



# **GEOHALLITIANS**

## Dashboard Handbook

[https://geohallitians.on  
render.com/](https://geohallitians.onrender.com/)



**HALLIBURTON**

Synergy, Production, Monitoring tool, Interactive dashboard Digital oil field, Python language

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# Accessing the Dashboard

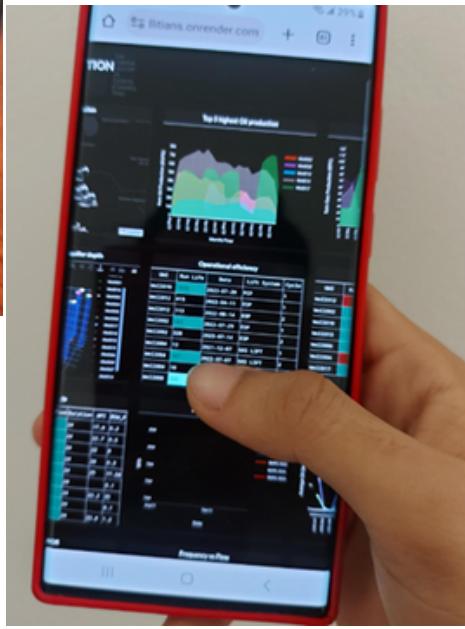
*To access the dashboard, simply open the*



*following link in your web browser:*

**<https://geohallitians.onrender.com/>**

*One of the advantages of our dashboard is its accessibility across various devices, including smartphones, computers, tablets, and more.*



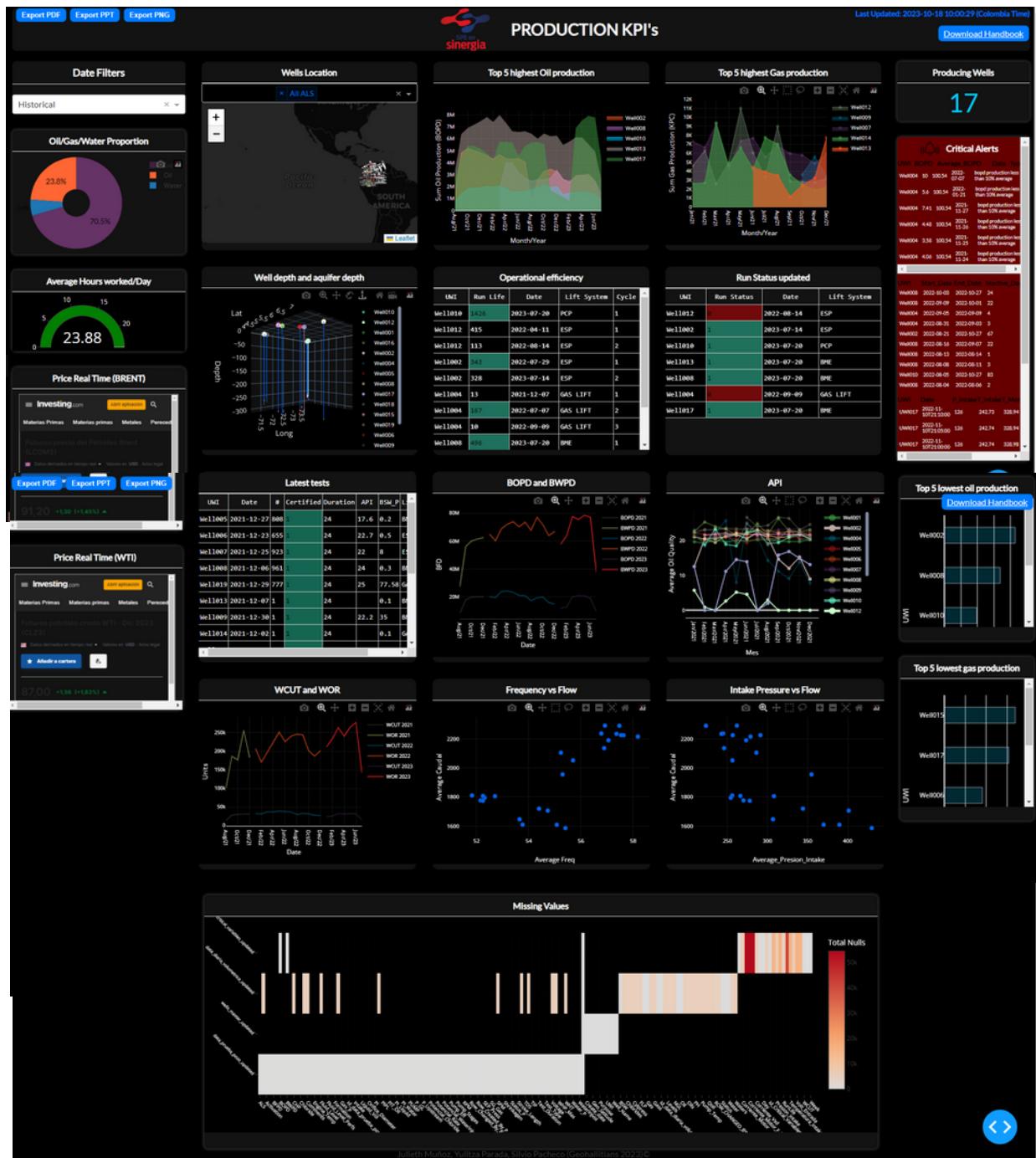
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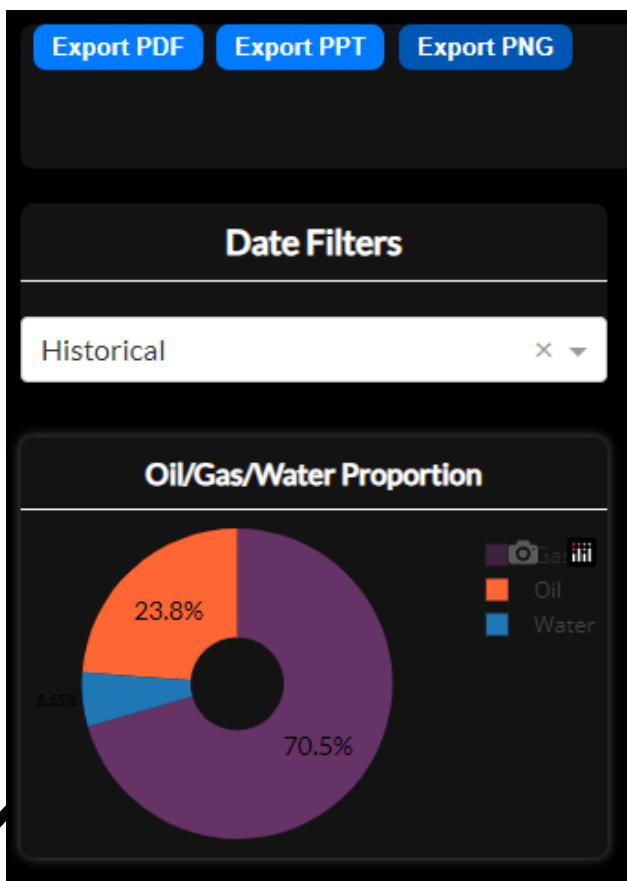


