

- Engineering Geology
- Hydrogeology
- GIS Services

NOLAN ASSOCIATES

**Geologic, Hydrologic, and Hydrogeologic
Technical Appendix for EIR
Bonny Doon Quarry Proposed Expansion**

Prepared for:

TRA Environmental Sciences

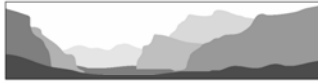
545 Middlefield Road Suite 200
Menlo Park, CA 94025

Prepared by:

Nolan Associates
and

Nicholas M. Johnson, Ph.D.
February 13, 2007

Project No. 03020



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Abbreviations

ac-ft/yr	acre-feet per year
AFNO	ammonium nitrate and fuel oil
bgs	below ground surface
BH	Balance Hydrologics
CDF	California Department of Forestry
cfs	cubic feet per second
COC	Certificate of Compliance
EIR	Environmental Impact Report
ft msl	elevation in feet above mean sea level
gpd	gallons per day
gpm	gallons per minute
GPS	Global Positioning System
in/yr	inches per year
JCA	Jo Crosby and Associates
meq/L	milliequivalents per liter
mg/L	milligrams per liter
mgd	million gallons per day
M _w	moment magnitude
NOAA	National Oceanographic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NTU	nephelometric turbidity units
PELA	P.E. LaMoreaux & Associates
PGE	Pacific Geotechnical Engineering
RMC	RMC Pacific Materials
RWQCB	Central Coast California Regional Water Quality Control Board
SCCPD	Santa Cruz County Planning Department
SWRCB	California State Water Resources Control Board
WY	water year (e.g., WY 2006 is from October 1, 2005 through September 30, 2006)
XRD	x-ray diffraction

Conversion Factors

1 gpm =	1440 gpd	=	1.61 ac-ft/yr
1 ac-ft/yr =	0.62 gpm	=	893 gpd
1 cfs =	449 gpm	=	724 ac-ft/yr