ANNUAL REPORT 2012–2013

LEHIGH PERMANENTE QUARRY RECLAMATION PLAN AMENDMENT (RPA)

Santa Clara County File #_____
State Mine ID: 91-43-0004

LEAD AGENCY:

County of Santa Clara

PREPARED BY:

PMC

NOVEMBER 2013

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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 first Lehigh Permanente Quarry RPA Annual Report (AR 1) and provides public documentation of Quarry compliance for the monitoring period 2012-2013. Section 1 provides an introduction and overview of the content of AR 1. 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 F. Documentation of condition of approval compliance can be found on the County's website at http://www.sccgov.org.

For the first annual reporting period, Marina Rush, Planner III, was the project manager for the Santa Clara County Planning Office for the Lehigh Permanente Quarry Reclamation Plan condition compliance monitoring. Specific questions regarding this report should be directed to Marina Rush at Marina.Rush@pln.sccgov.org.

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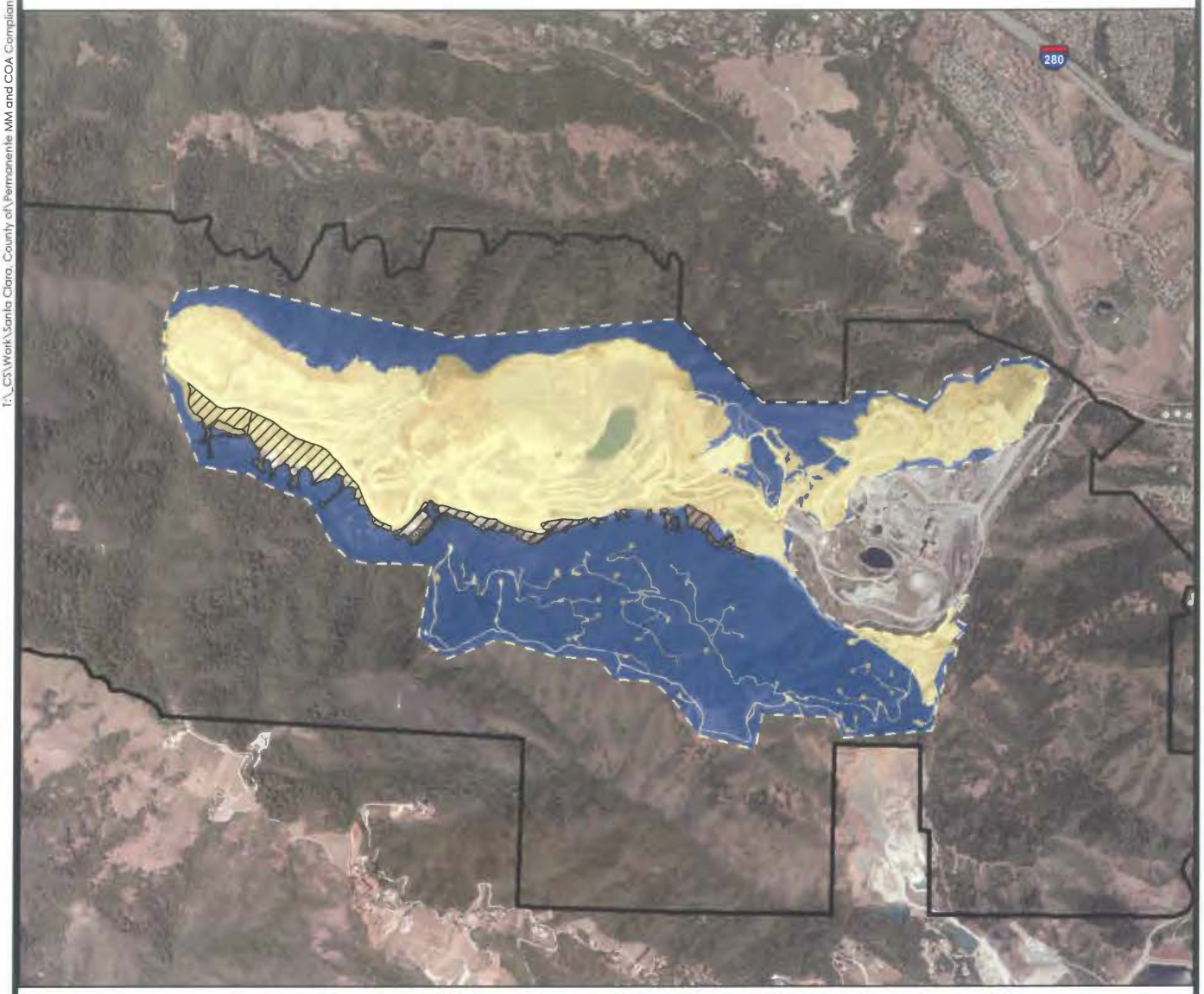
1.1 Background

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 referred to collectively as Lehigh).

The California Surface Mining and Reclamation Act (SMARA) requires that every mining operation in the state have a lead agency–approved reclamation plan.

The County 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, the East Materials Storage Area (EMSA), the Permanente Creek Restoration Area (PCRA), and Exploration Areas south of Permanente Creek. The 2012 Reclamation Plan (RP) 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 1**. The 2012 RP, 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 RP supersedes the 1985 Reclamation Plan and includes 89 conditions of approval.

Neither the 1985 Reclamation Plan nor the current Reclamation Plan 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.



Legend

- Reclamation Plan Area
- Reclamation Plan Footprint
- Buffer Zones & Undisturbed Areas
- PCRA Treatment Areas
- Property Boundary

Source: EnviroMINE Inc., 2011

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Figure 1
Reclamation Plan Area

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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 West Materials Storage Area (WMSA), the East Materials Storage Area (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 SMARA, a Reclamation Plan is required for all areas affected by mining operations. The 2012 Reclamation Plan encompasses these areas of mining operations.

As shown in **Figure 2**, the Reclamation Plan area includes the following components:

- West Material Storage Area (WMSA)
- East Material Storage Area (EMSA)
- Main Pit (Quarry)
- Crusher/Support
- Surge Pile
- Permanente Creek Restoration Area (PCRA)
- Rock Plant

The Reclamation Plan is for a 20-year period to satisfy SMARA's reclamation requirements. Reclamation Plan activities will be implemented in three phases as shown in **Figures 3a** through **3c**.

- Phase 1 would occur over approximately nine years and involves reclamation activities in the EMSA and continued mining activities in the WMSA and Quarry Pit. Reclamation activities in the Permanente Creek Reclamation Area (PCRA) would begin (see **Figure 3a**).
- 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. The EMSA will be reclaimed during Phase II or sooner (see **Figure 3b**).
- Phase 3 would occur over approximately five years and involves continued reclamation activities in the PCRA and removal of equipment, buildings, and unnecessary roads from the Reclamation Plan Area (see **Figure 3c**).

This first Annual Report (AR 1) documents Lehigh's activities and compliance with both the 2012 Reclamation Plan and the MMRP. A complete copy of the 2012 Reclamation Plan and its associated EIR are available at:

http://www.sccgov.org/sites/planning/PlansPrograms/SMARA/PermanenteQuarry/Pages/PermanenteMain.aspx.

1.2 Annual Reporting Requirements

This Annual Report has been prepared to summarize compliance with the Reclamation Plan, conditions of approval, Mitigation Monitoring and Reporting Program (MMRP), SMARA inspections, and review of financial assurance cost estimates consistent with Condition of Approval 8, which 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.*
>
> 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.*

1.3 Abbreviations Used

COA	condition of approval
EIR	Environmental Impact Report
EMSA	East Materials Storage Area
MMRP	Mitigation Monitoring and Reporting Program
OMR	Office of Mines and Reclamation
PCRA	Permanente Creek Restoration Area
RP	Reclamation Plan
SMARA	Surface Mining and Reclamation Act
SMGB	State Mining and Geology Board
WMSA	West Materials Storage Area

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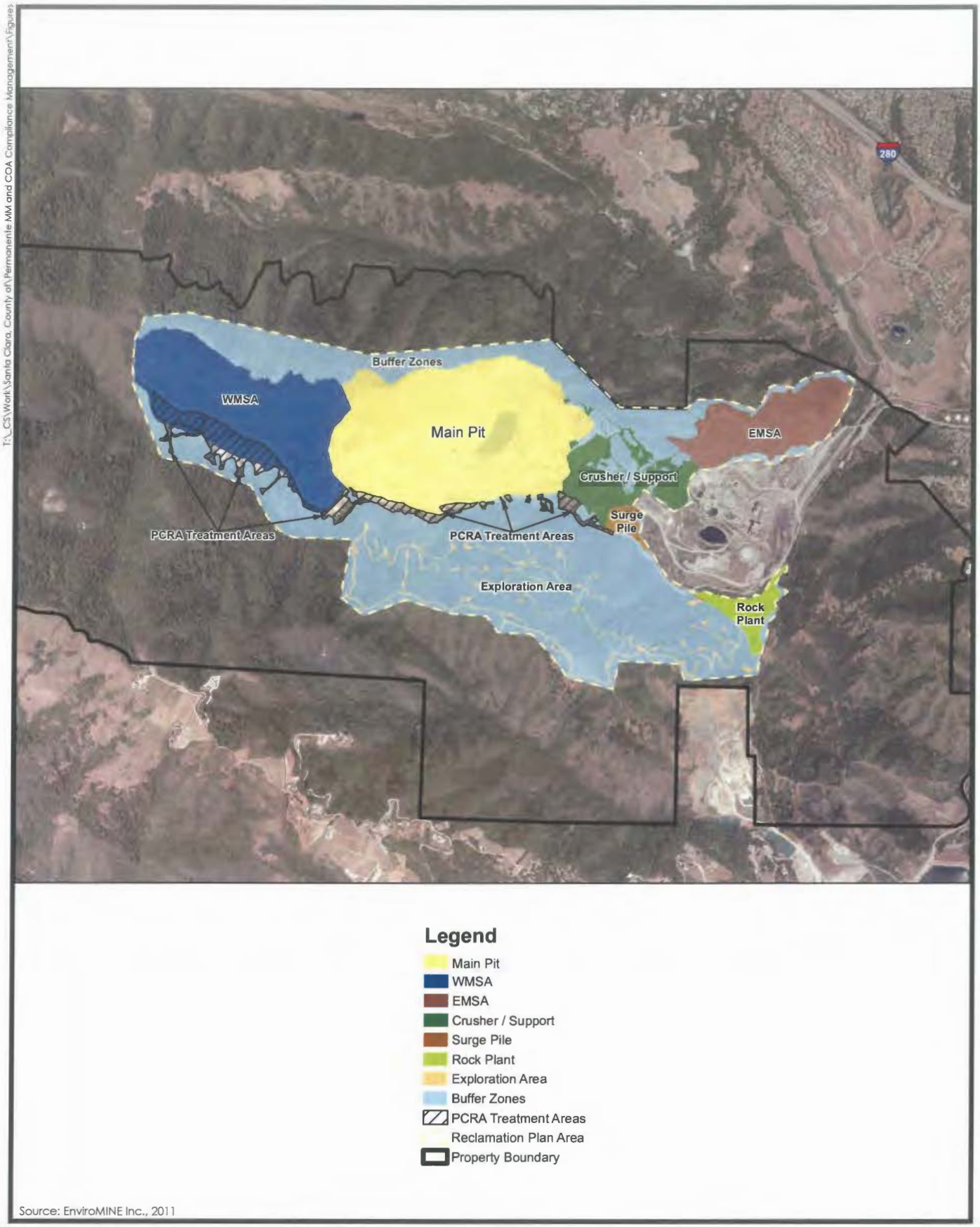