# Monitoring Dashboard User Manual

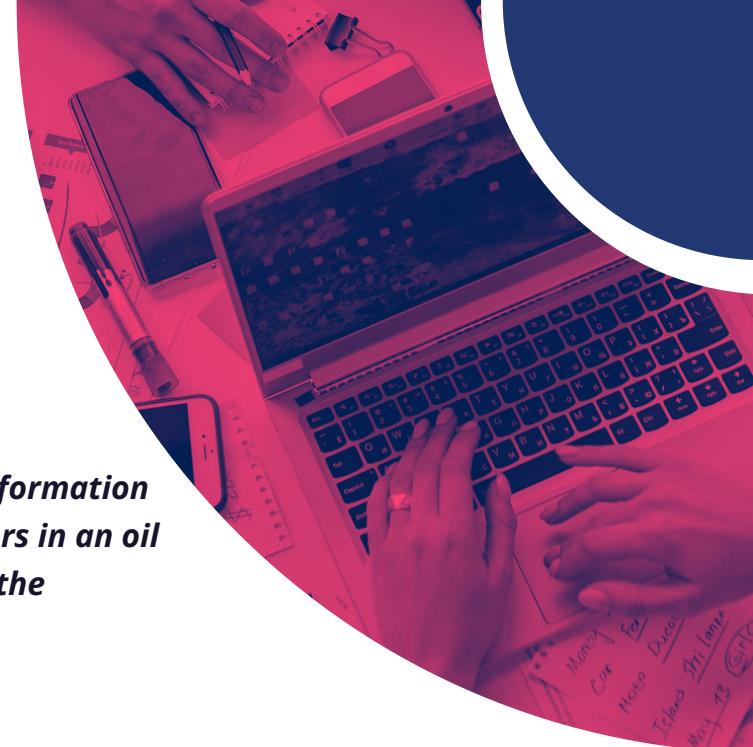
**Overview:** This dashboard provides detailed information about the most important production indicators in an oil field. Below is a description of key sections of the dashboard:

## 1 Well Information:

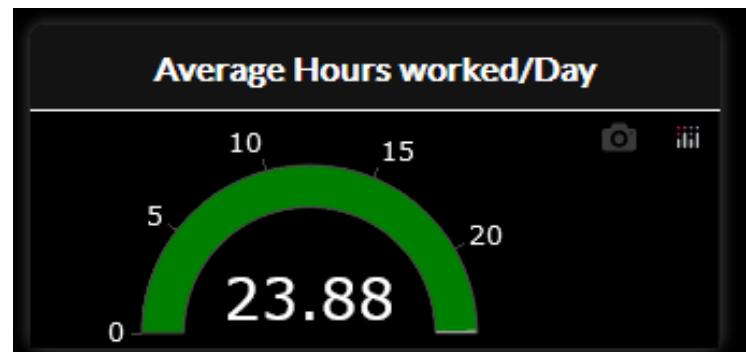
On the left side of the dashboard, you'll find comprehensive information about all the wells in the field, including oil, water, and gas production, as well as their respective proportions. Additionally, a card displaying hours per day shows the average working hours of the field's wells.



This chart offers a clear visualization of the composition of fluids produced, with precise percentage values for each component.



**Average Daily Working Hours:** A speedometer-style gauge, prominently displayed, presents the average hours per day worked by all the wells in the field. This metric serves as a critical indicator of overall operational efficiency.



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# Monitoring

## Dashboard User Manual

### 2 Real Prices of Brent and WTI Barrels:

Moving ahead, our dashboard provides a historical analysis of Brent and WTI barrel prices. Users can filter this data to focus on specific timeframes, ranging from 1 to 5 years, offering valuable insights into market trends.



**Price Real Time (BRENT)**

Investing.com Abrir aplicación

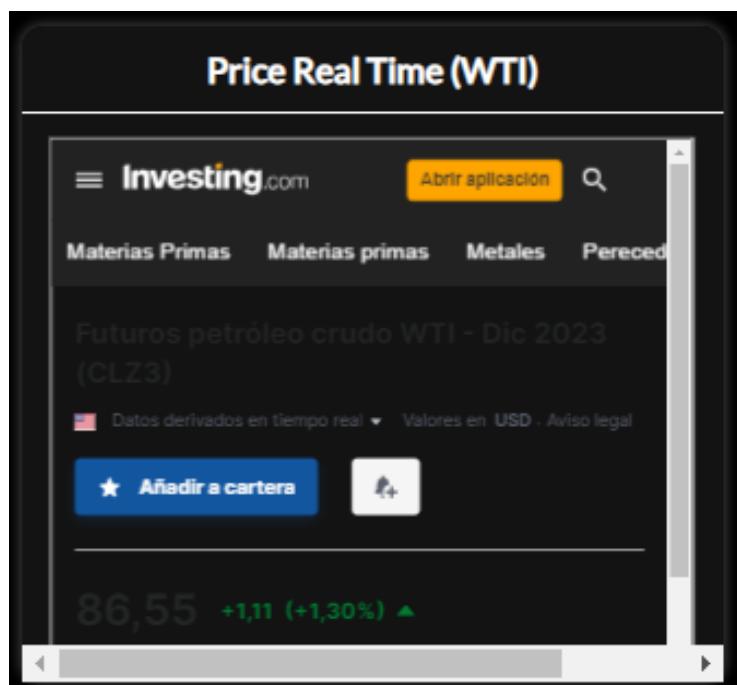
Materias Primas Materias primas Metales Pereced

Futuros precio del Petróleo Brent (LCOM3)

Datos derivados en tiempo real ▾ Valores en USD . Aviso legal

Añadir a cartera 

90,83 +0,93 (+1,03%) ▲



**Price Real Time (WTI)**

Investing.com Abrir aplicación

Materias Primas Materias primas Metales Pereced

Futuros petróleo crudo WTI - Dic 2023 (CLZ3)

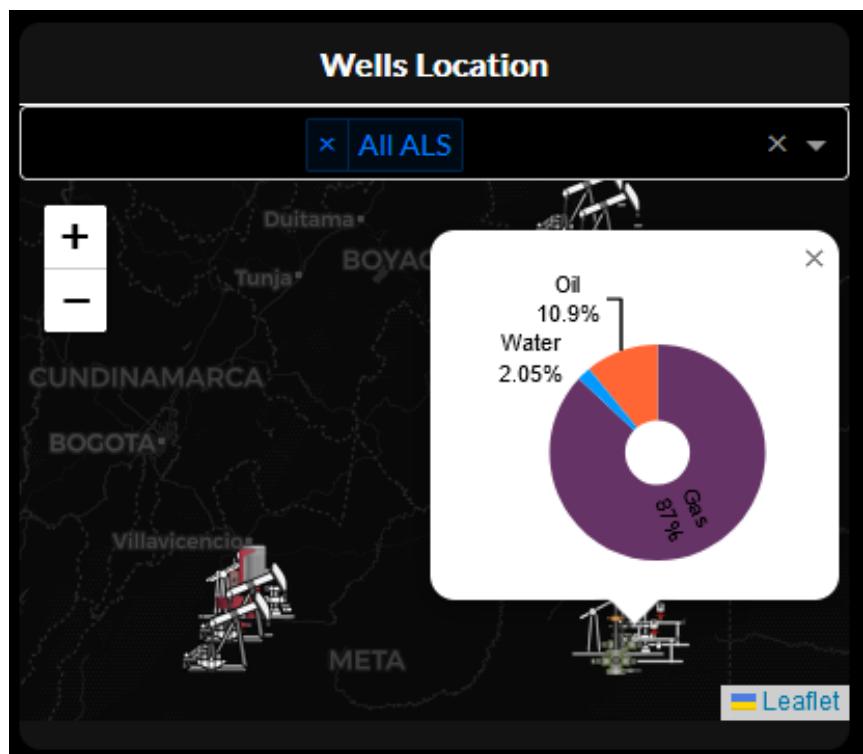
Datos derivados en tiempo real ▾ Valores en USD . Aviso legal

