Corridor Brings High-Frequency Production Data from the Field to the Engineer’s Desktop

DECIDE! software helps to improve data quality for asset team in McCully field, Canada

**Challenge**
Eliminate unmanageable production data spreadsheets and improve access to high-frequency field production data; minimize manual tasks to free more time for core analysis activities.

**Solution**
Implement DECIDE!* data-mining-based production optimization software to standardize and streamline production data processes and automate surveillance activities, calculations, and reports.

**Results**
Improved efficiency with automated workflows; provided fast, high-frequency production data acquisition, quality checking, allocation, and reporting; improved data quality and reduced time to translate into useful information.

“The implementation of DECIDE! has improved the quality of data for our production and reservoir groups. It has also greatly improved communications with field operations since we can discuss well surveillance and optimization on a real-time basis.”

Andrea Creemer, PEng.
Production Engineer
Corridor Resources Inc.

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**Standardize data acquisition and analysis**
Corridor Resources, Inc., headquartered in Nova Scotia, Canada, needed its petroleum engineers to spend more time analyzing rather than gathering and cleansing data at the McCully field in southern New Brunswick, Canada. The McCully field consists of 30 producing natural gas wells, 13 of which have been on production since 2007 supplying gas to the Maritimes & Northeast Pipeline. Two of these 30 wells have been supplying natural gas to a nearby potash mill since 2003.

The gas field was highly instrumented and a massive quantity of high-frequency data had been stored in a historian, from which the data time range of interest had to be manually retrieved through various Excel® macros for analysis, plotting, and gas allocation. As the production history grew, the amount of data generated was overwhelming and unconsolidated, making the engineers’ job of manual data handling and visualization both difficult and time-consuming.

The reservoir group wanted real-time, high-frequency data generated by SCADA to be easily accessible and available in a single consolidated and operational database. They also wanted to automate their gas, condensate, and water allocation; daily volume aggregation calculations; and monthly production reports. Primary objectives were to:

- reduce time spent handling high-frequency production data and increase time for core activities
- make better use of the existing high-frequency database
- automate production data acquisition
- implement a dedicated server and software for production allocation and well surveillance tasks (to avoid disruption of field operations using the SCADA system directly)
- increase data processing speed.
CASE STUDY: DECIDE! software helps to improve data quality for asset team in McCully field, Canada

To meet these objectives, Excel spreadsheets and macros would have to be eliminated and efficient E&P information management software implemented.

Implement a fit-for-purpose solution
Schlumberger Information Solutions (SIS) designed a customized solution that included a combination of technology tools—DECIDE! Software Datahub and Workflow Designer, Scheduler, and Rule Editor, as well as the DECIDE! Data Acquisition and Reporting modules—to optimize production data mining, integrate SCADA system data with a centralized database, and analyze well data.

The project team streamlined integration of high-frequency production data into daily automated workflows to

- cleanse and validate data
- perform proper allocation of gas, water, and condensate
- send notifications based on user-defined rules
- create and distribute standard Daily Production Summary reports.

The new solution made available the most recent data at timed intervals with the appropriate format and contents. Layers of enhanced visualization tools and techniques enabled engineers to analyze the data, make predictions and corrections, and support decision making through a single interface.

Improved efficiency with automated workflows
Corridor standardized and automated its production information management processes, freeing engineering time for more focused analysis. A fully automated, end-to-end workflow now acquires 5-minute data from the SCADA system into the operating database, processes the calculations of interest, and distributes a daily summary to a custom e-mail list in a matter of minutes for quick and easy access to pertinent, high-quality data. Time spent translating data into meaningful information has been considerably reduced, and the consolidated database is now integrated with engineering analysis tools for further use of information through DECIDE! desktop modules.

Schlumberger Information Solutions
Schlumberger Information Solutions (SIS) is an operating unit of Schlumberger that provides software, information management, IT, and related services. SIS collaborates closely with oil and gas companies to solve today’s tough reservoir challenges with an open business approach and comprehensive solution deployment. Through our technologies and services, oil and gas companies empower their people to improve business performance by reducing exploration and development risk and optimizing operational efficiencies.

E-mail sisinfo@slb.com or contact your local Schlumberger representative to learn more.

DECIDE! modules enable data cleansing in complex well conditions.
(Back) Identify production data requiring cleansing via real-time well monitoring and 2D plot visualization. (Front) Corrected well rate (green) can now be used for production allocation and other analysis.

Interpolation of missing data: (Back) Original dataset with 5-hour gap (20% daily gas volume, over 7,000 essential data points) during maintenance. (Front) Data—interpolated in 1 hour—written to the database. The code can be initialized to interpolate future shutdowns, ensuring cleansed data is representative of actual well performance.

2D crossplot displays measured gas rate for 3-year well production history. Flowing pressure is color-coded to identify off-trend production data. Plotting flowline temperature enables optimization of hydrate inhibitor injection to avoid well performance disruptions.