

# SPECTRUM VISION

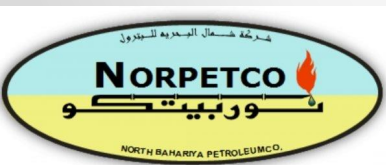
# Agenda

---



## SPECTRUM

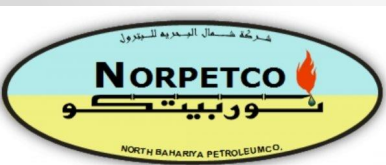
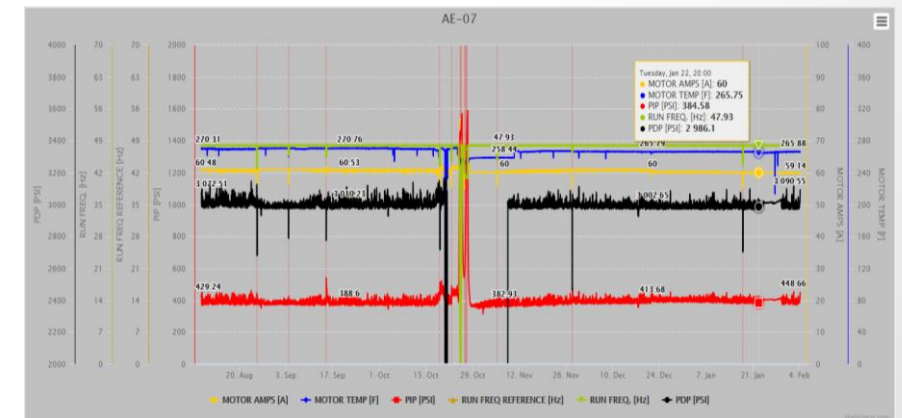
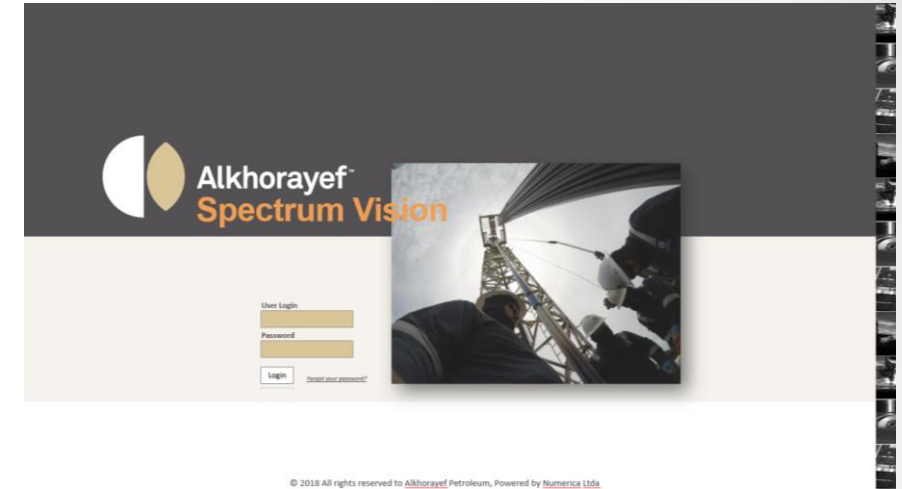
- What is Spectrum Vision?
- Spectrum Vision Value
- Spectrum Vision Features & Benefits
- Case Studies
- New Version



# What is Spectrum Vision?



- AL Production Monitoring Solution
- Wellsite Communication and Control through Web-Browser
- A service for remote real-time surveillance and control of ESPs, Rod Pumps, Gas Lift & HPS
- Spectrum Vision is not a hardware, is Service/Solution



# Spectrum Vision Value



## SPECTRUM

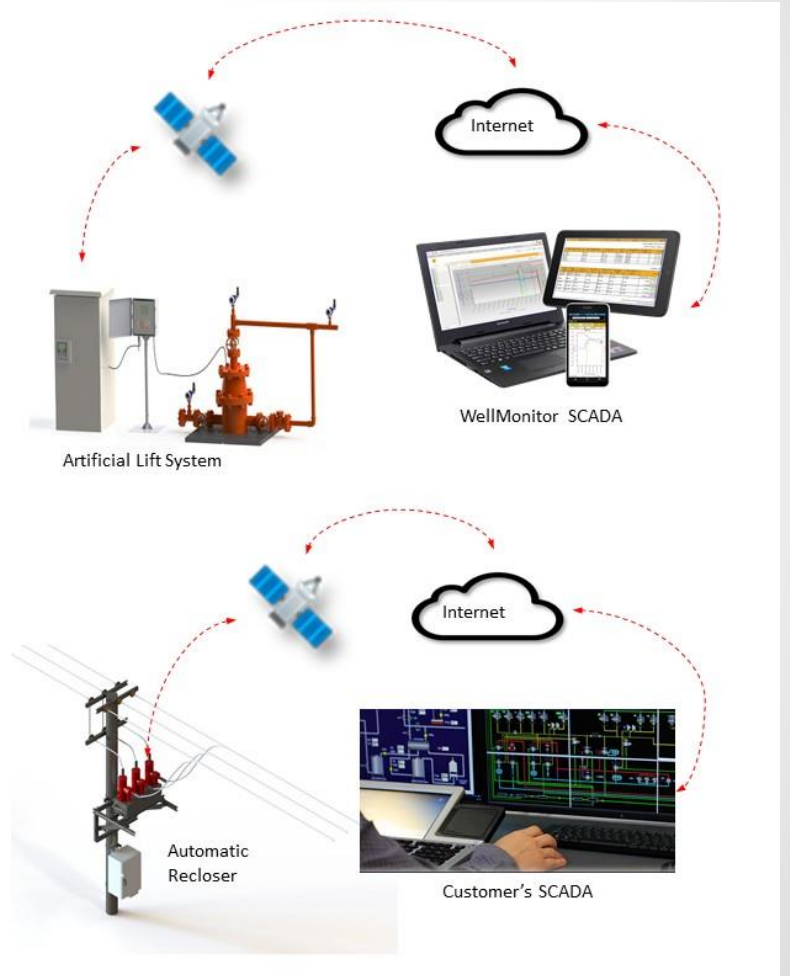
- Increase Pump & Well Uptime (Decrease Oil Deferment)
- Surveillance engineers remotely monitor and analyze data
  - Remote performance analysis translates into:
    - Production increases
    - Runlife/equipment optimization
    - Extends Pump Run life (Decrease W/O Frequency)
- Remote acquisition of data can enable calculations of skin, flow, deferred production and more



