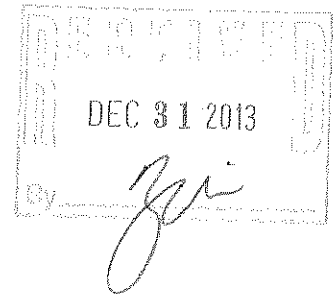
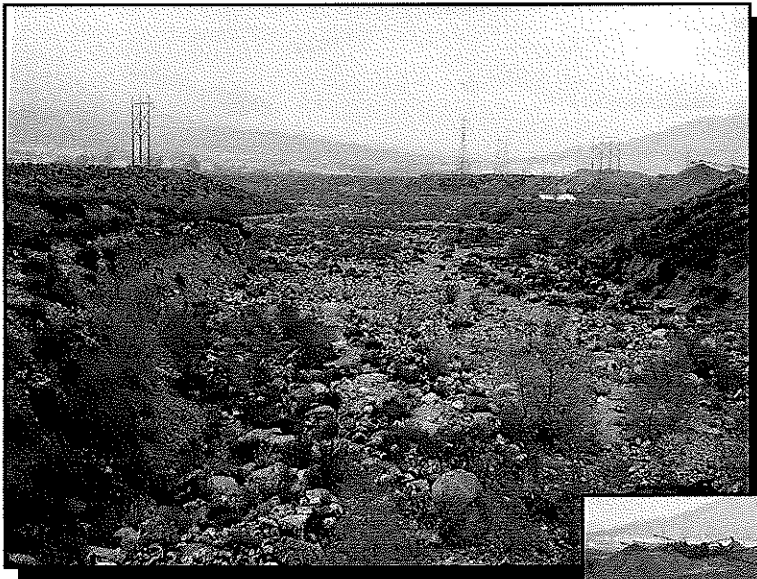
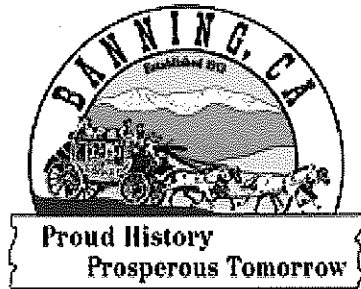


2013 Surface Mining Inspection Report
Robertson's Ready Mix
Banning Quarry
CA Mine ID# 91-33-0012

Lead Agency:



Prepared by:



December, 2013



Consultants In The Earth & Material Sciences
CALIFORNIA • NEVADA • MEXICO

December 30, 2013
Project No. 4212-MI

City of Banning
99 East Ramsey Street
Banning, California 92220

Attention: Mr. Arthur Chacón, Community Development Department

Subject: 2013 Surface Mining Inspection Report
Robertson's Ready Mix "Banning Quarry"
CA Mine ID# 91-33-0012
City of Banning, Riverside County, California.

Dear Mr. Chacón:

As professional consultants to the City of Banning (the regulatory Lead Agency), Aragón Geotechnical Inc. (AGI) has completed the annual mandatory mining inspection for the above-referenced site. The 1975 Surface Mining and Reclamation Act (SMARA) requires that each surface mine in the State undergo a physical inspection at least once per calendar year (PRC §2774(b)). The inspection is geared to verifying compliance with lead agency-approved mining and reclamation plans, and adopted City ordinances. The overarching goal of SMARA is returning mined lands to safe, useful conditions. The accompanying report details AGI findings and recommendations developed as a result of historical research, on-site surface observations, geological interpretations, written technical guidelines of the State Mining and Geology Board, and our opinions concerning hazard reduction. This report should accompany Robertson's 2013 Mining Operation Annual Report, to be filed after the end of the calendar year but before June 30, 2014.

The Banning Quarry comprises 20 contiguous land parcels. Construction sand and gravel mining dates back more than eight decades on some parcels. Vested mine property abuts newer extraction areas developed in accordance with general plan zoning changes. Mining is regulated by the conditions of two use permits and two approved reclamation plans.

The accompanying report is in large part a repeat of AGI's *2012 Surface Mining Inspection Report*. New details concerning the cessation of in-stream mining and the progress of restoration of mined lands within the San Gorgonio River have come to light. Thus, with additions to last year's historical narrative section, this single document provides a more-complete understanding of mine operations for future reference by AGI, the Lead Agency, and State regulators. Subsequent inspection reports should be much shorter.

The 2013 field inspection of the active mine was performed by a qualified Certified Engineering Geologist on December 13 and 19, 2013. Inspections on December 13 comprised limited, off-site observations along the developed southern and western sides in order to verify continued implementation of certain conditional use permit requirements. The weather was poor on December 19. As in 2012, examinations and measurements focused on the quarry cut slopes for hazard assessment. AGI and mine staff also observed conditions at the site of past substantial groundwater inflows into one of the open excavations. The geologist also viewed the San Geronio River streambed for any obvious changes, checked the adequacy of off-site erosion and stormwater control measures, and performed windshield reconnaissance of the property for environmental contaminants. Pit walls were mostly viewed from a distance for incipient stability-related hazards. None were seen.

AGI's year-2012 findings were that the mine was operating with "substantial variation" from the approved use permits and mining plans. The mine operator is in the process of rectifying SMARA violations listed in the 2012 report. A new and upgraded Mining and Reclamation Plan is under development. Data and analyses in a preliminary version of the new plan are occasionally referenced in this report. However, until the new Reclamation Plan is completed and accepted by the Lead Agency, the old approved plans remain the governing documents. All parties should understand that the operation is in a regulatory transition period.

We appreciate your trust in AGI's performance of this vital service to the community. Please contact our Riverside office if you have any questions.

Very truly yours,

Aragón Geotechnical, Inc.



Mark G. Doerschlag, CEG 1762
Engineering Geologist



C. Fernando Aragón, M.S., P.E.
Geotechnical Engineer, G.E. No. 2994

MGD/CFA:mmm

Distribution: (4) Addressee

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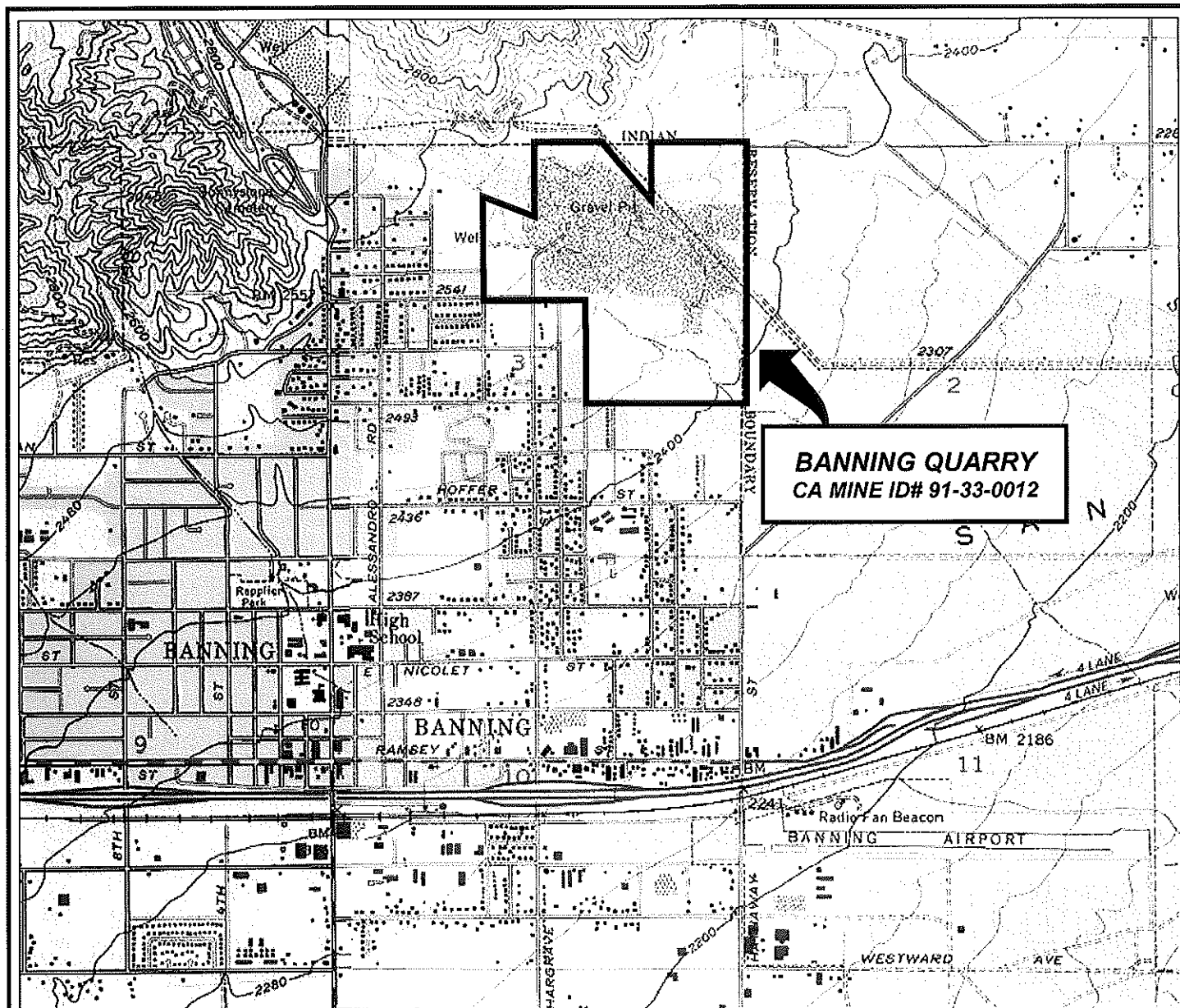
**2013 SURFACE MINING INSPECTION REPORT
ROBERTSON'S READY MIX "BANNING QUARRY"
CA MINE ID# 91-33-0012
CITY OF BANNING, CALIFORNIA**

1.0 INTRODUCTION

This report presents data, interpretations, opinions and recommendations by Aragón Geotechnical, Inc. (AGI) concerning site inspections of the referenced sand and gravel mining operation. AGI was authorized by the City of Banning (Lead Agency) to perform the inspections in accordance with a scope of services dated October 30, 2013, the general requirements of the 1975 Surface Mining and Reclamation Act (SMARA), and City of Banning Ordinance No. 1237. The approximately 186-acre mine area comprises 20 contiguous land parcels. Site coordinates at the gated mine entrance (N. Hathaway Street) are 33.9382°N x 116.8593°W, with all mining occurring in Section 3, Township 3 South, Range 1 East (San Bernardino Baseline and Meridian). The accompanying Site Location Map (Figure No. 1) depicts the general location of the Banning Quarry with respect to local roads and surrounding land uses on a 1:24,000-scale topographic base map.

Headquartered in Corona, California, the operator Robertson's Ready Mix is the largest supplier of construction aggregate and transit-mixed concrete to the Southern California market. The Banning Quarry produces high-quality graded sand, gravel, and crushed-rock products from natural alluvial deposits. At times, mined aggregate has been profitably moved more than 60 miles from Banning, according to Robertson's. The quarry is within a State-designated Area of Regional Significance where lead agencies are tasked with helping to protect and develop mineral resources through the land planning process.

Primary objectives of our inspection were to (1) Determine the operator's degree of compliance with City use permits, and the (older) approved mining and reclamation plans; (2) Review and update past opinions concerning instability risks for mine slopes, considering the mine's proximity to residences and public streets; and (3) Check on progress towards meeting recommendations, corrective actions, and violations reported in 2012. Topics covered by the inspection and the format of this report were based in large measure on the State publication *Surface Mine Inspection Guideline* (Department of Conservation, 2002), and authoritative inspection reports prepared by the State Mining and Geology Board in their capacity as lead agency for other surface mine sites. This report uses AGI's *2012 Surface Mining Inspection Report* as a template, with revised text and images wherever new data or information has been discovered.



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0 2000 4000 FT.



Reference: U.S. Geological Survey 7½-Minute Series Topographic Maps, Beaumont & Cabazon Quadrangles (1996).



SITE LOCATION MAP

ROBERTSON'S READY MIX BANNING QUARRY, BANNING, CALIF.

PROJECT NO. 4212-MI

DATE: 12/30/13

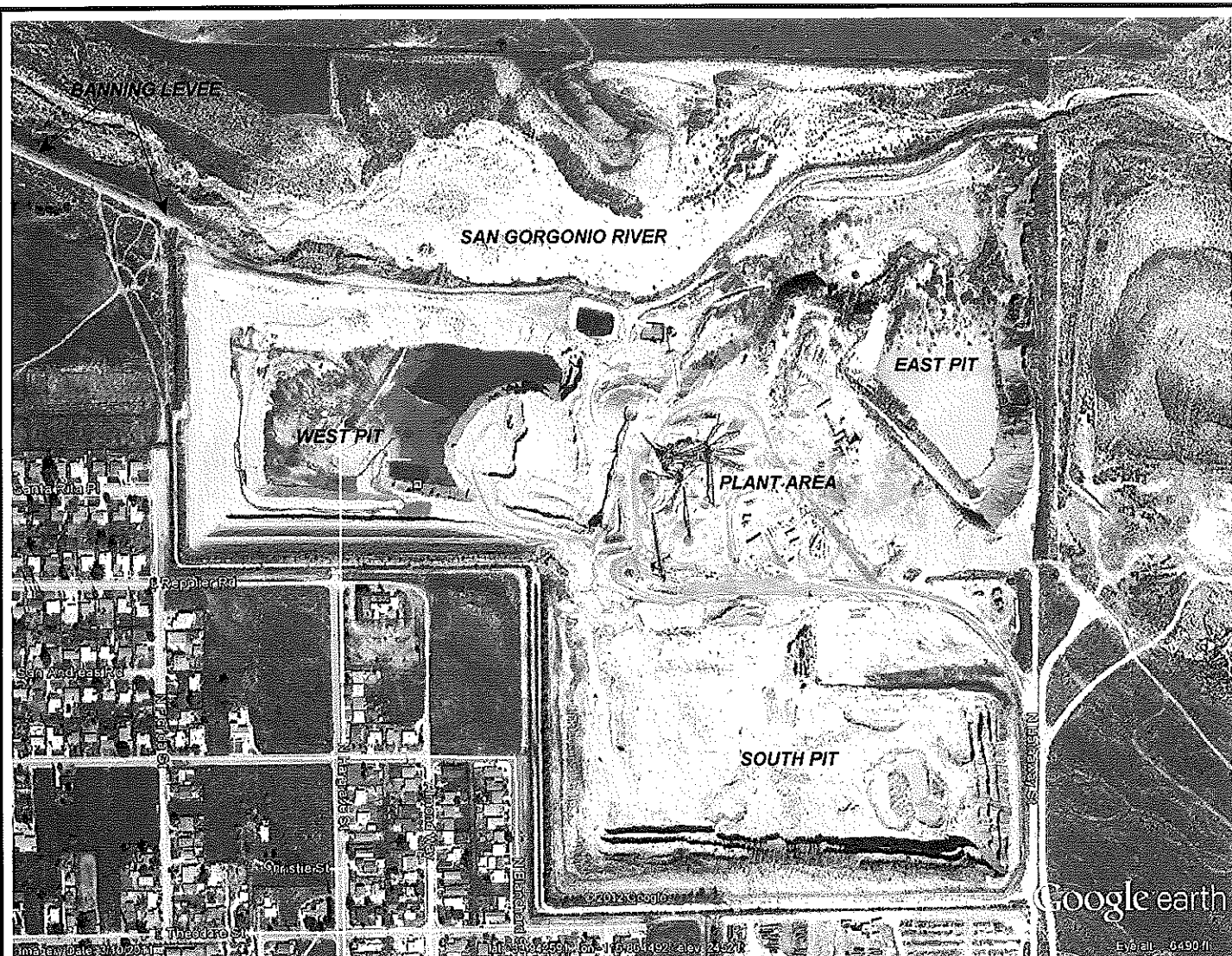
FIGURE 1

Field inspections were conducted on December 13 and 19, 2013 by AGI's senior Engineering Geologist. Inspections on December 13 were limited to off-site observations along the developed southern and western sides, in order to verify continued implementation of certain conditional use permit requirements. Representing the Lead Agency at the December 19 site meet was Mr. Arthur Chacón with the Code Enforcement Division, Community Development Department. Mr. Philip Sousa, Area Manager for Robertson's Ready Mix, and Mike Dyer, Plant Manager, were present to conduct a brief safety meeting, discuss planned future activities, and accompany the geologist inside one depleted quarry. Finally, Mr. Warren Coalson representing the San Diego firm EnviroMINE, Inc., was present for the inspection. EnviroMINE had been retained by Robertson's to assemble a new Mining and Reclamation Plan for the quarry. As of the date of field inspection, a preliminary reclamation plan submittal had been made to the City, and circulated to AGI for review comments. The plan was not yet an approved document. Nonetheless, the site visit afforded an opportunity to comment on expected conformance requirements for an updated plan, including final slope designs, noxious weed control, and spring water management.

The plant was in full operation on the inspection date, despite wind, rain, and sometimes poor visibility. It was reported that rainy days are useful for replenishing Robertson's ready-mix plants with full stores of aggregate. Truck traffic was heavy. Inspection tour stops were made at AGI-specified sites to include (1) The western side of the "West Pit"; (2) Next to transmission line towers owned by Southern California Edison adjacent to the "East Pit"; and (3) At the southeastern corner of the "South Pit" (see Figure No. 2 for an aerial index image). The geologist subsequently walked portions of the San Gorgonio River channel. A limited photographic record was made (29 images); selected pictures have been annotated, captioned, and reproduced in Appendix C.

