Lehigh Hanson
HEIDELBERGCEMENT Group

24001 Stevens Creek Blvd.
Cupertino, CA 95014
(408) 996-4000

September 30, 2017

VIA EMAIL

Mr. Chris Hoem, Planner
Planning & Development
Land Development Engineering
County of Santa Clara
70 West Hedding Street
San Jose, CA 95110

RE: Lehigh Southwest Cement Company—Permanente Quarry
Reclamation Plan, Conditions of Approval
Annual Compliance Report, 2016-2017

Dear Mr. Hoem:

Enclosed please find the above-referenced annual report for Lehigh Quarry operations. This package includes the annual FACE previously submitted.

Please do not hesitate to contact me at 408-996-7476 ext. 106 if you have questions or comments.

Sincerely,

Erika Guerra

Erika Guerra
Environmental Director

cc.
Keith Krugh (LehighHanson)

Enclosure

Lehigh Permanente Quarry Reclamation Plan Amendment Conditions of Approval Compliance Annual Report 2016-2017 Information Package

Prepared by:

Lehigh Southwest Cement Co.
Lehigh Permenente Quarry
24001 Stevens Creek Blvd. Cupertino CA, 95014-5659

Contact:

Erika Guerra
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October 1, 2017

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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	10/1/2017	10/1/2017	This document, and attached appendices, represents the Mine Operator's fulfillment of its 2016-2017 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	By October 1 of each year, starting in 2012	10/1/2017	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 September 09, 2017. A copy of the updated SWPPP was provided as an appednix to the 2016-2017 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	07/27/2017	07/27/2017	Financial Assurance Cost Estimates have been submitted to the Planning Manager for review on July 28, 2017. 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

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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	10/1/2017	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	10/1/2017	A map of current and future proposed stockpiles is provided as Appendix G.	Appendix G: 2016-2017 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: 2016-2017 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 appendIx 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	10/1/2017	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: 2016-2017 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	10/1/2017	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. The RWQCB issued during this report year and amendment of the existing NPDES permit.	Appendix K: Amendment of Order No. R2-2014-0010 (NPDES No. CA0030210)

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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	NA	Lehigh is in compliance with the conditions of permits and plans required by and issued by SCC Department of Environmental Health. No request by the County has been received by Lehigh for additional permit information.	
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.	

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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.	

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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 2016-2017 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 2016-2017 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 2016-2017 reporting year	

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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 2016-2017 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 2016-2017 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 2016-2017 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.	

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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.	
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.	
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 2016-2017 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 2016-2017 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 2016-2017 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 2016-2017 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	10/1/2017	10/1/2017	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	10/1/2017	10/1/2017	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	10/1/2017	10/1/2017	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: 2016-2017 Stormwater and Erosion Controls Report Appendix B: 2016-2017 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.	

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APPENDIX A:

2016-2017 STORMWATER AND EROSION CONTROLS REPORT

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Lehigh Permanente Quarry Stormwater and Erosion Control Annual Report 2016-2017

SANTA CLARA COUNTY, CALIFORNIA

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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, 2016 to June 30, 2017.

Between July 1, 2016 and June 30, 2017, Lehigh Hanson and 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, 2016). 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; and the diversion of stormwater runoff to containment basins. Figures depicting erosion control BMP installations and compliance activities from the 2016-2017 reporting year are provided in Appendix A. Further actions are ongoing as required by the RPA and COAs.

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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), 2015 (WRA 2015), and 2016 (WRA 2016).

4.2 Compliance Actions Completed Since 2015-2016 Annual Report Submittal

Actions to complete or advance the fulfillments of the COAs since the 2015-2016 Annual Report submittal (October 1, 2016) are described below. All erosion control BMPs previously reported from previous annual reports have been maintained and repaired as needed. Due to the increased presence of Lehigh and WRA Environmental staff during the 2016-2017 reporting period, stormwater and erosion control inspections and actions have occurred with greater frequency, resulting in increasingly effective and timely BMP management and maintenance. Subsequently, all BMPs and stormwater controls were fully functional throughout the 2016-2017

rainy season. 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 2015-2016 reporting year, erosion control actions were completed in Subareas 1 and 2. During the current reporting year, 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), the 2014-2015 Annual Report (WRA 2015), and the 2015-2016 Annual Report (WRA 2016).

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 1). No substantial evidence of erosion has been observed over the 2016-2017 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 along the edge of the downhill side of the access road near the border of Subarea 1 and 2. All previously installed erosion control BMPs, below the access road, were routinely inspected and repaired as necessary (see Appendix B, photograph 2). No substantial evidence of erosion has been observed over the 2016-2017 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 the 2015-2016 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). Aside from the portion of silt fence, lost

as a result of the superficial slide in January 2015, all other previously installed erosion control BMPs in Subarea 3 have been routinely inspected and repaired as necessary. The missing portion of silt fence was not repaired/replaced due to limited access issues and safety concerns. No substantial evidence of erosion has been observed over the 2016-2017 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. In anticipation of berm repair in this area, approximately 100 feet of additional wire back silt fence was installed as a redundant BMP. All previously installed erosion control BMPs have been inspected regularly and repaired as necessary throughout the 2016-2017 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 2016-2017 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 this reporting period, two small sections of wire back silt fence were installed in the east portion of Sub Area 7 (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 2016-2017 reporting year (see Appendix A - attached map book pages 15, 16, 17, and 18). Routine maintenance actions of existing BMPs included:

- Maintenance of the haul road and check dams (see Appendix B photographs 3 and 5)
- Repair and replacement of erosion control silt fences and fiber rolls securing the two topsoil stockpiles.

Routine inspection is ongoing. During the 2016-2017 reporting period, approximately 550 feet of deteriorating erosion control silt fence surrounding a topsoil stockpile was determined to be unnecessary and removed, due to the presence of vegetation and erosion control fabric. This section of wire back silt fence will be replaced if needed. 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 2016-2017 reporting year (see Appendix A - attached map book pages 16 and 19). No additional actions were taken during the current reporting period.

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 2016-2017 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 was completed in August 2017. No additional stormwater and erosion control BMPs were deemed necessary in this area.

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 2016-2017 reporting year (see Appendix A - attached map book pages 10, 11, 13, and 14 and Appendix B photograph 1). No additional stormwater and erosion control BMPs were deemed necessary in the EMSA.

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. No additional stormwater BMPs were deemed necessary during the 2016-2017 reporting year. All

stormwater and erosion control BMPs previously installed within the Surge Pile/Rock Plant area were routinely inspected and repaired as needed throughout the 2016-2017 reporting year (see Appendix A - attached map book pages 12, 13, and 14 and Appendix B photograph 7).

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. All stormwater conveyances, check dams and sedimentation basins, within the RPA boundary, were cleaned out and functional during this reporting year (see Appendix B photographs 3, 4, 5, 7, and 8). Additional sedimentation basin clean out is expected to occur during the summer of 2018.

4.3 Planned Future Compliance Actions

Beyond the routine inspection and maintenance of existing BMPs, actions are already planned to take place during the 2017-2018 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 2017-2018 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 2017 hydroseeding efforts are planned for mid October and will include approximately three acres of stockpiled topsoil in the EMSA. 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.

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 2017-2018 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 2016-2017 reporting year, Lehigh provided dedicated in-house staff to regularly oversee the erosion control BMPs and their efficacy. They would preemptively address any maintenance or additions needed ahead of storm events. This enhanced their ability to comply with the requirements of the COAs and the RPA in a timely manner. Due to the increased involvement of Lehigh staff during the 2016-2017 reporting period, stormwater and erosion control inspections and maintenance actions have occurred with greater frequency, resulting in increasingly effective and timely BMP management and maintenance. Subsequently, all BMPs and stormwater controls were fully functional throughout the 2016-2017 rainy season. Therefore, despite being a very above-average rainfall year, WRAs regular inspections did not observe any deficiencies in stormwater BMPs. 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

WRA. 2016. 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!of Lehigh Permanente Quarry Stormwater and
Erosion Control Annual Report 2016-2017

2016-2017 REPORTING YEAR COMPLIANCE ACTIONS AND BMP LOCATION MAPS

wra
ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry,
Santa Clara County,
California

Subarea 1

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

BMPs

- Wire Back Silt Fence

N
W E
S

0 105 210
Feet

Date: 9/28/2017
Map By: fhourigan

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wra
ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry, 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

BMPs

- Wire Back Silt Fence

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Feet

Page 2 of 19

Date: 9/28/2017
Map By: fhourigan

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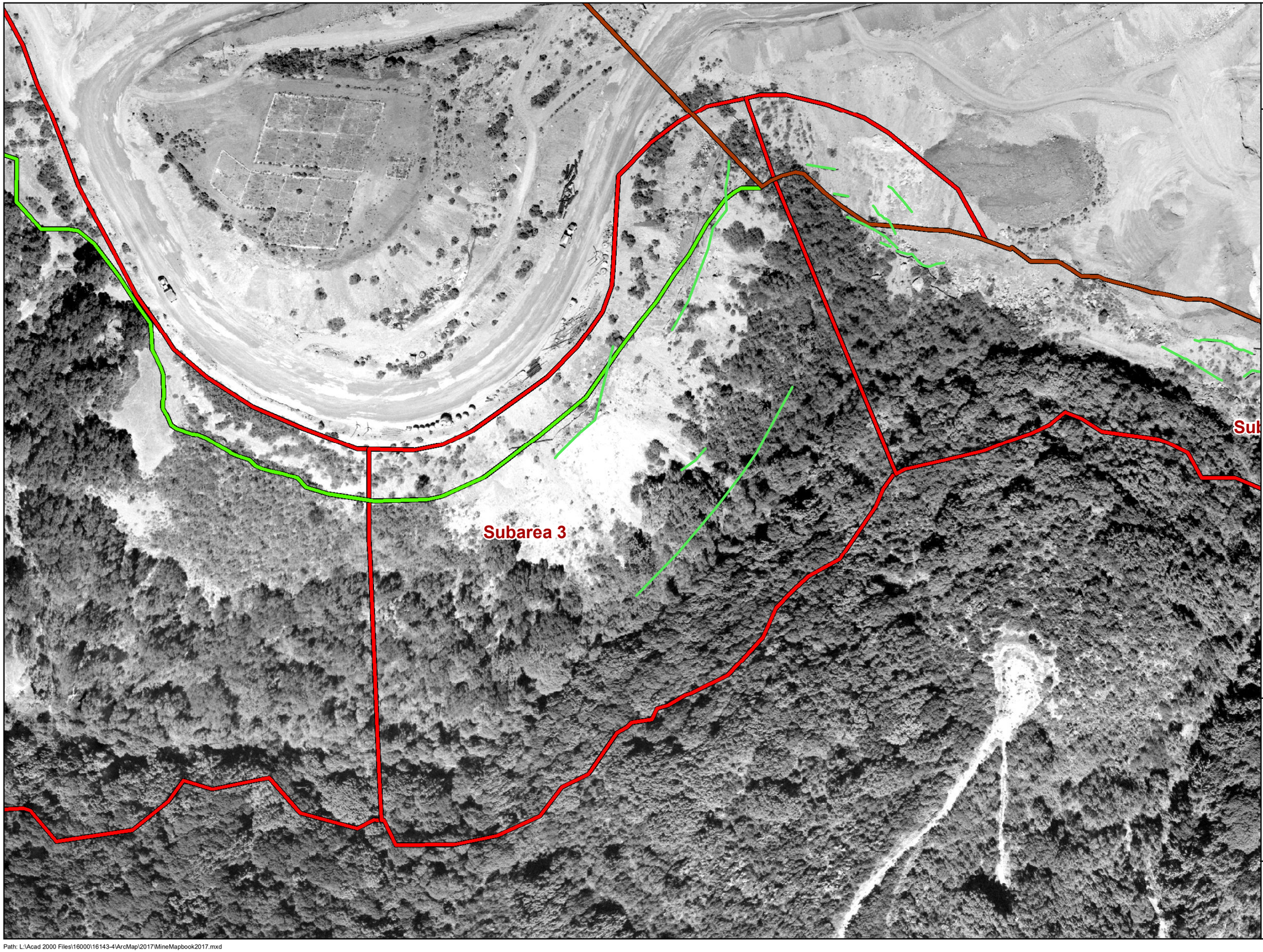

wra
ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry, Santa Clara County, California

Subarea 3

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

BMPs

- Wire Back Silt Fence

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Feet

Page 3 of 19

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry,
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

BMPs

Wire Back Silt Fence

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Date: 9/28/2017
Map By: fhourigan

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wra
ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry, 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

BMPs

- Wire Back Silt Fence

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry,
Santa Clara County,
California

Subarea 6

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

BMPs

Wire Back Silt Fence

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Page 6 of 19

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Map By: fhourigan

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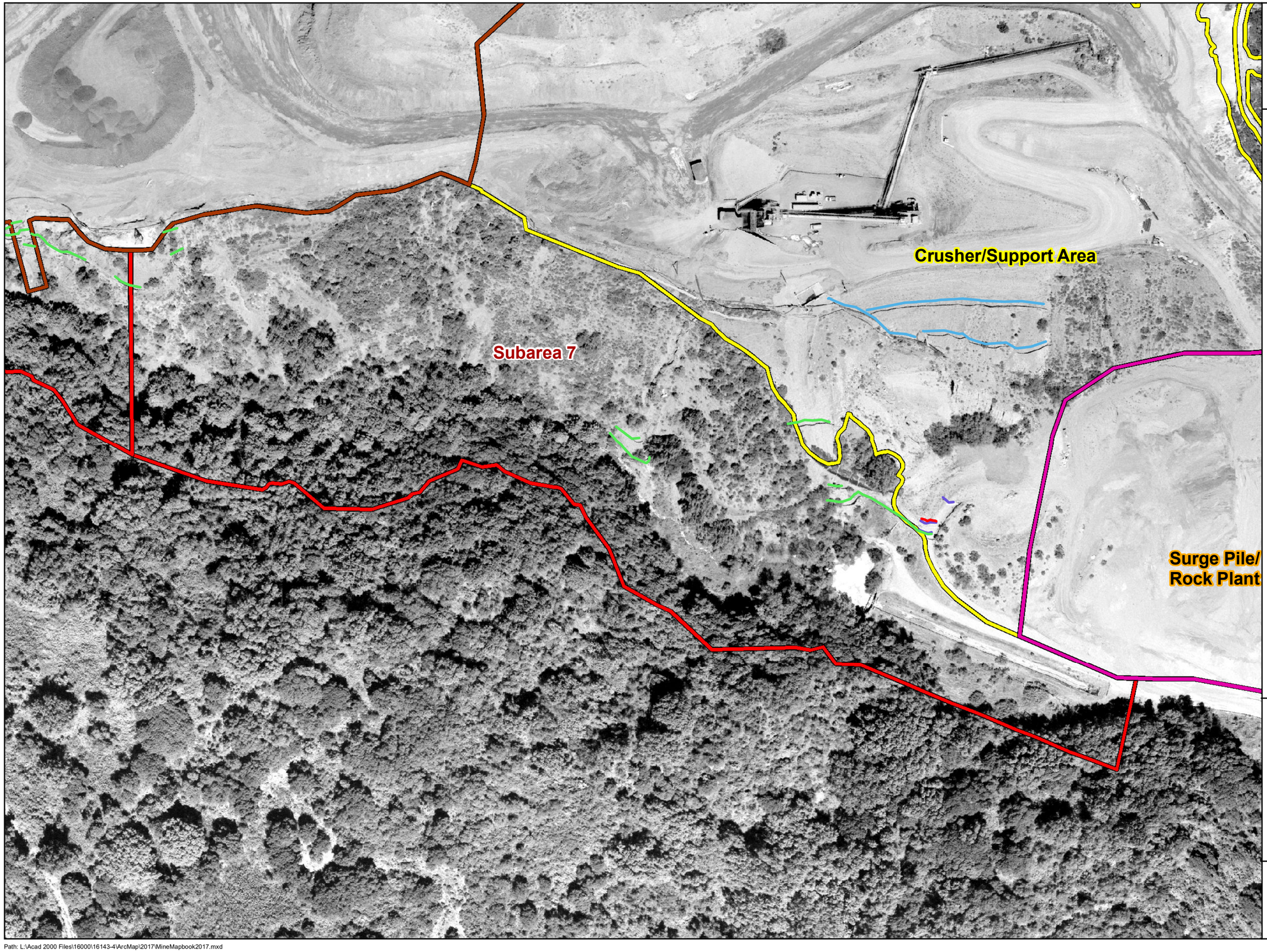

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry, Santa Clara County, California

Subarea 7

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

BMPs

- Hay Bales
- Silt Fence
- Straw Wattles
- Wire Back Silt Fence

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Feet

Date: 9/28/2017
Map By: fhourigan

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry, 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
- Wattles

BMPs

- Hay Bales
- Silt Fence
- Straw Wattles
- Wire Back Silt Fence
- Siltation Basin
- Straw Wattles

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Feet

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Map By: fhourigan

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry, Santa Clara County, California

Crusher/Support North

Crusher/Support Area

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

BMPs

- Hay Bales
- Straw Wattles
- Wire Back Silt Fence
- Siltation Basin
- Straw Wattles

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Feet

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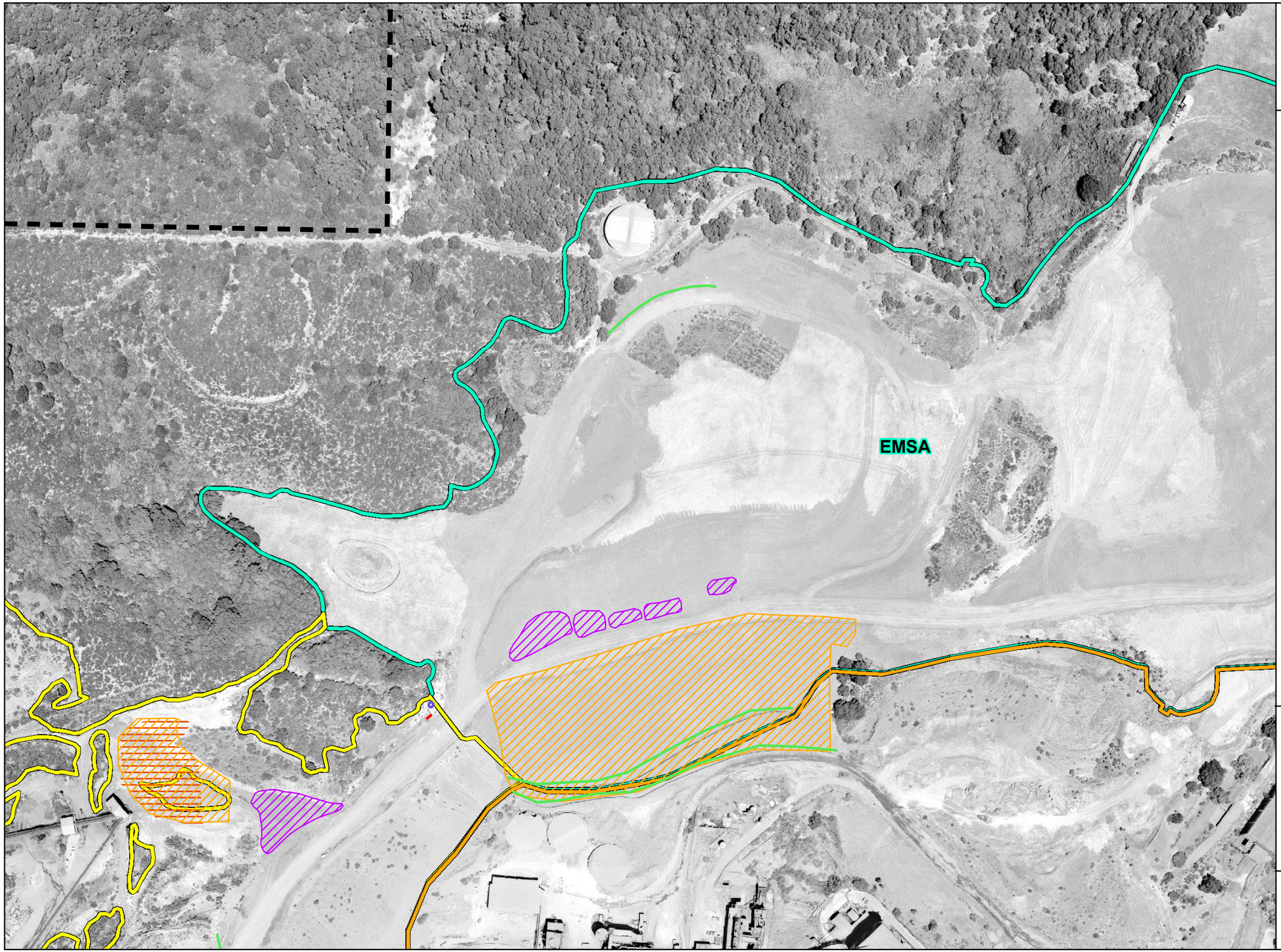

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry, Santa Clara County, California

EMSA West

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

BMPs

- Hay Bales
- Straw Wattles
- Wire Back Silt Fence
- Siltation Basin
- Straw Wattles

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Feet

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry, Santa Clara County, California

EMSA East

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

BMPs

- Straw Wattles
- Wire Back Silt Fence
- Straw Wattles

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Feet

Date: 9/28/2017
Map By: fhourigan

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry,
Santa Clara County,
California

Surge Pile/Rock Plant East

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

BMPs

- Wire Back Silt Fence

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Feet

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Map By: fhourigan

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry, 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
- Wattles

BMPs

- Hay Bales
- Silt Fence
- Straw Wattles
- Wire Back Silt Fence
- Siltation Basin
- Straw Wattles

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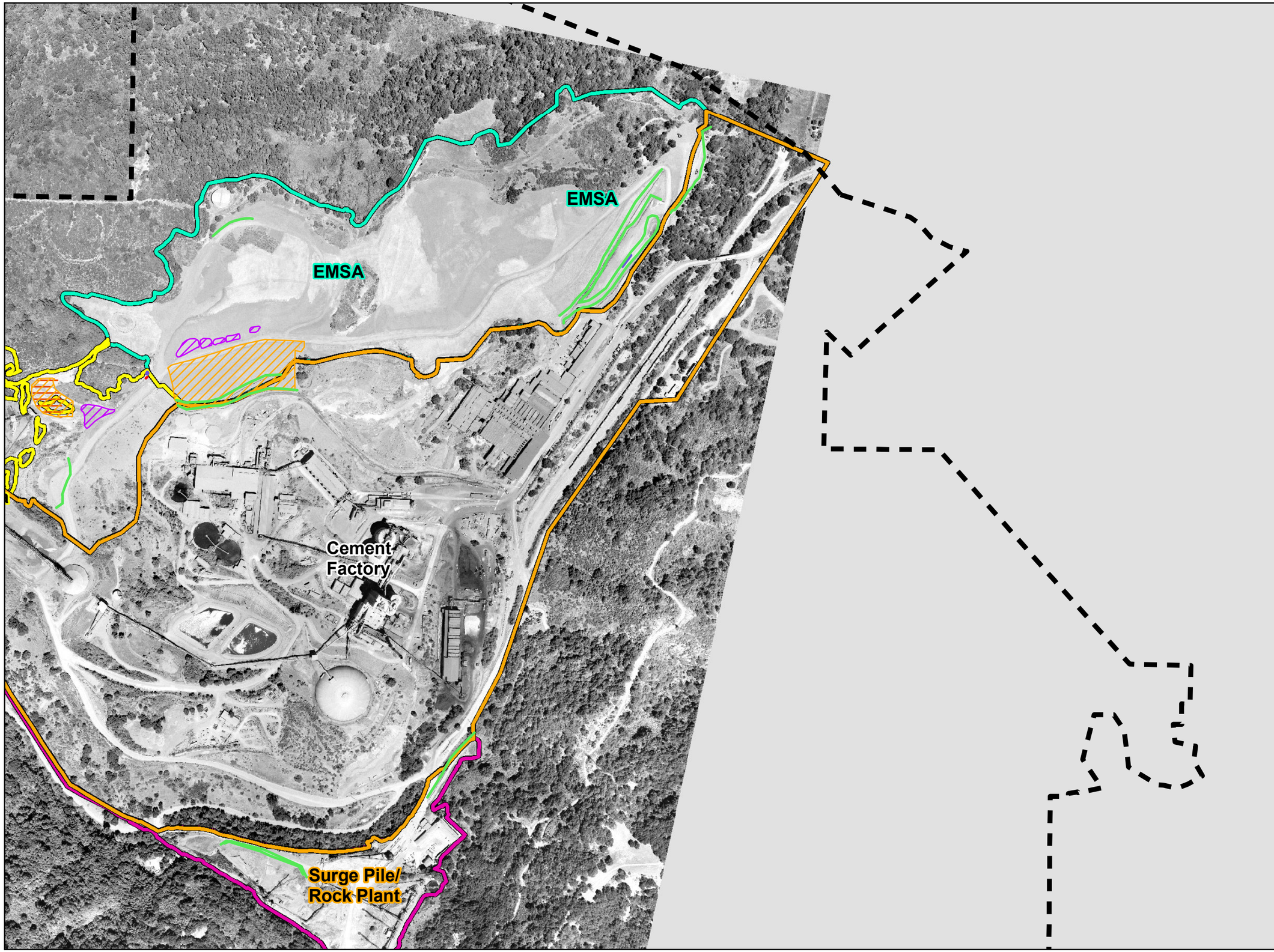

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry, 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
- Wattles

BMPs

- Hay Bales
- Straw Wattles
- Wire Back Silt Fence
- Siltation Basin
- Straw Wattles

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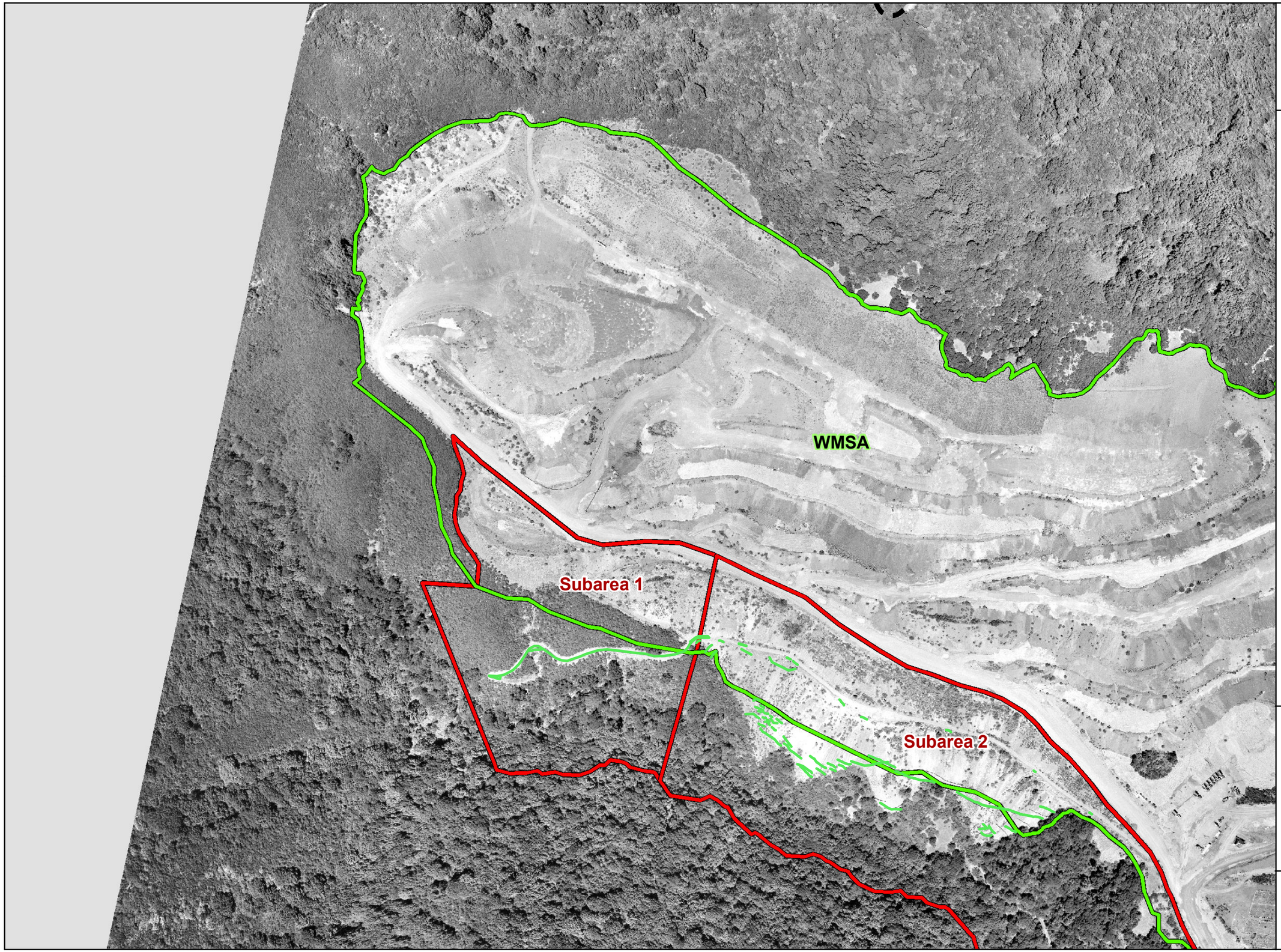

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry, Santa Clara County, California

WMSA West

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

BMPs

- Wire Back Silt Fence

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Map By: fhourigan

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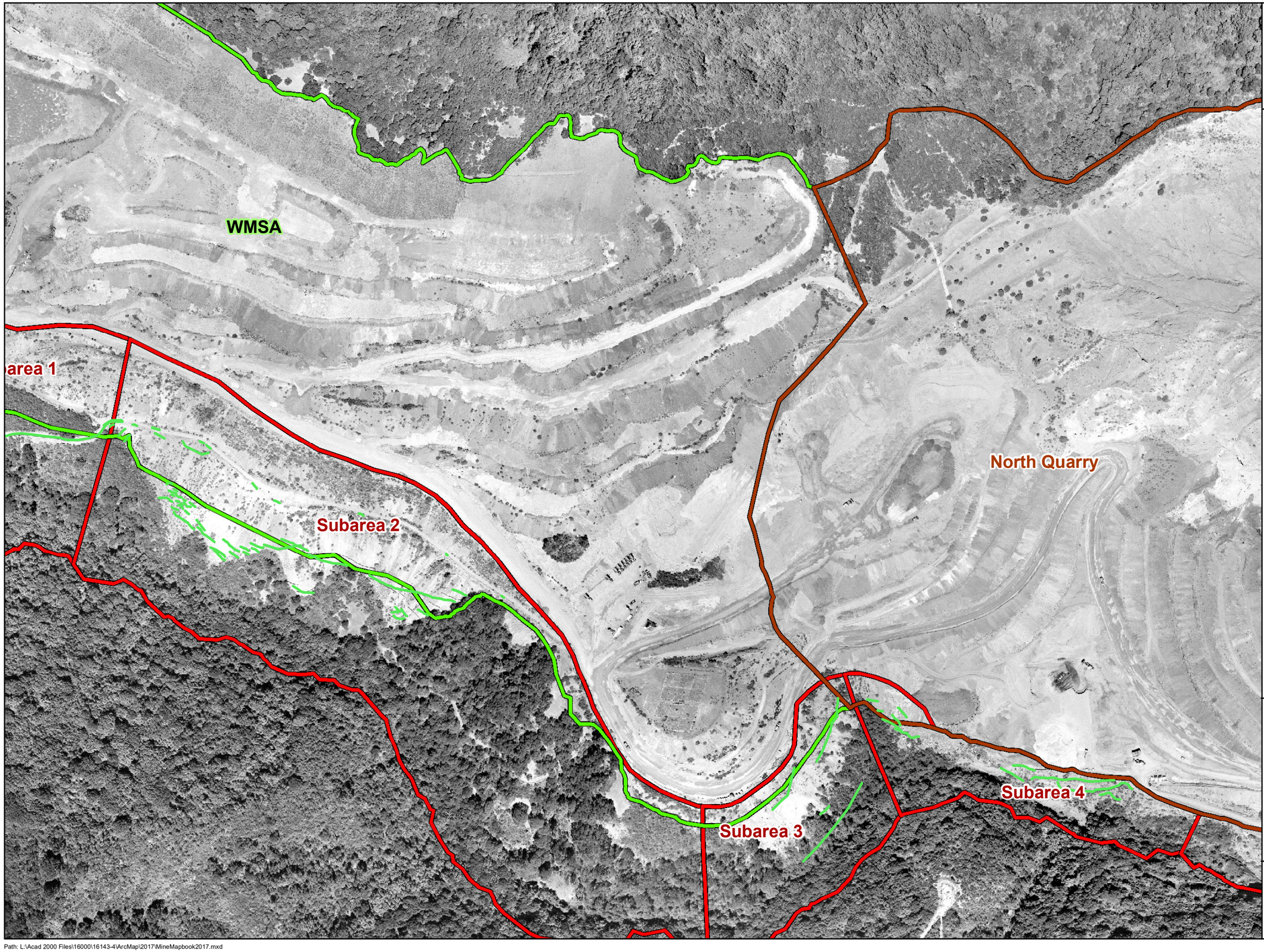

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry,
Santa Clara County,
California

WMSA East

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

BMPs

- Wire Back Silt Fence

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Page 16 of 19

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry, 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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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry,
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

BMPs

- Wire Back Silt Fence

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Map By: fhourigan

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry, Santa Clara County, California

North Quarry West

North Quarry

North C

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

BMPs

- Wire Back Silt Fence

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Date: 9/28/2017
Map By: fhourigan

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Permanente Plant
24001 Stevens Creek Blvd.
Cupertino, CA 95014
Phone (408) 996-4000

September 29, 2017

Mr. Erika Guerra
Lehigh Hanson
Environmental Director

Re: EMSA Hydroseeding – Erosion Control Mix

Dear Ms. Guerra,

On November 8 & 9, 2016, approximately 6 acres of land in EMSA was hydro seeded using the erosion control mix. This inventory is pursuant to Conditions of Approval (COA) 27 of the 2012 Reclamation Plan Amendment.