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Figure 2
Reclamation Plan Components

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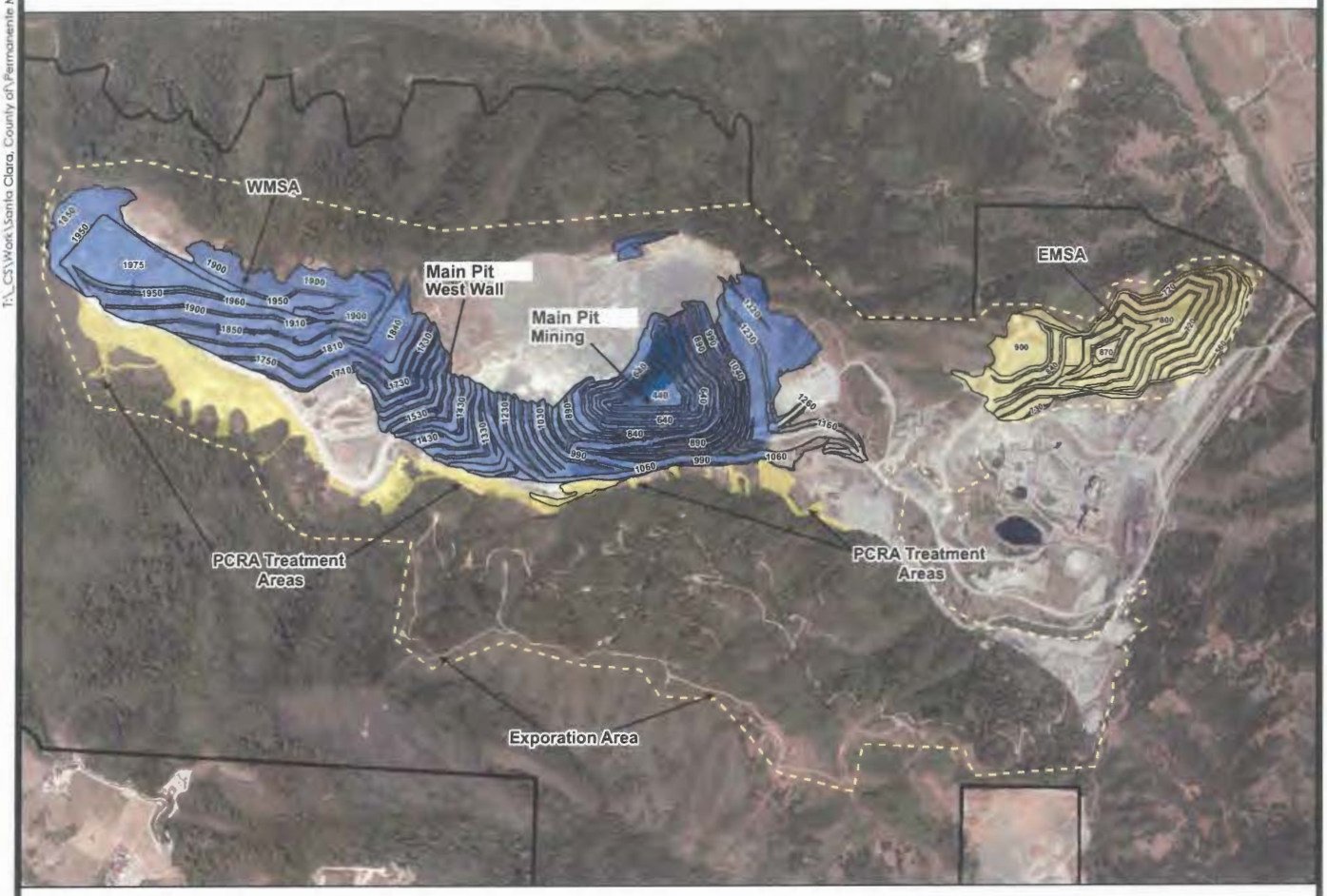

Legend

- Phase 1 Mine Plan
- Active Mining and Overburden Storage
- Active Reclamation
- Reclamation Plan Area
- Property Boundary

Note:

Reclamation phasing for illustration only; actual timing and phasing may vary.

Source: EnviroMine Inc.

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Figure 3a

Reclamation Plan Phase I Operations

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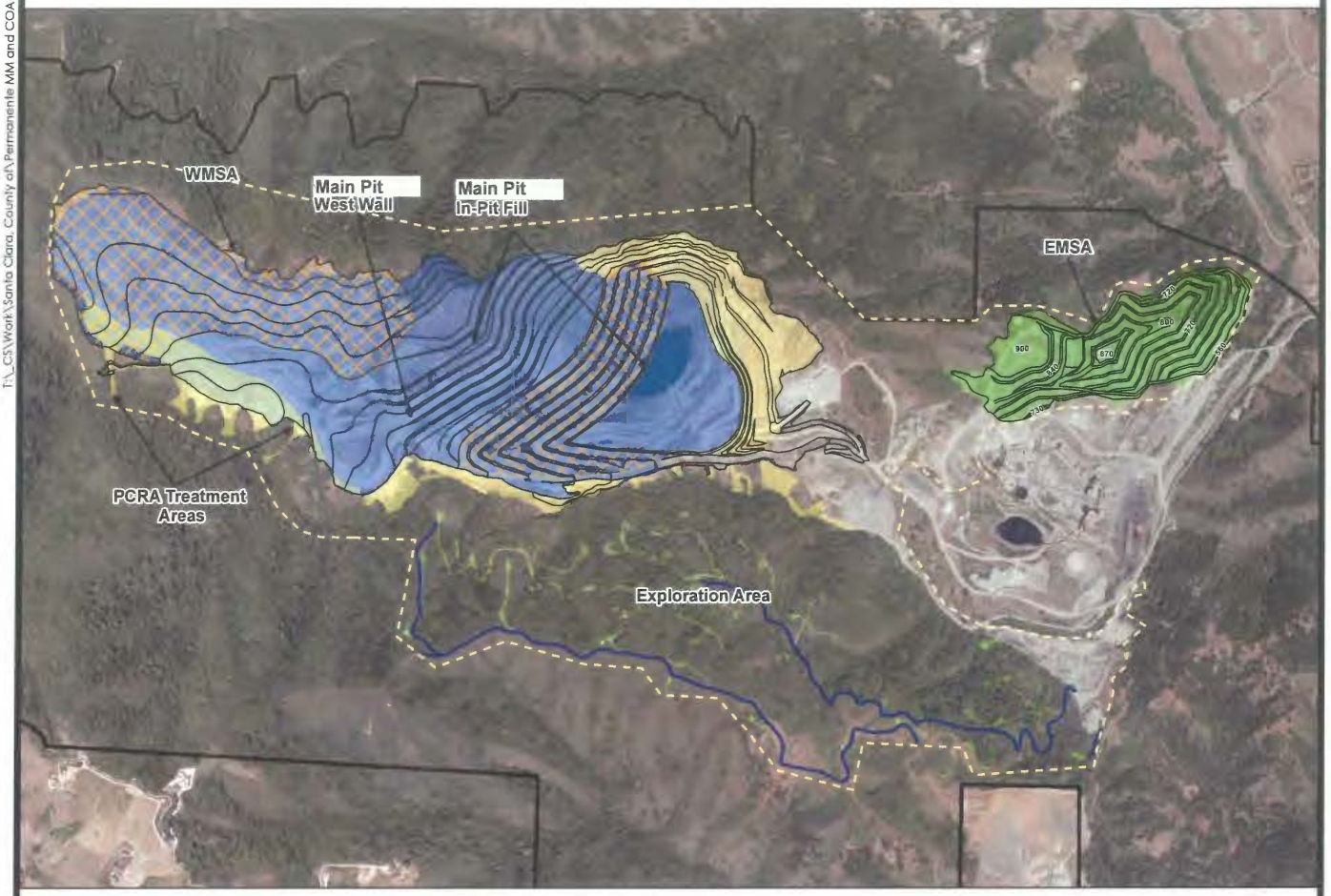

Legend

- Phase 2 Mine Plan
- Active Mining and Overburden Storage
- Reclaimed
- Active Reclamation
- Reclamation Started
- Retained Roads
- Reclamation Plan Area
- Property Boundary

Note:

Reclamation phasing for illustration only; actual timing and phasing may vary.