2.0 MINE DESCRIPTION

The Banning Quarry is located on formerly gently sloped ground in the northeastern corner of the incorporated City limits. The site is bounded to the north and east by the Morongo Indian Reservation. The west side borders a mix of vacant parcels and older residential areas, while the irregular northwestern re-entrant is contiguous with floodplain areas



0 500 1000 FT.

Reference: Google Earth vertical image, access date 7/16/12.
Image date March 10, 2011.



AERIAL INDEX MAP

ROBERTSON'S READY MIX BANNING QUARRY, BANNING, CALIF.

PROJECT NO. 4212-MI

DATE: 12/30/13

FIGURE 2

managed by the Riverside County Flood Control and Water Conservation District. The southern side is close to homes and industrial properties used for truck and equipment storage. All nearby residences are separated from mine property by City of Banning streets. The quarry mailing address is 1990 N. Hargrave Street, although this historical entrance is permanently closed and all traffic now enters the site from North Hathaway Street.

The San Geronio River crosses the northern third of the site in a roughly west-to-east flow direction (Figure No. 2). Watershed area upstream of the site encompasses over 22 square miles of mostly mountainous terrain. Despite the significant drainage area, the river is normally dry or nearly so. The river is the source of the voluminous sand and gravel deposits exploited by the quarry, and has filled-in multiple generations of pits previously located in the active channel. Episodic floods move most sediment loads. The Riverside County Flood Control District calculates peak 100-year flood flows at approximately 12,000 cfs at the site. A historical maximum flow of about 17,000 cfs is reported for the 1969 floods.

Today's principal topographic features in the site are the 3 major open-pit excavations labeled on Figure No. 2 (names as indicated on the current financial assurance cost estimate). Pit highwalls range up to approximately 160 vertical feet in height, top to toe. The East Pit is the oldest open excavation, and is inactive. Aggregate production in 2013 has almost solely been limited to the South Pit. Near-term future production will focus on resources along the southern side of the South Pit.

Mining and processing begins with excavation of alluvium using a Cat 5130B hydraulic front shovel and loading of Cat 777 mining trucks. Excavations generally proceed in a stepwise fashion, with the front shovel capable of removing successive lifts of around 20 to 25 feet thick. All pit excavations are done "in the dry", and no past, present, or proposed future operations involve dredging or excavation below static phreatic surface elevations. Dirt haul roads lead to the crushing, screening and washing plant area near the geographic center of the mine site. The processing plant area is more or less at original grades. The plant area does, however, conceal some older backfilled excavations. A mine office, break room, sheds, trailers, and steel shipping containers are near the sand and gravel plant.

The site no longer supplies ready-mix concrete products or hot-mix asphaltic concrete as is commonly referenced in older correspondence from previous operators.

Aggregate products are segregated by size into loose conical stockpiles. Coarse gravel and cobble-size particles are crushed. Process wash water originates from a well located near the western site boundary and is piped to an earthen basin just north of the plant. Clarifier tanks and basins help recycle most process water, while concentrated silty fines are discharged as a thin slurry into the East Pit. The graded sand and crushed-rock aggregates are transported by truck to Robertson's transit-mix concrete batching plants throughout the region, used as road base, or sold to precast products manufacturers.

3.0 HISTORICAL MINE DEVELOPMENT & REGULATORY EVENTS [with 2013 updates]

[Summarized from correspondence, meeting minutes, and department reports in the Lead Agency mine files]

Mineral production began in 1925 on parcels that would become part of the Banning Quarry. It appears almost all early production was based on in-stream mining of the active San Gorgonio River channel. AGI interpretations of stereoscopic aerial photos from 1962 showed a crude primary quarry north of today's East Pit. The streambed quarry may have been 50 to 60 feet deep. Secondary crater-like excavations were present on elevated bench lands south of the river channel. An aggregate crushing and screening plant was located just south of the primary quarry. Transit mix concrete was batched from a small plant placed within an old secondary pit located several hundred feet north of Repplier Road at Hargrave Street.

On October 6, 1965, the City of Banning approved a conditional use permit for San Gorgonio Rock Products, Inc., "... to allow the operation of borrow pit, rock, sand and gravel plant, ready mix concrete batching plant, asphalt hot-mix batching plant, and the development of natural mineral resources together with the necessary buildings and appurtenances incident thereto....". The 1965 use permit applied to industrial zone M parcels collectively located *north* of Repplier Road and *east* of the unimproved extension of North Hargrave Street to the city limits. Excluded from the permitted uses were 100-foot-wide setbacks on the north side of Repplier Road, and along the Hargrave Street projection for a distance of 655 feet north of Repplier Road. (Records indicating amendments to this special condition were not found by AGI). For the following several

years, San Gorgonio Rock Products along with on-site concrete supplier Beckham Brothers Ready Mix, Inc., and Matich Corporation furnished and processed rock and sand materials, concrete, and asphaltic concrete for State freeway work in the Banning-Beaumont area. All properties described by the 1965 conditional use permit were automatically classified in 1975 as vested mine property under SMARA.

Only a month after the approval of the 1965 conditional use permit, severe flooding impacted the San Gorgonio River. The Army Corps of Engineers had just completed the Banning Lévee northwest of the future West Pit outline (Figure No. 2). Streambed alterations upstream of the San Gorgonio production quarry were significant due to erosional headcutting. Floods in December 1966 caused further channel incision and damage to the upstream end of the levee, and it was repaired and reinforced in 1967.

The streambed quarry was reported to be the cause of near-failure of the levee and the 1967 reinforcement during the massive 1969 floods. Extensive restoration work was required. In 1969 as in previous storm events, San Gorgonio Rock Products' production pit was completely replenished with fresh sand and gravel. The Riverside County Flood Control District put the mine operator on notice in December 1970 that they would seek damages for any subsequent injury to flood infrastructure caused by mining. Little influence on resource exploitation seems to have occurred, though. The original pit was enlarged and new in-stream pits opened farther upstream. AGI's aerial image research showed streambed mining proceeded almost uninterrupted until around the year 2000.

In 1972, San Gorgonio Rock Products and Beckham Brothers jointly petitioned the City to effect a zone change from residential R-1 to industrial M-1 for approximately 60 acres south of East Repplier Road. The constituent 6 land parcels were natural, undeveloped scrub lands. Site use would be for a sand and gravel processing plant. City staff determined that the project could have significant environmental effects and that an environmental impact statement would be required. Other conditions of approval were drafted by staff for City Council review before the proposed Unclassified Use Permit 72-2 was to be granted. A filing was also made requesting abandonment of segments of Summit Drive and Repplier Road rights-of-way where they passed through existing or proposed mineral resource areas. City records indicated the environmental impact

statement was never produced, and that none of the zone change, unclassified use permit, or street abandonment requests were formally approved.

Matich Corporation purchased the assets of the previous operators in 1973. Matich resurrected the zone change petition in 1976. The application was denied twice by the Planning Commission. Both times, the decision was appealed to the City Council. Ultimately the zone change ZC 77-2 was approved by the Council after second appeal on November 28, 1977, subject to a limited set of Environmental Mitigation Measures. Also, the western and southern sides of the blocks next to Blanchard Street and Theodore Street were to be retained as R-1 buffer zones for a horizontal distance of 200 feet from property lines. The zone change did not include approval for aggregate processing or extraction without a subsequent conditional use permit. Matich ultimately never relocated sand and gravel processing facilities to the 60-acre block as proposed by San Geronio/Beckham, and instead used the area for equipment and machinery storage, temporary sheds, and heavy truck parking.

In 1979, Matich Corporation filed a request for City abandonment of portions of Repplier Road, Summit Drive, and Hathaway Street. City staff held the operator to be out of compliance with conditions of approval for ZC 77-2, the *never-approved* UUP 72-2, and an unrelated conditional use permit for modular buildings on a part of the vested mine property. An amended set of conditions to be met before proceeding with the abandonment approval was jointly agreed to in writing by the City of Banning urban planner and Matich representatives. The operator was to install property fencing, perimeter landscape screen plantings, and specified improvements to various neighboring public streets. Not all improvements were completed in a timely manner. Evidence suggests the street abandonments were also never finalized by the City. The Riverside County Land Information System continues to show the named street thoroughfares as public rights-of-way (see Figure No. 3, AGI's 2012 Surface Mining Inspection Report).

Large-scale, continuous mining activity south of the San Geronio River channel started around 1974 with the initial development of the East Pit. The East Pit and the still-active in-stream quarries fed a relocated and enlarged processing plant sited over part of today's West Pit. The channel quarries still received episodic alluvial replenishment at times of

high water flows. One report indicated all in-stream quarries were completely refilled with 1.5 million tons of alluvium in only 4 days during Winter 1979. A low-flow diversion ditch was usually maintained on an elevated "septum" between the channel quarries and the growing East Pit; the latter may have also been partly replenished from at least one flood event. The East Pit appeared to have reached terminal depths (about Elev. 2320) and dimensions by about 1990.

On March 11, 1986, the City of Banning adopted Ordinance No. 895 entitled "*An Urgency Ordinance of the City of Banning Implementing the Surface Mining and Reclamation Act of 1975*". The City gained enforcement powers to demand required reclamation plans for new mining, and rights-of-entry for annual mine inspections with fee payments. Ordinance No. 895 remained in force until 1999, when it was superceded by Ordinance No. 1237 (Ch. 22B, Surface Mining and Reclamation). The latter was crafted from a California model ordinance, and was certified by the State Mining and Geology Board on November 10, 1999.

Significant amendments to the Surface Mining and Reclamation Act of 1975 were enacted in 1987 in Assembly Bill 747 (Sher). Statewide compliance with the Act, especially for vested-rights mines, had been extremely poor. Specifically, the bill:

- Clarified the definition and roles of lead agencies as land use regulatory authorities.
- Required mining operators who had vested rights, but did not have an approved reclamation plan per SMARA, to file a reclamation plan for all areas mined since January 1, 1976, and to obtain approval of the reclamation plan by July 1, 1990.
- Limited lead agency's reviews of reclamation plans for existing vested rights mining operators to considerations of whether the plans substantially met the reclamation requirements of SMARA §2772 and §2773 and the provisions of the lead agency's surface mining and reclamation ordinance.
- Created an appeals process for mine operators to contest lead agency reclamation plan reviews with the State Mining and Geology Board, and provided for Board review and approval of reclamation plans once lead agencies acquired a Board-certified surface mining ordinance.

Matich Corporation submitted a mining and reclamation plan on January 29, 1989 for twelve vested mine parcels (ref. Exhibit "C" of Office of Mine Reclamation file copy). It appears that some aspect of the approval process prompted a site visit from Office of Mine Reclamation personnel on September 8, 1989, who may have been reconciling OMR database listings of an abandoned "Beckham Pit" with the continuously active Matich operation. The City of Banning Planning Department approved the corporation's vested mining operation pursuant to SMARA, AB 747, and Ordinance No. 895 in late June, 1990. Approval was contingent upon implementation of flood control and erosion protection features specified by the Riverside County Flood Control District and a river hydrology report (Simons & Associates, 1990). A copy of the reclamation plan was sent to the State Mining and Geology Board for review, but no comments appear to have been written and sent back for possible lead agency action within the proscribed 30-day review period.

At nearly the same time as the vested-lands reclamation plan submittal, Matich requested information regarding the conditions of approval to mine aggregates from the 60 acres south of Repplier Road and north of Theodore Street. A zone change rescinding the 200-foot R-1 setbacks from Theodore Street right-of-way east of residential areas (ZC 1990-05) was passed by the City Council. Economic conditions slowed the demand for aggregate products, however, and the formal application and fees for a use permit to mine were not filed until April 8, 1993.

Environmental studies addressing the issues of traffic, noise mitigation, air quality, light and glare, and operating hours were prepared in conjunction with the processing of the unclassified use permit. A second mining and reclamation plan was prepared. This plan was vetted by California Department of Conservation OMR reviewers and found to be seriously deficient with respect to SMARA and the Public Resources Code. Because the local lead agency and not OMR has statutory authority to enforce the Act, the City's Community Development Director recommended that the operator provide the missing or incomplete information (City of Banning, March 14, 1995). A response to review letter was prepared by Matich Corporation and incorporated by exhibit into the final Lead Agency-approved mining and reclamation plan. Many of the State's concerns were addressed by Matich, but the letter also contained a number of factual errors or omissions of SMARA requirements. Almost no substantive changes were actually made to the plan, except for

one significant amendment to reduce proposed permanent side slope inclinations from 1:1 to 1½:1. The SMARA-required financial assurance instrument (surety) for reclamation in the event of site abandonment was only \$15,000. Unclassified Use Permit 1994-01 was finally granted to Match Corporation in February, 1996. Property and neighborhood improvements left unfinished since 1979 were re-stated in the UUP 1994-01 conditions of approval. Serial aerial photos showed that mining authorized by UUP 1994-01 at what would become South Pit had already reached depths of 20 to 40 feet by early 2000.

The mine operator received notices of unauthorized discharge of fill material and streambed alterations from the U.S. Fish and Wildlife Service and the Army Corps of Engineers in 1996. The Federal agencies determined that parts of the vested mine parcels were within jurisdictional waters of the United States and thus subject to Section 404 of the Clean Water Act. AGI has learned that an Army Corps order for restoration of affected parts of the San Geronio River was formally issued on May 11, 1999. Downstream, the Morongo Band of Mission Indians also informed the City of Banning and Riverside County that significant flooding and erosion were occurring on the Reservation, endangering road and gas pipeline infrastructure. Quarry replenishment was "starving" downstream reaches of bed load sediments. The increased fluvial competency was causing aggressive downcutting.

The San Bernardino firm of Lilburn Corporation prepared a restoration plan for the channel segment located within Robertson's mine property. A slightly amended plan was approved by Army Corps in August, 2001. Based on past reviews of Lead Agency documents, it does not appear that the City of Banning was notified of the approved restoration plan. When completed by early 2005, reports suggest around 500,000 cubic yards of grading had brought the river bottom back to planned elevations of approximately 2,410 feet at the eastern property line and 2,545 feet near the terminus of the Banning Levee. The right bank of the reconstructed channel included the raised dike separating the river from the plant area and East Pit. Lastly, cut slopes and the filled channel were hydroseeded with native species, and the site monitored by an environmental planner up to March, 2011. In a letter dated May 4, 2011, the planner asserted that the river bed grade and vegetation had been restored.

The last decade has seen mining limited to the South Pit and West Pit. Records indicated the first SMARA annual mine inspection of the Banning Quarry was performed by Department of Conservation OMR geologists on February 20, 2002. No further inspections followed until changes in State laws concerning construction materials suppliers to State-funded projects prompted resumption of inspections in 2009. The Lead Agency contracted with the Riverside County Department of Building and Safety to perform inspection services in 2009, 2010, and 2011. Robertson's Ready Mix is the listed mine operator on the reviewed inspection reports. Riverside County technicians seemed to perform perfunctory inspections, however. Records show short on-site visit durations, no examples of accompanying narrative reports to each completed Form MRRC-1, and the absence of annotated photographs per recommendations of the Department of Conservation *Surface Mine Inspection Guideline*. AGI's first field inspection was completed on July 9, 2012.

4.0 RECLAMATION PLAN SUMMARIES

Vested Mine Parcels, 1965 Use Permit. Matich Corporation divided the vested mine area into two zones, "A" and "B". Zone A encompassed the channel area of the San Geronio River and the East Pit. These sites were expected to receive periodic alluvial replenishment. The 70-acre zone would remain accessible for renewed mining of the replenished deposits indefinitely into the future. Side slopes surrounding excavated areas or above flood stages would conform to 1:1 slope ratios. Fill placement or revegetation was not proposed. If mining ceased, it was expected that the river would eventually re-establish a slope gradient roughly equivalent to the original gradient from west to east. The inferred but unstated end use would be floodplain or open-space preserves.

Zone B consisted of approximately 42 acres of elevated alluvial fan south of Zone A. Most of the zone was used for the older processing plant, stockpile, and maintenance areas. A dike or levee with a crest width of approximately 50 feet and a freeboard height of 2 feet above flood stage was proposed to separate Zones A and B. Partial mining of the zone was contemplated, followed by backfilling of the depleted area with compacted inert rubble fill (concrete, asphalt, bricks, blocks, or soil) capped with a layer of select soil or sand. With a proposed extraction depth of up to 150 feet (pit floor elevation of 2340 feet) and a proposed reclamation surface of "approximately twenty-five to forty feet below original

ground elevations", most of Zone B would have well in excess of 100 feet of rubble backfill. Remaining cut slopes at 1:1 inclinations would be planted with grass or other unspecified ground cover. It was the operator's intent to relocate all of the processing plant and operations facilities onto the capped rubble fill so that the entire zone could be mined. Adequate surface slope was to be provided so that runoff could drain to the nearby river channel and exit the site at the eastern property limits. Not mentioned: Equipment removal; expected final end use; bottom reclamation; water quality protections; resoiling; revegetation success.

UUP 1994-01. Mining would begin near the eastern side of the 60-acre block. Noise and glare mitigation for neighboring residential areas included construction of an 8-foot-high landscaped berm near certain property lines. Stripping would proceed from east to west in lifts of about 20 feet each over incremental areas of 4 to 5 acres. Planned mining limits were still determined by 200-foot-wide setbacks from Blanchard Street and Theodore Street centerlines; these setbacks were retained next to R-1 zoned lots and clearly labeled on the reclamation plan exhibit. Descending quarry side slopes would be cut to 1½:1 to an elevation of 2375 feet, and thereafter at ¾:1 ratios to the final bottom elevation of 2300 feet. Benching was not shown on the plan. A thick septum of alluvium with a crest width of 130 feet would be retained between vested Zone B and the South Pit (i.e., along the projection of Repplier Road), per a condition of Riverside County Flood Control District. The upper 1½:1 slopes were to be restored "expeditiously" with a recommended hydroseed mix. The depleted mine pit would receive 75 feet of compacted inert rubble and soil fill (including waste concrete and broken asphalt) to bring the bottom elevation back to 2375 feet. Plant facilities would be relocated atop the South Pit embankment fill, bypassing the old Zone B option. Not mentioned: Equipment removal; expected final end use; bottom preparations for reclamation; water quality protections; resoiling; revegetation success.