Pacific Coast Seed supplied the erosion control mix and Freedlun Hydroseeding performed the hydroseeding activity.

Pictures:

Sincerely,

Manjunath Shivalingappa
Environmental Engineer

LEHIGH
HEIDELBERGCEMENT Group

Lehigh Permanente Quarry,
Santa Clara County,
California

Figure 1

EMSA
Hydroseeding
Annual Report 2016

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0 50 100 200
Feet

Permanente Plant
24001 Stevens Creek Blvd.
Cupertino, CA 95014
Phone (408) 996-4000

September 29, 2017

Mr. Erika Guerra
Lehigh Hanson
Environmental Director

Re: COA 33 - Basin Clean out Reports showing quantities removed and disposition

Dear Ms. Guerra,

In December, 2016 and February 2017, approximately 1900 yards of silt was cleaned out from the silting basin in WMSA & Rock plant areas. The work was performed by Coulter Gradeall. The silt was deposited in WMSA.

Pictures:

Sincerely,

Manjunath Shivalingappa
Environmental Engineer

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APPENDIX B of Lehigh Permanente Quarry Stormwater and Erosion Control Annual Report 2016-2017

REPRESENTATIVE STORMWATER AND EROSION CONTROL BMP PHOTOGRAPHS

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

Photograph taken September 2, 2016.

Photograph 2. Wire-backed erosion control silt fence installed below new mining activity in PCRA Subarea 2.

Photograph taken September 2, 2016.

Photograph 3. Recently cleaned check damn along WMSA haul road,

Photograph taken January 5, 2015.

Photograph 4. Non-limestone lined stormwater ditch and previously hydroseeded slope along EMSA haul road.

Photograph taken September 2, 2016.

Photograph 5. Functioning stormwater ditch along the inside of the WMSA haul road.

Photograph taken February 7, 2017.

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

Photograph taken February 7, 2017

Photograph 7. Functioning check dams as see during a qualifying rain event

Photograph taken February 7, 2017.

Photograph 8. Functioning check basins along EMSA haul road during a qualifying rain event.

Photograph taken February 7, 2017.

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APPENDIX B:

2016-2017 WET SEASON EROSION CONTROL INSPECTION REPORTS

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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: July 29, 2016
Subject: Permanente Quarry – July 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 July 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 WMSA, all PCRA Subareas, the Rock Plant and the East Materials Storage Area (EMSA).

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

Memorandum

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

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

Date: August 31, 2016
Subject: Permanente Quarry – August 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."

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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, 2016

Subject: Permanente Quarry – September 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."

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- 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 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.

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

Memorandum

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

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

Date: October 31, 2016
Subject: Permanente Quarry – October 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."

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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

This memorandum summarizes the erosion control inspections conducted by WRA biologist Erich Schickenberg throughout the month of October 2016. Permanente Quarry received 2.94 inches of rainfall over the month of October, with two qualifying rain events (events totaling 0.5 inches rainfall or greater within 24 hours) occurring on October 16 and 30. Four 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 after each qualifying 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. Both storms produced enough rainfall to create surface flow and demonstrate the adequacy or deficiency of inspected BMPs.

Areas that were inspected include the North Quarry, WMSA and EMSA haul roads and check dams, Pond 4a, the PCRA Subareas, Crusher area, Pond 17, and the Rock Plant. All erosion controls were observed to be intact after the two rain events in October 2016, 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.

Memorandum

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

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

Date: November 30, 2016
Subject: Permanente Quarry – November 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.

This memorandum summarizes the erosion control inspections conducted by WRA biologist Erich Schickenberg throughout the month of November 2016. Permanente Quarry received 1.78 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 26. Seven 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 weekly, as well as before and after the "qualifying rain event on November 26 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.

All erosion controls were observed to be intact after the qualifying rain even, 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.

Memorandum

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

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

Date: December 31, 2016
Subject: Permanente Quarry – December 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.

This memorandum documents the erosion control inspections conducted by WRA biologist Erich Schickenberg throughout the month of December 2016. Permanente Quarry received 3.14 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 10, 15, and 23. Erosion control inspections were conducted on December 9, 15, and 24 in order to document the need for repairs to existing stormwater and erosion control BMPs, and to identify the need for additional erosion controls. Five 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.

All erosion controls were observed to be intact after the qualifying rain even, 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.

Memorandum

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

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

Date: January 31, 2017
Subject: Permanente Quarry – January 2017 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 2017. Permanente Quarry received 13.11 inches of rainfall over the month of January, with eight qualifying rain events (totaling 0.5 inches rainfall or greater within one day) occurring on January 3, 4, 7, 8, 10, 18, 20, and 22. Erosion control inspections were conducted on January 4, 5, 9, 17, 19, and 23 in order to document the need for repairs to existing stormwater and erosion control BMPs and to identify the need for additional erosion controls. Ten 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.

Memorandum

To: Sam Barket, Lehigh Hanson
Cc: Erika Guerra, Lehigh Hanson

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

Date: February 29, 2017
Subject: Permanente Quarry – February 2017 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 February 2017. Permanente Quarry received a total of 10.73 inches of rain during the month of February, with six qualifying rain events (0.5 inches rainfall or greater within a 24-hour period) occurring on February 3, 7, 9, 17, 20, and 22. Erosion control inspections were conducted on February 1, 7, 9, 15, 17, and 23 in order to document the need for repairs to existing stormwater and erosion control BMPs and to identify the need for additional erosion controls. Seven 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 February 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 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.

Memorandum

To: Sam Barket, Lehigh Hanson
Cc: Erika Guerra, Lehigh Hanson

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

Date: March 31, 2017
Subject: Permanente Quarry – March 2017 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 March 2017. Permanente Quarry received a total of 3.11 inches of rain during the month of March, with two qualifying rain events (0.5 inches rainfall or greater within a 24-hour period) occurring on March 22 and 24. Erosion control inspections were conducted on March 22 and 23 in order to document the need for repairs to existing stormwater and erosion control BMPs and to identify the need for additional erosion controls. Eight 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 March 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 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.

Memorandum

To: Sam Barket, Lehigh Hanson
Cc: Erika Guerra, Lehigh Hanson

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

Date: April 30, 2017
Subject: Permanente Quarry – April 2017 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 April 2017. Permanente Quarry received a total of 2.07 inches of rain during the month of April, with two qualifying rain events (0.5 inches rainfall or greater within a 24-hour period) occurring on April 6 and 7. An erosion control inspection was conducted on April 7 in order to document the need for repairs to existing stormwater and erosion control BMPs and to identify the need for additional erosion controls. Seven 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 April 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 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.

Memorandum

To: Sam Barket, Lehigh Hanson
Cc: Erika Guerra, Lehigh Hanson

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

Date: May 31, 2017
Subject: Permanente Quarry – May 2017 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 2017, 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 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 are intact and do not need repair. No further actions are required.

All erosion controls were intact and did not need repair at the time of inspection. There were no deficiencies to note from the May 2017 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.

Memorandum

To: Sam Barket, Lehigh Hanson
Cc: Erika Guerra, Lehigh Hanson

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

Date: June 30, 2017
Subject: Permanente Quarry – June 2017 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 2017, 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 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 are intact and do not need repair. No further actions are required.

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.

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APPENDIX C:

RECLAMATION PLAN AMMENDMENT AND FINAL CONDITIONS OF APPROVAL ANNUAL WORKER TRAINING

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LEHIGH HEIDELBERGCEMENT Group Permanente Plant	Lehigh Hanson ENVIRONMENTAL ANNUAL TRAINING TOPIC RPA Provisions and Conditions of Approval	**Annual** **2016**

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** **2016**

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** **2016**

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.

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** **2016**

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 Hanson - Heidelberg Cement Group
Permanente Quarry

2016 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
PASTOR G LOPEZ	QUARRY	8-18-16
George Dias	"	8-18-16
Antonio Berrosse	Quarry	8/18/16
Edwin Trabanino	Quarry	8/18/16
TERRY DUKE		" " "
TIMMY M.	Jimmy Quarry	8/18/16
Esteban Navarro	Estban Quarry	8-18-16
michael Ambrosio	Michael Ambrosio	8-18-16
Rogelio Flores	Rogelio Flores Quarry	8/18/16
Ricardo Cortes	Quarry	8/18/16
F Navarro	Quarry	8/18/16
F. A. CASTILLO	QUARRY	8/18/16
Marcos Lutin	Quarry	8-18-16
GEORGE TAYLOR	Quarry	8/18/16
Jose Valdez	Quarry	8/18/16
Mario V Beltran	Quarry	8-18-16
Jorge Moreno	Quarry	8-18-16
Hector Martinez	Quarry	8-18-16

Lehigh Hanson - Heidelberg Cement Group
Permanente Quarry

Name	Department	Date
Joey Gonzalez	Quarry	8-18-16
Adan Ulloa	Quarry	8-18-16
Jose e. RIVAS	"	"
Orlando Salazar	Quarry	8-18-16
Jesse Vallejos	Quarry	"
MANJUNATH SHIVALINGAPPA	LEHIGH ENV DEPT	8/18/16
Luis Bayuga	Quarry	8-18-16
Cliff Maddox	Quarry	8-18-16

Lehigh Hanson - Heidelberg Cement Group
Permanente Quarry

2016 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
Isaac Jacobs	TCI	8-18-16
Tyler Frazier	TCI	8-18-16
FREDERICK RUBIO III	TCI	8/18/16
Jayson Moore	TCI	8/18/16
Robert Rice	TCI	8/18/16
Jeremy Duncan	TCI	8/18/16
Scott Kennedy	TCI	8/18/16
Ryan Hemrick	TCI	8-18-16
Blaine Stillions	TCI	8-18-16
Brent Prince	TCI	8-18-16
Dustin Spires	TCI	8-18-16
Scott Swier	TCI	8-18-16
James Pestell	TCI	18Aug2016
Michael Cherry	TCI	8-18-16
Reece Shields	TCI	8-18-16
Michael Spires	TCI	8-18-16
Alonzo Hooper	TCI	8-18-16
Jeff Cud	TCI	8-18-16

Lehigh Hanson - Heidelberg Cement Group
Permanente Quarry

Name	Department	Date
Karl Buse-Dieng	TCI	8-18-16
Cody Montgomery	TCI	8-18-16
Zach Atchison	TCI	8-18-16
John T. Andersen	TCI	8-18-16
Bradley Kanish	TCI	8/18/16
Terry Pence	TCI	8/18/16
Levi Hattabaugh	TCI	8-18-16
Brandon [illegible]	TCI	8-18-16
James Oatley	TCI	8-18-16
J. Weddle	TCI	8/18/16
Bart Haynes	TCI	8-18-16
Ryan [illegible]	TCI	8-18-16
Roy D. Garcia	TCI	8-18-16
Ryan Baily	TCI	8-18-16
Daniel Coyne	TCI	8-18-16
Rocco Marsiano	TCI	8-18-16
James Horn	TCI	8-18-16
Jeff Straub	TCI	8-18-16
Andrew Short	TCI	8-18-16
Jennie Mccracken	TCI	8/18/16
Reynold Sutton Sr	TCI	8/18/16
X Jason Cooper	TCI	8 18 16
Josh Daniels	TCI	8/18/16
[illegible]	"	" "
[illegible]	TCI	/ / /
Johnathan Jerrells	TCI	8-18-16
Chris Gouchenour	TCI	8-18-16
SCOTT BASS	TCI	8-18-16

Lehigh Hanson - Heidelberg Cement Group
Permanente Quarry

Name	Department	Date
Robert Ryan	TCI	8-18-16
[illegible]	TCI	8-18-16
Dylan Kem	TCI	8-18-16
[illegible]	TCI	8-18-16
[illegible]	TCI	8-18-16
[illegible]	TCI	8-18-16
[illegible]	TCI	8-18-16
[illegible]	TCI	8-18-16
[illegible]	TCI	8/18/16
[illegible]	TCI	8/18/16
[illegible]	TCI	8/18/16
Maggie Rogers	TCI	8-18-16
MARY ELLEN MOORE	TCI	8-18-16
Tom Craig	TCI	8-18-16
Donny Matheny	TCI	8-18-16
Bryan Blankenship	TCI	8-18-16
[illegible]	TCI	8-18-16
Daren Wynters	TCI	8-18-2016
Tyler Porter	TCI	8-18-16

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APPENDIX D:

WATER QUALITY MONITORING MEMO

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TECHNICAL MEMORANDUM

Date:	9/21/17	**Project No.:**	0637109933
To:	Erika Guerra	**Company:**	Lehigh Southwest Cement Company
From:	George Wegmann, PG Bill Fowler, PG, CEG	**Email:**	Erika.Guerra@LehighHanson.com

RE: COA 76 ANNUAL SUMMARY, LEHIGH PERMANENTE QUARRY

Golder Associates Inc. (Golder) has prepared this technical memorandum to document the activities completed at the Lehigh Permanente Quarry from July 1, 2016 through June 30, 2017 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.
> 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

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Sunnyvale, CA 94085 USA
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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, 2016 through June 30, 2017, representative samples were collected from the Quarry pit via the Pond 4A discharge and the interim treatment system influent. The samples were analyzed for total metals and/or general water chemistry parameters. The sampling results are listed on the attached Table 1. The Pond 4A discharge results are a combination of quarry water, treated water, and Cement Plant Reclaim Water; the interim treatment system influent is quarry water. The quarry water is comprised of groundwater and/or quarry stormwater.

Table 1 also includes the discharge data from Ponds 13b, 17, and 30 from July 1, 2016 through June 30, 2017. 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 and discharged through permitted discharge point EFF-001 (Pond 4a) are included on Table 1 under Pond 4a. The daily volume noted is for the volume of pit water only.

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 25, 2017, Golder performed a seep survey within the Quarry pit. Three seeps were identified during the survey similar to last year:

- Seep-850: this seep is located in the southwest portion of the pit where it emerges from the 850 and 900 feet (ft) 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 1000 ft elevation bench at the southeast pit wall in an area of mining activity. This appears to be the same area of seepage as identified in 2016.

Golder did not identify any additional seeps within the Quarry pit. During the seep survey, the 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. Selenium results from the three samples ranged from an estimated value of 0.71 micrograms per Liter (ug/L) to 41 ug/L and nickel results ranged from 2.0 ug/L to 60 ug/L. The highest concentrations and flow rate were noted for Seep-850, consistent with previous years.

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 2016/2017 wet season, samples were collected of runoff from the EMSA cover during storm events. Golder prepared a technical memorandum, dated May 4, 2017, summarizing investigatory activities and findings (attached). Lehigh submitted the technical memorandum to Santa Clara County. Additional activities to address EMSA water quality are currently in process.

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.

Attachments

Tables 1 and 2
Technical Memorandum, EMSA Storm Water Runoff Evaluation Update, Lehigh Permanente Facility, May 4, 2017

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

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	
7/1/2016	2,513,700				7.3	0								3.5			
7/2/2016	2,173,400																
7/3/2016	505,100																
7/4/2016	386,000				7.3	0								4.71			
7/5/2016	185,000				6.9	0								6.7			
7/6/2016	330,000				7.7	0								6.21			
7/7/2016	345,000	2.2	ND<0.76	21.25	7.7	0	ND<0.10	ND<0.034		16	8.70	ND<0.10	1200	7.68			
7/8/2016	345,100				7.3	0								4.88			
7/9/2016	193,100																
7/10/2016	232,000																
7/11/2016	956,425				8.0	0								3.62			
7/12/2016	1,966,100				7.7	0								4.61			
7/13/2016	1,338,900	270		24.35	7.6	0	3.0				31.4		1200	4.11			
7/14/2016	2,595,600				7.3	0								3.94			
7/15/2016	2,632,600				7.8	0								4.36			
7/16/2016	2,949,400																
7/17/2016	2,560,000																
7/18/2016	2,216,200				7.3	0								4.22			
7/19/2016	2,632,600				7.1	0								4.21			
7/20/2016	2,914,800	ND<0.50		24.64	7.8	0	ND<0.10				48.3		1100	3.33			
7/21/2016	2,779,200				7.5	0								4.3			
7/22/2016	2,308,100				7.5	0								4.22			
7/23/2016	2,955,600																
7/24/2016	2,358,000																
7/25/2016	2,455,800				7.5	0								4.62			
7/26/2016	1,670,100				7.5	0								4.63			
7/27/2016	2,632,600				7.4	0								5.08			
7/28/2016	2,936,900	1.6		20.54	7.6	0	ND<0.10	0.24	*	170	37.5	0.32 J	1300	8.33			
7/29/2016	2,570,500				7.7	0								12			
7/30/2016	1,876,900																
7/31/2016	477,500																
8/1/2016	1,690,300				7.1	0.0								8.5			
8/2/2016	1,918,900				7.5	0.0								6.2			
8/3/2016	2,178,800				6.9	0.0								11.6			
8/4/2016	685,900				7.5	0.0								7.1			
8/5/2016	64,200				7.5	0.0								7.1			
8/6/2016	0	3.4											1200				
8/7/2016	0																
8/8/2016	1,194,000				7.8	0.0								5.2			
8/9/2016	1,327,700				7.6	0.0								6.1			
8/10/2016	1,459,900	1.9	ND<0.76	21.48	7.5	0.0	ND<0.10	ND<0.034	0.00213	130	25.9	0.20 J	1100	4.7			
8/11/2016	207,200				7.7	0.0								3.2			
8/12/2016	804,300				8.0	0.0								1.4			

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

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	
8/13/2016	499,400																
8/14/2016	762,900																
8/15/2016	1,561,000				7.9	0.0								3.6			
8/16/2016	170,200				7.9	0.0								4.1			
8/17/2016	0				7.8	0.0								5.4			
8/18/2016	47,300	ND<0.62		24.72	7.6	0.0		ND<0.034		100		0.15 J	1100	5.2			
8/19/2016	0				7.6	0.0								4.9			
8/20/2016	447,200																
8/21/2016	647,000																
8/22/2016	604,500				7.2	0.0								5.0			
8/23/2016	1,068,400	0.88		22.30	7.6	0.0	ND<0.10				23.3		1100	2.9			
8/24/2016	1,194,000				7.9	0.0								4.8			
8/25/2016	0				7.5	0.0								5.1			
8/26/2016	1,194,000				7.1	0.0								4.6			
8/27/2016	774,200																
8/28/2016	0																
8/29/2016	0				7.6	0.0								7.6			
8/30/2016	828,300				7.3	0.0								4.5			
8/31/2016	191,000	1.9		22.50	7.6	0.0	ND<0.10				28.7		1000	5.6			
9/1/2016	129,000				7.5	0								1.8			
9/2/2016	0				7.5	0								2.1			
9/3/2016	168,000																
9/4/2016	0																
9/5/2016	0				7.5	0								4.22			
9/6/2016	407				8.0	0								3.67			
9/7/2016	1,463,592	2.4	ND<0.76	21.47	7.9	0	ND<0.10	ND<0.034	0.00328	130	32.2	0.29 J	1000	7.3			
9/8/2016	0				7.7	0								4.64			
9/9/2016	695,514				7.6	0								6.1			
9/10/2016	0																
9/11/2016	0																
9/12/2016	0				7.6	0								4.72			
9/13/2016	0				8.1	0								3.71			
9/14/2016	1,397,621				7.9	0								7.6			
9/15/2016	66,090	0.60			7.4	0	ND<0.10				25.2		1100	4.1			
9/16/2016	66,090				7.8	0								4.92			
9/17/2016	66,090																
9/18/2016	66,090																
9/19/2016	0				7.6	0								4.9			
9/20/2016	1,153,037				7.9	0								3.5			
9/21/2016	60,100	1.1			7.7	0	ND<0.10	ND<0.034		91	21.2	0.20 J	1200	2.7			
9/22/2016	27,979				8.1	0								3.6			
9/23/2016	0				7.8	0								1.3			

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

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	
9/24/2016	0																
9/25/2016	89,879																
9/26/2016	14,246				7.7	0								2.2			
9/27/2016	50,611				7.7	0								2.7			
9/28/2016	0				7.8	0								3.9	100		
9/29/2016	220,821	0.62			7.7	0							980	2.2			
9/30/2016	0				7.9	0								2.5		2	1.9
10/1/2016	0																
10/2/2016	0																
10/3/2016	0																
10/4/2016	0																
10/5/2016	0																
10/6/2016	0																
10/7/2016	0																
10/8/2016	0																
10/9/2016	0																
10/10/2016	301,000				8.0	0								1.2			
10/11/2016	272,000				7.3	0								1.6			
10/12/2016	497,000				7.3	0								1.4			
10/13/2016	424,000				7.4	0								1			
10/14/2016	559,245	ND<0.56	ND<0.76	17.12	7.4	0	ND<0.10	ND<0.034	0.00067	44	6.63	ND<0.50	940	1			
10/15/2016	476,966																
10/16/2016	599,829																
10/17/2016	620,624				7.5	0								2.8			
10/18/2016	535,165	0.75		17.38	7.6 / 7.28	0							1000	4.7			
10/19/2016	469,000	1.8			7.5	0	ND<0.10				7.37			1.9			
10/20/2016	432,547				7.2	0								2.7			
10/21/2016	461,142				7.5	0								6.46			
10/22/2016	394,000																
10/23/2016	467,674																
10/24/2016	646,075				7.5	0								11			
10/25/2016	191,000				7.5	0								11.5			
10/26/2016	181,331				7.5	0								6.1			
10/27/2016	474,922	4.3			7.6	0	ND<0.10	5.8		8.8	10.5	ND<0.10	880	11.3			
10/28/2016	353,000				7.5	0								9.3			
10/29/2016	224,000																
10/30/2016	0																
10/31/2016	209,000				7.6	0.0								3.5			
11/1/2016	460,376	1.4	ND<0.76	18.35	7.4	0.0	ND<0.10	2.1	0.00245	16	14.5	ND<0.10	960	6.0			
11/2/2016	527,907				7.4	0.0								4.3			
11/3/2016	401,928				7.5	0.0								8.6			
11/4/2016	421,000				7.5	0.0								11.0			

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

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	
11/5/2016	264,000																
11/6/2016	56,045																
11/7/2016	174,000				7.5	0.0								8.5			
11/8/2016	24,942				7.4	0.0								28.2			
11/9/2016	154,000				7.5	0.0								12.4			
11/10/2016	239,579	2.8			7.4	0.0	ND<0.10				10.7		850	8.0			
11/11/2016	661,440				7.5	0.0								7.6			
11/12/2016	172,000																
11/13/2016	0																
11/14/2016	411,960				7.4	0.0								1.9			
11/15/2016	135,994				7.5	0.0								4.8			
11/16/2016	365,458	0.67			7.8	0.0	ND<0.10	7.8		19	13.3	ND<0.10	840	3.7			
11/17/2016	717,608				7.5	0.0								3.8			
11/18/2016	573,154				7.6	0.0								3.4			
11/19/2016	198,835																
11/20/2016	249,158																
11/21/2016	580,254				7.5	0.0								3.8			
11/22/2016	627,011	1.3			7.6	0.0	ND<0.10				14.5		1100	3.2			
11/23/2016	750,869				7.5	0.0								3.6			
11/24/2016	517,474																
11/25/2016	0																
11/26/2016	62,931																
11/27/2016	0																
11/28/2016	1,075,509				7.7	0.0								2.8			
11/29/2016	961,742				7.6	0.0								2.7			
11/30/2016	1,038,509	0.60			7.6	0.0							1100	2.7			
12/1/2016	1,134,696				7.7	0.0								2.1			
12/2/2016	994,222				7.6	0.0								2.5			
12/3/2016	911,909																
12/4/2016	533																
12/5/2016	861,038				7.5	0.0								6.3			
12/6/2016	1,055,328				7.6	0.0								2.8			
12/7/2016	892,864				7.7	0.0								2.5			
12/8/2016	1,233,213	3.3			7.6	0.0	ND<0.10				26.0		1000	3.8			
12/9/2016	1,167,605				7.5	0.0								5.7			
12/10/2016	1,220,064																
12/11/2016	1,135,154																
12/12/2016	1,165,672				7.7	0.0								3.7			
12/13/2016	1,162,099				7.7	0.0								2.3	100		
12/14/2016	1,284,378				7.7	0.0								3.1			
12/15/2016	1,184,515				7.8	0.0								10.1			
12/16/2016	1,243,771	4.0	ND<0.76	13.29	7.8	0.0	ND<0.10	6.5	0.00645	89	27.7	0.21 J	940	14.6		2.9	6.4

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

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	
12/17/2016	1,254,355																
12/18/2016	1,292,232																
12/19/2016	1,168,024				7.5	0.0								3.08			
12/20/2016	1,047,251	2.3			7.8	0.0	ND<0.10	13		68	23.3	ND<0.10	890	8.6			
12/21/2016	1,340,594				7.8	0.0								2.7			
12/22/2016	1,095,440				7.9	0.0								2.0			
12/23/2016	1,184,746																
12/24/2016	0																
12/25/2016	0																
12/26/2016	695,070																
12/27/2016	1,289,926				7.8	0.0								2.3			
12/28/2016	1,147,722				7.6	0.0								2.6			
12/29/2016	1,199,048	2.6			7.7	0.0	ND<0.10				28.7		1000	2.90			
12/30/2016	785,992				NM	0.0								4.7			
12/31/2016	0																
1/1/2017	0																
1/2/2017	65,576																
1/3/2017	0				7.13	0								7.93			
1/4/2017	0				8.25	0.0								4.8			
1/5/2017	0				8.25	0.00								10			
1/6/2017	409,000	14	ND<0.76	9.87	7.4	0.0	ND<0.10	11	0.00814	16	8.85	0.12 J	710	98.5			
1/7/2017	149,000																
1/8/2017	62,328																
1/9/2017	158,000	59			8.3	0.0	ND<0.10				10.9		550	137			
1/10/2017	162,000				7.8	0.0								52.7			
1/11/2017	235,829				7.5	0.0								101			
1/12/2017	1,731,112				7.3	0.0								25.2			
1/13/2017	1,603,696				7.4	0.0								16.4			
1/14/2017	1,602,435																
1/15/2017	1,579,931																
1/16/2017	1,451,834				8.4	0.0								3.1			
1/17/2017	1,507,136				8.2	0.0								5.2			
1/18/2017	1,458,419				7.5	0.00								5.57			
1/19/2017	1,562,141	3.9		14.01	7.5 / 7.80	0.0							1000	16.7			
1/20/2017	1,749,112				8.2	0.0								8.1			
1/21/2017	1,375,814																
1/22/2017	711,970																
1/23/2017	210,189				7.8	0.0								58			
1/24/2017	286,563	9.5			7.6	0.0		23		34		0.20 J	740	31.6			
1/25/2017	2,043,862				7.6	0.0								12.0			
1/26/2017	2,664,790				7.6	0.0								46.0			
1/27/2017	2,627,442				7.8	0.0								7.6			

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

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	
1/28/2017	2,687,648																
1/29/2017	2,544,435																
1/30/2017	2,459,270				7.6	0.0								7.16			
1/31/2017	2,536,554				7.8	0.0								7.41			
2/1/2017	2,468,552				8.0	0.0								6.1			
2/2/2017	2,440,040				7.9	0.0							1300	6.14			
2/3/2017	2,420,824	3.0		13.95	7.8	0.0	ND<0.10				60.9			10.9			
2/4/2017	2,569,754																
2/5/2017	2,411,856																
2/6/2017	2,961,499				7.9	0.0								8.5			
2/7/2017	2,337,397				8.0	0.0								63.4			
2/8/2017	2,819,702				7.7	0.0								14.8			
2/9/2017	2,592,594	2.0			7.9	0.0		14		88		0.31 J	1200	12.4			
2/10/2017	2,916,019				7.8	0.0								13.6			
2/11/2017	2,627,760																
2/12/2017	2,396,110																
2/13/2017	1,892,934				7.9	0.0								6.6			
2/14/2017	2,073,898	0.84			8.4	0.0							1200	2.7			
2/15/2017	1,558,402				7.8	0.0								18.3			
2/16/2017	2,428,000				7.7	0.0								3.4			
2/17/2017	2,995,168				7.8	0.0								3.5			
2/18/2017	3,015,722																
2/19/2017	2,746,024																
2/20/2017	2,116,483				7.9	0.0								43.0			
2/21/2017	598,126	14	ND<0.76		8.1	0.0	ND<0.10	18	0.0186	120	47.5 / 51	0.28 J	1100	71			
2/22/2017	1,195,490				7.8	0.0								13.6			
2/23/2017	1,204,328				7.3	0.0								24.3			
2/24/2017	2,859,910				7.8	0.0								7.5			
2/25/2017	3,069,485																
2/26/2017	2,537,533																
2/27/2017	2,014,339				7.9	0.0								7.0			
2/28/2017	2,480,578	0.90			7.9	0.0							1400	3.6	100	8.0	6.8
3/1/2017	2,919,557				8.0	0.0								2.31			
3/2/2017	2,486,507				7.9	0.0								2.4			
3/3/2017	2,134,194				8.2	0.0								2.9			
3/4/2017	2,431,846																
3/5/2017	2,179,024																
3/6/2017	2,683,482	1.6	ND<0.76		7.8	0.0	ND<0.10	11	0.00335	130	50.3	0.34 J	1300	5.3			
3/7/2017	2,412,920				7.3	0.0								9.9			
3/8/2017	2,518,158				7.9	0.0								2.2			
3/9/2017	2,648,867				8.1	0.0								2.2			
3/10/2017	1,624,414				7.9	0.0								8.2			

