

# Maximising the value of the daily geological report and the long-term benefits of its automation and digital quality



## Introduction

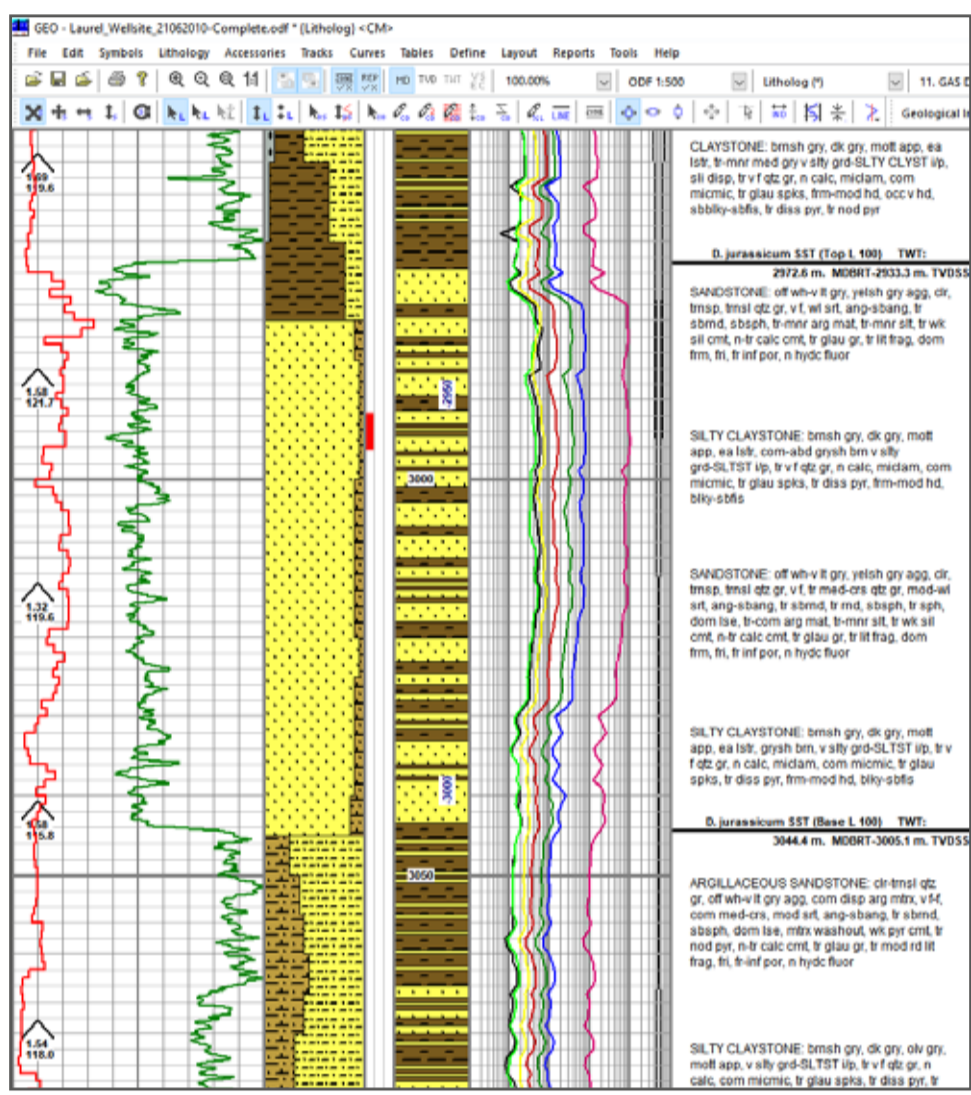
Efficient utility of quality information is a key component of how we make decisions. Therefore, as we rely more on real-time decision making and collaborative technologies, every opportunity to update legacy workflows should be taken.

Fully digital workflows, aided by software automation, both retain structured organisation of the information and offer a higher level of data quality. It can be easily re-used in operations dashboards, archived as categorised data and be data analytics ready for future reference and lessons learned workflows.

## Digital Workflow

A workflow has been implemented on active drilling operations that mitigates the creation and separate delivery of PDF Daily Geological Reports and integrates them into a live, operations dashboard in "the Cloud".

