

ROSEMARY QUARRY
MUP P-87-021RPL
ROCK FALL REPORT
July-Sept 2010

To Department of Planning and Land Use,

This report summarizes the rock fall inspections that have taken place at Rosemary's Quarry in July-September 2010.

Rosemary Quarry is a hard granite rock quarry located in a valley between two mountain slopes. The quarry is adjacent to SR 76 where the hillsides are strewn with boulders of various shapes and sizes. These boulders are currently supported by surface friction, soil embedment or they are interlocked with other boulders. Blasting or heavy rainfall may disturb natural support mechanisms causing the boulders to fall down slope. Major Use Permit P87-021RPL requires the operator to inspect areas where there is the potential for rocks to fall. A rock fall maintenance plan was submitted and approved by the County that provides both preventative as well as protective measures for public safety and the safety of persons on the site. Section 2.1 of the "Boulder and Rock Fall Maintenance Plan for Rosemary Quarry" provides for routine inspections by a Certified Engineering Geologist (CEG) of potentially unstable boulders and rock fall areas identified in the Eastern and Western Reach areas along SR-76. The plan requires a CEG to inspect these areas after the following events;

1. An annual inspection by a CEG with written report to the Director of Public Works (DPW) completed prior to the rainy season (before September 30);
2. After blast events the Peak Particle Velocity (PPV) exceeds 1.0 in/sec as detected by a seismograph located outside the quarry approximately 900 ft. S.E. of the existing quarry entrance along SR -76;
3. Monthly inspections by the operator of the Eastern and Western reaches;
4. Following seismic events of M5 or greater (VII on the Mercalli scale) on nearby portions of the Elsinore fault or Rose Canyon fault or other significant seismic event reported as strongly felt by residents of the Lake Rancho Viejo community;
or
5. Following rainy periods totaling 1 inch or more as recorded by a rain gauge installed at the quarry.

Annual Inspection

Rockfall inspections were conducted on by a CEG in July, August and September (3rd Qtr 2010) and are included as Attachment A.

Inspections after Blasting

Only one blast event occurred in 3rd Qtr 2010, on 7/2. See attached monthly inspections from a licensed CEG (attachment A).

Monthly Operator Inspections

No movement detected.

Inspections after Seismic Events

No known seismic events.

Inspections after Rainfall

No significant rainfall events occurred in the 3rd Quarter.

If there are any questions regarding this report please give me a call.

Sincerely,

Gary Nolan
Senior Project Manger
Granite Construction Company
(760) 578-6654

Attachment A

(Rockfall Inspections)



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July 14, 2010

SCS&T No. 0911167
Report No. 5

Mr. Chris Kiser
Plant Manager
Granite Construction Company
38000 Monroe Street
Indio, California 92203

Subject: GEOLOGIC OBSERVATIONS
ON-GOING ROCK SLOPE EXCAVATION
ROSEMARY'S MOUNTAIN QUARRY
SAN DIEGO COUNTY, CALIFORNIA

Dear Mr. Kiser:

INTRODUCTION

On July 12, 2010, the undersigned visited the subject site to perform a geologic assessment of the on-going rock slope excavations. The purpose of this visit was to observe geologic conditions encountered in the quarry that might pose slope instability problems. Photographs of the site were taken during our site reconnaissance and are attached to this report.

During the month of June 2010, total rainfall at the site measured 0.01 inches. Blasting was done at the site on three occasions, June 14th, June 25th, and July 2nd, in the time period between the last geologic assessment and this site assessment. It is worthy to note that a significant seismic event occurred in the Southern California area. The United States Geological Survey Reports that on July 7th, 2010, a Magnitude 5.4 earthquake occurred with the epicenter located approximately 38.2 miles east of the subject site.

FINDINGS

A surface reconnaissance was performed of the working floors and wall slopes within the quarry. Current site conditions appear to have changed since the last visit. Blasting was done on the south end of working floors at elevation 350 and 390. Access to this area should be restricted and appropriate safety measures implemented. Quarry personnel should keep an adequate distance from these areas. No movement of boulders previously reported as being "precarious" or "within fill" was observed. Several small, single block falls were noted on the working floors at the base of these areas. Significant groundwater seepage was not observed in the quarry.

Several photographs were taken of current site conditions and will be used for comparative purposes during the next site reconnaissance that is scheduled for the beginning of August 2010.

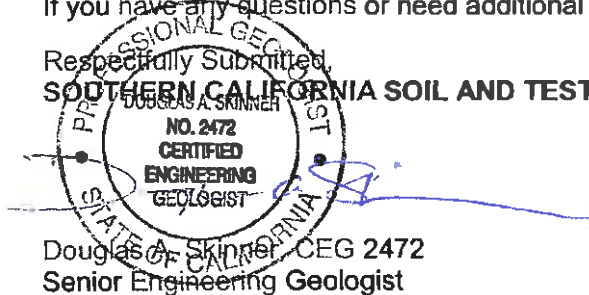
CONCLUSIONS

We did not observe indications of significant recent rock falls within the area evaluated. Further, we did not observe slope changes that would warrant immediate attention. It should be recognized that rock falls and/or boulder instability can occur within a quarry. However, in our opinion, the potential hazard of rock fall and/or boulder instability does not currently present a public health and safety issue.

