Reclamation Bond Increase/Decrease Rider

Permit No. 2250-13-66-84P

Bond No. 64S104790142BCM

IN WITNESS THEREOF, the Principal and Surety have hereunto set their signatures and seals as of the dates set forth below.

PRINCIPAL

Date 7/5/16

Hanson Permanente Cement, Inc.
(Company - Permittee [Principal])

By: _____
(Corporate Officer/Partners/Sole Proprietor)

(Seal)

MARTIN VOGT
Typed or Printed Name

Title: VP-FINANCE

SURETY

I declare, under penalty of perjury, under the laws of the State of California, that I have executed the foregoing rider under an unrevoked Power of Attorney.

Travelers Casualty and Surety Company of America

By: _____
(Signature of Attorney-in-Fact for Surety)

(Seal)

Melissa Haddick
Typed or Printed Name

Title: Attorney-in-fact

Executed in Houston, Texas (City and State) on October 24, 2015 (Date) under the laws of the State of California.

(Note: Where one signs by virtue of a Power of Attorney for a Surety Company, such fully executed Power of Attorney must be filed with this bond.)

APPENDIX E-5

CA Mine ID # 91-43-0004

Reclamation Bond Increase/Decrease Rider

Permit No. 2250-13-66-84P

Bond No. 64S104790142BCM

ACKNOWLEDGMENT OF PERMITTEE

State of _____

SS.

County of _____

On this ____ of _____, in the year _____, before me, _____ (name and quality of officer), personally appeared _____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

See Attached

_____ L.S.

Notary's Signature

My Commission Expires:

ACKNOWLEDGMENT OF SURETY

State of Texas

SS.

County of Harris

On this 24th of October, in the year 2015, before me, Mary A. Garcia (name and quality of officer), personally appeared Melissa Haddick, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

_____ L.S.

Notary's Signature Mary A. Garcia

My Commission Expires: November 15, 2017

MARY A. GARCIA
Notary Public, State of Texas
My Commission Expires 11/15/17

NOTE: Please identify the agent acting on behalf of the surety, if applicable.

AGENT Marsh USA, Inc. PHONE 713-276-8000

ADDRESS 500 Dallas Street, Suite 1500, Houston, Texas 77002

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT CIVIL CODE § 1189

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California)
County of Contra Costa)

On July 5, 2016 (Date) before me, Patty Sanders, Notary Public (Here Insert Name and Title of the Officer),

personally appeared Martin W. Vogt (Name(s) of Signer(s))

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

PATTY SANDERS
Commission # 2050687
Notary Public - California
Contra Costa County
My Comm. Expires Dec 27, 2017

Signature Patty Sanders (Signature of Notary Public)

Place Notary Seal Above

OPTIONAL

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document 64510479014 2Bcm
Title or Type of Document: Deed of Trust Document Date: 7/5/16
Number of Pages: _____ Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name:	Signer's Name:
☐ Corporate Officer — Title(s):	☐ Corporate Officer — Title(s):
☐ Partner — ☐ Limited ☐ General	☐ Partner — ☐ Limited ☐ General
☐ Individual ☐ Attorney in Fact	☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator	☐ Trustee ☐ Guardian or Conservator
☐ Other:	☐ Other:
Signer Is Representing:	Signer Is Representing:

TRAVELERS

POWER OF ATTORNEY

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

Attorney-In Fact No. 230577

Certificate No. 006745193

KNOW ALL MEN BY THESE PRESENTS: That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc., is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint

Sandra R. Parker, Melissa Haddick, Gina Rodriguez, Tannis Mattson, Terri L. Morrison, Mary Ann Garcia, and Mario Arzamendi

of the City of Houston, State of Texas, their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 26th day of April, 2016.

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

State of Connecticut
City of Hartford ss.

By: _____
Robert L. Raney, Senior Vice President

On this the 26th day of April, 2016, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.
My Commission expires the 30th day of June, 2016.

_____
Marie C. Tetreault, Notary Public

58440-8-12 Printed in U.S.A.

County of Santa Clara

Department of Planning and Development
Planning Office

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October 15, 2015

Christina Reese
California Department of Conservation
801 K Street MS 09-06
Sacramento, CA 95814
[certified mail]

SUBJECT: **2015 Financial Assurance Cost Estimate for the Permanente Quarry**
County Planning Office File #2250-15PAM
State Mine ID# 91-43-0004

Dear Ms. Reese:

Enclosed is the 2015 Financial Assurance Cost Estimate (FACE) calculations for the Permanente Quarry (Mine ID #91-43-0004) for the 45-day review period by the Office of Mine Reclamation. The County received the FACE in July 2015, and revised it based on comments from the County September 29, 2015. The FACE document was prepared by the mine operator's consultant, Enviromine, Incorporated. The County uses a third party consultant, Kit Custis, CEG, Michael Baker International, to assist in our review of this cost estimate.

The total cost for reclamation in the 2015 FACE is $51,828,296 and the bonds for Permanente Quarry are $54,723,295.00 , which are greater than the current FACE. The County does not recommend a reduction in the FA, and hereby submits the FACE for review by the State Office of Mine Reclamation pursuant to SMARA §2774© and with SMGB Reclamation Regulation §3805.

If you have any questions regarding this matter, you call me at (408)299-5784.

Sincerely,

Marina Rush

Marina Rush, Planner III

cc. Sam Barket, III, Lehigh Southwest Cement, Permanente Quarry

Michael Baker
INTERNATIONAL

We Make a Difference

October 13, 2015 DRAFT

Marina Rush, Planner III
SANTA CLARA COUNTY
70 West Hedding Street
San Jose, CA 95110

RE: REVIEW OF SEPTEMBER 29, 2015 REVISED FACE FOR LEHIGH PERMANENTE MINE
CPO FILE 2250-13-66-09PAM (PERMANENTE ROAD)
PERMANENTE QUARRY, 91-43-0004
CUPERTINO, CALIFORNIA

Dear Ms. Rush:

Michael Backer International (MBI) has reviewed the September 29, 2015 Reclamation Plan Amendment (RPA) Revised Financial Assurance Cost Estimate (2015 FACE) for Lehigh Southwest Cement Company's Permanente Quarry, near Cupertino (Mine ID #91-43-0004). This document was prepared by the mine operator's consultant, Enviromine, Inc., in accordance with Public Resource Code 2774 of California's Surface Mining and Reclamation Act. The September 2015 FACE provides revisions to the July 2015 FACE based on August 20, 2015 comments from MBI. This FACE covers reclamation costs for an area disturbed by mining of approximately 640 acres mining within the 1,238.6 acres covered by the 2012 Reclamation Plan Amendment. Our comments are provided to assist the County in its review of the adequacy of the estimate.

The 2015 FACE costs for individual reclamation components both increased and decrease from 2014. The total cost for reclamation in the September 2015 FACE is $51,828,296, a decrease of $2,773,478 approximately 5.1% from the August 2014 FACE. The reduction in the FACE is due mostly to reductions in site grading costs.

- The Quarry backfill volume estimate decreased approximately 2,740,000 cubic yards reducing grading costs approximately $2,714,591.
- The grading cost for hauling non-limestone cover material is reduced by approximately $86,847 because all of the required EMSA cover material was moved into place this last year.
- Cost of mine re-vegetation increased approximately $193,132 mostly because of an increase in seed costs.
- The September 2015 revision added a cost of $142,530 in Section 2.2.5 for repairing the slope below the new crusher that was washed out in December 2014.
- The hours in the table for relocating and spreading 219,817 cubic yards of growth medium was revised resulting in a decrease of $92,758 from the July 2015 FACE. Note that the previous July 2015 table is also included at the top of page 23 in the September FACE and should be ignored.
- The September 2015 FACE added discussions on page 15, Sections 2.2.7, and page 23, Section 2.4, and a map in Appendix 6 that explains the 25-acre reduction area needing finish reclamation and revegetation.
- The revised FACE also provides clarification on the components and associated costs for the

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42-inch conveyor system bid given in Appendix 1.

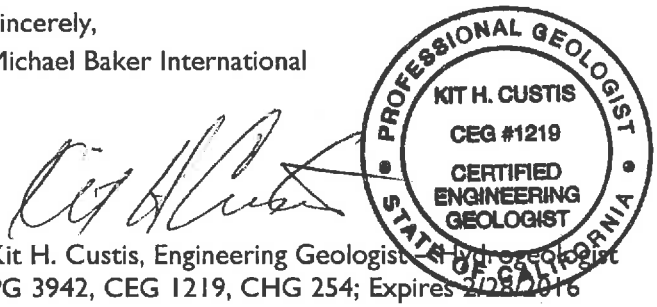
With these revisions the September 29, 2015 FACE has been modified to address the comments in our August 20, 2015 review. The amount of the FACE listed in the 2015 MRRC-1 as approved in August 2014 is $54,601,774, which exceeds the 2015 FACE.

LIMITATIONS

Our services are limited to providing professional opinions and recommendations made in accordance with generally accepted engineering geology principles and practices. No warranty, expressed or implied, of merchantability or fitness, is made or intended in connection with our work, by our proposal for consulting or other services, or by our oral or written reports or findings. Our services have been limited to review of the Reclamation Plan as provided by the County of Santa Clara, review of previous available annual SMARA inspection reports, visual field inspections, discussions with the County and operator staff, and the preparation of this letter report.

If you have any questions, please feel free to contact me at 1-866-828-6762 or e-mail me at kcustis@mbakerintl.com.

Sincerely,
Michael Baker International



Kit H. Custis, Engineering Geologist / Hydrogeologist
PG 3942, CEG 1219, CHG 254; Expires 2/28/2016

KHC:kc:pa: MBI_Lehigh_2015_SMARA_FACE_ Review_10_13_15.pdf

County of Santa Clara

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STAFF REPORT
Planning Commission
July 28, 2016

Item #5

Contact: Rob Eastwood, Planning Manager
(408)299-5792, rob.eastwood@pln.sccgov.org

File: 2250-12PAM1
Lehigh – Permanente Quarry

Summary: *Continued public hearing from April 28, 2016 to consider alternatives for treating selenium in stormwater discharged from the East Materials Storage Area (EMSA)*

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

RECOMMENDED ACTION

Staff recommends the Planning Commission:

> Continue the public hearing to April 2017 to evaluate further the feasibility of alternatives to treat selenium in stormwater discharged from the EMSA area during interim reclamation.

PROJECT DESCRIPTION

This is a continued public hearing by the Planning Commission from April 28, 2016 to determine the feasibility of alternatives to treat selenium in stormwater discharged from the East Material Storage Area (EMSA) of Lehigh Permanente Quarry. The two

alternatives discussed at the April hearing were (1) piping the stormwater from Pond 30 to the Quarry Pit and (2) enlarging Pond 30.

The requirement for the Planning Commission to determine the feasibility of alternatives to treat stormwater from the EMSA during interim reclamation stems from the environmental findings contained within the Final Environmental Impact Report (EIR) adopted for the Reclamation Plan in 2012 and codified within the Reclamation Plan conditions of approval. Per the Reclamation Plan, the EMSA consists of a permanent storage area for overburden (also referred to as "mining waste") excavated from the main pit of the Quarry. The Final EIR determined that selenium concentrations in stormwater emitted from the EMSA area of the Quarry would increase *during* the reclamation process (identified as "interim reclamation"). The Final EIR determined that following final reclamation of the EMSA (which includes the installation of a non-limestone cover with a vegetative cover over the overburden), selenium concentrations in stormwater would be reduced below applicable water quality standards.

As a condition of approval, Lehigh was required to use Best Management Practices (BMP's) during interim reclamation to reduce selenium in stormwater and also evaluate the feasibility of installing a treatment system (or alternative) that would address selenium during interim reclamation, should the BMP's not be effective. On November 20, 2014, the Planning Commission determined that the stormwater discharged from the EMSA area during interim reclamation did not meet water quality standards, in effect recognizing that the BMP's were not effective. Subsequently, the feasibility of installing a treatment system and several alternatives (to treat selenium in EMSA stormwater runoff) were evaluated by the Planning Commission. The Planning Commission determined that a treatment facility and several alternatives were infeasible, but deferred making a determination regarding the feasibility of two alternatives (a) piping the stormwater from Pond 30 to the main Quarry pit and (b) enlarging Pond 30 (to better retain stormwater and prevent discharge of selenium into Permanente Creek).

In the spring of 2015, Lehigh notified the Planning Office and Planning Commission that Lehigh intended start final reclamation of the EMSA area, including installation of a non-limestone cover, consistent with the final Reclamation Plan. The cover was scheduled to be installed in summer 2015, with its effectiveness (in reducing selenium concentrations in stormwater runoff) evaluated within stormwater testing during the 2015-2016 winter rainy season. If the installation of the non-limestone cover proved effective in reducing selenium below water quality standards, consistent with the final Reclamation Plan, the Planning Commission would not need to further evaluate interim stormwater treatment alternatives (enlargement of Pond 30 and/or piping of Pond 30 water to the Quarry Pit).

Lehigh collected and tested water samples from the EMSA Pond 30 outlet during the qualifying storm events in the 2015-2016 winter rain season. All stormwater tests showed selenium concentrations in excess of the Basin Plan Standard of 5 ug/l (dissolved total selenium). Subsequent stormwater sampling by Lehigh at several locations in the EMSA upstream of the Pond 30 outlet showed that stormwater in some drainage areas met water quality standards while other areas exceeded the standards.

The Planning Commission continued the public hearing on April 28, 2016 until July 28, 2016, and directed Lehigh to submit a workplan by May 27, 2016, to include an assessment of the deficiencies in the non-limestone bearing cover and a plan for installing corrective actions, along with further feasibility analysis of stormwater treatment alternatives.

REASONS FOR RECCOMENDATION

On May 27, 2016, Lehigh submitted a technical report (Golder & Associates, May 27, 2016 ("May 27 Golder Report")) that summarized the stormwater testing conducted for the 2015 / 16 winter rainy season, and analyzed the deficiencies in the non-limestone cover, based on the results from the stormwater testing. The May 27 Golder Report concluded that elevated concentrations of selenium are only measured in areas along the toe of the EMSA slope, indicating that stormwater is percolating through the non-limestone cover, interfacing with the limestone within the EMSA, and then emitting from seeps at the toe of the EMSA. The May 27 Golder Report recommended several measures to capture and treat stormwater from the EMSA based on these circumstances. These stormwater improvement measures include:

(a) Installation of a french drain below the toe of the EMSA to capture stormwater from the seeps;

(b) Lining the bottom of Pond 30 and associated drainage swale to allow management of captured stormwater and prevent infiltration of water through underlining soil into Permanente Creek; and,

(c) Management of Pond 30 water by capturing stormwater from Pond 30 between storm events, to be transferred via water trucks to the reclaimed water system at the Lehigh Cement Plant.

On July 11, 2016, Lehigh submitted to the County a supplemental report by Golder and Associates ("July 11 Golder Report") that included additional details regarding the stormwater improvement measures, including construction drawings and a workplan for completing the improvements. According to the report, the stormwater improvement measures would be installed between September and November of this year.

Within the context of the Reclamation Plan conditions of approval and the Planning Commission's consideration of alternatives for treating EMSA stormwater, the proposed stormwater improvement measures outlined in the Golder reports can be considered alternatives to treat selenium during interim reclamation of the EMSA area. The approach proposed with these alternatives (to capture and treat stormwater from the French drain and Pond 30) is similar to the alternative to increase the size of Pond 30 to capture more water.

Both the May 27th and July 11th Golder Reports were peer reviewed by the County's third party consultant – Sutro Science. In a July 19, 2016 memo from Peter Hudson of Sutro

Science to County staff (Attachment 4), Mr. Hudson concurs that the proposed installation of the French drain and lining of Pond 30 will act to improve management and control of selenium in stormwater runoff from the EMSA area. Mr. Hudson requested that Lehigh provide more specific details regarding the improvements and include a more rigorous and well documented stormwater sampling regimen.

While it appears that the implementation of the measures described by Golder in feasible to install and will improve management of selenium in EMSA stormwater, it is unknown at this time if the stormwater measures will be completely effective in ensuring that selenium discharged from Pond 30 will meet applicable water quality standards. During the upcoming 2016 / 17 rainy season, the EMSA Pond 30 discharge will be tested to determine if the implementation of these alternatives have been effective in reducing selenium below the applicable water quality standards. This information can be used by the Planning Commission during the continued hearing in April, 2017, to evaluate and determine if these alternatives are feasible in reducing selenium below water quality standards in EMSA stormwater discharge.

