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October 15, 2013

VIA FEDERAL EXPRESS AND ELECTRONIC MAIL

Ms. Dyan Whyte
Assistant Executive Officer
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, California 94612

Re: *Submittal of EMSA/WMSA Runoff and Seep Monitoring Workplan – Directive 2, June 26, 2013 Conditional Concurrence with the Workplan for Characterization of the Eastern and Western Materials Storage Areas*

Dear Ms. Whyte:

Enclosed, pursuant to the Regional Water Quality Control Board, San Francisco Bay Region's, ("Regional Water Board") June 26, 2013 Conditional Concurrence with the Workplan for Characterization of the Eastern and Western Materials Storage Areas, Lehigh Southwest Cement Company ("Lehigh") timely[1] encloses the EMSA and WMSA Seep and Runoff Sampling Workplan in accordance with Directive 2. If you or your staff have any questions regarding the enclosed Workplan, or would like to discuss further, please do not hesitate to contact me or Greg Knapp at Lehigh.

Very truly yours,

Nicole E. Granquist

Enclosure

Cc: Lindsay Whalin, Regional Water Quality Control Board, San Francisco Bay Region
Greg Knapp, Director Environmental Region West, Lehigh
Scott Rickman, Regional Counsel, Lehigh Hanson

[1] The deadline for submission of the enclosed workplan was extended to October 15, 2013 via the October 1, 2013 Staff Response to Submittal of Pond Characterization (Addendum) and Response to Conditions Pond (Waste) Characterization.

WORK PLAN

WORKPLAN

EMSA AND WMSA
SEEP AND RUNOFF SAMPLING

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

Submitted To: San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

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

October 2013 **0637109914**

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EMSA AND WMSA SEEP AND RUNOFF SAMPLING

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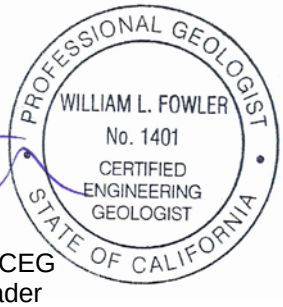
This Workplan has been prepared by and under the direction of:

George C. Wegmann
Senior Geologist



William L. Fowler, PG, CEG
Associate/Program Leader

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1.0 INTRODUCTION

Golder Associates Inc. (Golder) on behalf of Lehigh Southwest Cement Company (Lehigh) has prepared this workplan for the Lehigh Permanente Cement Plan and Quarry (Site) located at 24001 Stevens Creek Boulevard in Santa Clara County, California. The primary objective of the work to be completed is to evaluate storm-related runoff and seep water quality from the Site's eastern materials storage area (EMSA) and western materials storage area (WMSA). The workplan describes the technical approach and sampling procedures to complete runoff and seep sampling as requested by the San Francisco Bay Regional Water Quality Control Board (RWQCB).[1]

1.1 Background

The Site mainly consists of a cement manufacturing plant, limestone quarry, and waste rock material storage areas (EMSA and WMSA) located in the unincorporated foothills of western Santa Clara County, approximately two miles west of the City of Cupertino (Figure 1). Additional structures located at the Site include historically used but now empty buildings (e.g., former aluminum plant), a wastewater treatment plant, rock plant, and laboratory. Permanente Creek flows from west to east and bisects the southern half of the property.

The WMSA is an overburden storage area, located west of the quarry pit and measures approximately 157 acres in plan area. Elevations in the WMSA range from 1,500 to 1,975 feet amsl.

The EMSA, also an overburden storage area, is located at the eastern portion of the Site, north of the Cement plant. Elevations at the EMSA range from 550 feet at the eastern end of the EMSA up to 1,270 feet amsl at the west end of the project. The EMSA measures approximately 77 acres in plan area. At final completion, the EMSA will reach a maximum elevation of 910 feet mean sea level (msl) and a maximum thickness of approximately 150 feet. The maximum overall slope inclination of the EMSA will be 2.5H:1V at reclamation.

[1] *See* Directive No. 2, RWQCB, June 26, 2013, Conditional Concurrence with the *Workplan for Characterization of the Eastern and Western Materials Storage Areas* and Requirement for Additional Technical Reports for WDR Development for the property located at 24001 Stevens Creek Boulevard, Cupertino, Santa Clara County.