Source: EnviroMine Inc.

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Figure 3b

Reclamation Plan Phase II Operations

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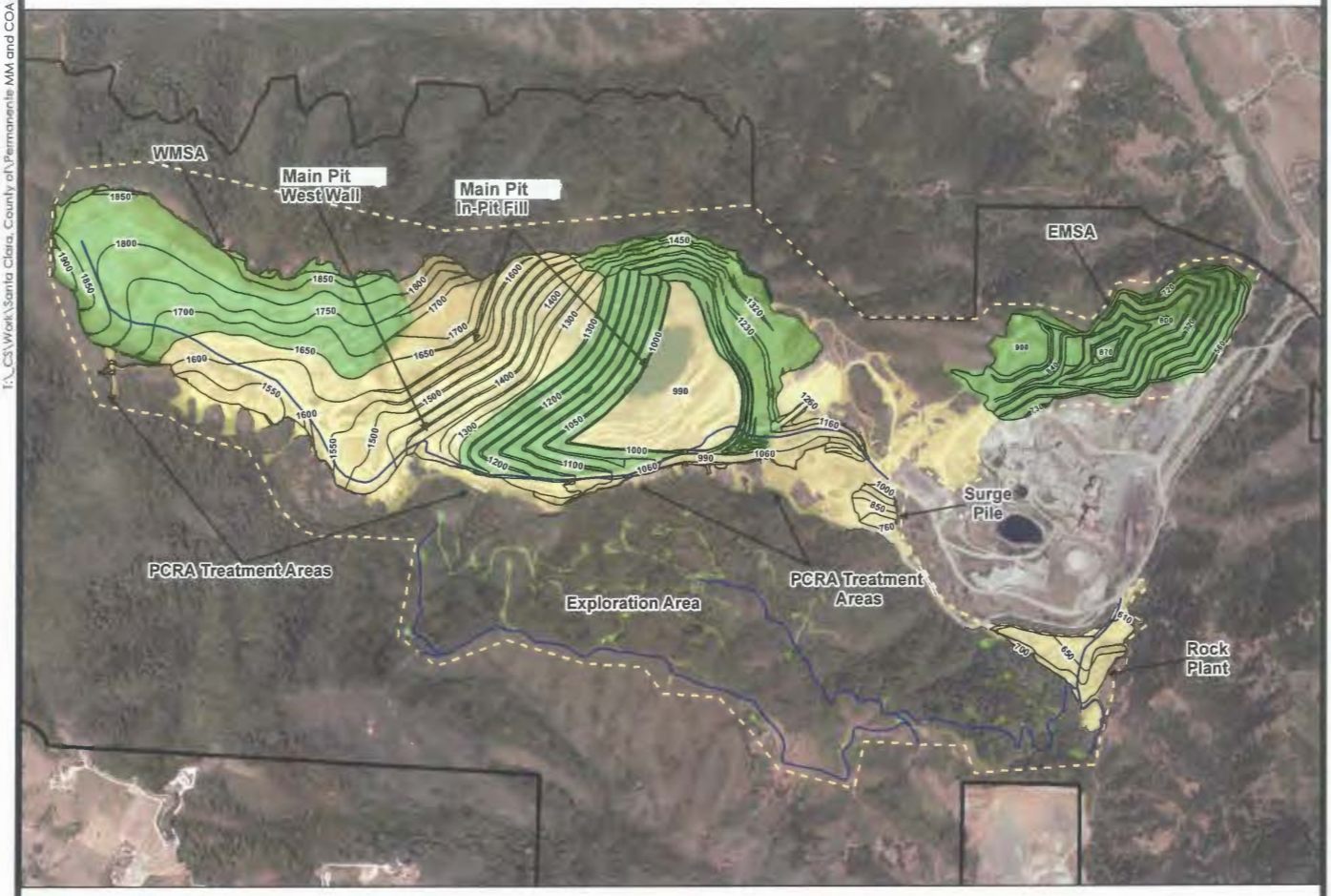

Legend

- Reclaimed Landform
- Active Reclamation
- Reclaimed
- Retained Roads
- Reclamation Plan Area
- Property Boundary

Note:

Reclamation phasing for illustration only; actual timing and phasing may vary.

Source: EnviroMine Inc.

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Figure 3c

Reclamation Plan Phase III Operations

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The Reclamation Plan area includes the Main Pit, WMSA, EMSA, Crusher/Support, Surge Pile, Permanente Creek Restoration Area (PCRA), and Rock Plant (see **Figure 2**). Below is a summary of the activities and operations that occurred within each area of the Reclamation Plan.

2.1 Operations and Reclamation Plan Activities

General operations included mining, processing, and reclamation activities within the Reclamation Plan.

Mining

The mine was active during the past year. Mining was ongoing in the Main Pit. As of September 2013, approximately 620 acres of the Reclamation Plan's 1,268.6 acres were being disturbed by current mining activities. **Figure 4** provides an overview of the activities that have occurred between June 2011 and June 2013. Since June 2013, the operations in the Reclamation Plan area included continued mining and processing operations within the Quarry Pit, EMSA, WMSA, Rock Area, and Crusher/Support Area. Future mining operations anticipated to occur through June 2015 are illustrated in **Figure 5**.

Processing

Quarry materials are primarily processed at the Crusher/Support Area and Rock Plant. During this reporting period, construction of new primary and secondary crusher facilities began in the Crusher/Support Area. In September 2012, the Rock Plant was not operating; however, by September 2013, the Rock Plant was operating and washout fines were being placed in the Main Pit.

Reclamation

In general, reclamation activities consist of grading slopes to final contours, applying growth medium, installing erosion control measures, reseeding and planting activities, and maintaining and monitoring the area. Where mining activities have resulted in compacted soil, ripping, disking, or other means will be used to establish a suitable rooting zone for planting. Revegetation will occur as described in the Revegetation Plan. Reclamation will occur generally over three phases as shown in **Figure 6a**. However, reclamation of the EMSA will occur over additional subphases as shown in **Figure 6b**.

As of September 2013, overburden materials were being placed against the toe of the western highwall of the Main Pit. Placement of overburden material in the EMSA was temporarily suspended during this reporting period. Revegetation had begun in the northern portion of the WMSA, PCRA, and South Quarry Exploration Area. A detailed summary of activities that have occurred within each of the Reclamation Plan areas is included below.

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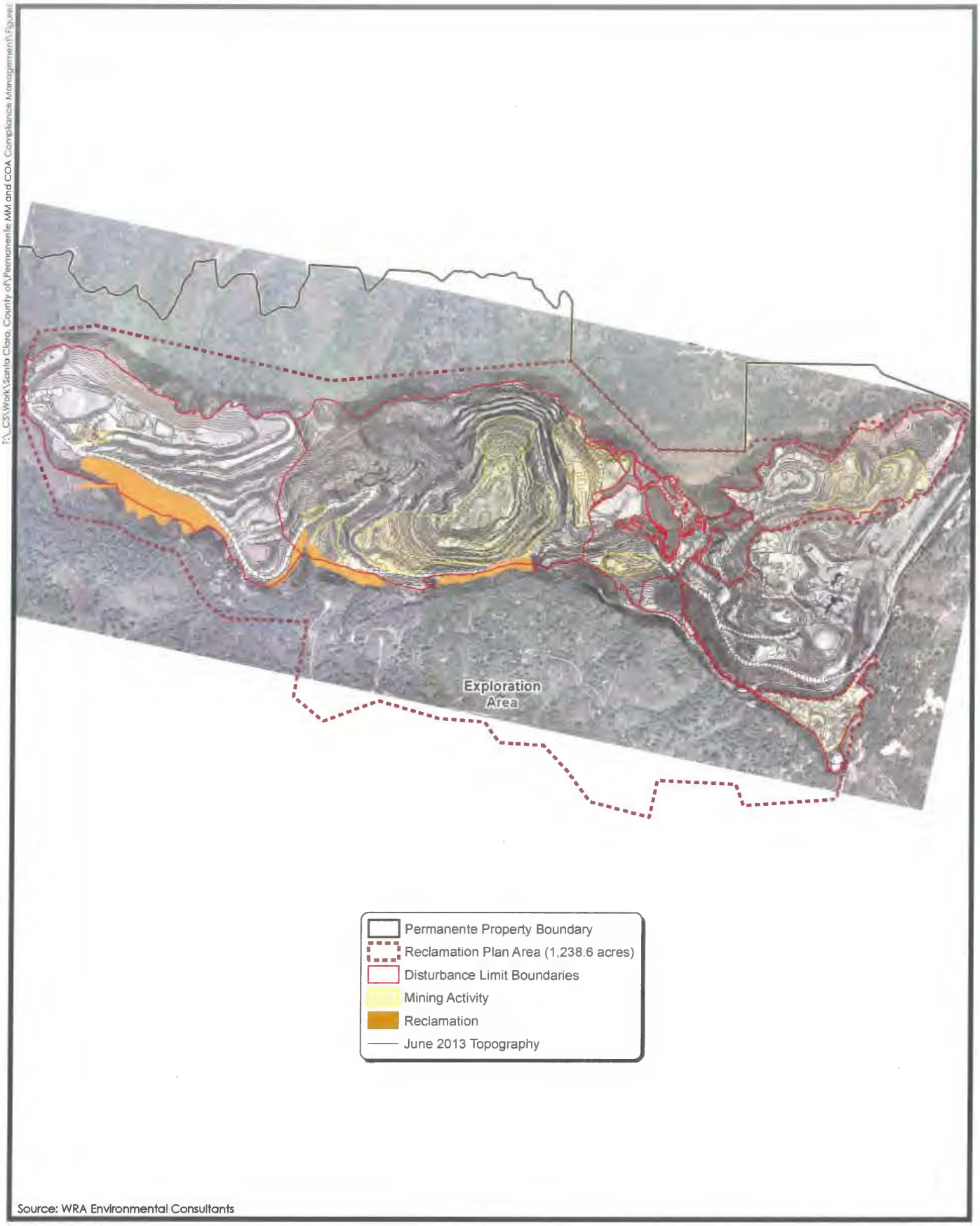