Within the cut slopes adjacent to Pala Road (State Highway 76) we did not observe slope conditions that were conducive to rock falls. Rock falls and/or boulder instability, should they occur, will likely be contained by rock fall protection measures located at the base of the slope.

If you have any questions or need additional information, please call me at 619-280-4321.

Respectfully Submitted,
SOUTHERN CALIFORNIA SOIL AND TESTING, INC.



Douglas A. Skinner, CEG 2472
Senior Engineering Geologist

DAS:aw

(1) Addressee via e-mail at Chris.Kiser@gcinc.com



REFERENCES

1. "Geotechnical Report, Geologic Reconnaissance, Rosemary's Mountain Quarry, Granite Construction, Highway 76, Pala, California", prepared by Southern California Soil & Testing, Inc., dated February 8, 2010.
2. "Update Geological Observations: February, 2010, On-going Rock Slope Excavation, Rosemary's Mountain Quarry, San Diego County, California, URS Project No. 27661001.10000", prepared by URS, dated February 9, 2010.
3. "Geologic Observations, On-Going Rock Slope Excavation, Rosemary's Mountain Quarry, San Diego, California", prepared by Southern California Soil & Testing, Inc., dated April 16, 2010.





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August 11, 2010

**SCS&T No. 0911167
Report No. 6**

**Mr. Chris Kiser
Plant Manager
Granite Construction Company
38000 Monroe Street
Indio, California 92203**

Subject: **GEOLOGIC OBSERVATIONS
ON-GOING ROCK SLOPE EXCAVATION
ROSEMARY'S MOUNTAIN QUARRY
SAN DIEGO COUNTY, CALIFORNIA**

Dear Mr. Kiser:

INTRODUCTION

On August 4, 2010, the undersigned visited the subject site to perform a geologic assessment of the on-going rock slope excavations. The purpose of this visit was to observe geologic conditions encountered in the quarry that might pose slope instability problems. Photographs of the site were taken during our site reconnaissance and are attached to this report.

During the month of July 2010 total rainfall at the site measured 0.03 inches. No blasting has been performed at the site since our last geologic assessment on July 14, 2010. No significant seismic events have occurred in the Southern California area since our last observation.

FINDINGS

A surface reconnaissance was performed of the working floors and wall slopes within the quarry. Current site conditions appear to have changed since the last visit. The shot rock has been removed and the quarry walls have been scaled on the south end of working floors from approximate elevation 300 up to 390. The stock piled rock is being worked at the north end of the quarry. No movement of boulders previously reported as being "precarious" or "within fill" was observed. No new significant rock falls were noted. No significant changes have occurred to the small rock fall that was noted in the last report. A K-rail barrier and signage has been placed adjacent to the small rock fall. Significant groundwater seepage was not observed in the quarry.

Numerous photographs were taken of current site conditions and will be used for comparative purposes during the next site reconnaissance that is scheduled for the beginning of September 2010.


CONCLUSIONS

We did not observe indications of significant recent rock falls within the area evaluated. Further, we did not observe slope changes that would warrant immediate attention. It should be recognized that rock falls and/or boulder instability can occur within a quarry. However, in our opinion, the potential hazard of rock fall and/or boulder instability does not currently present a public health and safety issue.

Within the cut slopes adjacent to Pala Road (State Highway 76) we did not observe slope conditions that were conducive to rock falls. Rock falls and/or boulder instability, should they occur, will likely be contained by rock fall protection measures located at the base of the slope.

If you have any questions or need additional information, please call me at 619-280-4321.

Respectfully Submitted,
SOUTHERN CALIFORNIA SOIL AND TESTING, INC.



John R. High, CEG 1237
Engineering Geologist

JRH:aw

(1) Addressee via e-mail at Chris.Kiser@gcinc.com

REFERENCES

1. "Geotechnical Report, Geologic Reconnaissance, Rosemary's Mountain Quarry, Granite Construction, Highway 76, Pala, California", prepared by Southern California Soil & Testing, Inc., dated February 8, 2010.
2. "Update Geological Observations: February, 2010, On-going Rock Slope Excavation, Rosemary's Mountain Quarry, San Diego County, California, URS Project No. 27661001.10000", prepared by URS, dated February 9, 2010.
3. "Geologic Observations, On-Going Rock Slope Excavation, Rosemary's Mountain Quarry, San Diego, California", prepared by Southern California Soil & Testing, Inc., dated April 16, 2010.
4. "Geologic Observations, On-Going Rock Slope Excavation, Rosemary's Mountain Quarry, San Diego, California", prepared by Southern California Soil & Testing, Inc., dated May 10, 2010.
5. "Geologic Observations, On-Going Rock Slope Excavation, Rosemary's Mountain Quarry, San Diego, California", prepared by Southern California Soil & Testing, Inc., dated June 21, 2010.
6. "Geologic Observations, On-Going Rock Slope Excavation, Rosemary's Mountain Quarry, San Diego, California", SCS&T No. 0911167-5, prepared by Southern California Soil & Testing, Inc., dated July 14, 2010.





