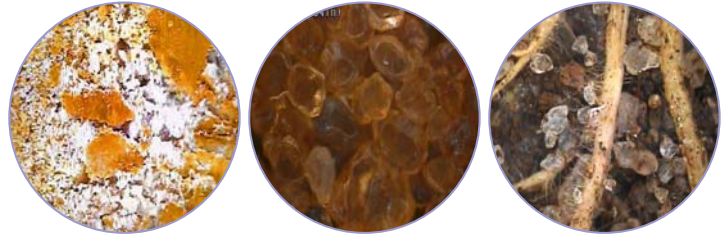


## Terroir™ Analysis and SIS

Terra Spase's Terroir product is a complete analysis of vineyard site suitability for the highest quality wine grape production. Site topography and soils are scrutinized, and a comprehensive set of viticultural recommendations are developed using cutting edge science and technology to maximize your site's fruit quality potential. Terroir analysis now utilizes the Soil Information System (SIS), a new approach for collecting, processing, and interpreting physical and chemical soil information at a resolution and accuracy previously unavailable. Hundreds of customers around the world have discovered the incredible and ongoing benefits of understanding their most valuable reusable natural resource, the foundation of their unique terroir.



Images of the soil environment collected with the SIS

## Terroir™ Viticulture Recommendations Using SIS

### SIS Maps

### Recommendations

Topography,  
Slope, aspect, elevation

Block boundaries

Soil physical properties

Subsurface drainage,  
soil ripping, slip plow

Soil texture, depth,  
water holding capacity

Row spacing, Trellis type,  
Irrigation blocks

Soil pH, CA/Mg, Na, EC,  
OM, CEC

Soil amendment applications,  
compost applications

Soil Chemistry  
(N,P,K,Ca, Mg, Zn, B)

Soil nutrient applications



SIS hardware and sensor systems used to collect data and create maps

## How will Terroir™ and SIS save me money?

Comprehensive and accurate Terroir™ analysis will save you money by helping you target soil preparation and amendment applications, and insuring that financially critical layout and design decisions are made with all the right information at hand.

## Will Terroir™ and SIS improve my grape quality?

Terroir™ gives you the tools to manage soil fertility and optimize your irrigation strategies. Crop quality will improve as you manage yields while enhancing fruit composition characteristics such as color, phenolics, and sugars.

## Soil Vigor Potential Plus™: Modeling Quality

Soil Vigor Potential Plus™ is a unique, proprietary tool that employs geostatistical modeling to synthesize chemical and structural properties of your soils into a single index of soil vigor potential. Time after time, Soil Vigor Potential Plus™ has proven to be the key component informing critical decisions on vineyard layout, irrigation design, and plant material selection. By providing a clear summary of the data collected in our Terroir analysis, Soil Vigor Potential Plus™ is the key to uncovering the truth about your terroir.

## What others are saying about Terroir™ and SIS

*Terra Spase SIS methodology provides a very accurate evaluation of soil properties. The accuracy [of mapped data] and attention to detail for specific matching of rootstock and varietal to soils, soil amendments, and vineyard layout is second to none.*

-Kevin Robinson, Winemaker, Brassfield Estate Winery

*...the information has been crucial for our rootstock, soil amendment, and irrigation design decisions. Vineyards designed and installed using these reports and maps are much better suited to soil conditions and able to produce better quality fruit.*

-Corky Roche, Roche Vineyard Consulting

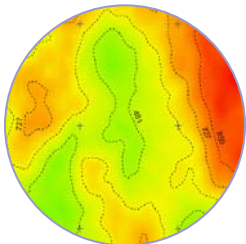
*SIS data enables state of the art decision making relative to vineyard management decisions. The SIS technology provides a wonderful picture that assists managers in understanding and applying complex soils data. The SIS is a new tool for the new generation.*

-Paul Garvey, Garvey Vineyard Management

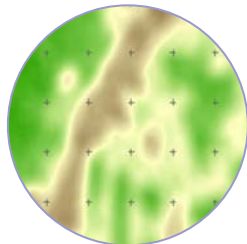
*The SIS could change the wine industry through better farming.*

-Wine Business Monthly

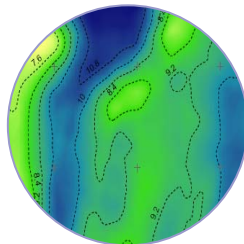
## A sampling of Terroir™ and SIS information products



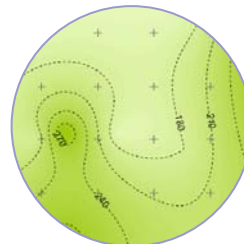
Compaction distribution and intensity in 3-D for targeted, efficient ripping



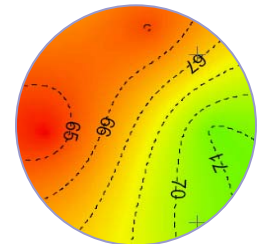
Nutrient holding capacity enables precision fertility applications



Water holding capacity for intelligent irrigation and selective harvesting



Chemistry mapping for identifying soil toxicity or deficiencies



Soil vigor potential modeling is critical for vineyard design and plant material selection