2.0 SCOPE OF WORK

The following scope of work for collection of storm-related runoff and seep samples within the EMSA and WMSA will be implemented. Sampling procedures are described in Section 3. Prior to the start of field work, Golder will update our site-specific health and safety plan (HASP) in accordance with requirements set forth in 29 CFR 1910.120. Additionally, all Golder field personnel will have current, up-to-date MSHA training.

2.1 Task 1: Runoff Sampling

Golder will collect storm-related runoff samples from the WMSA and EMSA for three storm events during the upcoming 2013/2014 rainy season, assuming three storm events occur that produce enough runoff to sample. Sampling will only occur during daylight hours due to safety concerns. All runoff sampling points will be field located with a hand-held global positioning system (GPS) unit.

2.1.1 WMSA Sampling

Storm-related runoff associated with the WMSA predominately flows into the quarry pit via the main WMSA haul road. Golder will sample three locations within the WMSA: one sample from the runoff along the haul road directly west of the western pit rim and two samples upstream of this location along the WMSA haul road. Approximate sample locations are shown on Figure 2.

As part of the WMSA sampling, Golder will visually inspect the northern portion of the WMSA and the Permanente Creek access road south of the WMSA haul road. If runoff is noted at these areas, then one sample will be collected at each location as shown on Figure 2.

2.1.2 EMSA Sampling

Runoff associated with the EMSA predominately flows to Pond 30, which, in turn, discharges to Permanente Creek once water in Pond 30 reaches the outlet pipe elevation. Samples will be collected from three locations within the EMSA: one sample from the runoff that accumulates in Pond 30 and two samples from upstream runoff on main haul roads prior to it reaching Pond 30. Approximate sample locations are shown on Figure 3.

As part of the EMSA sampling, Golder will also visually inspect the area during a storm event. Should it be determined that additional runoff is occurring from the EMSA that is not accounted for by the sampling associated with Pond 30 (e.g., if EMSA runoff enters Pond 20 basin instead), or the main haul roads, then a sample will be collected of each additional runoff area.

2.2 Task 2: Seep Sampling

Golder will perform a seep survey of the WMSA and EMSA in November 2013. The survey will be confined to the limits of the WMSA and EMSA (Figures 2 and 3). All identified seeps will be mapped, field located with a hand-held GPS unit, and sampled. Golder will estimate the seep flow rate.

After the initial seep survey and sampling, Golder will collect two additional rounds of sampling in December 2013 and January 2014 of the identified seeps. Should additional seeps be identified during the subsequent sampling events as the rainy season progresses, these seeps will also be sampled.

2.3 Constituents of Concern

All samples collected will be submitted to a California-certified analytical laboratory for analysis of the parameters listed in Table 1. Table 1 also details the analytical method, sample collection requirements relating to container type, preservatives (if any), and holding times.

The constituents of concern (COC) to be analyzed will consist of the priority pollutants listed in Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* as requested in the RWCQB's June 26, 2013 letter. The list includes the following parameters:

- Inorganics, including hexavalent chromium;
- Volatile organic compounds (VOCs);
- Semi-volatile organic compounds (SVOCs);
- Polychlorinated biphenyl compounds (PCBs); and
- Pesticides (surface water and solid waste only).

Field parameters (pH, ORP, temperature, turbidity, specific conductivity, and dissolved oxygen) will be collected in the field using properly calibrated field instruments in accordance with industry standard procedures as outlined in Section 4.1. In addition, total petroleum hydrocarbons (TPH) as gasoline, diesel, and motor oil will be analyzed. Analytical methods will be used capable of quantifying results at concentrations no higher than the minimum levels set in the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California.* For TPH, 100 micrograms per Liter (µg/L) will be used as the minimum quantifying limit.

Table 1: Laboratory Analytical Summary

Parameter	Analytical Method	Preservative	Sample Bottle	Holding Time
VOCs	EPA 624	None	4-40 milliliter VOAs	3 days
SVOCs	EPA 625/625SIM	None	2-1 Liter Amber	7 days
Pesticides and PCBs	EPA 608	None	2-1 Liter Amber	7 days
TPH as diesel, and motor oil	EPA 8015	None	1-1 Liter Amber	14 days
TPH as gasoline	EPA 8015	HCL	2-40 millimeter VOAs	14 days
PP13 As, Cd, Cr, Pb, Se, Ag, Sb, Be, Cu, Zn, Ni, Tl (total and dissolved)	EPA 200.8	HNO_3	2-500 milliliter plastic	180 days
Mercury	EPA 1631	None	1-8 oz glass double bag	28 days
Hexavalent Chromium	SM3500	Ammonium Sulfate	1-250 milliliter poly	180 days

3.0 SAMPLING PROCEDURES

This section provides a description of the sample collection procedures. Golder project personnel will be trained as appropriate for their work assignments in accordance with this work plan and Golder's standard operating procedures/technical guidelines.