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Figure 4

Recent Operations (June 2011 – June 2013)

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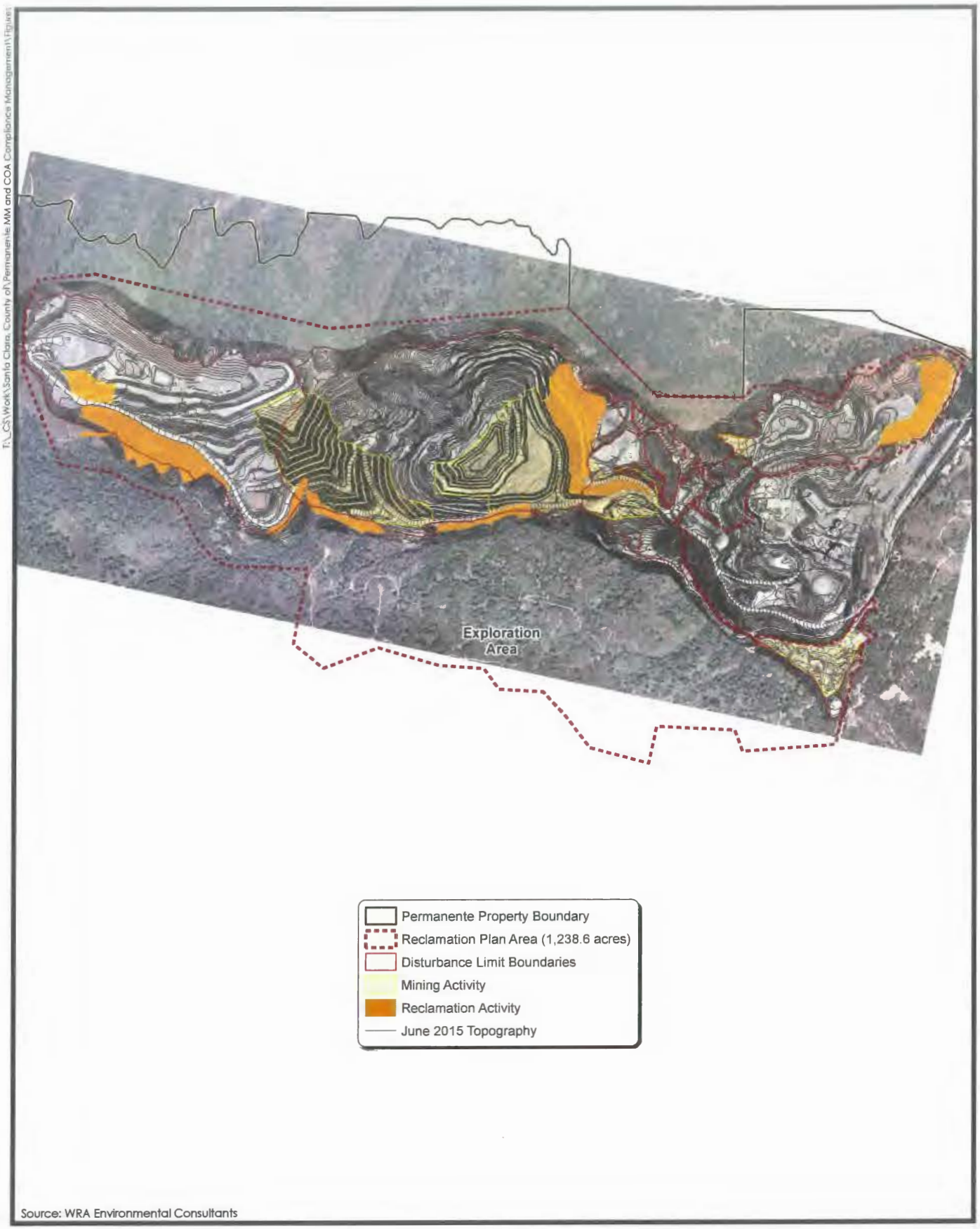

Figure 5

Future Operations (June 2013 – June 2015)

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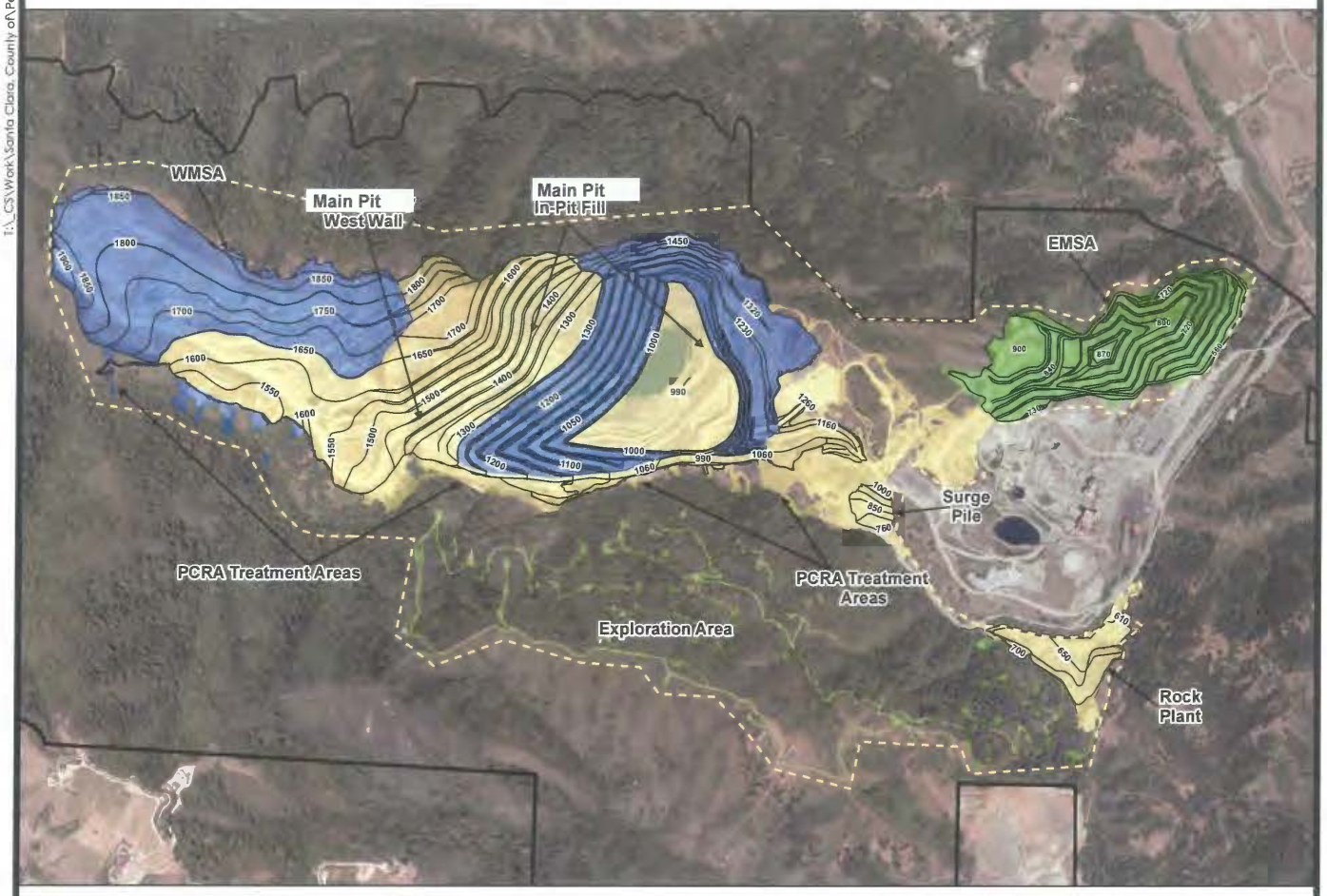

Legend

- Reclaimed Landform
- Phase 1
- Phase 2
- Phase 3 / Final Rec.
- Reclamation Plan Area
- Property Boundary

Note:

Reclamation phasing for illustration only; actual timing and phasing may vary.

Source: EnviroMINE Inc., 2011

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Figure 6a
Reclamation Phasing