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

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	
3/11/2017	2,625,214																
3/12/2017	2,530,757																
3/13/2017	2,656,906				8.3	0.0								3.9			
3/14/2017	2,665,627	ND<0.62			7.5	0.0							1200	3.6			
3/15/2017	2,521,453				7.6	0.0								2.9			
3/16/2017	3,458,304				7.6	0.0								3.0			
3/17/2017	488,432				8.1	0.0								5.2			
3/18/2017	2,519,558																
3/19/2017	2,968,027																
3/20/2017	2,547,896				8.0	0.0								3.9			
3/21/2017	2,323,867	1.6		17.43	8.1	0.0		26		76		0.32 J	1200	4.1			
3/22/2017	2,182,899				8.0	0.0								9.1			
3/23/2017	2,542,550				7.9	0.0								8.6			
3/24/2017	2,748,360				7.8	0.0								6.2			
3/25/2017	2,226,405																
3/26/2017	1,087,717																
3/27/2017	1,211,002				8.3	0.0								2.9			
3/28/2017	1,936,960				7.9	0.0								9.2			
3/29/2017	936,730	1.2			8.2	0.0	ND<0.10				31.6		1100	2.6			
3/30/2017	2,052,702				7.9	0.0								3.5			
3/31/2017	2,313,150				8.0	0.0								2.8			
4/1/2017	2,439,096																
4/2/2017	2,388,130																
4/3/2017	2,117,614				8.4	0.0								4.6			
4/4/2017	1,613,043				8.1	0.0								3.3			
4/5/2017	2,784,075				8.2	0.0								3.4			
4/6/2017	1,257,576	2.0	ND<0.86		8.3	0.0	ND<0.10	38	0.0026	70	41.8	0.31 J	1100	8.6			
4/7/2017	2,629,368				8.2	0.0								12.8			
4/8/2017	2,685,696																
4/9/2017	2,579,934																
4/10/2017	2,112,221				7.5	0.0								4.3			
4/11/2017	2,106,234	1.8			7.9	0.0							1200	4.9			
4/12/2017	1,258,061				8.0	0.0								4.8			
4/13/2017	2,820,269				8.0	0.0								3.2			
4/14/2017	2,569,310				7.8	0.0								4.8			
4/15/2017	2,458,021																
4/16/2017	2,728,894																
4/17/2017	2,870,627				8.0	0.0								4.9			
4/18/2017	2,937,483				8.0	0.0								3.3			
4/19/2017	2,829,707				7.7	0.0								3.8			
4/20/2017	2,495,589	0.62		17.37	7.5	0.0	ND<0.10	0.57		120	42.7	0.26 J	1200	2.8			
4/21/2017	2,913,262				7.9	0.0								2.9			

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

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	
4/22/2017	2,871,579																
4/23/2017	2,778,088																
4/24/2017	2,841,931				7.02	0.0								3.2			
4/25/2017	2,751,533	0.88			7.2	0.0							1200	3.8			
4/26/2017	2,674,627				7.7	0.0								3.6			
4/27/2017	2,744,936				7.5	0.0								3.2			
4/28/2017	2,715,170				7.7	0.0								2.5			
4/29/2017	2,570,429																
4/30/2017	2,919,318																
5/1/2017	2,778,787				7.7	0.0								3.2			
5/2/2017	2,359,885				7.9	0.0								2.7			
5/3/2017	2,794,376				7.8	0.0								3.5			
5/4/2017	2,700,490	1.6			7.8	0.0							1100	2.7			
5/5/2017	2,545,840				7.9	0.0								2.6			
5/6/2017	3,011,099																
5/7/2017	2,720,534																
5/8/2017	2,782,120				7.7	0.0								3.0			
5/9/2017	2,813,171				7.5	0.0								3.0			
5/10/2017	2,231,464	1.2	ND<0.86	17.56	7.9	0.0	ND<0.10	18	0.0016	66	42.6	0.34 J	1100	4.1			
5/11/2017	2,757,840				6.8	0.0								4.3			
5/12/2017	2,744,821				7.7	0.0								3.8			
5/13/2017	2,736,965																
5/14/2017	2,227,866																
5/15/2017	2,801,123				7.8	0.0								3.7			
5/16/2017	1,871,616	1.1			8.1	0.0							1200	5.0			
5/17/2017	2,618,651				7.9	0.0								4.2			
5/18/2017	1,856,141				7.7	0.0								4.8			
5/19/2017	2,497,558				8.0	0.0								5.0			
5/20/2017	2,341,907																
5/21/2017	2,160,250																
5/22/2017	2,119,794	2.8			7.9	0.0		18		93		0.42 J	1100	3.5			
5/23/2017	1,917,126	1.8		17.84	7.8	0.0	ND<0.10				40.2			2.5	100		
5/24/2017	2,045,162				7.7	0.0								4.1			
5/25/2017	1,591,406				7.8	0.0								4.8			
5/26/2017	2,049,909				8.1	0.0								4.9			
5/27/2017	2,143,658																
5/28/2017	1,895,232																
5/29/2017	2,139,915				7.5	0.0								3.9			
5/30/2017	1,514,824				7.5	0.0								3.1			
5/31/2017	1,922,819	1.7			7.7	0.0							980	3.4		19.9	60.5
6/1/2017	1,695,190				7.5	0.0								3.8			
6/2/2017	1,814,066				7.8	0.0								5.0			

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

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	
6/3/2017	1,589,130																
6/4/2017	2,177,622																
6/5/2017	1,686,978				7.7	0.0								3.6			
6/6/2017	1,121,656				7.8	0.0								3.5			
6/7/2017	590,000				7.4	0.0								7.0			
6/8/2017	919,270	4.2	ND<0.86	18.55	7.5	0.0	ND<0.10	ND<0.031	ND<0.030	39	7.94	ND<0.10	1200	12.3			
6/9/2017	1,737,160				7.6	0.0								5.0			
6/10/2017	1,682,698																
6/11/2017	1,392,822																
6/12/2017	1,386,106				7.3	0.0								5.0			
6/13/2017	1,552,152				7.1	0.0								4.8			
6/14/2017	939,392	3.4			7.3	0.0							1300	4.3			
6/15/2017	1,385,726				7.4	0.0								4.5			
6/16/2017	1,139,125				7.4	0.0								4.8			
6/17/2017	1,162,922																
6/18/2017	1,297,942																
6/19/2017	975,173				7.5	0.0								4.0			
6/20/2017	1,486,053	2.9			8.2	0.0							1200	3.8			
6/21/2017	1,678,494				8.1	0.0								4.2			
6/22/2017	1,546,477				7.5	0.0								3.5			
6/23/2017	1,554,557				7.8	0.0								4.1			
6/24/2017	1,476,667																
6/25/2017	1,669,382																
6/26/2017	1,714,654				7.9	0.0								4.6		1.9	3.6
6/27/2017	1,131,011				7.8	0.0								4.4			
6/28/2017	1,174,085	0.86 ave			7.7	0.0	ND<0.10	0.23		83	33.3	0.22 J	1100	4.2			
6/29/2017	1,171,003				7.3	0.0								4.8			
6/30/2017	1,502,488				8.1	0.0								4.8			

J = estimated value below reporting limit (DNQ)

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

ITS Influent Data		Parameter	Cr (VI)	Mercury	Nickel	TSS	Selenium	Turbidity	Set. Matter	TDS
	Date	Unit	ug/L	ug/L	ug/L	mg/L	ug/L	NTU	ml/L-hr	mg/L
SP-114-INF	7/7/2016	Influent	0.16 J	0.00070	110	ND<0.50	49	0.94	ND<0.10	1200
	7/13/2016		0.27	ND<0.030	130	ND<0.50	53	0.50	ND<0.10	1200
	7/20/2016		0.25	0.00100	210	0.61	67	1.03	ND<0.10	1100
	7/28/2016		0.27	0.00259	220	ND<0.50	55	7.17	ND<0.10	1300
	8/6/2016		0.070 J	0.00174	150	1.0	47	1.59	ND<0.10 H	1100
	8/10/2016		0.056 J	0.00261	180	0.80	50	1.84	ND<0.10	1100
	8/18/2016		ND<0.034	0.00317	170	2.3	40	5.19	ND<0.10	1100
	8/24/2016		0.17 J	0.00212	150	1.0	50	2.09	ND<0.10	1100
	8/31/2016		0.055 J	0.00423	140	ND<0.50	55	1.87	ND<0.10	1000
	9/8/2016		ND<0.034	0.00107	170	ND<0.50	48	-	ND<0.10	1100
	9/15/2016		0.036 J	0.00531	180	0.90	50	-	ND<0.10	1000
	9/21/2016		0.048 J	0.00228	160	ND<0.50	46	-	ND<0.10	990
	9/28/2016		0.16 J	0.00088	69	ND<0.50	26	-	ND<0.10	1000
	10/11/2016		0.27	0.00104	49	0.60	32	-	ND<0.10 H	980
	10/18/2016		0.42	0.00678	40	ND<0.50	41	1.73	ND<0.10 H	1000
	10/25/2016		1.70	0.0192	48	ND<0.50	55	0.3	ND<0.10	1100
	11/1/2016		0.31	0.00177	42	2.1	49		ND<0.10	1000
	11/10/2016		0.30	0.00099	50	ND<0.50	39	1.40	ND<0.10	980
	11/16/2016		0.32	0.00108	51	ND<0.56	40	0.3	ND<0.10	1000
	11/22/2016		0.38	0.00121	51	ND<0.56	41	0.5	ND<0.10	1100
	11/30/2016		0.45	-	76	ND<0.50	68	0.3	ND<0.10	1100
	12/6/2016		0.26	0.00090	92	ND<0.50	68	0.6	ND<0.10 H	1100
	12/13/2016		0.20	0.00060	110	ND<0.50	71	1.10	ND<0.10 H	1100
	12/20/2016		0.19 J	0.00037 J	130	ND<0.50	49	0.90	ND<0.10	1100
	12/29/2016		0.38	0.00090	120	ND<0.50	74	NM	ND<0.10	1100
	1/7/2017		0.59	0.00108	68	ND<0.50	89		ND<0.10 H	1100
	1/11/2017		0.60	0.00272	33	ND<0.50	70	1.86	ND<0.10	880
	1/17/2017		1.2	0.00135	120	ND<0.62	98	2.2	ND<0.10	1300
	1/24/2017		0.96	0.00214	58	0.80	78	0.9	ND<0.10	1300
	2/1/2017		0.94	0.00090	140	ND<0.50	81	0.22	ND<0.10	1500

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

ITS Influent Data	Parameter	Cr (VI)	Mercury	Nickel	TSS	Selenium	Turbidity	Set. Matter	TDS
Date	Unit	ug/L	ug/L	ug/L	mg/L	ug/L	NTU	ml/L-hr	mg/L
2/9/2017		1.1	0.00126	120	7.0	85	0.6	0.30	1400
2/14/2017		0.84	0.00148	140	ND<0.50	84	0.6	ND<0.10	1500
2/24/2017		0.98	0.00127	130	ND<0.50	77	0.5	ND<0.10	1400
2/28/2017		ND<0.034	0.00100	120	1.6	83	0.2	ND<0.10	1400
3/9/2017		0.12 J	0.00098	160	0.90	83	0.16	ND<0.10	1400
3/14/2017		0.086 J	0.00087	140	0.78	87	0.2	ND<0.10	1400
3/21/2017		0.20	0.00084	130	0.89	79	0.2	ND<0.10	1300
3/29/2017		0.53	0.00112	130	0.80	65	0.6	ND<0.10	1200
4/5/2017		0.56	0.00092	140	ND<0.56	65	0.2	ND<0.10	1200
4/11/2017		0.40	0.0010	130	0.56	61	0.4	ND<0.10	1200
4/20/2017		0.55	ND<0.030 /0.00089	120	0.89	75	0.3	ND<0.10	1200
4/25/2017		0.54	0.00059	130	ND<0.56	67	0.6	ND<0.10	1200
5/4/2017		0.52	0.00068	110	ND<0.50	64	0.5	ND<0.10	1200
5/10/2017		0.57	0.0011	130	ND<0.56	55	0.3	ND<0.10 H	1200
5/16/2017		0.56	0.00067	120	ND<0.56	63	0.52	ND<0.10	1200
5/22/2017		0.65	0.00062	130	ND<0.56	64	0.5	ND<0.10	1200
5/31/2017		0.78	0.00071	120	ND<0.56	67	0.82	ND<0.10	1200
6/8/2017		0.69	ND<0.030	120	ND<0.56	61	0.79	ND<0.10	1200
6/14/2017		0.58	0.00090	120	0.56	64	0.90	ND<0.10	1200
6/20/2017		0.63	0.00079	120	ND<0.56	82	4.8	ND<0.10	1300
6/28/2017		0.52	0.0010	120	ND<0.56	51	1.3	ND<0.10	1100

J = estimated value below reporting limit (DNQ)

H = analyzed past holdtime

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

Pond 13b:					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 2016	***No discharge for the month***											
August 2016	***No discharge for the month***											
September 2016	***No discharge for the month***											
October 2016	***No discharge for the month***											
November 2016	***No discharge for the month***											
December 2016	***No discharge for the month***											
January 2017	***No discharge for the month***											
February 2017	***No discharge for the month***											
March 2017	***No discharge for the month***											
April 2017	***No discharge for the month***											
May 2017	***No discharge for the month***											
June 2017	***No discharge for the month***											

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

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 2016	***No discharge for the month***											
August 2016	***No discharge for the month***											
September 2016	***No discharge for the month***											
10/1/2016	0											
10/2/2016	0											
10/3/2016	0											
10/4/2016	0											
10/5/2016	0											
10/6/2016	0											
10/7/2016	0											
10/8/2016	0											
10/9/2016	0											
10/10/2016	0											
10/11/2016	0											
10/12/2016	0											
10/13/2016	0											
10/14/2016	0											
10/15/2016	0											
10/16/2016	0											
10/17/2016	0											
10/18/2016	0											
10/19/2016	0											
10/20/2016	0											
10/21/2016	0											
10/22/2016	0											
10/23/2016	0											
10/24/2016	0											
10/25/2016	0											
10/26/2016	0											
10/27/2016	0											
10/28/2016	500											
10/29/2016	0											
10/30/2016	5,500											
10/31/2016	0											
11/1/2016												
11/2/2016												
11/3/2016												
11/4/2016												
11/5/2016												

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

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
11/6/2016												
11/7/2016												
11/8/2016												
11/9/2016												
11/10/2016												
11/11/2016												
11/12/2016												
11/13/2016												
11/14/2016												
11/15/2016												
11/16/2016												
11/17/2016												
11/18/2016												
11/19/2016												
11/20/2016												
11/21/2016												
11/22/2016												
11/23/2016												
11/24/2016												
11/25/2016												
11/26/2016												
11/27/2016	4,500	6.2	ND<0.76	7.40	ND<0.10	11.5	826	27	0.0210	6.6	11.1	ND<0.10
11/28/2016												
11/29/2016												
11/30/2016												
12/1/2016	0											
12/2/2016	0											
12/3/2016	0											
12/4/2016	0											
12/5/2016	0											
12/6/2016	0											
12/7/2016	0											
12/8/2016	0											
12/9/2016	0											
12/10/2016	10,700											
12/11/2016	0											
12/12/2016	0											
12/13/2016	0											
12/14/2016	0											

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

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
12/15/2016	11,600											
12/16/2016	1,300	2.5		8.31	ND<0.10	18.3					9.30	
12/17/2016	0											
12/18/2016	0											
12/19/2016	0											
12/20/2016	0											
12/21/2016	0											
12/22/2016	0											
12/23/2016	2,400											
12/24/2016	0											
12/25/2016	0											
12/26/2016	0											
12/27/2016	0											
12/28/2016	0											
12/29/2016	0											
12/30/2016	0											
12/31/2016	0											
1/1/2017	0											
1/2/2017	0											
1/3/2017	10,700											
1/4/2017	11,300											
1/5/2017	1,700											
1/6/2017	0											
1/7/2017	NM											
1/8/2017	NM											
1/9/2017	180,000	12	ND<0.76	8.32	ND<0.10	21.5	723	6.3	0.0114	3.9	5.89	ND<0.10
1/10/2017	NM											
1/11/2017	NM											
1/12/2017	NM											
1/13/2017	NM											
1/14/2017	1,700											
1/15/2017	1,100											
1/16/2017	0											
1/17/2017	0											
1/18/2017	4,200											
1/19/2017	2,900											
1/20/2017	156,600											
1/21/2017	98,100											
1/22/2017	278,200											

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

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
1/23/2017	196,000											
1/24/2017	40,500											
1/25/2017	26,000											
1/26/2017	9,900											
1/27/2017	5,900											
1/28/2017	3,500											
1/29/2017	2,200											
1/30/2017	2,100											
1/31/2017	2,000											
2/1/2017	1900											
2/2/2017	2200											
2/3/2017	6500	ND<0.56		8.42	ND<0.10	4.03					5.29	
2/4/2017	1900											
2/5/2017	4200											
2/6/2017	13400											
2/7/2017	186000											
2/8/2017	102000											
2/9/2017	146200											
2/10/2017	154800											
2/11/2017	58300											
2/12/2017	34500											
2/13/2017	26300											
2/14/2017	20400											
2/15/2017	18300											
2/16/2017	24600											
2/17/2017	72500											
2/18/2017	44800											
2/19/2017	42200											
2/20/2017	410800											
2/21/2017	136200	1700		8.26	0.9	788					3.69	
2/22/2017	61800					81.6						
2/23/2017	46400					35.2						
2/24/2017	36000											
2/25/2017	35700											
2/26/2017	35200											
2/27/2017	31400											
2/28/2017	22700											
3/1/2017	19,700											
3/2/2017	19,100											

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

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
3/3/2017	20,000											
3/4/2017	19,400											
3/5/2017	16,500											
3/6/2017	12,300	ND<0.62		8.22	ND<0.10	1.37					3.58	
3/7/2017	10,300											
3/8/2017	9,100											
3/9/2017	7,800											
3/10/2017	6,800											
3/11/2017	7,600											
3/12/2017	9,200											
3/13/2017	9,100											
3/14/2017	8,000											
3/15/2017	5,600											
3/16/2017	3,800											
3/17/2017	3,100											
3/18/2017	2,900											
3/19/2017	2,400											
3/20/2017	2,300											
3/21/2017	4,100											
3/22/2017	14,900											
3/23/2017	4,000											
3/24/2017	8,100											
3/25/2017	3,200											
3/26/2017	1,900											
3/27/2017	900											
3/28/2017	1,000											
3/29/2017	1,200	ND<0.62		8.1	ND<0.10	2.06					3.09	
3/30/2017	700											
3/31/2017	900											
4/1/2017	1,000											
4/2/2017	0											
4/3/2017	0											
4/4/2017	0											
4/5/2017	0											
4/6/2017	14,500	0.75	ND<0.86	8.14	ND<0.10	1.41	913	7.8	0.0022	2.8	2.30	ND<0.10
4/7/2017	13,400											
4/8/2017	5,200											
4/9/2017	2,200											
4/10/2017	2,000											

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

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
4/11/2017	2,300											
4/12/2017	1,800											
4/13/2017	1,200											
4/14/2017	1,000											
4/15/2017	1,000											
4/16/2017	1,000											
4/17/2017	1,000											
4/18/2017	0											
4/19/2017	0											
4/20/2017	0											
4/21/2017	0											
4/22/2017	0											
4/23/2017	0											
4/24/2017	0											
4/25/2017	0											
4/26/2017	0											
4/27/2017	0											
4/28/2017	0											
4/29/2017	0											
4/30/2017	0											
May 2017	***No discharge for the month***											
June 2017	***No discharge for the month***											

J = estimated value below reporting limit (DNQ)

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

Pond 30:					Settleable	Turbidity		Chromium				
Date	Flow Rate	TSS	O&G	pH	Matter		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 2016	***No discharge for the month***											
August 2016	***No discharge for the month***											
September 2016	***No discharge for the month***											
October 2016	***No discharge for the month***											
November 2016	***No discharge for the month***											
12/1/2016	0											
12/2/2016	0											
12/3/2016	0											
12/4/2016	0											
12/5/2016	0											
12/6/2016	0											
12/7/2016	0											
12/8/2016	0											
12/9/2016	0											
12/10/2016	0											
12/11/2016	1,100											
12/12/2016	1,100											
12/13/2016	900											
12/14/2016	0											
12/15/2016	0											
12/16/2016	3,400	9.0	ND<0.76	8.45	0.20	8.32	1373	1.8	0.0117	5.6	13.5	ND<0.10
12/17/2016	3,900											
12/18/2016	3,500											
12/19/2016	4,900											
12/20/2016	5,500	1.2		7.82	ND<0.10	1.79					37.6	
12/21/2016	6,000											
12/22/2016	6,300											
12/23/2016	8,400											
12/24/2016	7,000											
12/25/2016	5,800											
12/26/2016	5,000											
12/27/2016	5000											
12/28/2016	4900											
12/29/2016	4700	0.60		7.84	ND<0.10	1.98					48.3	
12/30/2016	4600											
12/31/2016	4400											
1/1/2017	3,900											
1/2/2017	3,900											
1/3/2017	39,700											
1/4/2017	65,600											

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

Pond 30:					Settleable	Turbidity		Chromium				
Date	Flow Rate	TSS	O&G	pH	Matter		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
1/5/2017	52,200											
1/6/2017	55,700	1.5		8.00	ND<0.10	2.72					37.9	
1/7/2017	80,700											
1/8/2017	185,200											
1/9/2017	320,200	9.5	ND<0.76	7.68	ND<0.10	3.40	2260	1.3	0.0124	9.8	31.6	ND<0.10
1/10/2017	364,200											
1/11/2017	369,500											
1/12/2017	327,000											
1/13/2017	249,600											
1/14/2017	160,700											
1/15/2017	152,400											
1/16/2017	135,900											
1/17/2017	121,700											
1/18/2017	123,600											
1/19/2017	112,300											
1/20/2017	143,000											
1/21/2017	162,100											
1/22/2017	256,900											
1/23/2017	297,400	0.81	ND<0.76	7.55	ND<0.10	2.65	2406	1.3	0.00602	7.2	33.9	ND<0.10
1/24/2017	277,500											
1/25/2017	197,300											
1/26/2017	172,400											
1/27/2017	149,100											
1/28/2017	129,500											
1/29/2017	118,100											
1/30/2017	110,100											
1/31/2017	103,500											
2/1/2017	102,900											
2/2/2017	95,100											
2/3/2017	99,600	0.78		7.83	ND<0.10	5.59			ND<0.030	10	44.3	ND<0.10
2/4/2017	78,100											
2/5/2017	77,200											
2/6/2017	95,500											
2/7/2017	163,300											
2/8/2017	260,200											
2/9/2017	289,100											
2/10/2017	252,100											
2/11/2017	203,900											
2/12/2017	178,900											
2/13/2017	171,100											

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

Pond 30:					Settleable	Turbidity		Chromium				
Date	Flow Rate	TSS	O&G	pH	Matter		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
2/14/2017	135,200											
2/15/2017	114,300											
2/16/2017	108,900											
2/17/2017	121,700											
2/18/2017	108,400											
2/19/2017	125,400											
2/20/2017	225,000											
2/21/2017	376,700	2.0	ND<0.76	7.86	ND<0.10	10.43		1.1	0.00810	8.9	13.3	ND<0.10
2/22/2017	387,200											
2/23/2017	303,500											
2/24/2017	223,100											
2/25/2017	191,500											
2/26/2017	170,100											
2/27/2017	154,100											
2/28/2017	143,800											
3/1/2017	140,400											
3/2/2017	123,500											
3/3/2017	111,300											
3/4/2017	126,500											
3/5/2017	129,800											
3/8/2017	39,900											
3/9/2017	35,500											
3/10/2017	36,700											
3/11/2017	44,400											
3/12/2017	42,300											
3/13/2017	43,200											
3/14/2017	38,800											
3/15/2017	23,700											
3/16/2017	16,200											
3/17/2017	22,000											
3/18/2017	18,200											
3/19/2017	18,800											
3/20/2017	23,200											
3/21/2017	27,200											
3/22/2017	45,300											
3/23/2017	25,600											
3/24/2017	43,900											
3/25/2017	47,600											
3/26/2017	36,000											
3/27/2017	23,100											

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

Pond 30:					Settleable	Turbidity		Chromium				
Date	Flow Rate	TSS	O&G	pH	Matter		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
3/28/2017	36,700											
3/29/2017	19,700	0.62		7.87	ND<0.10	2.30					28.3	
3/30/2017	5,400											
3/31/2017	15,100											
4/1/2017	20,100											
4/2/2017	1,000											
4/3/2017	0											
4/4/2017	0											
4/5/2017	0											
4/6/2017	1,000	0.62	ND<0.86	8.00	ND<0.10	1.83	2730	0.30	0.0037	17	31.2	0.15 J
4/7/2017	9,200											
4/8/2017	9,800											
4/9/2017	3,200											
4/10/2017	1,300											
4/11/2017	2,800											
4/12/2017	1,600											
4/13/2017	1,200											
4/14/2017	6,000											
4/15/2017	14,300											
4/16/2017	5,200											
4/17/2017	2,200											
4/18/2017	5,100											
4/19/2017	3,200											
4/20/2017	1,100	3.2		8.15	ND<0.10	0.93					24.5	
4/21/2017	0											
4/22/2017	1,000											
4/23/2017	1,400											
4/24/2017	1,700											
4/25/2017	1,300											
4/26/2017	3,100											
4/27/2017	3,700											
4/28/2017	4,000											
4/29/2017	3,400											
4/30/2017	0											
5/1/2017	0											
5/2/2017	0											
5/3/2017	0											
5/4/2017	0											
5/5/2017	0											
5/6/2017	0											

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

Pond 30:					Settleable	Turbidity		Chromium				
Date	Flow Rate	TSS	O&G	pH	Matter		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
5/7/2017	0											
5/8/2017	0											
5/9/2017	0											
5/10/2017	0											
5/11/2017	0											
5/12/2017	0											
5/13/2017	0											
5/14/2017	600											
5/15/2017	2,000											
5/16/2017	2,000											
5/17/2017	2,900											
5/18/2017	1,200											
5/19/2017	1,400											
5/20/2017	1,100											
5/21/2017	700											
5/22/2017	2,900											
5/23/2017	300	3.0		8.29	ND<0.10	2.92	2825				17.2	
5/24/2017	0											
5/25/2017	300											
5/26/2017	400											
5/27/2017	0											
5/28/2017	0											
5/29/2017	0											
5/30/2017	0											
5/31/2017	0											
June 2017	***No discharge for the month***											

J = estimated value below reporting limit (DNQ)

Table 1: Monitoring Data Summary
Lehigh Permanente Facility
September 2017

Pond 30: Discharge 006	Parameter	Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Silver	Zinc	TDS
Additional Parameters	Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
Pond 30	Date										
	1/9/2017	1.4 J	3.4	<0.14	0.50 J	2.2	11	<0.10	<0.10	100	2100
	1/23/2017	0.71 J	<0.70	<0.28	0.22 J	<1.0	7.1	<0.10	<0.10	55	2300
	2/3/2017	0.98 J	<0.70	0.16 J	0.38 J	3.3	6.2	ND<0.10	0.35 J	140	2900
	2/21/2017	0.61 J	2.1	ND<0.14	0.11 J	1.9 J	6.5	0.14 J	ND<0.10	34	1500
	4/6/2017	1.3 J	2.5	0.83 J	0.50 J	--	16	ND<0.10	ND<0.10	86	2600

J = estimated value below reporting limit (DNQ)

Table 2: Quarry Pit Seep Data
Lehigh Permanente Facility
September 2017

Quarry Pit Seeps	Seep-750	Seep-850	Seep-1000
Metals (dissolved, 200 series)	**4/25/2017**	**4/25/2017**	**4/25/2017**
Antimony (ug/L)	0.28 J	3.1	3.3
Arsenic (ug/L)	5.4	2.5	6.3
Beryllium (ug/L)	<0.050	<0.050	<0.050
Cadmium (ug/L)	0.083 J	1.0	<1.0
Chromium (ug/L)	<0.15	0.38 J	<0.15
Copper (ug/L)	2.9	5.1	1.2 J
Lead (ug/L)	<0.021	<0.021	<0.021
Mercury (ug/L)	<0.030	<0.030	<0.030
Nickel (ug/L)	6.2	60	2.0
Selenium (ug/L)	1.7 J	41	0.71 J
Silver (ug/L)	<0.015	<0.015	<0.015
Thallium (ug/L)	<0.025	0.17 J	<0.025
Zinc (ug/L)	<2.2	170	5.8
Additional Parameters			
Dissolved Calcium (mg/L)	34	200	44
Dissolved Magnesium (mg/L)	8.7	69	47
Dissolved Sodium (mg/L)	190	23	25
Dissolved Potassium (mg/L)	1.5	2.1	1.8
Bicarbonate (mg/L)	190	270	170
Chloride (mg/L)	5.6	16	18
Fluoride (mg/L)	0.042 J	0.089	0.16
Nitrate as NO3	0.51	22	4.3
Sulfate (mg/L)	290	470	150
Dissolved Hardness	120	790	300
Total Dissolved Solids (mg/L)	760	980	440
Total Suspended Solids (mg/L)	560	1.1	<0.71
Turbidity - Field (NTU)	81	0.28	20.7
pH - Field (s.u.)	8.26	7.32	8.30
Temperature - Field (°C)	16.15	16.37	17.48
DO - Field (mg/L)	8.92	7.73	7.55
Electrical Conductivity - Field (µS/cm)	924	1248	619
ORP - Field (mV)	191.3	97.4	104.6
Estimated Flow Rate (GPM)	5	650	5

Notes:

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

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APPENDIX E:

UPDATED STORMWATER POLLUTION PREVENTION PLAN

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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

September 09, 2017

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: Keith Krugh, 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.

Keith Krugh
Plant Manager

9-28-17
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
004	Sam Barket	Updated contact information	December 2016
005	Courtney Perry	General updates.	April 2017
006	Manju Shivalingappa	Updated Contact Information	September 2017

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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 the Facility, which is owned and Hanson Permanente Cement, Inc., (Lehigh) owns.

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 allowed limited process water discharges until October 1, 2014, and established 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 Manager	Keith Krugh	408-996-4231
Environmental Manager	Tressa Jackson	(530) 351-4043
Environmental Engineer	Manjunath Shivalingappa	408-996-4236, 408-650-4782
Environmental Engineer	Courtney Perry	408-996-4022, 408-204-0364
Quarry Manager	George Taylor	408-996-4190, 408-691-8830
WRA consultant	Erich Schickenberg	(415) 454-8868 x1870, 650-276-6203

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

Keith Krugh, 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, environmental engineer Manju Shivalingappa, 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 formerly received 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 or creek 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 (Pond 1).