3.1 Water Sample Collection

Golder will collect grab samples directly into the appropriate sampling containers when possible. If the surface water flow is too low and does not allow for directly filling the sample containers, a clean transfer vessel may be used to assist with sample collection. Sample containers will be provided by the laboratory and will be certified pre-cleaned. For chemical analyses that require preserving acids, the bottles will also be pre-acidified so that the samples are immediately preserved. Sampling for mercury will be conducted under EPA sampling procedure 1669 to the extent practicable.

Water samples collected for dissolved metals analyses will be filtered prior to sample collection by filtering the samples through a disposable 0.45-micron acrylic copolymer filter before being placed into the pre-acidified, pre-cleaned containers. Each filter will be used once and discarded. While not anticipated to be necessary, as an alternative, the sample for dissolved metals may be collected in a non-preserved plastic bottle for the lab to filter, as long as the sample is submitted to the lab and filtered by the lab as soon as possible.

3.2 Sample Handling

The sample containers for all parameters will be filled and labeled immediately following sample collection. Field data sheets documenting sampling collection date, time, location, personnel, weather conditions, sample identification, and measured field parameters will be completed for each sample.

Water samples will be kept cool with ice to 4 degrees centigrade in insulated coolers or refrigerators until delivery to the laboratory. Each sample will be logged on a chain-of-custody record, which will accompany the samples through collection and delivery to the analytical laboratory. The sampling and analysis chain-of-custody record, initiated at the time of sampling, will contain, but is not limited to, the sample identification, sample type, analytical request, date of sampling, and the name of the sampler. The sampler will sign and date the record sheet when transferring the samples. Upon receipt of the samples, laboratory personnel will sign and release the chain-of-custody record and assign a unique sample identification number to each sample container. The laboratory personnel will record this number on the chain-of-custody record and the laboratory will use this number to identify the sample in all subsequent internal chain-of-custody and analytical records. The laboratory will include a copy of the final chain-of-custody record in the analytical results report.

3.3 Equipment Decontamination

Equipment that is in contact with potentially contaminated soil or water will be decontaminated prior to and after use. Decontamination consists of steam cleaning (high pressure, hot water rinse) or phosphate-free detergent wash and deionized (DI) or tap water rinse as appropriate. Rinse water will be disposed of on the ground in the EMSA and WMSA.

4.0 DATA MANAGEMENT AND QUALITY CONTROL

Representative samples will be obtained through the use of generally accepted sampling procedures. Data comparability will be obtained through the use of standard operating procedures and through standard analytical methods used by the laboratory. Additionally, adherence to the procedures and Quality Control (QC) approach contained in this workplan will provide for comparable data throughout the duration of this project.

4.1 Field Equipment Calibration and Maintenance

Field calibration requirements shall be in compliance with the technical procedure describing the instruments use and/or with the manufacturer's instructions issued with the equipment. Lease equipment shall require certifications or other documentation demonstrating acceptable calibration status for the entire period of use for this project. Daily records of calibration activities will be kept by field personnel.

4.2 Duplicates and Blanks

To assess the precision of field sampling procedures and the variability of the sample source, duplicates will be collected at a frequency of 1 in 20 samples or 1 per day, whichever is greater. Each duplicate is to be collected after performing the decontamination and purging routines used for normal sample collection. When both sample results exceed the RDL (reporting detection limit) the RPD (relative percent difference) should be less than 25% or the current lab acceptance limit, whichever is lower.

Equipment blanks will be collected should non-dedicated equipment be used during sampling. Laboratory-supplied deionized water will be run through the decontaminated sampling equipment and into appropriate sample containers. Equipment blanks will be collected at a frequency of 1 per 20 samples per piece of non-dedicated field equipment and analyzed for the same parameters as the environmental sample collected immediately preceding the equipment blank. Trip blanks will not be submitted for this work based on the COCs.