Lehigh has not submitted adequate information to evaluate whether it is feasible to implement the two alternatives discussed at the April 2015 Planning Commission hearing – (a) piping the stormwater from Pond 30 to the Quarry Pit and/or (b) enlarging Pond 30. Both of these alternatives would require greater construction improvements and a higher financial cost. If the proposed measures (french drain, lining Pond 30) to be installed by Lehigh to not prove effective, County staff would instruct Lehigh to further pursue the feasibility of implementing of these alternatives.

At the same time, Lehigh has started final reclamation of the EMSA area through installation of the non-limestone cover on the EMSA area, consistent with the approved final Reclamation Plan. As described above, due to the apparent infiltration of stormwater through this cover into the EMSA, it has not yet proven effective as a barrier that prevents stormwater from interfacing with the selenium bearing limestone within the EMSA. As described in the May 27 Golder Report, it is expected that the non-limestone cover will become less permeable as voids within the cover fill with finer materials. The final stage of EMSA reclamation will entail the placement of a soil medium and vegetation above the non-limestone cover. As described within the Final EIR prepared for the 2012 Reclamation Plan, collectively these measures are expected to reduce selenium concentrations in EMSA stormwater runoff below water quality standards. Lehigh has not yet started placement of the soil medium and vegetative cover on the EMSA, as it is first evaluating the effectiveness of the non-limestone cover.

In discussions with Lehigh representatives, both County and Regional Water Quality Control staff have suggested that Lehigh begin pilot testing the installation of the vegetative cover within a select area of the EMSA to determine its effectiveness in reducing selenium in stormwater discharge. As part of this pilot testing, Lehigh may also experiment with other measures that could assist in reducing stormwater infiltration into the EMSA, such as additional compaction of the non-limestone cover or the installation of an impermeable membrane.

Once the non-limestone cover proves effective in reducing selenium concentrations below water quality standards, consistent with the approved final reclamation plan for the Quarry, the Planning Commission would not need to consider the feasibility of installing an stormwater improvements to treat interim reclamation, such as the enlargement of Pond 30 or piping the stormwater from Pond 30 to the Quarry pit.

Regional Water Quality Control Board ("RWQCB") staff has participated with County staff in discussions with Lehigh representatives regarding the EMSA and the proposed installation of the alternative treatment measures (French drain, lining of Pond 30). RWQCB staff has indicated to County staff that they will not be submitting a letter commenting on the May 27th and July 11th Golder reports and recommended improvements, and that they are continuing to monitor both groundwater and stormwater at Lehigh Quarry. However, during conference calls with County staff and Lehigh representatives, RWQCB staff has encouraged Lehigh to pursue implementation of the alternative treatment measures described in the Golder reports.

BACKGROUND

In accordance with the 2012 Reclamation Plan conditions of approval and adopted mitigation measure, Lehigh installed the one-foot layer of non-limestone rock material as cover over the EMSA overburden material containing limestone. Lehigh has continued to conduct testing of the stormwater discharges from Pond 30 outlet discharging to Permanente Creek for qualifying rain events. The discharges tested and analyzed for prior rain seasons 2013/14 and 2014/15 each exceeded the Basin Standard of 5 µg/L.

As a result of EMSA selenium levels exceeding the Basin Standard for two consecutive years, rain season 2012/13 and 2013/14, a hearing of the Planning Commission was conducted regarding feasibility for treating selenium in November 20, 2014. The stormwater testing for rain seasons 2014/15 and 2015/16 also exceeded the Basin Standard.

Condition #82 of the 2012 Reclamation Plan, requires the Planning Commission to determine the feasibility of installing and operating a treatment facility (or alternative) to treat selenium during interim reclamation for the Quarry Pit, WMSA, and EMSA (prior to final reclamation of these areas). As noted, on November 20, 2014, the Planning Commission determined that the installation of a treatment facility to treat selenium discharged from the Quarry Pit and WMSA was feasible. The Planning Commission determined that the installation of a treatment facility at the EMSA area was infeasible, and continued the hearing to January 22, 2015, and again to April 23, 2015 to allow additional time for further evaluation of the feasibility of alternatives for selenium treatment at the EMSA. The three alternatives discussed were: (a) piping / trucking stormwater to the Frontier Technology Site, (b) piping / trucking stormwater to the Quarry Pit, and (c) enlargement of Pond 30 to collect greater stormwater in the EMSA area.

On April 23, 2015, the Planning Commission determined the following alternatives were NOT feasible: (a) piping or trucking stormwater directly to the Frontier Treatment System, and (b) trucking stormwater to the Quarry Pit. The Planning Commission continued its determination on the feasibility of piping stormwater to the Quarry Pit and enlarging Pond 30 for 12 months to enable Lehigh to have additional time to analyze feasibility.

RELEVANT INFORMATION

Present Land Use:	Surface Mine (Quarry)
Supervisorial District:	Five
General Plan Designation:	Hillsides
Zoning:	HS-d1 (Hillsides with Design Review Combining District)

ATTACHMENTS

1. April 28, 2016 Planning Commission Staff Report
2. May 27, 2016 Technical Report, Golder
3. July 11, 2016 Technical Report, Golder
4. Sutro Science Peer Review
5. Public correspondence received

County of Santa Clara

Department of Planning and Development
Planning Office

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STAFF REPORT
Planning Commission
April 28, 2016
Item #6

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

File: 2250-12PAM1
Lehigh – Permanente Quarry (Mine ID# 91-43-0004)

Summary: *Continued public hearing from April 23, 2015 to consider two alternatives for treating selenium in stormwater discharged from the East Materials Storage Area (EMSA): (a) piping stormwater to the Quarry Pit and/or (b) enlargement of Pond 30 and evaluation of the effectiveness of the non-limestone bearing cover material over the EMSA as a selenium source control measure.*

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

RECOMMENDED ACTIONS

It is recommended that the Planning Commission take the following action:

1. Continue public hearing to July 28, 2016.
2. Direct Lehigh to prepare and submit to the Department of Planning and Development by May 27, 2016, a Work Plan (listing specific timelines / milestone dates) to completet the following:
   a. Assess, test (material cover, stormwater testing, etc.) and data analysis to determine deficiencies in EMSA non-limestone bearing cover
   b. Identify improvements and actions needed to address deficiencies in the EMSA non-limestone bearing cover.

ATTACHMENT 1

c. Install necessary corrective actions / improvements in the EMSA non-limestone bearing cover,

d. Conduct follow up testing and data analysis (stormwater testing) to determine effectiveness of corrective actions / improvements in reducing selenium in stormwater discharge from the EMSA to comply with applicable water quality standards.

e. Feasibility analysis for enlargement of Pond 30 as an alternative to reduce selenium in stormwater discharges from the EMSA area, supported by technical studies such as hydrological studies, geotechnical studies and financial (cost) analysis.

f. Feasibility analysis for piping water from Pond 30 to Quarry Pit as an alternative to reduce selenium in stormwater discharges from the EMSA area, supported by technical studies such as hydrological studies, geotechnical studies and financial (cost) analysis.

g. If initial data analysis and identified improvements / recommendations under (a) and (b) are available by May 27, 2016, they shall be submitted with the Work Plan

PROJECT DESCRIPTION

This is a continued public hearing by the Planning Commission from April 23, 2015 to determine the feasibility of two alternatives to treat selenium in stormwater discharged from the East Material Storage Area (EMSA) of Lehigh Permanente Quarry: (1) piping the stormwater from Pond 30 to the Quarry Pit, and (2) enlarging Pond 30. The Planning Commission hearing was continued (from April, 2015) for twelve months to allow Lehigh to install the non-limestone cover over the EMSA as a selenium source reduction measure, consistent with the final Reclamation Plan approved for the Quarry. Lehigh's proposed schedule was to complete installation of the non-limestone cover in June 2016 and subsequently conduct stormwater testing during the 2015/16 rain season to determine the effectiveness of the cover in minimizing selenium concentrations in EMSA stormwater runoff.

The requirement for the Planning Commission to determine the feasibility of two alternatives (a) piping stormwater from Pond 30 to the Quarry Pit and (b) enlarging Pond 30, stem from the environmental findings contained within the Final EIR adopted for the Reclamation Plan for the Quarry in 2012, codified within the Reclamation Plan conditions of approval. The Final EIR determined that selenium concentrations in stormwater emitted from the EMSA area of the Quarry would increase during the Reclamation process (identified as "interim reclamation"). The Final EIR determined that following complete and final reclamation of the EMSA (which includes the installation of a non-limestone layer with a vegetative cover), selenium concentrations in stormwater would be reduced below applicable water quality standards.

As a condition of approval, Lehigh was required to use Best Management Practices (BMP's) during interim reclamation to reduce selenium in stormwater and evaluate the feasibility of installing a treatment system (or alternative) during interim reclamation, should the BMP's not be effective. On November 20, 2014 the Planning Commission determined that the stormwater discharged from the EMSA area during interim reclamation did not meet water quality standards. Subsequently, the feasibility of installing a treatment system and several alternatives (to address selenium in EMSA stormwater runoff) were evaluated by the Planning Commission. The Planning Commission determined that a treatment facility and several alternatives were infeasible, but deferred in making a determination regarding the feasibility of two alternatives (a) piping the stormwater from Pond 30 to the main Quarry pit and (b) enlarging Pond 30 (to better retain stormwater and prevent discharge of selenium into Permanente Creek).

Prior to the April 2015 Planning Commission hearing, Lehigh notified the Planning Office and Planning Commission that it intended to complete reclamation of the EMSA area and install a non limestone cover, consistent with the final Reclamation Plan approved for the Quarry. The cover was scheduled to be installed in Summer 2015, with its effectiveness (in reducing selenium concentrations in stormwater runoff) evaluated within stormwater testing during the 2015-2016 winter rainy season. This proposal was considered by the Planning Commission in deciding to defer the feasibility determination regarding the two selenium treatment alternatives (a) piping of stormwater to the Quarry Pit and (b) enlargement of Pond 30, until April 2016. In effect, the Planning Commission could first determine the effectiveness of the non-limestone cover in addressing selenium in EMSA stormwater runoff.

Lehigh collected and tested water samples from the EMSA Pond 30 outlet the following qualifying storm events during the 2015-2016 winter rainy season: (a) January 13, 2016, (b) January 18, 2016, and (c) January 19, 2016. The testing data is Attachment 2 and summarized in the following table:

2015/2016 EMSA SURFACE STORMWATER – POND 30 DISCHARGES

DATE	TEST RESULTS	EXCEEDS STANDARD*
January 13, 2016	14 (µg/L)	**YES**
January 18, 2016	14 (µg/L)	**YES**
January 19, 2016	17 (µg/L)	**YES**
January 29, 2016	57 (µg/L)	**YES**
February 1, 2016	55 (µg/L)	**YES**

**Standard = Basin Plan Standard is 5 (µg/L) (dissolved total selenium).*

As all stormwater tests showed selenium concentrations in excess of the standard, Lehigh collected additional stormwater samples during March 2016 from various locations on the EMSA in an effort to conduct a root cause analysis and determine the specific origins of the higher selenium concentrations within the EMSA area. The March 2016 test sites, dates and results are mapped and Attachment 3 to this report.

On April 4, 2016, Planning Office received a request from Lehigh to continue the public hearing for sixty days to allow time to prepare an analysis of the 2015/2016 stormwater data collected (Attachment 1). Lehigh recently reported to County staff that their geologist is presently analyzing the data and preparing a report to the County, and anticipated to be submitted by May 27, 2016.

REASONS FOR RECCOMENDATION

A. Continue the Hearing to July 28, 2016

Staff requests the Commission continue the public hearing for three months to allow time for Lehigh to evaluate stormwater test data taken during the March 2016 rain events and prepare a workplan outlining corrective actions for the EMSA non-limestone bearing cover, as further described under (B) below.

In addition, no further information has been submitted by Lehigh to the County regarding the feasibility of the two alternatives for Selenium treatment (a) piping the stormwater to the Quarry Pit and (b) Enlarging Pond 30.

B. Direct Lehigh to Submit a Workplan

The direction to Lehigh to submit a workplan will ensure that Lehigh initiates and follows through on actions to address the documented deficiencies in the non-limestone cover over the EMSA, and completes the analysis regarding the feasibility of the two alternatives to treat Selenium (a) piping the stormwater to the Quarry Pit and (b) Enlarging Pond 30. This approach was discussed between County staff, Lehigh representatives, and Regional Water Quality Control Board staff in a conference call on Tuesday, April 19, 2016, and all three parties agreed to a timeline wherein Lehigh would submit a workplan addressing the EMSA. Lehigh representatives have indicated that a report by its geologist evaluating the causes of the selenium exceedances at the EMSA will be available for submittal by May 27, 2016, with the workplan.

County staff will evaluate the workplan and initial geology report with Regional Water Quality Control Board staff, supported by a third party peer review from the County's third party independent consultant.

In addition to describing the approach for correcting the identified deficiencies with the non-limestone cover of the EMSA, the workplan will provide a timeline for the submittal of additional information needed to evaluate the feasibility of the two selenium treatment alternatives as the data may not be in a completed form by the July 28, 2016 hearing.

BACKGROUND

In accordance with the 2012 Reclamation Plan conditions of approval and adopted mitigation measure, Lehigh installed the one-foot layer of non-limestone rock material as cover over the EMSA overburden material containing limestone. Lehigh has continued to conduct testing of the stormwater discharges from Pond 30 outlet discharging to Permanente Creek for qualifying rain events. The discharges tested and analyzed for prior rain seasons 2013/14 and 2014/15 each exceeded the Basin Standard of 5 µg/L.

As a result of EMSA selenium levels exceeding the Basin Standard for two consecutive years, rain season 2012/13 and 2013/14, a hearing of the Planning Commission was conducted regarding feasibility for treating selenium in November 20, 2014. The stormwater testing for rain seasons 2014/15 and 2015/16 also exceeded the Basin Standard.

Condition #82 of the 2012 Reclamation Plan, requires the Planning Commission to determine the feasibility of installing and operating a treatment facility (or alternative) to treat selenium during interim reclamation for the Quarry Pit, WMSA, and EMSA (prior to final reclamation of these areas). As noted, on November 20, 2014, the Planning Commission determined that the installation of a treatment facility to treat selenium discharged from the Quarry Pit and WMSA was feasible. The Planning Commission determined that the installation of a treatment facility at the EMSA area was infeasible, and continued the hearing to January 22, 2015, and again to April 23, 2015 to allow additional time for further evaluation of the feasibility of alternatives for selenium treatment at the EMSA. The three alternatives discussed were: (a) piping / trucking stormwater to the Frontier Technology Site, (b) piping / trucking stormwater to the Quarry Pit, and (c) enlargement of Pond 30 to collect greater stormwater in the EMSA area.

On April 23, 2015, the Planning Commission determined the following alternatives were not feasible: (a) piping or trucking stormwater directly to the Frontier Treatment System, and (b) trucking stormwater to the Quarry Pit. The Planning Commission continued its determination on the feasibility of piping stormwater to the Quarry Pit and enlarging Pond 30 for twelve months to enable Lehigh to have additional time to analyze feasibility. A report from Lehigh dated January 12, 2015 determined that piping stormwater from the EMSA to the Quarry Pit is infeasible due to cost of designing and installing a pumping system, and that enlarging Pond 30 appears to be feasible, but subject to more detailed engineering design and inter-agency permitting requirements. However, this report does not appear to provide sufficient details in order to make the determination of feasibility. The April 23, 2015 staff report, including feasibility reports and prior stormwater testing results, are Attachment 4.

RELEVANT INFORMATION

Present Land Use:	Surface Mine (Quarry)
Supervisorial District:	Five
General Plan Designation:	Hillsides
Zoning:	HS-d1 (Hillsides with Design Review Combining District)
Property Size:	3,500 acres of which 1,238 acres comprise the Reclamation Plan boundary

STAFF REPORT REVIEW

Prepared by: Marina Rush, Senior Planner

Approved by: Rob Eastwood, Planning Manager

ATTACHMENTS

1. Lehigh, Request for Continuance, April 4, 2016.
2. Lehigh Stormwater EMSA Testing Data Results, 2015/2016.
3. EMSA Selenium Concentrations Test Results Map, March 2016.
4. April 23, 2015 Planning Commission Staff Report and Attachments.