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.

A French drain has been constructed adjacent to Pond 30 and the inlet ditch to intercept underground water flows. This water is collected in a sump, pumped up to a holding tank, and from there it is transferred by water tank truck to Pond 1.

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 track-out 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 (sewage). This plant is permitted, and discharges effluent to a thickener tank to be used as part of the Reclaim Water System. Sodium Hypochlorite tablets are 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 discharged through Pond 20.

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, contractor 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.

If required, 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.

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Engineering Earth's Development, Preserving Earth's Integrity

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APPENDIX F:

ANNUAL GREENHOUSE GAS INVENTORY REPORT

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Permanente Plant
24001 Stevens Creek Blvd.
Cupertino, CA 95014
Phone (408) 996-4000

September 29, 2017

Mr. Erika Guerra
Lehigh Hanson
Environmental Director

Re: Annual Reclamation Plan Amendment Activities Greenhouse Gas Inventory

Dear Ms. Guerra,

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 1, 2016 through June 30, 2017.

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

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*
Gradall 5200	Excavator	170	173
10-wheel Dump Truck	Off-Highway Truck	165	350
2001 Freightliner FL70	Off-Highway Truck	16	290
**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, 2016 through June 30, 2017 Appendix A shows the results of the modeling of this inventory. Total emissions for the study period were 18.9123 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,

Manjunath Shivalingappa
Environmental Engineer

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

Appendix A: CalEEMod GHG Inventory Results

Model	Equipment Type	CO2e Metric Tons
Gradall 5200	Excavator	
	Total Excavator	5.277083
10-wheel Dump Truck	Off-Highway Truck	
	Total Off-Highway Trucks	12.72
2001 Freightliner FL70	Off-Highway Truck	
	Total Freedlun	0.9152
Total Emissions		**18.9123**

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*
3 http://www.caleemod.com/

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APPENDIX G:

2018-2019 MAP OF EXISTING AND PROPOSED STOCKPILES

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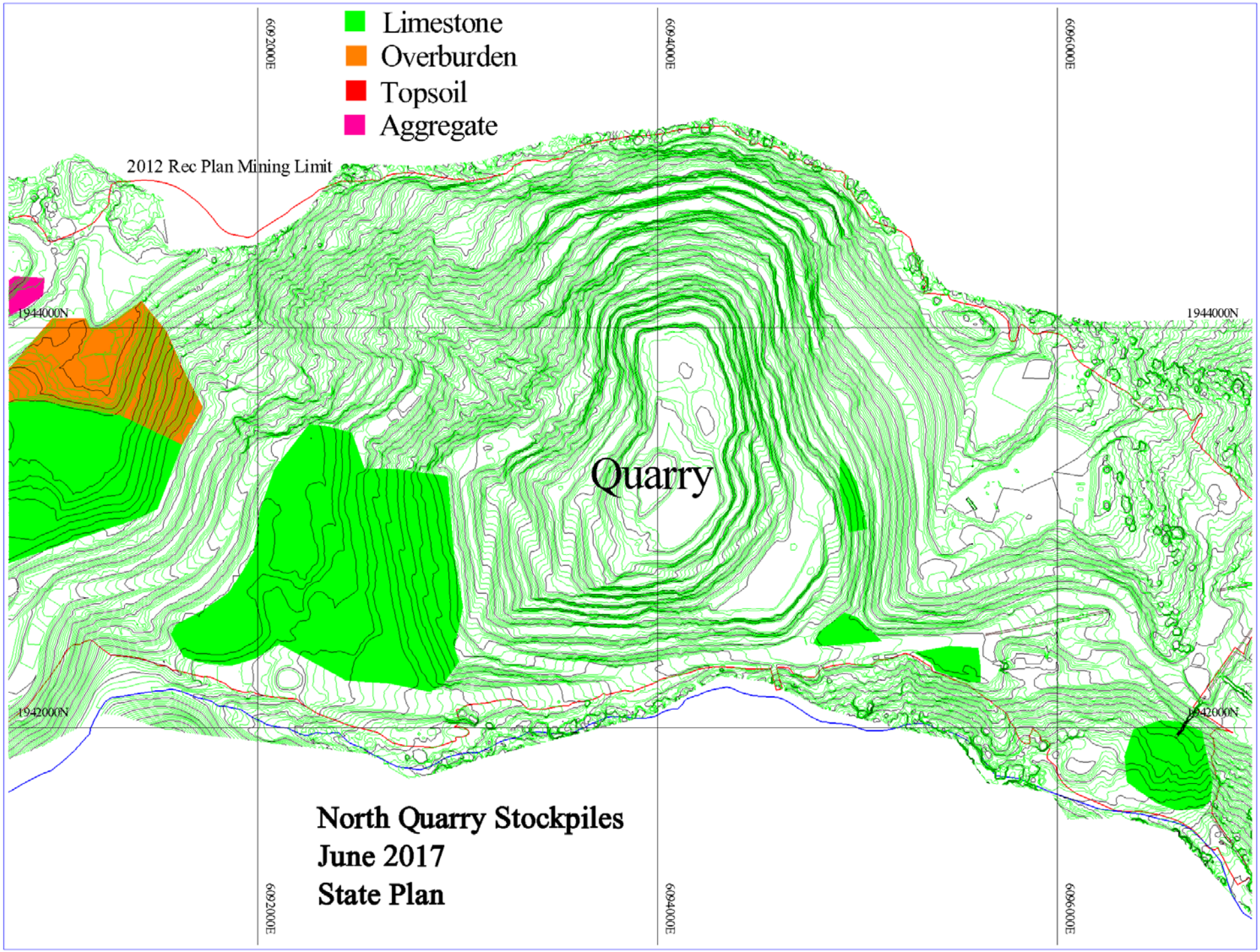
HANSON PERMANENTE

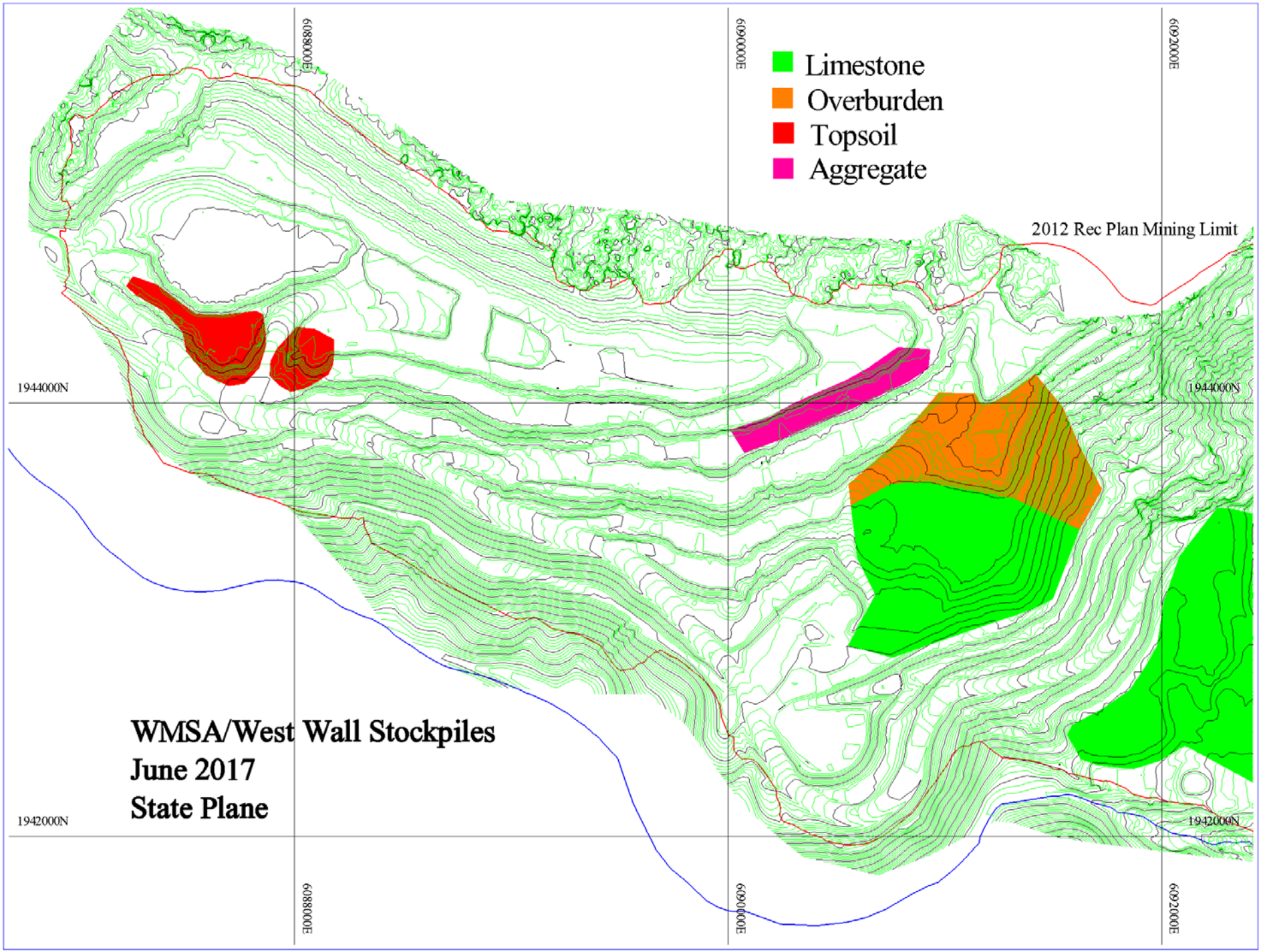
Stockpiles Within 2012 Rec Plan
(June 2017)

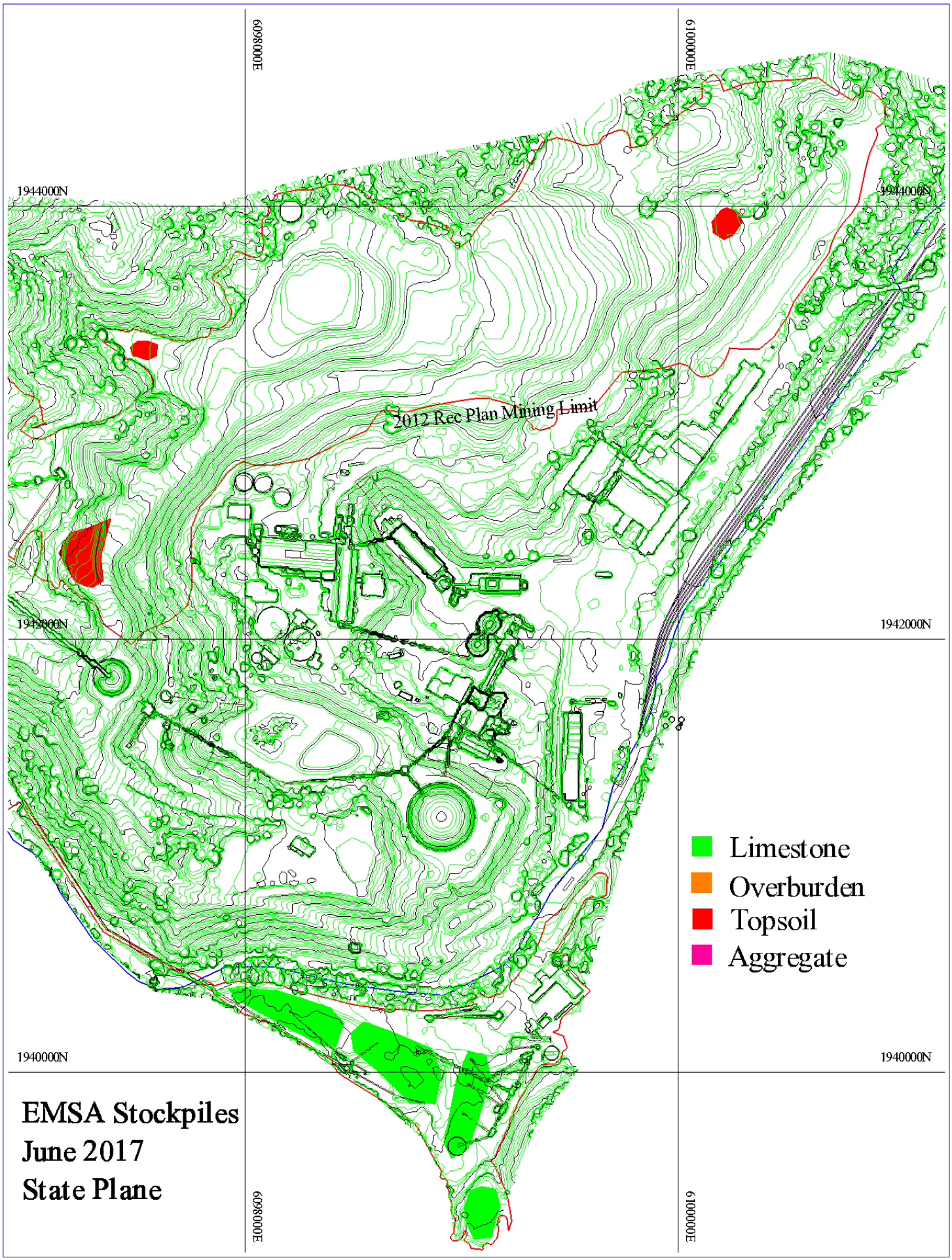
C. Maddocks

Sept 15, 2017



N1940915, E6090754, Scale650


Limestone
Overburden
Topsoil
Aggregate
2012 Rec Plan Mining Limit
1944000N
1942000N
6088000E
6090000E
6092000E
WMSA/West Wall Stockpiles
June 2017
State Plane
N1941500, E6086681, Scale600



N1939170, E6096907, Scale600

Stockpiles June 2017

	Centroid		Total Area
Material	North	East	acres
Limestone	1,939,844	6,099,024	
	1,940,073	6,098,698	
	1,940,288	6,098,207	
	1,941,822	6,096,557	
	1,942,325	6,095,458	
	1,943,087	6,094,972	
	1,942,481	6,094,942	
	1,943,265	6,091,003	
	1,939,344	6,099,088	
	1,942,665	6,092,453	53.0
Overburden	1,943,789	6,091,202	10.0
Topsoil	1,944,295	6,087,606	
	1,944,191	6,088,040	
	1,943,334	6,097,548	
	1,942,361	6,097,258	
	1,943,922	6,100,221	7.0
Aggregate	1,944,007	6,090,486	3.0

Note: survey coordinates state plane grid

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APPENDIX H:

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

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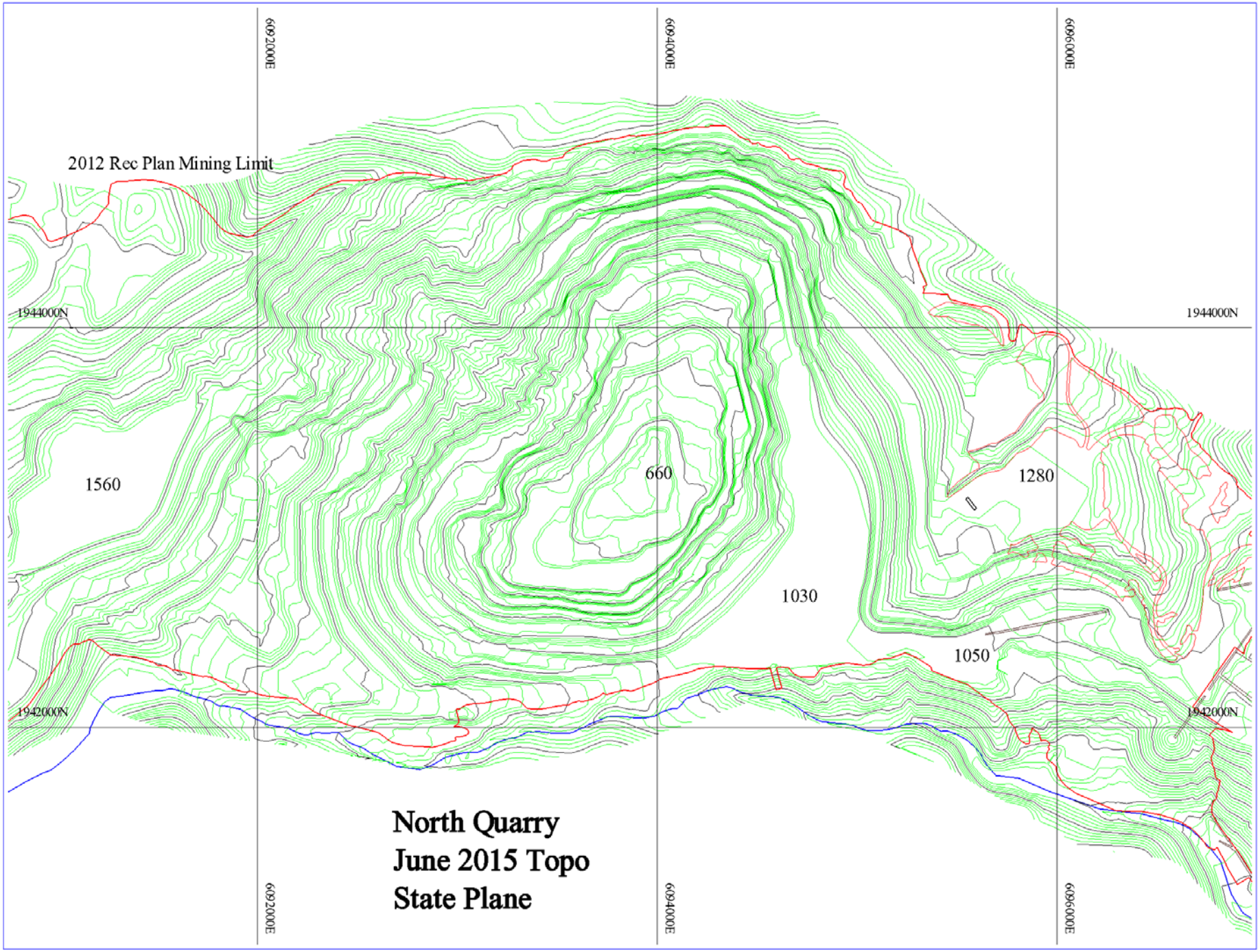
LEHIGH HANSON - PERMANENTE

Quarry, WMSA, and EMSA Topo
(June – 2015, 2017, 2019)

C. Maddocks

September 12, 2017



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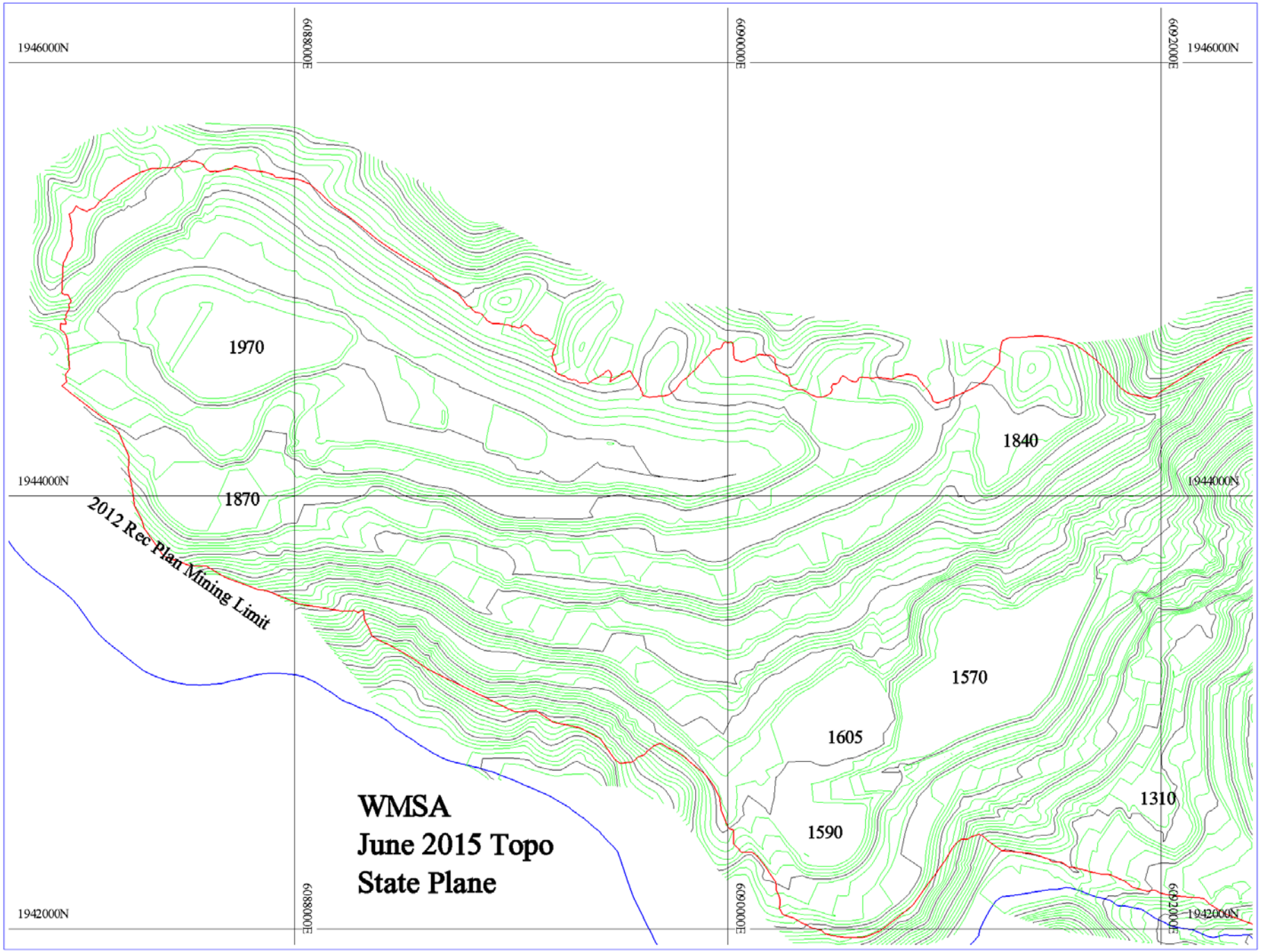

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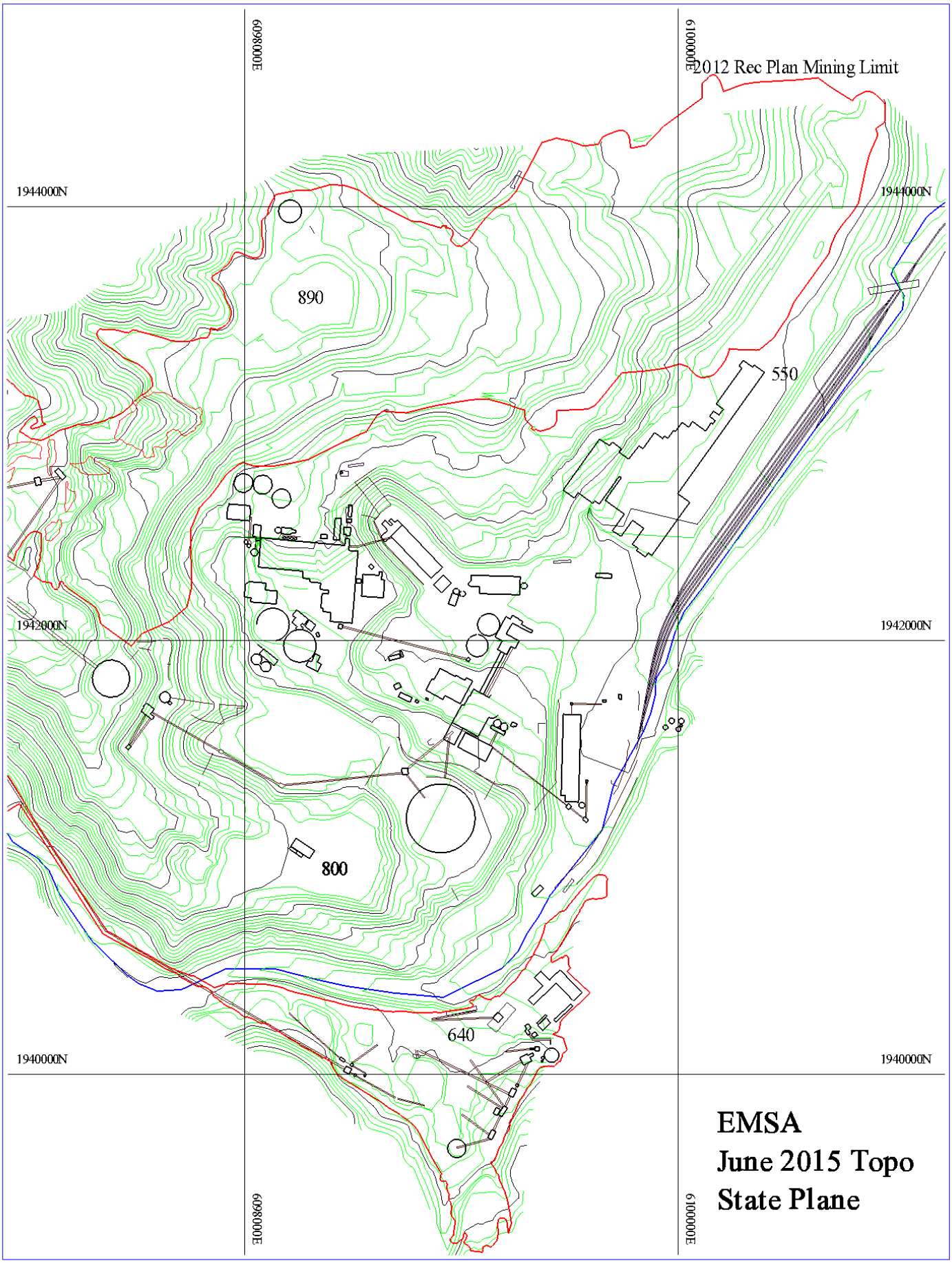

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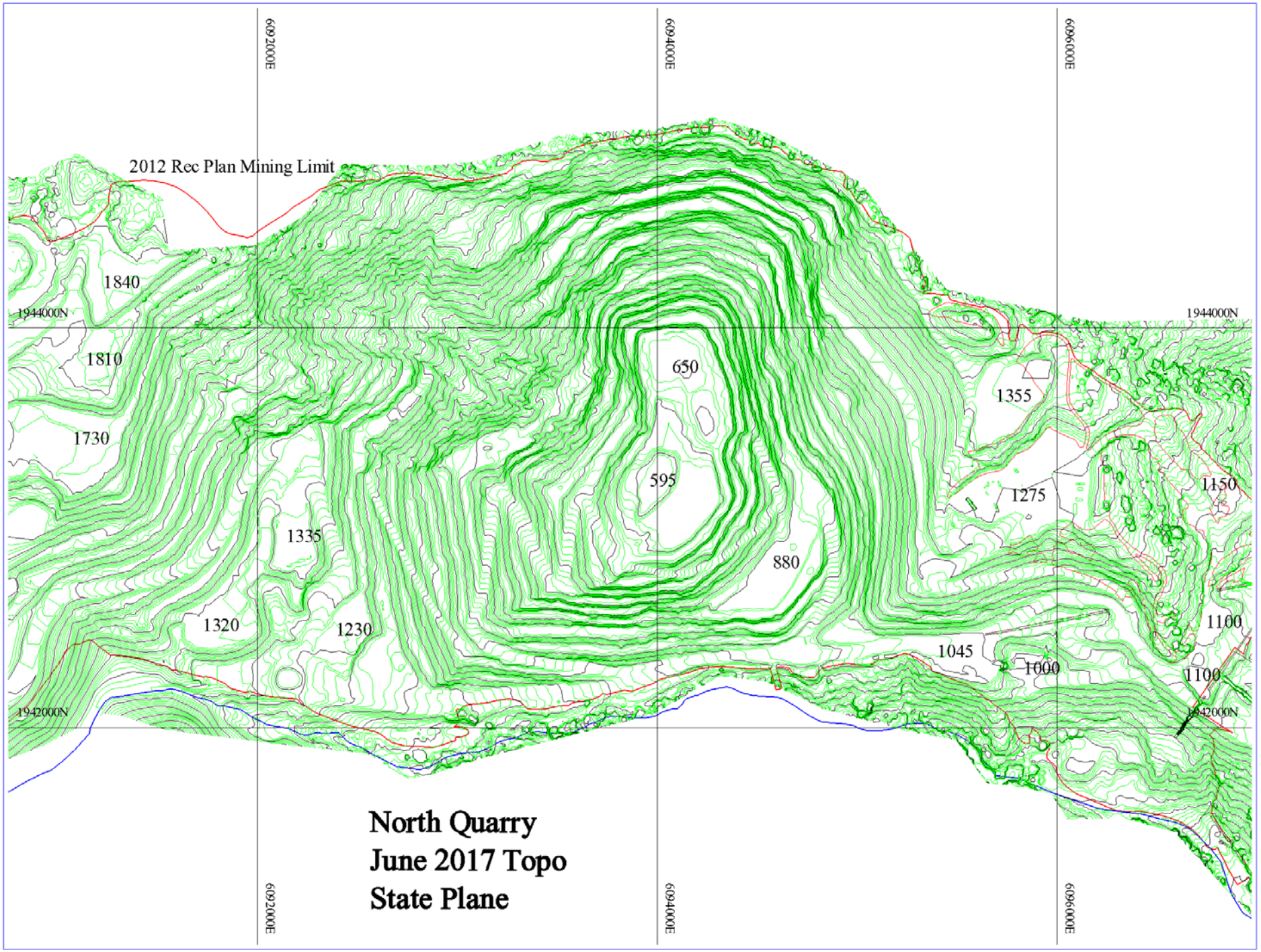