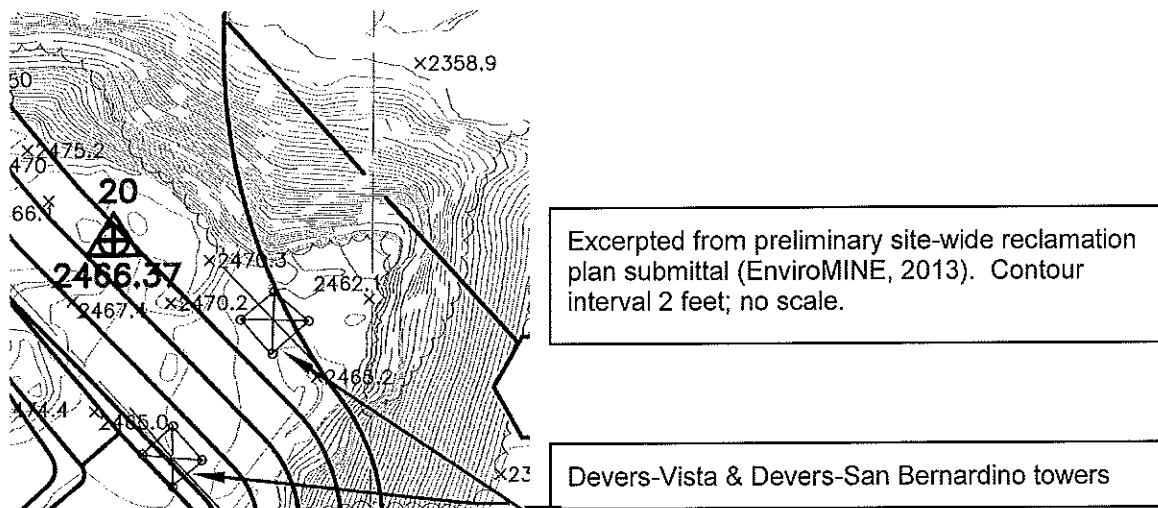
Under a new, unified Reclamation Plan submitted with the Lead Agency, the Zone "B" and South pit inert fills will be deleted. Relocated plant facilities will be sited on native materials in the South pit bottom, according to Mr. Phil Sousa. Engineering drawings continue to show the "septum" of native alluvium separating the South pit from a much-enlarged West pit to the north.

5.0 SITE GEOTECHNICAL CONDITIONS

5.1 2013 Surface Observations

East Pit. The oldest open excavation is irregularly shaped and currently about 80 to 120 feet deep, based on latest-available topographic maps. The East Pit appears to have been the receiving “sump” for wash-water waste fines for at least the last 10 years. Our interpretations and new map data indicate that at least 17 feet of soft, wet, fine-grained sediment is present in the southern end of the pit, rising to perhaps 40 to 45 feet deep near the northern side. A small pond was present on the inspection date. The decanted wash water infiltrates into the pit sidewalls, and/or is lost to evaporation. The pit floor hosts fairly lush volunteer growths of shrubby willow and tamarisk, which presumably are progressively being buried under the rising waste fines.

The southwestern sidewall slope is oriented parallel to four overhead Southern California Edison 220kV transmission circuits (Devers-Vista #1 and #2; Devers-San Bernardino; Devers-El Casco). One steel tower for Devers-Vista #1 and #2 was measured during the current inspection to be only 17 feet from the slope brow at the northernmost leg. The nearby cuts are rough, fluted, steep (locally $\sim 3/4:1$), and lack non-erosive facings. Slope height according to new topographic maps is 100 feet. Loose berms appeared to be the only protection from over-the-brow storm runoff. The transmission tower appears to be supported by typical cast-in-drill-hole pile foundations at each corner, with unknown depths of embedment.



AGI was informed during the site inspection visit that SCE personnel had viewed the tower's proximity to slopes. SCE is reportedly pursuing a transmission line upgrade program that would relocate all circuits to one larger tower outside of the depicted plan excerpt. The upgrades are under Federal review. The mine operator and their reclamation plan consultant speculated that the new line might not start construction for at least two to three years, however.

The remaining East Pit slopes range from roughly benched and untrimmed sidewall reflective of mining lift heights, to loose rocky slopes sitting at the angle of repose (e.g., east side). The eastern side is locally very close to, but does not encroach into, Indian reservation lands delineated by official survey markers.

South Pit. This rectangular excavation is about 1,780 feet long by 1,100 feet wide, with average pit-bottom elevations of around 110 to 130 feet below original grades. Small floor depressions visible in aerial images are relict exploratory excavations to check on deeper materials quality. The largest exploration and a few surrounding acres in the southeastern corner are slightly lower than the permitted minimum elevation of 2,300 feet AMSL. Since last year, the South Pit has been the principal source of Banning Quarry aggregate, with production focused on the northeastern corner.

Newly benched and trimmed slopes were seen along the northern highwall on the date of the field visit. The operator was preparing to begin resource extraction from the south side of the pit. The remaining crudely benched and scalloped perimeter slopes are "fat" with respect to final tops and toes, and are expected to generate hundreds of thousand of tons of additional product when laid back to current or future approved slopes.

No changes were seen to the western and southern pit outlines where they lie opposite developed residential areas along Theodore Street and Blanchard Street. Past mining had encroached into 200-foot-wide residential setbacks placed in UUP 1994-01 and shown on approved reclamation plans (ref. 2012 *Surface Mining*

Inspection Report.) AGI is aware that future mining is intended to respect these setback limits. Past disturbances, however, will still need to be corrected for safety and revegetation potential to meet predicted reclamation plan requirements.

West Pit. Completed to current dimensions in 2012, the West Pit features skillfully carved cut slopes created by a bulldozer and slope board. All slopes are benched. The overall slope ratio is about 1½:1, with 45-degree bench face angles between successive 12-foot-wide benches spaced roughly every 40 vertical feet. The rectangular hole is about 1,500 feet long and 980 feet wide. The almost flat bottom mostly varies between Elevation 2,370 and 2,390 feet. The western highwall ranges up to around 160 feet high.

Qualitative slope stability assessments in 2012 and for the current 2013 inspection indicate adequate static performance has been experienced. Reconnaissance observations did not disclose cracks or fissuring that might indicate an imminent gross stability problem. Sand and pebbles will continually detach and collect as loose talus on benches and at the toes, however. Some deposits were already apparent in the 2013 inspection. Rilling was not observed. The 1:1 bench face inclinations are steeper than the angle of repose, and over an extremely long term (decades), slopes could be expected to recede some distance at the brows. Lastly, siltier lenses in the alluvium transected by the slopes appear to have lower resistance to surficial sloughing and are receding a little faster than the cleaner alluvium. Visual monitoring should be adequate for now. No noticeable changes were noted by AGI since 2012. The top of the pit is ringed with an 8-foot-high landscaped berm and relatively narrow setbacks from property lines on the south and west sides. These could limit room for slope angle reduction, if recommended by later inspections or the findings of dynamic stability analyses.

The 2012 *Surface Mining Inspection Report* documented that the as-built limits of the West pit were at variance with approved reclamation plan limits, and City zoning. Non-vested territory west of the projected extension of Hargrave Street was only partly owned by the 1989 reclamation plan proponent (Matich), and was never part

of vested mine lands. The area comprises three parcels totaling 16.80 acres with APNs of 534-050-003, 534-084-001, and 534-084-002. The smallest 1.08-acre parcel (APN 534-084-002) was quitclaimed to the City of Banning by Matich Corporation in July, 1994. AGI understands that negotiations are continuing between the City and the mine owner with respect to zoning and environmental mitigations. The un-permitted mine area will be included in a future site-wide Reclamation Plan.

San Gorgonio River Area. Today, an estimated 42 acres of the Robertson's Ready Mix property comprises river wash and perimeter slope areas north of the plant and pit sites. There are no traces of the old Beckham and Matich deep mine pits in the channel. The on-site channel width varies from 620 feet down to less than 50 feet at the eastern property line. There is also a notable channel constriction at the mid-point of the 2,700-foot-long segment, where a cut slope supporting SCE wooden transmission line poles for the Devers-El Casco circuit angles southward. Upstream from the mine property the riverbed features a deep, vertical-walled gully cut into layered sedimentary rocks.

We have noted earlier in this report that a consultant to the mine operator declared the river area "restored" in 2011. AGI independently arrived at a similar conclusion in 2012, at least with respect to vegetation density and species diversity. All northern boundary slopes were 2:1 or flatter. The slopes were neatly trimmed and free of erosion-related rills or brow notches from uncontrolled off-site flows, a condition re-verified in 2013.

However, AGI strongly disagrees with the consultant that a stable river bed elevation has been achieved. High-volume flood flows capable of moving upstream sand and gravel bed loads into the mine property have simply not occurred since the area was restored by mass grading. Reviews of the restoration plan accepted by Army Corps managers lacked hydraulic calculations supporting a finding of equilibrium for an unusual proposed "stepped" river gradient that varied from 9.7% to as little as 0.6% within the mine property.

The right bank of the channel consists of a sinuous protective dike featuring a crest width usually between 30 and 35 feet. The current dike dates from 2002 or 2003. Soils in the embankment comprise native alluvium and man-made fill, with the latter more prominent in the eastern half. About 840 linear feet of dike near the SCE power pole constriction includes a grouted rip-rap facing for erosion protection; the remaining stretches lack any erosion protection features. Most of the embankment appears to be in acceptable condition, although a river meander has caused significant bank erosion into the dike north of the West Pit.

The river's local base level has remained fixed by the elevation of concrete foundations for a railroad bridge next to the Interstate 10 freeway (the bridge dates to 1932). AGI has done a cursory analysis of historical alluvial fan and river channel gradients versus today's conditions. Based on pre-disturbance topographical maps, the riverbed is at significantly lower absolute elevations (~20-55+ feet lower) and has a much flatter longitudinal slope than the historical gradient of 4.2% in the mine site. We believe the river will establish equilibrium slope close to the natural historical grade by a process of aggradation. Ultimately, we think river bottom elevations will rise up to and locally overtop the existing protective dike.

Topsoil Retention & Reuse. None of the past or present mine operators has made attempts to strip and reserve topsoil materials at the Banning Quarry. From a geological perspective, pedogenic "topsoils" at the site are limited to the upper one to two feet and are very weakly developed. This finding is consistent with young alluvial ages and the very rocky nature of the sediments. All site sediments are economic deposits that are sent to the plant for processing. At the present time, there is effectively no original ground surface left in the entire property and zero opportunity for future topsoil salvage. Local experience shows native vegetation species seem to have little difficulty in becoming re-established on deeper alluvium, as long as slopes are moderate.

Revegetation. A typical alluvial sage scrub community has been re-established without maintenance or intervention in the San Geronio River area. The mix of

species (sycamore, willow, alder, and various members of the *Compositae* family in the active wash; dense growths of buckwheat, California sage, California broom, and native annuals on slopes to the north) is typical of these environments in nearby undisturbed areas. Rare small clumps of giant cane (*Arundo donax*) also occur in the wash area. This invasive species is considered undesirable in all Southern California watersheds. Heat and aridity may kill off the opportunistic clumps, but more likely some active control may be needed. Clumps seen in 2012 were still vigorous in 2013. It is noted that the preliminary version of the site-wide Reclamation Plan includes a petition to classify the 42 acres north of the right bank of the San Gorgonio River as reclaimed. Absence of *Arundo* should be a condition of Lead Agency approval of the petition.

Robertson's has not started reclamation-related hydroseeding, plantings of nursery stock, or other revegetation other than permit-related screening landscaping around the property perimeter. We are not aware of a timetable to start revegetation in depleted pits.

Structures & Equipment. Grizzlies, rock crushers, screen decks, the washing plant, belt conveyors and bin loaders are concentrated near the center of the quarry property. A concrete settling tank and process water clarifiers are north of the main processing area. Mine offices, a break room, and storage occupy a small concrete-block building, trailers, and some portable shipping containers near the end of the paved driveway entrance from Hathaway Street. Large concrete footings and elevated columns are associated with the plant improvements. A mining truck boneyard is located next to the driveway. The plant and boneyard areas present a relatively tidy and organized appearance.

Erosion Control. Information indicates the mine operates under a Storm Water Pollution Prevention Plan (not reviewed) approved by the controlling Regional Water Quality Control Board. With the exception of the San Gorgonio River active channel, the Banning Quarry property neither receives nor discharges storm flows. Virtually all precipitation is captured internally within the gravel pits. City streets intercept

sheetflow runoff from surrounding neighborhoods and drain water away from the mine. No off-site soil loss problems were seen at the time of our inspection.

5.2 Groundwater & Wells

Robertson's plant relies on a private well located above the western quarry slope of the West pit to supply process water. Metered municipal water is reportedly used for perimeter landscaping, however. We noted the latest financial assurance cost estimate included a line-item expense for well abandonment.

A U.S. Geological Survey monitoring well (03S01E03J001S) is located in a small vault just beyond the southwest corner of the South Pit. No groundwater extraction is associated with this well. Robertson's Ready Mix has indicated the well will not be affected by future mining, and it will be protected in place.

Essentially all of the Banning Quarry site is within the Cabazon groundwater storage unit. The coarse-grained and highly permeable alluvial deposits are very deep and host a prolific unconfined aquifer. The Cabazon storage unit is a component of an unadjudicated basin that is not subject to a groundwater management plan. The phreatic surface is usually fairly deep (200-400 feet), shallowing northward close to canyons that are recharge sources. Groundwater gradients are to the south-southeast, consistent with topographic contours (Rewis, et al., 1996). Basin underflow ultimately exits the storage unit towards the Coachella Valley.

In 2012, AGI observed significant groundwater discharges in the northwest corner of the West Pit. The springs had all but dried up by the time of the 2013 inspection. Only a small puddle near the slope toe, and rather dense tamarisk seedlings, hinted at what was still very moist ground between the slope toe and the discharge points high on the pit slope. The previous rainfall season was one of historically low precipitation. Spring discharges are a result of a fault zone barrier created by the San Gorgonio Pass Fault (Section 6.1). The fault separates the Cabazon and much shallower Banning Bench groundwater storage units (Geoscience, 2011). Since the time the inflows were first encountered during excavation, water has generally been

diverted around the active mine area and allowed to collect in the bottom of the pit. Natural infiltration returns the water to the deeper aquifer. Based on the structural origin of the springs and nature of the recharge area up-gradient, we would predict (1) Spring discharges will be perennial; and (2) Influx rates will vary seasonally, peaking with winter surface runoff or flood flows in the adjacent San Gorgonio River. Maximum discharge potential remains unknown.

6.0 ENGINEERING GEOLOGIC OVERVIEW

6.1 Local Geologic Conditions

The mine site is located on part of a series of coalescing alluvial fans emanating from the San Bernardino Mountains to the north. Sediments consist of uncemented and crudely stratified mixes of light gray, fine- to coarse-grained gravelly sand and sandy gravel with cobbles and occasional boulders. Maximum particle sizes encountered during mining are on the order of 40 to 48 inches diameter, but these are rare. Highwall exposures show finer sedimentary structure consistent with braided-stream deposits such as cross-bedding, laminated sand, and clast imbrication. Hard, strong, and durable plutonic and metamorphic (mainly gneissic) rock types dominate clast compositions. The alluvial resources have very low total fines content and no clay.

During mining, the extreme northwest portion of the vested mine property encountered bedded, consolidated but fairly soft sedimentary rocks colloquially termed "caliche" by the mining crews. Today, the same sandstones and siltstones are also well-exposed in the incised low-flow gully of the San Gorgonio River upstream of the mine site. We tentatively correlate the poorly indurated rocks to Plio-Pleistocene age San Timoteo Formation beds that are much more prevalent toward Beaumont and the Badlands regions farther west.

The sedimentary formation is interpreted to be in a fault-bounded wedge between the deep alluvial basin and crystalline basement rocks found in the higher hills to the north. The southern fault is the active San Gorgonio Pass reverse fault. The river gully transects the surface fault trace, which is marked by a thick zone of comminuted rock and minor clayey gouge. Regional structural interpretations model the fault as

a northwest-dipping thrust ramp inclined at around 45 degrees. Findings indicate the projected surface trace *almost* touches the northwest re-entrant corner in the West Pit. The pit does not intersect San Timoteo beds. However, buried subsidiary fault traces are faintly visible near the spring discharge area. The indistinct fault traces in the pit wall terminate below several tens of feet of unfaulted alluvium. It is presumed that the main fault plane and associated impermeable breccia zone responsible for the rising water condition are located just northwest of the excavation slopes.

6.2 Slope Stability

Like most southern California alluvial gravel pits, the Banning Quarry exhibits remarkable wall stability for nominally non-cohesive deposits. Temporary near-vertical faces of 30 feet or more will stand indefinitely, subject only to slow deflation or ravelling from the effects of wind and rainfall. Engineered 1:1 bench face slopes in the West pit have performed well to date. Strong rock particles and ordered grain packing (interlocked and imbricated) result in high "effective cohesion" and high internal friction angles in these strongly dilative soils.

Neither of the two mining and reclamation plans included quantitative slope stability analyses. The site has experienced low to moderate ground accelerations from earthquakes such as the 1992 Landers and 1996 Hector Mine events. Photographs hint lurching effects from these earthquakes may have caused some collapse of almost-vertical slopes along the eastern crest of the East pit. Ground accelerations from a mode-magnitude earthquake at recommended risk-of-exceedance levels would be much higher than recent felt earthquakes, though. It is expected that the revised site-wide Reclamation Plan will include engineering analyses of static and seismic stability, with recommendations for maximum pit wall inclinations at maximum highwall cuts.

