

# BODEAN COMPANY INC., MARK WEST QUARRY

Santa Rosa, CA



## SYSTEM DESCRIPTION

- 809 kilowatts
- 3,444 Yingli solar modules
- 5 Satcon inverters
- Terrafix racking and earth screw foundation
- Heliotex automated panel cleaning system
- Internet based monitoring system

## CHALLENGE

This project posed many challenges including design and engineering, solar analysis and project implementation: designing a racking system for a reclaimed hillside with very steep slopes, interconnection into three separate meters and the need for a solution to keep the modules in a working quarry clean. Solar analysts needed to come up with an energy model that would maximize the benefits for the Quarry on each of the three meters with all the varying slopes and orientations. Our project managers had the challenge of building in a very difficult environment during heavy winter rains to ensure that the project would begin operating in Spring of 2011.



## SOLUTION

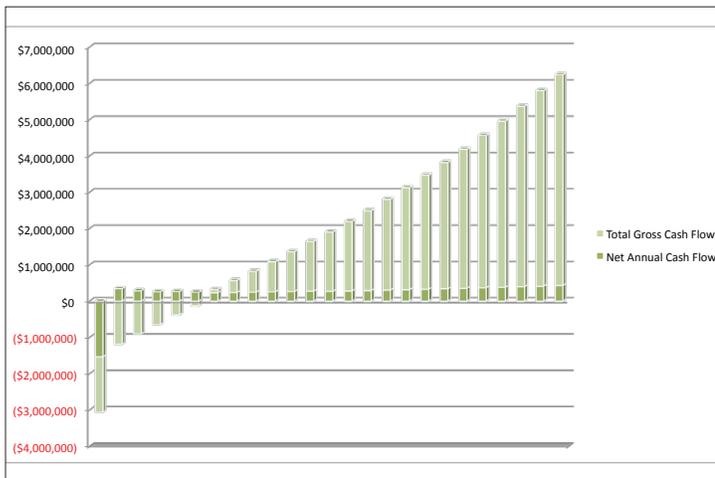
Our solar analysts decided to break up the arrays into three groups with three orientations where each orientation produces power for each coinciding meter. Design and engineering used Terrafix ground screws to attach the racking to the hillside because of the loose soil conditions and the ability with Terrafix to accurately locate the earth screws. Our project managers worked with four specialty sub-contractors during the wet winter months and managed to pull all of the pieces together without any injuries, and exceptional quality. Heliotex provided the automated panel cleaning system that turns on at scheduled intervals when atmospheric conditions are ideal.

## BENEFITS

Having solar power produced onsite has many benefits. This rock quarry is located on the outskirts of PG&E distribution lines and it will save 30% more energy than what is actually produced because the utility doesn't have to distribute this power on their grid. In simple terms, this system could power 160 average sized California homes. The amount of CO<sub>2</sub> saved from going into our atmosphere compared to traditional power generation methods is equivalent to taking 153 cars off the road each year.

## SUB-CONTRACTORS

Vince Sigal Electric, Inc., Santa Rosa, CA  
 Napa Electric, Napa, CA  
 Heliotex, LLC, Palm Desert, CA  
 Terrafix Solarpark Inc., San Leandro, CA



*“When the system begins generating energy, Mark West Quarry will become the first quarry in the world to be 100 percent reliant on solar power.”*

- Bill Williams  
 BoDean, General Manager

