

Automated Rig and Drilling Data Management Solution

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ABSTRACT

Recently drilling activities have increased in last two years with the addition of new Rigs. This has made it very challenging to ensure Data Completeness on time for Down Hole facility components and Drilling/Workover activity Details in the corporate data base. This has increased the amount of work needed by Drilling Engineers to update this data into the corporate database. Drilling operations and Field development team need well-structured access to high quality and accurate data, effective workflows, consistent and updated database. Well schematics are required to ensure measurement, accounting, and reporting compliance and are a visual tool showing the current physical layout of the facility. It is not possible to get correct Well Schematic without updated database with right facility codes of all the downhole equipment's. Currently drilling engineers are updating downhole facility and workover/drilling operation details in corporate database individually one component at a time using Oracle-based Finder forms. As we are working towards better hydrocarbon recovery using high-end technologies like ResFlow inflow control devices (ICDs) and ResInject injection ICDs to help maintain uniform inflow and injection rates, respectively, across the entire length of the interval in open hole completions, even in the presence of permeability variations and thief zones. ICD wells have a large number of ICD elements. It is again very time taking process to update ICD completion details into the corporate database. To meet these challenges, we developed a Rig & Drilling Data Management Solution with several modules which include: Rig Movement Completion Tally Import Workover and Log of Operations Details Import Data Quality Check module The system has been built in-house using .NET Technologies. It is integrated with OpenWells and FINDER and will support SeaBed (Prosource) as we are already working on Migrating from FINDER to Prosource. Some Key Features of the system: More robust, time-saving, ease-of-use gives much better Quality check and business rules implemented in it. The system has increased the data Completeness and Quality Enhancement considerably. The estimated time saving is around 90% for Data Loading and almost 50% improvement in Data Quality respectively.