Añadir a cartera 

86,55 +1,11 (+1,30%) ▲

### 3 Geospatial Visualization

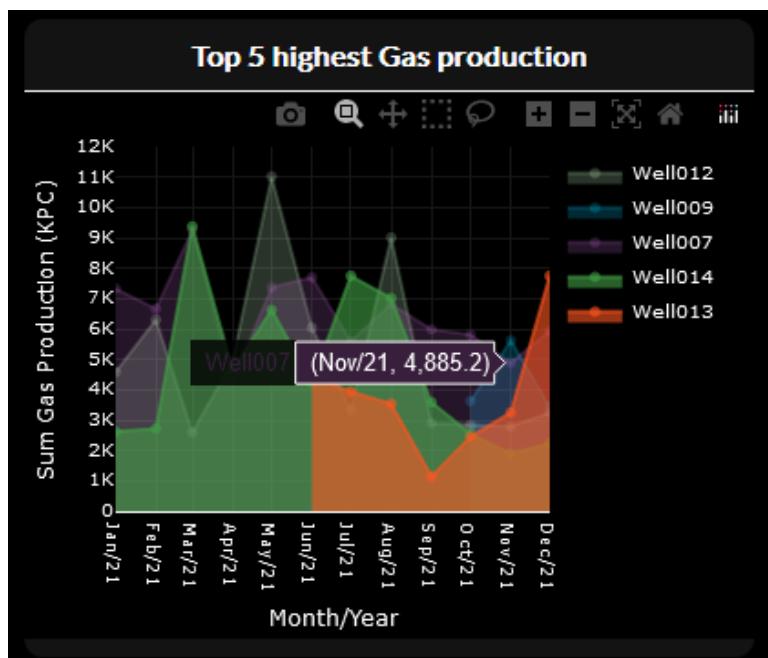
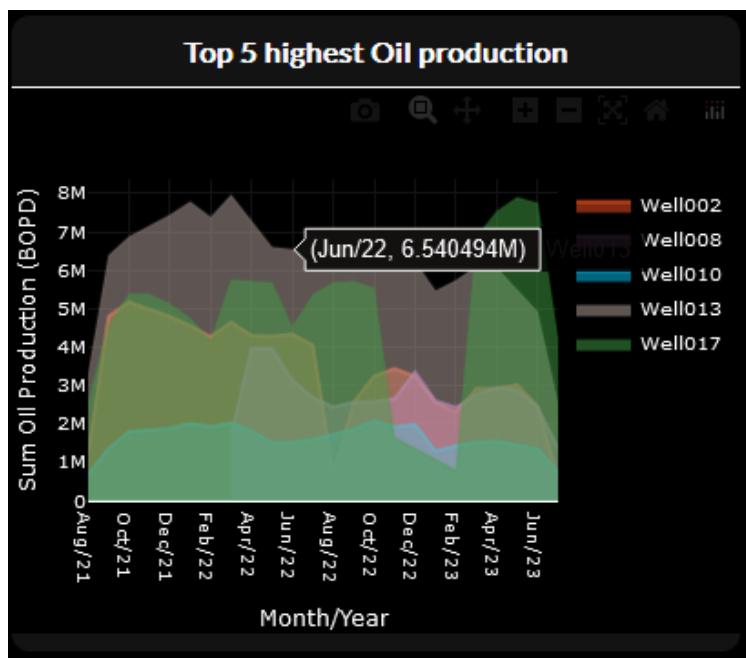
Explore the geographic distribution of the 17 wells on an interactive map. Each well's lifting system is represented by an icon, pinpointing its exact coordinates. A simple click on any well reveals production proportions, while hovering over them provides additional details on oil or gas production.