6.3 Flooding Risks

There are significant, but surmountable, regulatory constraints that interfere with any proposed end use involving infill development or occupancy buildings. By far the most important is the inclusion of a majority of the mine property in FEMA 100-year

flood zone "A" per the governing flood insurance rate map (FIRM, Figure 3 on the next page). The FIRM clearly relies on data predating the establishment of Banning Quarry pits and has essentially zero relationship to present site elevations. Nonetheless, the map remains in force per Banning municipal codes and ordinances unless the zone is modified.

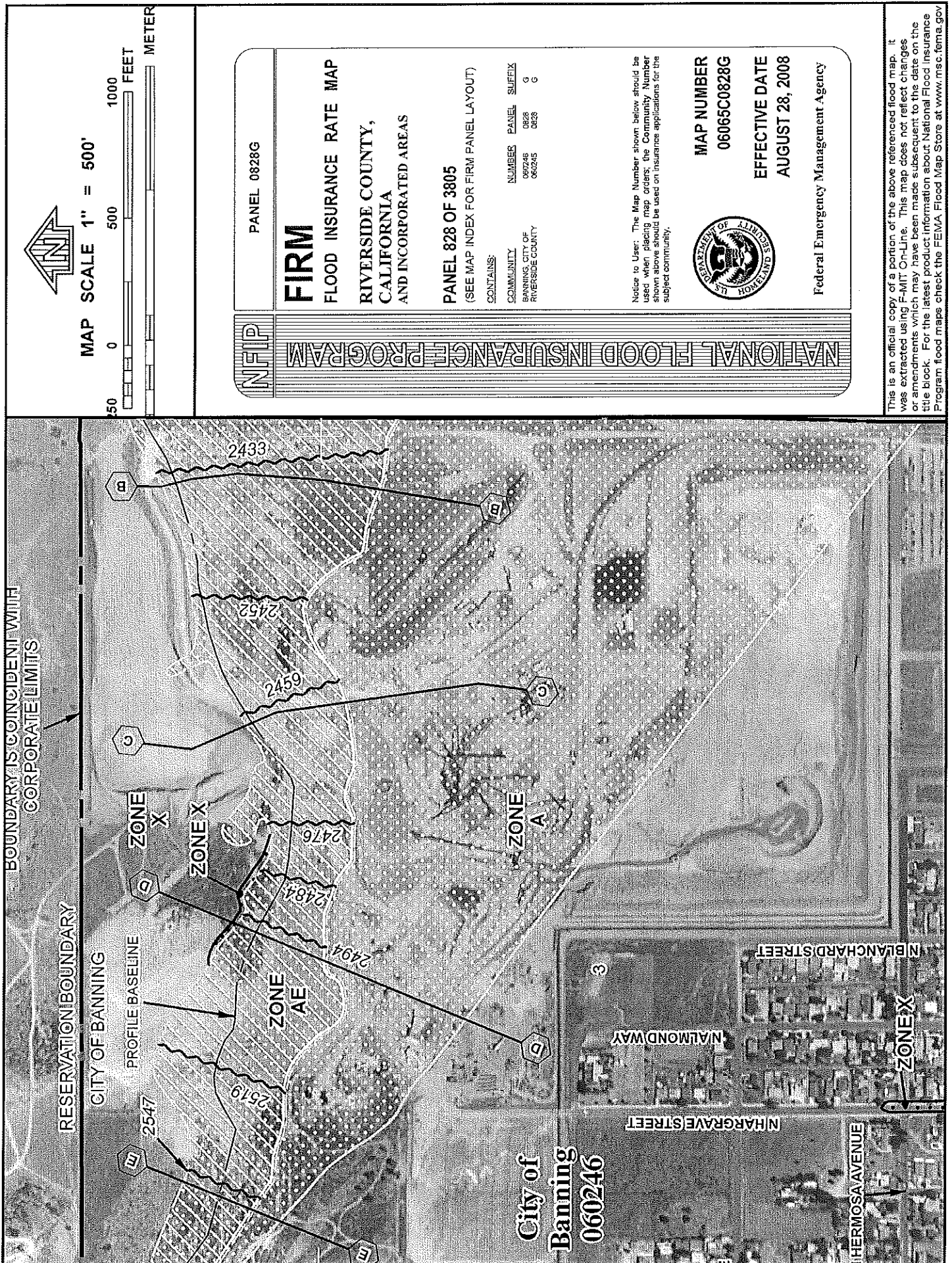
The greatest uncertainty currently lies with the design and condition of the right-bank dike along the San Gorgonio River. The City of Banning does not have reports indicating the dike is an engineered feature with controlled compacted fill. The crest width is locally less than specified in the (old) vested-mine reclamation plan, and mostly lacks erosion protection on its stream side. Failure or overtopping of this feature would potentially flood the West or East pits (and/or future resource excavations after processing plant relocation). Avulsion would be accompanied by upstream knickpoint migration and renewed headcutting in the streambed. It is not known whether this could create risk to the Banning Levee.

Zone modification would be by petition for a "Letter of Map Revision" (LOMR) filed with FEMA. We speculate that the LOMR would at a minimum require enhancement or reconstruction of the right-bank San Gorgonio levee. Supporting hydraulic calculations for equilibrium bed elevations would be needed. Summarizing:

- *If* ultimate bed elevations and gradients are properly determined, and . . .
- *If* FEMA specifications for levee improvements are implemented, and . . .
- *If* FEMA in their discretion accepts a petition for LOMR, and . . .
- *If* the Riverside County Flood Control and Water Conservation District is apprised of the LOMR, and concurs that flood hazards downstream of the South Pit have been mitigated, and . . .
- *If* the City of Banning formally undertakes abandonment of the Repplier Road R/W.

Then:

Figure No. 3, Flood Zone Map



- The septum of alluvium retained by the approved (old) reclamation plans between the expanded West pit and South pit mine areas could be deleted. [Note: Preliminary new reclamation plans also retain this feature]
- Buildings and other development uses become feasible.

6.4 Fault Rupture Potential

The San Gorgonio Pass Fault has been placed in an official Earthquake Fault Zone by the California Geological Survey (Calif. Dept. of Conservation, 1995). Official zones surround faults deemed sufficiently active and well-defined as to pose hazards for people and property. Activity potential for this fault is considered to be high. State law prohibits construction of occupancy structures across active fault traces. Perhaps five acres or less of the West Pit (northwest corner) is within the Earthquake Fault Zone. In the unlikely event that structural uses were proposed for the zoned area, detailed fault hazard studies showing fault lines and appropriate building setbacks would be required under City ordinances. Hazard zonation would not be expected to have any effect on non-structural uses that might be contemplated.

6.5 Strong Motion Potential

Banning is located in a high-probability zone for intense earthquake shaking. The San Gorgonio Fault may broadly be considered a part of the San Andreas fault system. Due to a 15-kilometer left step in the southern San Andreas trace, tectonic slip becomes partitioned across a myriad of separate faults spanning a zone 5 to 7 kilometers wide near the quarry site (Matti, et al., 1985; Sieh and Yule, 1998; 1999). Present thinking suggests the San Bernardino and Coachella Valley segments of the fault have a significant probability of concurrent rupture in a single event. The structural "knot" in the Pass area may offer little impedance to through-going rupture. Multi-segment cascade rupture is currently considered in the latest State of California seismic hazard model (Petersen, 2008), and has been adopted as the event scenario for emergency response training such as the annual ShakeOut drill.

Probabilistic intensity determinations indicate a 10 percent chance in 50 years of zero-period peak ground accelerations greater than about 0.64g. The less-probable 2 percent chance of exceedance in 50-year exposure period is about 1.09g (U.S. Geological Survey, 2012). These are high numbers. Current building codes are based on the latter exposure period. However, the lower-intensity but more-frequent earthquake event (reduced by factors depending upon the analysis method selected) would be used in conventional practice for most dynamic slope stability evaluations.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Reclamation Objectives

It is a general requirement of reclamation plans to provide a description of the proposed use or potential uses of mined lands after reclamation [PRC 2772(c)(7)]. Only with this statement can reasonable judgments of the operator's compliance in meeting goals of SMARA be addressed. Surface mining and reclamation regulatory policy under the Act is intended to assure that:

- (a) Adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative land uses.
- (b) The production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment.
- (c) Residual hazard to the public health and safety are eliminated [PRC §2712].

The Banning Quarry is presently in a state of regulatory transition. A single new Reclamation Plan is being developed by the mine operator, in accordance with findings and recommendations of AGI (2012, p. 25). A preliminary version of the plan has been seen by the Lead Agency and AGI in our function as technical reviewers. The new plan is not yet an approved document. Nonetheless, significant progress is being made to fully addresses all required plan elements per PRC §2772 and §3502(b)(1-6), as well as providing current reclamation standards as described in Chapter 9 §2710 et seq. and Title 14 of the California Code of Regulations commencing with §3700. We understand that the proposed reclamation objective will

be suitability for infill development. AGI again emphasized during the 2013 inspection site meeting that reclamation plans are "living documents" that can be amended as technical circumstances or economic best uses change. We have endeavored to help all parties understand site limitations from natural hazards or the as-built conditions that may require mitigation to achieve desired end uses.

Year-2013 inspection highlights are featured in the following subsections. Recommendations, corrective actions, and SMARA violations outlined in AGI (2012) are restated, and updated commentary is presented. Some previously published dimensions and areas have been changed slightly, based on our initial reviews of the future site-wide Reclamation Plan.

7.2 Reclaimed Area

The approximately 42 acres north of the San Geronio River dike has been brought into substantial conformance with the vested-area reclamation plan goals, and the restoration specifications of Lilburn Corporation (2001). Vegetation includes representative species in adequate density, in our opinion and in the opinion of the environmental planner who authored the 2001 restoration plan. From even close distances, the area visually blends well with neighboring lands, and will continue to improve. AGI notes elsewhere in this report that riverbed elevations will probably rise, but active washes should be expected to undergo a sort of natural destruction and re-birth process without active intervention of the mine owner. The channel is now protected under State and Federal rules.

Robertson's reported zero acreage as reclaimed during the 2012 reporting period. We infer this applies to the approximately 144 acres south of the river channel. No recently reclaimed areas were noted during the site inspection visit.

2012 Recommendation: The mine operator could elect to petition the Lead Agency to have certain vested river lands classified as "Reclaimed". The reclaimed area should be identified on a suitable topographic contour map submitted to the Lead Agency illustrating as-built slopes, area limits, and an engineer's statement of the total

reclaimed acreage. The area should be inspected and a checklist made of conformity with the reclamation plan. The Lead Agency may then certify the petition at its discretion. Note: The river area has not been considered in recent financial assurance cost estimates; thus, no credit to reduce the surety bond should be assumed if the status of the river area is changed to "reclaimed".

2013 Update: A petition for reclaimed-land classification will be part of the site-wide Reclamation Plan. The Army Corps-approved restoration plan does not appear to have had specific environmental performance goals. Qualitative judgment indicates successful revegetation, however. Removal or destruction of giant cane (*Arundo donax*), a noxious weed, from the channel segment in Robertson's mine property should be a recommended precondition of Lead Agency certification, in our opinion.

7.3 Disturbed Area

Robertson's reported 81 acres of disturbed area in both the 2011 and latest 2012 Mining Operation Annual Reports. We estimate disturbed area at about 144 acres (186 total acres minus 42 acres restored). We are not aware of how the discrepancy arises. "Disturbed area" officially includes all plant areas, haul roads, pits, slopes, stockpiles, and the river berm.

Recommendation: The mine operator should check their land title information and/or sum the parcel areas recorded by the County Assessor at the RCLIS website (Figure No. 2), and adjust the classified areas in the next reporting period (2013). We have noted that parcel areas will be tabulated on the future Reclamation Plan, based on preliminary reviewed versions.

7.4 Future Structural Foundations & Building Code Criteria

The existing reclamation plan applicable to UUP 1994-01 describes a process of placing inert soils and/or concrete demolition waste from a bottom elevation 2,300 feet AMSL to a proposed fill surface elevation of 2,375 feet. The materials would be watered and compacted with heavy equipment, but without geotechnical engineering observations or tests, "to approximately 90 percent relative density [*sic*]". The existing processing plant would then be relocated to the partially filled South pit.

Our reading of the Banning Grading Code indicates that although quarrying is exempted from code requirements, pit *backfilling* is most likely subject to the code. We do not find exception in the City code or the California Building Code (CBC) from placement of structural foundations on either competent native materials or engineered compacted fills certified by a civil/geotechnical engineer. Processing plant foundations appear to fall under State definitions of "structure" and thus must meet the code bearing requirements. Heavy footings for vibratory equipment placed atop 75 feet of non-engineered fill would represent poor practice and would potentially have very uncertain settlement performance in a large earthquake.

2012 Recommendation: The City Engineer should make a determination of the code's applicability to any proposed backfill operation and plant relocation. Investigations, tests, analyses, and minimum specifications should be provided by the operator's civil engineer or hired consultants in support of the elected relocation option. The revised site-wide Reclamation Plan should be consistent with the interim mining use and permanent end use or depth, particularly with respect to slopes.

2013 Update: It is believed that pit backfilling will be deleted from future reclamation schedules. Current information is that the processing plant will be sited directly on the very dense native soils of the South pit floor. Because a proposed end use of commercial, industrial, or residential development is being contemplated, however, any smaller filled-in irregularities in pit bottoms should be treated as structural "engineered" fills in accordance with the latest adopted version of the CBC.

7.5 Quantitative Slope Stability Analyses

The *existing* quarry reclamation plans lack geotechnical analyses verifying adequate factors of safety at the design slope inclinations. All permanent slopes must be flatter than the critical gradient, i.e., the maximum stable inclination of an unsupported slope under the most adverse conditions that it will likely experience, as determined by current engineering technology (PRC §3501, 3502(b)(3)). In practical engineering terms, permanent Banning Quarry slopes must have a calculated factor of safety F.S. >1.0 for earthquake loads.

One SCE electrical transmission tower is very close to the East Pit. One tower leg is only 17 feet from the brow of a 100-foot-high oversteepened slope. AGI's opinion is that the tower may have a non-trivial risk of toppling due to slope failure in a major earthquake. Although local damages would be severe, abrupt circuit losses could wreak incalculable damages if automatic system shutdowns proceed across SCE territory and a regional power outage results.

2012 Recommendation: A new Reclamation Plan should include quantified slope stability analyses under static and dynamic loads. Limit equilibrium methods or Newmark-type displacement analyses (or both) would be suitable. The design earthquake load for permanent slopes should at a minimum be derived from the 10 percent in 50-year exceedance probability. Slopes close to the SCE transmission tower should, in our opinion, remain stable at loads based on the 2 percent in 50-year exceedance probability (2,475-year return period), or the utility's design earthquake, whichever is greater. **The SCE tower analysis should be completed as soon as practicable.** Sensitivity analyses are warranted to verify that very rare but very strong earthquake events will not cause large displacements or failures in City streets or private property.

2012 Recommendation: The City should compel **immediate** abatement of unstable slope hazards next to the SCE tower in the East pit, if a quantitative analysis by a qualified professional (geotechnical engineer or engineering geologist) indicates the present slope is steeper than the critical gradient and also presents risks to the electric circuits. Abatement could be technically challenging. For example, sediments in the East pit are probably not suitable as a bearing medium for a stabilization fill, if this option were to be considered.

2013 Update: The new site-wide Reclamation Plan will include quantified slope stability analyses. The Lead Agency and AGI await clarifications concerning finished slope inclinations and extensions of findings to areas beyond the South Pit.

No analyses have been submitted concerning interpreted hazards next to the SCE tower. Although it is acknowledged that the tower will someday be replaced, the timing of this action still leaves a significant exposure period with risk of loss (if the slope is in fact dynamically unstable). Conditional probabilities for a large earthquake in the Pass region are high. We think the Lead Agency must demand the previously recommended quantitative analysis. Thereafter,

- If the slope calculates as stable at the tower footprint, no further protective action should be required.
- If the slope calculates as unstable at the tower footprint, then SCE geotechnical engineers should be apprised of the results, and the utility may make the necessary risk assessment based on grid redundancy and many other system factors. The City of Banning should in turn request a letter of finding from SCE indicating that either the risk is acceptable, or that abatement is needed.

7.6 Financial Assurance Review

The mine operator has a current (adjusted) financial assurance cost estimate on file with the Lead Agency dated October 30, 2013, in the amount of \$472,819. The active financial assurance mechanism is a surety bond in the amount of \$520,000. The mechanism would provide approximately \$3,500 per acre (based on AGI's disturbed-area estimate), a sum well in excess of averages reported for California as a whole (Department of Conservation, 2007). The face value of the surety is deemed adequate based on *the work scopes outlined in the old reclamation plans*, the cost estimate, and observations made on the inspection date. The cost estimate is limited to reclamation activities in the East, South, and West pits and ignores former mine areas within the San Gorgonio River. It is expected that updates to the financial assurance cost estimate will be needed for conformance with tasks and performance goals of the future site-wide Reclamation Plan.

2013 Recommendation: No action required.

7.7 City Ordinance No. 1237 Violations

In 2012, the Lead Agency was apprised of quarry encroachment into three properties located north of Repplier Road and west of a northward projection of Hargrave Street. Mining to a depth of ~160 feet had occurred on the three parcels (APN 534-100-003, 534-084-001, 534-084-002). Zoning on the parcels was R-1. There were no records of a petition for a zone change, Site Approval to mine, or reclamation plan pertaining to the mine expansion as required by the City's Development Code and the listed ordinance.

AGI's 2012 inspection also found mined slopes and benches within required setback zones 200 feet wide next to R-1 zoned parcels on Blanchard Street and Theodore Street (South Pit). The setback zone was shown as "Industrial - Mineral Resources" on the current General Plan map. Nevertheless, AGI was unable to locate a record of an approved amended use plan rescinding the original setback requirement.