4.3 Laboratory QA/QC

Standard laboratory QC procedures will be used by the analytical laboratory to document possible biases related to the analytical process. These QC procedures include the use of surrogate spikes, method blanks, matrix spikes, and matrix spike duplicates. Surrogate spiking compounds are added to every gas chromatography-mass spectrometry (GC/MS) surrogate spike sample. Method blanks are analyzed to assess possible effects of the laboratory environment on samples. Matrix spikes and matrix spike duplicates are analyzed by the laboratory to provide a quantitative measure of accuracy and precision, and to document effects that the sample matrix has on the analysis. As part of the data validation, the laboratory will provide a narrative summarizing the QC data on surrogate spikes, method blanks, and matrix spikes and if samples were analyzed within recommended holding times.

4.4 Field Reports

Accurate documentation of field activities is necessary for efficient completion of this investigation. Personnel will record daily activities on a daily field form and appropriate field data sheets. Documentation will include the following:

- weather conditions;
- work activities and field observations;
- description, date, and time of sample collection;
- photographs of field activities and sample locations;
- visitors to the Site;
- calibration records;
- deviations from the workplan; and
- health and safety related issues or situations.

4.5 Chain-of-Custody Procedures

The chain-of-custody procedures to be used during the investigation will be conducted as described below:

- The field sampler will have custody of the samples from the time they are collected until they are transferred to the laboratory courier.
- All bottles will be labeled with sample number and location by the sampler.
- The sample number, date, and collection time will be listed on the chain-of-custody form.
- When transferring possession of the samples, the individuals relinquishing and receiving will sign, date, and note the time on the COC form.
- Shipping containers will be secured with strapping tape and custody seals for shipment to the laboratory.

4.6 Laboratory Reports

Data reduction, review, and reporting will be performed under the contract laboratory's standard operating procedures. Data will be provided to data recipients within three weeks of receipt of the last sample for a sampling event and will be reported in the standard laboratory reporting format. This includes an analytical result, MDL (method detection limit), and reporting limit (RL). All analytical data packages submitted by the analytical laboratory shall include the following:

- Sample receipt, chain-of-custody and shipping documentation, including identification of field sampling personnel, shipping personnel (or organization);
- Analytical results for each sample containing the reduced results for all analytes/constituents requested in the chain of custody, request for analysis or purchase order; and
- Sample results will be available through LIMS or in an electronic version (Excel) of the hardcopy report.