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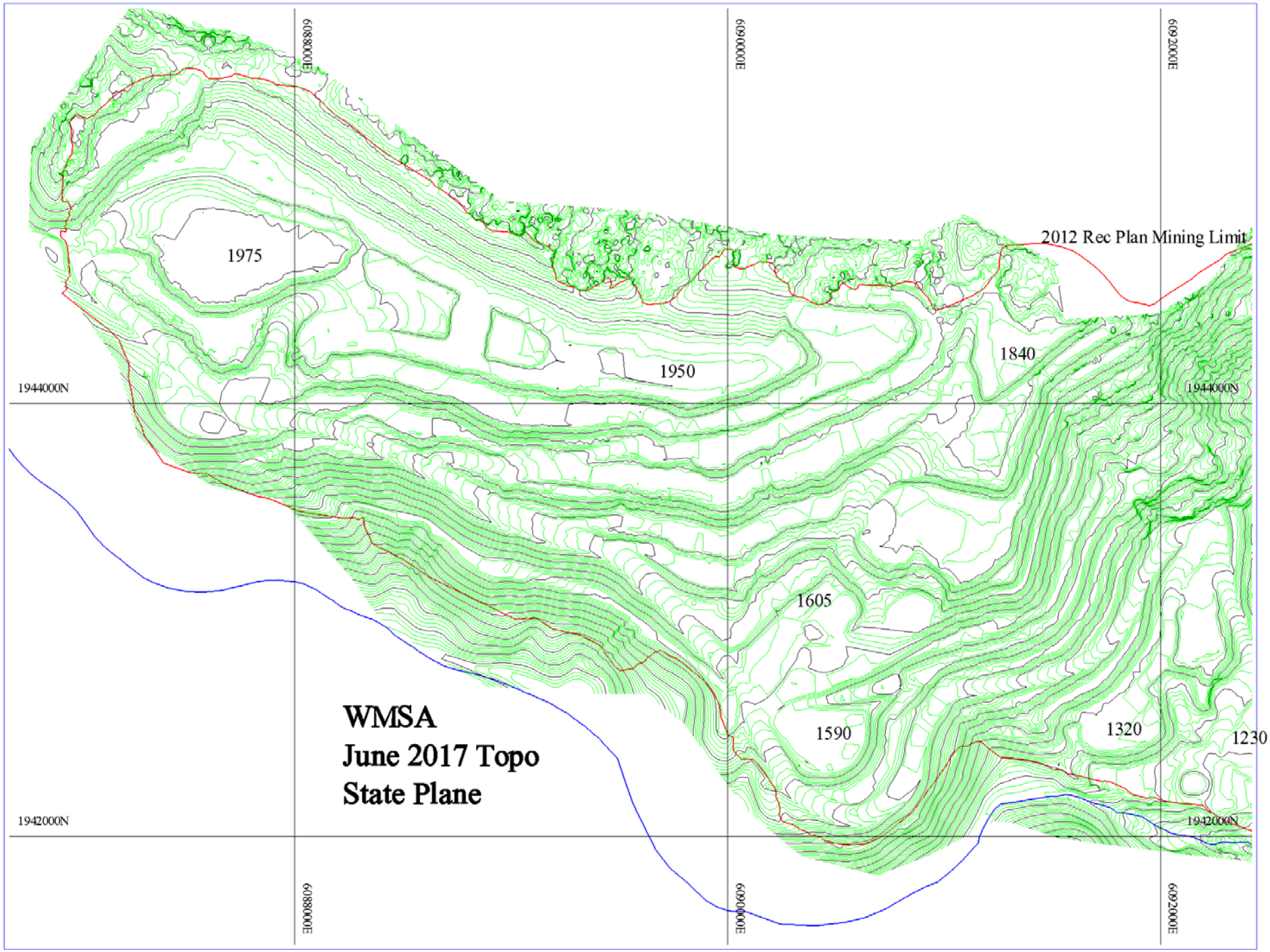
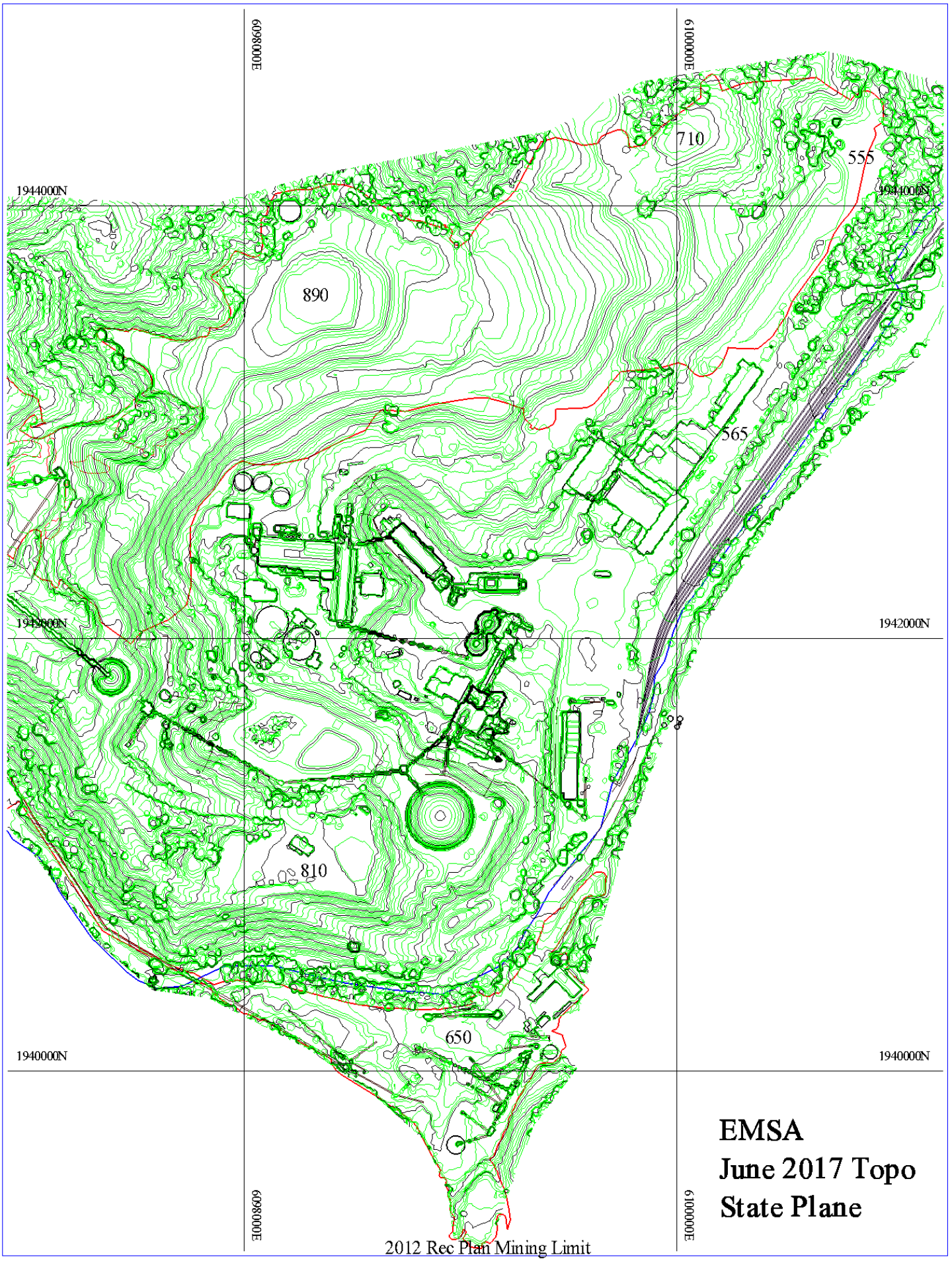


N6086681, E1941509, Scale600



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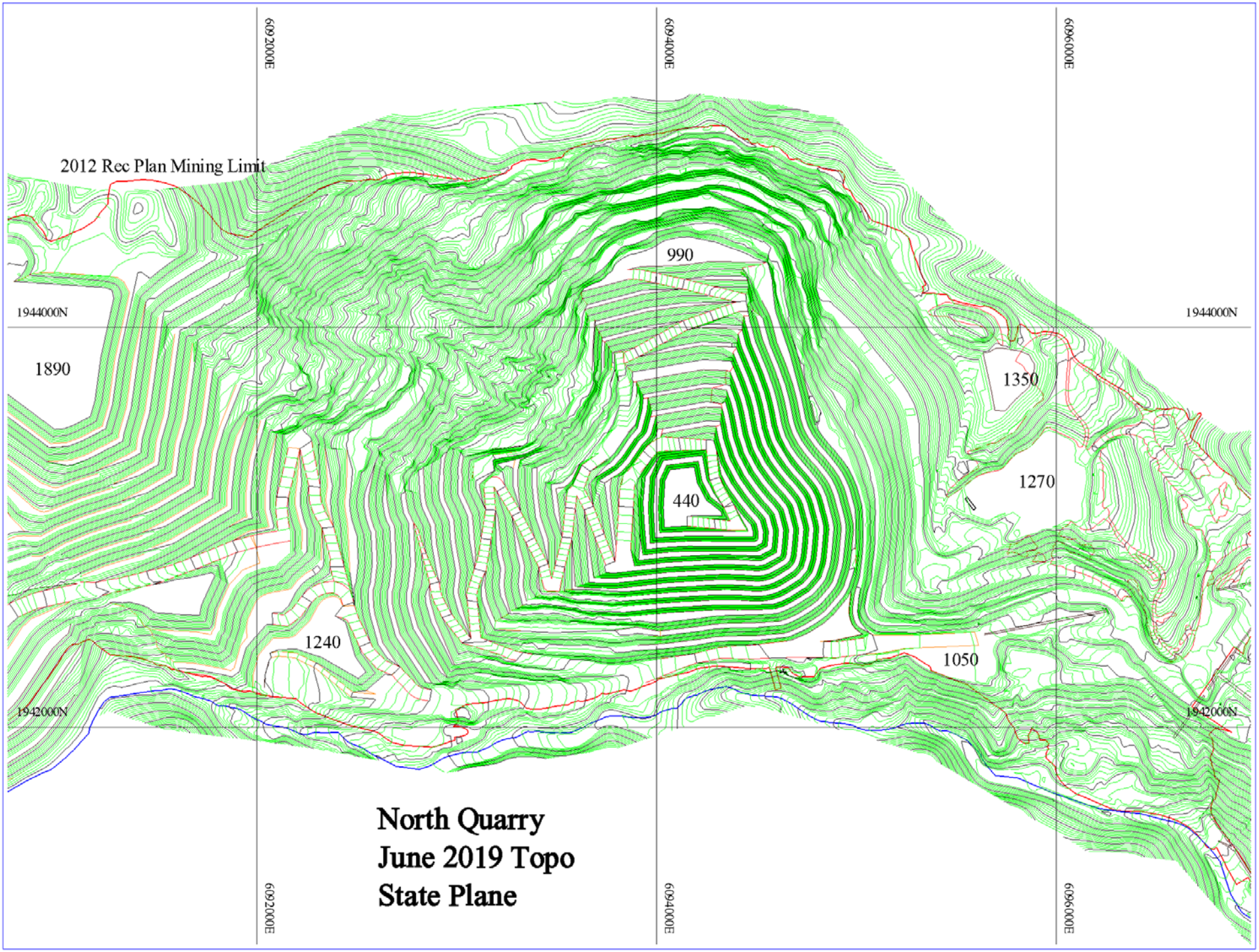

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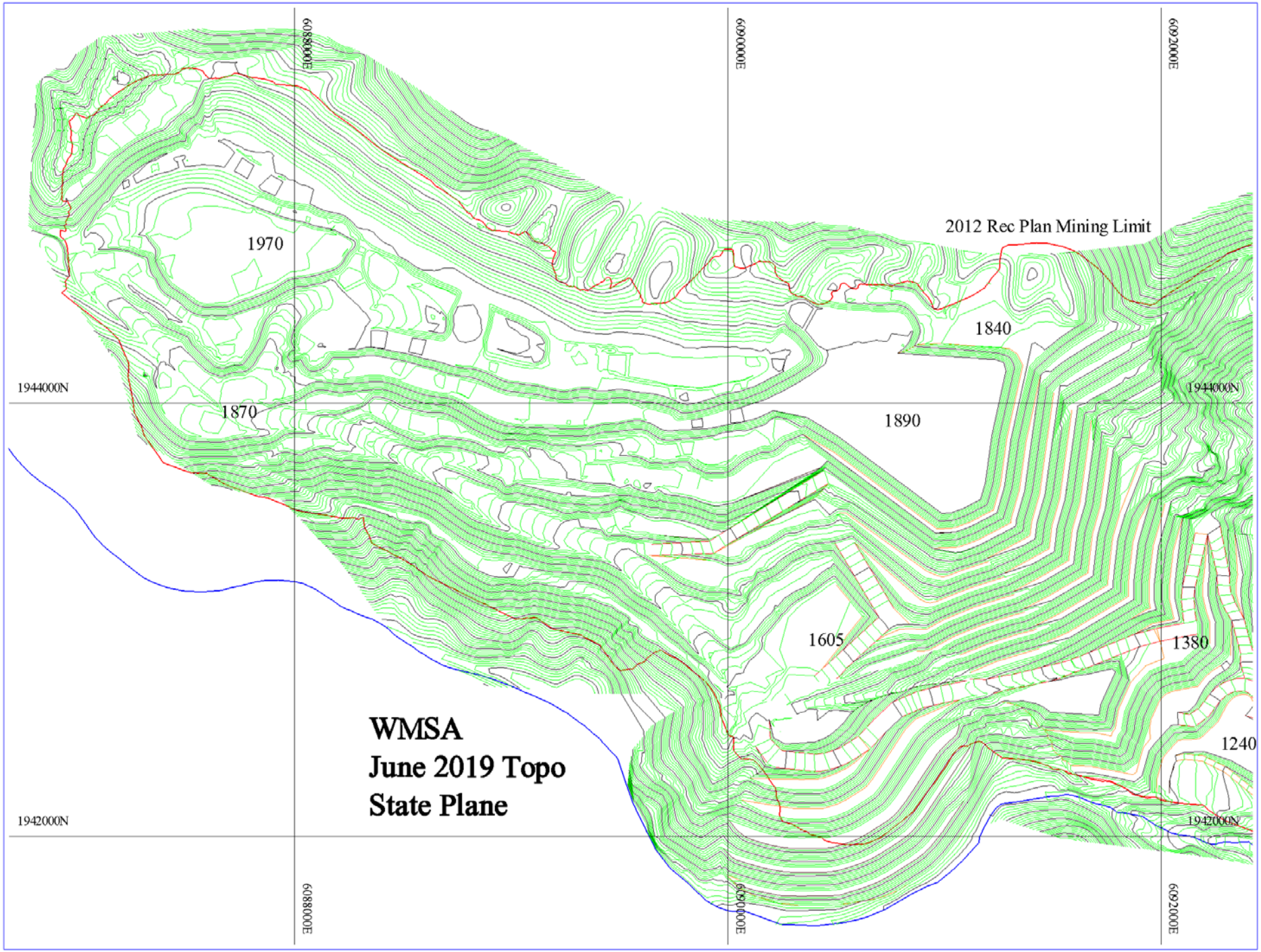

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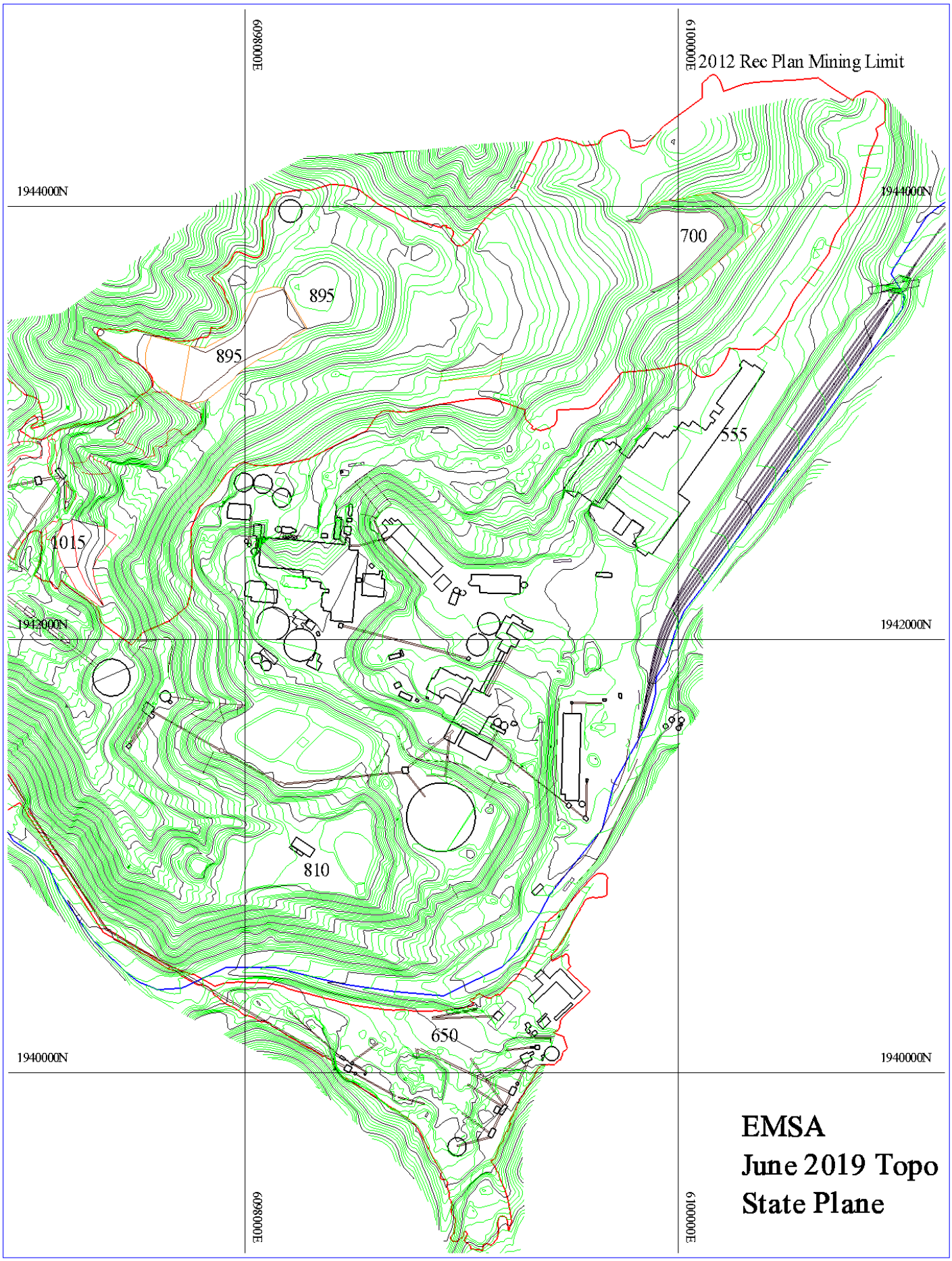

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APPENDIX I:

IMPROVED RECLAMATION PLAN BOUNDARY DEMARCATION MEMO

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Memorandum

To: Erika Guerra, Lehigh Hanson

Cc: Manjunath Shivalingappa, Lehigh Hanson

George Taylor, Lehigh Hanson

Cliff Maddocks, Lehigh Hanson

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

Date: September 28, 2017

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. In addition during the Spring of 2017, ten T-posts were added to the WMSA RPA boundaries prior to vegetation removal and grading activities within this area.

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 Rock Plant.

Photo 4. Repainted RPA Boundary demarcation T-posts in the lower EMSA near Pond 31a.

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APPENDIX J:

FINANCIAL ASSURANCE COST ESTIMATE

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Lehigh Hanson
HEIDELBERGCEMENT Group

24001 Stevens Creek Blvd.
Cupertino, CA 95014
(408) 996-4000

July 28, 2017

VIA CERTIFIED MAIL / RETURN RECEIPT
7016 0750 0000 6993 5617

Mr. James Baker
Department of Planning and Development
Land Development and Engineering
County of Santa Clara
70 West Hedding St.
San Jose, CA 95110

RE: Lehigh-Permanente Quarry, State Mine ID# 91-43-0004
Financial Assurance Cost Estimate

Dear Mr. Baker:

Please find enclosed a *Financial Assurance Cost Estimate* (FACE) for the above-referenced facility. The FACE was prepared by EnviroMine, Inc., in accordance with Condition of Approval #14 of the facility's 2012 Reclamation Plan Amendments.

The FACE is submitted to the Planning Manager for review and approval, and serves 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 use the most up-to-date cost figures for the San Francisco Bay Area and include appropriate costs for all materials to be used, labor rates, and equipment rates used in calculating the FACE. Upon approval of the FACE by the County and review by the State Office of Mine Reclamation (OM), the Lehigh will 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.

If you have questions or comments, please do not hesitate to contact me at 408-996-4269.

Sincerely,

Sam Barket
Environmental Manager

Enclosure

CC
Erika Guerra (via email)
Sean Hungerford (via email)

FINANCIAL ASSURANCE COST ESTIMATE

FOR

Permanente Quarry

(Mine Name)

CA Mine ID # 91-43-0004

Reclamation Plan #/Name Reclamation Plan Amendment for Permanente Quarry/2250-13-66-10P-10EIR (M1)

Prepared by: (Name & Affiliation):

EnviroMINE, Inc. – Consultant for Lehigh

3511 Camino Del Rio South, Suite 403

San Diego, CA 92108

Date: 7/27/17

This financial assurance cost estimate prepared and submitted pursuant to *(choose one)*:

☐ A new or amended reclamation plan approved on (Date): _____

☐ An annual mine inspection performed on (Date): _____

☑ Other: Please Specify:

Annual update on new form

Most Recent Approved Financial Assurance Cost Estimate

Date: July 2016

Amount: $ 53,854,896

Amount of existing Financial Assurance Mechanism (s)

Date: Various

Amount: $ 63,828,296

I. SUPPORTING DOCUMENTS

This estimate represents the cost of conducting and completing reclamation in accordance with the Surface Mining and Reclamation Act (SMARA) and the following supporting documents:

Reclamation Plan Approval Date and Number June 26, 2012, 2250-13-66-10P-10EIR (M1) (County of Santa Clara)

Permits and/or Environmental Documents Approved as, or Conditioned upon, the Reclamation Plan

Site is vested.

Other Agency Financial Assurances Securing Reclamation of Disturbed Lands

N/A

Wage Rates used in Cost Estimate* *(cost estimates are required to use current 'General prevailing wage determinations made by the director of industrial relations' where applicable (http://www.dir.ca.gov/OPRL/PWD/index.htm) with employer labor burden added, or greater)*

Department of Industrial Relations, Prevailing Wage Determinations (2016)

Equipment Rates used in Cost Estimate* *(Use current 'Labor Surcharge and Equipment Rental Rates (Cost of Equipment Ownership)' equipment rates published by Caltrans (http://www.dot.ca.gov/hq/construc/equipmnt.html) or other publicly available and verifiable local rates)*

Caltrans, Labor Surcharge & Equipment Rental Rates (4/1/17-3/31/18)

Equipment Production Rates used in Cost Estimate *(Use of current Caterpillar Performance Handbook or equivalent published production rates is required)*

Caterpillar Performance Handbook, 37th Edition

Means Site Work & Landscaping Cost Data, R. S. Means Company, Inc., Kingston, MA, 2013

***** *Many mine sites are remote projects that require hours of travel (to and from) and sometimes require additional time to prepare for even the simplest of tasks. In accordance with Labor Code Sections 1773.1 and 1773.9, contractors are required to make travel and/or subsistence (per diem) payments to each worker to execute the work. These arrangements can be quite variable and site specific.*

Attachments:

1. Bid from Aggregate Machinery Specialist for Primary Station and conveyor system
2. Bulldozer production rates
3. Scraper production rates for capping site with non-limestone material
4. Seed quote from Pacific Coast Seed for PCRA
5. Seed quote from Pacific Coast Seed for approximately 500 acres
6. Bid from Freedlun Hydroseeding, Inc. for applying hydroseed

II. Description of Current Site Conditions

(i.e., disturbed acres, slope conditions, excavation depths, topsoil and overburden stockpiles, equipment and facilities, reclamation in progress, erosion control status, required corrective actions, etc.)

Current operations at the site include a quarry (Main Pit/North Quarry) that consists of a cut-face with a series of benches and multiple material storage areas – East Material Storage Area (EMSA) and West Material Storage Area (WMSA). Reclamation at the quarry is conducted on an annual basis for areas at final grade and not subject to further disturbance. In 2012, reclamation work commenced in the Permanente Creek Reclamation Area (PCRA), the installation of BMP's and hydroseeding was completed in Subareas 4, 5 and 6. Current grading activities are taking place in Phase 1A of the approved mine plan. The majority of the 639.6-acre RPA footprint is found in a fully disturbed condition with little evidence of vegetative cover. An exception to this includes areas where reclamation has begun or areas that have naturally revegetated. In total, approximately 546 acres are currently disturbed at the site. There is also a rock plant, cement plant, and various pieces of mobile equipment on the site.

III. Description of Anticipated Site Conditions (12 months from date of estimate)

(i.e., increase of disturbed acres, increase of depth, increases in amount of equipment and/or facilities, required corrective actions, etc.)

It is expected that mining will continue to progress in Phase 1 of the Main Pit during the next 12 months.

IV. Description/Justification of Cost Increase/Decrease

The total cost has decreased as a result of lower equipment rental rates and completion of slope repairs during the past year.

(add additional pages as needed)

V. PLANT STRUCTURES AND EQUIPMENT REMOVAL *(use multiple sheets as needed)*

Provide documentation showing that rates, prices, and wages are available locally to all persons, including the lead agency and/or the Department.

Current Site Condition:

At this time, plant removal would involve demolishing and transporting the Rock Plant, including conveyors, crushers, screens, wash plants, scales, storage tanks, and miscellaneous structures to an offsite location. This also includes the removal of the overland conveyor that extends from the Main Pit to the Cement Plant (approx. 8,900 feet). In addition to demolition and removal of these structures, all foundations must be demolished and removed, and compacted surfaces must be ripped to prepare the site for revegetation.

Reclamation Plan Performance Standard (End Use):

At the conclusion of mining operations, all equipment, structures, and other infrastructure improvements will need to be removed from the site.

Describe tasks:

This estimate assumes the use of a crane, excavators with steel shear and grapple attachments, front-end loaders, trucks with low bed trailers, and dump trucks for dismantling and removing the plant equipment and structures. The steel structures will be cut into manageable pieces with an excavator mounted with a steel shear, with pieces placed on an over-the-road truck for removal to a scrap yard for recycling. It is estimated that there is approximately 1,000 tons of recyclable steel onsite. Current market value of scrap steel is $160 per ton (Alco Metals, San Jose). Other non-recyclable materials will be put into roll-off dumpsters (CDR Dumpster Rental) and hauled off site. Some structures will be dismantled by shearing, cutting using a cutting torch, or simply unbolting the equipment from the support structures prior to demolition. Also, there are currently 36 pieces of mobile equipment (loaders, dozers, trucks, etc.) that would need to be loaded and hauled off site to a resale dealer. This estimate assumes two (2) hours per piece of equipment. Once the equipment is removed, it will be necessary to demolish all concrete footings and foundations. Concrete will be broken up using an excavator and a hydraulic hammer and hauled to a recycling yard. This estimate assumes that there is approximately 2,950 cubic yards of concrete to be demolished and removed from the site.

Equipment on site wholly owned by operator?: ☑YES ☐NO

(If no, please provide the name/s and contact information for any lien holder)

V. PLANT STRUCTURES AND EQUIPMENT REMOVAL *(cont.)*

Methods to be used for: **Processing Plant, Conveyor, & Support Structure Removal**

A. Equipment – List equipment required to complete identified task *(for large reclamation project sites or separate mine areas)*

Equipment	$/Unit	# of Units	Cost ($)
Grove RT 635 40t Crane	$76.74/HR	108	$8,288
CAT 330 w/ Steel Shear	$246.41/HR	93	$22,916
CAT 330 w/ Grapple	$155.23/HR	108	$16,765
Semi-truck w/ end dump	$72.78/HR	84	$6,114
Semi-truck w/ 2 axle lowboy trailer	$83.58/HR	118	$9,862
CAT 966E Wheel Loader	$115.53/HR	108	$12,477
Welding Truck	$42.54/HR	120	$5,105
Pickup Truck (2)	$16.34/HR	112	$1,830

Total Equipment Cost for this Task = $83,357

B. Labor – List all labor categories to complete identified task

Labor Category	$/Unit (incl labor burden)	# of Units	Cost ($)
Crane Operator	$70.82/HR	108	$7,649
Excavator Operator (2)	$70.09/HR	201	$14,088
Dump Truck Driver	$56.97/HR	84	$4,785
Lowboy Truck Driver	$57.32/HR	118	$6,764
Loader Operator	$70.09/HR	108	$7,570
Foreman	$70.82/HR	140	$9,915
Laborer (2)	$51.24/HR	112	$5,739
Welder (4)	$51.54/HR	225	$11,597

Total Labor Cost for this Task = $68,106

C. Demolition – List all structures and equipment to be dismantled or demolished and removed from site

Structure/Equipment to be Removed	Type of Material	Volume/ Quantity	Unit Cost Basis	Disposal Cost	Cost ($)
Roll-off Trash Containers & Landfill Fees (15)	Mixed	20 CY.	$585 Ea.	Inc.	$8,775

Total Materials Cost for this Task = $8,775

D. Total Direct Cost of Structure and Equipment Removal (Sum of A+B+C)

Equipment Costs + Labor Cost + Demolition Cost = $160,238

E. Net Salvage Value* (Supported by properly prepared third party estimate, bid, or cost calculation.)

Net Salvage Value = $160,000

F. Total Cost of Structure and Equipment Removal (Subtract Line D from Line E)

Total Cost of Structure and Equipment Removal = $238

*NOTE: Salvage value may only be used to offset the direct cost of removing the single item for which salvage value is being claimed. Salvage value shall not be used to offset any other demolition, general cleanup, or reclamation costs

V. PLANT STRUCTURES AND EQUIPMENT REMOVAL *(cont.)*

Methods to be used: for **Concrete Breaking and Rubbish Removal**

A. Equipment – List equipment required to complete identified task *(for large reclamation project sites or separate mine areas)*

Equipment	$/Unit	# of Units	Cost ($)
CAT 330 Excavator w/ Rock Breaker Attachment	$163.67/HR	92	$15,058
CAT 330 Excavator w/ Bucket	$128.44/HR	58	$7,450
CAT 966E Wheel Loader	$115.53/HR	16	$1,848
Haul Truck (10)	$72.78/HR	268	$19,505
Pickup Truck	$16.34/HR	58	$948

Total Equipment Cost for this Task = $44,808

B. Labor – List all labor categories to complete identified task

Labor Category	$/Unit (incl labor burden)	# of Units	Cost ($)
Excavator Operators (2)	$70.09/HR	150	$10,514
Loader Operator	$70.09/HR	16	$1,121
Haul Truck Driver (10)	$56.97/HR	268	$15,268
Laborer (2)	$51.24/HR	116	$5,944

Total Labor Cost for this Task = $32,847

C. Demolition – List all structures and equipment to be dismantled or demolished and removed from site

Structure/Equipment to be Removed	Type of Material	Volume/ Quantity	Unit Cost Basis	Disposal Cost	Cost ($)
Recycling Fee	Concrete	175 Loads	$80/Load		$14,000

Total Materials Cost for this Task = $ 14,000

D. Total Direct Cost of Structure and Equipment Removal (Sum of A+B+C)

Equipment Costs + Labor Cost + Demolition Cost = $91,655

E. Net Salvage Value* (Supported by properly prepared third party estimate, bid, or cost calculation.)

Net Salvage Value = $0

F. Total Cost of Structure and Equipment Removal (Subtract Line D from Line E)

Total Cost of Structure and Equipment Removal = $91,655

*NOTE: Salvage value may only be used to offset the direct cost of removing the single item for which salvage value is being claimed. Salvage value shall not be used to offset any other demolition, general cleanup, or reclamation costs.

V. PLANT STRUCTURES AND EQUIPMENT REMOVAL *(cont.)*

Methods to be used: for **Mobile Equipment Removal**

A. Equipment – List equipment required to complete identified task *(for large reclamation project sites or separate mine areas)*

Equipment	$/Unit	# of Units	Cost ($)
Semi-Truck w/ 3 axle lowboy to remove the following:	$87.87/HR	28	$2,460
CAT 963 Loader, 216 Skid Steer, 226 Skid Steer, 16G			
Grader, Nobel R80 Forklift, Euclid R35 Truck, Miller 600D			
Welder, CAT IT14 Loader, Ingersol-Rand WL 440 Loader,			
JLG Aerial Lift, Allmand 695 Lite Towers, Water Trucks			
Semi-Truck w/ 5 axle lowboy & two pilot cars to remove:	$2,661*/Trip	13	$34,593
CAT 988 Loader, 992 Loader, D10 Dozer, 824 Dozer, 773			
Truck, 777 Truck			

* Based on a lump sum estimate that includes driver.