# Dashboard User Manual

## 4 Top 5 Production Wells:

To identify the highest-performing wells, our dashboard includes area charts for both oil and gas production. Users can customize their view by adding or removing specific data points simply by interacting with the labels. Each color on the chart corresponds to a distinct well



## 5 Total Production Wells:

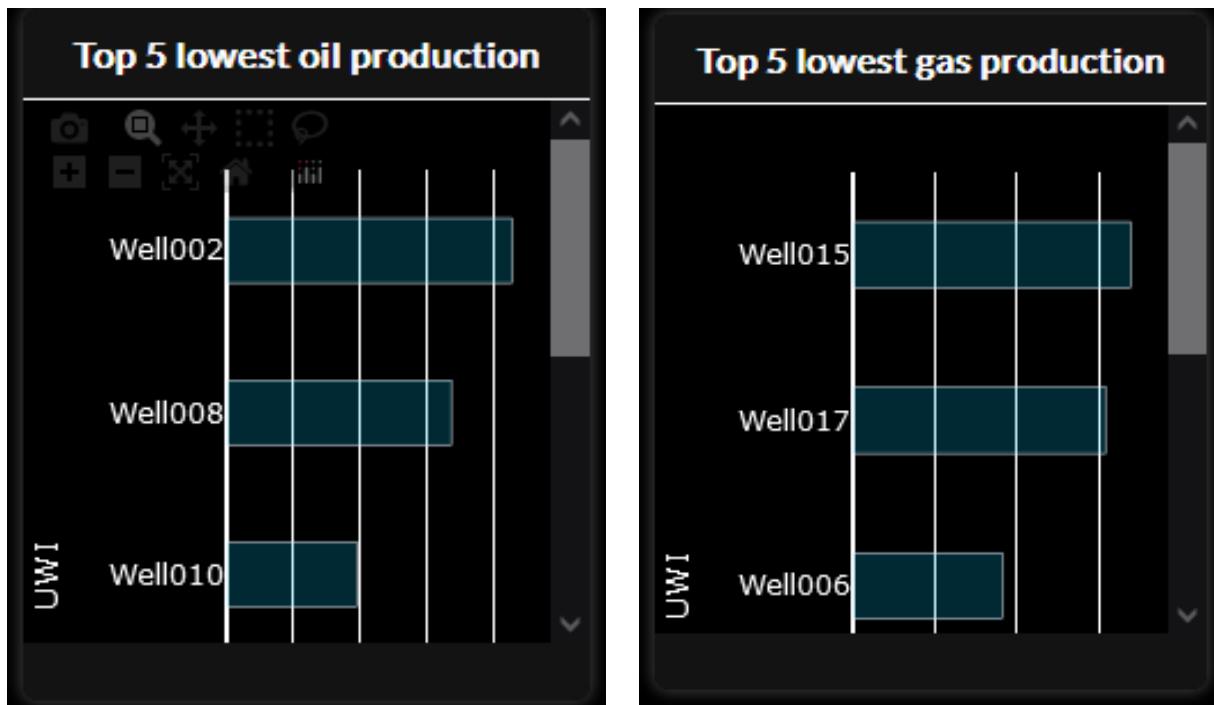
On the right side, you'll find an overview of the total number of production wells in the field, providing a quick reference for the scale of operations..



# Dashboard User Manual

## 6 Lowest Production Wells:

To identify the highest-performing wells, our dashboard includes area charts for both oil and gas production. Users can customize their view by adding or removing specific data points simply by interacting with the labels. Each color on the chart corresponds to a distinct well



## 7 RUN STATUS AND OPERATIONAL EFFICIENCY

offers insights into run life, with the highest run life for each well highlighted in green, along with cycle data.

Operational efficiency				
UWI	Run Life	Date	Lift System	Cycle
Well010	1426	2023-07-20	PCP	1
Well012	415	2022-04-11	ESP	1
Well012	113	2022-08-14	ESP	2
Well002	343	2022-07-29	ESP	1
Well002	328	2023-07-14	ESP	2
Well004	13	2021-12-07	GAS LIFT	1
Well004	167	2022-07-07	GAS LIFT	2
Well004	10	2022-09-09	GAS LIFT	3
Well008	496	2023-07-20	BME	1