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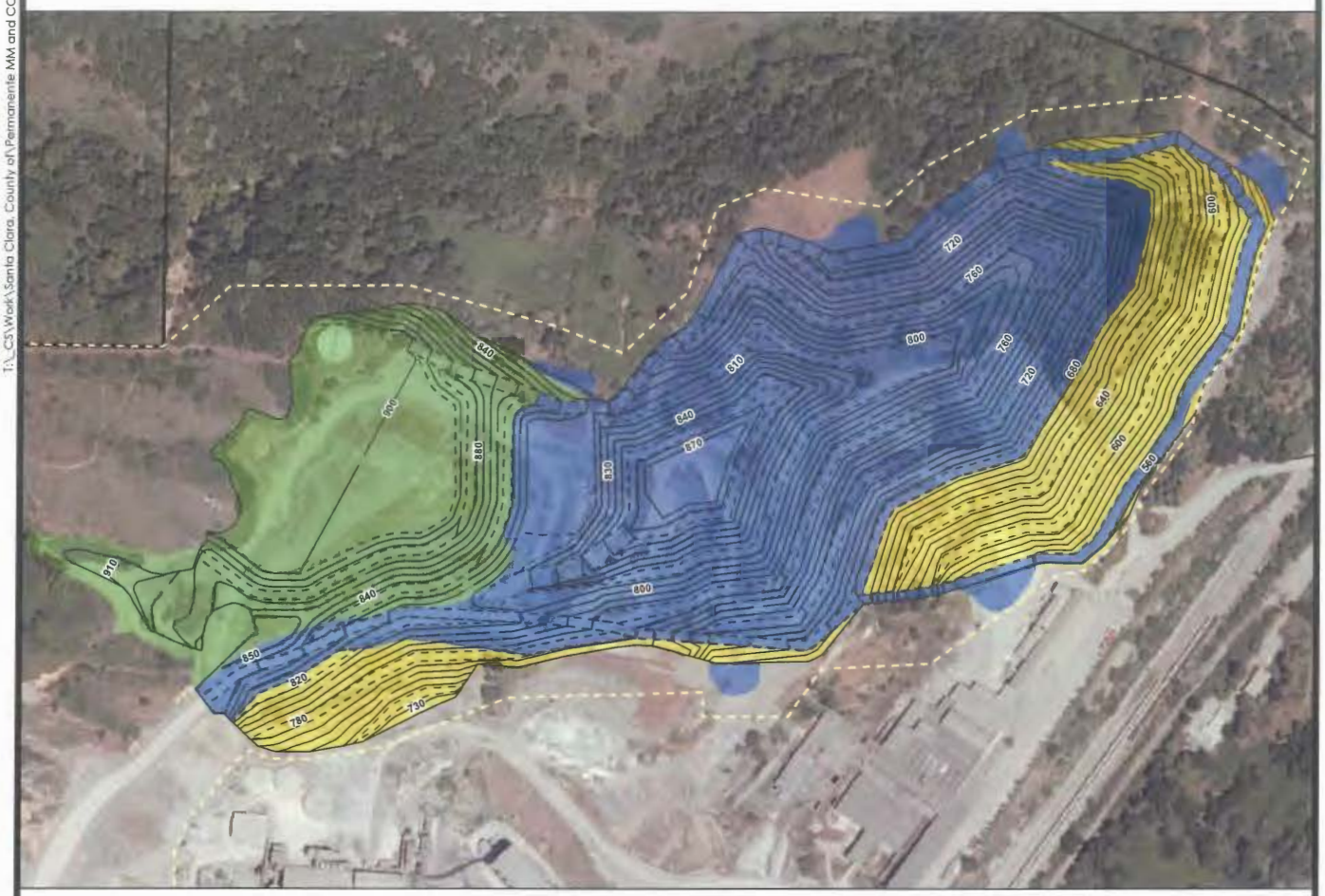

Legend

- Reclaimed Landform
- Benches

EMSA Reclamation

- Phase A
- Phase B
- Phase C
- Reclamation Plan Area
- Property Boundary

Note:

Reclamation phasing for illustration only; actual timing and phasing may vary.

Source: EnviroMINE Inc., 2011

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Figure 6b

EMSA Reclamation Subphases

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2.2 Operations and Reclamation Activities Within Each Area

Main Pit

Mining/Overburden Management

Quarry operations consisted of drilling shot holes, mining excavation, and placing of overburden material along the south and western walls in the pit (Photos 1a and 1b). Mining of the upper portion of the eastern quarry began this past year, and final slopes have been cut in some areas (Photo 2). The current maximum depth of the pit was approximately 725 feet above mean sea level (msl) (G. Knapp, pers. comm.). The maximum angle of the western backfill slopes is proposed at 2.5(H):1.0(V).

Photo 1a: Southwest portion of the Main Pit as of September 6, 2012

Photo 1b: Southwest portion of the Main Pit as of September 26, 2013

Photo 2: Upper portion of the eastern highwall of the Main Pit as of September 26, 2013

Stormwater Management

As part of the site's stormwater management, numerous rock check dams have been placed along the haul roads. However, the rock material initially used for these check dams was limestone. To mitigate the potential for the leaching of selenium, the operator replaced the limestone check dams with greenstone or other non-limestone rock (Photo 3).

Photo 3: Check dams on haul road were replaced with non-limestone materials (September 26, 2013)

On April 24, 2013, the mine operator entered into a settlement agreement with the Sierra Club (filed in United States District Court for the Northern District of California Case No.: 5:11-cv-06392-HRL). As part of the settlement agreement with the Sierra Club, a series of pilot tests for treating the quarry groundwater discharge have been conducted this year. At the completion of the pilot tests, Lehigh will construct an interim treatment plant in the area of the mine office. Water will be pumped from the quarry to the treatment plant and then piped down to Pond 4A where it is discharged. The County is currently processing an application to amend the Reclamation Plan in association with the proposed interim treatment plant. Lehigh submitted a Report of Waste Discharge to the San Francisco Bay Regional Water Quality Control Board (RWQCB) on November 30, 2011, for a National Pollutant Discharge Elimination System (NPDES) permit that will consolidate the current set of permits and cover all Permanente facility discharges to Permanente Creek. Lehigh anticipates that this NPDES permit will be approved by the RWQCB at the end of 2013.

Rockslides/Slope Stability

The northern highwall of the Main Pit has had three large rockslides, which are described in the Reclamation Plan. No major new movement on these rockslides was observed during the September 2013 inspection. The Mid-Pen Rockslide that extended approximately halfway down the eastern highwall is being graded out as part of mining (Photo 4).

Photo 4: Looking northeast at the Mid-Pen rockslide area in the Main Pit (September 26, 2013)

The Scenic Easement Rockslide has a slope failure that extends downslope approximately as far as the Mid-Pen Rockslide (Photo 5). This rockslide lowered the ridgeline contrary to the 1972 Ridgeline Protection Easement requirement.

Photo 5: Looking northwest at Scenic Easement Rockslide in the Main Pit (September 26, 2013)

East Material Storage Area (EMSA)

Overburden/Topsoil Management

Past practices for disposing of the overburden material in the EMSA were outside of the 1985 Reclamation Plan boundary. With the approval of the 2012 Reclamation Plan, the EMSA now lies within the approved mining and reclamation boundary. The 2012 Reclamation Plan has specific requirements for the disposal of wash fines in the EMSA (see RPA Attachment C, Section 4.5.1, and COA 70d). Wash fines must be covered with a minimum of 25 feet of non-limestone material below the approved final reclamation elevation and be at least 30 feet horizontally from the final reclaimed slope face. This condition also requires that limestone rock not be present within the upper 25 vertical feet and 30 horizontal feet at the head of EMSA canyons.

Overburden material and washout fines were not being placed in the EMSA (the overburden material and the Rock Plant washout fines were being placed against the toe of the west side of the quarry pit as seen in Photo 1). Signs have been placed at the one active EMSA topsoil storage area storage area (Photo 11). Two newly identified topsoil areas have been designated in the EMSA that lie adjacent to the active one, but no signs have been posted yet.

Photo 11: Looking west at the topsoil storage area in the EMSA with signage and silt fencing; abandoned water tank at right side of image (September 26, 2013)

The mine operator had the northern and eastern boundaries of the EMSA delineated. The county surveyor resurveyed the EMSA in January 25, 2013, to check that the grades do not exceed the standards in the Reclamation Plan. The EMSA elevations were found to be in general compliance with the maximum Reclamation Plan grade of approximately 900 feet msl. However, the existing grade of an area on the northeastern side of the EMSA is higher than the final reclamation grade, at 737.9 feet and 658.8 feet, but not greater than the maximum 900 feet. This temporary height exceedence was authorized in the 2012 Reclamation Plan (page 42). The

EMSA will need to be re-contoured as part of final reclamation to create the approved slopes, benches, and drainage structures.

Stormwater Management/Slope Stability

The mine operator has created a network of lined and unlined drainage ditches to convey stormwater runoff from the EMSA into holding ponds. During the 2012–13 rainy season, a slope failure occurred in a slope adjacent to the eastern end of the conveyor tunnel, depositing limestone rock in the upper portions of the drainage ditch that runs along the western edge of the EMSA (Photo 12). The limestone material was removed, a series of sediment catch basins were created, and the ditch was cleaned out and relined with greenstone (Photos 13a and 13b).

Photo 12: Looking west at slope failure north of eastern end of 500-foot-long conveyor tunnel in Crusher/Support Area. Sediment catch basins constructed above the western perimeter drainage ditch are shown in the foreground (September 26, 2013).

Photos 13a–b: Looking northeast at sediment catch basin, greenstone rock weir, and western perimeter drainage ditch in the EMSA (September 26, 2013)

An upper bench area located north of the mine office previously contained a temporary stockpile of high-grade limestone rock that was visible from the Santa Clara Valley floor in the Cupertino area. County staff noted the existence of this material during the site inspections and requested its removal. After later clarification that the stockpile contained high-grade limestone, a mining product, the stockpile was determined not to be in conflict with the Reclamation Plan. During the inspections on July 15, 2013, and September 26, 2013, the county inspector verified that this limestone stockpile had been removed (Photo 17). Per further discussion between County staff and the mine operator, a map was submitted on September 16, 2013, that identified the anticipated stockpile locations for next year in order to avoid future confusion.

Photo 17: The temporary limestone stockpile previously located at the eastern edge of the Main Pit had been removed prior to the inspection on September 26, 2013.

Stormwater Management

The drainage in the new crusher area will be directed to a sump and then pumped over to the Main Pit for treatment. The slopes surrounding the new crushers will be hydroseeded before this winter (see Photo 16b). The new crusher area slopes and drainage control will be inspected as part of the pre-winter site inspection.

Reclamation

Reclamation of the Crusher/Support Area will involve the dismantling and removal/demolition of structures and removal of hazardous materials, as required. These structures include the primary crusher, secondary crushers, and an equipment maintenance facility. The portable quarry offices and aboveground fuel tank will be removed from the site. The conveyors and associated structures will be removed from this area during reclamation Phase 3, following the completion of mining and backfilling of the Main Pit.

Surge Pile

Processing

The Surge Pile is located between the Main Pit and the Rock Plant and provides a stockpile for aggregate materials processed in the plant. Material is conveyed to the Surge Pile after being partially crushed and transported to the Rock Plant as needed either by truck or conveyor. Views of the Surge Pile are shown in Photos 18a and 18b.

Photo 18a: Looking northeast at surge pile from the north side of Permanente Creek (September 6, 2012)

Photo 18b: Looking northeast at surge pile from Pond 13B area (September 26, 2013)

Stormwater Management

The Surge Pile partially overlies and buries the historic Permanente Creek bed. Sedimentation off of the Surge Pile is controlled by barrier berms along the now partially channelized creek. In September 2013, no runoff from the Surge Pile or sedimentation from the pile to Permanente Creek was observed.