LEHIGH
HEIDELBERGCEMENT Group

Permanente Plant
24001 Stevens Creek Blvd.
Cupertino, CA 95014
Phone (408) 996 - 4000
Fax (408) 725-1104

April 4, 2016

Scott Lefaver, Chairman
Members of the Santa Clara County Planning Commission
70 West Hedding Street
San Jose, CA 95110

Re: Request for Continuance
April 28, 2016 Planning Commission Agenda Item No. TBA
Permanente Quarry

Dear Chair Lefaver and Members of the Commission:

On behalf of Lehigh Southwest Cement Company ("Lehigh"), this letter requests a continuance of the Permanente Quarry matter that is planned to appear on the Planning Commission's April 28, 2016 agenda.

This agenda item was planned one year ago, in April 2015. The purpose of the matter is for Lehigh to provide the Planning Commission with a report concerning the performance of certain water quality controls, including a non-limestone cover layer, in the East Materials Storage Area ("EMSA"). As explained in more detail below, Lehigh is continuing to receive and analyze data from March 2016 storms. As such, Lehigh requests that the Commission continue the matter a sixty-day period, to allow Lehigh and County staff sufficient time to evaluate and present the data.

By way of background, the June 2012 Reclamation Plan requires that Lehigh install in the EMSA a "cover layer" composed of at least one foot of non-limestone material as part of the reclamation process. The cover is designed to isolate limestone in the EMSA from storm water, and thus prevent the release of selenium that is known to occur by exposing limestone to water. Lehigh installed the cover during the 2015 dry season. The 2012 Conditions of Approval require Lehigh to test storm runoff from the cover to verify the cover's effectiveness before revegetating the EMSA as part of the final reclamation process.

In February 2016, Lehigh reported the test results to the County for January and February discharges from Pond 30, which releases storm water from the EMSA. The test results revealed a mixture of low and high selenium readings. After consultation with staff, Lehigh developed an additional testing protocol to determine the levels of selenium in runoff from the cover in various locations. Lehigh collected samples from the additional locations during March storms. The test results, which Lehigh recently provided to staff, suggest that the cover is performing well in most areas while in limited areas it may need improvement.

Attachment 1

LEHIGH
HEIDELBERGCEMENT Group

Lehigh and its consultants are in the process of analyzing the results and determining the appropriate course of action to meet the Reclamation Plan requirements. As the process will take some weeks, however, we are not yet in a position to share any recommendations with staff, or to provide the Commission with a full report. We also hope for the opportunity to collect and analyze additional data if there are more storms before the traditional rainy season ends (typically in June).

After consultation with staff, Lehigh believes there is good reason to postpone the presentation of this matter to the Planning Commission (and the related issues of feasibility carried over from 2015) to allow time to properly evaluate the data, and to allow a review by Planning Department staff and the County's technical consultant. We believe that approximately sixty days is needed for these tasks. As such, we request a continuance of this agenda item to a convenient date on the Commission's calendar in late June or July.

If the Planning Commission members would like to have further information on this issue, I would be pleased to attend to it and make sure that any questions are answered.

Sincerely,

Alan Sabawi, Plant Manager
Lehigh Hanson

cc: Rob Eastwood, Planning Department
Marina Rush, Planning Department
Elizabeth Pianca, Office of County Counsel
Kari Saragusa, President, Lehigh Hanson, Region West
Mark Harrison, Esq.

ATTACHMENT 2

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 01/28/2016

George Wegmann

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Client Project:	0637109922
BCL Project:	Lehigh
BCL Work Order:	1601351
Invoice ID:	B225208

Enclosed are the results of analyses for samples received by the laboratory on 1/13/2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Vanessa Sandoval
Client Service Rep

Authorized Signature

Table of Contents

Golder Associates Inc.

CHAIN OF CUSTODY

Page___ of

Quotation No.

EDD Required? Yes/No

EDF Required? Yes/No

PROJECT AND PHASE NO.: 0637109922

SITE NAME: Lehigh Permanente

SAMPLER SIGNATURE(S): [signature] 16-01351

CONTRACT LABORATORY: BC

TURN-AROUND TIME: Standard

Sample ID	Lab ID	Collection Date	Collection Time	Matrix	Depth	Container Info	TSS (2540D), TDS (2540C) Settleable Matter (2540F)	Oil & Grease (1664)	PP13 Metals (200 series, minus Hg)	Hex Chrome (218.6)	Mercury (1631)	Cont. Qty.	Remarks
						Type	poly	amber	poly		glass		
						Volume	1 L	1 L	500 ml		500 ml		
						Filter	N	N	N	N	N		
						Preserv.	N	H2SO4	HNO3		None		
Pond 30 (EFF-006)		1/13/16	0850	W	–		2	1	1	1	1	6	

CHK BY [initials] DISTRIBUTION [initials] SUB-OUT

SHORT HOLDING TIME
Cr+6 NO2 NO3 OP SS
DO Cl2 BOD MBAS COT

Relinquished by (signature):	Received by (signature):	Date/Time:
[signature]	[signature] P.BINS BCL	1/13/16 12:19PM
[signature] BCL 1/13/16 1401	[signature] Gary Bogan	1-13-16 1401
Gary Bogan 1-13-16 1830	[signature]	1/13/16 18:30

SEND RESULTS TO:
Lehigh: Sam Barket, ChowYip
Attention: George Wegmann; Kim DeVillier
Golder Associates Inc.
425 Lakeside Drive
Sunnyvale, CA 94085
Phone (408) 220-9223
Fax (408) 220-9224

C:\Users\JLinder\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\ANB3BK0K\COCs NPDES 30.xlsx REL- [signature] 1/13/16 2230 [signature] 1-13-16 2230

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Chain of Custody and Cooler Receipt Form for 1601351 Page 2 of 2

BC LABORATORIES INC. — COOLER RECEIPT FORM — Page ___ Of ___

Submission #: 16-01351

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐ BC Lab Field Service ☑ Other ☐ (Specify)_____	Ice Chest ☑ None ☐ Box ☐ Other ☐ (Specify)_____	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: BE Thermometer ID: 208 Date/Time: 1.13.16 2251

Temperature: (A) 1.6 °C / (C) 1.1 °C Analyst Init: M

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES	BC									
4oz / 8oz / 16oz PE UNPRES										
2oz Cr+6	A									
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz	D									
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
4oz NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
4A PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
PT EPA 1664	E									
T ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
0 ml VOA VIAL- 504										
T EPA 508/608/8080										
T EPA 515.1/8150										
T EPA 525										
T EPA 525 TRAVEL BLANK										
0ml EPA 547										
0ml EPA 531.1										
a EPA 548										
T EPA 549										
T EPA 8011M										
T EPA 8270										
z / 16oz / 32oz AMBER										
z / 16oz / 32oz JAR	F									
IL SLEEVE										
B VIAL										
ASTIC BAG										
OLAR BAG										
ROUS IRON										
CORE										
ART KIT										
MMA CANISTER										

Comments:

Sample Numbering Completed By: DDP Date/Time: 1/13/16 2251 Rev 20 07/24/2015

A = Actual / C = Corrected

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Golder Associates	Reported: 01/28/2016 15:26
425 Lakeside Drive	Project: Lehigh
Sunnyvale, CA 94085	Project Number: 0637109922
	Project Manager: George Wegmann

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1601351-01	COC Number:	---	Receive Date:	01/13/2016 08:50
	Project Number:	---	Sampling Date:	01/13/2016 08:50
	Sampling Location:	Pond 30 (EFF-006)	Sample Depth:	---
	Sampling Point:	Pond 30 (EFF-006)	Lab Matrix:	Water
	Sampled By:	---	Sample Type:	Water

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Golder Associates 425 Lakeside Drive Sunnyvale, CA 94085	Reported: 01/26/2016 15:26 Project: Lehigh Project Number: 0637109922 Project Manager: George Wegmann

EPA Method 1664

BCL Sample ID:	1601351-01	Client Sample Name:	Pond 30 (EFF-006), Pond 30 (EFF-006), 1/13/2016 8:50:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Oil and Grease	ND	mg/L	5.0	1.7	EPA-1664A HEM	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-1664A HEM	01/19/16	01/19/16 14:00	MAM	MAN-SV	1	BZA1992

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 01/28/2016 15:26
Project: Lehigh
Project Number: 0637109822
Project Manager: George Wegmann

Water Analysis (General Chemistry)

BCL Sample ID: 1601351-01 | **Client Sample Name:** Pond 30 (EFF-006), Pond 30 (EFF-006), 1/13/2016 8:50:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Dissolved Solids @ 180 C	1000	mg/L	50	50	SM-2540C	ND		1
Total Suspended Solids (Glass Fiber)	6.5	mg/L	0.50	0.50	SM-2540D	ND		2
Settleable Solids	ND	ml/L	0.10	0.10	SM-2540F			3

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	SM-2540C	01/18/16	01/18/16 13:00	CAD	MANUAL	5	BZA1383
2	SM-2540D	01/19/16	01/19/16 12:58	OJP	MANUAL	1	BZA1539
3	SM-2540F	01/14/16	01/14/16 07:25	RT1	MANUAL	1	BZA1121

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 01/28/2016 15:26
Project: Lehigh
Project Number: 0637109922
Project Manager: George Wegmann

Metals Analysis

BCL Sample ID: 1601351-01 | Client Sample Name: Pond 30 (EFF-006), Pond 30 (EFF-006), 1/13/2016 8:50:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	2.2	ug/L	0.20	0.055	EPA-218.6	ND		1
Total Recoverable Antimony	0.19	ug/L	2.0	0.11	EPA-200.8	ND	J	2
Total Recoverable Arsenic	1.4	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Beryllium	ND	ug/L	1.0	0.14	EPA-200.8	ND		2
Total Recoverable Cadmium	0.41	ug/L	1.0	0.11	EPA-200.8	ND	J	2
Total Recoverable Chromium	10	ug/L	3.0	0.80	EPA-200.8	ND		2
Total Recoverable Copper	7.3	ug/L	2.0	0.22	EPA-200.8	0.82		2
Total Recoverable Lead	0.18	ug/L	1.0	0.10	EPA-200.8	ND	J	2
Total Recoverable Nickel	11	ug/L	2.0	0.19	EPA-200.8	ND		2
Total Recoverable Selenium	14	ug/L	2.0	0.19	EPA-200.8	ND		2
Total Recoverable Silver	ND	ug/L	1.0	0.19	EPA-200.8	ND		2
Total Recoverable Thallium	0.14	ug/L	1.0	0.10	EPA-200.8	ND	J	2
Total Recoverable Zinc	100	ug/L	10	1.7	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-218.6	01/14/16	01/14/16 12:44	OLH	IC-4	1	BZA1131
2	EPA-200.8	01/20/16	01/21/16 11:58	GPD	PE-EL2	1	BZA1613

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Golder Associates
426 Lakeside Drive
Sunnyvale, CA 94085

Reported: 01/26/2016 15:26
Project: Lehigh
Project Number: 0637109922
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: BZA1992						
Oil and Grease	BZA1992-BLK1	ND	mg/L	5.0	1.7	

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 01/28/2016 15:26
Project: Lehigh
Project Number: 0637109922
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: BZA1992										
Oil and Grease	BZA1992-BS1	LCS	38.050	42.200	mg/L	90.2		78 - 114		

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 01/28/2016 15:26
Project: Lehigh
Project Number: 0637109922
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: BZA1992	Used client sample: N										
Oil and Grease	DUP	1532390-35	ND	ND		mg/L			18		
	MS	1532390-35	ND	38.950	42.200	mg/L		92.3		78 - 114	
	MSD	1532390-35	ND	37.150	42.200	mg/L	4.7	88.0	18	78 - 114	

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 01/28/2016 15:26
Project: Lehigh
Project Number: 0637109922
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: BZA1383						
Total Dissolved Solids @ 180 C	BZA1383-BLK1	ND	mg/L	6.7	6.7	
QC Batch ID: BZA1539						
Total Suspended Solids (Glass Fiber)	BZA1539-BLK1	ND	mg/L	0.50	0.50	

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Golder Associates	Reported: 01/28/2016 15:26
425 Lakeside Drive	Project: Lehigh
Sunnyvale, CA 94085	Project Number: 0637109922
	Project Manager: George Wegmann

Water Analysis (General Chemistry)

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: BZA1383										
Total Dissolved Solids @ 180 C	BZA1383-BS1	LCS	570.00	586.00	mg/L	97.3		90 - 110		

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Golder Associates 425 Lakeside Drive Sunnyvale, CA 94085	Reported: 01/28/2016 15:26 Project: Lehigh Project Number: 0637109922 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: BZA1121	Used client sample: Y - Description: Pond 30 (EFF-006), 01/13/2016 08:50										
Settleable Solids	DUP	1601351-01	ND	ND		ml/L			10		
QC Batch ID: BZA1383	Used client sample: Y - Description: Pond 30 (EFF-006), 01/13/2016 08:50										
Total Dissolved Solids @ 180 C	DUP	1601351-01	1045.0	1045.0		mg/L	0		10		
QC Batch ID: BZA1539	Used client sample: N										
Total Suspended Solids (Glass Fiber)	DUP	1601321-01	76.000	76.000		mg/L	0		10		

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 01/28/2016 15:26
Project: Lehigh
Project Number: 0637109922
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: BZA1131						
Hexavalent Chromium	BZA1131-BLK1	ND	ug/L	0.20	0.055	
QC Batch ID: BZA1613						
Total Recoverable Antimony	BZA1613-BLK1	ND	ug/L	2.0	0.11	
Total Recoverable Arsenic	BZA1613-BLK1	ND	ug/L	2.0	0.70	
Total Recoverable Beryllium	BZA1613-BLK1	ND	ug/L	1.0	0.14	
Total Recoverable Cadmium	BZA1613-BLK1	ND	ug/L	1.0	0.11	
Total Recoverable Chromium	BZA1613-BLK1	ND	ug/L	3.0	0.50	
Total Recoverable Copper	BZA1613-BLK1	0.82000	ug/L	2.0	0.22	J
Total Recoverable Lead	BZA1613-BLK1	ND	ug/L	1.0	0.10	
Total Recoverable Nickel	BZA1613-BLK1	ND	ug/L	2.0	0.19	
Total Recoverable Selenium	BZA1613-BLK1	ND	ug/L	2.0	0.19	
Total Recoverable Silver	BZA1613-BLK1	ND	ug/L	1.0	0.10	
Total Recoverable Thallium	BZA1613-BLK1	ND	ug/L	1.0	0.10	
Total Recoverable Zinc	BZA1613-BLK1	ND	ug/L	10	1.7	

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 01/28/2016 15:26
Project: Lehigh
Project Number: 0637109922
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: BZA1131										
Hexavalent Chromium	BZA1131-BS1	LCS	20.369	20.000	ug/L	102		90 - 110		
QC Batch ID: BZA1613										
Total Recoverable Antimony	BZA1613-BS1	LCS	40.514	40.000	ug/L	101		85 - 115		
Total Recoverable Arsenic	BZA1613-BS1	LCS	97.221	100.00	ug/L	97.2		85 - 115		
Total Recoverable Beryllium	BZA1613-BS1	LCS	41.048	40.000	ug/L	103		85 - 115		
Total Recoverable Cadmium	BZA1613-BS1	LCS	40.913	40.000	ug/L	102		85 - 115		
Total Recoverable Chromium	BZA1613-BS1	LCS	42.989	40.000	ug/L	107		85 - 115		
Total Recoverable Copper	BZA1613-BS1	LCS	100.98	100.00	ug/L	101		85 - 115		
Total Recoverable Lead	BZA1613-BS1	LCS	102.05	100.00	ug/L	102		85 - 115		
Total Recoverable Nickel	BZA1613-BS1	LCS	99.491	100.00	ug/L	99.5		85 - 115		
Total Recoverable Selenium	BZA1613-BS1	LCS	100.72	100.00	ug/L	101		85 - 115		
Total Recoverable Silver	BZA1613-BS1	LCS	40.010	40.000	ug/L	100		85 - 115		
Total Recoverable Thallium	BZA1613-BS1	LCS	40.293	40.000	ug/L	101		85 - 115		
Total Recoverable Zinc	BZA1613-BS1	LCS	98.648	100.00	ug/L	98.5		85 - 115		