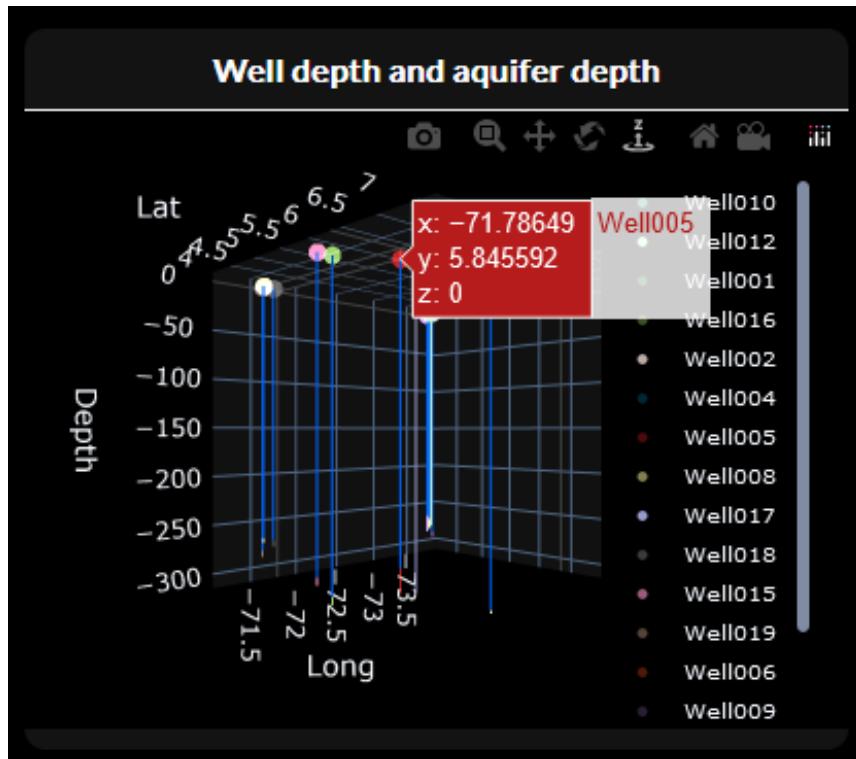
latest reports on the status of each well. Inactive wells are highlighted in red, while active ones, along with their lifting systems, are depicted in green.

Run Status updated			
UWI	Run Status	Date	Lift System
Well012	0	2022-08-14	ESP
Well002	1	2023-07-14	ESP
Well010	1	2023-07-20	PCP
Well013	1	2023-07-20	BME
Well008	1	2023-07-20	BME
Well004	0	2022-09-09	GAS LIFT
Well017	1	2023-07-20	BME

# Dashboard User Manual

## 8 3D Well Trajectory and Aquifer Visualization:

An innovative 3D cube visualization showcases well trajectories and aquifer locations for each well. Users can activate or deactivate wells, manipulate the cube's orientation, zoom in, and capture snapshots for detailed analysis.



## 9 Well Test Results:

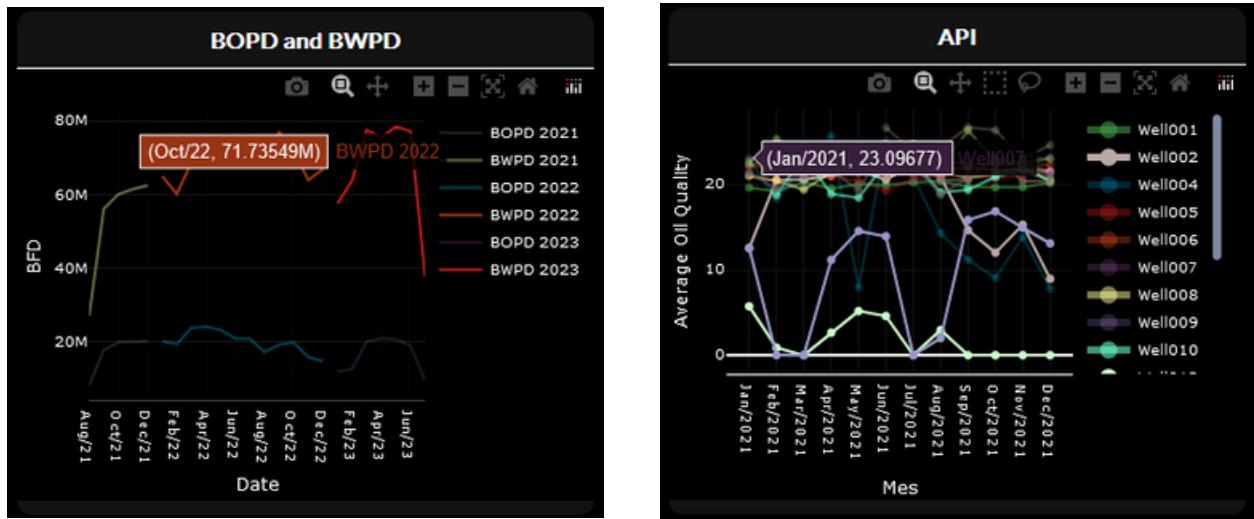
For the latest well tests, a tabular presentation is provided, with successful tests highlighted in green. Key parameters such as BSW (Basic Sediment and Water), API, and lifting system are included for reference.