Reclamation

The 2012 Reclamation Plan requires that the Surge Pile area be reclaimed to pre-mining conditions. Following removal of all materials from the Surge Pile, structures, including vibrating screens and conveyor belts, will be dismantled and transported off-site, and the natural topography would be restored. This reclamation work will be done during Phase 3.

Rock Plant

In September 2012, the Rock Plant was not in operation; however, the Rock Plant returned to limited operation by September 2013. The Rock Plant area has numerous stockpiles of processed aggregate along with the crushing, sorting, and conveying equipment.

Stormwater Management

Runoff from the area is directed to the northeast into Pond 17 located east of the access road in the area of the Rock Plant gate (Photo 19). Runoff collected in Pond 17 flows through a series of rock baffles and culverts discharging into Permanente Creek (Photo 20). During normal operations, Pond 17 water is pumped to Pond 11 for use at the cement plant, but a tear in the liner of Pond 11 has reduced the water-holding capacity of Pond 11. Once the liner at Pond 11 is repaired, Pond 17 water will be used at the cement plant again.

Photo 19: Looking north at Pond 17, which collects runoff from the Rock Plant (September 26, 2013)

Photo 20: Looking north at Pond 17 outfall to Permanente Creek (September 26, 2013)

Reclamation

Reclamation of the Rock Plant will involve the dismantling and removal of existing structures (i.e., light vehicle maintenance facility and truck tire wash facility) and removal of hazardous materials, as required.

Exploration Area

The Exploration Area lies south of Permanente Creek and was previously disturbed as part of geologic investigation to determine the presence of mineral resources. This area was identified on an earlier proposal from the mine operator for a new pit (South Quarry) that was subsequently withdrawn. Exploration activities have stopped.

Reclamation

The access roads and drill pads have been seeded and erosion control measure put in place. The main roads in this area will be retained after reclamation for future site access.

Revegetation has occurred for approximately five years and appears to be functioning properly (Photos 21a through 21d). The mine operator could seek closure of reclamation of the South Quarry Exploration Area after surveys to confirm that the revegetation effort meets the Reclamation Plan performance standards.

Photo 21a: Looking north at revegetated drill roadway and pad located in the Exploration Area near N37°18.898', W122°06.883' (September 27, 2013)

Figure 21b: Looking east at revegetated drill roadway in Exploration Area near N37°18.707', W122°06.448' (September 27, 2013)

Photo 21c: Looking south at revegetated drill pad in Exploration Area near N37°18.67', W122°06.457' (September 27, 2013)

Photo 21d: Looking south at revegetated drill pad in Exploration Area near N37°18.670', W122°06.457' (September 27, 2013)

Permanente Creek Restoration Area (PCRA)

Permanente Creek flows eastward along the southern edge of the active quarrying area and north of the South Quarry Exploration Area. Disturbance of the creek by mining activities predate the 1976 SMARA legislation, while some areas of disturbance continued post-1976.

Stormwater Management

In 2013, Lehigh submitted several work products relating to the existence of limestone boulders that had fallen into the creek area as part of post-1976 mining operations, consistent with the Reclamation Plan conditions of approval (COA 38 and 39). These conditions of approval required that Lehigh either remove the identified limestone boulders or provide documentation demonstrating that (a) the boulders are not a significant source of selenium and (b) their removal would result in impacts to Permanente Creek associated with increased sedimentation and modifications to creek hydrology.

In compliance with this condition, Lehigh selected a California certified engineering geologist to identify the boulders for removal. A report was prepared evaluating the potential for the boulders to contribute a significant source of selenium into Permanente Creek, consistent with the requirements of COA 38 and 39 as well as the memorandum entitled Best Management Practice for Removal of Limestone Boulders for Permanente Creek, contained in the Reclamation Plan. Supplemental materials from Lehigh, dated July 10, 2013, provided additional information on the potential impacts on sedimentation and creek hydrology from boulder removal. The materials submitted from Lehigh stated that the identified boulders in Permanente Creek are not a significant source of selenium and that their removal would result in impacts to the creek (sedimentation, habitat impacts). A final table listing each boulder to be removed and those to be left in place was submitted in August 20, 2013, based on input and comments from County staff. One boulder (boulder 23) was identified to be potentially removed by hand. However, due to the lack of creek access, combined with the steep and vegetated hillsides, removal would require use of heavy equipment, which would require authorization from the California Department of Fish and Wildlife under Fish and Game Code Section 1602 to evaluate the potential impacts to the creek removal of boulder 23. County staff has determined that removal of the identified limestone boulders (including boulder 23) is not required because (a) the boulders are not a significant source of selenium and (b) removal of the boulders would result in impacts to Permanente Creek associated with sedimentation and impacts to the hydrology of the creek and existing riparian habitat.

Reclamation

Reclamation in the PCRA will occur on approximately 50 acres on the hillsides adjacent to Permanente Creek and the creek channel. The reclamation treatments emphasize erosion control and revegetation of the adjacent slopes, with limited areas of restoration in the creek channel. The 2012 Reclamation Plan identifies seven subareas along the creek and provides area-specific restoration activities (see RPA Section 3.19 and Figure 3.19-10) with the intent that work will be implemented throughout Phases 1, 2, and 3 (see RPA Table 11).

An April 2013 settlement agreement between Lehigh and the Sierra Club requires that the design of the reclamation of Permanente Creek be revised and a new conceptual creek restoration plan be submitted to all pertinent agencies by October 7, 2013, with submittal of all necessary permit and approval applications to appropriate agencies by August 30, 2014. The settlement requires

that creek restoration work be completed within two years of receipt of all necessary permits and approvals.

In addition to the County of Santa Clara, the reclamation activities in the PCRA will be overseen by the San Francisco Bay Regional Water Quality Control Board (RWQCB) and likely other federal and state agencies, such as the Army Corps of Engineers and the California Department of Fish and Wildlife. Lehigh is working with the RWQCB and other agencies on a long-term creek restoration plan. When this plan is approved, along with any refinements made during the permitting process with other agencies, it will be implemented as part of the mine reclamation effort. The final approved reclamation measures for the PCRA will not be less stringent than those now contained in the 2012 Reclamation Plan.

Buffer Areas

The Buffer Areas are considered "no disturbance" areas that surround the active mine. The Reclamation Plan states that the Buffer Areas function to protect the Permanente Quarry from land use encroachment and also to protect nearby land uses from the potentially adverse sights, sounds, and other characteristics of mining.

2.3 Santa Clara County Inspections

Santa Clara County inspected the quarry on September 6–7, 2012; December 20, 2012; February 28, 2013; July 10, 2013; and September 26–27, 2013. Santa Clara County's inspection reports are included in **Appendix C** of this report.

SMARA Compliance

With the approval of the Reclamation Plan by the Santa Clara County Board of Supervisors on June 26, 2012, past SMARA violations were resolved. SMARA inspections occurred on September 6–7, 2013; December 20, 2012; and September 26–27, 2013. The SMARA inspections found that the quarry was in compliance with SMARA. There were no violations, and the mine complied with the 2012 Reclamation Plan.

BMP Inspections

Inspections of the best management practices (BMPs) occurred on February 28 and July 10, 2013. The July inspection evaluated site BMPs installed in response to results of the February inspection of stormwater BMP performance pursuant to COA 78.

2.4 Financial Assurances

In October 2012, the financial assurance for reclamation currently held with the County of Santa Clara was in the amount of $51,391,835.00, representing a 2.8 percent increase over the July 2012 financial assurance.

The mine operator submitted a revised Financial Assurance Cost Estimate (FACE) on September 9, 2013, which is currently under review.

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3.1 Current COA Compliance Status

The County Board of Supervisors approved a Reclamation Plan Amendment (RPA) for the Permanente Quarry on June 26, 2012. Eighty-nine conditions of approval (COAs) are applied to the amended reclamation plan that incorporate both SMARA and non-SMARA requirements as well as mitigation and monitoring measures identified in the Environmental Impact Report (EIR) prepared for the Reclamation Plan Amendment. The entire text of the conditions of approval for the 2012 Reclamation Plan is in **Appendix B**. Santa Clara County's inspection reports are included in **Appendix C**. A detailed summary of compliance with conditions is included in **Appendix D.** Lehigh prepared a report entitled Lehigh Permanente Quarry Reclamation Plan Approval Conditions of Approval Compliance Report on August 30, 2013, which is in **Appendix E**. Documentation of condition of approval compliance can be found on the County's website at http://www.sccgov.org.

Below is a summary of current compliance with conditions of approval, organized into categories.

General Requirements

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 has met many of the general requirements of the 2012 Reclamation Plan. A Notice of Reclamation Plan Approval was recorded September 13, 2012, consistent with COA 4, and the approved 2012 Reclamation Plan and associated conditions of approval are now in effect. Mitigation measures provided in the EIR have been incorporated into the conditions of approval starting at COA 42. The conditions of approval are at the quarry office on-site. The mine operator has submitted all required documentation associated with COAs 3 through 4. COAs 5 through 6 are not currently applicable.

The mine operator has funded current COA monitoring work conducted pursuant to COA 7; provided information regarding COAs 8 and 11 in the Lehigh Permanente Quarry Reclamation Plan Approval Conditions of Approval Compliance Report, which was submitted on August 30, 2013, and is included in **Appendix E**; submitted the final stormwater water pollution prevention plan on October 22, 2012, consistent with COA 12; and submitted the FACE on July 26, 2012, pursuant to COA 14, which was certified by the County.