Total Equipment Cost for this Task = $37,053

B. Labor – List all labor categories to complete identified task

Labor Category	$/Unit (incl labor burden)	# of Units	Cost ($)
Semi-Truck Driver	$57.32/HR	28	$1,605

Total Labor Cost for this Task = $1,605

C. Demolition – List all structures and equipment to be dismantled or demolished and removed from site

Structure/Equipment to be Removed	Type of Material	Volume/ Quantity	Unit Cost Basis	Disposal Cost	Cost ($)
N/A					

Total Materials Cost for this Task = $0

D. Total Direct Cost of Structure and Equipment Removal (Sum of A+B+C)

Equipment Costs + Labor Cost + Demolition Cost = $38,658

E. Net Salvage Value* (Supported by properly prepared third party estimate, bid, or cost calculation.)

Net Salvage Value = $0

F. Total Cost of Structure and Equipment Removal (Subtract Line D from Line E)

Total Cost of Structure and Equipment Removal = $38,658

*NOTE: Salvage value may only be used to offset the direct cost of removing the single item for which salvage value is being claimed. Salvage value shall not be used to offset any other demolition, general cleanup, or reclamation costs.

VI. PRIMARY RECLAMATION ACTIVITY (Backfilling the Main Pit)

Describe Reclamation Activity Being Estimated

Use multiple sheets as necessary to estimate the cost of each activity required. Provide documentation showing that rates, prices, and wages are available locally to the lead agency and/or the Department if necessary.

Current Site Conditions:

This estimate's restoration scenario incorporates backfilling of the Main Pit to buttress past instabilities. To accomplish this, the West Materials Storage Area (WMSA) will be used as the primary source of backfill material, since mining byproducts (unused mined material) will not be available. A stockpile located west of the Rock Plant, that contains approximately 300,000 tons of crushed rock, will also be relocated to the main pit. Material used for backfilling is to be amended with organic matter (approximately 63,000 tons). Measures to protect surface water quality during reclamation activities consist of isolating runoff from limestone materials in the Main Pit backfill, WMSA, and EMSA. This will be accomplished during reclamation by capping reclaimed areas with a 1-foot thick layer of run-of-mine non-limestone rock (i.e., greywacke, chert, and greenstone).

Reclamation Plan Performance Standard (End Use):

Reclamation requirements for the site include the development of a benched quarry face with an overall slope gradient of 1H:1V (horizontal: vertical), while the overburden fill slopes will be reclaimed at a maximum overall slope inclination between 2.5H:1V to 2.6H:1V. The proposed end use for the quarry after reclamation is complete is open space.

Describe tasks, methods, equipment, etc.:

Decompaction, cut, fill, haul, slope reduction, compaction, grading, topsoil placement, drainage work, soil amendment, special requirements, etc. Separate sheets may be used for each task if necessary.

A conveyor system will be utilized to transport backfill material from the WMSA to the Main Pit and place material directly into the pit. Oversized material will be reduced by a jaw crusher to six (6) inch minus prior to loading onto the conveyor. This estimate assumes the purchase of a crusher, conveyor, and stacking system (See Attachment 1 for cost estimate). Operation and maintenance costs to run the system have been included in the tables below. Stockpiled material near the Rock Plant will be relocated to the Main Pit by using haul trucks that are loaded with a front-end loader. Organic material would be delivered to the WMSA from an offsite source and added to backfill material with a loader. Distribution of non-limestone material for capping will utilize a variety of equipment. A combination of dozers, scrapers, loaders, and haul trucks will be utilized to distribute the non-limestone capping material.

Provide quantities:

Overburden and topsoil, cut and fill, import or export (cubic yards), area (acres), haul distances (feet), equipment production rates (cubic yards/hour, or as applicable), etc.

After analyzing the existing and proposed topography, the total volume required for backfilling the Main Pit is estimated at 31,426,375 cubic yards. The conveyor system would extend approximately 10,000 feet to the WMSA. Backfilling of the Main Pit will also include grading of approximately 6,700,000 cubic yards of non-limestone material that has been identified as the "Main Slide." Materials originating from the Main Slide will be removed using a D10 bull dozer (See Attachment 2 for production rates). To optimize production from the dozers, the conveyor system will be relocated as grading progresses; average push distances will be kept at approximately 300 feet. For stockpiled material near the Rock Plant, a Cat 992 front-end-loader will load the material into haul trucks while a water truck and grader will be utilized to maintain the road network and suppress dust. It is estimated that there is 200,000 cubic yards of stockpiled material (using 1.5 tons per CY). Organic material would be delivered by trucks to the WMSA, near the hopper for the portable conveyor system, and a 938 loader will feed the material into the hopper. Approximately 710,000 cubic yards of non-limestone material will be used for capping reclaimed areas of the site. Caterpillar production rates for a 651 Scraper are provided in Attachment 3.

VI. PRIMARY RECLAMATION ACTIVITY (Backfilling Main Pit) (Cont.)

Describe Reclamation Activity Being Estimated

Acres:		Overburden (cy):	31,426,375
Push Distance (ft):	300 ft.	Topsoil (cy):	
Production Rate (cy/hr):	1,380 cy/hr (conveyor)		

Methods to be used:

A. Equipment – List equipment required to complete identified task *(for large reclamation jobs separate mine areas)*

Equipment	$/Unit	# of Units	Cost ($)
Grove RT 525 Crane (for conveyor install)	$59.72/HR	200	$11,944
CAT 938G Loader (for conveyor install)	$83.01/HR	200	$16,602
CAT 315L Excavator (for conveyor install)	$53.30/HR	200	$10,660
Pickup Truck (2) (for conveyor install)	$16.34/HR	400	$6,536
42" Conveyor System Over 10,000'	L.S.*		$8,716,975
CAT D10N Dozers (3)	$267.32/HR	68,318	$18,262,768
CAT D11N Dozer	$420.62/HR	7,646	$3,216,061
Water Truck	$42.54/HR	7,646	$325,261
Conveyor Operation/Maintenance	$45.91/HR	21,503	$987,203
Electricity	$27.60/HR	21,503	$593,483
CAT 325L Excavator (for relocating conveyor)	$97.44/HR	80	$7,795
CAT 988 Loader (for relocating conveyor)	$142.86/HR	80	$11,429

* Quote from Aggregate Machinery Specialist (Attachment 1).

Total Equipment Cost for this Task = $32,166,717

B. Labor – List all labor categories to complete identified task

Labor Category	$/Unit (incl labor burden)	# of Unit	Cost ($)
Crane Operator	$70.82/HR	200	$14,164
Loader Operators (2)	$70.09/HR	280	$19,625
Excavator Operators (2)	$70.09/HR	280	$19,625
Foreman	$70.82/HR	200	$14,164
Laborers (2)	$51.24/HR	400	$20,496
Dozer Operators (4)	$70.09/HR	75,964	$5,324,317
Water Truck Driver	$56.67/HR	7,646	$433,299

Total Labor Cost for this Task = $5,845,690

C. Materials – List all materials required to complete identified task

Item	Quantity	$/unit (incl sales tax)	Cost ($)

Total Materials Cost for this Task = $0

D. Total Direct Cost for this Task

Equipment Costs + Labor Cost + Materials Cost = $38,012,407

VI. PRIMARY RECLAMATION ACTIVITY (Stockpile Relocation, Organic Material, Capping)

Describe Reclamation Activity Being Estimated

Acres:	440	Overburden (cy):	910,000
Push Distance (ft):		Topsoil (cy):	
Production Rate (cy/hr):	454 (scraper), 520 (truck)		

Methods to be used:

A. Equipment – List equipment required to complete identified task *(for large reclamation jobs separate mine areas)*

Equipment	$/Unit	# of Units	Cost ($)
CAT 992C Loader (for stockpile relocation)	$409.03/HR	195	$79,761
CAT 777D Haul Trucks (11) (for stockpile reloc., capping)	$231.02/HR	2,254	$520,719
CAT 12H Blade (for stockpile relocation)	$73.46/HR	98	$7,199
CAT 938F Loader (for organic material mixing)	$73.57/HR	600	$44,142
CAT 992B Loader (2) (for non-limestone capping)	$257.29/HR	314	$80,789
CAT 651B Scraper (4) (for capping)	$237.18/HR	608	$144,205
CAT D10N Dozer (2) (for capping)	$267.32/HR	238	$63,622
Water Truck (for stockpile relocation & capping)	$42.54/HR	492	$20,930

Total Equipment Cost for this Task = $961,367

B. Labor – List all labor categories to complete identified task

Labor Category	$/Unit (incl labor burden)	# of Unit	Cost ($)
Loader Operators (4)	$70.09/HR	1,109	$77,730
Haul Truck Drivers (11)	$57.67/HR	2,254	$129,988
Blade Operator	$70.09/HR	98	$6,869
Scraper Operators (4)	$70.09/HR	608	$42,615
Dozer Operators (2)	$70.09/HR	238	$16,681
Water Truck Driver	$56.67/HR	492	$27,882

Total Labor Cost for this Task = $301,765

C. Materials – List all materials required to complete identified task

Item	Quantity	$/unit (incl sales tax)	Cost ($)
Organic Material *	63,000 (Tons)	$33.41	$2,104,830
* Cost from material supplier in Gilroy, CA, plus shipping, CPI.			

Total Materials Cost for this Task = $2,104,830

D. Total Direct Cost for this Task

Equipment Costs + Labor Cost + Materials Cost = $3,367,962

VI. PRIMARY RECLAMATION ACTIVITY (Ripping, Finish Grading, BMP Installation) (Cont.)

Describe Reclamation Activity Being Estimated

Acres:	498	Overburden (cy):	
Haul Distance (ft):		Topsoil (cy):	
Production Rate (cy/hr):	1 ac/hr		

Methods to be used:

A. Equipment – List equipment required to complete identified task *(for large reclamation jobs separate mine areas)*

Equipment	$/Unit	# of Units	Cost ($)
Grading with a CAT D8R Dozer	$161.55/HR	498	$80,452
Ripping with a CAT D8R Dozer	$177.33/HR	7	$1,241
Desiltation Basin Installation (Lump Sum est. plus CPI)	$22,299/Basin	3	$66,897

Total Equipment Cost for this Task = $148,590

B. Labor – List all labor categories to complete identified task

Labor Category	$/Unit (incl labor burden)	# of Unit	Cost ($)
Dozer Operator (2)	$72.09/HR	505	$36,405

Total Labor Cost for this Task = $36,405

C. Materials – List all materials required to complete identified task

Item	Quantity	$/unit (incl sales tax)	Cost ($)

Total Materials Cost for this Task = $0

D. Total Direct Cost for this Task

Equipment Costs + Labor Cost + Materials Cost = $184,995

VI. PRIMARY RECLAMATION ACTIVITY (Permanente Creek Reclamation Area)

Describe Reclamation Activity Being Estimated

Use multiple sheets as necessary to estimate the cost of each activity required. Provide documentation showing that rates, prices, and wages are available locally to the lead agency and/or the Department if necessary.

Current Site Conditions:

This section describes the reclamation costs of historic mining disturbance adjacent to Permanente Creek, described as the Permanente Creek Reclamation Area ("PCRA"). The PCRA is divided into seven different subareas (numbered one through seven) with customized reclamation treatments for each subarea. In 2012, after approval of the RPA, reclamation work commenced in Subareas 4, 5 and 6 and was completed in late October. Work completed included installation of BMPs as well as hydroseeding of disturbed areas. In total, approximately nine (9) acres in the PCRA was reclaimed in 2012. In 2016, the application for permitting the restoration work with ACOE and CDFW was submitted and is in process.

Reclamation Plan Performance Standard (End Use):

Removing a concrete half culvert located in the proposed restored stream channel is one aspect of the Permanente Creek Restoration. The concrete half culvert is located just downstream from Pond 13 and covers a length of approximately 375 feet. The reclamation plan also calls for restoration of about 2,500 linear feet of Permanente Creek. Material from historic mining has collected in the creek channel. The reclamation plan calls for removal of this material and creation of a reconfigured creek channel that is roughly 50 feet wide with a 10-foot bottom and 3:1 side slopes. A number of limestone boulders have found their way into Permanente Creek as a result of historic mining operations. These boulders range in size from approximately 10" to 3' in diameter. Once removed from the creek, boulders will be loaded onto off-road haul trucks and hauled to the North Quarry for final placement. After grading work has been completed and prior to revegetating the site temporary and permanent BMPs will be installed to manage stormwater runoff. Lastly, slopes located in Subareas 2 and 3 of the PCRA are comprised of loose unconsolidated fill material. In an effort to reduce erosion from these slopes and to provide more favorable surfaces for seed propagation, the slopes will be compacted.

Describe tasks, methods, equipment, etc.:

Decompaction, cut, fill, haul, slope reduction, compaction, grading, topsoil placement, drainage work, soil amendment, special requirements, etc. Separate sheets may be used for each task if necessary.

According to the CAT Handbook, an H120c hydraulic hammer attached to a 315L excavator can demolish approximately 230 cubic yards of reinforced concrete within 8 hours. Once the concrete culvert has been broken into pieces 2-feet in diameter or smaller, the excavator will be used to load the material into haul trucks. Material will be removed from the creek with an excavator, loader, and articulated haul trucks. Small boulders will be removed using hand labor, while larger boulders will be removed with an excavator and/or loader. Construction laborers will

install straw waddles and silt fencing to manage stormwater runoff. Slopes located within Subareas 2 and 3 will be compacted with a D8 dozer, towing a sheep's foot, that is moved up and down the slopes by a winch.

Provide quantities:

Overburden and topsoil, cut and fill, import or export (cubic yards), area (acres), haul distances (feet), equipment production rates (cubic yards/hour, or as applicable), etc.

It is estimated that approximately 130 cubic yards of concrete will need to be demolished and removed to complete removing the concrete half culvert. There is an estimated 17,500 cubic yards of material that will be removed from the channel to create the reconfigured channel. This estimate also assumes that 200 boulders are located within the inundation limits of Permanente Creek.

VI. PRIMARY RECLAMATION ACTIVITY (PCRA Culvert/Boulder Removal, Grading, BMPs)

Describe Reclamation Activity Being Estimated

Acres:		Overburden (cy):	17,500 (in PC Channel)
Push Distance (ft):		Topsoil (cy):	
Production Rate (cy/hr):			

Methods to be used:

A. Equipment – List equipment required to complete identified task *(for large reclamation jobs separate mine areas)*

Equipment	$/Unit	# of Units	Cost ($)
315L Excavator w/ Rock Breaker Attach. (culvert removal)	$74.98/HR	6	$450
315L Excavator w/ bucket (culvert removal)	$53.30/HR	2	$107
Haul Truck (4) (culvert removal)	$72.78/HR	12	$873
CAT 330 Excavator (channel restoration/boulder removal)	$128.44/HR	174	$22,349
CAT 966F Loader (channel restoration/boulder removal)	$118.14/HR	148	$17,485
CAT 740 Articulated Haul Truck (channel/boulder removal)	$103.55/HR	154	$15,947
Desiltation Basin Installation (Lump Sum est. plus CPI)	$22,299/Basin	2	$44,598
CAT D8R Dozer w/ Winch (for slope treatment)	$161.55/HR	16	$2,585
Sheep's Foot Attachment (for slope treatment)	$13.34/HR	16	$213
Pick Up	$16.34/HR	40	$654

Total Equipment Cost for this Task = $105,260

B. Labor – List all labor categories to complete identified task

Labor Category	$/Unit (incl labor burden)	# of Unit	Cost ($)
Excavator Operators (4)	$70.09/HR	182	$12,756
Haul Truck Drivers (4)	$56.97/HR	12	$684
Loader Operators (2)	$70.09/HR	148	$10,373
Articulated Haul Truck Drivers (3)	$57.32/HR	154	$8,827
Dozer Operator	$70.09/HR	16	$1,121
Foreman	$70.82/HR	8	$567
Laborers (7)	$51.24/HR	284	$14,552

Total Labor Cost for this Task = $48,881

C. Materials – List all materials required to complete identified task

Item	Quantity	$/unit (incl sales tax)	Cost ($)
Concrete Recycling Fee	8 Loads	$80/Load	$640
Straw Waddles	37,600 L.F.	$5.02/L.F.	$188,752
Silt Fencing	3,450 L.F.	$4.46/L.F.	$15,387

Total Materials Cost for this Task = $204,779

D. Total Direct Cost for this Task

Equipment Costs + Labor Cost + Materials Cost =

$358,920

VII.REVEGETATION *(use multiple sheets as needed)*

Provide documentation showing that rates, prices, and wages are available locally to all persons, including the lead agency and/or the Department.

Current Site Condition:

After final grading is completed, disturbed areas of the site will be revegetated with seed mixes and container stock to achieve the goals of the reclamation plan. Previous restoration planting at the Quarry has been used as a guide for revegetation planning. Revegetated areas now dominated by native species serve as a basis for anticipated revegetation success. Native species common in revegetated areas include California buckwheat, coyote brush, buckbrush and sagebrush. At this time, 13.7 acres of hydroseeding would be necessary within the PCRA and 502 acres of hydroseeding would be required on the remaining areas of the site. An additional 1.5 acres of the PCRA and 28 of the remaining reclamation area will require hand planting of container stock.

Reclamation Plan Performance Standard (End Use):

The goal for revegetation efforts is native community restoration. This refers to the reclamation of disturbed lands to a self-sustaining community of native species which would visually integrate with surrounding lands. Revegetation is designed to control erosion and stabilize slopes against long-term erosion using plant materials capable of self-regeneration without continued dependence on irrigation, soil amendments or fertilizer.

Describe tasks:

Prior to revegetation, growth medium will be applied to approximately 498 acres of the site. Of the 498 acres that will receive growth medium, a thickness of six inches of topsoil will be distributed over 28 acres of the site and a thickness of three inches of topsoil will be distributed over 470 acres for a total volume of 212,152 CY. To transport the material around the site, a team of off-road haul trucks will be utilized and D8 dozer will be used to spread the material. A dozer is preferred to distribute the topsoil over a wheel type tractor because its track impressions will imprint final slopes to retain seeds and increase water retention and infiltration, thereby increasing the potential for revegetative success. Using mechanical hydroseeding equipment, areas will be seeded, mulched, and composted in a single application. A hydromulch mix will contain compost, organic mulch, fertilizer and the seed mix. See Attachments 4 and 5 for seed quotes from Pacific Coast Seed. Freedlun Hydroseeding provided a conservative cost quote for the hydroseed applications (Attachment 6). This cost has been updated according to CPI. Planting shrubs and trees will require the efforts of four common laborers and two pickup trucks along with the oversight of a revegetation specialist.

VII. REVEGETATION (Cont.)

Methods to be used:

A. Equipment – List equipment required to complete identified task. For large reclamation jobs separate mine areas.

Equipment	$/Unit	# of Units	Cost ($)
CAT 988 Loader (for topsoil placement)	$142.86/HR	422	$60,287
CAT 740 Haul Truck (2) (for topsoil placement)	$103.55/HR	844	$87,396
Water Truck (for topsoil placement)	$42.54/HR	422	$17,952
CAT D8R Dozer (for topsoil placement)	$161.55/HR	422	$68,174
Pickup Truck (2) (for planting)	$16.34/HR	240	$3,922
Materials & Labor for planting in PCRA	$13.94/Plant	2,500	$34,850

Total Equipment Cost for this Task = $272,581

B. Labor – List all labor categories to complete identified task.

Labor Category	$/Unit (incl labor burden)	# of Unit	Cost ($)
Loader Operator	$70.09/HR	422	$29,578
Haul Truck Drivers (2)	$57.32/HR	844	$48,378
Water Truck Driver	$56.67/HR	422	$23,915
Dozer Operator	$70.09/HR	422	$29,578
Laborer (4)	$51.24/HR	480	$24,595
Revegetation Specialist	$92.00/HR	120	$11,040

Total Labor Cost for this Task = $167,084

C. Materials – List all materials required to complete identified task

Item/Plant Species	Unit of measure	Quantity	$/unit (incl sales tax)	Cost ($)
Pacific madrone	container	798	$2.13	$1,700
Grey pine	container	8,990	$2.54	$22,835
Coast live oak	container	824	$2.54	$2,093
Canyon live oak	container	824	$2.54	$2,093
Blue oak	container	824	$2.54	$2,093
Valley oak	container	824	$2.54	$2,093
Interior live oak	container	824	$2.54	$2,093
Mountain mahogany	container	3,976	$3.10	$12,326
Toyon	container	3,976	$1.32	$5,248
Scrub oak	container	3,976	$2.13	$8,469
California coffeeberry	container	3,976	$1.71	$6,799
Redberry	container	3,976	$1.71	$6,799
Hillside gooseberry	container	3,976	$1.71	$6,799

Chaparral currant	container	3,976	$1.71	$6,799

Total Materials Cost for this Task = $88,284

D. Total Direct Cost for this Task

Equipment Costs + Labor Cost + Materials Cost = $527,949

VII. REVEGETATION (Cont.)

Methods to be used:

a. Equipment – List equipment required to complete identified task. For large reclamation jobs separate mine areas.

Equipment	$/Unit	# of Units	Cost ($)
Hydroseeding Equipment & Labor(PCRA)(excl. seed cost)*	$5,599/Acre	13.7	$76,706
Hydroseeding Equipment & Labor (remaining areas)	$1,552/Acre	502	$779,104
* Hydroseeding quote from Freedlun Hydroseeding plus CPI.			

Total Equipment Cost for this Task = $855,810

b. Labor – List all labor categories to complete identified task.

Labor Category	$/Unit (incl labor burden)	# of Unit	Cost ($)

Total Labor Cost for this Task = $0

c. Materials – List all materials required to complete identified task

Item/Plant Species	Unit of measure	Quantity	$/unit (incl sales tax)	Cost ($)
Artemisia californica	Pounds	8,169	$36.00	$294,084
Baccharis pilularis	Pounds	10,122.2	$28.00	$283,422
Eriogonum fasciculatum	Pounds	10,259.2	$9.50	$97,462
Salvia leucophylla	Pounds	1,004	$80.00	$80,320
Salvia mellifera	Pounds	1,564.9	$48.00	$75,115
Achillea millefolium	Pounds	1,031.4	$36.00	$37,130
Artemisia douglasiana	Pounds	530	$64.00	$33,920
Bromus carinatus	Pounds	3,094.2	$6.50	$20,112
Elymus glaucus	Pounds	3,094.2	$15.00	$46,413
Eschscholzia californica	Pounds	1,004	$18.00	$18,072
Heterotheca grandiflora	Pounds	515.7	$60.00	$30,942
Lotus purshianus	Pounds	551.3	$75.00	$41,348
Lotus scoparius	Pounds	1,004	$36.00	$36,144
Lupinus nanus	Pounds	502	$40.00	$20,080
Melica californica	Pounds	1,004	$36.00	$36,144
Nassella pulchra	Pounds	2,008	$42.00	$84,336
Poa secunda	Pounds	1,004	$30.00	$30,120
Trifolium willdenovii	Pounds	1,004	$38.00	$38,152
Plantago erecta	Pounds	41.4	$40.00	$1,656

Sisyrinchium bellum	Pounds	19.2	$75.00	$1,440
Vulpia microstachys	Pounds	137	$24.00	$3,288
Carex barbarae	Pounds	3	$400.00	$1,200
Carex praegracilis	Pounds	3	$95.00	$285
Cyperus eragrostis	Pounds	6	$90.00	$540
Hordeum brachyantherum	Pounds	18	$24.00	$432
Juncus effusus	Pounds	1	$120.00	$120
Juncus patens	Pounds	1	$135.00	$135
Leymus triticoides	Pounds	6	$64.00	$384

Total Materials Cost for this Task = $1,312,796

d. Total Direct Cost for this Task

Equipment Costs + Labor Cost + Materials Cost = $2,168,606

VIII. MISCELLANEOUS COSTS *(use multiple sheets as needed)*

Provide documentation showing that rates, prices, and wages are available locally to all persons, including the lead agency and/or the Department.

Examples of this type of cost may include temporary storage of equipment and materials off site, special one-time permits (i.e. transportation permits for extra wide overweight loads, etc.), decommissioning a process mill (I.e. decontamination of equipment), disposal of warehouse inventories, well abandonment, remediation of fueling and waste oil storage sites, septic system removal, costs to prepare closure and monitoring reports, site security, preserving potable water and maintaining utilities, etc.

Item / Task	Quantity	$/Unit	Cost ($)
Water Line Construction	6,000 Ft.	$15.64/Ft.	$93,820
Power Line Construction	20 Poles	$2,140/Pole	$42,799
Geotechnical Oversight During Backfilling			
Geotechnical Monitoring (Technician)	5,600 Hrs.	$90.00/Hr.	$504,000
Geotechnical Monitoring (Supervision)	280 Hrs.	$155.00/Hr	$43,400
Final Geotechnical Report	80 Hrs.	$155.00/Hr	$12,400
Permitting Costs for PCRA		L.S.	$23,361
Wetland Delineation		L.S.	$5,631

Total Miscellaneous Costs = $725,411

VIII. MONITORING COSTS

Monitoring Task	$/Visit	# Visits/Year	# of Monitoring Years	Cost ($)
Creek Restoration Monitoring (PCRA – 1 year)	$105/Hr.	100 Hrs.	1	$10,500
Geologic Monitoring (PCRA – 1 year)	$155/Hr.	120 Hrs.	1	$18,600
Annual Monitoring (Scientist/Tech)	$14,984	1	5	$74,920
Annual Monitoring (Project Manager)	$1,640	1	5	$8,200
Geologic Monitoring (Geologist)	$5,467	1	5	$27,335
Water Quality Monitoring (QSP)	$13,800	1	5	$69,000
Water Quality Monitoring (QSD)	$5,480	1	5	$27,400
Report Preparation (Scientist/Tech)	$5,750	1	5	$28,750
Report Preparation (Project Manager)	$1,370	1	5	$6,850
Annual Weed Control and General Maintenance	$65,713	2	5	$657,130

Total Monitoring Costs = $928,685

IX.SUMMARY OF COSTS

This section shall be used to summarize all the cost sheets in one place.

(V) Total of all Plant Structures & Equipment Removal Costs	$130,551
(VI) Total of all Primary Reclamation Activities Costs	$41,924,284
(VII) Total of all Revegetation Costs	$2,696,555
(VIII)Total of all Miscellaneous Costs	$725,411
(IX) Total of all Monitoring Costs	$928,685
Total of Direct Costs	$46,405,486

XI. Supervision / Profit & Overhead / Contingencies / Mobilization

(A) Supervision (2.4%)	$1,113,732
(B) Profit/Overhead (4.0%)	$1,856,219
(C) Contingencies (4.0%)	$1,856,219
(D) Mobilization (1.9%)	$ 881,704
Total of Indirect Costs	$5,707,874
Total of Direct and Indirect Costs	$52,113,360
(E)Lead Agency and/or Dept. of Conservation Administrative Costs	$1,042,267
Total Estimated Cost of Reclamation	$53,155,627

Attachment 1

AMS
Aggregate Machinery Specialist

924 Calle Negocio • Unit A
San Clemente, CA 92673
Phone: (949) 366-3070 • Fax: (949) 366-3069
www.aggregatemachineryspecialist.net

July 12, 2016

Mr. Damien Galford
Project Manager
ENVIROMINE, INC.
135 Camino Dorado, Suite 11
Napa, CA 94558

SUBJECT: Lehigh Hanson Permanente
QUOTE #: 1607-1074-JFM

Dear Mr. Galford,

We are pleased to forward BUDGET prices and specifications for the Primary Station at Lehigh Hanson Permanente. Final prices may vary dependent upon when and if an order is placed. These prices are valid until December 30, 2017.

Prices and deliveries are all over the place. In general factories are somewhat busy with reduced staff, handing one project at a time. There is no consistency in the market. This being said we realize this is a long term project; currently complete shipment would be accomplished in a 6 – 8 month period.

Our invoice EQ16118 for services in relation to this project is attached.

We trust this meets your requirements and that you will not hesitate in contacting us if you need additional information.

Very truly yours,

AGGREGATE MACHINERY SPECIALIST

John F. Mulligan

Cc: J.C. Mulligan
T. ONeill

ENVIROMINE

Lehigh Hanson Permanente Reclamation

July 12, 2016

ITEM 1 Primary Station

1. New Telsmith 3858 PP-VGF Portable Primary Plant consisting of the following:

Structural steel chassis with blocking supports, crusher discharge hopper, chutes, and all necessary supporting structures.

Telsmith 60" x 24' Heavy Duty Vibrating Grizzly Feeder complete with mild steel pan, 1/2" thick AR steel pan liner, 10' long step deck AR steel grizzly bar section, and heavy duty coil support springs with pads.

- Dual shaft gear driven vibrating unit with adjustable counterweights, 140 mm oil lubricated bearings, 1/2 HP oil lube system with electric circulating pump and oil reservoir, and drive sheave.

- Variable Frequency, 60 HP, 1800 RPM, totally enclosed, fan cooled, high torque, ball bearing, squirrel cage motor with V-belt drive for motor including motor sheave, bushing for motor sheave, v-belts for standard drive centers, and pivotal motor base

Telsmith Model 38" x 58" Roller Bearing Jaw Crusher complete with fabricated steel frames, manganese steel jaw dies, AR cheek plates, hydraulic locking and unlocking wedge lock mechanism with manual hand pump, toggle beam, fly wheel and crusher sheave.

- Automatic pressure oil lubrication system including 2 HP electric oil pump, oil tank, filter, pressure regulator, by-pass valve, pressure gauge, alarm system.

- Hydraulic toggle relief cylinders controlled by a hydraulic power unit with 20 HP electric driven pump, reservoir, filter, water to oil cooler, relief valve and hydraulic controls.

- V-belt drive for 1200 RPM motor including motor sheave, bushing for motor sheave and v-belts for standard drive centers. (Shaft diameter, length and keyway details must be provided if motor supplied by Customer.)

- V-belt drive guard consisting of guard with mounting bracket for attachment to standard foundations. Guards comply with most safety codes, but may require field modifications to meet specific codes.

- Quad axles and highway towing kit including axles, axle support, air brakes, wheels, tires, kingpin, mud-flaps, and lights with reflectors.

- 250 HP, 1200 RPM, TEFC electric motor with slide-rails.

- 54" x 32'-3" End Discharge Conveyor complete with V-belt and torque arm reducer drive, 20 HP, 1800 RPM, TEFC, 3/60/460 electric motor, drive guard, nip guards, idlers, 3-ply 3/16" x 1/16" conveyor belting, lagged head pulley, self-cleaning tail pulley, skirting with rubber flashing, belt scraper, and backstop.

PRICE:	ExWorks Mequon, WI	**$1,068,000.00**

OPTIONS/ACCESSORIES

A. Self-contained gas engine powered 4-point hydraulic leveling system including 6" bore hydraulic rams with 36" stroke, control valves, hoses, and mounting brackets. Plant must be blocked for operation.