# Features

## **SPECTRUM**

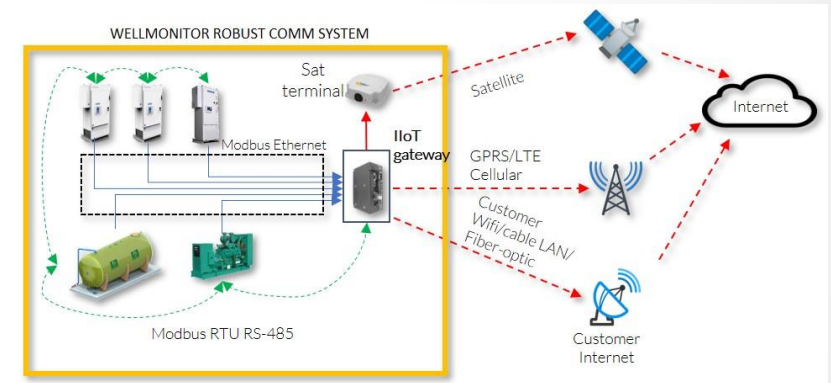
- Data transmission by Satellite
- Very **friendly software** based on web applications, available for smartphones **Highly reliable** hardware and software
- Totally **customizable** by the end user per each account provided
  - Alerts and reports can be sent by email once detected
  - Graphics environment highly customizable (colors, number of parameters, axis, ranges, etc.)
- Web server placed in Amazon Data Center in USA (**high security level**)



# Benefits

## SPECTRUM VISION

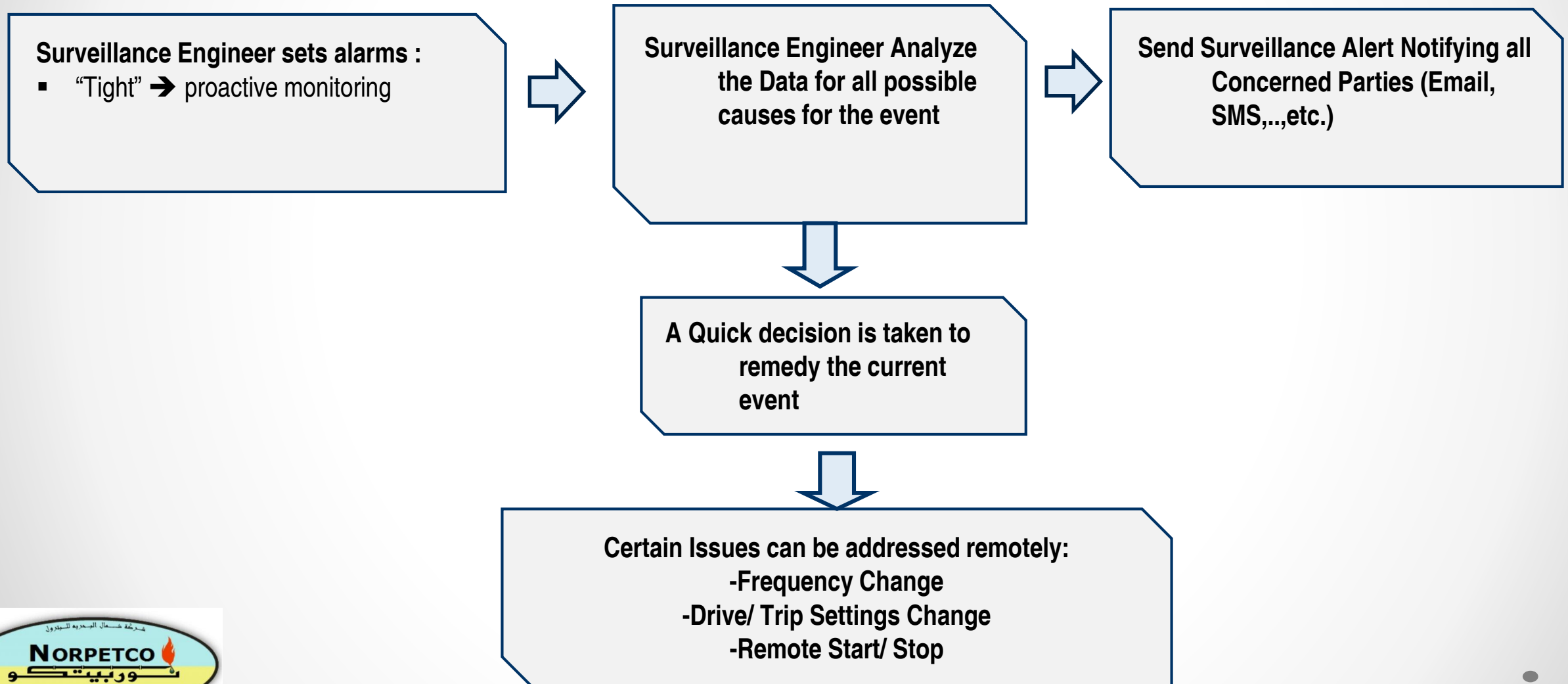
- **Capability to check online in real time** up to 40 parameters of the ESP or any other artificial lift (Beam Pumps) from the PC or cell phone.
- **Quick decision making** once a problem or subnormal operation is detected in the well
- **Multi wells surveillance** with one only hardware on surface.
- **Automatic reports and alerts** previously customized sent direct to the desired emails
- **Time savings** when checking far wells (or restricted locations) is necessary
- **Remote Control for far wells**
- **Production reports** can be uploaded
- Up to 5 years of **data storage**



