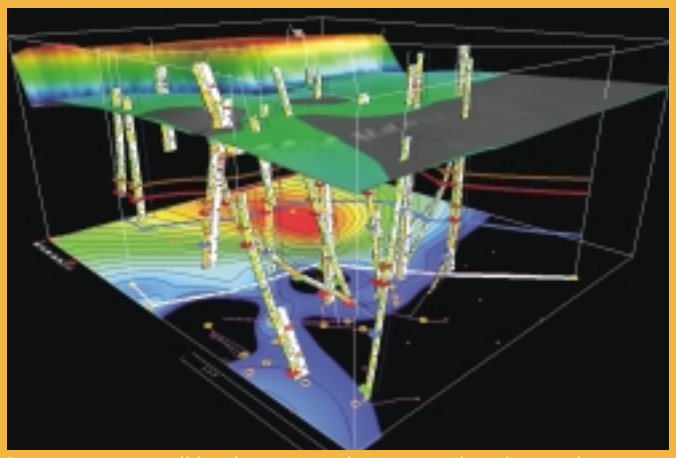
Success Story



Recon integrates well log data, seismic horizons, and production data in an integrated interpretation environment.

SGI® Technology and Austin GeoModeling Help Maximize the Potential of Existing Oil Fields

"SGI technical personnel have incomparable expertise in the development of visual applications. Over the past five years AGM has received tremendous support from SGI to improve Recon and market it successfully. We simply couldn't ask for a better partner than SGI."

—Robin Dommisse, Chief Executive Officer, AGM

Fossil fuels are a finite resource. As the cost and difficulty of developing new oil and gas fields in increasingly remote regions of the globe continue to increase, getting the most from existing fields becomes increasingly important.

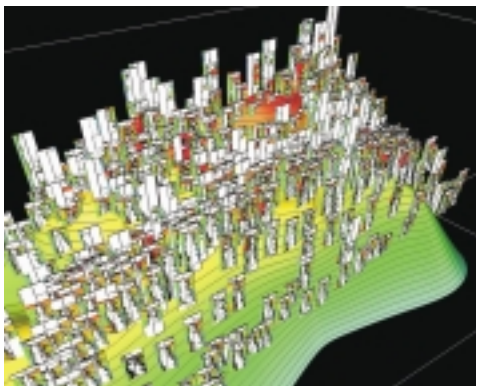
Austin GeoModeling, Inc. (AGM), has been developing software and providing consulting services to help geoscientists maximize resource recovery from existing oil and gas fields for the past five years, bringing the advantages of 3D visualization and interpretation capabilities to geologists' desktops. This technology is helping AGM customers stay competitive by enabling them to get the most from their investments in existing fields.

SGI has been an important asset for AGM in these endeavors, providing technical assistance and support to help AGM expand the market for its products and services. According to Robin Dommisse, chief executive officer of AGM, "As a small software vendor in a large and complicated worldwide market, the support and assistance of SGI has been critical to our success, allowing us to increase the quality and scope of our product."

Real-Time Interpretation to Maximize Oil Field Potential

The likely locations of fossil fuel reservoirs are determined based on seismic analysis, providing an initial interpretation of geological features below the earth's surface. After a well has been drilled, logging tools measure various rock and fluid properties in the layers that the drill has penetrated. Integrating well log data with seismic data dramatically increases the understanding of the reservoir, providing a much more detailed picture of the underlying geology.

AGM developed its flagship application, Recon, to maximize the utility of well log data. Using Recon, geoscientists can correlate the data from hundreds of wells to solve the most complex problems of geological interpretation, producing a high-resolution, 3D image of the field under study. Recon provides three coupled views: a base map view showing a surface map of well locations, a cross-sectional view showing the logs for various wells in a cross section of the field, and a 3D view showing underlying strata. Changes made in one view are automatically reflected in the other two.



800 wells showing gamma ray and porosity logs in 3D

Recon was developed using OpenGL®, the premier environment for developing portable, interactive 2D and 3D graphics applications. AGM's strong commitment to OpenGL contributes greatly to the overall performance and feature set of Recon. Originally developed by SGI, OpenGL has now become an industry standard.

With Recon, geoscientists can cycle through an interpretation workflow faster and more frequently, increasing the accuracy of the interpretation. These time-savings reduce the risk of drilling decisions and allow real-time updates to the geological model as new wells are drilled.

Because of its advanced, coupled visualization and interpretation capabilities, Recon makes it easier to maximize the potential of existing fields. Recon has increased the value of every field where it has been applied.

Unparalleled Services for Reservoir Characterization

In addition to direct sales of Recon, AGM provides advanced consulting services. The expertise of AGM professionals has been used in more than 20 reservoir characterization studies worldwide.

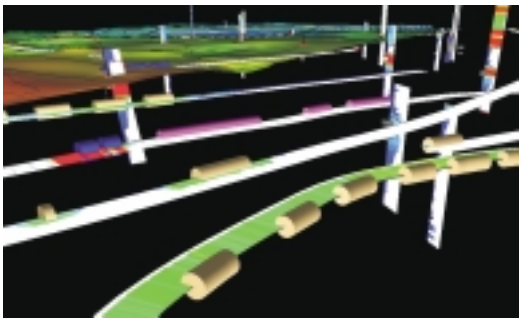
In one important study Recon was used to create a 3D framework for Saudi Aramco's largest reservoir in the Ghawar field of Saudi Arabia. Combining four study regions into a single Recon project, a new sequence-stratigraphic framework was created, consistent across the entire 120-mile-long field containing 3,000 wells.

On the second interpretation cycle, sequence-stratigraphic clinoform structures were identified, validating a completely new interpretation of the subsurface geology. Within days, field-wide correlations involving hundreds of wells were revised to incorporate this discovery—the first new geological interpretation of the world's biggest oil field in 40 years.

In another study AGM used Recon to incorporate 3D production history data with sequence-stratigraphic correlations in a large, mature West Texas field, leading to a more accurate geological model. The results were validated by a successful recompletion (a process to increase the production of existing wells) and infill drilling program that increased the value of the field by 670%.

SGI: A Key to Success

From the beginning AGM has depended on SGI hardware for its unparalleled visualization capabilities and data throughput. The analysis of a large field begins



Production interval data can be incorporated in the 3D log correlation workflow.

with several megabytes of well log data for each well. This data can be complemented with production data for each well, as well as 3D seismic data sets for the region. The resulting data set can be extremely large and difficult to manage. Because of SGI's incomparable ability to manage large visual data sets, the combination of Recon and SGI systems is a natural one for AGM.

As a small software developer in a big market, AGM faces significant challenges. With SGI's assistance, AGM is now able to offer Recon on the full line of SGI visual workstations, as well as Silicon Graphics® Onyx2®, SGI® Onyx® 300, and SGI® Onyx® 3000 series visualization systems for the ultimate in visual realism. AGM also has recently been able to showcase Recon's unique capabilities in SGI® Reality Center™ facilities with a demonstration showing real-time interpretation using thousands of well logs.

"SGI technical personnel have incomparable expertise in the development of visual applications. Over the past five years AGM has received tremendous support from SGI to improve Recon and market it successfully. We simply couldn't ask for a better partner than SGI," said Dommisse.

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