2012 Recommendation: The Lead Agency shall make a determination of the procedures and documents needed to bring the West Pit non-conforming uses into compliance. There is no practical way to "undo" the past mining. Under a finding of "substantial variation" from approved mining and reclamation plans, the Lead Agency should obtain a new single Reclamation Plan encompassing all mine property [CCR 3502(6)(d)]. Certified reclaimed areas may be excluded. The new mining and reclamation plan must meet all current SMARA environmental and performance standards [Ord. No. 1237 §22B-3].

2012 Recommendation: For the South Pit encroachments, alternative approaches to meeting the original environmental mitigation goals of the setbacks might be considered. Additional mining and slope trimming is expected in the setback areas. Halting mining from this point forward would leave hazards in place (vertical slopes). Ground restoration to native grades is not considered practical. We think administrative approvals to modify UUP 1994-01 allowing the mining encroachments, along with operator concessions to further limit noise, dust, and glare, or meet other special City requirements, may be the best approach.

2013 Update: We understand negotiations continue between the mine operator and the City of Banning regarding West Pit encroachments, including effects on one City-owned parcel. It is proposed to include the West Pit parcels into the future site-wide Reclamation Plan.

South Pit encroachments have not yet been addressed. As noted in 2012, however, even if no further mining occurs in the 200-foot-wide setbacks, some light trimming of vertical slopes would be recommended to mitigate local hazards.

7.8 Other Recommended Action Items – 2012 Findings & 2013 Updates

Item (1). The San Geronio River has been shifted from its former natural channel location and is **not** in equilibrium with respect to longitudinal gradient, in our opinion. Interpretations suggest the channel is likely still aggrading. Filling may take years or even decades. Peak flow widths and depths will vary drastically within the mine site given present channel cross sections. Channel effects also extend off-site thousands of feet. The protective dike built along the right bank may have insufficient width and height/freeboard for permanent protection. Parts of the dike consist of man-made fill with unknown compaction or engineering characteristics. The dike lacks erosion protection along most of its length. Dike failure could cause avulsion of the river into the East or West pit, with consequent risks of severe headcutting and damage to the Riverside County Flood Control Banning Levee.

2012 Recommendation: The mine operator should provide an updated hydrology study with predictions of final bed elevations and gradients and possible complications posed by a channel constriction north of today's plant site. Special consideration should be directed to analyzing erosion protection requirements around the SCE "nose" that forms this constriction. The study should verify that the dike will not be overtopped by aggrading sediments or flood flows at equilibrium gradients.

2012 Recommendation: A geotechnical study is recommended to verify that adequate in-place density is present in the fill and native soils that will retain flood flows. It is possible that Robertson's has (or can obtain from Matich Corporation)

older reports of engineering tests and observations of the work. Topics covered should include slope stability and specifications for permanent stream-side erosion control installations (e.g., rip-rap). If necessary, reconstruction recommendations should be included. Temporary embankment protection may need to be constructed as soon as possible where the embankment is particularly narrow or subjected to directed flows. Stream bank erosion control was a recommendation of the Simons and Associates (1990) report that has not been fully satisfied.

2013 Update: Neither study has been submitted to the Lead Agency. Depending in large measure on the final end use(s) selected for the upcoming site-wide Reclamation Plan, the hydrology study could be a critical part of approving the document. We have already mentioned that an approved dike or levee installation would be key to obtaining revisions to Federal flood maps, thus allowing structural uses of depleted mine areas. Both reports remain as recommended corrective actions to help assess risks to the mine site and the Banning Levee.

Item (2). Although minimal at the date of the 2013 inspection, groundwater spring discharge and infiltration in the West pit will be permanent. A potential for direct contamination of the Cabazon aquifer storage unit has been created. Hazardous or toxic substances accidentally or illegally dumped in the pit can directly enter the aquifer due to high permeability of the gravel deposits and lack of filtration. Daylighting of groundwater also results in some small but possibly significant losses of groundwater resources to atmospheric evaporation and plant uptake. Lastly, the spring discharge points are undergoing some recession (piping) into the slopes. Alcoves are forming. They may enlarge to the point of roof collapse and thereafter create instability risks to the top of the pit slopes.

2012 Recommendation: An engineering analysis is advised to help design a permanent fix to the slope recession and protect groundwater quality. Ideally a solution will "hide" groundwater from the surface if the site has an end use that allows public access. A stabilization fill with an internal, very coarse chimney drain might be one option. The drain could lead to a buried and capped infiltration gallery or rock

blanket fill. Large-diameter drywells could also be feasible. All slope fills would need to be engineered fills meeting minimum safety factors for stability, with consideration for local earthquake exposure and potential saturation.

2013 Update: An engineering analysis will be included in the site-wide Reclamation Plan. Technical reviews and Lead Agency acceptance of the new plan are on-going.

Item (3). Certain street right-of-way abandonments were never enacted by the City. The following street segments are mapped within mine pits or appear to be limited to the sole and exclusive use of the mine operator:

- Summit Drive east of the northward projection of Hargrave Street to the City limits. An additional unusable segment to the west of Hargrave Street divides Riverside County Flood Control properties within the San Geronio River banks.
- Repplier Road east of the intersection with (locally unimproved) Blanchard Street continuing to the City limits.
- Theodore Street, beginning about 400 feet east of Blanchard Street and thence continuing to North Hathaway Street. [Note: Segment is technically on neighboring property but is bordered by the South pit and may be impacted by pit reclamation. This right-of-way could possibly be retained as a future thoroughfare].
- North Hathaway Street from Hoffer Street northward to near the Repplier Road projection. Access is gated and locked after business hours.

2012 Recommendation: The City of Banning should seek to relinquish rights-of-way that are not useful as public streets, thus placing these alignments under operator responsibility for reclamation of mined or disturbed lands.

2013 Update: No title actions have occurred to date. The 2012 recommendation still stands, however. Information from preliminary versions of the single Reclamation Plan suggest the operator will not create disturbances along the Theodore Street projection. If so, then Theodore Street R/W may be retained by the City.

7.9 Inspection Limitations

This report and attached Form MRRC-1 have been prepared in general accordance with Department of Conservation guidelines. AGI's work involved no subsurface sampling, testing, or analyses of soil, water, or air at the site. Site descriptions are considered representative of conditions only on the date of the field inspection visit.

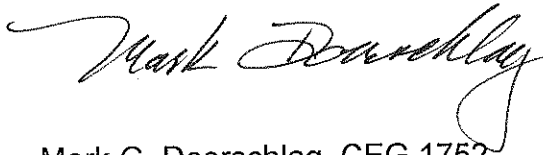
Environmental quality mitigations (AQMD permitting, dust, glare, operating hours, traffic, etc.) were outside of AGI's inspection scope as these subjects require different professional experience and qualifications. Lead Agency staff have the capability and are encouraged to report separately on these issues if the mine operator's performance appears to be at odds with approved use permits.

8.0 CLOSURE

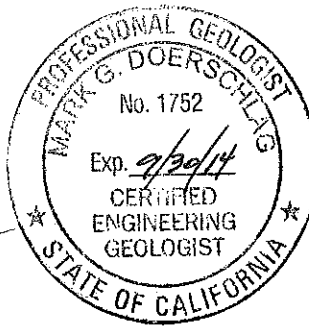
AGI's surface mine inspection report was prepared solely for the named mine, and solely for the use of the City of Banning as Lead Agency. The Lead Agency shall distribute copies of this report in accordance with State regulations.

It is a pleasure to have assisted in this annual mine inspection. If you should have any questions, please contact the undersigned at our Riverside office at (951) 776-0345.

Respectfully submitted,
Aragón Geotechnical, Inc.



Mark G. Doerschlag, CEG 1752
Engineering Geologist



C. Fernando Aragón, M.S., P.E.
Geotechnical Engineer, RGE 2994



MGD/CFA:mmma

Attachments: Appendix A, 2012 Form MRRC-1 Surface Mining Inspection Report
Appendix B, 2011 Form MRRC-2 Mining Operation Annual Report
Appendix C, Captioned Photographs dated December 19, 2013.

Distribution: (4) Addressee

REFERENCES

- California Department of Conservation, State Mining and Geology Board, 2002, *Surface Mine Inspection Guideline*: online version accessed 7/5/12 at http://www.conservation.ca.gov/smbg/guidelines/Documents/inspection_guidelns.pdf
- California Department of Conservation, State Mining and Geology Board, 2004, *Surface Mining and Reclamation Act Financial Assurance Guidelines*: online version accessed 7/5/12 at <http://www.conservation.ca.gov/smbg/guidelines/fincl%20assurances/Documents/04aguidelines.pdf>
- California Department of Conservation, State Mining and Geology Board, 2007, *Report on SMARA Lead Agency Performance Regarding Mine Reclamation*: Information Report No. 2007-01, 15 p.
- California Department of Conservation, Division of Mines and Geology, 1995, Digital images of official maps of Alquist-Priolo Earthquake Fault Zones of California, Cabazon Quadrangle, on-line versions at http://www.quake.ca.gov/gmaps/ap/ap_maps.htm
- CHJ Consultants, 2013, *Slope Stability Investigation, Proposed South Pit Reclamation, Banning Rock Plant Quarry, CA Mine I.D. 91-33-0012, Banning Area, Riverside County, California*: private consultant's report dated January 11, 2013, 25 p. and appendices, *in* EnviroMINE, 2013 [see below].
- City of Banning Community Development Department, General Plan link accessed 7/30/12 at <http://www.ci.banning.ca.us/DocumentView.aspx?DID=665>
- County of Riverside Land Information System, accessed 7/17/2012 at <http://www3.tlma.co.riverside.ca.us/pa/rclis/index.html>
- EnviroMINE, 2013, *Reclamation Plan for the Banning Quarry, CA Mine ID # 91-33-0012*: private consultant's report dated September 2013, 30 p. and appendices.
- Evoy, B., and Holland, M., 1989, *Surface and Groundwater Management in Surface Mined-Land Reclamation*: Department of Conservation, Division of Mines and Geology Special Report 163, 39 p.
- FEMA, 2008, Flood Insurance Rate Map, Panel 828, Map No. 06065C0828G, 8-28-2008.

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Lilburn Corporation, 2001, *Restoration Plan for the San Gorgonio River Channel at Robertson's Ready Mix Facility in Banning, Riverside County, California*: private consultant's report dated May, 2001, 5 p. and addendum, *in* EnviroMINE, 2013 [see above].

Rewis, D.L., Christensen, A.H., Matti, J., Hevest, J.A., Nishikawa, T., and Martin, P., 2006, Geology, ground-water hydrology, geochemistry, and ground-water simulation of the Beaumont and Banning storage units, San Gorgonio Pass area, Riverside County, California: U.S. Geological Survey Scientific Investigations Report 2006-5026, 173 p.

Simons & Associates, 1990, *Analysis of the Gravel Pit on the San Gorgonio River, Banning, California in Conjunction with the Matich Reclamation Plan*: private consultant's report dated May 1990, 18 p. incl. exhibits.

Sieh, K., and Matti, J.C., 1992, The San Andreas fault system between Palm Springs and Palmdale, southeastern California: field-trip guidebook: *in* Sieh, K., and Matti, J.C. (eds.), *Earthquake Geology San Andreas Fault System, Palm Springs to Palmdale*: Association of Engineering Geologists, 35th Annual Meeting Guidebook and Reprint Volume, p. 1-12.

Sieh, K., and Yule, D., 1998, Neotectonic and paleoseismic investigation of the San Andreas fault system, San Gorgonio Pass: Southern California Earthquake Center, Annual Report for 1998, 2 p. and figures. <http://www.scec.org/research/98progreports/>

Sieh, K., and Yule, D., 1999, Neotectonic and paleoseismic investigation of the San Andreas fault system, San Gorgonio Pass: Southern California Earthquake Center, Annual Report for 1999, 4 p. and figures. <http://www.scec.org/research/99progreports/>

U.S. Geological Survey, 2012, Interactive deaggregations (beta): Internet URL <https://geohazards/usgs.gov/deaggint/2008/>

AERIAL PHOTOGRAPHS

Riverside County Flood Control & Water Conservation District Archive

Date Flown	Flight Number	Scale	Frame Numbers
1-28-62	1962 County	1:24,000	Line 1, Nos. 79-80
5-24-74	1974 County	1:24,000	Nos. 449-450
4-10-80	1980 County	1:24,000	Nos. 441-442
1-25-84	1984 County	1:19,200	Nos. 1101-1102
1-9-90	1990 County	1:19,200	Line 9, Nos. 27-28
1-30-95	1995 County	1:19,200	Line 9, Nos. 23-24
3-18-00	2000 County	1:19,200	Line 9, Nos. 24-25
4-13-05	2005 County	1:19,200	Line 9, Nos. 25-26

Google Earth application, Banning Quarry photo image library as of 12/30/13

6/3/96	12/30/03	10/26/06	3/9/11
5/27/02	10/27/04	12/19/06	6/23/11
10/7/03	12/30/05	6/5/09	9/16/11
11/8/03	1/30/06	11/15/09	6/7/12
			3/22/13

APPENDIX A

SURFACE MINING INSPECTION REPORT

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

I. Mine Name (As Shown on Approved Reclamation Plan) Banning Quarry	Inspection Date: 12/13/13 & 12/19/13	CA MINE ID# 91- 33-0012
---	--	-----------------------------------

II. Mine Operator Robertson's Ready Mix		Telephone (951) 760-5450
Onsite Contact Person Mike Dyer		Telephone ()
Mailing Address 1990 N. Hargrave Street		
City Banning	State CA	ZIP Code 92220
E-mail Address (optional)		

III. Designated Agent Phil Sousa		Telephone (951) 760-5490
Mailing Address P.O. Box 3600		
City Corona	State CA	ZIP Code 92878-3600
E-mail Address (optional)		

IV. SMARA Lead Agency Name (City, County, BCDC, or SMGB) City of Banning		
Inspector Mark G. Doerschlag, CEG 1752		Telephone (951) 776-0345
Title Engineering Geologist	Organization Aragon Geotechnical, Inc.	
Mailing Address 16801 Van Buren Blvd.		
City Riverside	State CA	ZIP Code 92504
E-mail Address (optional)		

V. Does the operation have:	P	NR	No	Yes
A Permit to Mine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Permit # - Start and Expiration Dates Unnamed 1965 permit; UUP 1994-01
Vested Right to Mine	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Year of Lead Agency determination Applicable to part of mine site under 1965 permit.
A Reclamation Plan	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RP# N/A Date Approved 10/6/65 & Feb. 1996
Reclamation Plan Amendment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RP Amendment # (as applies) Date Approved or Status of Amendment None yet, status is in Lead Agency review
Has the Operator filed a Mining Operation Annual Report (Form MRRC-2) this Year? Check One:				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Year of Most Recent Filed Annual Report: 2012

VI. Is this Operation on Federal Land? Check One: If "Yes," Provide One or Both of the Federal Mine Land Identification Numbers Below:		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
California Mining Claim Number (CAMC#):	Latitude/Longitude at Mine Entrance (Decimal Degrees): 33.9382 x 116.8593	
U.S. Forest Service or BLM Identification Number (Plan of Operations #):	Status of Plan of Operations (Current/Expired/In Process):	

SURFACE MINING INSPECTION REPORT

VII. Financial Assurance		Inspection Date: 12/13/13 & 12/19/13	CA MINE ID#: 91- 33-0012	
Type of Financial Assurance Mechanism(s)	Financial Assurance Mechanism Number(s)	Amount of Mechanism	Date of Expiration	Date of Lead Agency Approval of Mechanism
Surety Bond	6641040	520,000	Unknown	Not in file
Total Amount of Mechanism(s)		520,000		
<input type="checkbox"/> Financial Assurance Mechanism Pending Review by Lead Agency? If yes, provide date submitted/explanation and amount of pending mechanism:				
Has there been a change of operator since last inspection? If yes provide the date of notice. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Date of Change:	If yes, has the new operator posted a Financial Assurance Mechanism? <input type="checkbox"/> Yes <input type="checkbox"/> No If not, describe status of new operators Financial Assurance Mechanism:		Does new operator's Notice of Change include a statement of responsibility for reclamation? <input type="checkbox"/> Yes <input type="checkbox"/> No	

Date and Amount of Most Recent Approved Financial Assurance Cost Estimate:	Date: 10/30/2013 Amount: \$472,819
<input type="checkbox"/> Financial Assurance Cost Estimate Pending Review with Lead Agency?	Date Submitted/Explanation/Amount of pending estimate:
<input type="checkbox"/> Financial Assurance Cost Estimate Appealed by Operator?	Date Submitted to State Mining and Geology Board or Lead Agency for Appeal/Explanation:
<input checked="" type="checkbox"/> Other?	New FACE expected with Lead Agency approval of new site-wide Reclamation Plan (under review), with work scope & costs TBD.