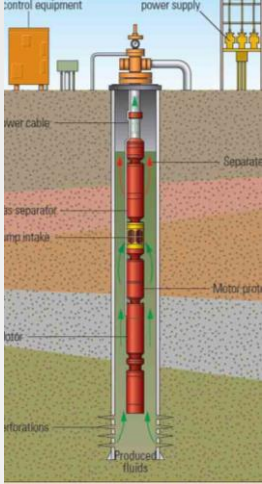


# Communication Protocol

## SPECTRUM VISION



# NORPETCO Wells Surveillance & Monitoring



- 22 ESP wells



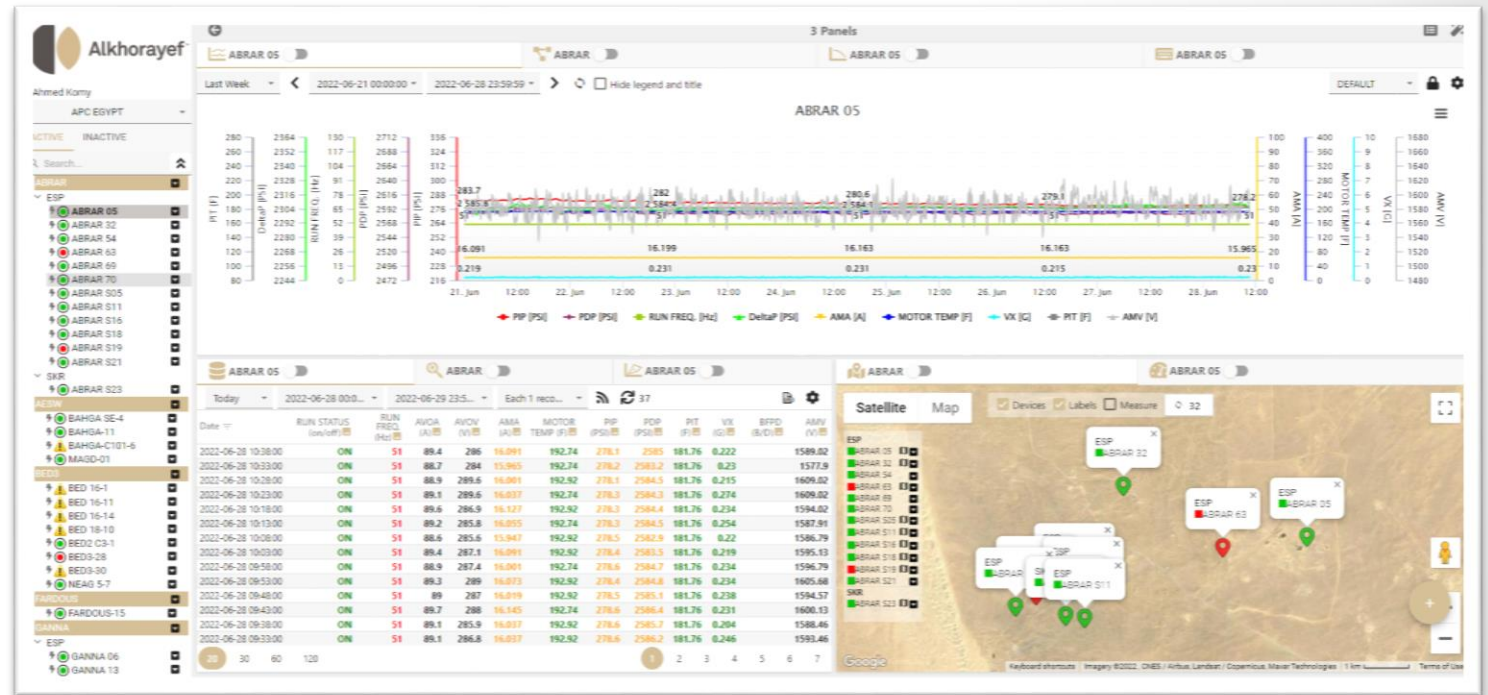
- 7 SRP Wells





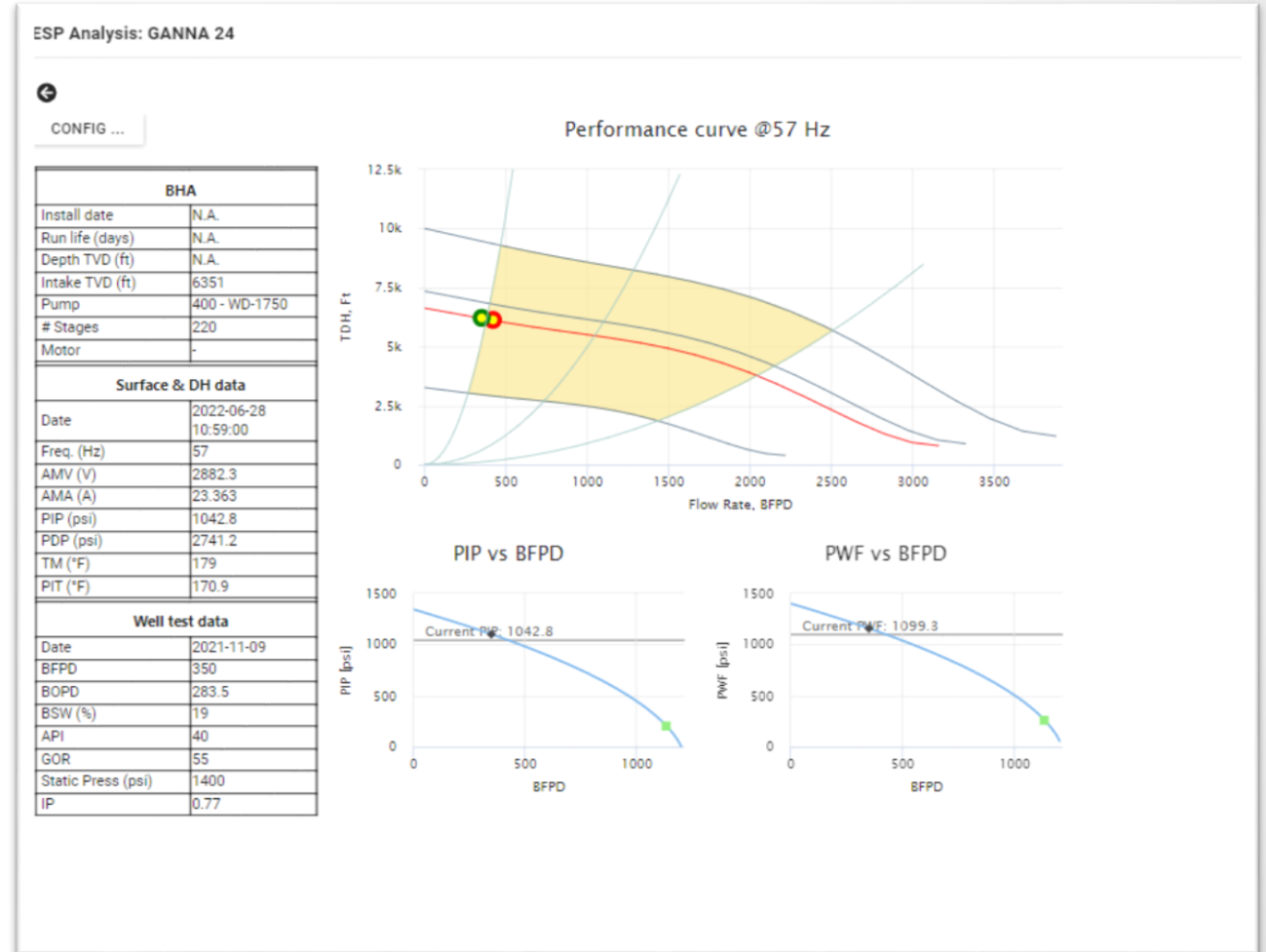
# New Dashboard

- Dashboard could be customized and saved as preference.
- Transform data into actionable insights.
- Comprehensive predefined dashboards.
- Share dashboards with your colleagues.

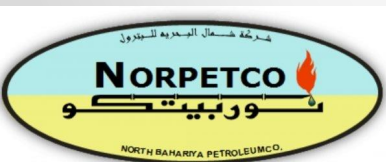


# ESP Analysis tools

- Real time data-driven ESP analysis.
- ESP range of operation.
- ESP mechanical loads.
- ESP electrical loads.
- IPR curves.
- ESP Database allows you configure the well's BHA.