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September 20, 2010

**SCS&T No. 0911167
Report No. 7R**

**Mr. Chris Kiser
Plant Manager
Granite Construction Company
38000 Monroe Street
Indio, California 92203**

Subject: GEOLOGIC OBSERVATIONS
ON-GOING ROCK SLOPE EXCAVATION
ROSEMARY'S MOUNTAIN QUARRY
SAN DIEGO COUNTY, CALIFORNIA

Dear Mr. Kiser:

INTRODUCTION

On September 14, 2010, the undersigned visited the subject site to perform a geologic assessment of the on-going rock slope excavations. The purpose of this visit was to observe geologic conditions encountered in the quarry that might pose slope instability problems. Photographs of the site were taken during our site reconnaissance. Specific photographs are attached to this report.

During the period from our last site observation on August 4, 2010 to September 14, 2010 no measurable rainfall was recorded at the site. No blasting has been performed at the site since our last geologic assessment on August 4, 2010. No significant seismic events have occurred in the Southern California area since our last observation.

Granite Construction is in the process of preparing the site for the erection of a portable asphalt plant. The facility is located on the westerly side of the Pad 305 in the general vicinity of the benched highwall. Further discussion of this area is presented below.

FINDINGS

A surface reconnaissance was performed of the working floors and highwall slopes within the quarry. Current site conditions appear to have changed since the last visit. Additional scaling of the highwall has been performed. No movement of boulders previously reported as being "precarious" or "within fill" was observed. No new significant rock falls were noted. No significant changes has occurred to the previous small rock fall that was noted in previous

reports. A chain-link fence has been added to the K-rail barrier on the 330 bench and signage was placed adjacent to the small rock fall. Significant groundwater seepage was not observed in the quarry.

In the vicinity of the proposed temporary asphalt plant, the highwalls have been scaled and the benches appear to be suitable for rock fall protection. K-rails have been placed on the 1st bench (Pad 330) above the proposed plant location to facilitate rock fall protection. Adjacent to this site the highwall has been slick sided from the bottom level (Pad 305) to the 1st bench at Pad 330. It is our understanding that fence panels will be placed between the asphalt plant and the highwalls. A portion of the highwall between Pad 370 and 410 is fractured and has some overhangs. This portion of the highwall will be closely monitored for future changes. The area has been labeled AREA A in the photographs included with this report. Although small hanging rocks exists on the highwalls above Pad 330, the benches, K-rails as well as the planned fence panels appear to be adequate for rock fall at the highwall in the vicinity of the proposed asphalt plant.

CONCLUSIONS

We did not observe indications of significant recent rock falls within the area evaluated. Further, we did not observe slope changes that would warrant immediate attention. It should be recognized that rock falls and/or boulder instability can occur within a quarry. However, in our opinion, the potential hazard of rock fall and/or boulder instability does not currently present a public health and safety issue.

Within the cut slopes adjacent to Pala Road (State Highway 76) we did not observe slope conditions that were conducive to rock falls. Rock falls and/or boulder instability, should they occur, will likely be contained by rock fall protection measures located at the base of the slope.

If you have any questions or need additional information, please call me at 619-280-4321.

Respectfully Submitted,
SOUTHERN CALIFORNIA SOIL AND TESTING, INC.


John R. High, CEG 1237
Engineering Geologist



JRH

(1) Addressee via e-mail at Chris.Kiser@gcinc.com

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6. "Geologic Observations, On-Going Rock Slope Excavation, Rosemary's Mountain Quarry, San Diego, California", SCS&T No. 0911167-5, prepared by Southern California Soil & Testing, Inc., dated July 14, 2010.
7. "Geologic Observations, On-Going Rock Slope Excavation, Rosemary's Mountain Quarry, San Diego, California", SCS&T No. 0911167-6, prepared by Southern California Soil & Testing, Inc., dated August 11, 2010.



 SOUTHERN CALIFORNIA
SOIL & TESTING, INC.

**HIGHWALL OVERVIEW
ROSEMARY'S MT. QUARRY**

Date: 9/15/2010
By: JH
Job No.: 0911167-7
Scale: NO SCALE

Figure: **1**