

MAXIMIZING THE BENEFITS OF WELLSITE DATA USING WITSML™

The need to reformat data as it moves along the value chain or between stakeholders is time consuming, inefficient, error-prone, and costly and was one of the driving factors when Murphy and Noah Consulting engaged in a project to improve and streamline the process of collecting well data.

THE CHALLENGE

In spite of a growth in the amount of data being sent from the wellsite, the pure data management portion of the problem can often be easier than the strategic change to processes needed by the organization to analyze this data for decision making. The amount, variety and velocity of data being created at the wellsite, in addition to the data governance, security and storage of both structured and unstructured data can make the task of management reporting a time consuming, manual process. According to Greg Lee Chee, Program Team Lead Worldwide Drilling & Completion at Murphy E&P, "Murphy treats our data investment like a valuable physical asset, not like 'here today and gone tomorrow.' This has allowed us to build a proof of concept for handling an expensive piece of our balance sheet: the wellsite. For example, morning reports are especially hard to create. Data is coming in from several systems and has to be downloaded and reassembled into a spreadsheet for analysis. This takes hours every day for the personnel involved as there is no automation and we have to physically be in the office for the process to be performed. Streamlining and improving this process has become the main driver of the project."

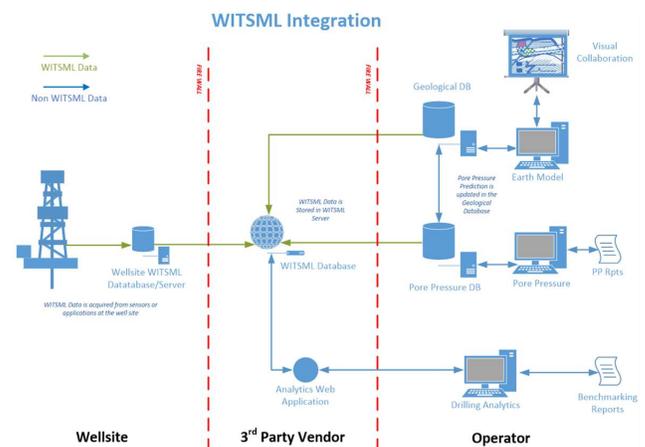
THE RESOLUTION

Murphy recognizes that the existing process of gathering and receiving the wellsite data is an accumulation of many years of segregated processes that were manually integrated to produce the management reports. They are currently looking at the inputs and the desired outputs to configure a new, streamlined and automated process to ultimately reduce costs and save time. At the same time, Murphy is examining the number of systems being used and have managed to eliminate redundant systems, which will facilitate better reporting capabilities.

Murphy began the project with several objectives to accomplish:

- Minimization of data entry and utilization of the data created at the source
- Reduction of QA/QC processes to ensure the data created at the source is accurate
- Implementation of an internal well identification system
- Establishment of an Extract Transform Load (ETL) and a corporate-wide data warehouse
- Improvement of the customer experience
- The ability to sense and respond to demands occurring at the wellsite

With a goal to standardize wherever possible, Murphy decided to use Energistics' WITSML standard to help share data from the service companies at the wellsite. WITSML is an industry standard for sending wellsite information in an XML document format between business partners. This allows all parties inputting data into the new process to quickly converge on a standard data transfer protocol.



Murphy's WITSML Integration Vision

THE BENEFITS

Collectively, these improvements will contribute to Murphy's ability to reduce unplanned events (non-productive time – NPT) and improve management reporting. Overall, the new proof of concept optimizes processes, data transfer and systems — which in turn streamlines resource planning and the procurement processes. And, most important, reporting is now faster, more accurate and with less effort.

Murphy estimates it can eliminate 10 to 15 hours a week from the original process.

NEXT STEPS

Since phase one of the proof of concept was such a success, Murphy is now looking to enhance the project by adding:

- The ability to QA/QC the real-time data streaming from the wellsite to the office
- Lookback capability for better analysis
- Integration to other systems including their Master Data Stores
- Automated regulatory reporting similar to the morning reports now being generated
- An evaluation of whether the IT infrastructure will be hosted by either a third party or in house

The project is ongoing with many new ideas being generated to improve the processes and expand the data movement to other functions within Murphy.

THE COMPANIES

Murphy Exploration & Production Company (Murphy) is engaged in crude oil and natural gas production activities in the United States, Canada and Malaysia and explores for oil and natural gas worldwide. Murphy E&P is headquartered in Houston, Texas and conducts business from a number of offices around the world. It is a subsidiary of Murphy Oil Corporation, an independent exploration and production company based in El Dorado, Arkansas.

Noah Consulting (an Infosys company) focuses on the E&P marketplace providing well life cycle data management solutions and best practices. Noah's deep domain expertise in upstream oil and gas, coupled with their tools, solution accelerators and proprietary methodologies, makes them a leader in driving strategic data management engagements.



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