DEPARTMENT OF CONSERVATION**OFFICE OF MINE RECLAMATION**

MRRC-1 (4/97) Page 3 of 5 (Rev. 07/13)

SURFACE MINING INSPECTION REPORT

VIII. Non-SMARA facility operations conditions solely of local concern (e.g. hours of operation) do not need to be noted here. See Instructions for Block VIII on reverse side of page. [Use separate sheet(s) where necessary. Refer to item numbers below]		CA MINE ID # 91- 33-0012	
Potential Reclamation Plan Requirements:	List Reclamation Plan Requirements (Recommended to be filled out prior to field inspection)	Note Site Conditions and Compliance Issues (Note additional comments on Page 5 as necessary)	VN?
1) General Information	N/A	End uses being defined in new site-wide Reclamation Plan under agency review.	0
a) Permitted Mineral Product(s)			
b) Approved Production Amount (Annual/Gross)			
c) End Date of Operations Per RP			
d) Permit end date			
e) End Use			
2) Boundaries	Permit boundaries and setbacks shown by OMR map exhibits and conditions of UUP 1994-01. See attached report.	Mine encroachments into un-permitted parcels and designated setbacks (2012 report). Substantial variation for 2(a) through 2(d) currently being addressed by Lead Agency requirement for new single Reclamation Plan, under review.	4
a) Property Boundary			
b) Permit Boundary			
c) Rec. Plan Boundary (RPB)			
d) Setbacks			
3) Slopes – Grading	1:1 max cut slope in CUP 1965 1.5:1 working & reclaimed slope in UUP 1994-01. Fill slopes not proposed.	Conditions are per approved (old) reclamation plans. New Reclamation Plan to include quantified stability analyses.	0
a) Fill Slopes – Note Condition of:			
i) Slopes – Working (max/current)			
ii) Slopes – Reclaimed			
iii) Compaction			
b) Cut Slopes – Note Condition of:			
i) Slopes – Working (max./current)			
ii) Slopes – Reclaimed			
4) Erosion Control	N/A	No problems noted.	0
a) BMPs			
b) Grading			
c) Vegetation			
5) Ponds	N/A	N/A	0
a) Design – Function			
b) Capacity (area/depth/volume)			
c) Maintenance			
6) Stream & Wetland Protection	N/A	Vested parcels included permitted in-stream mining, later halted by Federal edict. San Geronio River petition as "reclaimed" is under Agency review. Restoration per ACOE-approved plan dated May 2001. See accompanying report.	0
a) Buffers (distance to channel)			
b) Berms (distance/length/height)			
c) Best Management Practices			
d) Drainage			
e) Grading & Slopes			
f) Stockpiles			
g) Stream Diversions			
7) Sensitive Wildlife & Plant Protection	N/A	N/A	0
a) List Species			
b) Protection Measures			

DEPARTMENT OF CONSERVATION
OFFICE OF MINE RECLAMATION

SURFACE MINING INSPECTION REPORT

VIII. Non-SMARA facility operations conditions solely of local concern (e.g. hours of operation) do not need to be noted here. See Instructions for Block VIII on reverse side of page. [Use separate sheet(s) where necessary. Refer to item numbers below]		CA MINE ID # 91- 33-0012	
Potential Reclamation Plan Requirements:	List Reclamation Plan Requirements (Recommended to be filled out prior to field inspection)	Note Site Conditions and Compliance Issues (Note additional comments on Page 5 as necessary)	VN?
8) Soil/Overburden Stockpile Management	N/A	Resoiling not required by old plans. Mine site is almost 100% disturbed.	0
a) Topsoil			
i) Location			
ii) Slope Stability			
iii) BMPs			
b) Overburden			
i) Location			
ii) Slope Stability			
iii) BMPs			
c) Topsoil Application			
i) Amendments			
ii) Depth			
iii) Moisture			
iv) Application Methods			
9) Revegetation	N/A	No performance specifications in either the CUP 1965 or UUP 1994-01 reclamation plans, or the San Geronio River restoration plan accepted by ACOE. Acceptance of San Geronio River restoration will require removal of minor Arundo donax.	0
a) Test Plots			
b) Species Mix			
c) Density			
d) Percent Cover			
e) Species Richness			
f) Protection			
g) Success Monitoring			
h) Invasive Species Control			
10) Structures	To be removed at conclusion of mining.	In use -- active mine.	0
11) Equipment	To be removed at conclusion of mining.	In use -- active mine.	0
12) Closure of Adits	N/A		0
13) Other Reclamation Plan Requirements		The two approved reclamation plans will be discarded for a single new site-wide plan encompassing permitted areas and un-permitted encroachments. Preliminary versions of the plan are under Lead Agency and AGI technical review.	

SURFACE MINING INSPECTION REPORT

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

Please review accompanying report.

Quality of previous reclamation plans is poor, and assessments of "violations" is difficult.

Main violations consist of mining beyond reclamation plan limits, on lands not permitted under a use plan for mining, in lands not zoned for mining, and in one instance into property not owned by the operator. The principal remedy is expected to be a new site-wide Reclamation Plan meeting PRC 2772 and 3502(b)(1-6). The Lead Agency is in negotiation with the operator concerning zoning and permit violations.

CA MINE ID #

91- 33-0012

Inspection Date:

12/13/13 & 12/19/13

Weather Code(s):

RN, WD

Duration of Inspection: 12/19/13

Start Time: 10:00

End Time: 14:30 +2 hrs on 12/13/13

Status of Mine Code(s):

OP

Status of Reclamation Code(s):

RN

Approximate Acreage Under Reclamation:

42 (under petition)

Approximate Acreage the lead agency has determined reclaimed in accordance with the approved reclamation plan: 0

Approximate Total Disturbed Acreage:

186

Approximate Pre-SMARA Disturbed Acreage:

0

Disturbed Acreage Identified in Most Recent Financial Assurance Cost Estimate:

81

Previous Inspection Date (and Number of Violations then Noted):

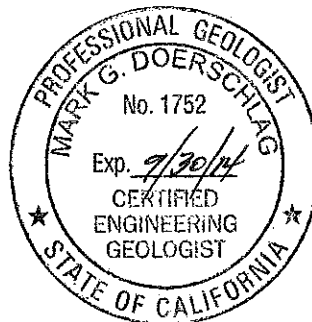
July 9, 2012. VN = 3+

Violations Corrected? (explain in block to left)

In process with Lead Agency.

Inspection Attendees and Affiliations:

Art Chacon, City of Banning
Mike Dyer, RRM
Phil Sousa, RRM
Warren Coalson,
EnviroMINE Inc.



Additional sheets/documents attached: ☒ Yes ☐ No

X. Number of Current Violations:

4

Inspectors Signature:

Date Signed:

12/30/13

If inspector is a contractor for the lead agency give license type and number:

CEG 1752

FINANCIAL ASSURANCE COST ESTIMATE

FOR

Robertson's Ready Mix: Banning

CA MINE ID# 91-33-0012

Prepared by:

Robertson's Ready Mix

Mike Orozco, P.E.

October 30, 2013

Note: This worksheet was developed by the Office of Mine reclamation to assist lead agencies and operators prepare a reclamation cost estimate and determine an appropriate amount for the financial assurance conformance with Section 2773.1 of SMARA. It should be used in conjunction with the Financial Assurance Guidelines adopted by the State Mining and Geology Board.

PRIMARY RECLAMATION ACTIVITIES

Primary Task 1A WEST PIT

Pg. 1A

Description of Task: Perform final grading and contouring of oversteepened slopes along existing pit walls through backfilling onto existing slopes. 32 acres are assumed to be disturbed to a depth of 100 feet

Method to be Used: A CAT D9N dozer will push dirt from areas at the top of the slopes down the slopes in order to achieve the desired 1.0:1 slope ratio per the approved reclamation plan. A water truck will be available to supply water for dust control.

Miscellaneous Information:

Overburden (cu yd): 1.)	N/A	Topsoil (cu yd):	N/A	Area (ac)	13.0	
Production Rate (cu yd/hr): 2.)	900	2.) by Hr.	3.)	4.)	Depth (ft)	12.5
Haul Distance (ft): 3.)	100	2.) by Hr.	3.)	4.)	Vol. (kcy)	261.8

A. Equipment - List all equipment required to complete identified task. For large reclamation jobs, use separate mine areas for ease of accounting.

Equipment	Quantity	\$/Hour	# Hours	Cost \$
1 DOZER, CAT D9N	1	\$228.73	290.93	\$66,544
2 WATER TRUCK	1	\$63.01	290.93	\$18,331
3				
4				

Total Equipment Cost for this Task = \$84,876

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

Equipment	Quantity	\$/Hour	# Hours	Cost \$
1 HVY EQUIP OPER, GROUP 8	1	\$61.78	290.93	\$17,974
2 TRUCK DRIVER, GROUP IV	1	\$50.28	290.93	\$14,628
3				
4				

Total Labor Cost for this Task = \$32,602

C. Materials - List all materials required to complete identified task (include disposal cost)

Item	Quantity	\$/Hour	# Hours	Cost \$
1 No Materials Needed				
2				
3				
4				

Total Material Cost for this Task = \$0

D. Direct Cost for this task -

Equipment Cost + Labor Cost + Materials Cost = \$117,477

Total mining area disturbed	32	ac		
Mining area reclaimed	9	ac		
Mining area disturbed unreclaimed	23	ac		
Slope Area [Assume 32 Ac Square, 1.0:1 Slope]	13.0	ac		
Slope Area Oversteepened	13.0	ac	100.00%	% Slope Area Oversteepened
Avg. Depth of cut	100	ft		
Side Slope	1	:1		
Perimeter Depth [Assume 50% depth is moved to cut 25% slope - 100*0.5]			12.50	ft

PRIMARY RECLAMATION ACTIVITIES

Primary Task 1B SOUTH PIT

Pg. 1B

Description of Task: Perform final grading and contouring of oversteepened slopes along existing pit walls through backfilling onto existing slopes. 45 acres are assumed to be disturbed to a depth of 50 feet

Method to be Used: A CAT D9N dozer will push dirt from areas at the top of the slopes down the slopes in order to achieve the desired 1.5 :1 slope ratio per the approved reclamation plan. A water truck will be available to supply water for dust control.

Miscellaneous Information:

Overburden (cu yd): 1.)	N/A	Topsoil (cu yd):	N/A	Area (ac)	11.6
Production Rate (cu yd/hr): 2.)	900	2.) by Hr.	3.)	4.)	Depth (ft) 6.3
Haul Distance (ft): 3.)	100	2.) by Hr.	3.)	4.)	Vol. (kcy) 116.7

A. Equipment - List all equipment required to complete identified task. For large reclamation jobs, use separate mine areas for ease of accounting.

Equipment	Quantity	\$/Hour	# Hours	Cost \$
1 DOZER, CAT D9N	1	\$228.73	129.69	\$29,663
2 WATER TRUCK	1	\$63.01	129.69	\$8,172
3				
4				

Total Equipment Cost for this Task = \$37,835

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

Equipment	Quantity	\$/Hour	# Hours	Cost \$
1 HVY EQUIP OPER, GROUP 8	1	\$61.78	129.69	\$8,012
2 TRUCK DRIVER, GROUP IV	1	\$50.28	129.69	\$6,521
3				
4				

Total Labor Cost for this Task = \$14,533

C. Materials - List all materials required to complete identified task (include disposal cost)

Item	Quantity	\$/Hour	# Hours	Cost \$
1 No Materials Needed				
2				
3				
4				

Total Material Cost for this Task = \$0

D. Direct Cost for this task -

Equipment Cost + Labor Cost + Materials Cost = \$52,368

Total mining area disturbed	45	ac		
Mining area reclaimed	0	ac		
Mining area disturbed unreclaimed	45	ac		
Slope Area [Assume 45 Ac Square, 1.5:1 Slope]	11.6	ac		
Slope Area Oversteepened	11.6	ac	100.00%	% Slope Area Oversteepened
Avg. Depth of cut	50	ft		
Side Slope	1.5	:1		
Perimeter Depth [Assume 50% depth is moved to cut 25% slope - 50*0.5]	6.25	ft		

PRIMARY RECLAMATION ACTIVITIES

Primary Task 1C EAST PIT

Pg. 1C

Description of Task: Perform final grading and contouring of oversteepened slopes along existing pit walls through backfilling onto existing slopes. 14 acres are assumed to be disturbed to a depth of 100 feet

Method to be Used: A CAT D9N dozer will push dirt from areas at the top of the slopes down the slopes in order to achieve the desired 1.0 :1 slope ratio per the approved reclamation plan. A water truck will be available to supply water for dust control.

Miscellaneous Information:

Overburden (cu yd): 1.)	<u>N/A</u>	Topsoil (cu yd):	<u>N/A</u>	Area (ac)	2.5	
Production Rate (cu yd/hr): 2.)	<u>900</u>	2.) <u>by Hr.</u>	3.) <u> </u>	4.) <u> </u>	Depth (ft)	12.5
Haul Distance (ft): 3.)	<u>100</u>	2.) <u>by Hr.</u>	3.) <u> </u>	4.) <u> </u>	Vol. (kcy)	50.15

A. Equipment - List all equipment required to complete identified task. For large reclamation jobs, use separate mine areas for ease of accounting.

Equipment	Quantity	\$/Hour	# Hours	Cost \$
1 DOZER, CAT D9N	1	\$228.73	55.72	\$12,745
2 WATER TRUCK	1	\$63.01	55.72	\$3,511
3				
4				

Total Equipment Cost for this Task = \$16,256

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

Equipment	Quantity	\$/Hour	# Hours	Cost \$
1 HVY EQUIP OPER, GROUP 8	1	\$61.78	55.72	\$3,443
2 TRUCK DRIVER, GROUP IV	1	\$50.28	55.72	\$2,802
3				
4				

Total Labor Cost for this Task = \$6,244

C. Materials - List all materials required to complete identified task (include disposal cost)

Item	Quantity	\$/Hour	# Hours	Cost \$
1 No Materials Needed				
2				
3				
4				

Total Material Cost for this Task = \$0

D. Direct Cost for this task -

Equipment Cost + Labor Cost + Materials Cost = \$22,501

Total mining area disturbed	13.5	ac		
Mining area reclaimed	0	ac		
Mining area disturbed unreclaimed	13.5	ac		
Slope Area [Assume 14 Ac Square, 1.0:1 Slope]	9.9	ac		
Slope Area Oversteepened	2.5	ac	25.00%	% Slope Area Oversteepened
Avg. Depth of cut	100	ft		
Side Slope	1	:1		
Perim. Depth [Assume 50% depth is moved to cut 25% slope - 100*0.5]	12.50	ft		

PRIMARY RECLAMATION ACTIVITIES**Primary Task 2**

Pg. 2

Description of Task: Scarify all areas which have been compacted as a result of equipment activity, staging, etc. According to the Mine and Reclamation Plan, all areas including the haul road will be scarified.

Method to be Used: A CAT D9N dozer with a ripper attachment will traverse the compacted areas to loosen the soil to facilitate water percolation at the floor of the quarry.

Miscellaneous Information:

Overburden (cu yd): 1.)	N/A	Topsoil (cu yd):	N/A	Area (ac)	131.2
Production Rate (cu yd/hr): 2.)	3600	2) by Hr.	3) 4)	Depth (ft)	1.0
Haul Distance (ft): 3.)	2)	3)	4)	Vol. (kcy)	211.7

A. Equipment - List all equipment required to complete identified task. For large reclamation jobs separate mine areas for ease of accounting.

Equipment	Quantity	\$/Hour	# Hours	Cost \$
1 DOZER, CAT D9N	1	\$228.73	58.81	\$13,453
2 RIPPER/SCARIFIER ATTACH	1	\$14.22	58.81	\$836
3 WATER TRUCK	1	\$63.01	58.81	\$3,706
4				

Total Equipment Cost for this Task = \$17,995

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

Equipment	Quantity	\$/Hour	# Hours	Cost \$
1 HVY EQUIP OPER, GROUP 8	1	\$61.78	58.81	\$3,634
2 TRUCK DRIVER, GROUP IV	1	\$50.28	58.81	\$2,957
3				
4				

Total Labor Cost for this Task = \$6,591

C. Materials - List all materials required to complete identified task (include disposal cost)

Item	Quantity	\$/Hour	# Hours	Cost \$
1 No materials needed				
2				
3				
4				

Total Material Cost for this Task = \$0

D. Direct Cost for this task -

Equipment Cost + Labor Cost + Materials Cost = **\$24,586**

Haul Road Length	1,800	ft	
Haul Road Width	30	ft	
Haul Road Area	1.24	ac	
Acres Disturbed	130.0	ac	
Total Area Scarified	131.2	ac	<--- Total Disturbed Area (Pits, Haul Rd, Staging Areas)
Depth of scarification	1.00	ft	

PRIMARY RECLAMATION ACTIVITIES

Primary Task 3

Pg. 3

Description of Task: Spread stockpiled topsoil over areas to be revegetated including the rim of the pit and all slopes.

Method to be Used: Topsoil stockpiles will be loaded into a CAT 769C off-road haul truck by a CAT 980F wheel loader. Material will then be deposited at various location around the rim of the pit. A CAT D9N dozer will then spread the available material where needed.

Miscellaneous Information:

Overburden (cu yd): 1.)	N/A	Topsoil (cu yd):	N/A	Area (ac)	34.5
Production Rate (cu yd/hr): 2.)	900	2) 400	3) _____	Depth (ft)	0.13
Haul Distance (ft): 3.)	200	2) by Hr.	3) _____	Vol. (kcy)	7

A. Equipment - List all equipment required to complete identified task. For large reclamation jobs separate mine areas for ease of accounting.

Equipment	Quantity	\$/Hour	# Hours	Cost \$
1 DOZER, CAT D9N	1	\$228.73	8.04	\$1,839
2 FRONTEND LOADER, 980F	1	\$189.24	18.09	\$3,424
3 OFF HWY HAUL TRUCK	1	\$122.66	18.09	\$2,219
4 WATER TRUCK	1	\$63.01	18.09	\$1,140

Total Equipment Cost for this Task = \$8,622

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

Equipment	Quantity	\$/Hour	# Hours	Cost \$
1 HVY EQUIP OPER, GROUP 8	1	\$61.78	8.04	\$497
2 HVY EQUIP OPER, GROUP 8	1	\$61.78	18.09	\$1,118
3 EQUIPMENT OPER, GROUP 6	1	\$61.67	18.09	\$1,116
4 TRUCK DRIVER, GROUP IV	1	\$50.28	18.09	\$910

Total Labor Cost for this Task = \$3,640

C. Materials - List all materials required to complete identified task (include disposal cost)

Item	Quantity	\$/Hour	# Hours	Cost \$
1 No materials needed				
2				
3				
4				

Total Material Cost for this Task = \$0

D. Direct Cost for this task -

Equipment Cost + Labor Cost + Materials Cost = **\$12,262**

Area to be revegetated 34.5 ac <--- Only Slopes to be Revegetated
Depth of Topsoil 0.13 ft

PRIMARY RECLAMATION ACTIVITIES

Primary Task 4

Pg. 4

Description of Task: All areas to be revegetated will be tilled to aid in the accumulation of seeds and moisture.