Latest tests								
UWI	Date	#	Certified	Duration	API	BSW_P	Lif	
Well005	2021-12-27	808	1	24	17.6	0.2	BME	
Well006	2021-12-23	655	1	24	22.7	0.5	ESP	
Well007	2021-12-25	923	1	24	22	8	ESP	
Well008	2021-12-06	961	1	24	24	0.3	BME	
Well019	2021-12-29	777	1	24	25	77.58	GAS	
Well013	2021-12-07	1	1	24		0.1	BME	
Well009	2021-12-30	1	1	24	22.2	35	BME	
Well014	2021-12-02	1	1	24		0.1	GAS	

# Dashboard User Manual

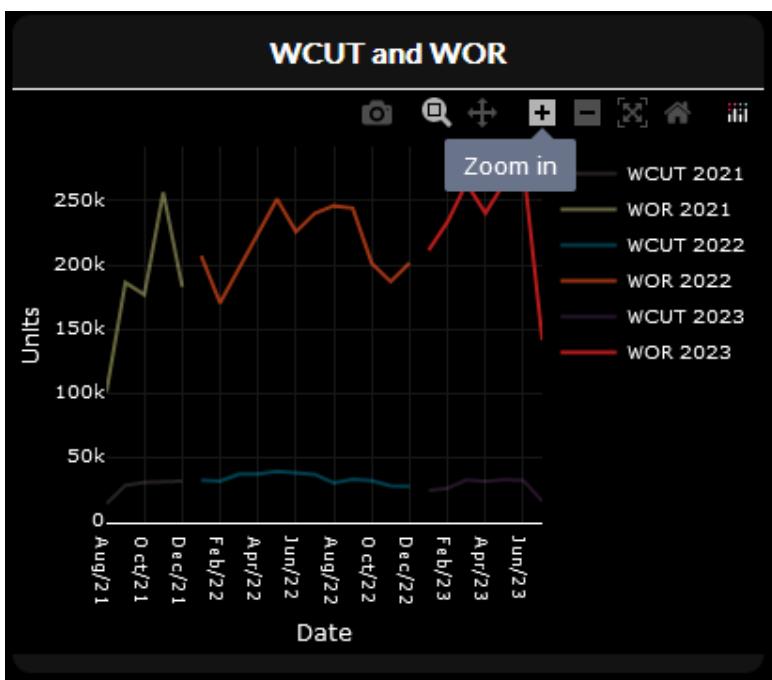
## 10 Production Trends and API Degrees Analysis

- The dashboard includes a dynamic graph displaying historical production trends in terms of BOPD (Barrels of Oil Per Day) and BWPD (Barrels of Water Per Day) for all wells. This graph helps identify production trends over time.
- Additionally, there is an API degrees graph that clusters API grades above 18 degrees, offering an overview of the API grade distribution. This aids in assessing the quality of production.



## 11 Fluid Properties and Alerts

- The dashboard provides insightful graphs to explore trends in Water Cut (WCUT) and Water-Oil Ratio (WOR), enabling in-depth analysis of fluid properties.
- Additionally, a comprehensive table of **critical alerts** is included in the dashboard. These alerts trigger when a well's production deviates by 10% or more from its historical trend; inactivity duration and anomalies (well heatl)-Machine Learning. Each alert is meticulously recorded, offering valuable insights into potential production issues.

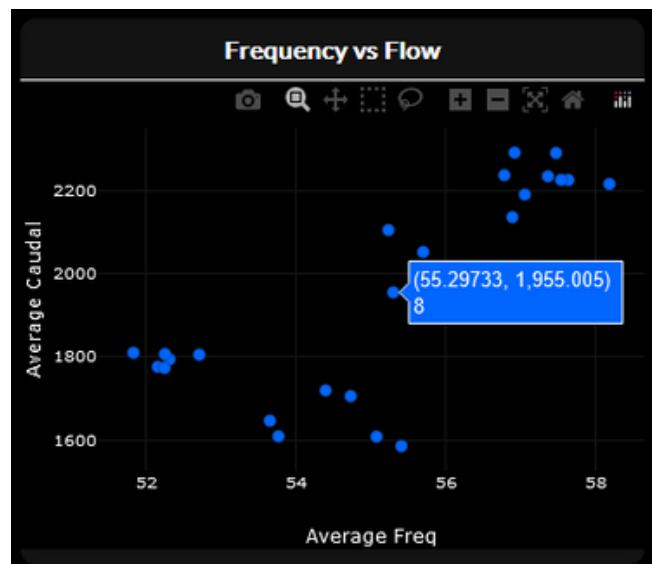
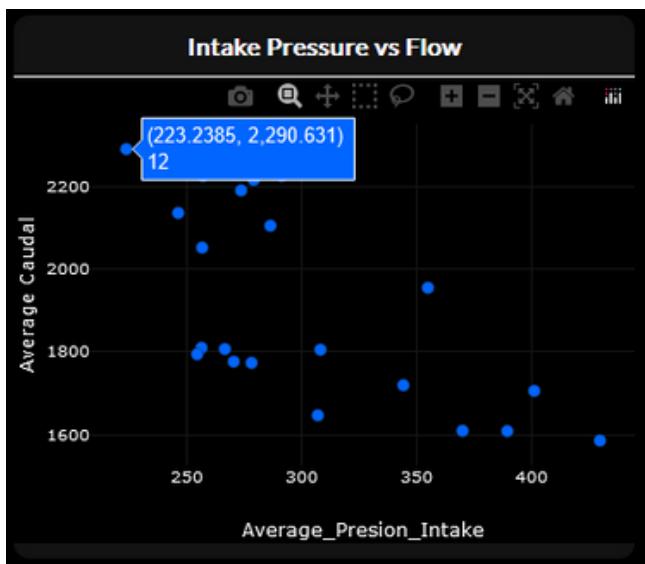


