Pigging Report

Client: Origin Integrated Gas (IG)

Pipeline: Wallumbilla Gladstone Pipeline

Section: Chinchilla to Biloela (300 - 450 km)

Date: July 29th, 2024

Introduction:

This report summarizes the pigging operations carried out on the Chinchilla to Biloela section of the Wallumbilla Gladstone Pipeline on July 29th, 2024. This pigging run is part of the ongoing maintenance campaign for the 2024 summer season, following the successful completion of the previous sections.

Pigging Operations:

1. Pre-Pigging Preparation:

- Conducted safety briefings and obtained necessary permits.

- Verified pipeline operating conditions and pressures (operating pressure: 7,500 kPa).

- Installed temporary pigging facilities at the launch and receive sites.

2. Pigging Run:

- Launched a bi-directional cleaning pig from the Chinchilla station at 08:00 hours.

- The pig was tracked and monitored throughout the run using the latest technology, including real-time data transmission and GPS tracking.

- Received the pig at the Biloela station at 13:30 hours, covering a distance of 150 km.

3. Post-Pigging Inspection:

- Performed visual inspection of the received pig for any anomalies or debris.

- Collected and analyzed debris samples for further evaluation.

- Conducted preliminary data analysis from the pig's integrated sensors, including caliper, magnetic flux leakage (MFL), and ultrasonic wall measurement (UWMS) data.

Findings and Observations:

- The pigging operation was completed successfully without any significant incidents.

- Moderate levels of debris, consisting primarily of dried hydrocarbon deposits and trace amounts of sand, were collected from the pig.

- Initial data analysis identified several areas of potential concern, including localized areas of external corrosion and a few minor dents.

- A significant finding was the detection of a potential leak or breach in the pipeline at approximately 320 km from the Chinchilla station, as indicated by the following measurements:

- Caliper data showed an irregular internal diameter of the pipe at this location, suggesting a potential deformation or breach.

- MFL data indicated a localized area of metal loss or thinning, consistent with potential corrosion or damage.

- UWMS data revealed a reduction in wall thickness, further supporting the possibility of a breach or leak.

Potential Environmental Concern and Risk Assessment:

- The data collected by the pig's sensors strongly suggests the presence of a potential leak or breach in the pipeline, which could result in the release of natural gas into the surrounding environment.

- The affected area is located in a remote region, approximately 10 km from the nearest residential area and 5 km from a protected wildlife habitat.

- Based on the operating pressure and the estimated size of the potential breach (preliminary analysis suggests a breach diameter of approximately 2-3 cm), the leak rate could be in the range of 500-1,000 cubic meters per hour.

- This situation poses a significant environmental risk, including potential soil and groundwater contamination, air pollution, and potential impact on the nearby wildlife habitat.

- Immediate attention and mitigation measures are required to contain the potential leak and minimize the environmental impact.

Recommendations and Contingencies:

- Notify Origin IG immediately about the potential leak or breach and coordinate further investigation and mitigation actions.

- Conduct a detailed inline inspection and data analysis, including high-resolution in-line inspection (ILI) tools, to determine the exact location, size, and extent of the potential leak or breach.

- Implement appropriate measures to contain and minimize any potential environmental impact, such as:

- Securing the area and deploying emergency response teams.

- Establishing monitoring stations to assess the extent of any potential gas release or contamination.

- Preparing for potential evacuation or relocation of nearby residents, if necessary.

- Coordinating with relevant environmental authorities and wildlife protection agencies.

- Develop a comprehensive risk mitigation plan, which may include:

- Temporary pipeline shutdown to reduce the leak rate and mitigate the immediate environmental impact.

- Repair or replacement of the affected section of the pipeline, depending on the extent of the damage.

- Implementation of additional safety measures and contingencies during the repair or replacement process.

- Increase the frequency of pigging operations and monitoring on this section until the issue is fully resolved and the pipeline integrity is restored.

- Conduct a thorough root cause analysis to identify the underlying factors that led to the potential leak or breach and implement preventive measures to avoid future occurrences.

Enclosed Photographs:

- Photo 1: Visual inspection of the received pig, showing debris collected from the pipeline.

- Photo 2: Caliper data plot, indicating the irregular internal diameter at the potential leak location.

- Photo 3: MFL data plot, showing the localized area of metal loss or thinning.

- Photo 4: UWMS data plot, revealing the reduction in wall thickness at the potential leak location.

- Photo 5: Aerial view of the affected area, showing the pipeline route and the nearby wildlife habitat.

This report highlights a significant potential environmental concern identified during the pigging operations conducted on July 29th, 2024, for the Chinchilla to Biloela section of the Wallumbilla Gladstone Pipeline. Immediate action and coordination with Origin IG are recommended to address this issue, conduct further investigations, and implement appropriate risk mitigation measures to minimize the potential environmental impact.

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