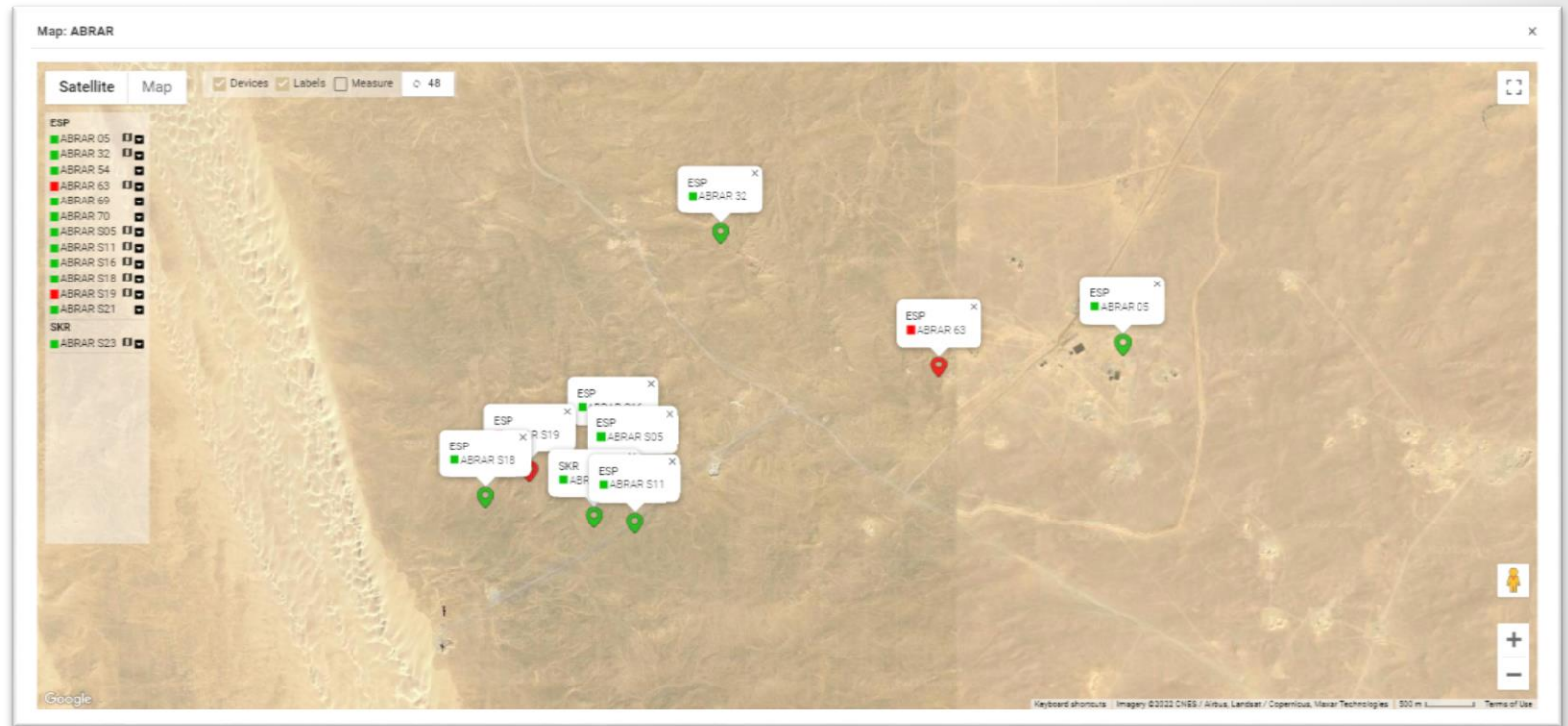


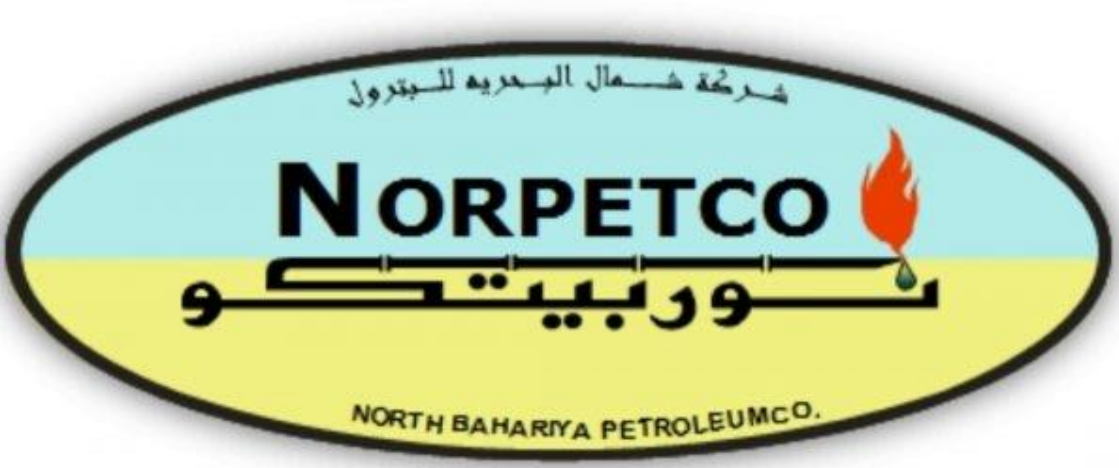
- Comprehensive stops reports.
- Improved amperometric charts.
- Field trend analytics and well prioritization.



