# PROJECT PROFILE

## SCADA for diatomite well oil extraction
### *Sentinel Peak Resources*

## Client background

Longtime client Sentinel Peak Resources (SPR) is an upstream oil and gas company responsible for heavy oil development and extraction. The company owns and operates several sites throughout California, with most located in the Central Valley area. One of the most common and profitable ways to extract oil out of the ground in the Central Valley area is through a diatomite well, in which steam is injected into the ground, loosening up the embedded oil and allowing the oil to pool together for extraction. SPR has hundreds of these wells and works to ensure that the processes run as smoothly and efficiently as possible.

## Project background

With new infrastructure in place from the previous Valley Infrastructure Upgrade project, EA began a pilot project and rewrote the SCADA programming for a single diatomite well. The SCADA programming was written to take full advantage of the new features, enhanced navigation, hierarchy of information, and to reduce implementation time. The updates also fully implemented the high-performance PLC graphics for enhanced visibility.

This programming became a template PLC program which was rolled out to hundreds of wells, ensuring that there were no unique, one-off pieces of code in the system. When implemented, the template program would run the wells with the same features, options and capabilities.

SPR's previous Allen Bradley CompactLogix SCADA systems were fixed program operations, which means that any changes, including minor set point updates, required a technician to go onsite and plug a laptop into the PLC. The lack of consistency in PLC programming and documentation regarding site operations was a major pain point for our client.

**Project Manager**

Jeff Benson

**Project Technical Lead**

Alex Coker

### Key Insights:

- Created a universal standardized template to be used in hundreds of PLC and SCADA-controlled assets.
- Created documentation to be used in all sites commissioned by SPR
- Designed high-performance graphics for SCADA screens
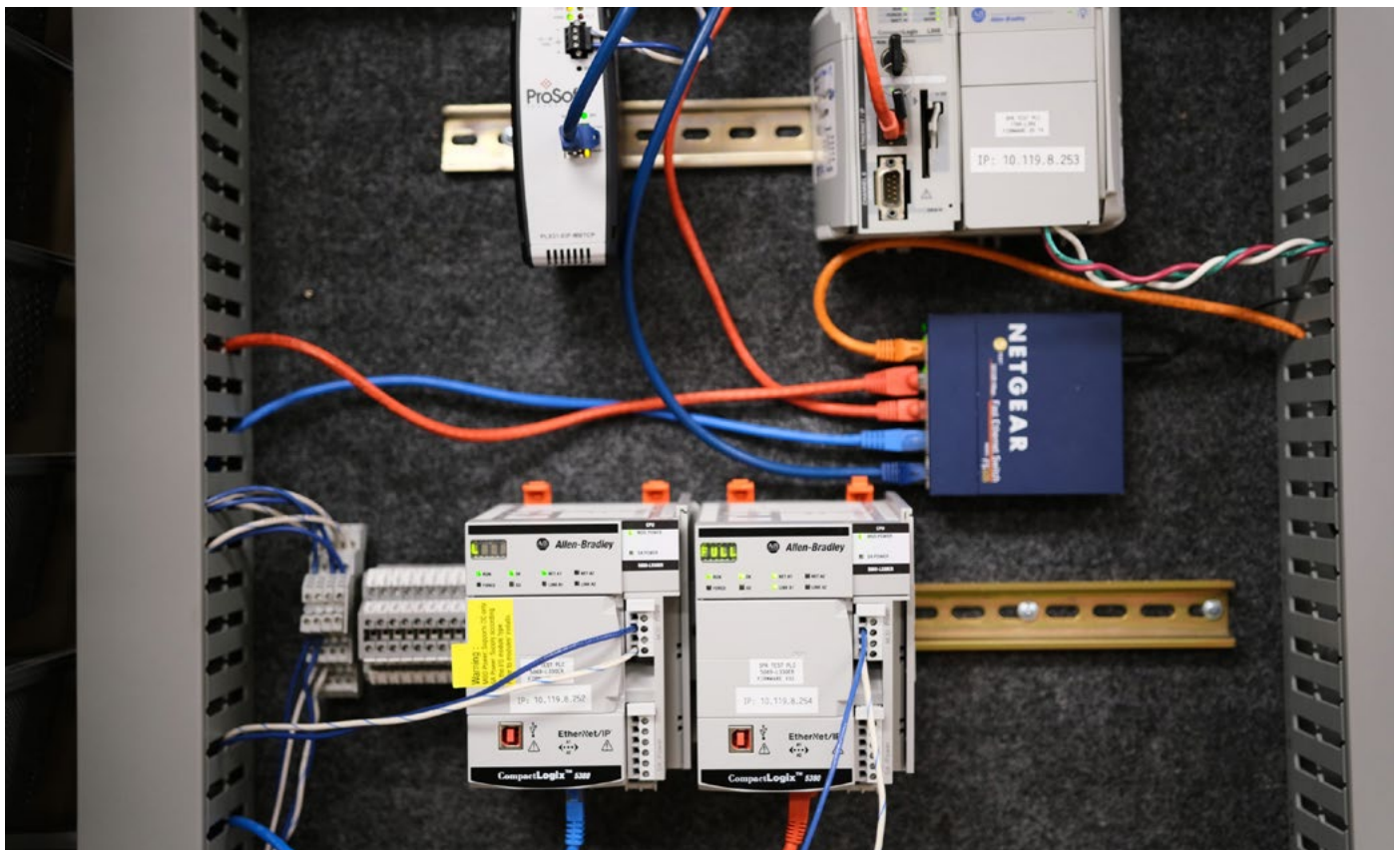
### Key Technologies:

- AVEVA InTouch SCADA
- Allen Bradley CompactLogix

# EA Solutions

Since SPR did not have any process documentation, EA's first step was to sit down with the stakeholders and walk through how the previous system worked, from start to finish, and learn about the changes they wanted in the new system. The most significant change request was to adopt the high-performance graphics methodology for all their SCADA interfaces.

EA then began to create a standardized PLC template that included an entire library of code and high-performance graphics. With the infrastructure replaced in the Valley Infrastructure Upgrade project, the only hardware needed for this project was to replace the outdated 1769-L35E Allen Bradley PLCs with new Allen Bradley CompactLogix 5069-L330ER. Once the template was ready for onsite commissioning, EA started installation at the pilot location.

As the template wrapped up at the initial site, EA expanded the pilot to include additional locations in the immediate area. For three months, EA and SPR collected data and continued to fine tune the system. Once the template was finalized, EA created extensive documentation, procedures, and checklists for the system. EA provided in-depth training to SPR's SCADA technicians on all the deliverables so that they could complete the rest of the upgrades for their hundreds of wells.