### 1 Primary information source & output Well Log



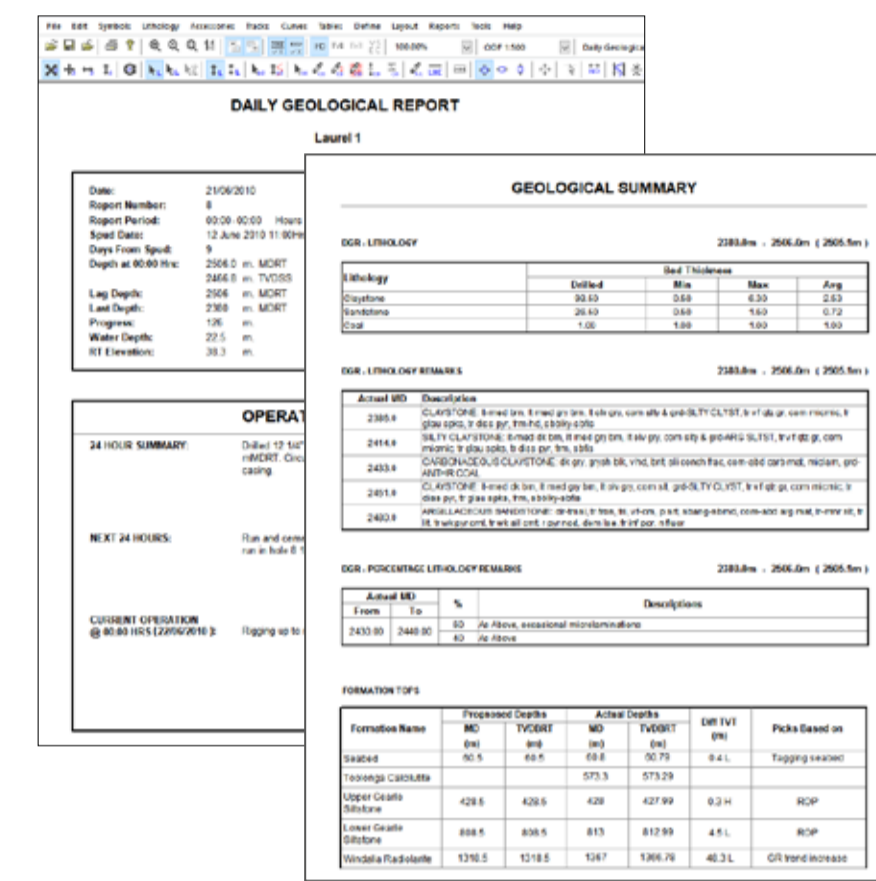
- Aggregated information
- Quality controlled document and peer reviewed
- Visual record
- Uniform data structure
- Dynamic log format variations

#### Operations Diary

- Activity log by the geologist
- Record PT/NPT
- Operations summary of well recorded