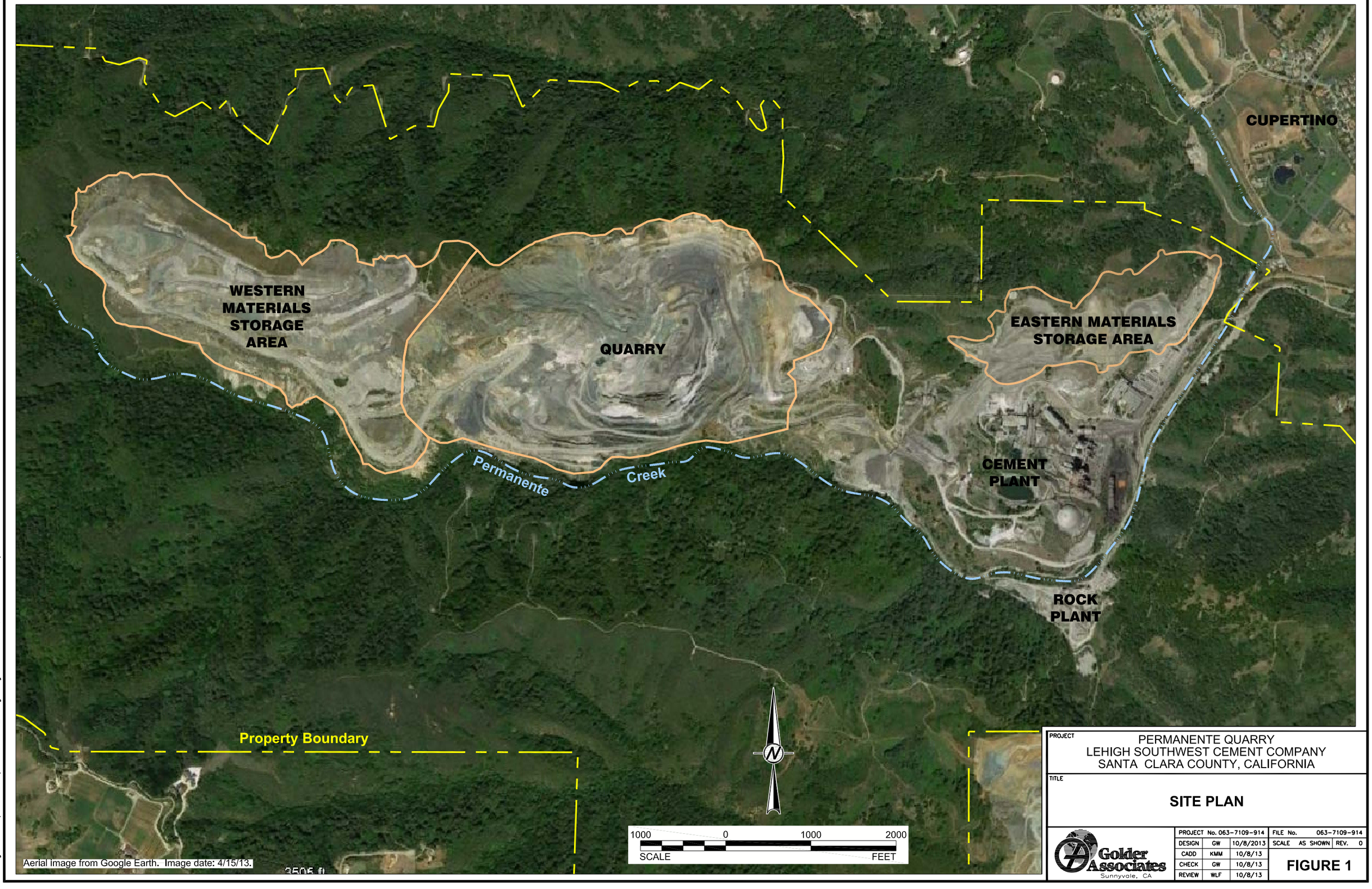
5.0 REPORTING AND SCHEDULE

Following completion of the above referenced scope of work, a report of findings will be prepared detailing the results of the investigation. Included in the report will be the analytical data, an interpretation of the results, and recommendations for further actions.

The schedule below summarizes the time frame for implementation of the proposed scope of work consistent with the RWQCB's June 26th letter, and assuming that workplan approval is received from the RWQCB by October 31, 2013.

Task	Target Completion Date
Task 1: Runoff Sampling	Three events to occur between approximately November 1, 2013 and April 30, 2014
Task 2: Seep Sampling	Three events to occur between approximately November 1, 2013 and April 30, 2014
Reporting	August 30, 2014

FIGURES



PROJECT
PERMANENTE QUARRY
LEHIGH SOUTHWEST CEMENT COMPANY
SANTA CLARA COUNTY, CALIFORNIA

TITLE
SITE PLAN

Golder Associates
Sunnyvale, CA

PROJECT No. 063-7109-914			FILE No.	063-7109-914	
DESIGN	GW	10/8/2013	SCALE	AS SHOWN	REV. 0
CADD	KMM	10/8/13			
CHECK	GW	10/8/13			
REVIEW	WLF	10/8/13			

FIGURE 1

Drawing file: Proposed sample locations_Lehigh.dwg Oct 15, 2013 - 3:46pm

WESTERN MATERIALS STORAGE AREA

QUARRY

Permanente Creek

Approximate sample location

Possible sample location if runoff observed

N

400 0 400 800

SCALE FEET

Aerial Image from Google Earth. Image date: 4/15/13.