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 01/28/2016 15:26
Project: Lehigh
Project Number: 0637109922
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: BZA1131	Used client sample: N										
Hexavalent Chromium	DUP	1601383-01	30.363	29.690		ug/L	2.2		10		
	MS	1601383-01	30.363	50.817	20.202	ug/L		101		90 - 110	
	MSD	1601383-01	30.363	50.700	20.202	ug/L	0.2	101	10	90 - 110	
QC Batch ID: BZA1613	Used client sample: Y - Description: Pond 30 (EFF-006), 01/13/2016 08:50										
Total Recoverable Antimony	DUP	1601351-01	0.18900	0.20000		ug/L	5.7		20		J
	MS	1601351-01	0.18900	41.135	40.000	ug/L		102		70 - 130	
	MSD	1601351-01	0.18900	41.116	40.000	ug/L	0.0	102	20	70 - 130	
Total Recoverable Arsenic	DUP	1601351-01	1.3890	ND		ug/L			20		
	MS	1601351-01	1.3890	109.58	100.00	ug/L		108		70 - 130	
	MSD	1601351-01	1.3890	105.11	100.00	ug/L	4.2	104	20	70 - 130	
Total Recoverable Beryllium	DUP	1601351-01	ND	ND		ug/L			20		
	MS	1601351-01	ND	43.007	40.000	ug/L		108		70 - 130	
	MSD	1601351-01	ND	42.529	40.000	ug/L	1.1	106	20	70 - 130	
Total Recoverable Cadmium	DUP	1601351-01	0.41000	0.39000		ug/L	5.0		20		J
	MS	1601351-01	0.41000	40.041	40.000	ug/L		99.1		70 - 130	
	MSD	1601351-01	0.41000	38.482	40.000	ug/L	4.0	95.2	20	70 - 130	
Total Recoverable Chromium	DUP	**1601351-01**	**10.221**	**4.3520**		**ug/L**	**80.8**		**20**		**Q01**
	MS	**1601351-01**	**10.221**	**50.579**	**40.000**	**ug/L**		**101**		**70 - 130**	
	MSD	**1601351-01**	**10.221**	**49.391**	**40.000**	**ug/L**	**2.4**	**97.8**	**20**	**70 - 130**	
Total Recoverable Copper	DUP	**1601351-01**	**7.2980**	**10.423**		**ug/L**	**35.3**		**20**		**Q01**
	MS	**1601351-01**	**7.2980**	**104.30**	**100.00**	**ug/L**		**97.0**		**70 - 130**	
	MSD	**1601351-01**	**7.2980**	**100.12**	**100.00**	**ug/L**	**4.1**	**92.8**	**20**	**70 - 130**	
Total Recoverable Lead	DUP	1601351-01	0.15700	0.16900		ug/L	7.4		20		J
	MS	1601351-01	0.15700	94.072	100.00	ug/L		93.9		70 - 130	
	MSD	1601351-01	0.15700	94.366	100.00	ug/L	0.3	94.2	20	70 - 130	
Total Recoverable Nickel	DUP	1601351-01	10.569	11.495		ug/L	8.4		20		
	MS	1601351-01	10.569	113.14	100.00	ug/L		103		70 - 130	
	MSD	1601351-01	10.569	109.40	100.00	ug/L	3.4	98.8	20	70 - 130	
Total Recoverable Selenium	DUP	1601351-01	13.730	14.744		ug/L	7.1		20		
	MS	1601351-01	13.730	128.01	100.00	ug/L		114		70 - 130	
	MSD	1601351-01	13.730	124.23	100.00	ug/L	3.0	110	20	70 - 130	
Total Recoverable Silver	DUP	1601351-01	ND	ND		ug/L			20		
	MS	1601351-01	ND	39.246	40.000	ug/L		98.1		70 - 130	
	MSD	1601351-01	ND	38.289	40.000	ug/L	2.5	95.7	20	70 - 130	
Total Recoverable Thallium	DUP	1601351-01	0.13600	0.14300		ug/L	3.8		20		J
	MS	1601351-01	0.13600	37.991	40.000	ug/L		94.8		70 - 130	
	MSD	1601351-01	0.13600	38.018	40.000	ug/L	0.1	94.7	20	70 - 130	

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Golder Associates
425 Lakeside Drive
Sunnyvale, CA 94085

Reported: 01/28/2016 15:26
Project: Lehigh
Project Number: 0637109922
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: BZA1613	Used client sample: Y - Description: Pond 30 (EFF-006), 01/13/2016 08:50										
Total Recoverable Zinc	DUP	1601351-01	101.36	111.36		ug/L	9.4		20		
	MS	1601351-01	101.36	210.40	100.00	ug/L		109		70 - 130	
	MSD	1601351-01	101.36	202.96	100.00	ug/L	3.8	102	20	70 - 130	

basic laboratory
www.basiclab.com
2218 Railroad Avenue voice 530.243.7234
Redding, California 96001 fax 530.243.7494
3860 Morrow Lane, Suite F voice 530.894.8666
Chico, California 95928 fax 530.894.5143

January 27, 2016

Lab ID: 16A0688

VANESSA SANDOVAL
B C LABORATORIES INCORPORATED
4100 ATLAS COURT
BAKERSFIELD, CA 93308
RE: HG 1631 TESTING 1601351

Dear VANESSA SANDOVAL ,

Enclosed are the analysis results for Work Order number 16A0688. 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 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 530.894.8668 fax 530.894.5143

Report To: B C LABORATORIES INCORPORATED
4100 ATLAS COURT
BAKERSFIELD, CA 93308
Attention: VANESSA SANDOVAL
Project: HG 1631 TESTING 1601351
Description: 1601351-01

Lab No: 16A0688
Reported: 01/27/16
Phone: (661) 327-4911
P.O. #

Lab ID: 16A0688-01
Sampled: 01/13/16 08:50

Matrix: Water
Received Temp (C): 7.4
Received: 01/15/16 12:52

Metals - Total

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Mercury	ng/l	0.78		0.20	0.50	EPA 1631E	01/28/16	01/26/16	6A1279

Quality Control Data

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Metals - Total										
Batch 6A1279 - BrCl Digestion										
Blank										
Mercury	ND	0.50	ng/l							
Blank										
Mercury	0.413	0.50	ng/l							QC-08, J
Blank										
Mercury	ND	0.50	ng/l							
LCS										
Mercury	17.6	0.50	ng/l	20.0		87.8	84.1-120			
Matrix Spike Source: 16A0688-01										
Mercury	27.2	0.50	ng/l	20.0	9.78	97.0	74.3-125			
Matrix Spike Dup Source: 16A0688-01										
Mercury	26.8	0.50	ng/l	20.0	9.78	85.1	74.3-125	1.45	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
3880 Morrow Lane, Suite F Chico, California 95928 voice 530.894.8966 fax 530.894.8143

Report To: B C LABORATORIES INCORPORATED
4100 ATLAS COURT
BAKERSFIELD, CA 93308
Attention: VANESSA SANDOVAL
Project: HG 1631 TESTING 1601351

Lab No: 16A0688
Reported: 01/27/16
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.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-flag). The J flag is equivalent to the DNQ Estimated Concentration flag.
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	Maximum 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

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

SUBCONTRACT ORDER
BC Laboratories
1601351

16A0688
Due 1-24-16 BSCLB

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

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

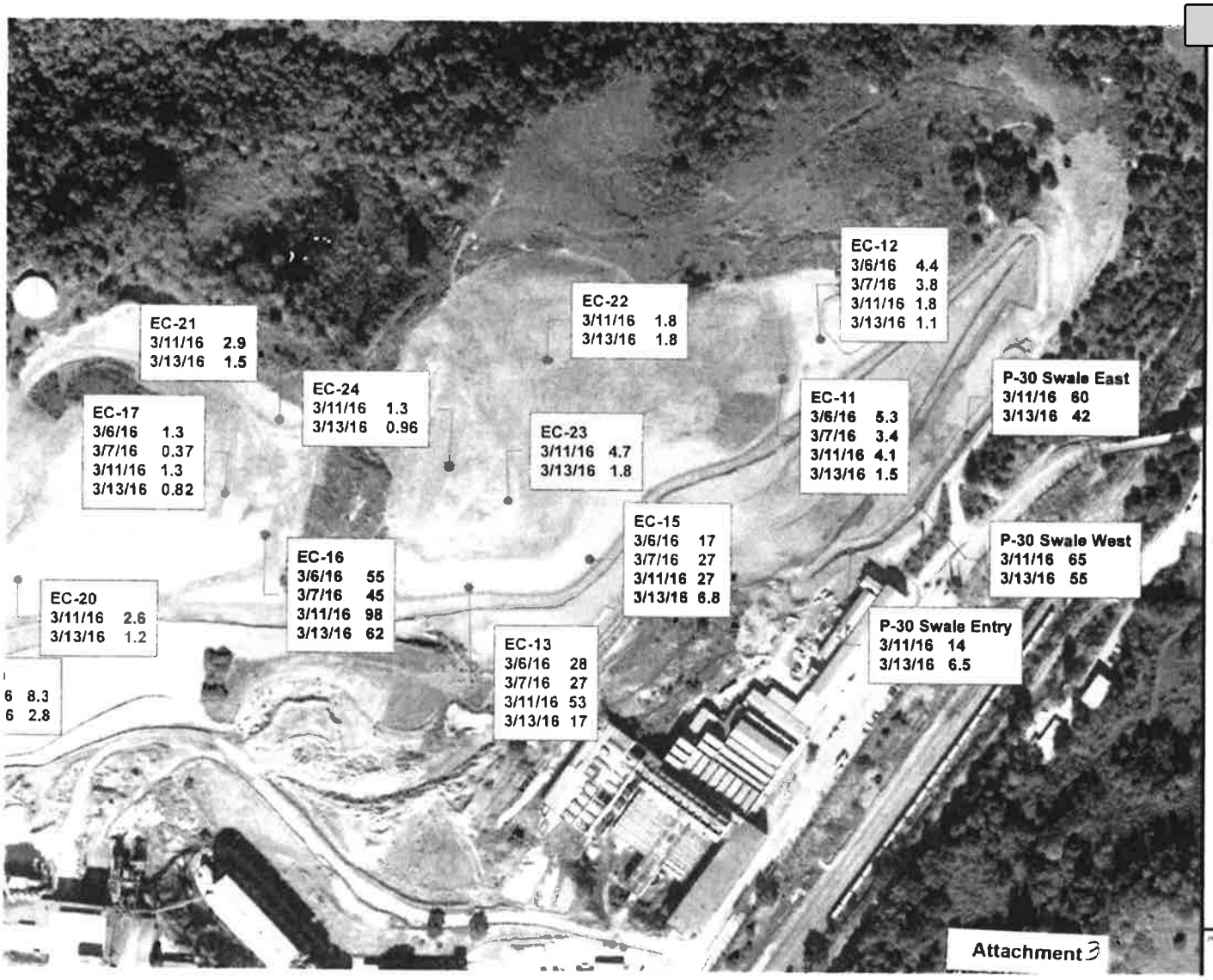
16A0688
1

Analysis	Due	Expires	Comments
Sample ID: 1601351-01	**Water**	**Sampled: 01/13/16 08:50**	
EPA 1631 - Mercury	01/27/16 17:00	07/12/16 08:50	
Containers supplied:			7.4°

Released By	1-14-16 Date	T Wiebelhaus Received By	1-15-16 1252 Date
Released By	Date	T Wiebelhaus Received By	1-15-16 1527 Date

BSCLB

Page 1 of 1



Golder Associates

TECHNICAL MEMORANDUM

Date:	5/27/16	**Project No.:**	1655230
To:	Sam Barket	**Company:**	Lehigh Hanson
From:	George Wegmann, PG Bill Fowler, PG, CEG		
cc:	Greg Knapp	**Email:**	Sam.Barket@LehighHanson.com
RE:	EMSA Storm Water Runoff Evaluation, Lehigh Permanente Facility		

1.0 INTRODUCTION

Golder Associates (Golder) has prepared this technical memorandum to summarize investigatory activities performed at the Eastern Material Storage Area (EMSA) of Lehigh Southwest Cement Company's Permanente facility located at 24001 Stevens Creek Boulevard and to provide recommendations to reduce selenium in the Pond 30 discharge.

To ascertain potential sources of selenium concentrations associated with the Pond 30 discharge, Lehigh requested Golder to collect runoff samples during storm events at 14 locations in the EMSA on the newly installed non-limestone cover to assess the performance of the cover during the first winter season. The analytical results of those samples indicate the direct runoff from the non-limestone cover overall displays selenium concentrations below 5 µg/L. Repeated sampling at 11 of the locations on the newly-placed cover itself revealed selenium concentrations predominately below 5 µg/L. At three locations on the cover, however, sampling showed concentrations above 5 µg/L. In addition, sampling detected elevated selenium in the swale at the base of the EMSA which directs runoff into Pond 30. The non-limestone cover layer described here is only the first component of the ultimate EMSA cover. An additional layer of revegetation growth media remains to be placed pursuant to the Reclamation Plan.

This data, combined with an evaluation of topographic maps and field observations, suggest net infiltration and subsequent discharge of precipitation as seepage may be contributing to the concentration of selenium in certain areas. Golder recommends additional improvements to the EMSA water management system, such as lining Pond 30 and the drainage swale prior to the upcoming 2016/2017 wet season, to improve the water quality of the Pond 30 discharge.

2.0 EMSA SAMPLING & EVALUATION

In March 2016, Golder collected up to four rounds of samples from 14 different locations within the EMSA's non-limestone cover, and three locations along the Pond 30 swale, as noted on Figure 1, for a total of 48 individual samples. All samples on the non-limestone cover were collected on the surface of the non-

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ATTACHMENT 2

limestone rock placed in 2015. The final growth-medium and vegetative layer that is the next stage in the reclamation process has not been placed to date.

2.1 Sampling Procedure

Under the direction of a California Professional Geologist, field staff collected 48 surface water samples on field dates that coincided with significant rainfall events. The daily precipitation totals for March are listed on Table 1. The first two rounds of samples consisted of sample locations EC-11 through EC-17, which were sampled on March 6 and 7, 2016. Golder collected the samples during a three-day period of rainfall starting on March 5, 2016 that totaled 4.5 inches. Golder did not collect samples on March 5, 2016 because no significant runoff or accumulation of runoff was evident on the EMSA cover. Additional rainfall of 2.8 inches the following week prompted two more rounds of sampling, which Golder completed on March 11 and 13, 2016. For the last two rounds, the sampling effort was expanded to also include EC-18 through EC-24 and three samples from the storm water drainage swale that runs to Pond 30 (P-30 Swale Entry, P-30 Swale West, and P-30 Swale East).

During the rain events, Golder inspected the EMSA for runoff and/or sheet flow to target these areas for sampling. Rainfall appeared to readily infiltrate the EMSA material in locations where no significant runoff or sheet flow was observed by field staff during the storm events. For several of the sample locations (e.g., EC-22) samples were collected of water that accumulated on the cover material. Samples were also collected from water that appeared to be emanating as seeps from the toe of the EMSA slopes (e.g., EC-16). The type of sample is noted on Table 2.

Samples were collected in accordance with Golder's Standard Operating Procedures and transported to a certified analytical laboratory in a chilled cooler under chain of custody documentation. A dedicated plastic scoop was used to collect water samples. Golder then transferred the samples to laboratory supplied sample bottles preserved with nitric acid. The laboratory analyzed the samples for total selenium via EPA Method 200.8.

2.2 Sampling Results

The results of the sampling events are included on Table 2 and illustrated on Figure 1. Photographs of sampling locations are included in Appendix A. Consistently low levels of selenium below 5 µg/L were detected in samples of water that accumulated on the cover material, considered representative of direct surface runoff. Four samples, EC-11 EC-13, EC-15, and EC-16, were collected along the toe of the upper EMSA fill slope, but above the main EMSA haul road (Figure 1). These samples are considered more representative of seeps emanating from the toe of the slopes than direct runoff of the cover material. Elevated selenium concentrations were observed at three of these sample locations (EC-13, EC-15, and EC-16).