Method to be Used: A John Deer 330-U agricultural tractor will drag a disc attachment over the topsoil to prepare the seedbed for conducive plant growth.

Miscellaneous Information:

Overburden (cu yd): 1.)	N/A	Topsoil (cu yd):	N/A	Area (ac)	N/A
Production Rate (cu yd/hr): 2.)	N/A	2) by Hr.	3)	4)	Depth (ft) N/A
Haul Distance (ft): 3.)	N/A	2) by Hr.	3)	4)	Vol. (kcy) N/A

A. Equipment - List all equipment required to complete identified task. For large reclamation jobs separate mine areas for ease of accounting.

Equipment	Quantity	\$/Hour	# Hours	Cost \$
1 TRACTOR JOHN DEERE 5200	1	\$28.11	100.21	\$2,817
2				
3				
4				

Total Equipment Cost for this Task = \$2,817

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

Equipment	Quantity	\$/Hour	# Hours	Cost \$
1 HVY EQUIP OPER, GROUP 8	1	\$61.78	100.21	\$6,191
2				
3				
4				

Total Labor Cost for this Task = \$6,191

C. Materials - List all materials required to complete identified task (include disposal cost)

Item	Quantity	\$/Hour	# Hours	Cost \$
1 No materials needed				
2				
3				
4				

Total Material Cost for this Task = \$0

D. Direct Cost for this task -

Equipment Cost + Labor Cost + Materials Cost = \$9,008

Total area to be revegetated 34.5 ac

Production Time 3,000 lf / hr with 5 foot disc and chain attachment

Required time = 100.21 hr

PRIMARY RECLAMATION ACTIVITIES**Primary Task 5**

Pg. 5

Description of Task: General Site clean-up

Method to be Used: Trash, debris, cleared and grubbed vegetation, and scrap material will be loaded into a 6-wheel end-dump truck and disposed of into an approved disposal facility.

Miscellaneous Information:

Overburden (cu yd): 1.)	N/A	Topsoil (cu yd):	N/A	Area (ac)	0.0
Production Rate (cu yd/hr): 2.)		3.)		Depth (ft)	0.0
Haul Distance (ft): 3.)		4.)		Vol. (kcy)	0.0

A. Equipment - List all equipment required to complete identified task. For large reclamation jobs separate mine areas for ease of accounting.

Equipment	Quantity	\$/Hour	# Hours	Cost \$
1 FRONTEND LOADER, 980F	1	\$189.24	10.00	\$1,892
2 DUMP TRUCK 3 AXLE HWY	1	\$70.60	32.86	\$2,320
3				
4				

Total Equipment Cost for this Task = \$4,212

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

Equipment	Quantity	\$/Hour	# Hours	Cost \$
1 HVY EQUIP OPER, GROUP 8	1	\$61.78	10.00	\$618
2 TRUCK DRIVER, GROUP IV	1	\$50.28	32.86	\$1,652
3				
4				

Total Labor Cost for this Task = \$2,270

C. Materials - List all materials required to complete identified task (include disposal cost)

Item	Quantity	\$/Hour	# Hours	Cost \$
1 DUMP FEES	29	\$300.00		\$8,571
2 DUMPSTER	4	\$300.00		\$1,200
3				
4				

Total Material Cost for this Task = \$9,771

D. Direct Cost for this task -

Equipment Cost + Labor Cost + Materials Cost = **\$16,253**

Volume of Debris =	500	cy	Dump Rate =	1.25	load / hr.
Load Rate =	50	cy /hr.	Load Size =	28	ton / load

Loader load-out time =	10	hr.
Trip Rate =	1.15	hr. / load
Number of trips =	28.6	trips
Dump time =	33	hr.

PRIMARY RECLAMATION ACTIVITIES

Reveg Task 1

Pg. 6

Description of Task: Broadcast seeding, covering of seeds, and transplanting.

Method to be Used: Seeds will be broadcast spread over slopes. Seeds will be covered by dragging a chain or imprinter across the surface. Transplanting of specific types and sizes of plants as determined by the project biologist prior to winter precipitation. Seed mixtures will be used per the approved Reclamation Plan.

Miscellaneous Information:

Overburden (cu yd): 1.)	N/A	Topsoil (cu yd):	N/A	Area (ac)	34.5
Production Rate (cu yd/hr): 2.)		2) by Hr.	3)	4)	Depth (ft)
Haul Distance (ft): 3.)		2) by Hr.	3)	4)	Vol. (kcy)
					0.0
					0.0

A. Equipment - List all equipment required to complete identified task. For large reclamation jobs separate mine areas for ease of accounting.

Equipment	Quantity	\$/Hour	# Hours	Cost \$
1 TRACTOR JOHN DEERE 5200	1	\$28.11	37.58	\$1,056
2 DRAG CHAIN ATTACH	1	\$14.06	37.58	\$528
3 SEED SPREADER	1	\$14.06	75.15	\$1,057
4				

Total Equipment Cost for this Task = \$2,641

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

Equipment	Quantity	\$/Hour	# Hours	Cost \$
1 HVY EQUIP OPER, GROUP 8	1	\$61.78	37.58	\$2,322
2 BIOLOGIST	1	\$85.00	75.15	\$6,388
3				
4				

Total Labor Cost for this Task = \$8,710

C. Materials - List all materials required to complete identified task (include disposal cost)

Item	Quantity	\$/Hour	# Hours	Cost \$
1 From Seed List	.1			\$46,070
2				
3				
4				

Total Material Cost for this Task = \$46,070

D. Direct Cost for this task -

Equipment Cost + Labor Cost + Materials Cost = **\$57,421**

Total area to be revegetated	34.5	ac
Chaining Rate	8,000	lf /hr with 5 foot disc and chain attachment
Seed Rate	4,000	lf/hr with 5 foot seeding width
a) Req time for chaining	37.6	hr
b) Req time for seeding	75.2	hr

SEED AND PLANT LIST

	Item / Plant Species	Unit of Measure	# of Units	\$ / Unit	Cost (\$)
1	Eriogonum fasciculatum (California Buckwheat)	lbs/acre	3	*	*
2	Lotus scoparius (California Broom)	lbs/acre	1	*	*
3	Encelia farinosa (Brittlebrush)	lbs/acre	1	*	*
4	Eriodictyon trichoocalyx (Hairy yerba santa)	lbs/acre	0.5	*	*
5	Bebbia juncea var. aspera (Sweetbrush)	lbs/acre	0.5	*	*
6	Gutierrezia californica (California Matchweed)	lbs/acre	0.5	*	*
7	Lepidospartum squamatum (Scale broom)	lbs/acre	0.5	*	*
		Total =	34.0	\$1,000.00	\$34,000
8	Opuntia littoralis (Coastal Prickly Pear)1	lbs/acre	34	\$90.00	\$3,060.00
9	Opuntia parryi (Valley Cholla)1	lbs/acre	34	\$90.00	\$3,060.00
10	Juniperus californica (California Juniper) 2	lbs/acre	34	\$65.00	\$2,210.00
11	Yucca whipplei (Our Lords Candle) 2	lbs/acre	34	\$65.00	\$2,210.00
Total =					\$10,540

12	Fertilizer	acre	34.0	\$45.00	\$1,530.00

Total Materials Cost for this Task = \$46,070

STRUCTURES / EQUIPMENT REMOVAL**Removal Task 1**

Description of Task: Structures and equipment are not permanent. All equipment is partable and temporary in nature. All Structures will be removed and/or salvaged. Items including, but not limited to structures, electrical conduit/wiring, belt conveyors and material piles will be removed. Concrete foundations will be removed and disposed of in approved off-site location.

Method to be Used: Equipment will be dismantled and hauled off site. Foundations will be demolished and moved off site.

Miscellaneous Information:

Overburden (cu yd):	1.)	N/A	Topsoil (cu yd):	N/A	Area (ac)	
Production Rate (cu yd/hr):	2.)	900	2) by Hr.	3)	4)	Depth (ft)
Haul Distance (ft):	3.)	200	2) by Hr.	3)	4)	Vol.(kcy)

A. Equipment - List all equipment required to complete identified task. For large reclamation jobs separate mine areas for wase of accounting.

Equipment	Quantity	\$/Hour	# Hours	Cost \$
1 FRONTEND LOADER, 980F	1	\$189.24	100	\$18,924
2 EXCAVATOR, CAT 320	1	\$72.22	50	\$3,611
3 DUMP TRUCK 3 AXLE HWY	1	\$70.60	100	\$7,060
4 CRANE, GRADALL G660	1	\$72.09	50	\$3,605
5 FLAT BED	1	\$59.31	50	\$2,966

Total Equipment Cost for this Task = \$36,165

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

Equipment	Quantity	\$/Hour	# Hours	Cost \$
1 HVY EQUIP OPER, GROUP 8	1	\$61.78	100	\$6,178
2 HVY EQUIP OPER, GROUP 8	1	\$61.78	50	\$3,089
3 TRUCK DRIVER, GROUP IV	1	\$50.28	100	\$5,028
4 HVY EQUIP OPER, GROUP 8	1	\$61.78	50	\$3,089
5 TRUCK DRIVER, GROUP IV	1	\$50.28	50	\$2,514

Total Labor Cost for this Task = \$19,898

C. Materials - List all materials required to complete identified task (include disposal cost)

Item	Quantity	\$/Hour	Cost	Cost \$
1 Remove Electrical Service	1		\$3,000	\$3,000
2 Remove Utilities	1		\$2,500	\$2,500
3 Remove Fence	1		\$1,000	\$1,000
4 Dumpster	1		\$12,000	\$12,000

Total Material Cost for this Task = \$18,500

E. Direct Cost for this task -

Equipment Cost + Labor Cost + Materials Cost = **\$74,563**

E. SURPLUS AND SALVAGE VALUE

Item				
1	Estimated Value of Equipment			\$300,000

Net Salvage Value = **\$300,000**

Total Removal Cost = **\$0**

(Salvage value of the equipment exceeds cost of removal)

MISCELLANEOUS COST

Examples of this type of cost include temporary storage of equipment and materials off-site, special one-time permits, i.e. transportation permits for extra wide or overweight loads, decommissioning a process mill, decontamination of equipment or disposal of warehouse inventories.

	Item / Task	Quantity	\$/Unit	Cost (\$)
1	Decomission Well	1	\$2,000.00	\$2,000.00
2				
3				
4				
5				

Total Miscellaneous Cost = \$2,000.00

	Monitoring Task	\$ Visit	# Vists per Yr.	# Monitoring Yrs.	Cost (\$)
1	Revegetation Success	\$1,500.00	1	5	\$7,500
2	Weeding	\$1,000.00	6	1	\$6,000
3					
4					
5					

Total Monitoring Cost = \$15,500

- A. Supervision - Supervision or reclamation management includes project inspection and supervision. These activities are usually performed by a consultant or staff member with experience in reclamation of disturbed lands. Reclamation management may include recommending change orders, verifying completed work, verifying compliance with project specifications, and other reclamation management oversight activities. Please refer to Graph No. 1 in the guidelines to determine the supervision cost factor.

USE: 5.00%

- B. Profit and Overhead - Where it becomes necessary for the Lead Agency or the Department of Conservation to complete reclamation of the mining site, a third party will be retained to do the actual reclamation work. Because profit and overhead costs are not included in the reclamation cost sheets, these costs must be added to the total reclamation estimate. Please refer to Graph No. 2 in the guidelines to determine the profit and overhead cost factor.

USE: 10.50%

- C. Contingencies - A contingency cost should be included in the financial assurance estimate to provide for project uncertainties and unexpected natural events. The U.S. Department of Interior, Office of Surface Mining publishes the Handbook for Calculation of Reclamation Bond Amounts which recommends contingency percentages be based upon the level of direct costs, as shown below:

<u>Total Direct Cost (\$)</u>	<u>Contingency (%)</u>
0-\$500,000	10
\$500,000 - 5 million	7
5 million - 50 million	4
Greater than 50 million	2

USE: 10.00%

- D. Mobilization - Mobilization costs are attributed to moving equipment to the project site for - reclamation purposes. These costs normally range between one and five percent of the total direct cost of the reclamation operations. These costs will vary depending upon the site location and the total value of the reclamation operations to be performed. Please insert the percentage used to estimate mobilization costs under Section VIII - Summary of Costs.

USE: 5.00%

SUMMARY OF COST

Total Primary Reclamation Activities		\$254,455
Total Revegetation Costs (Incl. Seed Cost)		\$57,421
Total Structure / Equipment Removal Costs		\$0
Total Miscellaneous Costs		\$2,000
Total Monitoring Costs		\$15,500
Total Direct Cost =		\$329,376
Supervision	5.00%	\$16,469
Profit / Overhead	10.50%	\$34,584
Contingencies	10.00%	\$32,938
Mobilization	5.00%	\$16,469
Total Indirect Costs =		\$100,460
Total Direct and Indirect Costs =		\$429,835
Lead Agency Administrative Cost (10%) =		\$42,984
Total Estimated Cost of Annual Reclamation =		\$472,819

References

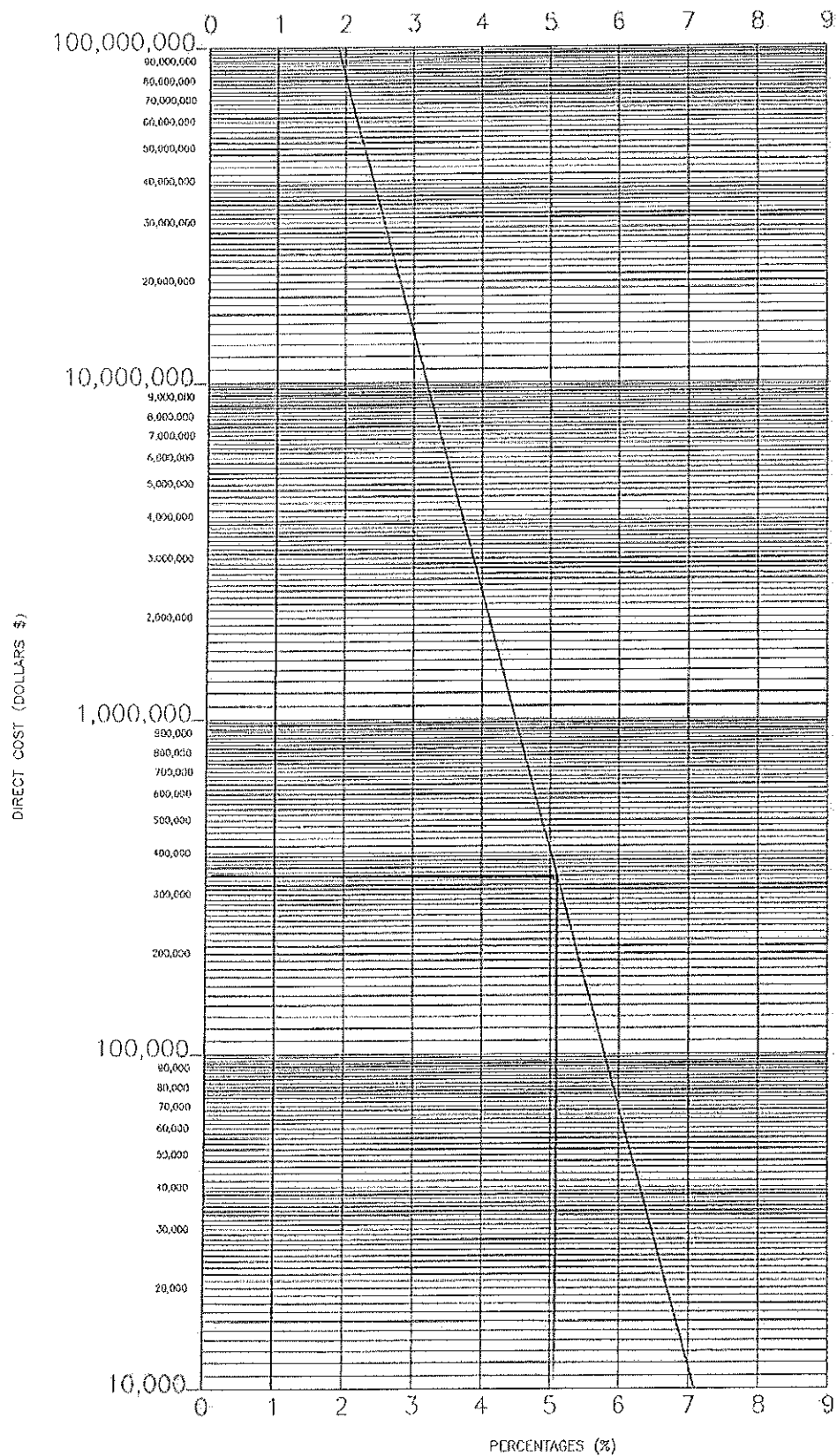
California Department of Mines and Geology. Surface Mining and Reclamation Act Financial Assurance Guide, 2007.

Caltrans, Labor Surcharge and Equipment Rental Rates, April 1, 2011 through June 30, 2011.