ADD: **$ 30,450.00**

B. Lift off motor starter panel with wiring to plant motors and variable speed control.

ADD: **$ 59,250.00**

ITEM 2 Dust Collector

A. DCE Model DLMV 60/15 Type F (H + K11- 15 Hp Integral Fan) Base Model

- Finish cost: standard finish
- Seal frame assembly (tube sheet): standard –mild steel
- Inserts: mild steel
- Filter bags: Dura-Life™ Polyester
- Control Box with Timer: with solenoids (NEMA 4 ENCL)
- Pressure gauge: Magnehelic
- Motor options: fan rotation
- Compressed air components: piggyback filter and regulator
- Housing assembly (upstands): vertical, unmounted
- Clamp assembly: standard

PRICE: fob Louisville, KY **$ 40,700.00**

B. Mounting

Designed to be installed on the discharge conveyor, removed when traveling.

Vertical mounting support, corrugated metal conveyor covers, discharge head box for conveyor.

PRICE: fob Factory **$ 18,575.00**

TOTAL: **$ 59,275.00**

SUMMARY – Item 1

Primary	$1,068,000.00
Leveling Jacks	$ 30,450.00
Motor Control	$ 59,250.00
Dust Collector with Mounting	$ 59,275.00
Subtotal	**$1,216,975.00**
Sales Tax (4.81%) – *Special Rate*	$ 58,536.00
Freight, estimated	$ 85,189.00
TOTAL	**$1,360,700.00**

ITEM 3 Masaba 42" x 2375' Overland Conveyor

- **Frame –** 8" channel, bolt in cross members
- **Supports** – 2' tall intermediate supports on 20' spacing, head end supports for 8' discharge height
- **Drive –** Falk V-Class shaft mounted right-angle gear reducer assembly with cooling fan and L.S. Hindon emergency brake
- **Motor –** 300hp electric with VFD control package
- **V-Belt Drive –** with drive guard
- **Capacity –** 2000 TPH based on 100# per cu/ft of material
- **Belt Speed –** 511 FPM @ 212' decline
- **Pulleys – ENGINEERED CLASS PULLEYS**
- **Take Up –** Gravity take up tower on tail end
- **Belting –** Quoted Separately
- **Primary Belt Scraper –** Martin Pit Viper Primary with Twist Tensioner
- **Secondary Belt Scraper –** Martin Secondary Scraper with tungsten-carbide blade
- **V-Plow –** On return side
- **Transition Idlers –** CEMA D, PPI, 20 degree sealed 5" diameter trough idlers
- **Troughing Idlers –** CEMA D, PPI, 35 degree sealed 5" diameter trough idlers, 3.5' spacing
- **Return Idlers –** CEMA D, PPI, sealed 5" return idlers, 10' spacing
- **Self-Aligning Idlers –** CEMA D, PPI 50' from ends, then 100' spacing
- **Hopper –** 6ft long with adjustable rubber flashing
- **Switchgear – NOT INCLUDED**
- **Guards –** Tail pulley guard, v-belt guard and nip guard on head pulley. We do not warrant that our guards will meet all local codes. It is the responsibility of the end user to have them checked by a local inspector
- **Steel Shot Blasted**
- **Primer –** (1) coat of 2 part urethane primer
- **Paint –** (1) coat of 2 part urethane paint
- **Owner's Manual –** (2) copies for maintenance and parts

PRICE:	fob, South Dakota	**$ 985,000.00 each**

OPTIONS/ACCESSORIES

A. Safety Cut-off switch with cable	**ADD:**	**$ 9,875.00**
B. Discharge Hood with replaceable AR liners	**ADD:**	**$ 3,000.00**
C. Fenner-Dunlop 42" PSR 3-1200 Granite 3/8 x ¼ covers	**ADD:**	**$ 490,000.00**
D. Dust collector, Model DLVM-2010, 7½ Hp, vertical mounting, support legs	**ADD:**	**$ 28,125.00**

Total for one (1) conveyor:	**$1,516,000.00**
Lot of four (4) conveyors:	**$6,064,000.00**
Sales Tax (4.81%) – *Special Rate*	$ 291,070.00
Freight, estimated	$ 303,230.00
TOTAL:	**$6,717,575.00**

ITEM 4 Masaba 42" x 190' Pit Portable Magnum Telescoping Stacker

Conveyor Frame
Main Frame – 84" Deep engineered truss
Extra Chord Angle – From tail end to head end undercarriage pinning point.
Counterweight – On-board design installed in the main frame tail
Stinger Frame – 66" Deep engineered truss
Stinger Drive – *MASABA* TRACK TECHNOLOGY. Eliminates danger of cable breakage and uncontrolled roll back - No winch or cable. Conveyor extends to 190' length

Road Portability
Tubular Undercarriage – Hydraulic raise & lower with 30 hp pumping unit
Swing Axle – Pit portable tandem walking beam axle with dual (8) 385/65D-19.5 tires and wheel
Axle Jacks – Jacks hydraulically lift conveyor to allow swing axle deployment
Power Travel – (1) hydraulic drive with #100 chain and sprockets
Towing Eye – For pit transport
Anchor Pivot Plate - Maintains tail end during radial travel.

Main & Stinger Components
Drives – Class II head end
Motors – (2) 60 hp/(2) 50 hp
Gear Reducers – Dodge TAII shaft mount with backstop
Capacity – 1500 TPH based on 100# per cu/ft of material at 18 degrees
Belt Speed – 450/600 FPM
Head Pulley – Heavy Duty 18" diameter drum pulley with 3/8" herringbone lagging
Tail Pulley – Heavy Duty 16" diameter self-cleaning wing type pulley
Take Ups – Screw type
Belting – 3-ply 3/16" x 1/16" 330 PIW
Belt Splice – Flexco mechanical steel fasteners
Belt Scraper – Martin Pit Viper with Twist Tensioner
Transition Idlers *(main)* – CEMA C, Precision, 20 degree, sealed 5" diameter idlers
Troughing Idlers – CEMA C, Precision, 35 degree, sealed 5" diameter, 4' spacing
Return Idlers – CEMA C, Precision, sealed 5" return idlers, 10' spacing
Self-Aligning *(main)* – (1) CEMA C, Precision, self-aligning idler
Self-Aligning Return *(stinger)* – ASGCO Tru-Trainer Return Roll
Hopper – 6' long hopper with adjustable rubber flashing, radial receiving hopper and rock ledge

Controls
Complete Switchgear - manual operation for extend/retract, raise/lower, axle jacks, start/stop conveyors and main disconnect
PLC – Manual – electric buttons control. Power travel, conveyor raise and conveyor extension.
Material Flow Sensor – pauses conveyor movement when material is not present

General Specifications
Guards – Tail pulley guard, v-belt guard and nip guard on head pulley. We do not warrant that our guards will meet all local codes. It is the responsibility of the end user to have them checked by a local inspector
Steel Shot Blasted
Primer – (1) coat of 2 part urethane primer
Paint – (1) coat of 2 part urethane paint
Owner's Manual – (2) copies for maintenance and parts

PRICE:	fob, South Dakota	**$ 563,650.00**

OPTIONS/ACCESSORIES

A. Remote grease bank for pulley bearings	**ADD:**	**$**	**2,750.00**
B. Wireless remote control for all manual conveyor functions 1,000 ft. range	**ADD:**	**$**	**4,295.00**
C. Impact idlers in lieu of steel rolls in load area	**ADD:**	**$**	**1,190.00**
D. Safety switch, radial travel safety switches	**ADD:**	**$**	**1,315.00**
E. Dual power travel, 4-wheel drive	**ADD:**	**$**	**8,500.00**
Total with options:		**$**	**581,700.00**
Sales Tax (4.81%) – *Special rate*		$	27,920.00
Freight, estimated		$	29,080.00
TOTAL:		**$**	**638,700.00**

Delivery currently:

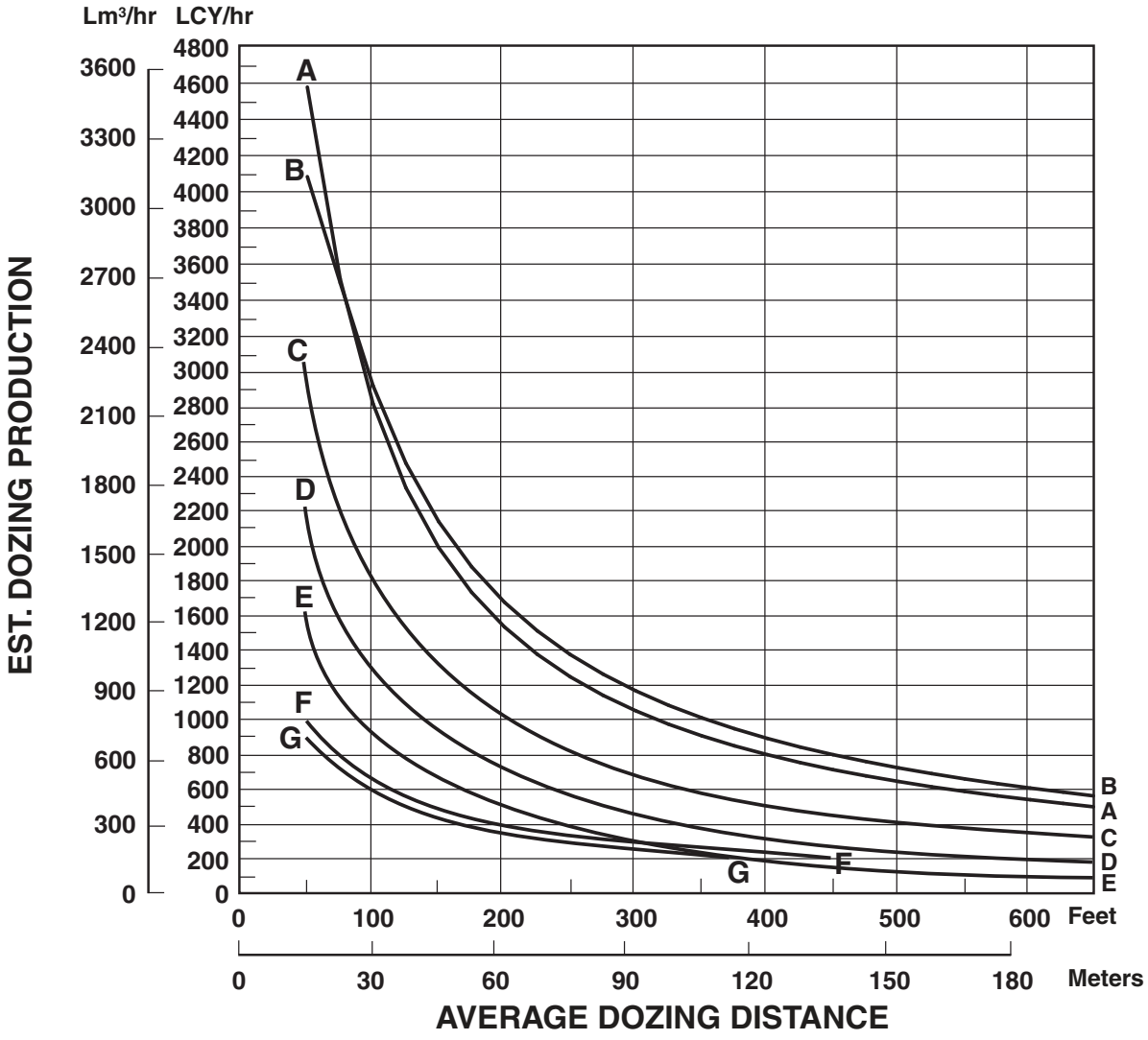
Primary	16 – 20 weeks
Dust Collector	14 – 16 weeks
Overland Conveyor	16 – 20 weeks
Telescoping Conveyor	14 – 16 weeks

Freights are based on current freight estimates and would be invoiced at our actual cost. Sales tax is quoted at current rate and would be adjusted to appropriate rate at time of invoice. Terms to be agreed upon.

J.F. Mulligan
July 12, 2016

Attachment 2

ESTIMATED DOZING PRODUCTION ● Universal Blades ● D7G through D11T



KEY

A — D11T-11U
B — D11T CD
C — D10T-10U
D — D9R/D9T-9U
E — D8R/D8T-8U
F — D7R Series 2-7U
G — D7G-7U

NOTE: This chart is based on numerous field studies made under varying job conditions. Refer to correction factors following these charts.

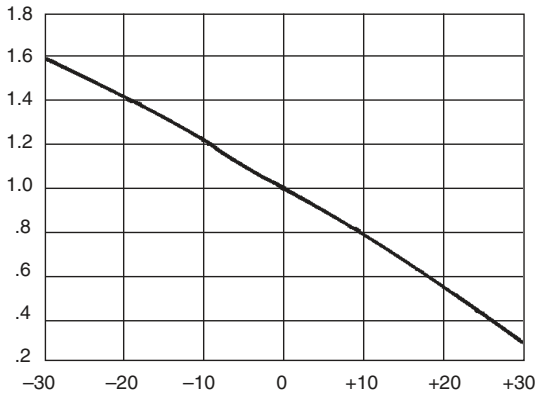
JOB CONDITION CORRECTION FACTORS

	TRACK-TYPE TRACTOR	WHEEL-TYPE TRACTOR
OPERATOR —		
Excellent	1.00	1.00
Average	0.75	0.60
Poor	0.60	0.50
MATERIAL —		
Loose stockpile	1.20	1.20
Hard to cut; frozen —		
with tilt cylinder	0.80	0.75
without tilt cylinder	0.70	—
Hard to drift; "dead" (dry, non-cohesive material) or very sticky material	0.80	0.80
Rock, ripped or blasted	0.60-0.80	—
SLOT DOZING	1.20	1.20
SIDE BY SIDE DOZING	1.15-1.25	1.15-1.25
VISIBILITY —		
Dust, rain, snow, fog or darkness	0.80	0.70
JOB EFFICIENCY —		
50 min/hr	0.83	0.83
40 min/hr	0.67	0.67
BULLDOZER*		
Adjust based on SAE capacity relative to the base blade used in the Estimated Dozing Production graphs.		
GRADES — See following graph.		

***NOTE:** Angling blades and cushion blades are not considered production dozing tools. Depending on job conditions, the A-blade and C-blade will average 50-75% of straight blade production.

% Grade vs. Dozing Factor

(–) Downhill
(+) Uphill



ESTIMATING DOZER PRODUCTION OFF-THE-JOB

Example problem:

Determine average hourly production of a D8T/8SU (with tilt cylinder) moving hard-packed clay an average distance of 45 m (150 feet) down a 15% grade, using a slot dozing technique.

Estimated material weight is 1600 kg/Lm^3 (2650 lb/LCY). Operator is average. Job efficiency is estimated at 50 min/hr.

Uncorrected Maximum Production — 458 Lm^3/h (600 LCY/hr) (example only)

Applicable Correction Factors:

Hard-packed clay is "hard to cut" material –0.80
Grade correction (from graph) . . . . . .–1.30
Slot dozing . . . . . .–1.20
Average operator . . . . . .–0.75
Job efficiency (50 min/hr) . . . . . .–0.83
Weight correction . . . . . .(2300/2650)–0.87

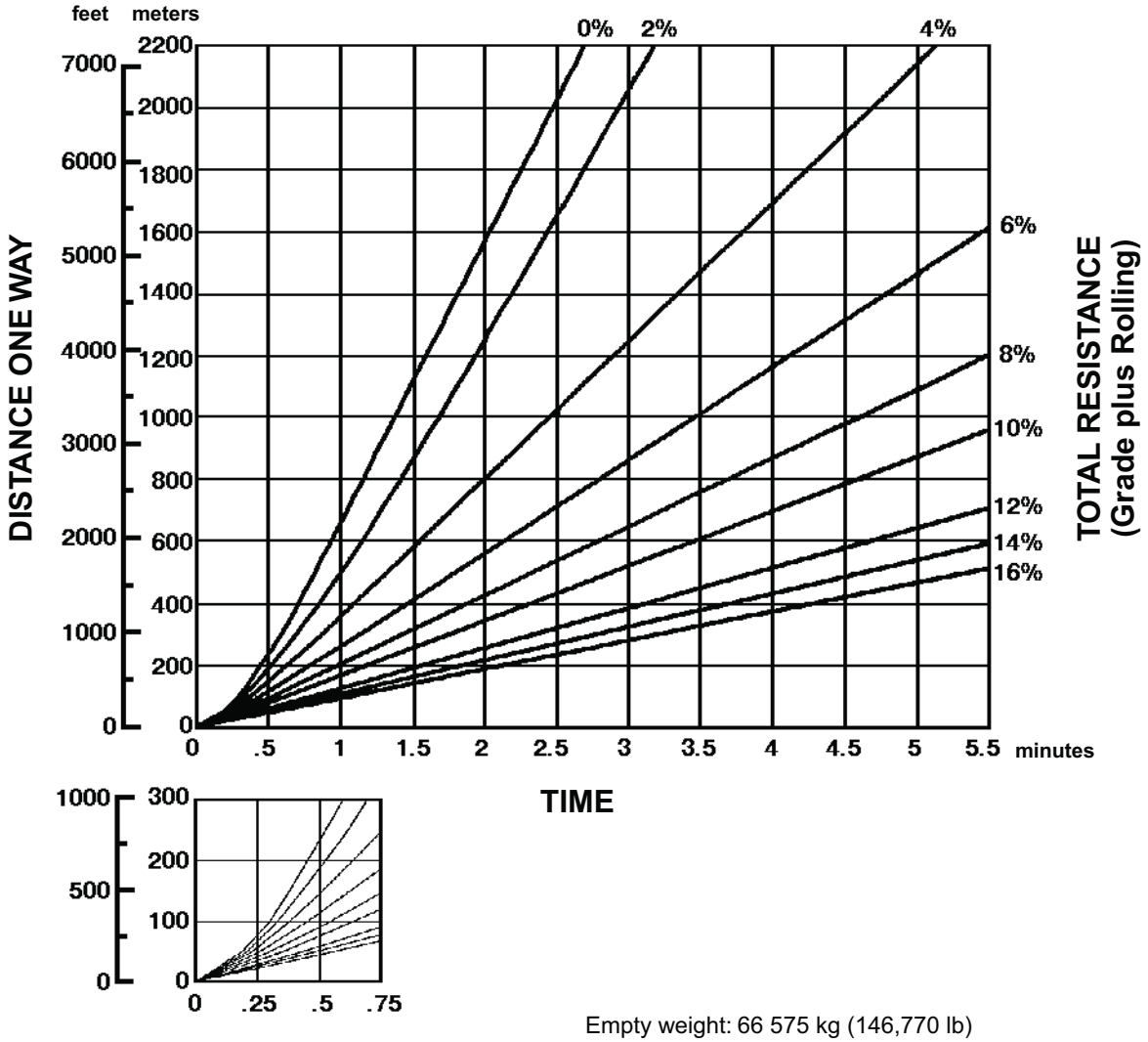
Production = Maximum Production × Correction Factors
= (600 LCY/hr) (0.80) (1.30) (1.20) (0.75) (0.83) (0.87)
= 405.5 LCY/hr

To obtain production in metric units, the same procedure is used substituting maximum uncorrected production in Lm^3.

= 458 Lm^3/h × Factors
= 309.6 Lm^3/h

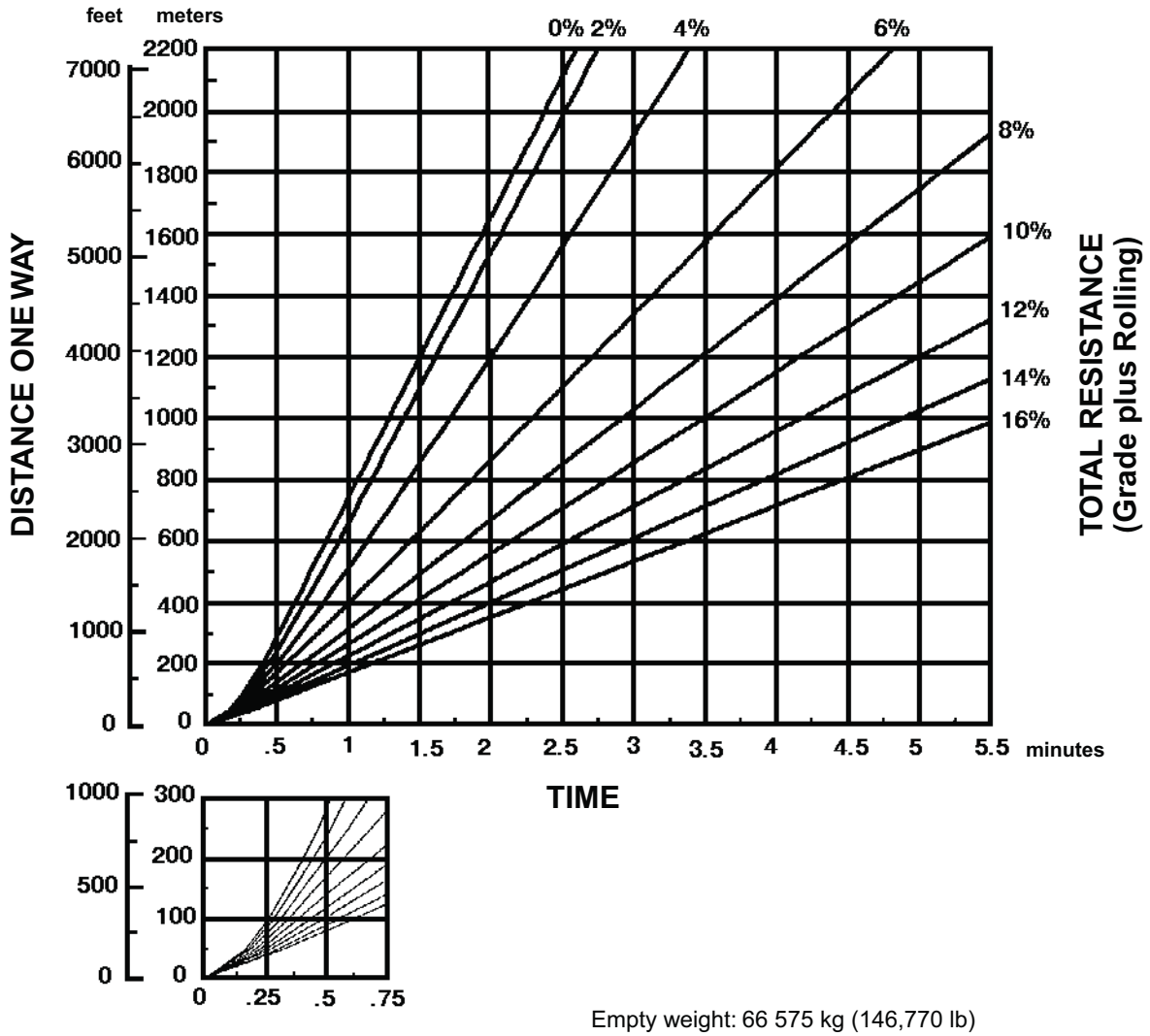
Attachment 3

LOADED



Empty weight: 66 575 kg (146,770 lb)
Payload: 47 175 kg (104,000 lb)

EMPTY



Empty weight: 66 575 kg (146,770 lb)

Attachment 4

Warren Coalson
Enviromine, Inc.
135 Camino Dorado, Suite 11
Napa, CA 94558

July 20, 2017

Re: Permanente Quarry Cupertino

Dear Mr. Galford:

Thank you for contacting Pacific Coast Seed, Inc. as your seed supplier for the above referenced project. We anticipate that we will have the below listed seed in sufficient quantities to seed the ~13.70 acres located in Cupertino, CA. The below items have been priced assuming the seed is provided on a Standard Commercial Quality basis. These items will be mixed and labeled in accordance with California and Federal Seed Laws and consist of the following:

Table 1:

SCIENTIFIC NAME	COMMON NAME	Pounds Per Acre Bulk Seed	Cost Per Pound Bulk Seed
SHRUBS			
Artemisia californica	coastal sagebrush	10	$36.00
Baccharis pilularis	coyotebrush	6	$28.00
Eriogonum fasciculatum	Eastern Mojave buckwheat	16	$9.50
Lotus scoparius (now known as Acmispon glaber)	deer weed	2	$36.00
Salvia mellifera	black sage	4.3	$48.00
GRASSES AND HERBS			
Achillea millefolium	common yarrow	2	$36.00
Artemisia douglasiana	Douglas' sagewort	1.9	$64.00
Bromus carinatus	California brome	10	$6.50
Clarkia purpurea ssp. quadrivulnera	winecup clarkia	1	$75.00
Elymus glaucus	blue wildrye	6	$15.00
Heterotheca grandiflora	telegraph weed	1	$60.00
Lotus purshianus (now known as Acmispon americanus)	Spanish Clover	3.6	$75.00
Plantago erecta	dotseed plantain	3	$40.00

Sisyrinchium bellum	western blue-eyed grass	1.4	$75.00
Vulpia microstachys	small fescue	10	$24.00

Table 2:

Scientific Name	Common Name	Lb/Acre	Price/Lb
Artemisia douglasiana	mugwort	2	$64.00
Carex barbarae	valley sedge	3	$400.00
Carex praegracilis	field sedge	3	$95.00
Cyperus eragrostis	tall flatsedge	6	$90.00
Hordeum brachyantherum	meadow barley	18	$24.00
Juncus effusus	bog rush	1	$120.00
Juncus patens	common rush	1	$135.00
Leymus triticoides	creeping wildrye	6	$64.00
Total		**40**	

Please provide a purchase order by June 1st on the year preceding that in which the seed purchase is intended. Some items may require extra collections be made in advance to assume supply of the quantities requested.

Thank you again for consulting Pacific Coast Seed, Inc. as your seed supplier for this project. We look forward to working with you on future projects.

Sincerely,

Pacific Coast Seed, Inc

Kitty Luckert
Office Manager

Attachment 5

Warren Coalson
Enviromine, Inc.
135 Camino Dorado, Suite 11
Napa, CA 94558

July 20, 2017

Re: Permanente Quarry Cupertino

Dear Mr. Galford:

Thank you for contacting Pacific Coast Seed, Inc. as your seed supplier for the above referenced project. We anticipate that we will have the below listed seed in sufficient quantities to seed the ~517 acres located in Cupertino, CA. The below items have been priced assuming the seed is provided on a Standard Commercial Quality basis. These items will be mixed and labeled in accordance with California and Federal Seed Laws and consist of the following:

Table 1:

SCIENTIFIC NAME	COMMON NAME	Pounds Per Acre Bulk Seed	Cost Per Pound Bulk Seed
SHRUBS			
Artemisia californica	coastal sagebrush	16 (8) *	$36.00
Baccharis pilularis	coyotebrush	20 (6) *	$28.00
Eriogonum fasciculatum	California buckwheat	20 (10) *	$9.50
Salvia leucophylla	Purple sage	2 *	$80.00
Salvia mellifera	black sage	3	$48.00
GRASSES AND HERBS			
Achillea millefolium	common yarrow	1	$36.00
Artemisia douglasiana	Douglas' sagewort	1 (2) *	$64.00
Bromus carinatus	California brome	6 (8)	$6.50
Elymus glaucus	blue wildrye	6 (8)	$15.00
Eschscholzia californica	California Poppy	2 (1.5)	$18.00
Heterotheca grandiflora	telegraph weed	1 *	$60.00
Lotus purshianus	Spanish Clover	1 (1.5)	$75.00
Lotus scoparius	Deerweed	2	$36.00
Lupinus nanus	Sky lupine	1 (2)	$40.00
Melica californica	Californica melic	2	$36.00

Nasella pulchra	Purple needlegrass	4	$42.00
Poa secunda	One-sided bluegrass	2	$30.00
Trifolium wildenovii	Tomcat clover	2	$38.00
Total		**93**	

Please provide a purchase order by June 1st on the year preceding that in which the seed purchase is intended. Some items may require extra collections be made in advance to assume supply of the quantities requested and are noted with a *. Numbers in ( ) show the more usual seeding rates for these seeds.

Thank you again for consulting Pacific Coast Seed, Inc. as your seed supplier for this project. We look forward to working with you on future projects.

Sincerely,

Pacific Coast Seed, Inc

Kitty Luckert
Office Manager

Attachment 6

FREEDLUN HYDROSEEDING INC

518 BAYWOOD CT, VACAVILLE, CA 95688

LICENSE #740810

800-300-9423 707-448-9423

FAX 707-446-8146

DEAN@FREEDLUN.NET OR TERRI@FREEDLUN.NET

Price Quote

July 21, 2016
Damien L. Galford
EnviroMine, Inc.
RE: Reclamation Cost Estimate 2016

Hello Damien
Please find our updated pricing for the following BFM products:
Hydroseed using Flexterra: 20+ acres @ $5,500.00 per acre
Hydroseed using HydroBlanket: 20 + acres @ $4,500.00 per acre
Both products shall be applied @ 4,000 lbs/acre

This quote is for one application. Should more applications be required, additional charges will apply. Full payment of the quoted price is due within 30 days of application. Late payments will incur an additional fee of 1.5% per month.
This quote assumes customer will provide legal access to the property and to an ample water supply. If no water is available, let us know. This quote excludes any soil prep, soil amendments, any guarantee of growth, watering, weeding, or maintenance. The seed we purchase is determined by the details you have provided and authorized above, and is State inspected for germination percentages.
If a payment & performance bond is required, our rate is 3%. Unless we have been notified of such requirement in writing, the cost of any bond is not included in our quote, and will be added to the final quoted price. Our company is SB/MICRO certified through the State of California. Init. ____

Due to the changing prices of seed, the quoted price is good for 60 days. Let us know if you want to 'Lock-in' a price for a date more than 2 months away.

To accept this proposal, initial where indicated, sign and date below & fax back to 707-446-8146. Once accepted, this quote will become a contract.
In any legal action undertaken to enforce its terms, the successful party will be entitled to any and all attorney fees and legal costs incurred in connection with such an enforcement action.

x_____ Date_____ Initial Required Above

Printed name_____Title_____

APPENDIX K:

ORDER No. R2-2017-0030

AMENDMENT OF ORDER No. R2-2014-0010 (NPDES No. CA0030210)

&

Order No. R2-2017-0031

AMENDMENT OF CEASE AND DESIST ORDER No. R2-2014-0011

California Regional Water Quality Control Board
San Francisco Bay Region

Order No. R2-2017-0030

Amendment of Order No. R2-2014-0010
(NPDES No. CA0030210)
for Lehigh Southwest Cement Company and
Hanson Permanente Cement, Inc.,
Permanente Plant
Cupertino, Santa Clara County

WHEREAS the California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board), finds the following:

1. Lehigh Southwest Cement Company (Discharger) owns and operates the Permanente Plant (Facility), located at 24001 Stevens Creek Blvd., Cupertino; the Discharger mines limestone and rock, and produces cement and construction aggregate, at the Facility.

2. On March 20, 2014, the Regional Water Board adopted Order No. R2-2014-0010 (NPDES Permit No. CA0030210, Permit), which serves as Waste Discharge Requirements and regulates point source discharges from the Facility to Permanente Creek.

3. The Fact Sheet (Attachment 1) contains background information and rationale for this Order's requirements and is hereby incorporated into and constitutes findings for this Order; it provides information about the Facility. Permit Table 1 and Permit Fact Sheet (Permit Attachment F) sections I and II provide additional information.