# Enhanced map capabilities

- All SCADA functionality available from maps.
- View well status.
- Measuring tools.
- Show/hide well labels.





# Case study



# Case 1: Sucker Rods Pump wells

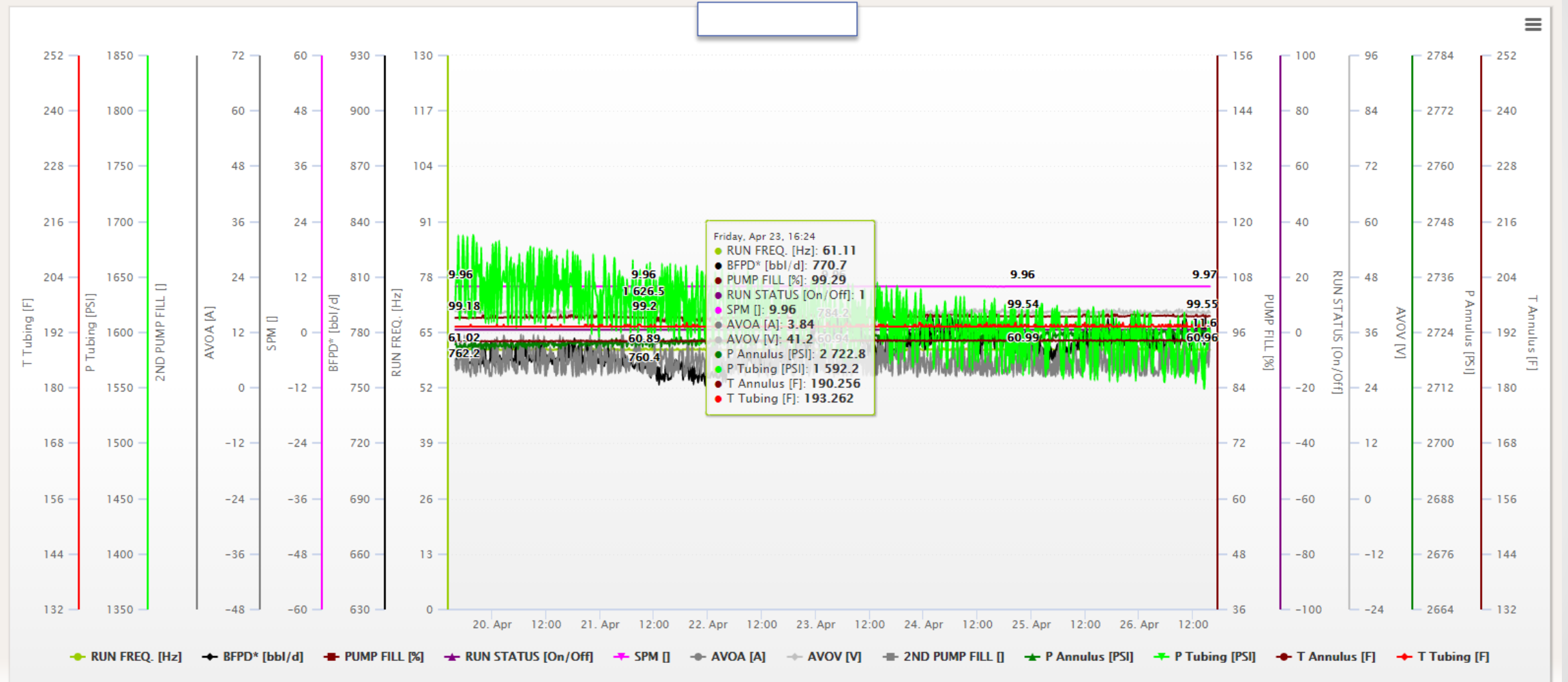
---



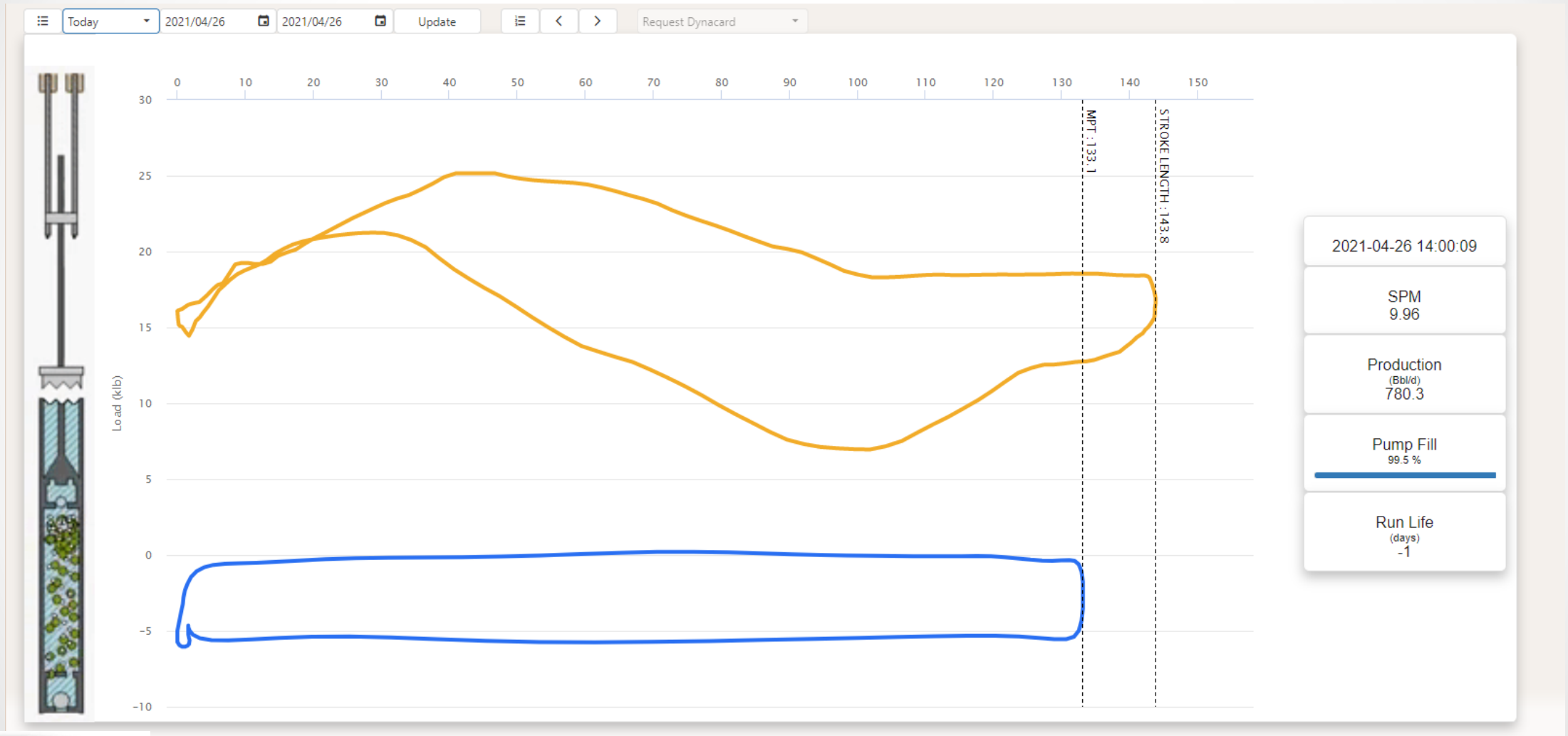


# Case Study #1:

# The same Scada system For SRP Wells



# Case Study #1: The same Scada system For SRP Monitoring



---

- **Symptoms:**

- The well suffering from fluid pound phenomena as well was running with high SPM