UWI	BOPD	Average_BOPD	Date	Alert Details
Well004	10	100.54	2022-07-07	bopd product less than 10%
Well004	5.6	100.54	2022-01-21	bopd product less than 10%
Well004	7.41	100.54	2021-11-27	bopd product less than 10%
Well004	4.48	100.54	2021-11-26	bopd product less than 10%
Well004	3.58	100.54	2021-11-20	bopd product less than 10%
Well004	4.06	100.54	2021-11-24	bopd product less than 10%
Well008	2022-10-03	2022-10-27	24	
Well008	2022-09-09	2022-10-01	22	
Well004	2022-09-05	2022-09-09	4	
Well004	2022-08-31	2022-09-03	3	
Well002	2022-08-21	2022-10-27	67	
Well008	2022-08-16	2022-09-07	22	
Well008	2022-08-13	2022-08-14	1	
Well008	2022-08-08	2022-08-11	3	
Well050	2022-08-05	2022-10-27	83	
Well008	2022-08-04	2022-08-06	2	
UWI	Date	P_Intake	T_Intake	
UW017	2022-11-10T21:00:00	126	242.73	
UW017	2022-11-10T21:05:00	126	242.74	

# Dashboard User Manual

## 12 Frequency vs. Flow and Intake Pressure vs. Flow:

Visualize the relationships between frequency, flow, and intake pressure in a scatter plot, enabling users to identify patterns and correlations within the data.



## 13 Missing Values Control:

-The "Missing Values" table serves as a data quality control tool, providing a count of non-values within each column and table, ensuring data integrity. You found it at the end of the page.



# Our Dashboard

## EXPORT OPTIONS

For your convenience, the dashboard offers **multiple export** options. "PNG" exports a screenshot directly to your computer. "PowerPoint" generates a presentation with a cover page and screenshot of the analyzed KPIs. Lastly, "PDF" exports the screenshot in PDF format and "Handbook" this document.

The dashboard interface includes:

- PDF:** A red-bordered icon of a PDF file.
- Geohallitians\_dashboard\_presentation:** A screenshot of a Microsoft PowerPoint slide titled "Geohallitians Production Kpis Report" featuring the SPE en sinergia logo.
- Geohallitians\_dashboards:** A screenshot of the dashboard itself, showing various KPIs and charts.
- Handbook:** A screenshot of a handbook titled "GEOHALLITIANS Dashboard Handbook" with a QR code and a QR code icon.
- Table of Contents:** A list of 9 items:
  - 1 Accessing the Dashboard
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  - 9 Our Contact
- Producing Wells:** A large callout box with a red border containing the text "Taking snapshot - this may take a few seconds" and a large number "17".

The browser window shows the "Export PDF" option selected in the sidebar menu. The main content area displays the "PRODUCTION KPI's" dashboard with various charts and data tables.

# Our Dashboard

## Using the dashboard

· **Filtering Data:** Apply filters to view specific data subsets.

· **Exploring Graphs:** Click, hover, or use labels to interact with graphs and charts.

· **Generating Reports:** Create custom reports based on your analysis.

· **Configuring Notifications:** Set up alert notifications for timely actions.

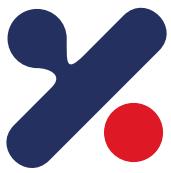
· **Data Analysis:** Leverage tools for in-depth data analysis.

## Technical Support

For technical assistance or inquiries, please reach out to our technical support team at [geohallitiansspe@gmail.com](mailto:geohallitiansspe@gmail.com)

## Conclusion

Thank you for choosing our production monitoring dashboard. Our dashboard is designed to empower users with comprehensive data insights, enhancing decision-making and operational efficiency within the oil field. We hope this tool will empower you to make data-driven decisions and contribute to the success of your oil field operations.



# ***Thank You!***

# **GEOHALLITIANS**

## **Our Contact:**



+57 317 385 8945



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