WIRELESS CONNECTIVITY ENABLING USE OF GROWING EOR APPLICATIONS

SITUATION

An international Oil & Gas exploration and production company operating one of the largest EOR projects in the Sultanate of Oman needed a network solution to enable them to use advanced EOR applications and techniques.

TASK

- Connect 600+ wellheads, drilling and workover rigs
- Extend the office experience into the field
- Reliable in extreme heat
- Flexible and scalable solution capable of handling Big Data

ACTION

Redline planned and installed wireless systems, including the RAS Nomadic Platform for connectivity to nomadic rigs and integrated with wellhead RTUs and SCADA system to provide real-time production data.

RESULTS

- Connected 600+ wellheads, 6 drilling rigs, 14 workover rigs, and 8 fixed asset locations, including a waste management yard, drilling fluid yard, MVC trains, and maintenance and warehouse facilities.
- A flexible and scalable solution with remote updates capability for new applications.

An international Oil & Gas exploration and production company, with operations in the United States, the Middle East and Latin America operates one of the largest enhanced oil recovery (EOR) projects in the Sultanate of Oman. The company is committed to using advanced technology to maximize oil and natural gas production in a safe and efficient manner including: safety and environmental stewardship, reservoir description and modeling, horizontal drilling, new well drilling, facility construction, field automation, artificial lift, well and equipment maintenance, and fluid processing.

The company extensively utilizes a steam flooding process to maximize their output of heavy oil. The process requires continuous monitoring and coordinated control of the steam injection and well production.

ENABLING ADVANCED EOR TECHNOLOGY

For their EOR project in Oman, the company was looking for a network solution that would enable them to:

- Connect a SCADA system monitoring 600+ wellheads while supporting high-speed data needs for six drilling rigs and 14 workover rigs
- Extend the office experience into the eight field offices and facilities and vice versa, allowing for better collaboration and decision making
- Reliably perform in the heat of the Omani desert
- Operate over both short and long distances
- Use new applications as the operation grows, and be scalable and capable of handling ever increasing amounts of data — from SCADA to telephony to video

HOW THE SOLUTION WORKS

Having worked with Redline Communications on other wireless connectivity solutions in different parts of their global operation, the company knew just who to turn to, to help them overcome these challenges and achieve the powerful connectivity they needed in the area quickly, reliably and cost effectively.

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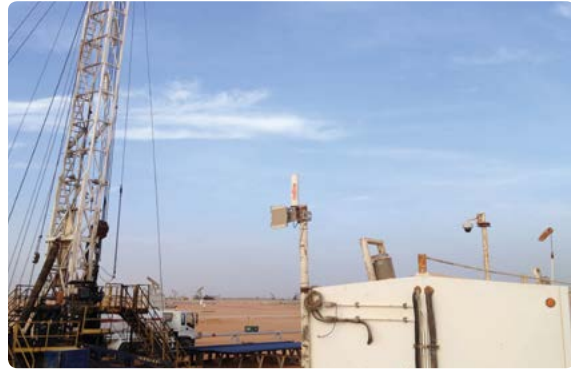
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communications

As the turnkey solution provider, Redline provided the company with a full suite of professional services including:

- RF planning to ensure they achieve the coverage and capacity required

- Nomadic and mobile high-speed wireless systems so their field office and mobile teams are connected regardless of where they are in the field

- Project management services to deploy and integrate the Redline broadband wireless systems with wellhead RTUs and SCADA system to provide anywhere connectivity and real-time production data

UNDENIABLE RESULTS

After a short pilot period, a smart oilfield was deployed by the third quarter of 2012 and the company had the coverage and capacity to enable the use of all of its enhanced oil recovery applications. By the end of 2013, the company's average gross daily oil production was 15 times higher than its production rate of just a few years ago.

Once again, Redline delivered a powerful wireless network solution and enabled the company to connect 600+ wellheads, six drilling rigs, 14 workover rigs, and eight fixed asset locations, including a waste management yard, drilling fluid yard, MVC trains, and maintenance and warehouse facilities. Now, the company can capture telemetry data in real-time from thousands of sensors and meters throughout the field, monitor and control field production, all remotely.

A flexible and scalable solution, the network has the capacity to grow with the changing needs of the customer and will enable them to run a variety of applications including SCADA, VoIP, CCTV, Big Data applications (MTU, Seismic), office and enterprise data. Moreover, updates can be done remotely without any need for sending telecom engineers to the field.

ABOUT REDLINE COMMUNICATIONS

Redline Communications is the creator of powerful wide-area wireless networks for the world's most challenging applications and locations. Used by Oil & Gas companies, militaries, municipalities and telecom service providers, Redline's powerful and versatile networks securely and reliably deliver voice, data, M2M and video communications for mission-critical applications.