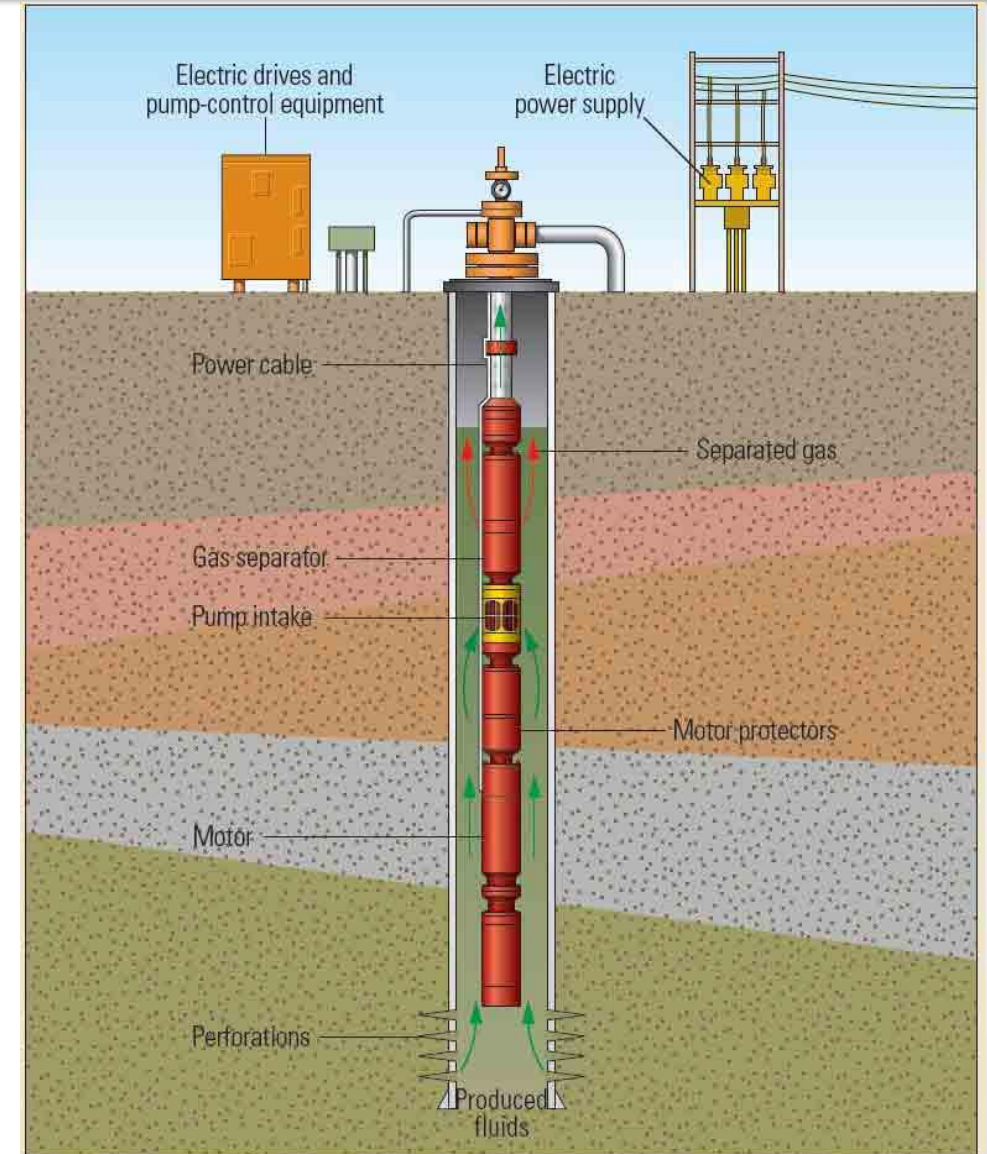
- **Actions Taken:**

- Immediately put the well in the optimum conditions.

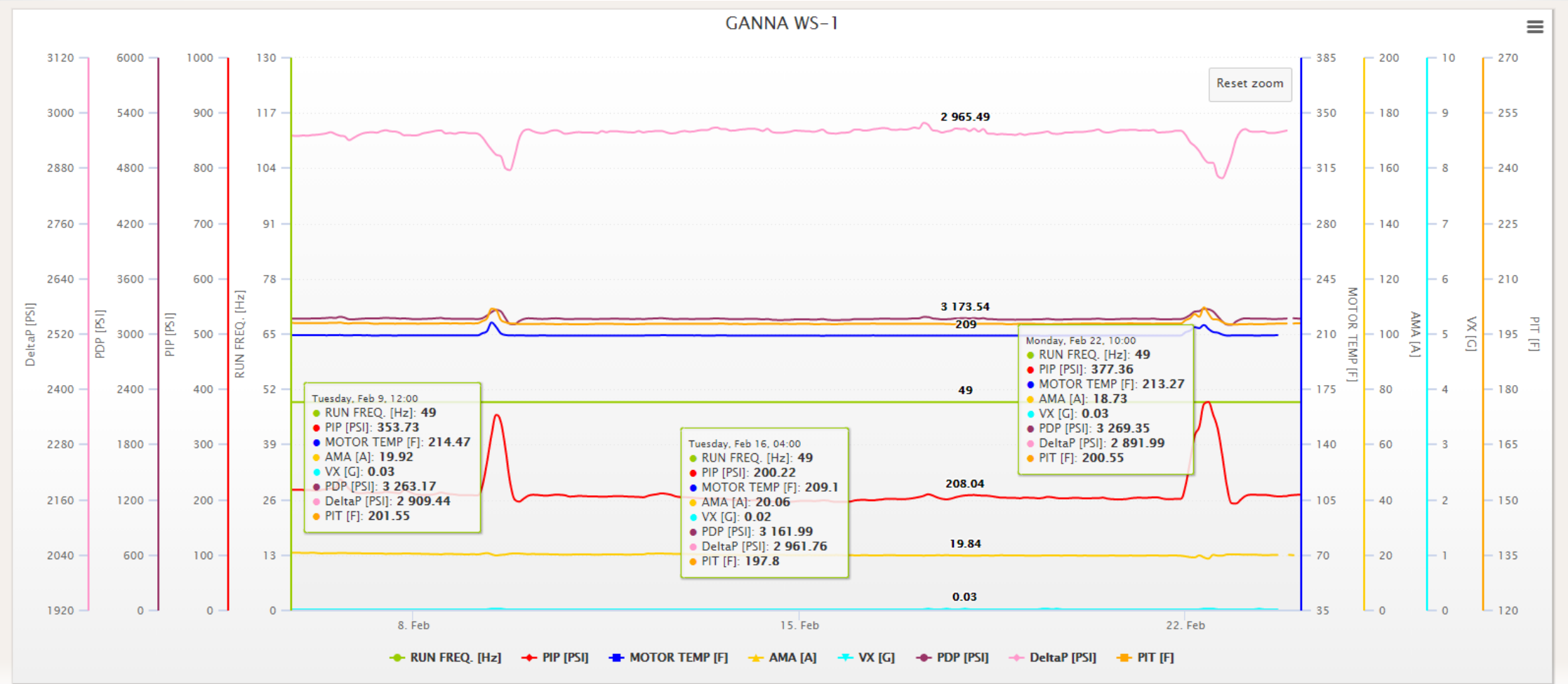
- **Results:**

- The Dyna card indicated ideal conditions.

## Case Study #2: ESP wells



# Case Study #2: Avoid back pressure



# Case Study #2: Avoid back pressure

---

- **Symptoms:**

- The well intake pressure was increased from 201 PSI to 377 PSI.

- **Actions Taken:**

- NORPETCO was immediately informed to check any back pressure on the line

- **Results:**

- The intake pressure was back to normal



Any  
Question?



*Thank You!*