Schlumberger

CoilScan AP

Characterization technology

APPLICATIONS

- Real-time CT defect identification
- Postjob CT defect identification and tracking

BENEFITS

- Determines the underlying CT anomaly for the respective MFL response
- Identifies when and how a new defect occurs after a successive number of jobs
- Monitors how a defect evolves from one job to the next and how operating conditions affect its evolution
- Enables real-time informed decisions
- Monitors CT anomalies in up to six different jobs performed at any time within the string history
- Minimizes inspector's exposure to hazards by reducing prove-up frequency
- Optimizes operational efficiency through real-time defect identification during pipe conditions evaluation

FEATURES

- Changes in pipe geometry parameters are used to adjust CT operating envelope in real time
- Built-in algorithm obtains depth offset value to compensate for pipe trimming, permanent pipe elongation, and inspection position
- Reporting accuracy improved by introducing "matching coefficient" and "confidence level" concepts
- Interface displays image and magnetic flux leakage (MFL) signature of the matched defect
- Interface provides visual illustration of defect evolution history
- Offline mode allows identification of up to five defects to be run simultaneously
- Live defect library captures new data for continuous improvement

The CoilScan AP* characterization technology is a module within CoilCAT* coiled tubing computer-aided treatment that uses MFL signal matching to identify and track the recorded CT defect detected by the CoilScan RT real-time pipe inspection system.

The technology detects the underlying CT anomaly for the respective amplitude response based on MFL signal correlation of a suspected defect's against a proven library, which consist of actual CT imperfections with known geometrical dimensions and physical appearance.

While the CoilScan AP technology is in real time mode, the software receives the MFL signatures from the CoilScan RT inspection system, and identifies the defects nature. In postjob mode, the system processes the inspection records after the job, and identifies the defect or tracks its evolution through a series of job runs from the same CT string.

Schlumberger uses a novel CT inspection approach based on MFL interpretation to assess mechanical defects. This approach does not depend on manual measurements of the dimensions of CT anomalies, thereby allowing consistent, automated, in real-time inspection assessment.

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