Other Agencies/Jurisdictions

COA 15 requires that documentation issued by other agencies/jurisdictions be forwarded to the County. The mine operator provided copies of Bay Area Air Quality Management District (BAAQMD) notices and San Francisco Bay Regional Water Quality Control Board (RWQCB) Order No. R2-2008-0011, NPDES Permit CAG982001, consistent with COA 15 (see **Appendix E**). The mine operator submitted copies of notices of violation issued by the BAAQMD on August 16, 2012, August 17, 2012, and October 23, 2012. The BAAQMD notices of violations in August 2012 were associated with Regulation 2, Rule 6, Section 307 and were associated with the secondary crusher and calciner kiln. The BAAQMD notice of violation in October 2012 was associated with Regulation 1, Section 301 (Public Nuisance) with regard to the calciner kiln. The mine operator continues to work with the RWQCB to provide permit applications, work plans, technical reports, and monitoring reports that address water quality requirements for the mine waste rock, stormwater, groundwater, and process waters. These documents may found at http://www.waterboards.ca.gov/sanfranciscobay/water_issues/hot_topics/lehigh.shtml.

Severability

COAs 16through 17 are ongoing requirements. There are currently no issues to address.

Duty to Defend and Indemnify

COAs 18 through 21 are ongoing requirements to protect the County. There are currently no issues to address.

Reclamation Requirements

COAs 22 through 41 specifically address documentation of area of mining activities and reclamation of the area on completion of mining operations. The mine operator provided information regarding COAS 22 through 23, 32 through 34, and 36 and 37 on August 30, 2013 (see **Appendix E** of this Annual Report). In September 2011 and again on January 25, 2013, the county surveyor surveyed the stockpiled material in the WMSA and EMSA to determine whether the mine operator is in compliance with the maximum height conditions. County staff found that the tops of the stockpiles are in compliance with the maximum allowable height conditions for both areas.

COA 22 requires that the northern and eastern boundaries of the WMSA and the EMSA be clearly staked and flagged. COA 23 requires that the operator provide to the County every 24 months the surveyed coordinates of the limits of reclamation along with aerial photos to show where mining has occurred in the previous 24 months and what the topography will be at the end of the next 24 months. The aerial photos were flown in June 2013 and copies submitted to the County. These images are reflected in **Figures 4** and **5**.

Pursuant to COA 27, stockpiles are to include safeguards to minimize erosion (wind or gravity). A Stormwater and Erosion Controls report was submitted in November 2012, which is included in Appendix H of **Appendix E**. Pursuant to COAs 36 and 37, copies of BAAQMD permits (COA 36) and County Department of Environmental Health Permit #PT0479805 (COA 37) are included in Appendix J of **Appendix E**. COAs 24 through 25, 28 and 29, 31, and 35 are not currently applicable.

The mine operator is required to report on the revegetation test plots annually. An interim revegetation test plot report has been included in Appendix C of **Appendix E**. A request to change the revegetation material has been made by the mine operator (Appendix L of **Appendix E**) based on result of the test plots. This request for a change to the vegetation palette requires approval by the planning manager pursuant to COA 30.

Permanente Creek Restoration Area (PCRA) – Limestone Boulder Removal

COAs 38 through 41 specifically address water quality, reclamation and restoration of Permanente Creek. Pursuant to COAs 38 and 39, the mine operator is required to submit a detailed schedule to control sedimentation, remove limestone boulders and stabilize slopes within the PCRA, and remove any identified limestone boulder consistent with the Best Management Practices for Removal of Limestone Boulders from Permanente Creek (Attachment J of the RPA).

The mine operator has provided documentation identifying limestone boulders in the PRCA and the evaluation of feasibility of boulder removal. The mine operator provided a schedule for limestone removal on July 25, 2012. Consistent with COA 39, the County received a survey of boulders located in Permanente Creek (including photographic documentation of each boulder) (mine operator Submittals 1, 2, and 4); a water quality impact analysis, showing that the selenium contribution of any limestone boulder in the creek is minimal (mine operator Submittal 5 – boulder Removal Water Quality Impact Analysis dated October 21, 2012); and a final table (based on input and comments from County staff) listing each boulder to be removed and those to be left in place was submitted in August 20, 2013, and a Lehigh letter dated November 7, 2013, concluding that removal would require use of heavy equipment, which would require a request for authorization from the California Department of Fish and Wildlife under Fish and Game Code Section 1602 to evaluate the potential impacts to the creek for its removal. These submittals (see **Appendix F**) were peer reviewed by a County-retained consultant, who concurred with the findings of the reports. Per these findings, County staff has determined that removal of the identified limestone boulders (including boulder 23) is not required as (a) the boulders are not a significant source of selenium and (b) removal of the boulders would result in impacts to Permanente Creek associated with sedimentation and impacts to the hydrology of the creek and existing riparian habitat.

Environmental Conditions and EIR Mitigation Measures

COAs 42 through 89 address mitigation measures provided in the Reclamation Plan Amendment EIR..

Light and Glare

Pursuant to COA 42, the mine operator posted signs in quarry vehicles and around the property noting that lighting is prohibited on any location within the EMSA that would be visible from a public location on the Santa Clara Valley floor.

Air Quality – Health Hazards Risk

The mine operator submitted a lease agreement with the Cupertino Historical Society that restricts occupancy of the residential structure on Assessor's Parcel Number 342-63-003 for a nine-year period with compensation of $120,000 (mine operator Submittal 4) pursuant to COA 45. COAs 43 through 44 were superseded by COA 45.

Biological Resources

Surveys were conducted during the months of April and May 2013 pursuant to COAs 46 through 49 and 53 and had negative findings. **Appendix E** notes future work to occur outside of nesting and roosting/maternity seasons. In July 2012, the mine operator provided documentation of staff training pursuant to COA 54. Materials submitted on August 30, 2013 (see **Appendix E**) state compliance with COA 51; provide documentation of the provision of trash receptacles on-site consistent with COA 54; state that all equipment that goes off-site is decontaminated prior to and after any work in the vegetated areas and that sanitation kits are kept at the quarry office pursuant to COA 56; and indicate that all work was conducted during the dry season consistent with COA 59. Pursuant to COA 57, the mine operator has submitted documentation identifying jurisdictional features (July 31, 2012) and erosion control activities (November 2012), which were verified through County field inspection. No wetlands were disturbed consistent with COAs 57 through 58. COAs 50, 52, 55, and 59 through 61 are ongoing requirements that were not currently applicable.

Cultural Resources

COAs 62 through 67 are ongoing requirements that are not currently applicable, as no unknown resources were discovered.

Geology and Soils

COA 68 is not currently applicable, as no grading activity has taken place within the PCRA. On July 26, 2012, the mine operator submitted a geotechnical engineer's plan review letter which confirms that the Reclamation Plan conforms with the recommendations presented in Golder's Report (Appendix C of the RPA) pursuant to COA 69.

COA 70d requires that any limestone washout fines be covered with a minimum of 25 feet of overburden material and offset a minimum of 30 feet from the final reclaimed slope face. Validation of this condition requires that the elevation of any washout fine deposits be surveyed. Either the mine operator or the county surveyor should determine the elevation and location(s) of these fines whenever they are conducting a survey to verify that this condition is being met.

Greenhouse Gas Emissions (GHG)

COAs 71 through -73 require the preparation of a Greenhouse Gas Emissions Reduction Plan (GHG Plan) and an annual greenhouse gas inventory. The mine operator provided the reduction plan on September 9, 2012, with updated information provided on February 21, 2013. On October 1, 2013, the County received the annual greenhouse gas inventory from Lehigh. The

inventory indicated that the GHG emissions threshold of 1,100 metric tons of CO_2 equivalent (CO_{2e}) was not exceeded; therefore, no offsets or GHG mitigation measures were required. The GHG inventory was peer reviewed by TRC, an accredited verification body within the State of California of Greenhouse Gas Emission Data Reports (Accreditation Executive Order is H-13-038), on September 20, 2013. The peer review determined that the GHG inventory was overly conservative due to emission factors which overestimate and that the CalEEMod totals calculated by TRC were approximately 30 percent of Lehigh's estimates.

Hydrology and Water Quality

Pursuant to COA 76, the mine operator submitted water quality monitoring for the Quarry Pit (including seep water) and Pond 30 discharges associated with the EMSA (storm events in November and December 2012). County inspections occurred on September 6–7, 2012, December 20, 2012, February 28, 2013, and July 10, 2013, to confirm placement of water quality controls and measures. Additional water quality control measures will be required to be in place prior to the winter of 2013.

The mine operator submitted a stormwater pollution prevention plan that included a monitoring plan on August 25, 2012, pursuant to COA 78, which was peer reviewed by the County with recommendations for regular best management practices (BMP) inspections and repairs. Stormwater sampling results were provided by the mine operator for storm events on November 30, 2012, and December 5 and 6, 2012, pursuant to COAs 78 and 80. The December samples had selenium concentrations that exceeded the 5 µg/L standard. Corrections to the BMPs were made and concentrations were reduced to non-detectable by the following storm event. County inspections occurred on March 6, 2013, and July 10, 2013, to confirm placement of water quality controls and repairs.

On April 24, 2013, the mine operator entered into settlement agreement with the Sierra Club that would result in the construction of an interim treatment system in 2014. The County is processing an application to amend the current Reclamation Plan to include the interim treatment facility. This interim treatment facility will aid with the future implementation of COAs 80 through 82.

On September 16, 2013, the mine operator submitted a map that identified the anticipated stockpile locations for next year.

COAs 74 through 75 and 77 are not currently applicable.

Downstream Flood Protection

COAs 83 through 84 apply to final reclamation activities, which have not yet begun; therefore, these COAs are not currently applicable. The mine operator documented (see **Appendix E**) that they have maintained all bodies of water to provide mosquito control and prevent the creation of any health hazards or public nuisance consistent with COA 85. The County verified in the field on August 24, 2012, that riprap energy dissipaters are provided pursuant to COA 86.

Noise

The mine operator states that no nighttime equipment operations occur in the EMSA (see **Appendix E**) pursuant to COA 87. Refer to COA 45 for compliance with COA 88.

EMSA Equipment

The mine operator submitted documentation of compliance with COA 89 on July 26, 2012 (Submittal 1).

