NVI NONDESTRUCTIVE & VISUAL INSPECTION, LLC
Quality on the Move!

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Sand Monitoring

Having sand in production wells is a factor that should be carefully monitored during the process. Sand can cause many issues such as clogging of the production equipment as well as major safety/integrity issues due to the erosion of the pipes.

NVI, LLC has the perfect solution for you for sand monitoring. This technology will monitor the changes in sand production over time and are detected using spot**on® AE** and the erosion caused by the produced sand is observed using spot**On® U**.

The integrated spot**On® AE + U** has multiple advantages to offer:

- Data coming from sand flow is directly correlated to erosion data using the same software
- spotOn® **AE + U** can send data via satellite and Wireless Hart
- Clients can enjoy significant savings in infrastructure due to the two sensors attached to the same communications unit
- Clients can enjoy further savings in training due to all data displayed on the same user-friendly shieldCube software platform.

Spot**On® AE**

Acoustic Emission (AE) is the most flexible NDT method.

AE is used for monitoring the 'acoustic activity' generated by sand particles hitting the pipe.

Hybrid Solution for **BEST Performances**

Spot**On® U**

Spot**On® U** provides information about pipe wall thickness and temperature to identify erosion trends in real-time while reducing the need for intrusive tools and periodic inspection.

Integrity engineers can utilize this information to quickly establish the erosion rate caused by the sand as well as the corrosivity of the products flowing inside pipes.

A³ Monitoring | Smart Integrity Monitoring

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Sand Monitoring

Robust

- Withstands harsh environments, and can be buried

Accurate Sand Monitoring

- Thickness monitoring
- False calls avoided

Cost Effective

- Retrofit only at specific location

Works Everywhere

- -50°C to 100°C
- IP68
- WirelessHART or Satellite link

Real-Time

- Data is available in real-time without user intervention
- Warnings are dispatched automatically

Spot**On® AE** + **U** detects sand flow and erosion:

AE identifies sand particles hitting the pipe

U verifies the thickness at key locations

AE and U data are correlated to alert of flow changes causing integrity issues

spotOn® AE Technical & Operating Specifications

AE probe type	375kHz center frequency
Pipe diameter	2” (DN50) and above
Pipe nominal wall thickness	1/8” (3.175mm) to 2” (50.8mm)
Pipe temperature	-50°C to 100°C
Battery	Lithium metal, located in control unit away from pipe for easy replacement
Data management	Data delivered via shieldCube platform, or via designated private server
Data analysis	State-of-the-art shieldCube statistical, with custom-defined fixed and intelligent threshold.
Probe ingress protection	IP68
Data Visualization	Active visualization on Google Maps