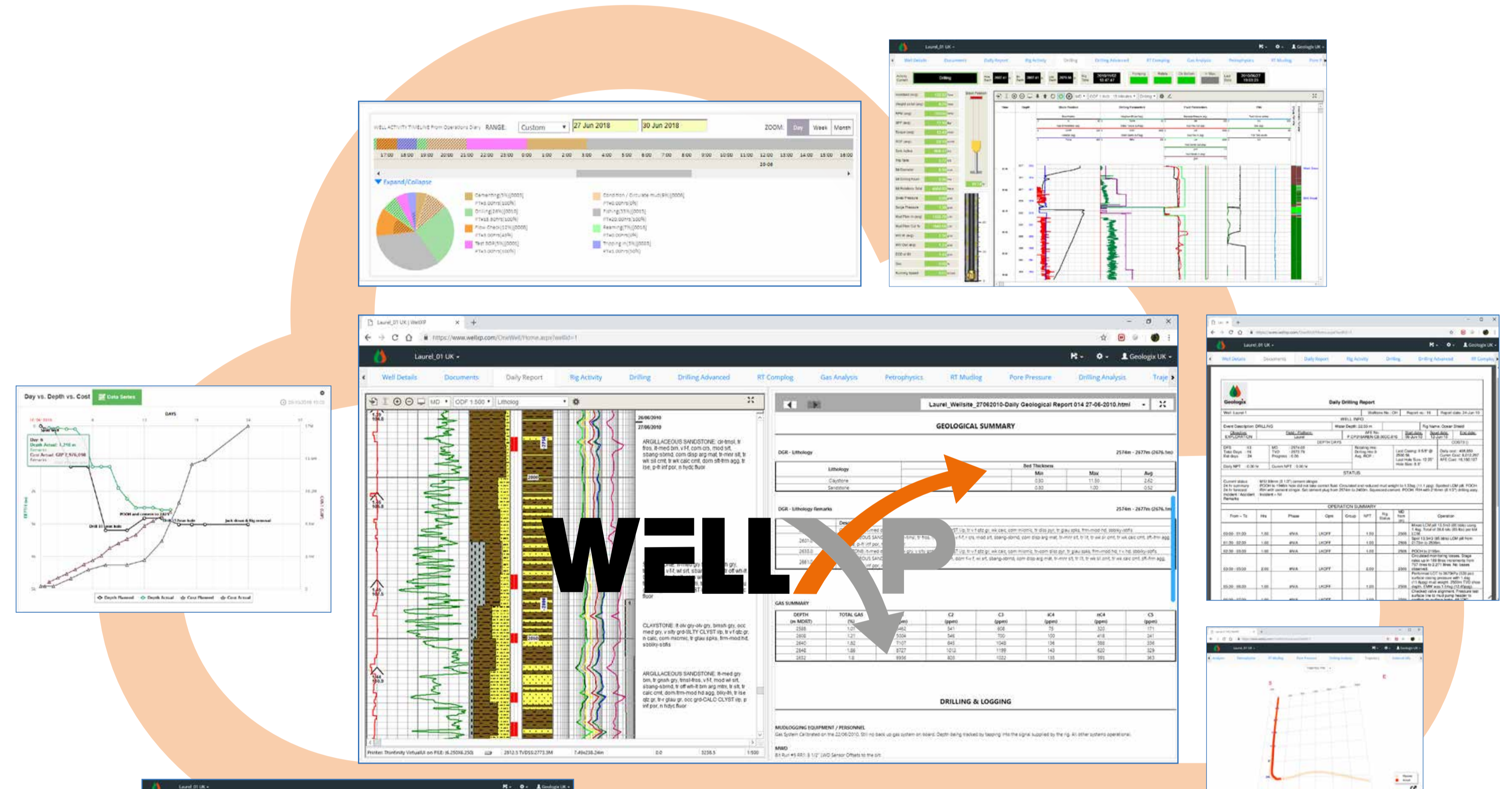
**GEO**

### 2 Secondary information output Daily Geological Report



- Automated document
- Leverages existing QC'd data from well log
- Integrated Operations Diary
- Templatised for dynamic formats
- Extensible outputs available (XML)
- Direct output to corporate data stores
- Mappable output to other repositories

### 3 Web Portal Operations Dashboard



**WELL P**

- Aggregated information channels (Drilling, Mudlogging, LWD, Geology)
- WITSML datastore for 3rd part integration
- Central hub to view log and report alongside all other well information
- Widget style visualisation
- Historical access to daily reports, logs and RT data

## Value of Digital Reports

### Automation

- ▶ Saves time manually calculating values
- ▶ Generates repeatable visual standards and increases data quality by removing manual intervention and data duplication

### Cloud Delivery

- ▶ A self-service hub, information on demand - current and historical
- ▶ Automated routines allow information to be re-imagined in widgets and graphics

### Long-term Utility

- ▶ Only high quality data extracted into corporate databases
- ▶ Easy access for well planning on future projects
- ▶ Reliable data can be used in lessons learned workflows and data analytics