3.2 Other Conditions

Stockpile

It was brought to the County's attention that a stockpile near the Main Pit's western wall was visible from the Santa Clara Valley floor in the Cupertino area. After an investigation into the complaint, it was determined that the stockpile was not topsoil or overburden but high-grade limestone. The County determined that the stockpiling of high-grade limestone in this manner was not in conflict with or violation of the Reclamation Plan and conditions of approval. The stockpile was removed by July 2013 per inspection notes and as evident in Photo 17. In response to the public's concern, the mine operator agreed to identify potential stockpile locations on an annual basis so that the County is aware of where overburden and topsoil will be stockpiled. On September 16, 2013, the mine operator submitted a map that identified the anticipated stockpile locations for next year.

Topsoil

In order to address the issue of the lack of topsoil for revegetation of the site, the mine operator established topsoil storage areas in both the WMSA and the EMSA. The WMSA topsoil storage area occurs at two locations. The older location has stopped receiving material, and the slopes have erosion controls in place. The newer topsoil storage area is actively receiving material and has a silt fence at the toe to control sedimentation (Photo 7b). Signs have been installed to identify both of the WMSA topsoil storage areas. Three topsoil storage areas have been designated in the EMSA. Only one has received topsoil; the other two are for future storage. Only the active EMSA topsoil storage area is signed, but the operator has indicated that the other two areas will be signed. County staff will inspect to determine that these two topsoil storage areas are properly signed during the pre-winter site inspection.

Stormwater and Water Quality

As directed by the RWQCB, the operator has filed several Notice of Intent documents under the Sand and Gravel General NPDES permit, R2-2008-0011, with the intent that this general permit will function as an interim permit until an individual National Pollutant Discharge Elimination System (NPDES) permit can be approved (see June 24, 2011, memorandum from the RWQCB to Lehigh). Non-stormwater discharges are identified by the RWQCB to include the water collecting in the bottom of the Main Pit. The facility is also under a previous Cleanup and Abatement Order (No. 99-018) for discharges of concrete and other wastes into Permanente Creek. The RWQCB also issued a Water Code Section 13267 Investigative Order for alleged unauthorized discharges to Permanente Creek, dated June 10, 2011, and issued a revised order on June 27, 2013 (R2-2013-0005-A1). These orders request that the mine operator file a Report of Waste Discharge under Water Code Section 13260 and clarify some outstanding issues identified in the RWQCB's previous letters and order to Lehigh. Lehigh has applied for a NPDES permit that will consolidate existing permits and cover all discharges to Permanente Creek. The mine operator is working with the RWQCB to investigate water quality impacts from mining. The

mine operator should continue to inform the County of the results of these investigations and provide written copies of all correspondence, approval letters, and permits as soon as available.

Pending Amendment Application

On April 24, 2013, the mine operator entered into a settlement agreement with the Sierra Club that requires the mine operator to construct an interim treatment facility to treat quarry water prior to discharge to Permanente Creek, as well as provide additional provisions for restoration of the creek. Subsequently, the San Francisco Bay Regional Water Quality Control Board amended Investigative Order No. R2-2013-0005 to be consistent with the requirements of the Consent Decree between Lehigh and the Sierra Club (filed in United States District Court for the Northern District of California Case No.: 5:11-cv-06392-HRL). In addition, the Reclamation Plan must be amended to reflect the construction of the interim treatment facility. The mine operator has submitted an application to amend the Reclamation Plan to incorporate the interim treatment facility, which is currently under review by County Planning staff.

Revegetation

The mine operator has conducted a series of revegetation test plots to evaluate various soil treatments and to determine what soil and seed combinations will be best for successful revegetation. One of these test plots is located in a flat area southeast of the WMSA, called the Yeager Site. A second revegetation test plot has been established on the north-facing slope in the EMSA to evaluate various soil treatments necessary for revegetation of slopes in this area. Test plots of different revegetation treatments in the EMSA also appear to be yielding good results. These test plots have run for five years, and the mine operator's biologist is preparing a final report. The mine operator anticipates that the final test plot report will be submitted to the County by the end of 2013. As noted above, an interim revegetation test plot report has been included in Appendix C of **Appendix E**. A request to change the revegetation material has been made by the mine operator (Appendix L of **Appendix E**) based on result of the test plots. This request for a change to the vegetation palette is awaiting approval by the planning manager pursuant to COA 30.

3.3 SMARA Compliance Status

Approval of the existing Reclamation Plan by the Santa Clara County Board of Supervisors on June 26, 2012, abated the pre-existing SMARA violations. Santa Clara County inspected the quarry on September 6–7, 2012; December 20, 2012; February 28, 2013; July 10, 2013; and September 26–27, 2013. Santa Clara County's inspection reports are included in **Appendix C** of this report.

SMARA Inspections

SMARA inspections occurred on September 6–7, 2013; December 20, 2012; and September 26–27, 2013.

September 2012

During the September 2012 inspection, the mine was active in the Main Pit but the Rock Plant was not operating; therefore, placement of washout fines was temporarily suspended. Placement of overburden material in the East Material Storage Area was temporarily suspended.

The operator was working with the RWQCB to correct water quality violations and to obtain an approved remediation plan for Permanente Creek. The operator's efforts to correct water quality issues appeared to be in compliance with RWQCB orders and requirements; therefore, they were not considered a violation of SMARA. During the September 2012 inspection, no new SMARA violations were noted; however, the following four areas of concern and issues to monitor were identified:

1. Continue monitoring the WMSA and the EMSA for stability and erosion control. Prior to this winter, replacement check dams, drainage channel armor, and drainage outfalls should be inspected by the County. The mid-slope road south of the WMSA should be monitored for erosion control and instability. The drainage on the north side of the WMSA should continue to be monitored and modified, as necessary to prevent erosion.
2. Continue monitoring rockslides in Main Pit. The operator should notify the County if new landslides occur or the existing rockslides enlarge, particularly further into the Reclamation Plan. Monitor the western slide area that may underlie the haul road.
3. The areas disturbed by exploration activities south of Permanente Creek should be inspected prior to the winter season to evaluate adequacy of erosion control measures and maintained as necessary.
4. The operator should continue to work with the RWQCB and the County to correct the site conditions that resulted in the water quality violations, and provide to the County copies of documents that demonstrate or provide for compliance with the corrective actions. County staff should periodically monitor compliance by the operator with the corrective measures included in the Reclamation Plan.

During this inspection, several tasks were identified to be undertaken to control potential erosion and maintain slope stability on the site. These tasks were implemented by the mine operator and inspected by Santa Clara County on December 20, 2012.

December 2012

The Surface Mining Inspection Report was prepared on December 20, 2012. This report noted that there were no violations and that the quarry was in compliance with the provisions of the Reclamation Plan. The report specifically addressed a winterization inspection and the specific tasks recommended during the September 2012 inspection. All quarry waters were being retained, with no sediment discharged into Permanente Creek. All basin ponds next to the access road were working satisfactorily without any erosion problems.

September 2013

During the September 2013 inspection no new SMARA violations were noted; however, the following three areas of concern and issues to monitor were identified:

1. Continue monitoring the WMSA and the EMSA for stability and erosion control. Prior to this winter, the condition of check dams, drainage channel armor, and drainage outfalls should be inspected by the County. The mid-slope road south of the WMSA should be monitored for erosion control and instability. The drainage on the north side of the WMSA should continue to be monitored and modified, as necessary to prevent erosion.

2. Continue monitoring rockslides in the Main Pit. The operator should notify the County if new landslides occur or the existing rockslides enlarge, particularly further into the Reclamation Plan. Monitor the western slide area that may underlie the haul road.
3. The mine operator should continue to work with the RWQCB and the County to provide information required for compliance with water quality regulations. The mine operator should provide to the County copies of documents submitted to the RWQCB. The County should periodically assess how investigations being conducted for the RWQCB will impact reclamation of the mine.

Best Management Practices (BMP) Inspections

Inspections of the BMPs occurred on February 28 and July 10, 2013. The July inspection evaluated site BMPs installed in response to results of the February inspection of stormwater BMP performance pursuant to COA 78. According to the inspection on July 10, the following items needed attention:

1. Establish a rain gauge on-site that would be connected via the Internet.
2. The silt fence below the WMSA topsoil storage pile was repaired. A new topsoil storage pile was being created across the road and east of the original pile, which was going to be covered with erosion control material prior to winter.
3. Straw bales were placed at outfalls of the mid-slope bench in Subarea 2.
4. Cleanout and repairs of ditches in the EMSA were completed. Ditches were lined with non-limestone materials.
5. Pond 30 outfall rock replaced with non-limestone material that is smaller in size. Observation of outfall area should be done regularly when discharge occurs to determine whether rock is performing adequately. Larger rock should be used, if determined necessary.
6. Ditch to direct runoff around and from stockpiles above surge pile area was constructed and appeared to be performing adequately. Two small sediment control basins were also created. This area needs to be observed and the ditch repaired, if needed, prior to any significant rain event due to the ongoing heavy equipment accessing the stockpile.
7. Two new sediment control basin were excavated below C-Station in the EMSA. The adjacent drainage ditch was cleaned out and lined with non-limestone rock.
8. New sediment basins were constructed.
9. Work was starting on Subarea 3, but not completed. The site safety officer was working with the crew to ensure their safety. At the end of the inspection, it wasn't determined how much of the work could be completed safely.
10. Flume in Subarea 7 had not had water in it since the February inspection, so no inspections were performed.
11. Siltation basin SB-7 had not been cleaned out, but the mine operator indicated that it would be cleaned out along with the other site basins prior to winter.

The follow-up on the above items was also noted in the first item of the September 2013 SMARA inspection report.

3.4 FACE Review

The October 2012 Reclamation Plan Financial Assurance Cost Estimate (FACE) was reviewed and certified by the County. The mine operator submitted a revised FACE on September 9, 2013. PMC will provide written comments to the County in a separate letter within 30 days of receipt. When the County certifies the 2013 FACE, it will forward the calculations to the Office of Mines and Reclamation (OMR) for its 45-day review.

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

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