Two rounds of samples were collected from the drainage swale that leads to Pond 30. The drainage swale is part of the main drainage that conveys storm water to Pond 30 from throughout the EMSA. The upgradient drainage swale sample (P-30 Swale Entry) exhibited lower concentrations than the two downgradient swale samples (P-30 Swale West and P-30 Swale East). This suggests that higher selenium containing water is entering the drainage swale downgradient of the P-30 Swale Entry sample location and further down the channel by the P-30 Swale West and East sample locations. The P-30 Swale West and East sample locations are along the drainage swale directly downgradient of a former cut bench at the toe of the low hills that the EMSA was founded on.

2.3 Topographic Map Evaluation and Field Observations

Golder reviewed the 2015 topographic map of the EMSA, representing the current EMSA configuration, to evaluate sub-drainage basin limits and likely flow paths of storm water runoff with respect to the sample locations (Figure 2). Based on the drainage map, runoff from direct precipitation to the EMSA cover is expected to coalesce in each sub-drainage basin and flow to the drainage swale along the north side of the main haul road. However, field observations during storm events indicated that channelized or sheet flow on the cover was limited and that little surface flow was evident in the drainage swales along the haul roads. Additionally, the soils and colluvium that comprise the original ground surface may have a significantly lower permeability than the overlying EMSA overburden material. Based on the observations made by Golder field staff, storm water may infiltrate certain areas of the non-limestone cover, contact the less-permeable original ground surface, and emerge as seeps at the base of certain EMSA slopes. This view is generally supported by mapping of the 2007 ground surface, which indicates subsurface drainage paths in the vicinity of certain seeps (Figure 3). Notably, field staff inspected areas surrounding and directly upgradient of the sampling points EC-13, EC-15, and EC-16 on April 8, 2016 and found minimal (<2%) limestone present.

3.0 SUMMARY

Low levels of selenium below 5 µg/L were detected in the majority of the samples collected from ponding or limited runoff on or directly from the cover. Results from the EMSA sampling suggest that elevated selenium concentrations are confined to specific areas along the bases of certain slopes. It appears that rainfall percolates into the overburden material in some areas, moves downward through the overburden material until it encounters less-permeable materials, and then emerges downslope as seepage.

4.0 RECOMMENDATIONS

Lehigh has requested that Golder provide recommendations for reducing selenium concentrations in the Pond 30 discharge, with an emphasis on measures that can be accomplished during the 2016 dry season before the onset of 2016/2017 rains. Golder recommends the following actions.

4.1 Line Pond 30 and Pond 30 Drainage Swale

Golder recommends lining Pond 30 and the drainage swale directly upgradient of Pond 30 to allow for the effective conveyance of storm water and eliminate seepage. A geomembrane or concrete liner will reduce seepage in and out of the pond and the drainage swale and will allow for easier maintenance and removal of sediments that accumulate within the pond throughout the wet season. The accumulated sediments may partially be comprised of limestone; therefore, routine sediment removal will help reduce the residence time that any water stored within Pond 30 is in contact with potentially limestone-containing sediments.

The type of liner to be used will be evaluated further during the design phase. One potential option will consist of a geomembrane-lined swale and pond combined with a concrete access ramp and sump in the pond to facilitate sediment removal.

4.2 Construct Drainage Trench

In concert with lining Pond 30 and the drainage swale, we recommend that the seepage emerging from the toe of the slope directly upgradient of Pond 30 is diverted to prevent it from entering the Pond 30 conveyance system. This could be achieved by constructing a trench or "French drain" between the toe of the slope and the Pond 30 swale area to collect any seepage along this bench (Figure 2). The trench would be approximately 300 feet long, 3 feet wide, and 5 feet deep and backfilled with coarse material. A vertical riser will be installed in the drain with a submersible pump and float valve to facilitate management of the collected water. The collected water could be pumped to a holding tank and emptied as needed by a water truck or it could be conveyed to the cement plant reclaim water system.

Additional trenches and collection systems may be considered at the other seepage areas identified with elevated selenium located north of the existing main haul road (e.g., EC-13, EC-15, and EC-16) pending the effectiveness of the trench directly upgradient of the Pond 30 drainage swale.

4.3 Manage Pond 30 Water

Golder recommends that Lehigh remove water that accumulates in Pond 30 between rain events during the wet season, where feasible based on weather conditions and breaks between anticipated storm systems. This will allow for access to Pond 30 to perform routine maintenance activities, including sediment removal, and reduce the residence time that water remains in contact with potentially limestone-containing sediment. The method of removal would depend on the quality of water present in Pond 30. Where representative sampling demonstrates that water is acceptable for discharge to Permanente Creek, water in the pond will be pumped out via the discharge pipe through outfall 006. Where sampling reveals water quality that is not acceptable for discharge to Permanente Creek, water will be transferred to water trucks and delivered to the Reclaim Water System. Samples would be tested on an expedited basis.

4.4 Manage Storm Water Run-on

Lehigh made improvements during the 2015/2016 wet season to divert storm water run-on from upgradient facility areas outside of the EMSA boundary from entering the EMSA drainage area. Golder recommends that these improvements are reviewed and inspected to ensure they are functioning as intended throughout the 2016/2017 wet season. If deemed necessary from the inspections, additional improvements will be made to divert potential run-on from entering the EMSA drainage area.

4.5 Evaluate Performance

Golder recommends performing ongoing sampling, testing and monitoring during the 2016/2017 wet season, and comparison to this year's results, to evaluate the effectiveness of the proposed improvements listed above. It is expected that these measures will result in improvement in the quality of any Pond 30 discharges, from improved management of seeps and the expectation that the recently-placed cover material will become less permeable over time as voids fill with finer materials. Further improvement can be expected as well after placement of the vegetative growth layer on top of the non-limestone cover. Based on this evaluation and if deemed necessary, recommendations for future actions will be proposed prior to placing the final growth medium and vegetative layer pursuant to the Reclamation Plan.

Attachments:

Figure 1 – EMSA Selenium Concentrations 2016
Figure 2 – EMSA Sampling Locations and 2015 Topography
Figure 3 – EMSA Sampling Locations and 2007 Topography
Table 1 – Precipitation Data
Table 2 – EMSA Total Selenium Results
Attachment A – EMSA Sampling Location Field Photos
Attachment B – EMSA Field Observation Field Photos

TABLES

Table 1
Precipitation Totals
Lehigh Permanente
March 2016

Date	Precipitation (in)	Temperature Hi	Temperature Low
1	0.01	69.1 °F	52.4 °F
2	0.01	75.3 °F	50.4 °F
3	0	67.6 °F	52 °F
4	0.27	64.6 °F	55.5 °F
5	2.53	60.3 °F	51.8 °F
6	1.32	60.8 °F	46.9 °F
7	0.62	53.8 °F	45.2 °F
8	0.02	59.5 °F	41.8 °F
9	0	70 °F	49.7 °F
10	0.03	69.4 °F	55.5 °F
11	1.2	57.2 °F	45.6 °F
12	0.23	58.6 °F	43.8 °F
13	1.38	58.8 °F	52.6 °F
14	0.02	59.1 °F	44.9 °F
15	0.01	64.8 °F	43.9 °F
16	0.01	70.4 °F	48.1 °F
17	0.02	74.9 °F	51.8 °F
18	0.06	67.7 °F	49.1 °F
19	0.01	70.3 °F	47.4 °F
20	0.04	69.3 °F	47.7 °F
21	0.24	62.3 °F	46.5 °F
22	0.03	61.6 °F	44.2 °F
23	0	65.9 °F	45.9 °F
24	0	68.9 °F	46.1 °F
25	0.03	69.8 °F	46.9 °F
26	0.04	72.4 °F	47.2 °F
27	0	66.6 °F	50.5 °F
28	0	59.1 °F	44.4 °F
29	0.04	62.9 °F	42.1 °F
30	0.01	63.9 °F	42 °F
31	0.02	67.7 °F	47.4 °F

Notes: Data obtained from Cupertino, CA weather station KCACUPER47.

Table 2
EMSA Total Selenium Results
Lehigh Permanente
March 2016

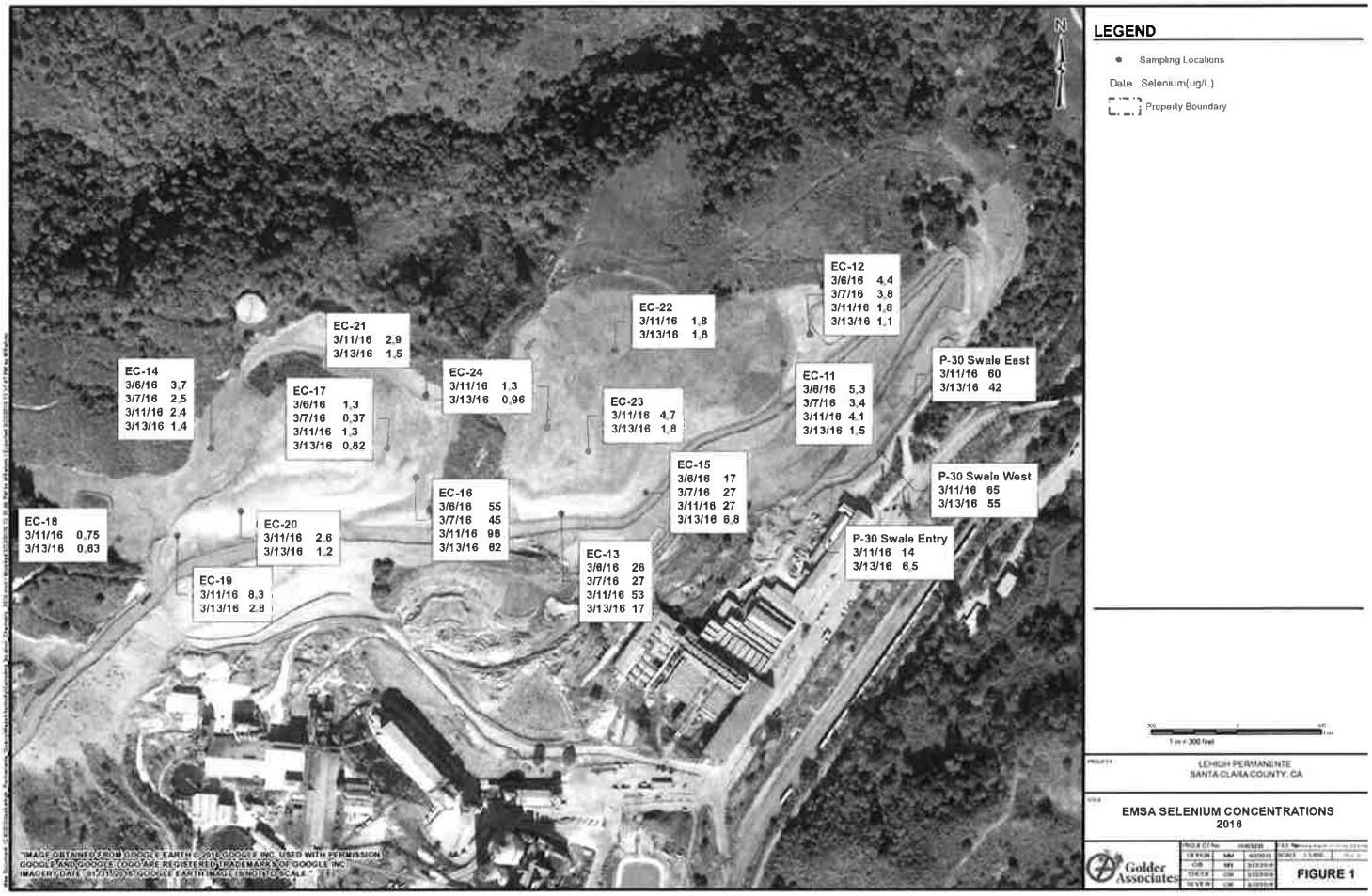
Sample Location	Sample Type	Total Selenium via EPA 200.8	Date Sampled 3/6/16	3/7/16	3/11/16	3/13/16
EC-11	Seep	µg/L	**5.3**	**3.4**	**4.1**	**1.5**
EC-12	Cover	µg/L	**4.4**	**3.8**	**1.8**	**1.1**
EC-13	Seep	µg/L	**28**	**27**	**53**	**17**
EC-14	Cover	µg/L	**3.7**	**2.5**	**2.4**	**1.4**
EC-15	Seep	µg/L	**17**	**27**	**27**	**6.8**
EC-16	Seep	µg/L	**55**	**45**	**98**	**62**
EC-17	Cover	µg/L	**1.3**	**0.37**	**1.3**	**0.82**
EC-18	Cover	µg/L	**NS**	**NS**	**0.75**	**0.63**
EC-19	Cover	µg/L	**NS**	**NS**	**8.3**	**2.8**
EC-20	Cover	µg/L	**NS**	**NS**	**2.6**	**1.2**
EC-21	Cover	µg/L	**NS**	**NS**	**2.9**	**1.5**
EC-22	Cover	µg/L	**NS**	**NS**	**1.8**	**1.8**
EC-23	Cover	µg/L	**NS**	**NS**	**4.7**	**1.8**
EC-24	Cover	µg/L	**NS**	**NS**	**1.3**	**0.96**
P-30 Swale Entry	Seep/Runoff	µg/L	**NS**	**NS**	**14**	**6.5**
P-30 Swale West	Seep/Runoff	µg/L	**NS**	**NS**	**65**	**55**
P-30 Swale East	Seep/Runoff	µg/L	**NS**	**NS**	**60**	**42**

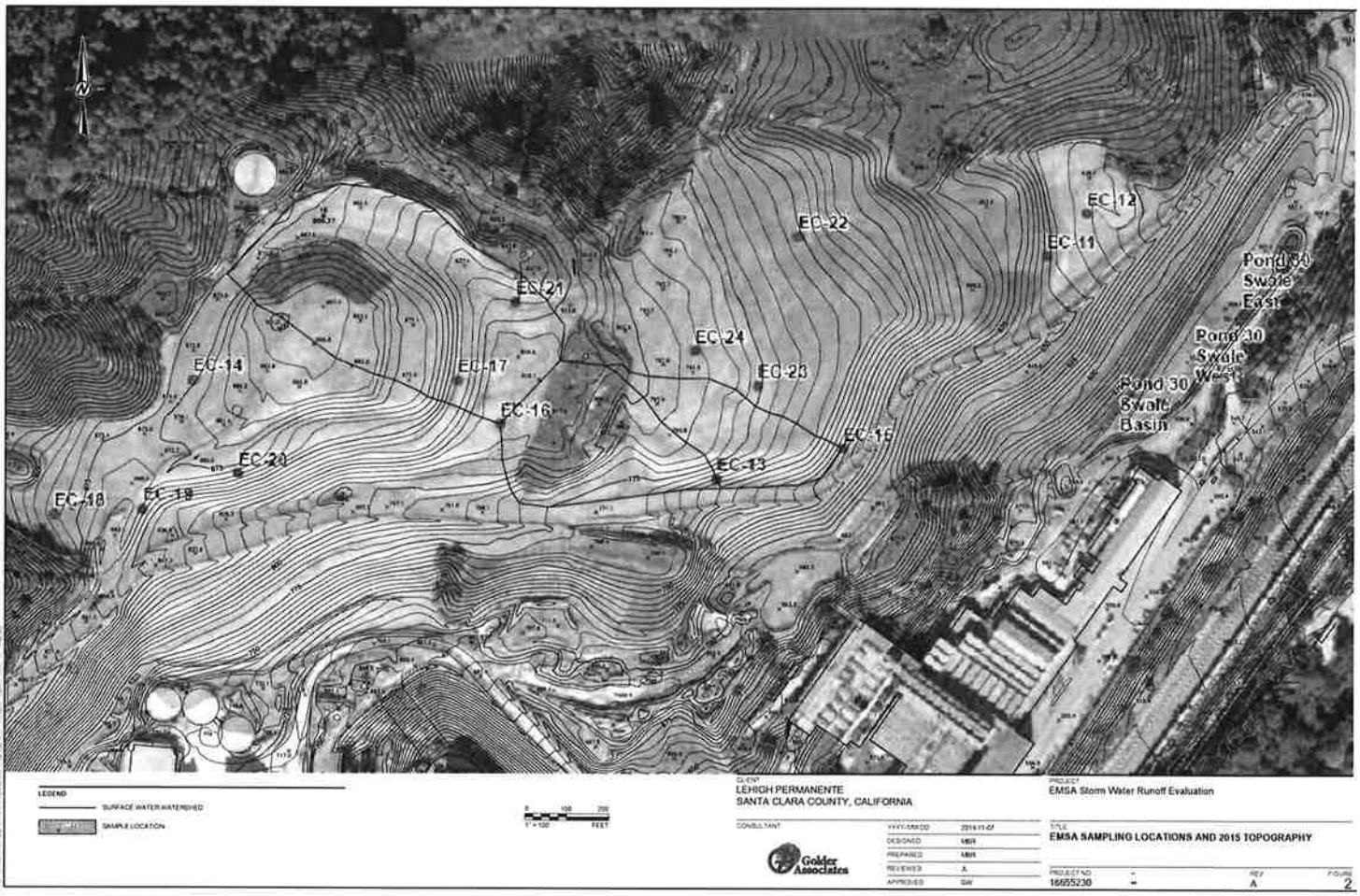
Notes:

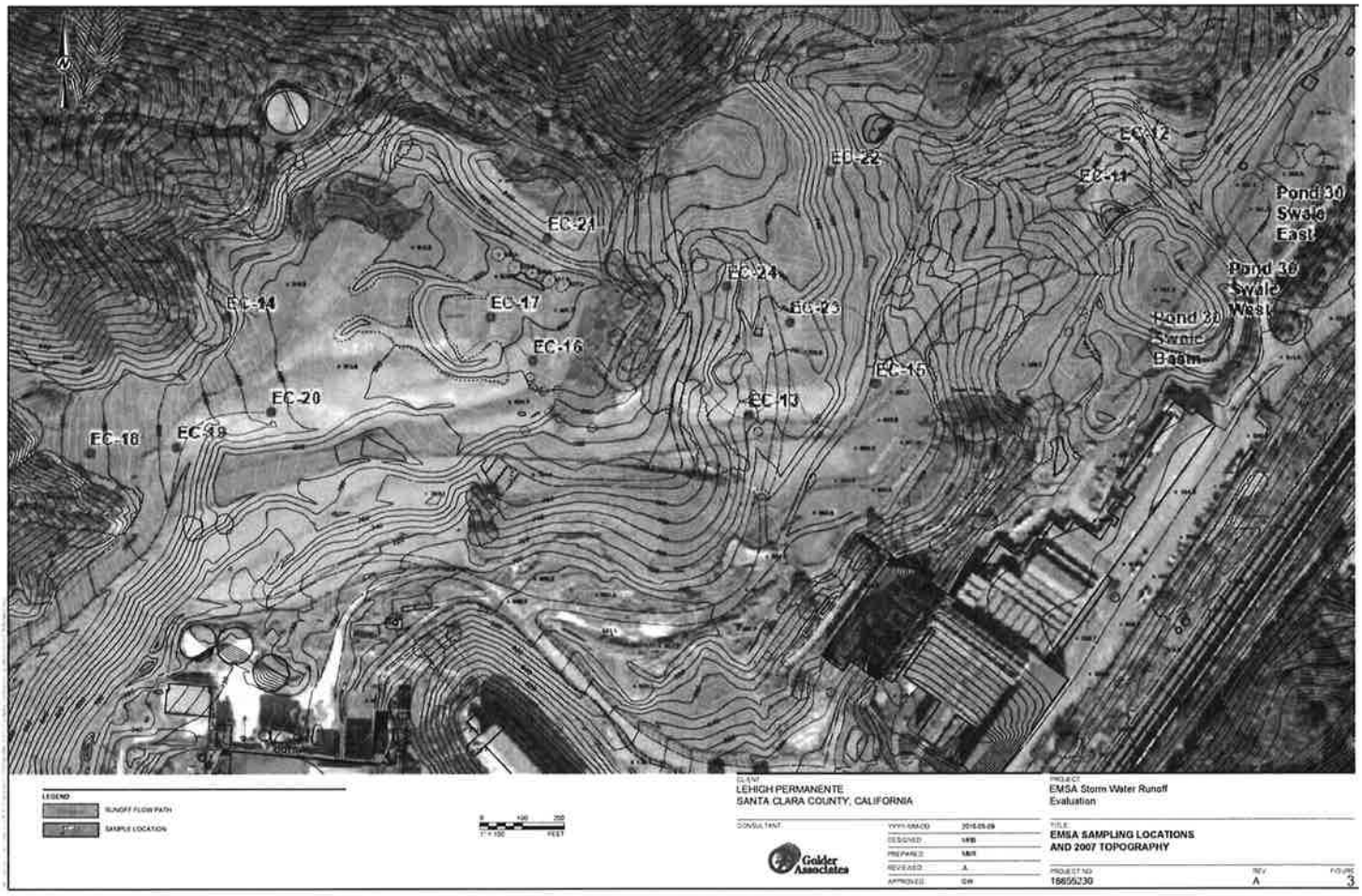
µg/L - micrograms per liter (ppb)

NS - not sampled

FIGURES







ATTACHMENT A

PHOTO A1: EC-11

PHOTO A2: EC-12

PHOTO A3: EC-13

PHOTO A4: EC-14

PHOTO A5: EC-15

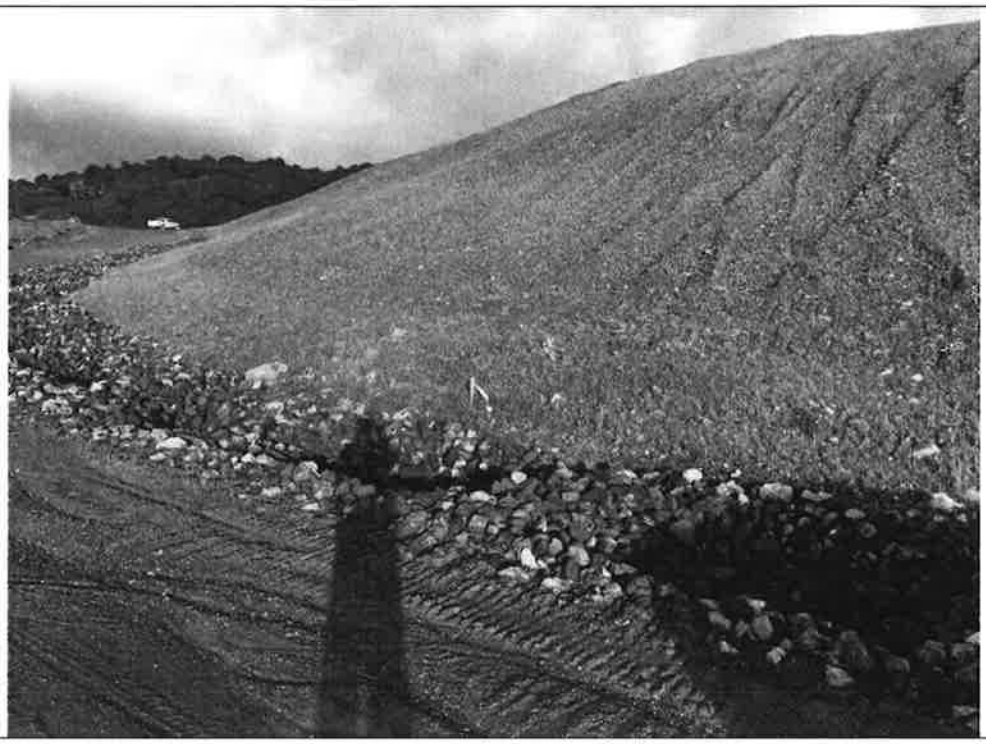


PHOTO A6: EC-16

PHOTO A7: EC-17

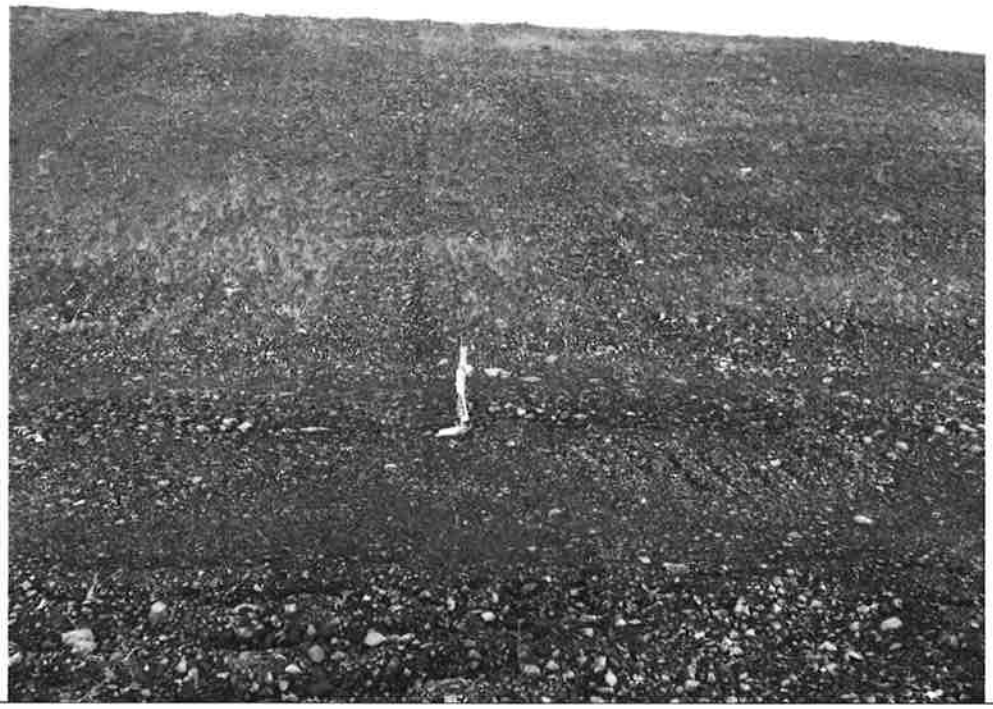


PHOTO A8: EC-18

PHOTO A9: EC-19

PHOTO A10: EC-20

PHOTO A11: EC-21

PHOTO A12: EC-22

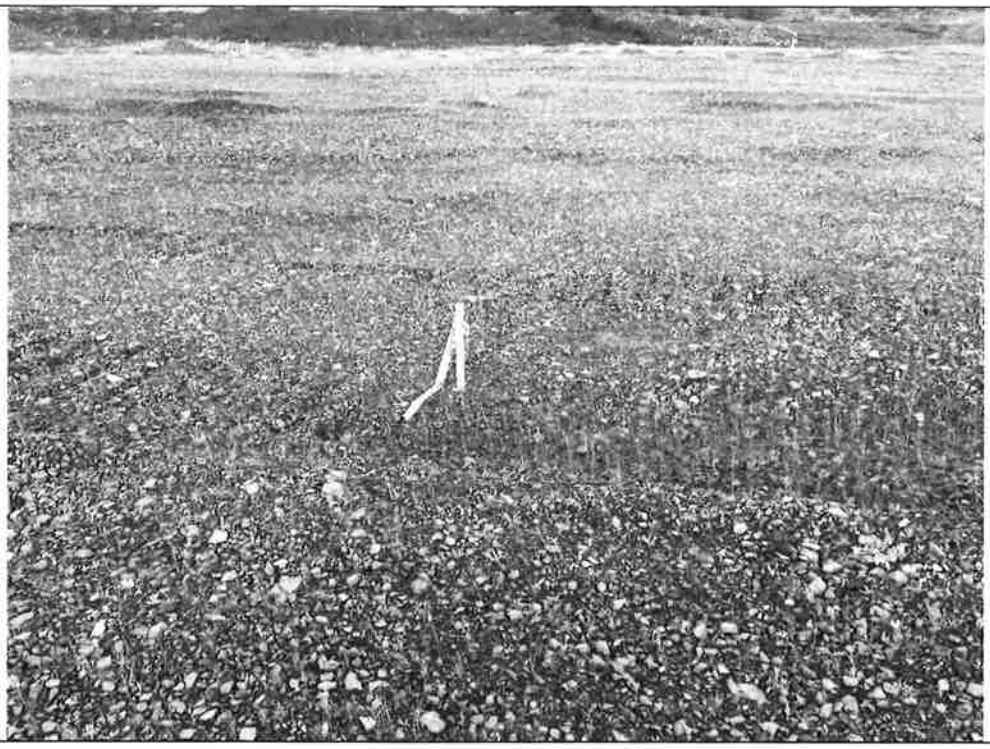


PHOTO A13: EC-23

PHOTO A14: EC-24

PHOTO A15: P-30 SWALE ENTRY

PHOTO A16: P-30 SWALE WEST

PHOTO A17: P-30 SWALE EAST

ATTACHMENT B

PHOTO B1: WATER ACCUMULATION AT EC-16

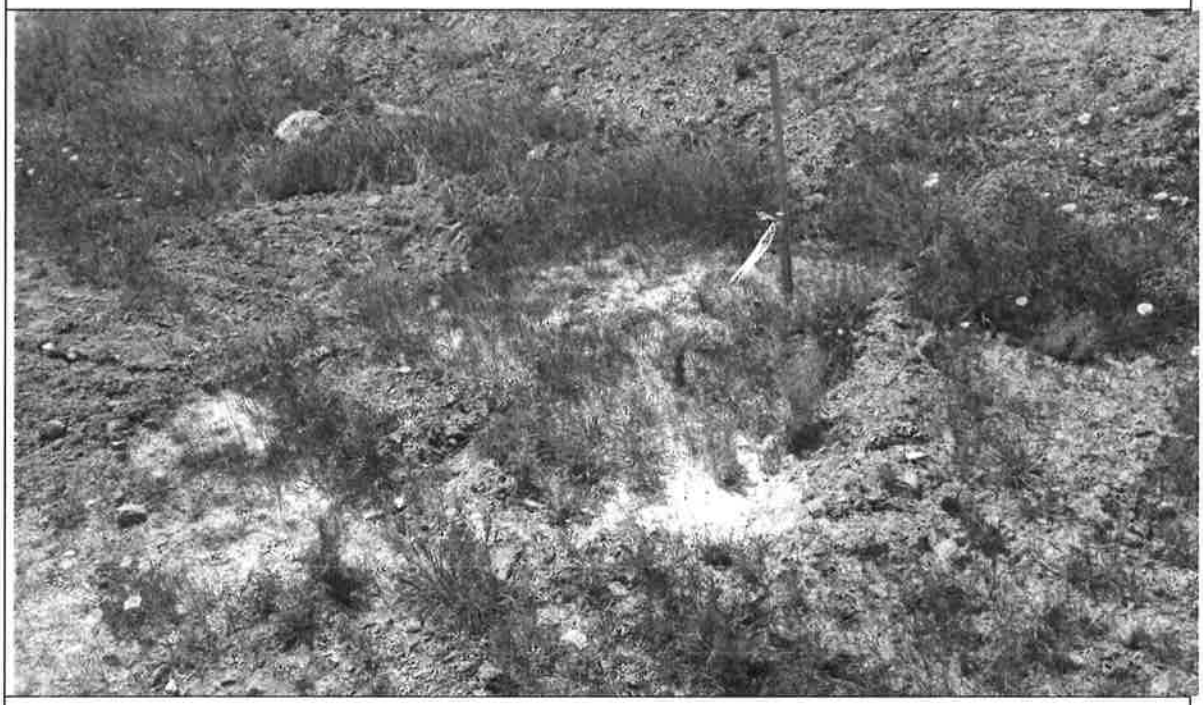


PHOTO B2: EMSA SURFACE MATERIAL

PHOTO B3: EC-15 AND HAUL ROAD DRAINAGE SWALE

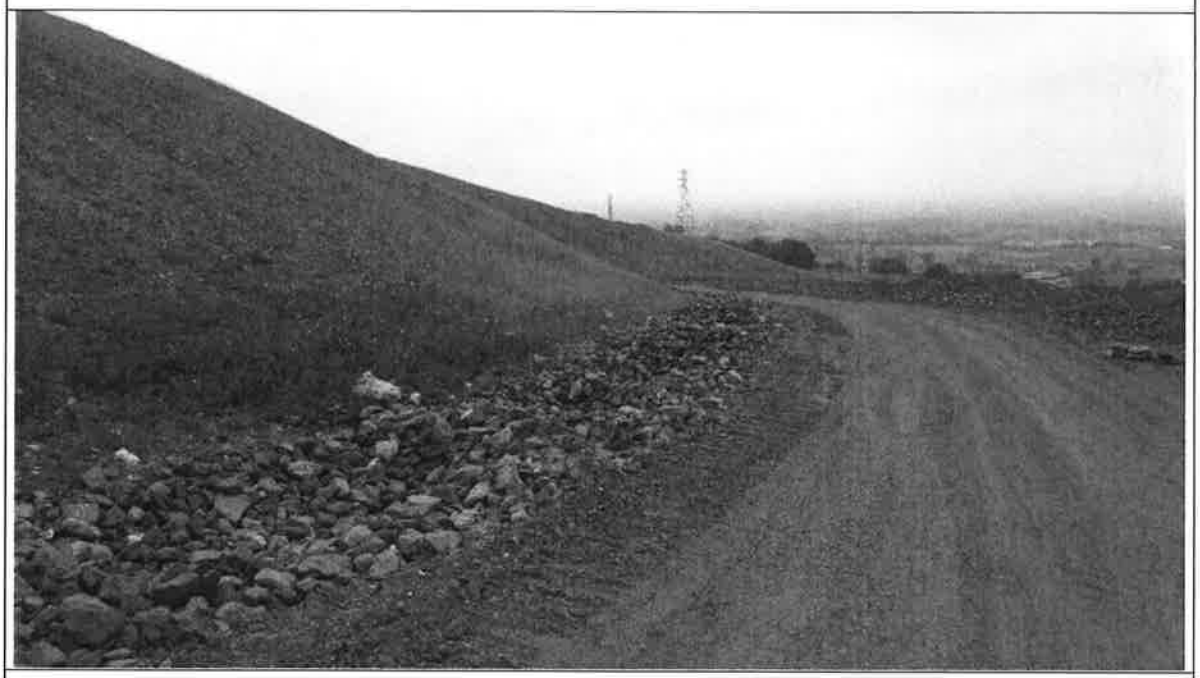


PHOTO B4: EC-13 AND HAUL ROAD DRAINAGE SWALE

PHOTO B5: EC-11

PHOTO B6: TOE OF EMSA, ADJACENT TO POND 30 SWALE

Lehigh Hanson
HEIDELBERGCEMENT Group

24001 Stevens Creek Blvd.
Cupertino, CA 95014
(408) 996-4000

July 11, 2016

VIA EMAIL

Mr. Rob Eastwood
Program Manager
County of Santa Clara
Clean Water Program
4553 Berger Drive
San Jose, CA 95112

RE: Lehigh Southwest Cement Plant
EMSA Work Plan to Address Selenium

Dear Mr. Eastwood:

Attached please find a report, prepared by Golder Associates, that addresses the County's concerns about selenium in the East Material Storage Area (EMSA).