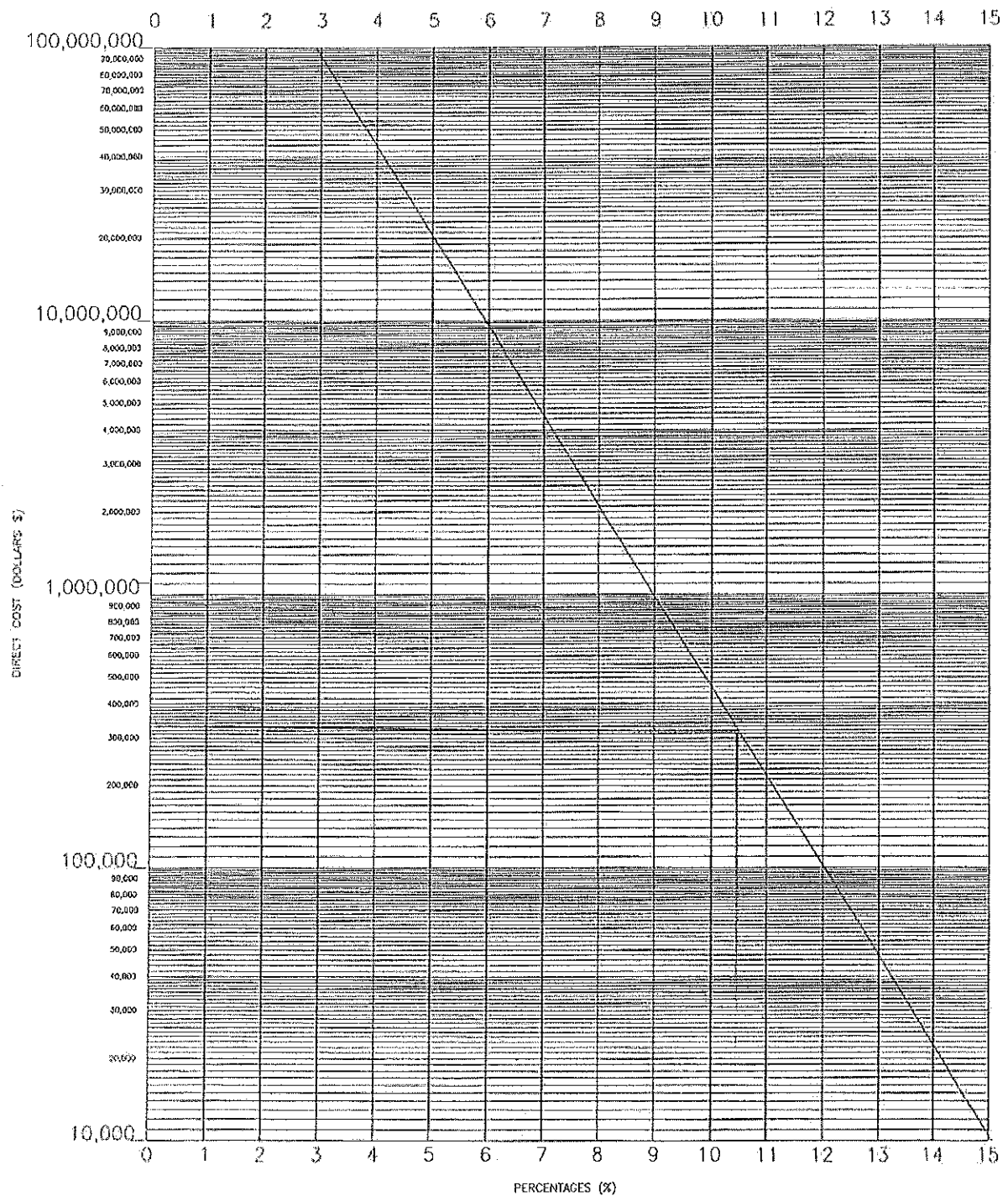
Robertson's Ready Mix, Approved Reclamation Plan

State of California Department of Industrial Relations, General Prevailing Wage Determination, Expiration June 30, 2011

Caterpillar Performance Handbook, Edition 36



GRAPH 1.--Reclamation Management



GRAPH 2.--Profit and Overhead

(source: R. S. Meons Co., Inc., 44th ed.)

APPENDIX B

CA MINE ID# 91- 33-0012
MINE NAME Banning Quarry
SMARA Lead Agency City of Banning
☒ City ☐ County ☐ Other

1. Company Operating Robertson's Ready Mix	Site Contact Person Mike Dyer Email Address n/a	Telephone (951) 760-5450
Street Address/P.O. Box No. 1990 N. Hargrave	City Banning	State/ZIP Code/County CA/92220/Riverside
2. Designated Agent's Name (Individual must reside in CA) Phil Sousa	Mailing Address P.O. Box 3600 Email Address psousa@rrmca.com	Telephone (951) 760-5490
City Corona, CA	ZIP Code 92878-3600	

ITEMS BELOW WHICH ARE PRECEDED BY A BOX LABELED N.C. MAY BE CHECKED IF THERE ARE NO CHANGES IN THE INFORMATION FROM THE LAST REPORTING YEAR. (NOTE: IF THIS IS THE FIRST TIME YOU HAVE FILED A REPORT, ALL SECTIONS MUST BE COMPLETED.)

<input type="checkbox"/> N.C.	3. Owner of Mining Operation	Telephone ()
	Mailing Address (this address will be used to send next year's report form)	
	Email Address	
	City	State/ZIP Code
	Country (If other than U.S.A.)	
	Was this operation purchased by you during reporting year? <input type="checkbox"/> Yes: Date of purchase _____ <input type="checkbox"/> No.	Was this operation sold by you during reporting year? <input type="checkbox"/> Yes: Date of sale _____ <input type="checkbox"/> No.
<input checked="" type="checkbox"/> N.C.	4. Landowner	Assessor's Parcel No.(s)
	Mailing Address P.O. Box 3600	Telephone (951) 493-6500
	City/State/ZIP Code Corona, CA 92878-3600	Country (If other than U.S.A.)

5. Status of Mining Activities DURING THE REPORTING YEAR (See form instructions for definitions) **CHECK 1 ONLY**

- ☐ Newly Permitted. Not yet in operation. Date Permitted: _____
- ☒ Active.
- ☐ Idle. Complete the following:
Date operation became idle: _____
- ☐ Copy of Approved Interim Management Plan attached.
- ☐ Interim Management Plan pending with Lead Agency. Submitted on _____ (date). **ATTACH PROOF OF SUBMITTAL**
- ☐ Closed with no intent to resume. Date mining ceased: _____
- ☐ Closed—reclamation certified complete by Lead Agency. _____ (date).

6. Status of Reclamation Activities DURING THE REPORTING YEAR **CHECK 1 ONLY**

- ☒ Reclamation not started.
- ☐ Reclamation in progress. (Attach updated reclamation plan map indicating progress.)
- ☐ Reclamation certified complete by Lead Agency. **ATTACH CERTIFICATION**
Reclamation certified complete on _____ (date).
Financial Assurances released on _____ (date).

7. Was an inspection completed by Lead Agency during the reporting year?

- ☒ Yes: (Attach the copy of Surface Mining Inspection Report (MRRC-1)) Date of Inspection: 9-6-2012
☐ No: Explain on page 4.



8. Reclamation Plan Status

- ☐ Reclamation Plan initially approved on _____ (date).
☐ Date of currently approved Reclamation Plan if different from above: _____.
☐ Amendment(s) to Reclamation Plan approved during the reporting year on _____ (date).
_____. Number of acres subject to Reclamation Plan.
☐ No Reclamation Plan. Please explain by checking one of the two boxes below as applies. Otherwise, explain on page 4.
☐ Approval Pending. Submitted to Lead Agency on _____ (date).
☐ Lead Agency action on Initial or Amended Reclamation Plan on appeal with SMGB.
Appeal submitted on _____ (date).

ATTACH COPY WITH CONDITIONS
AND PROOF OF APPROVAL

ATTACH PROOF OF SUBMITTAL

ATTACH PROOF OF SUBMITTAL

9. Was a new or updated Financial Assurance Mechanism(s) approved by Lead Agency and Department of Conservation during the reporting year?

- ☐ Yes: Complete Information below for Financial Assurance Mechanism(s):

Type (Bond, CD, etc.)	Amount	Date Posted	Date of Annual Review by Lead Agency	Expiration Date or Renewal Date (if applicable)
Bond	520,000			

- ☒ No: Approval Pending Financial Assurance Mechanism(s) submitted to Lead Agency on 1/19/2012 (date).
☐ No: Lead Agency action on Financial Assurance Mechanism(s) is on appeal with SMGB. Appeal submitted on _____ (date).
☐ No: Other. Explain on page 4.

Was there a new or updated Financial Assurance Cost Estimate approved by Lead Agency during the reporting year?

- ☐ Yes: Date of Approval _____.
☐ Yes: Approval of Financial Assurance Cost Estimate pending with Lead Agency. Submitted on _____ (date).
☐ No: Explain on page 4.

ATTACH COPY AND PROOF OF APPROVAL

ATTACH COPY
AND PROOF OF
SUBMITTAL

IF APPLICABLE, INFORMATION REQUIRED IN ITEMS 10 THROUGH 13 MUST BE PROVIDED FOR EACH SEPARATE PLOT



10. ATTACH NAMED U.S. GEOLOGICAL SURVEY MAP—7.5' OR 15' QUAD—SHOWING BOUNDARIES OF MINING OPERATION IF NOT PREVIOUSLY PROVIDED

Latitude (Decimal Degree)	Longitude (Decimal Degree)	Section—Township—Range—Base Meridian	Quad Name	County
33.9431	116.8631	S3-T3s-R2e-SBBM		



11. Type Code(s) of Mining Operation _____

SEE EXHIBIT A FOR TYPE CODES

12. DISTURBED ACREAGE **COMPLETE ENTIRE SECTION**

1. 81 Approximate disturbed acreage at beginning of 2012. (This figure should match the figure from item 12, line 5 on your 2011 annual report. If it does not match, explain on page 4.)
2. 0 Approximate acreage disturbed during 2012.
3. 81 (ADD LINE 1 TO LINE 2)
4. 0 Approximate disturbed acreage reclaimed during 2012.
5. 81 (SUBTRACT LINE 4 FROM LINE 3) Approximate disturbed acreage remaining at end of 2012.

☒ N.C.

13. **CHECK ALL THAT APPLY**

- ☐ Acres Permitted: _____ Permit #: _____
- ☐ Acres Vested (acres disturbed prior to January 1, 1976): _____
- ☐ Acres on Federal Lands: _____ Permit/ID #: _____

☒ N.C.

14. \$ _____ Current total assessed value of mining operation as established by County Assessor's Office.

15. COMMODITIES AND PRODUCTION **SEE EXHIBIT B**

PRODUCTION INFORMATION IS PROPRIETARY AND
WILL BE KEPT CONFIDENTIAL PURSUANT TO
PUBLIC RESOURCE CODE SECTION 2207(g)

List All Commodities (from Exhibit B)	Category Number (from Exhibit B)	Check here if No Production for a Commodity	Amount of Production	TOTAL PRODUCTION		
				CHECK ONE		
PRODUCED MINERALS				Short Tons	Troy Ounces	Pounds
A. <u>PRIMARY COMMODITY</u> Sand and Gravel	1	<input type="checkbox"/>	1,049,752	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. <u>ALL OTHER COMMODITIES</u> (include gold and silver produced)		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. FEE SCHEDULE **SEE EXHIBIT C**

USING BOTH YOUR CATEGORY NUMBER AND TOTAL PRODUCTION FROM 15(A) ABOVE, REFER TO EXHIBIT C TO FIND YOUR CORRESPONDING PRODUCTION RANGE. ENTER YOUR CORRESPONDING PRODUCTION CODE IN 16(A) AND FEE IN 16(B) BELOW.

A. PRODUCTION CODE 1

B. REPORTING FEE \$ 4,995.00

GOLD AND SILVER FEE:

IF GOLD OR SILVER PRODUCTION IS REPORTED IN SECTION 15(A) OR 15(B), CONTINUE ON TO COMPLETE 16(C) AND (D)

C. GOLD FEE (_____ Ounce(s) of gold) X (\$5.00 per ounce) = \$ 0.00

D. SILVER FEE (_____ Ounce(s) of silver) X (\$0.10 per ounce) = \$ 0.00

TOTAL FEES DUE SUM OF 16(B), (C) AND (D) = \$ 4,995.00 (Attach one check for total)

THIS REPORT MUST BE SENT TO: State (original) Lead Agency (copy)

THIS REPORT WAS SENT TO:

APPENDIX C



Photo 1: West pit, view north toward northwestern re-entrant corner. Engineered slope trimming has created smooth 1:1 bench face slopes with ~12-foot-wide benches. Since 2012, spring water inflows have almost completely ceased (former pebbly streambed in foreground is dry). Winter rainfall the previous season was near a historic low, however, and we expect surface flows in most years. No work has been done since previous inspection to control slope erosion or piping in the corner. Some floor areas of the West Pit appeared very recently mined, but inactive on the inspection date.



Photo 2: West pit re-entrant corner, view northeast. The only open water in the area was this small puddle at toe of slope. The large pond east of this highwall was dry. Comments were made to the operator and their Reclamation Plan agent that the tamarisk colonizing the slope was considered a noxious weed and should be controlled in the future.

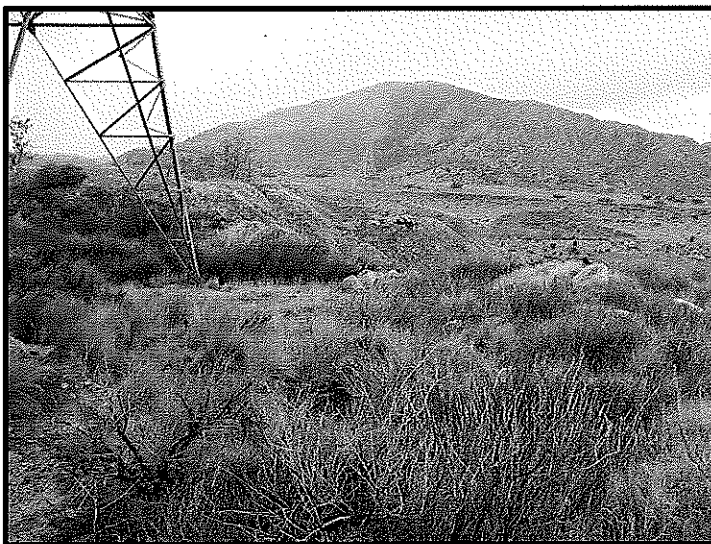


Photo 3: Devers-Vista #1 and #2 tower leg, adjacent to East Pit. Distance from the tower leg to the brow of a 100-foot-high descending cut slope (out of view) was measured at 17 feet. Foreground vegetation could be representative of “natural” conditions, as the tower footprint is one of the very few and very small areas of undisturbed ground.



PHOTOGRAPHIC EXHIBITS

ROBERTSON'S READY MIX BANNING QUARRY, BANNING, CALIF.

PROJECT NO. 4212-MI

DATE: 12/30/13

FIGURE C-1

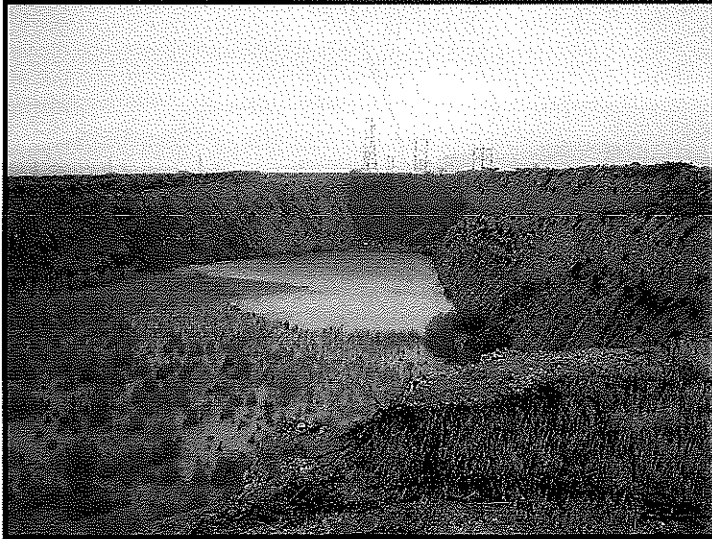


Photo 4: East Pit, view south from SCE easement. The eastern pit wall (left side) features loose soil slopes at natural angles of repose with some steeper projections of intact alluvial strata. The eastern slope approaches, but does not appear to cross, the property boundary with the adjacent Morongo Indian Reservation. This pit has been used for years as the disposal site for washed fines generated from the sand and gravel processing plant. Interpretations of CUP 1965 reclamation plans and the latest-available contour maps indicate that at least 17 feet of sediment is beneath the pond, thickening to the north. The ¾:1 cut slope in the right half of the picture has stood for at least 30 years. It has experienced some deep rilling and exhibits relatively sparse vegetation. It is believed this slope will be mined to pond elevation. Pondered water evaporates, or infiltrates into the excavation sidewalls.



Photo 5: South Pit, view north. The northern pit wall has undergone slope trimming with a dozer and slope board, to create a benched surface with benches estimated at 20-foot intervals. The South Pit has been the primary aggregate source for the last year.



Photo 6: West Pit, view east along the northern highwall to show start of natural vegetation restoration. Noted that benches are becoming indistinct under a surficial cover of loose talus. Dense tamarisk is present where perennially saturated ground has been experienced due to spring flows (lower right). Pit bottom shows evidence for some extraction. Future resources continue east, under the existing plant site. The operator affirmed that relocation of the processing plant to the bottom of the South Pit is planned and will be documented in a new site-wide Reclamation Plan.



PHOTOGRAPHIC EXHIBITS

ROBERTSON'S READY MIX BANNING QUARRY, BANNING, CALIF.

PROJECT NO. 4212-MI

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FIGURE C-2