4. The Permit requires the Discharger to construct a final treatment system capable of treating all quarry pit water, process wastewater, and stormwater commingled with process wastewater discharged from the Facility. The final treatment system will use biological treatment, ultra-filtration, and reverse osmosis technologies to remove metals from these flows and then gravity-drain the treated flows to Permanente Creek via Discharge Point No. 001.

5. Permit Attachment C, page C-3, specifies a location for the final treatment system and a final process flow configuration for the Facility. However, changes to the final treatment system design since 2014 necessitate different locations for the treatment system and Discharge Point No. 001 and a revised final process flow configuration to ensure adequate area for treatment units, adaptability to changing Facility conditions, and efficient flow management.

6. When the Regional Water Board adopted the Permit, the Discharger was sending process-related flows to Pond 9 (see Permit Attachment F, section II) for treatment and discharge to Permanente Creek at Discharge Point No. 003; the Discharger has discontinued this practice to comply with the Permit and to protect subsequently discovered California Red-Legged Frogs in Pond 9. The Discharger now diverts these flows to the final treatment system. The only remaining inputs to Pond 9 and discharges from Discharge Point No. 003 comprise

upwelled groundwater and creek water, rain that falls directly into the pond, and runoff from the directly adjacent hillside.

7. This Order amends the Permit to revise the final treatment system design and final process flow configuration, including redirection of flows previously sent to Pond 9 and discharged at Discharge Point No. 003.

8. Pursuant to Water Code section 13389, this Order authorizes discharges only and is thus exempt from the provisions of the California Environmental Quality Act. This Order does not authorize construction or alteration of the treatment systems and related appurtenances.

9. The Regional Water Board notified the Discharger and interested agencies and persons of its intent to amend the Permit and provided an opportunity to submit written comments and recommendations. The Fact Sheet for this Order provides details regarding the notification.

10. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the amendment. The Fact Sheet for this Order provides details regarding the public hearing.

IT IS HEREBY ORDERED, pursuant to the provisions of California Water Code Division 7 (commencing with § 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act and regulations and guidelines adopted thereunder, that the Discharger shall comply with the Permit as amended by this Order. The Permit changes are shown below with underline for additions and ~~strikethrough~~ for deletions:

1. Replace Permit Attachment B, page B-2, with Attachment 2 of this Order ("Facility Map").

2. Replace Permit Attachment C, page C-3, with Attachment 3 of this Order ("Revised Final Line Drawing of Flows; Final Treatment Flow Configuration").

3. Revise Permit Table 2 as follows:

Table 2. Discharge Locations

<table>
<tr><th>Discharge Point</th><th>Effluent Description</th><th>Discharge Point Latitude (North)</th><th>Discharge Point Longitude (West)</th><th>Receiving Water</th></tr>
<tr><td rowspan="2">001</td><td rowspan="2">Treated quarry dewatering water, ~~Primary Crusher wash water~~, Crusher Slope Drainage Area stormwater, Cement Plant Reclaim Water System wastewater, Rock Plant aggregate wash water, Truck Wash water, subsurface flow from the East Materials Storage Area (EMSA) (intercepted by the EMSA French drain, EMSA catchment and drainage swales, and any additional related infrastructure), non-stormwater, and stormwater, all discharged from ~~Pond 4A~~ the final treatment system</td><td>~~37.31713°~~</td><td>~~-122.11165°~~</td><td rowspan="2">Permanente Creek</td></tr>
<tr><td colspan="2">One or more locations anywhere between approximately 37.32507°N, -122.08286°W and 37.31744°N, -122.11557°W</td></tr>
</table>

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
002	Settled stormwater~~, including stormwater from Crusher Slope Drainage Area east of Pond 13B,~~ discharged from Pond 13B	37.31674°	-122.10167°	Permanente Creek
003	Stormwater from ~~roads and hillsides, pumped from Dinky Shed Basin and~~ direct rainfall and the directly adjacent hillside and upwelled groundwater, discharged from Pond 9	37.31339°	-122.09058°	Permanente Creek
004	Settled stormwater from rain falling directly on the Rock Plant, discharged from Pond 17	37.31431°	-122.08893°	Permanente Creek
005	Settled stormwater from the former Aluminum Plant, entry road, and nearby hillside, discharged from Pond 20	37.31899°	-122.087159°	Permanente Creek
006	Settled stormwater from the East Materials Storage Area (EMSA), discharged from Pond 30	37.32241°	-122.08551°	Permanente Creek

4. Revise Permit provision IV.B (including Table 5 title) as follows:

B. Discharge Point Nos. 002, ~~through~~ 004, and 005

The Discharger shall comply with the following effluent limitations at Discharge Point Nos. 002, ~~through~~ 004, and 005, with compliance measured at Monitoring Locations EFF-002, ~~through~~ EFF-004, and EFF-005 as described in the MRP.

Table 5. Effluent Limitations – Discharge Point Nos. 002, ~~through~~ 004, and 005

⋮

5. Revise Permit Provision VI.C.6.c as follows:

c. Additional Stormwater Provisions

i. Upon an initial detection of a pollutant at Discharge Point Nos. 002 or 004 through 006 in excess of the action levels in Table 7, below, the Discharger shall review the selection, design, installation, and implementation of its BMPs to identify necessary modifications… .

6. Add new Permit Provision VI.C.7 as follows:

7. Flow Study Plan and Monitoring

The Discharger shall ensure minimum flows in Permanente Creek adjacent to the Facility as necessary to protect existing aquatic habitat beneficial uses until such reaches are disrupted for habitat restoration in accordance with a restoration plan the Regional Water Board authorizes.

a. By December 1, 2017, the Discharger shall submit a Flow Study Plan to determine the minimum flow necessary to protect existing Permanente Creek aquatic habitat beneficial uses year-round and management measures to sustain such flows.

b. By March 1, 2018, the Discharger shall submit a Flow Study Report reflecting any and all Regional Water Board staff feedback on the Flow Study Plan. The report shall propose actions necessary to ensure minimum flows necessary to protect existing aquatic habitat beneficial uses. At times, these actions may include pumping some, but not necessarily all, effluent from the final treatment system to upstream reaches. The Flow Study Report shall include monitoring actions to demonstrate flows sufficient to protect existing aquatic habitat beneficial uses.

c. By May 1, 2018, the Discharger shall implement the actions set forth in the Flow Study Report as necessary to protect existing aquatic habitat beneficial uses. The Discharger shall also report in the cover letter to its monthly self-monitoring reports its findings from the monitoring actions set forth in the Flow Study Report.

d. If the Flow Study Report proposes discharges at any Permanente Creek location other than the concrete-culverted portion of Permanente Creek near Pond 20, the Discharger shall ensure that such discharges do not cause sedimentation or erosion within Permanente Creek sufficient to cause or contribute to adverse impacts on Permanente Creek beneficial uses.

7. Revise Permit Monitoring and Reporting Program (Table E-1) as follows:

Table E-1. Monitoring Locations

Sampling Location Type	Monitoring Location Name	Monitoring Location Description
Effluent	EFF-001	Before the final treatment system is constructed and operating in accordance with the final process flow diagram shown in Attachment C, Schematic C-3: A point in the outfall from Pond 4A ~~(Discharge Point No. 001)~~, following treatment and prior to the receiving water, at which all waste tributary to the outfall is present. *Latitude 37°,19',1.68" N Longitude 122°,6',41.94" W* After the final treatment system is constructed and operating in accordance with the final process flow diagram shown in Attachment C, Schematic C-3: A point in the outfall from the final treatment system (Discharge Point No. 001), following treatment and prior to the receiving water, at which all waste tributary to the outfall is present. *Approximate Latitude 37°,19',3.95" N* *Approximate Longitude -122°,5',17.84" W*

Sampling Location Type	Monitoring Location Name	Monitoring Location Description
⋮	⋮	⋮
Effluent	EFF-006	A point in the outfall from Pond 30 (Discharge Point No. 006), prior to the receiving water, where all runoff from the East Materials Storage Area (EMSA) tributary to the outfall is present. *Latitude 37°,19',23.3" N Longitude 122°,5',7.9"W*
Receiving Water	RSW-001	Before the final treatment system is constructed and operating in accordance with the final process flow diagram shown in Attachment C, Schematic C-3: A point in Permanente Creek within 50 feet upstream of in-stream Pond 13. After the final treatment system is constructed and operating in accordance with the final process flow diagram shown in Attachment C, Schematic C-3: A point 50 feet downstream of Discharge Point No. 001.
Receiving Water	RSW-001A	A point at the confluence of Wild Violet Creek and Permanente Creek upstream of ~~Outfall 001.~~ Discharge Point No. 002. *Latitude 37°,19',13" N Longitude -122°,7',55" W*
⋮	⋮	⋮

8. Revise Permit Monitoring and Reporting Program (Table E-3) as follows:

Table E-3. Effluent Monitoring—Monitoring Locations EFF-002 through EFF-005

Parameter [1]	Units	Sample Type ~~[1]~~[2]	Minimum Sampling Frequency
Flow ~~[2]~~[3]	MG	Continuous	1/Month
Total Suspended Solids (TSS)	mg/L	Grab	1/Quarter
Oil and Grease ~~[3]~~[4]	mg/L	Grab	1/Quarter
pH	standard units	Grab	1/Quarter
Settleable Matter	mL/L-hr	Grab	1/Quarter
Turbidity	NTU	Grab	1/Quarter
Conductivity	µmhos/cm	Grab	1/Quarter
Chromium (VI)	µg/L	Grab	1/Quarter
Mercury	µg/L	Grab	1/Quarter
Nickel	µg/L	Grab	1/Quarter
Selenium	µg/L	Grab	1/Quarter
Thallium	µg/L	Grab	1/Quarter
Standard Observations ~~[4]~~[5]	---	---	Each Occurrence

Footnotes:

[1] TSS, oil and grease, settleable matter, and turbidity monitoring are not required at Monitoring Location EFF-003.

~~[1]~~[2] Grab samples shall be collected during daylight hours.

~~[2]~~[3] Flow shall be monitored continuously at all monitoring locations. The following information shall be reported in monthly self-monitoring reports for all monitoring locations:

- Daily average flow (gpd)
- Monthly average flow (MGD)

- Total monthly flow volume (MG)

~~[3]~~[4] Oil and grease sampling and analysis shall be conducted in accordance with U.S. EPA Method 1664.

~~[4]~~[5] Standard observations are listed in Attachment G section III.C.1, Receiving Water Observations.

This Order shall take effect on August 1, 2017 or the first day of the month after the Court approves the corresponding amendments to its 2015 Consent Decree in Case No. 5:15-cv-01896-HRL, involving the Discharger, U.S. EPA, and the Regional Water Board, whichever is later.

I, Bruce H. Wolfe, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on July 12, 2017.

BRUCE H. WOLFE
Executive Officer

Attachment 1 – Fact Sheet
Attachment 2 – Facility Map
Attachment 3 – Revised Final Process Flow Diagram

ATTACHMENT 1 – FACT SHEET

This Fact Sheet describes the legal requirements and technical rationale that serve as the basis for this Order's requirements.

Purpose

This Order amends Order No. R2-2014-0010 (NPDES Permit No. CA0030210, Permit) to accurately reflect the final treatment system design and final process flow configuration, including flows previously sent to Pond 9 and discharged at Discharge Point No. 003. Specifically, this Order replaces the facility map (Permit Attachment B, page B-2, "Facility Map") and process flow diagram (Permit Attachment C, page C-3, "Final Line Drawing of Flows; Final Treatment Flow Configuration") with updated versions and revises related text accordingly throughout the Permit.

Background

Lehigh Southwest Cement Company (Discharger) operates the Permanente Plant (Facility), a limestone quarry and cement production facility that also produces construction aggregate. The Facility is located at 24001 Stevens Creek Blvd., Cupertino. The Facility discharges wastewater and stormwater runoff associated with industrial activities to Permanente Creek, a water of the United States and a tributary to San Francisco Bay within the Santa Clara Basin watershed. Currently, these discharges are regulated pursuant to the Permit.

The Permit requires the Discharger to construct a final treatment system and comply with all Permit requirements. The Permit specifies a location for the final treatment system and Discharge Point No. 001 and a particular process flow configuration. However, the final treatment system design necessitates a different treatment system location, moving Discharge Point No. 001, and modifications to the final process flow configuration to ensure adequate area for treatment units, adaptability to changing Facility conditions, and efficient flow management. Moreover, when the Regional Water Board adopted the Permit, the Discharger was sending process-related flows to Pond 9 for treatment and discharge to Permanente Creek at Discharge Point No. 003; the Discharger has discontinued this practice in response to the discovery of California Red-Legged Frogs in Pond 9.

Authority to Amend Permit

The Regional Water Board may amend the Permit with good cause pursuant to 40 C.F.R. section 122.62(a)(2). The reopener provisions in Permit provision VI.C.1 allow the Regional Water Board to amend the Permit as necessary in response to updated water quality objectives, regulations, or other new and relevant information that becomes available after Permit issuance, and other circumstances as allowed by law. The Discharger may request Permit modification based on any of these circumstances. In a letter to the Regional Water Board dated December 30, 2016, the Discharger applied for a Permit amendment to account for changes to the final treatment system and process flow configuration. The discovery of California Red-Legged Frogs in and near Pond 9 is also a basis for this amendment.

Rationale for Specific Revisions

1. **Replace Permit Attachment B, page B-2, with Attachment 2 of this Order ("Final Facility Map").**

   Permit provision III.A prohibits discharges other than those shown in the facility map in Attachment B, page B-2. The map shows Discharge Point Nos. 001 through 006 and the Facility's water and wastewater conveyance system. Attachment 2 of this Order updates the discharge points and process flow diagram to match the Discharger's design. The new location for Discharge Point No. 001 will allow discharge by gravity at a location nearer to the final treatment system, which will require less pumping and allow for a simpler process flow configuration.

2. **Replace Permit Attachment C, page C-3, with Attachment 3 of this Order ("Revised Final Line Drawing of Flows").**

   The Permit prohibits discharges other than those shown in the final process flow diagram in Permit Attachment C, page C-3 ("Final Line Drawing of Flows; Final Treatment Flow Configuration"). This Order amends the final process flow diagram to be consistent with the updated final treatment system design and Facility flows. The updated final treatment system design eliminates discharges from Discharge Point No. 003; directs several flows that were previously discharged at Discharge Point Nos. 002 through 006 to the final treatment system and, subsequently, Discharge Point No. 001; and generally improves stormwater management and treatment of contaminated runoff before discharge to Permanente Creek. Major changes to the process flow diagram are follows:

   a. The final treatment system includes two treatment trains consisting of an ultra-filtration/reverse osmosis system, a bioreactor, and a settling tank for bioreactor backwash. The second train provides flexibility in case of needed maintenance and capacity to treat additional quarry or wet weather flows. Optional mineral injection provides additional treatment of final treatment system flows as needed prior to discharge. The feed/sediment tank, previously shown before the final treatment system, is deleted.

   b. The final treatment system discharges directly through Discharge Point No. 001 instead of through Pond 4A.

   c. A potential discharge point from the final treatment system to the city sewer is added, as are solid waste (sludge) flows from the backwash settling tank to the thickener tank or to non-hazardous waste storage totes. Discharge to the city sewer would require city approval.

   d. Flows into what has been referred to as the Cement Plant Reclaim Water System (water management infrastructure in and around the Cement Plant Area) are now also managed through Pond 1, which was installed after the Permit was adopted to provide additional storage capacity. These flows include cooling water from the cement plant, office building, and finish mill cooling tower water systems; Rock Plant sump water; and truck wash water.

e. The Dinky Shed Basin water has been re-routed to flow to Pond 1 instead of Pond 9 and Discharge Point No. 003.

f. The East Materials Storage Area French drain, installed after the Permit was adopted, intercepts subsurface flow from the Eastern Materials Storage Area and directs it to a water collection tank, from which it can then be directed either for consumptive re-use in the cement plant or to the final treatment system by way of Pond 1 and Pond 11 (see item g, below). This flow previously reached Pond 30 and was discharged from Discharge Point No. 006. The change allows this flow to go to the final treatment system for subsequent discharge at Discharge Point No. 001.

g. Flows from Pond 1 are sent to Pond 11; flows from Pond 11 are sent for in-plant reuse or to the quarry, then to the final treatment system by way of a frac tank and Pond 1250.

h. Primary Crusher System flow to the final treatment system is deleted. The Primary Crusher System previously managed water using open concrete basins, from which comingled process wastewater could overflow during storm events; the previous final process flow diagram specified that such wastewater was to be directed to the final treatment system. In 2014, the Discharger replaced the Primary Crusher System with a new crusher that no longer generates process wastewater because it more efficiently uses and contains water used within the system.

i. Bioreactor effluent recycle water flows to Pond 11; flow from Pond 1250 can also be sent back to Pond 11.

j. Groundwater flow to Pond 13B for discharge through Discharge Point No. 002 is deleted.

k. The intermittent truck wash water flow to Pond 20 and Discharge Point No. 005 is deleted.

l. The process flow diagram includes the following annotation: "Configurations that divert additional process and stormwater to the final treatment system comply with the 'Revised Final Line Drawing of Flows,' provided that they comply with the other requirements of this Order." This is included to allow the Discharger flexibility to treat additional flows (i.e., remove additional pollutants) as needed without seeking another Permit amendment.

3. Revise Permit Table 2.

The Order amends Permit Table 2 to update the effluent descriptions and discharge point locations consistent with Permit Attachment C, page C-3, as amended. The reasons for these changes are as follows:

a. Discharge Point No. 001. This Order amends the effluent description to match the final treatment system design and facility flows as shown in the amended final process flow diagram; it also amends the discharge point location. The Discharger will no longer send process-related flows to Pond 4A; instead, these flows will be sent to the final treatment system and then to Permanente Creek. The Discharger no longer sends Primary Crusher wash water to Pond 4A because the Discharger has replaced the Primary Crusher with a new crusher that does not generate process wastewater, as explained in item 2.h above.

The amended location of Discharge Point No. 001 is one or more locations in Permanente Creek adjacent to the Facility, providing flexibility to enable the Discharger to ensure flows necessary to support existing Permanente Creek aquatic habitat beneficial uses, while minimizing the need for the Discharger to pump effluent upstream. Treated effluent may be discharged downstream (northwest) of the location identified in the Permit as originally adopted, in a concrete-culverted portion of Permanente Creek near Pond 20; the outfall at this location was a previously permitted discharge point under Regional Water Board Order No. R2-2008-0011 (Sand and Gravel General NPDES Permit) and is the same as the Pond 1 emergency overflow discharge point. This location will allow gravity discharge of final treatment system effluent.

b. Discharge Point No. 002. This Order amends the effluent description to delete Crusher Slope Drainage Area stormwater. The Discharger no longer sends this stormwater to Pond 13B for discharge through Discharge Point No. 002; instead, it sends this flow to the final treatment system prior to discharge at Discharge Point No. 001.

c. Discharge Point No. 003. This Order amends the effluent description to remove discharges that have been discontinued. Because the Discharger discovered California Red-Legged Frogs in Pond 9, it cannot operate Pond 9's filtration system, with which it had planned to treat process wastewater and industrial stormwater before discharge at Discharge Point No. 003. Therefore, the Discharger now sends these flows, including water from the Dinky Shed Basin, to the final treatment system by way of Ponds 1 and 11 for treatment and discharge through Discharge Point No. 001. Only upwelled groundwater and creek water, rain that falls directly into the pond, and runoff from the directly adjacent hillside (which does not contact raw, interim, or waste materials, or finished cement products) will flow to Pond 9 and Discharge Point No. 003; therefore, treatment at Pond 9 prior to Discharge Point No. 003 is no longer required.

d. Discharge Point No. 004. This Order amends the effluent description to include only stormwater that flows directly from the Rock Plant to Pond 17 for discharge through Discharge Point No. 004. The Discharger now sends stormwater from the hillsides adjacent to the Rock Plant (which does not contact raw, interim, or waste materials, or finished cement products) around the Rock Plant and discharges it directly to Permanente Creek.

e. Discharge Point No. 005. This Order amends the effluent description to clarify that the former Aluminum Plant is not operational.

f. Discharge Point No. 006: This Order amends the effluent description to include stormwater from operational areas around the eastern portion of the Eastern Materials Storage Area. This change clarifies that the catchment for Pond 30 includes the area of ongoing operations to comply with the Permit and other State and county requirements.

4. Revise Permit provision IV.B (including Table 5 title).

This Order amends Permit provision IV.B to remove numeric effluent limitations on total suspended solids (TSS), oil and grease, pH, settleable matter, and turbidity at Discharge Point No. 003. The Discharger no longer directs process-related flows to

Pond 9, no longer uses Pond 9 to control sediment from mining activities, and no longer uses Pond 9 to treat Facility flows. Because Pond 9 no longer discharges process wastewaters or stormwater associated with industrial activity, the technology-based effluent limits are no longer needed at Discharge Point No. 003.

5. Revise Permit Provision VI.C.6.c.

This Order amends Permit Provision VI.C.6.c to no longer apply Stormwater Action Levels to Discharge Point No. 003. The Stormwater Action Levels are based on the benchmark concentrations in the State Water Resources Control Board's (State Water Board's) *Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities,* NPDES Permit No. CAS000001 (State Water Board Order No. 07-03-DWQ) and U.S. EPA's *NPDES Stormwater Multi-Sector General Permit for Industrial Activities* (2008). Because the Discharger no longer discharges industrial stormwater at Discharge Point No. 003, the Stormwater Action Levels no longer apply.

6. Add Permit Provision IV.C.7.

This Order adds Permit Provision IV.C.7 to require the Discharger to conduct a study to determine the minimum flows necessary to protect existing Permanente Creek aquatic habitat beneficial uses year-round and to provide such flows until affected reaches are altered as part of a Regional Water Board-authorized habitat restoration project. This provision is necessary to ensure that altering the volume, location, and timing of effluent discharges does not harm existing aquatic habitat beneficial uses between Pond 4A and downstream discharge locations. Aquatic habitat beneficial uses within this reach include cold freshwater habitat (for trout) and preservation of rare, threatened, or endangered species (e.g., California Red-Legged Frogs).

7. Revise Permit Monitoring and Reporting Program (Table E-1).

The Permit Monitoring and Reporting Program (Table E-1) specifies effluent and receiving water monitoring locations. This Order updates the descriptions of these locations to match Table 2, as amended, and to account for the change in the location of Discharge Point No. 001.

8. Revise Permit Monitoring and Reporting Program (Table E-3).

This Order amends the Permit Monitoring and Reporting Program (Table E-3) to no longer require the Discharger to monitor specified effluent parameters at Monitoring Location EFF-003. Because Discharge Point No. 003 will no longer discharge any process-related flows, and this Order removes the TSS, oil and grease, settleable matter, pH, and turbidity effluent limits at this discharge point, monitoring for those parameters is no longer required at that location. The amended Permit retains monitoring for flow, pH, conductivity, chromium (VI), mercury, nickel, selenium, thallium, and standard observations to support future reasonable potential analyses.

Antidegradation

Antidegradation policies require that the existing quality of waters be maintained unless degradation is justified based on specific findings. State Water Board Resolution No. 68-16 sets forth California's antidegradation policy. Consistent with 40 C.F.R. section 131.12, Resolution

No. 68-16 incorporates the federal antidegradation policy. The Basin Plan implements and incorporates by reference both the State and federal antidegradation policies. Permitted discharges must be consistent with these antidegradation policies.

This Order complies with the antidegradation policies because it will not result in any additional pollutant discharges and will not reduce receiving water quality. In fact, this Order will result in less pollutant discharge and will increase receiving water quality relative to that authorized by the Permit; it requires flows previously discharged at Discharge Point Nos. 002 through 006 (which receive less treatment) to be discharged at Discharge Point No. 001 after treatment by the final treatment system. This Order maintains existing effluent limitations at Discharge Points No. 001, 002, and 004 through 006. It removes effluent limitations at Discharge Point No. 003, but only because Pond 9 will no longer discharge process wastewaters or stormwater associated with industrial activity there. Instead, waters that would have flowed through Pond 9 will be diverted to the final treatment system, thus removing some pollutants (e.g., selenium) that would otherwise have been discharged.

California Environmental Quality Act

Under Water Code section 13389, this action to amend an NPDES permit is exempt from the provisions of the California Environmental Quality Act, Public Resources Code division 13, chapter 3 (commencing with § 21100). Compliance with California Environmental Quality Act provisions is only required for NPDES permit actions pertaining to new sources as defined by the federal Clean Water Act (i.e., sources constructed after New Source Performance Standards were published). The Facility has been in operation since before February 23, 1977, when the first relevant New Source Performance Standards were published. U.S. EPA guidance states that the source of an industrial discharge is the facility generating the discharge, not the system treating it; thus, the changes to the final treatment system and the updated process flow configuration do not trigger new source requirements.

Notification of Interested Parties

The Regional Water Board developed a tentative Permit amendment and encouraged public participation in this amendment process:

A. **Notification of Interested Parties.** The Regional Water Board notified the Discharger and other interested agencies and persons of its intent to amend the Permit and provided an opportunity to submit written comments and recommendations. Notification was provided through the *Cupertino Courier.* The public had access to the agenda and any changes in dates and locations through the Regional Water Board's website at http://www.waterboards.ca.gov/sanfranciscobay.

B. **Written Comments.** Interested persons were invited to submit written comments concerning the tentative amendment as explained through the notification process. Comments were due either in person or by mail at the Regional Water Board office at 1515 Clay Street, Suite 1400, Oakland, California 94612, to the attention of Lena Germinario.

   For full staff response and Regional Water Board consideration, the written comments were due at the Regional Water Board office by **5:00 p.m. on June 12, 2017**.

C. **Public Hearing.** The Regional Water Board held a public hearing on the tentative amendment during its regular meeting at the following date and time and at the following location:

Date: July 12, 2017
Time: 9:00 a.m.
Location: Elihu Harris State Office Building
1515 Clay Street, 1st Floor Auditorium
Oakland, CA 94612

Contact: Lena Germinario, (510) 622-2359, LGerminario@waterboards.ca.gov

Interested persons were invited to attend. At the public hearing, the Regional Water Board heard testimony pertinent to the amendment. For accuracy of the record, important testimony was requested to be in writing.

Dates and venues change. The Regional Water Board web address is http://www.waterboards.ca.gov/sanfranciscobay, where one could access the current agenda for changes in dates and locations.

D. **Reconsideration of Amendment.** Any aggrieved person may petition the State Water Board to review the Regional Water Board's decision regarding the amendment. The State Water Board must receive the petition at the following address within 30 calendar days of the Regional Water Board action:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

For instructions on how to file a petition for review, see http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml.

E. **Information and Copying.** Relevant supporting documents and comments received are on file and may be inspected at the address above at any time between 9:00 a.m. and 5:00 p.m., Monday through Friday. Copying of documents may be arranged by calling (510) 622-2300.

F. **Register of Interested Persons.** Any person interested in being placed on the mailing list for information regarding the amendment should contact the Regional Water Board, reference the Facility, and provide a name, address, and phone number.

G. **Additional Information.** Requests for additional information or questions regarding this Order should be directed to Lena Germinario, (510) 622-2359, LGerminario@waterboards.ca.gov.

California Regional Water Quality Control Board
San Francisco Bay Region

Order No. R2-2017-0031

Amendment of Cease and Desist Order No. R2-2014-0011
for Lehigh Southwest Cement Company and
Hanson Permanente Cement, Inc.,
Permanente Plant
Cupertino, Santa Clara County

WHEREAS the California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board), finds the following:

1. Lehigh Southwest Cement Company (Discharger) owns and operates the Permanente Plant (Facility), located at 24001 Stevens Creek Blvd. in Cupertino, Santa Clara County. The Discharger mines limestone and rock, and produces cement and construction aggregate, at the Facility.

2. On March 12, 2014, the Regional Water Board adopted Order. No. R2-2014-0010 (NPDES Permit No. CA0030210) (Permit), which serves as Waste Discharge Requirements (WDRs) and regulates point source discharges from the Facility.

3. On March 12, 2014, the Regional Water Board also adopted Cease and Desist Order No. R2-2014-0011 (CDO) because the Facility's discharges threatened to violate Permit requirements. The CDO requires the Discharger to construct a final treatment system to treat all Facility process wastewater and to configure site flows to comply with the Permit by October 1, 2017; the CDO also imposes interim requirements.

4. By October 1, 2017, the CDO requires the Discharger to operate in compliance with the Permit Facility map (reproduced as CDO Attachment A, page A-1, "Water System and Piping") and process flow diagram (reproduced as CDO Attachment B, page B-3, "Final Line Drawing of Flows; Final Treatment Flow Configuration").

5. Order No. R2-2017-0030 (Permit Amendment) amended the Permit to revise the facility map and process flow diagram. The amendment accounts for changes made to the final treatment system and final process flow configuration to ensure adequate wastewater treatment, sufficient area for treatment units, adaptability to changing Facility conditions, and efficient flow management. These changes include the following:

   a. Additional ultrafiltration/reverse osmosis treatment as part of the final treatment system.

   b. Relocation of the final treatment system and Discharge Point No. 001.

   c. Final process flow configuration that includes newly-constructed Pond 1 and removes Pond 4A, and sends certain flows previously discharged at Discharge Point Nos. 002

through 006 to the final treatment system and Discharge Point No. 001 for treatment and discharge.

6. The Permit Amendment also accounted for changes made to Facility flows to accommodate the discovery of California Red-Legged Frogs in Pond 9. The amended Permit prohibits the Discharger from sending process-related flows and stormwater associated with industrial activity to Pond 9 or discharging them to Permanente Creek at Discharge Point No. 003. The amended Permit no longer requires treatment at Pond 9 nor imposes certain effluent limits at Discharge Point No. 003.

7. As a result of the Permit Amendment, the Permit Facility map and process flow diagram no longer match those in CDO Attachments A and B.

8. This Order amends CDO Attachments A and B to match the process flow diagram in the amended Permit.

9. This Order also amends the CDO to recognize that the Discharger may simultaneously discharge from the Pond 4A outfall and Discharge Point No. 001 until the final CDO compliance date of October 1, 2017. Such discharges may be necessary during final treatment system start-up to ensure proper operations by October 1, 2017.

10. The Regional Water Board notified the Discharger and interested agencies and persons of its intent to amend the CDO, and provided an opportunity to submit written comments and recommendations between May 12, 2017, and June 12, 2017.

11. The Regional Water Board, in a public meeting on July 12, 2017, heard and considered all comments pertaining to the amendment.

IT IS HEREBY ORDERED, pursuant to the provisions of California Water Code Division 7 and regulations adopted thereunder, and the provisions of the federal Clean Water Act and regulations and guidelines adopted thereunder, that the Discharger shall comply with the CDO as amended as follows:

1. Replace CDO Attachment A, page A-2, with Attachment 1 of this Order ("Facility Map").

2. Replace CDO Attachment B, page B-3, with Attachment 2 of this Order ("Revised Final Line Drawing of Flows; Final Treatment Flow Configuration").

3. Add CDO provision 1.d, as follows:

> d. <u>During final treatment system start-up and prior to October 1, 2017, the Discharger may simultaneously discharge from the Pond 4A outfall and Discharge Point No. 001 as long as the Discharger complies with all other requirements of this Order</u>.

This Order shall take effect on the effective date of Order No. R2-2017-0030.

I, Bruce H. Wolfe, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on July 12, 2017.

BRUCE H. WOLFE
Executive Officer

Attachment 1 – Facility Map
Attachment 2 – Revised Final Process Flow Diagram

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