This submittal includes all information requested, including:

- The French drain conceptual drawings showing location and design
- A work schedule for all items
- A volume estimate of the French drain flow

In addition, Lehigh has investigated the possibility of performing an enhanced cover pilot study during the coming wet season. However, the short time allowed was not sufficient to design this study. If the county desires, Lehigh will continue to work with Golder on developing such a study. Please call me at 408-996-4269 if you have any questions or comments.

Sincerely,

Sam Barket
Environmental Manager

Enclosure

ATTACHMENT 3

CC
Alan Sabawi, Lehigh
Ana Damonte, Lehigh
Greg Knapp, Lehigh

Golder Associates

July 11, 2016 1655230

Sam Barket
Lehigh Southwest Cement Co.
24001 Stevens Creek Boulevard
Cupertino, California 95014 USA

RE: FRENCH DRAIN AND POND 30 WORKPLAN, LEHIGH HANSON PERMANENTE FACILITY, SANTA CLARA COUNTY, CA

Dear Sam:

Golder Associates Inc. (Golder) has prepared this letter to provide additional detail regarding the recommended actions listed in our May 27, 2016 Technical Memorandum for the East Material Storage Area (EMSA) and Pond 30. Those action items requested by Santa Clara County include:

- French Drain conceptual drawings showing location in plan view with structures and typical sections and details for trench excavation and sump for a designated pump;
- Workplan of items and schedule to implement the design and construction of the French Drain and upgrade of Pond 30 and channel with geomembrane liner;
- Estimate the volume reporting to the French Drain; and,
- Collection of additional parameters/field observations during the 2016/2017 wet season for any sampling that may be required.

1.0 DISCUSSION

1.1 French Drain

Golder has produced two conceptual level drawings showing the French Drain alignment and structure locations in plan view with associated typical sections and details. The French Drain will be located along a west-east alignment between the EMSA toe and the Pond 30 channel to intercept the seepage from the EMSA toe. Seepage collected by the proposed French Drain will be pumped to the proposed tank. The collected water will be managed by Lehigh. Conceptual drawings are included as Attachment 1.

1.2 Workplan

Golder has produced a schedule with an itemized list of the process to be implemented by Lehigh for the EMSA Pond 30 area. The schedule includes review by Santa Clara County, detailed engineering design, and construction of the proposed French Drain with a riser sump and pump as well as upgrades to Pond 30 and the associated channel by placing geomembrane liner within the existing facilities. The workplan schedule is included as Attachment 2. The main items to be completed are noted below:

- Complete French Drain conceptual design
- Complete survey of Pond 30 and location of French Drain to supplement existing survey data
- Allow review by Santa Clara County on the proposed improvements

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

- Prepare detailed design drawings of the improvements to Pond 30 and the drainage swale and construction of the French Drain
- Select construction contractor and procurement
- Implement and complete construction
- Complete as-built survey data, equipment test, and construction quality assurance (CQA) to produce record documents

1.3 Seepage Volume

Golder estimates that the seepage flow rate into the French Drain will be 10 gallons per minute (gpm) during the wet season based on the limited data available and field observations during the 2015/2016 wet season. The French Drain riser sump has been sized to house a 50 gpm pump to account for any potential transient increases in flow rate.

1.4 2016/2017 EMSA Sampling

Any future sampling that is to be completed as part of the EMSA sampling program will include the following in addition to be analyzed for selenium:

- Estimate of flow
- Temperature
- Color
- Turbidity
- Standing or flowing water
- Possible origin of water (e.g., runoff sample vs seep)

For the collection of seep samples, Golder will attempt to sample the seeps prior to the seeps comingling with other sources of water, such as water from along the haul road. If it appears the seeps are comingling with additional sources, we will attempt to install horizontal pipes at the toe of the slopes in an effort to isolate the seeps and facilitate sampling.

2.0 CLOSING

Golder Associates Inc. appreciates the opportunity to continue working on this interesting project with Lehigh Southwest Cement Co. If you have any questions or concerns regarding the information provided in this letter, please call the undersigned at (408) 220-9223.

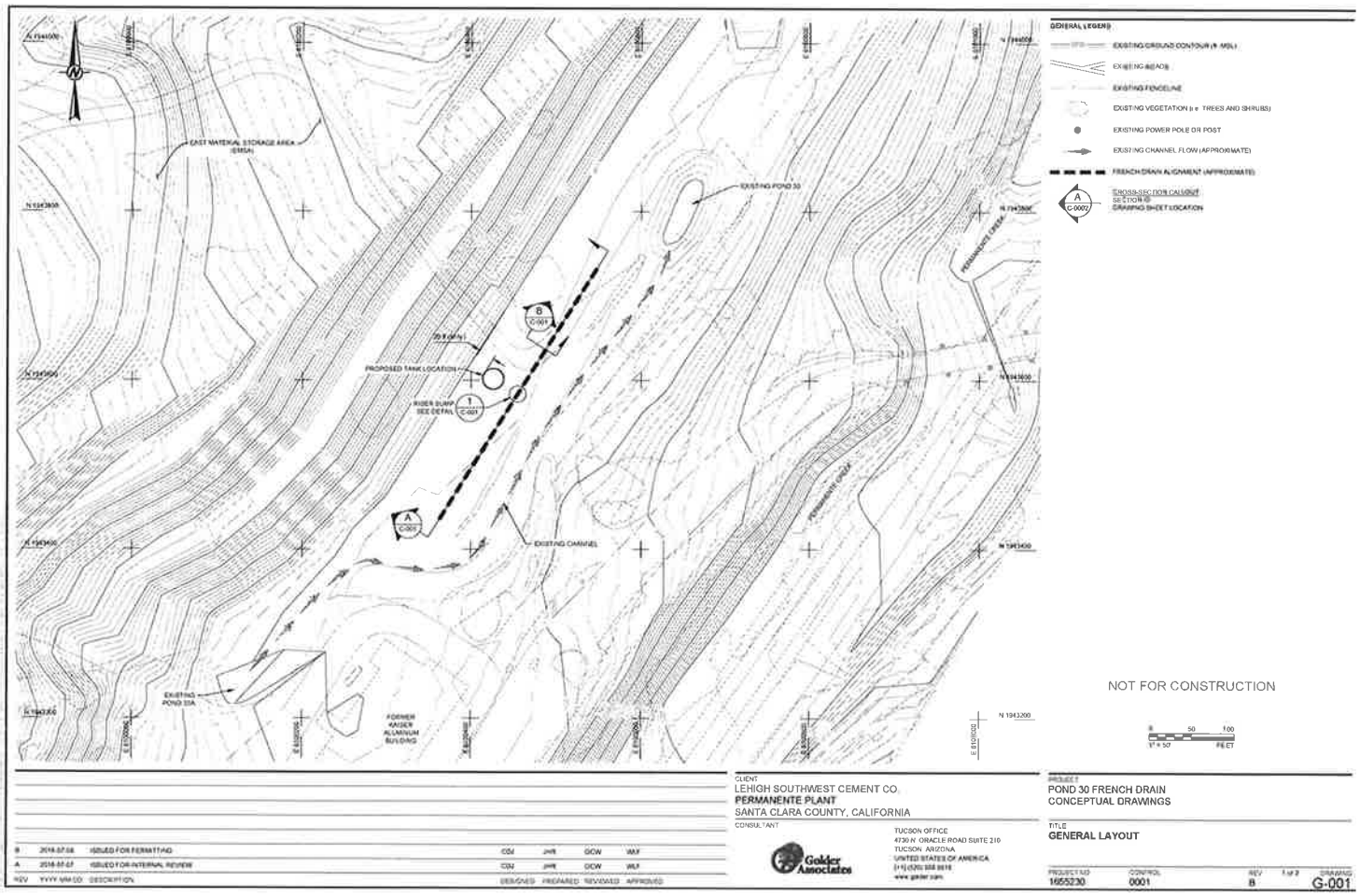
GOLDER ASSOCIATES INC.

George C. Wegmann, PG
Senior Consultant

William L. Fowler, PG, CEG
Principal, Senior Program Leader

Attachments: Attachment 1 – French Drain Conceptual Drawings
Attachment 2 – Workplan Schedule

ATTACHMENT 1
FRENCH DRAIN CONCEPTUAL DRAWINGS



REV	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
B	2018-07-06	ISSUED FOR PERMITTING	CDJ	JHR	GCW	WLF
A	2018-07-27	ISSUED FOR INTERNAL REVIEW	CDJ	JHR	GCW	WLF

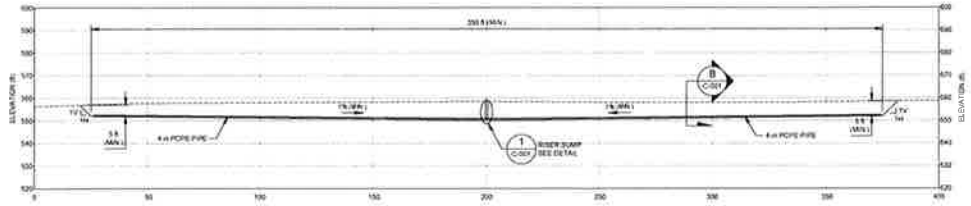
CLIENT
LEHIGH SOUTHWEST CEMENT CO.
PERMANENTE PLANT
SANTA CLARA COUNTY, CALIFORNIA

CONSULTANT
Golder Associates
TUCSON OFFICE
4730 N. ORACLE ROAD SUITE 210
TUCSON, ARIZONA
UNITED STATES OF AMERICA
(+1) (520) 888 8818
www.golder.com

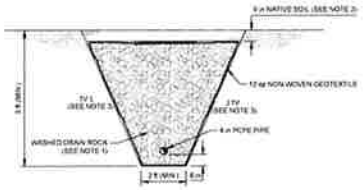
PROJECT
POND 30 FRENCH DRAIN
CONCEPTUAL DRAWINGS

TITLE
GENERAL LAYOUT

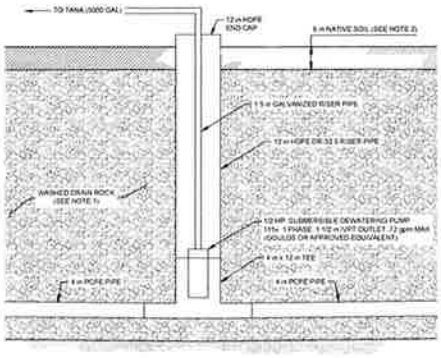
PROJECT NO	CONTROL	REV	SHEET	DRAWING
1655230	0001	B	1 of 2	G-001



SCALE 1" = 20' A C-001 FRENCH DRAIN ALIGNMENT



NOT TO SCALE B C-001 TYPICAL FRENCH DRAIN SECTION



NOT TO SCALE 1 C-001 RISER SUMP DETAIL

NOTE(S)
1. DRAIN ROCK SHALL CONSIST OF A MAXIMUM PARTICLE SIZE OF 1 1/2 INCHES, LESS THAN 5 PERCENT PASSING #200 SIEVE, AND NO PLASTICITY.
2. DRAIN ROCK MAY BE PLACED TO THE CREST OF THE TRENCH EXCAVATION PER OWNER REQUEST.
3. CONTRACTOR IS RESPONSIBLE FOR SLOPING EXCAVATIONS TO MAINTAIN SAFE WORKING CONDITIONS IN ACCORDANCE WITH APPLICABLE STANDARDS.

NOT FOR CONSTRUCTION

0 20 40
1" = 20' FEET

REV	PYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
B	2019-07-08	ISSUED FOR PERMITTING	CDJ	JHR	DCW	WLF
A	2019-07-07	ISSUED FOR INTERNAL REVIEW	CDJ	JHR	DCW	WLF

CLIENT
LEHIGH SOUTHWEST CEMENT CO.
PERMANENTE PLANT
SANTA CLARA COUNTY, CALIFORNIA

CONSULTANT
Golder Associates
TUCSON OFFICE
4730 N. ORACLE ROAD SUITE 210
TUCSON, ARIZONA
UNITED STATES OF AMERICA
(+1) (520) 888 8818
www.golder.com

PROJECT
POND 30 FRENCH DRAIN
CONCEPTUAL DRAWINGS

TITLE
TYPICAL SECTIONS AND DETAILS

PROJECT NO	CONTROL	REV	SHEET	DRAWING
1855230	0001	B	2 of 2	C-001

ATTACHMENT 2
WORKPLAN SCHEDULE

July 2016

ATTACHMENT 2
WORKPLAN SCHEDULE

1655230

ID	Task	Description	Start Date	Duration (Days)	End Date	Notes
1	French Drain Conceptual Design	Plan view with typical sections and details for estimated seepage volume	6-Jul-2016	2	8-Jul-2016	Assume 5-day work week
2	Schedule Workplan	Schedule of items and associated description to implement French Drain installation and construction for lining of Pond 30 and channel	6-Jul-2016	2	8-Jul-2016	Assume 5-day work week
3	Santa Clara County Review	Review proposed design and schedule	11-Jul-2016	10	22-Jul-2016	Assume 5-day work week
4	Santa Clara County Planning Commission Meeting		28-Jul-2016	1	29-Jul-2016	Assume 5-day work week
5	Pond 30 Surrounding Area Detailed Survey	Detailed survey of Pond 30 surrounding area from former aluminum plant to EMSA access road and from EMSA toe to Permanente Creek. Also include crest and toe of Pond 30, channel, channel outlet, and the outlet drain pipe invert with the alignment towards the concrete box.	11-Jul-2016	10	22-Jul-2016	Assume 5-day work week
6	Pond 30 and Channel Detailed Design Drawings	Quantities, details, and control points for geomembrane-lined pond with concrete access ramp and concrete sump for silt removal	1-Aug-2016	15	9-Sep-2016	Assume 5-day work week
7	French Drain Detailed Design Drawings	Quantities, details, and control points for French Drain excavation and placement of pipe and drain gravel with a riser sump and pump.	1-Aug-2016	10	9-Sep-2016	Assume 5-day work week
8	Construction Contract and Procurement	Procure materials (liner, pipes, pumps, etc.) and mobilize contractor	29-Aug-2016	15	16-Sep-2016	Assume 5-day work week
9	French Drain Construction	Excavate, geotextile placement, drain gravel, and sump riser and pump install	19-Sep-2016	12	1-Oct-2016	Assume 6-day work week
10	Pond 30 and Channel Construction	Excavate, subgrade preparation, geomembrane liner placement, and concrete ramp and sump	3-Oct-2016	24	29-Oct-2016	Assume 6-day work week
11	French Drain Equipment Test and Record Drawings	As-built survey data and equipment test to produce record documents	31-Oct-2016	20	2-Dec-2016	Assume 5-day work week
12	Pond 30 and Channel Record Drawings and CQA Report	As-built survey data and CQA test results to produce record documents	31-Oct-2016	20	2-Dec-2016	Assume 5-day work week

SUTRO SCIENCE

Phone: 415.717.6469
www.sutroscience.com

MEMORANDUM

date July 19, 2016

to **Rob Eastwood, AICP, Planning Manager**
Department of Planning and Development
County of Santa Clara

from Peter Hudson PG, CEG
Sutro Science LLC

Subject Technical Peer Review
Golder Associates Technical Memoranda:
EMSA Storm Water Runoff Evaluation, Lehigh Permanente Facility May 27, 2016
French Drain and Pond 30 Workplan, Lehigh Hanson Permanente Facility, Santa Clara County July 11,2016

Sutro Science LLC (Sutro) has prepared this memorandum to provide technical peer review comments on the latest submittals from Lehigh Southwest Cement Company (Lehigh) for its Permanente Quarry in Cupertino, California. Lehigh submitted to the Santa Clara County Planning Office (County) the *EMSA Storm Water Runoff Evaluation* for the East Materials Storage Area (EMSA), dated May 27, 2016 and the subsequent *French Drain and Pond 30 Workplan,* dated July 11, 2016. These documents were prepared by Lehigh's consultant, Golder Associates (Golder). Sutro understands that our technical peer review memorandum will assist by informing the County's staff report that is currently being prepared for the County Planning Commission hearing on July 28, 2016.