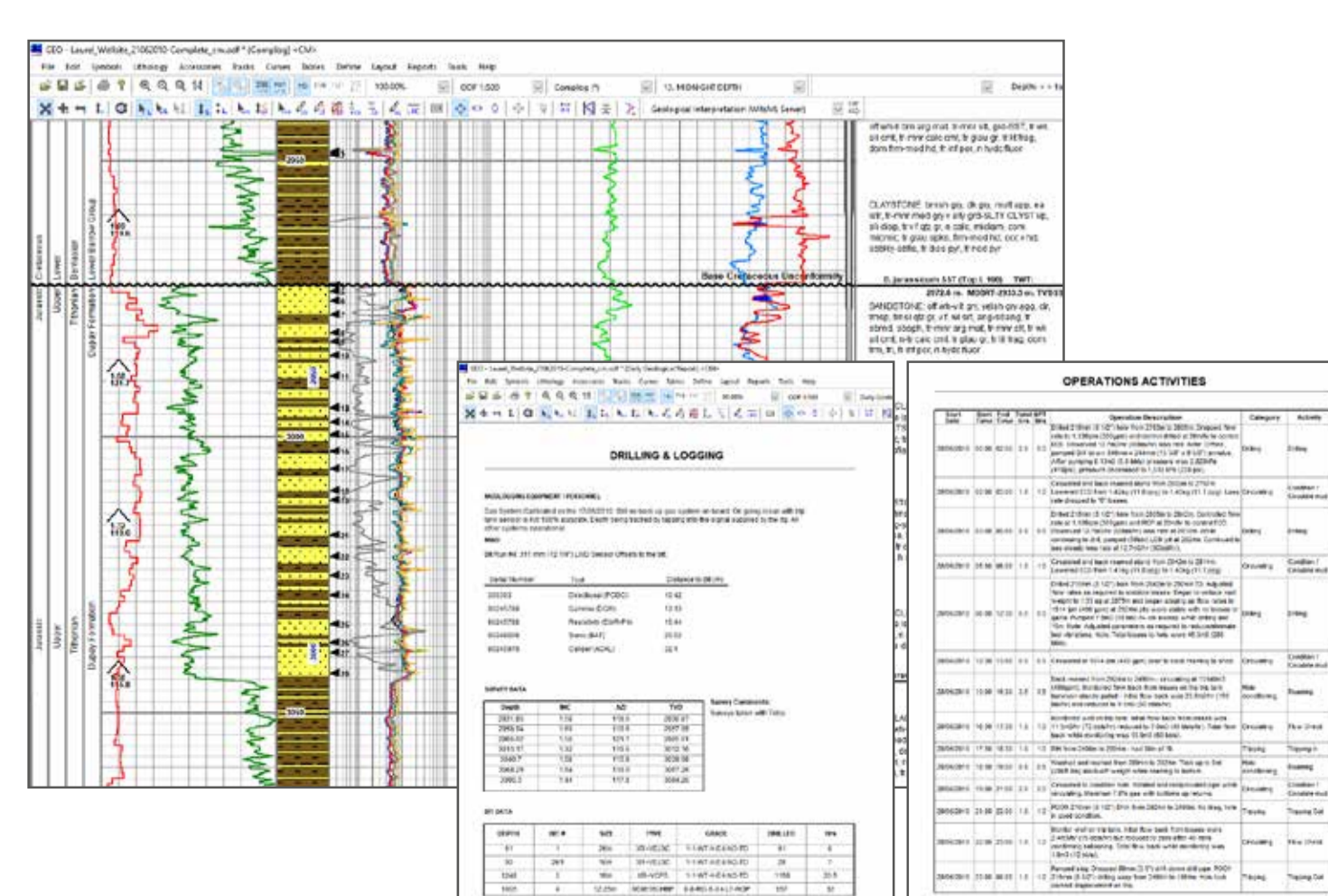
## Limitations of the Classic Daily Geological Report

A staple of Geological Operations workflow, but...

It's often:

- ✗ Duplicated data, manually entered  
Inherent risk of error from human intervention
- ✗ Inconsistent formats across wells  
Difficult to compare, increases complexity of automated extraction
- ✗ Locked down to PDF  
'Digital' but very difficult to reliably extract data
- ✗ Issued via e-mail  
Pushed info, leading to email fatigue - not always clearly categorised

### 4 Long Term Repository Corporate Database



- No duplicated data entry
- Information archived to database for interdisciplinary use
- High quality data stored
- Data Analytics ready