PROJECT

PERMANENTE QUARRY
LEHIGH SOUTHWEST CEMENT COMPANY
SANTA CLARA COUNTY, CALIFORNIA

TITLE

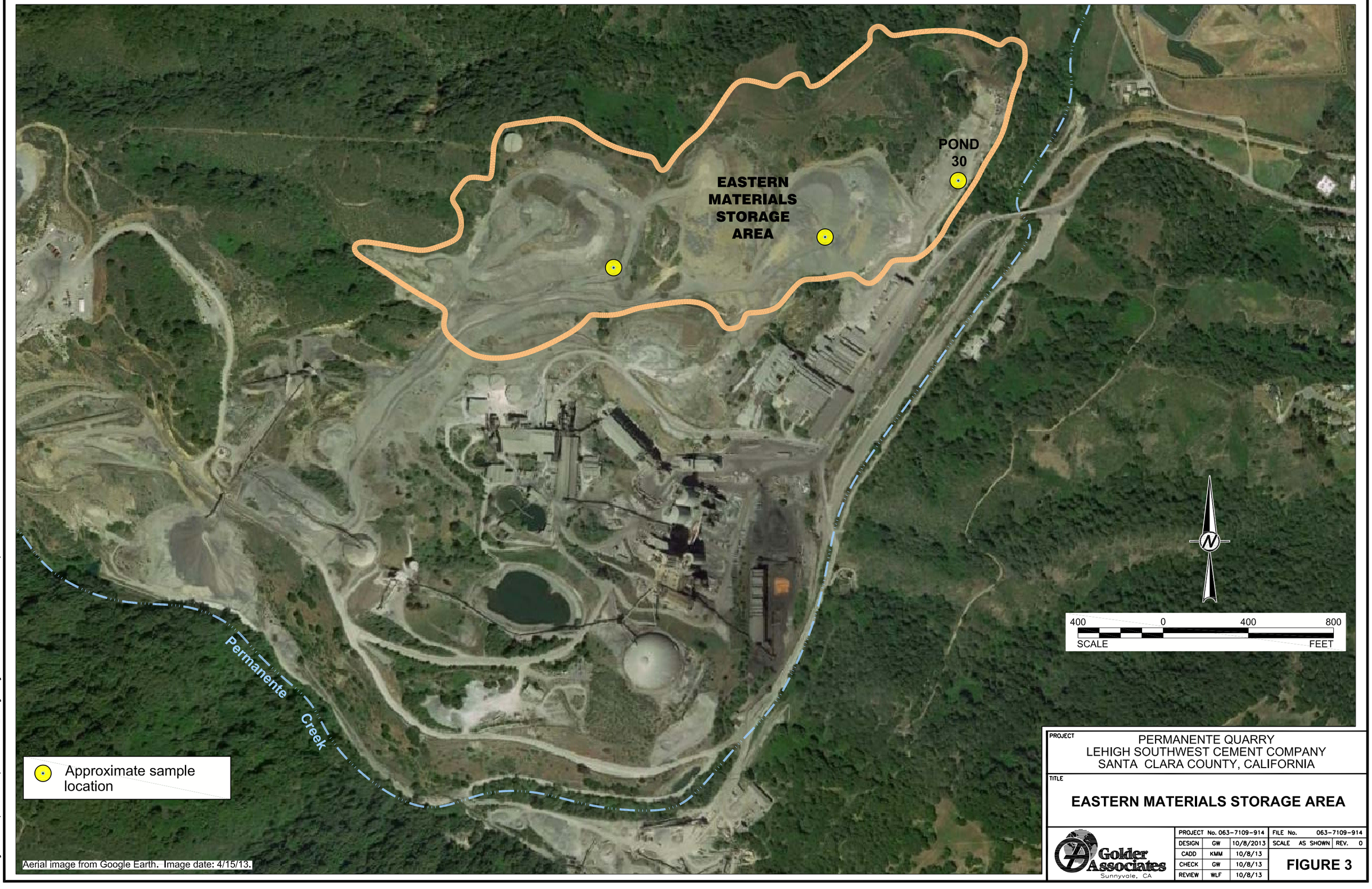
WESTERN MATERIALS STORAGE AREA

Golder Associates
Sunnyvale, CA

PROJECT No. 063-7109-914			FILE No.	063-7109-914	
DESIGN	GW	10/8/2013	SCALE	AS SHOWN	REV. 0
CADD	KMM	10/8/13			
CHECK	GW	10/8/13			
REVIEW	WLF	10/8/13			

FIGURE 2

Drawing file: Proposed sample locations_Lehigh.dwg Oct 15, 2013 - 3:45pm



PROJECT

PERMANENTE QUARRY
LEHIGH SOUTHWEST CEMENT COMPANY
SANTA CLARA COUNTY, CALIFORNIA

TITLE

EASTERN MATERIALS STORAGE AREA

Golder Associates
Sunnyvale, CA

PROJECT No. 063-7109-914			FILE No.	063-7109-914	
DESIGN	GW	10/8/2013	SCALE AS SHOWN	REV.	0
CADD	KMM	10/8/13			
CHECK	GW	10/8/13			
REVIEW	WLF	10/8/13			

FIGURE 3

Drawing file: Proposed sample locations_Lehigh.dwg Oct 15, 2013 - 3:46pm