

CASE STUDY

SIERRA WIRELESS

AirLink™ Products

Escondido Resources Oil and Gas Company

Escondido Resources is an independent upstream oil and gas company operating in South Texas. The company explores and sells its oil and gas at the wellhead to purchasers who provide the product to end-user markets. In 2005, Escondido partnered with private equity firms to expand its acreage and drilling potential. Now with approximately 150 wells, Escondido Resources produces 25 million cubic feet of gas each day.

Business Challenge

The founders of Escondido Resources had extensive experience running oil companies 'the old fashioned way,' routing well flows through piping to a centralized data collection location utilizing mechanical gas measurement recording devices before being distributed to the end sale point. Not only did this process require additional personnel-power to operate, field technicians were limited in their ability to monitor product loss or identify safety concerns.

Escondido needed real-time access to its measurement data to effectively conduct the extensive post-well evaluations necessary to scale its business. In addition, this critical data needed to be available anytime and anywhere. From its partners in Houston and Kingwood to its field engineers and in-house engineers at the company's Midland headquarters, Escondido required on-demand access to accurate data.

In order to achieve its current growth rate of eight new wells per month without increasing staff, Escondido needed to maximize its operating efficiency, reduce equipment downtime and minimize revenue loss by automating its data collection system. Escondido turned to Sentry Technologies, a manufacturer of telemetry, data acquisition and management systems for the petroleum industry. Together they set out to build an effective, cost-efficient remote monitoring system that could be deployed easily and would scale as Escondido grew and added new well locations.

Over the past 20 years, the petroleum industry has been utilizing analog cellular networks for automation of its data collection and flow management. The near term end-of-life of these analog networks is forcing the petroleum industry to migrate to new digital wireless technologies. For the gas measurement capabilities required by Escondido, Sentry recommended its 4202 solution, a highly integrated gas flow computer incorporating a multivariable sensor using simple, one-way satellite communication. However, monitoring and management of Escondido's remote wells required higher bandwidth, as well as two-way data communication. To provide this capability, Sentry realized that cellular technology was its best option, yet the solution provider did not have the product set necessary to supply a sophisticated cellular solution.

Sierra Wireless AirLink™ Solution



While researching its options, Sentry discovered Sierra Wireless' robust, intelligent AirLink communication platforms. With the help of GetWireless, a Sierra Wireless partner and value-added distributor of cross-industry cellular solutions, Sentry was able to incorporate the powerful and versatile AirLink Raven modem into a best-in-class remote monitoring and management solution.

Powered by embedded ALEOS™ technology, the Raven is an exceptionally intelligent wireless networking device with built-in compatibility to numerous machine protocols and extensive capabilities, such as remote monitoring and configuration, packet-level diagnostics and over-the-air firmware updates. ALEOS - along with Sierra Wireless' comprehensive suite of tools and utilities - simplifies integration, installation and operation, while also facilitating remote monitoring, control and maintenance. Together they form the foundation of a comprehensive, reliable, always-on and always-aware wireless data solution required for today's mission-critical applications.



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Sierra Wireless AirLink Solution, continued

Escondido has deployed about 150 AirLink Raven devices. Each new wellhead has an AirLink Raven wireless device installed as part of the total production equipment package, consisting of a tank, flow lines and separation and measurement equipment, and easy installation enables each new well to be visible online in just one week.



Results

The Sierra Wireless AirLink monitoring solution provided the digital communication capability to help Escondido Resources migrate from a legacy system to an intelligent solution, enabling distributed data collection for more accurate flow measurements. Sierra Wireless makes its extensive management tools accessible from a web-based management interface, allowing Escondido and its partners to access real-time data from multiple locations.

Escondido has already seen the value in their investment. Without remote monitoring, Escondido estimates that it would need to hire at least four additional field staff positions and two additional in-house engineers to handle its current workload, a need that will continue to grow as new wellheads come online each month.

The initial solution deployment cost of about \$6,000 per wellhead, with a monthly cost of about \$100 to maintain production equipment, is trivial compared to Escondido's potential revenue loss if a problem arises during operation. Downtime at any one wellhead can dramatically affect the amount of product being pumped through Escondido's gas compressors and greatly reduce the company's current daily revenue intake of \$150,000.

"When a well flow has problems resulting in avoidable downtime, \$6,000 in unexpected remedial costs is a lot harder to swallow than it would have been as a planned capital investment," explained Kurt von Plonski, partner at Escondido Resources. With immediate access to error conditions enabled by its new remote monitoring solution, Escondido can detect and address potential issues and avoid any costly product loss or production downtime.

The solution deployment using AirLink Raven modems resulted in:

- **Easy upgrade from analog to modern digital technology** – cost-effective upgrades to latest technology
- **Pervasive, cellular connectivity** – continual access to mission critical information, leveraging today's most advanced communications networks
- **Decreased operational expenses and overhead** – eliminated the need for additional field staff and in-house engineers
- **Reduced potential profit loss** – less than a day of operational downtime at any one wellhead would affect overall daily revenue generation and cost significantly more than the capital investment required to implement that location's remote monitoring solution (\$150,000/day overall revenue compared to \$6000/wellhead solution cost)
- **On-demand access to real-time information** – collected data is available 24/7, eliminating the need for an information chain

Sierra Wireless - Connecting people and systems to mobile broadband networks around the world

Sierra Wireless modems and software connect people all over the world with mobile broadband networks that keep them in touch, informed, and productive from wherever they need to be. The Company offers a diverse product portfolio addressing enterprise, consumer, original equipment manufacturer, machine-to-machine, and specialized vertical industry markets. Sierra Wireless also provides professional services to customers requiring expertise in wireless design, integration, and carrier certification. For more information, please visit our website, www.sierrawireless.com