Overall Comments on Golder Recommendations

In its May 27 *Storm Water Runoff Evaluation*, Golder provided recommendations to reduce the selenium concentrations in the runoff that drains into Pond 30. These recommendations included lining both Pond 30 and the drainage swale directly up-gradient of Pond 30, constructing a drainage trench, managing water stored in Pond 30, and controlling EMSA storm water run-on. We offer the following additional comments.

- Sutro generally concurs with Lehigh's proposed methods to reduce selenium concentrations in the storm water runoff originating on the EMSA. It is our general opinion that efforts are necessary to reduce selenium-containing runoff during this interim period while the EMSA cover is completed and vegetative layer is installed and becomes established. It is essential that Lehigh conduct sampling of the runoff and continue to monitor efficiency of storm water controls during the 2016-2017 rainy season. It is our opinion that with the completion and establishment of the EMSA cover, in concert with the measures recommended by Golder in its May 27 *Stormwater Runoff Evaluation* and regular monitoring of the storm water and storm water controls, selenium concentrations will gradually decrease over time in the runoff collected at Pond 30.

ATTACHMENT 4

- The construction of a drainage trench (i.e. French drain) at the toe of the slope directly up-gradient of Pond 30 appears to be a viable solution to facilitate the capture of seepage before it enters Pond 30. Sutro generally concurs with the conceptual design provided it is of sufficient length and depth to adequately intercept and capture the seepage flows emanating from the slope adjacent to Pond 30. Golder provided additional conceptual design details in its July 11, 2016 *French Drain and Pond 30 Workplan* and will submit detailed design level plans in August 2016.

- In general, lining Pond 30 and the drainage swale directly up gradient, especially with design considerations to facilitate sediment removal, would improve the existing drainage system and reduce the potential for limestone-containing sediments to remain in the pond during the dry season. Lining the drainage swale could reduce seepage and capture selenium-containing runoff prior to entering Pond 30. Lining Pond 30 and periodically removing sediment would likely reduce residence time that retained water contacts selenium-containing materials and would reduce seepage of selenium containing surface water to the underlying groundwater system. However, additional design details are needed to fully characterize the proposed improvements. These details include 1) the pond and drainage liner type, 2) ultimate design capacity of Pond 30, 3) liner maintenance/sediment removal schedules and 4) procedures to drain the pond, if necessary. These items were not provided in the July 11, 2016 *French Drain and Pond 30 Workplan* but according to the Workplan Schedule, which accompanied the Workplan as Attachment 2, design level details will be forthcoming with the final submittals this August. We anticipate that the additional details needed to further assess the proposal to line Pond 30 will be included in the design level details.

- Sutro concurs with the proposal to remove water from Pond 30 between storm events and agrees that it would reduce residence time that water is in contact with limestone-bearing sediments. Removing water periodically would increase capacity for coming storms and reduce seepage to the underlying groundwater if the pond is not lined. Considering the current design capacity of Pond 30, which is 0.184 acre feet or 8,000 cubic feet (~ 60,000 gallons), it is not likely that draining Pond 30 between storms would reduce discharges to Permanente Creek during storm events. However, draining the pond, performing periodic maintenance, and removing sediments on a regular schedule should help reduce concentrations of selenium in water stored in Pond 30.

- Sutro concurs that any attempt to divert/control storm water run-on from up-gradient sources would be advantageous to reducing selenium concentrations in the runoff on the EMSA and at Pond 30.

EMSA Surface Water Sampling Program and Procedures

It is Sutro's opinion that the surface water sampling program conducted by Lehigh last winter yielded some useful data on selenium concentrations in the surface runoff. We concur that it is likely that precipitation infiltrates through the coarse-grained, non-limestone rock cover on the slopes, contacts the underlying original ground surface (possibly containing limestone), and then flows down-gradient before exiting at the slope base as a seep. Based on the findings from the last winter's sampling program, this could explain the higher selenium concentrations detected at the seeps. However, the potential that the selenium concentrations in the runoff are originating from limestone material along EMSA haul roads and the cobble material in the roadside swales may deserve additional consideration. Sutro recommended that Lehigh provide additional field data on individual sampling locations and surface water sample condition.

Lehigh concurred with these recommendations and according to the July 11 *French Drain and Pond 30 Workplan,* will incorporate the following items into its future sampling protocols.

- Estimated volume of water at each sample location
- Temperature, color, and turbidity of water sample
- Whether or not water was flowing (standing water or seep) and if water was flowing, at what rate.
- Additional description of seeps including flow rate and possible origin

Additionally, and as recommended by Sutro, Lehigh will attempt to sample the seeps emanating from the EMSA slopes before the seep water commingles with other sources of runoff, such as water from along the haul road. If it appears the seeps are comingling with additional sources, Lehigh will attempt to install horizontal pipes at the toe of the slopes in an effort to isolate the seeps and facilitate sampling.

County of Santa Clara Planning Commission and Board of Zoning Adjustment
Minutes
July 28, 2016

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 1:31 p.m. by Chairperson Lefaver 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, Escobar, Lefaver, Rauser, Resendez, and Schmidt
Commissioners Absent:	Moore
Commission Secretary:	Rob Eastwood
Recording Secretary:	Michele Napier

Advisory Staff: Rob Eastwood, Planning Manager, Department of Planning and Development
Kirk Girard, Department of Planning and Development Director
Steve Mitra, Deputy County Counsel
Elizabeth Pianca, Deputy County Counsel
Manira Sandhir, Principal Planner, Department of Planning and Development
Dawn Cameron, Roads and Airports Department
Darrin Lee, Environmental Health

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.

At the request of a meeting participant, Chairperson Lefaver led the pledge of allegiance.

Leonard Trumbull, resident of San Martin, and Norm Flisram, resident of Morgan Hill, spoke in opposition of the proposed religious institution, Cordova. Cathy Helgerson, Cap-Citizens Against Pollution, expressed concern for air quality and pollution from in and around the Lehigh quarry.

3. Approval of Minutes

On motion of Commissioner Schmidt, seconded by Commissioner Rauser, the Commission voted favorably to approve the minutes of June 23, 2016, as submitted.

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

4. File 10571-14CP-15GP-15Z Owner/Applicant: County of Santa Clara
Project Planner: Rob Eastwood, (408) 299-5792 rob.eastwood@plnsccgov.org

Property Location: Countywide; Zoning: RR, A, HS, A1; General Plan: Rural Residential, Agriculture, Hillsides, Agricultural Ranchlands, San Martin Commercial Use Permit Area.
One-year status report on implementation of the revised local servicing policy provisions and related General Plan and Zoning Ordinance amendments within the rural unincorporated areas of the County.

Planning Manager Rob Eastwood introduced the one-year status report regarding implementation of General Plan and Zoning Local-Serving Policy provisions adopted by the Board on October 20, 2015. He directed Commission attention to the Supplemental Packet of Information, Summary Table of Issues Local Serving Uses – Report Back, July 28, 2016 Planning Commission Hearing, and stated staff recommendation that the Commission accept the one-year status report. He offered to answer any questions.

Chairperson Lefaver noted various correspondence received related to the item and included in the Supplemental Packet of Information. Next, he requested Commissioner Rauser provide a summary of the comments and concerns from the San Martin Planning Advisory meeting of Wednesday, July 27, 2016.

Commissioner Rauser, SMPAC Chairperson, noted the SMPAC meeting was well attended and that discussion suggested 1) the inclusion of a fixed threshold and add a cap; 2) San Martin have its own set of thresholds and/or cap; 3) concern for water quality, nitrates, in the cumulative discussion of multiple applications; and, last, 4) concern for parking. Commissioner Rauser noted that of the approved projects, nothing had been built to date and that he considered it premature to state if impacts were within the threshold, or not. Commissioner Rauser stated that the SMPAC voted to forward a favorable recommendation to the Planning Commission to accept the one-year status report.

Commissioner discussion ensued related to issues related to water quality, quantity, overdevelopment, and making substantive changes to the standards within less than a year with nothing built to date to point to as an issue. The Commission expressed support for any clarifications that can be made to the provisions with the goal of making them as transparent as possible for new staff, the applicant, and the community.

With regard to parking ratio, Commissioner Schmidt suggested the staff report clarify the language to clearly state the need for more parking.

On motion of Commissioner Rauser, seconded by Commissioner Resendez, the Commission voted to accept the one-year status report, as submitted

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

5. File 2250-12PAM Owner: Lehigh Southwest Cement Company
Project Planners: Rob Eastwood (408) 299-5792, rob.eastwood@pln.sccgov.org

Continued public hearing from April 28, 2016 to determine the feasibility of an alternative to treat selenium from water discharged from the Lehigh-Permanente Quarry East Materials Storage Area (EMSA) pursuant to 2012 Reclamation Plan Condition of Approval Number 82.
Property Address: 24001 Stevens Creek Boulevard, Cupertino; Zoning District: A-d1, A1-d1, A1-20s-d1, HS-d1, HS-sr, and HS; Supervisorial District: 5; Assessor Parcel Number 351-09-013; -020; -022; -025; 351-10-005, -033, -037, -038; 351-11-001, -005, -006, -007 and -081. Property Size: 1,238 acres.

Planning Manager Eastwood provided an overview of the staff report for the continued public hearing from April 28, 2016 to consider alternatives for treating selenium in stormwater discharged from the East Materials Storage Area (EMSA). He directed Commission attention to the Supplemental Packet of Information, containing various correspondence related to the item, and a memorandum from Jim Baker, CEG, County Geologist, dated June 25, 2012, Subject: Review of Environmental Evaluation Report (EMCON, 1993) Permanente Facility.

Planning Manager Eastwood noted that Lehigh continued to work towards compliance and that staff recommended that the Commission continue the public hearing until April 2017.

In response to Commissioner inquiry, Planning Manager Eastwood clarified the measures recommended to capture and treat stormwater from the EMSA which included a) installation of the French drain below the toe of the EMSA to capture stormwater from the seeps; b) lining the bottom of Pond 30 and associated drainage swale to allow management of captured stormwater and prevent infiltration of water through underlining soil into Permanente Creek; and, c) management of Pond 30 water by capturing stormwater from Pond 30 between storm events, to be transferred via water trucks to the reclaimed water system at Lehigh Cement Plant.

Peter Hudson, Sutro Science, LLC., Consultant, discussed processes related to the cap, limestone, and vegetative cover relative to reducing selenium levels and noted the french drain was necessary during the interim until the final vegetative cover was established.

Chairperson Lefaver opened the public input portion of the hearing.

Cathy Helgerson, Citizens Against Pollution, expressed concern for the french drain and requested consideration for a cement bunker. Kirk Linington, Midpeninsula Regional Open Space District, Natural Resources Manager, expressed concern for continued contamination from the quarry, in particular, the EMSA. He directed Commission attention to the Supplemental Packet of Information, memorandum dated July 27, 2016, wherein he provided an overview of comments associated with the Lehigh EMSA selenium treatment alternatives.

Hearing no one else, Chairperson Lefaver closed the public hearing.

Shawn Hungerford, Lehigh Quarry Counsel, spoke regarding the french drain, lining Pond 30, the drainage swale, run-on above the EMSA, and start dates for the re-vegetative process.

Hearing nothing further, Chairperson Lefaver closed the public input portion of the hearing.

On motion of Commissioner Cauble, seconded by Commissioner Resendez, the Commission voted to continue the public hearing until April 27, 2017 to evaluate further the feasibility of alternatives to treat selenium in stormwater discharged from the EMSA area during interim reclamation.

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

6. File 6620-16Z: County of Santa Clara
Project Planner: Kirk Girard (408) 299-6740, kirk.girard@pln.sccgov.org
Public hearing to consider amendments to Zoning Ordinance, Section 5.20.140, Denial Due to Existing Violations.

Planning Director Girard introduced the item and stated staff recommendation to approve the proposed amendments to the County Zoning Ordinance. The Commission considered amendments to Zoning Ordinance, Section 5.20.140, Denial Due to Existing Violations.
Chairperson Lefaver opened the public input portion of the hearing.
Hearing nothing, he closed the public input portion of the hearing.

On motion of Commissioner Schmidt, seconded by Commissioner Resendez, the Commission voted to a) forward a favorable recommendation to the Board of Supervisors that the project is exempt from CEQA; and b) forward a favorable recommendation to the Board of Supervisors regarding proposed Zoning Ordinance section 5.20.140.

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

7. Other Business

a) Report of the Chairperson - There was no report.
b) Report of Planning Commissioners
i) San Martin Planning Advisory Committee report (Rauser)
Noted.
ii) Other Reports from Commission Members
There were no other reports.
c) Report of County Counsel (Pianca/Cheleden)
Deputy County Counsel Steve Mitra introduced himself as substitute for Deputy County Counsel Chris Cheleden for the July 28, 2016 meeting only.
d) Report of the Planning Manager/Secretary (Eastwood). Noted

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

9. Correspondence/Announcements.
Chairperson Lefaver directed Commission attention to correspondence in the packet which included 1) email from Bill Du, dated June 22, 2016, subject: Please Enforce Building Dept. Complaint #6098; 2) Save the Date flyer from PG&E for a Community Open House, South County Power Connect, July 18 and 19.

10. Election of Officers for FY2016-2017

Chairperson Lefaver opened the floor to nominate a Chairperson of the Planning Commission for period August 1, 2016 through June 30, 2017.

Commissioner Resendez nominated Commissioner Rauser. Hearing no other nominations, Chairperson Lefaver closed the nominations.

On motion of Commissioner Resendez, seconded by Commissioner Cauble, the Commission voted to elect Commissioner Rauser to the position of Chairperson of the Commission for the period of August 1, 2016 through June 30, 2017.

The vote was as follows:

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

Next, Chairperson Lefaver opened the floor to nominate a Vice Chairperson for the Planning Commission for the period August 1, 2016 through June 30, 2017.

Commissioner Rauser nominated Commissioner Cauble. Hearing no other nominations, Chairperson Lefaver closed the nominations.

On motion of Commissioner Schmidt, seconded by Commissioner Resendez, the Commission voted to elect Commissioner Cauble to the position of Vice Chairperson for the period of August 1, 2016 through June 30, 2017.

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

11. ADJOURN: Hearing nothing further, the meeting was adjourned at 3:30 p.m.