

ELIMINATING AU\$25m DOWNTIME AT A TIER 1 GOLD MINING COMPANY

In the first three months post deployment, GreaseBoss Critical Point Monitoring solution on a Tier 1 gold mine's SAG mill **discovered mistimed pumping, severe under greasing** at feed end bearings, and a pinion injector failure, enabling immediate work orders, closing compliance gaps, **preventing a potential mill failure, costing AU\$25m in lost production.**

CHALLENGES FACED



SAG and Ball Mills are **the most critical assets** on a gold mine and **have limited visibility** at critical grease lubrication interfaces on the trunnion & pinion.

The current method to manage this is monthly physical inspections to report on grease delivery at each point.

Before GreaseBoss, a Ball Mill lubrication failure costed the customer 9 days of downtime and AU\$25 million in lost production.

SOLUTION PROVIDED

CRITICAL POINT MONITORING

After the Ball Mill failure, GreaseBoss installed **x16 Endpoint Low Flows** across trunnion and pinion to directly measure grease flow.

GreaseBoss delivers daily visibility, simple reporting and near real-time alerts to assist the reliability team with monitoring the asset. Over the 3-month period, **visibility over greasing data identified multiple system issues and enabled the site to raise work orders to repair the lubrication system.**



KEY FINDINGS

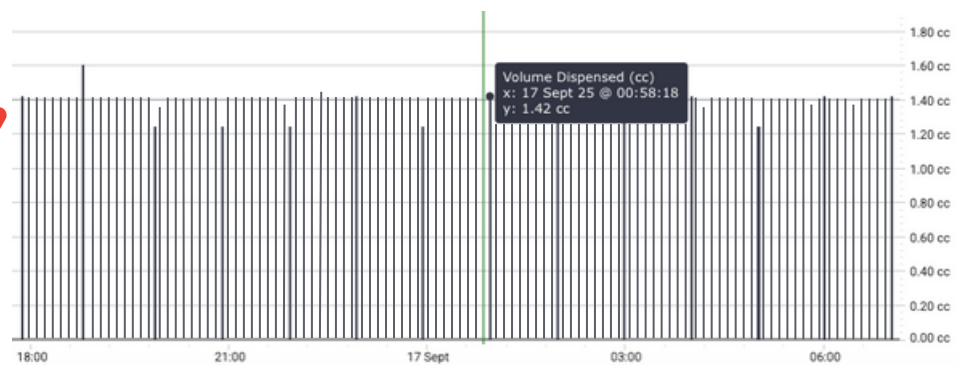
1. DISCOVERED PUMP TIMING MISCONFIGURATION TO TRUNNION POINTS

The customer was expecting a grease delivery of **1.2 grams every 435 seconds**, which adds up to 9.93 grams per hour. However, **our data revealed that the pump is only firing 1.2 grams per hour,**

delivering only 12% of the target grease volume.

EXPECTED GREASE DELIVERY

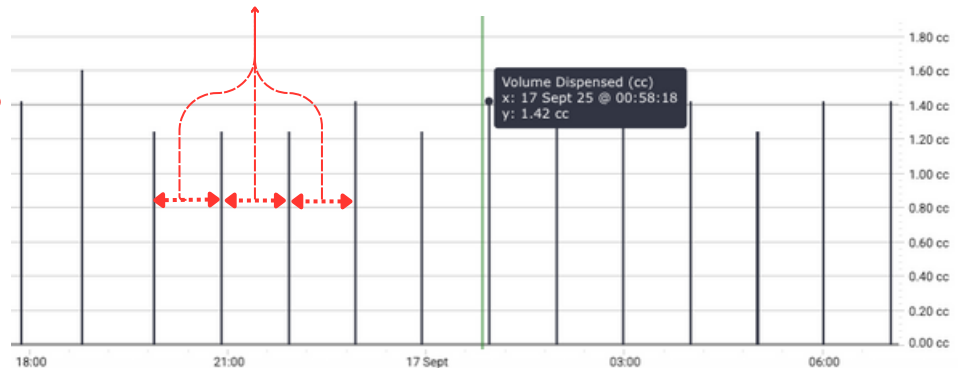
9.93g/hr



ONE HOUR GAPS BETWEEN GREASE EVENTS

ACTUAL GREASE DELIVERY

1.20g/hr

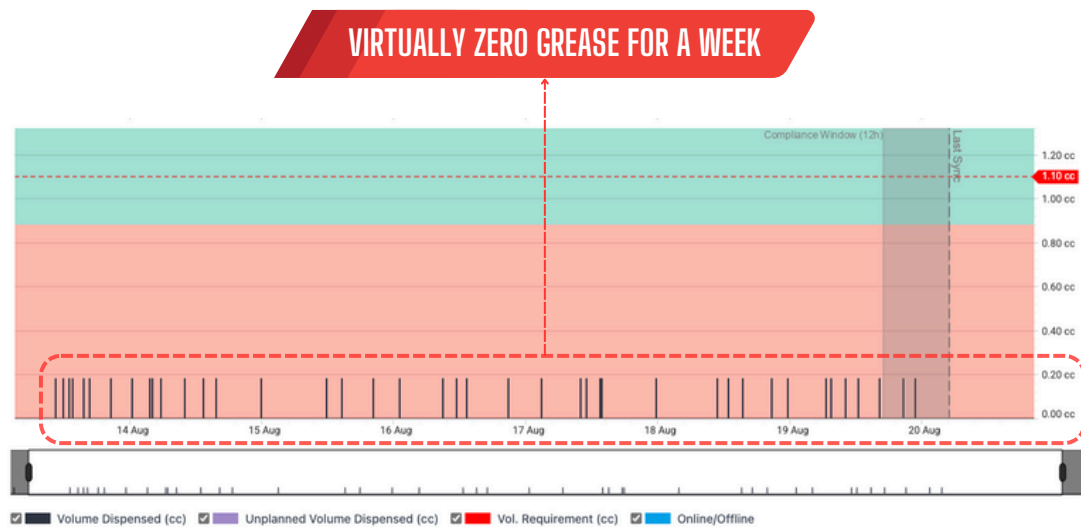


This visibility over planned vs actual greasing allowed our customer to raise work orders and immediately remedy the pump before any critical failures occur.

2. UNCOVERED SEVERE UNDERGREASING ON FEED END LEFT & RIGHT

The GreaseCloud data successfully indicated that both **Feed End Left and Right show near-zero grease delivery** over the review window, indicating these bearings are not receiving lubrication and at high risk of premature failure.

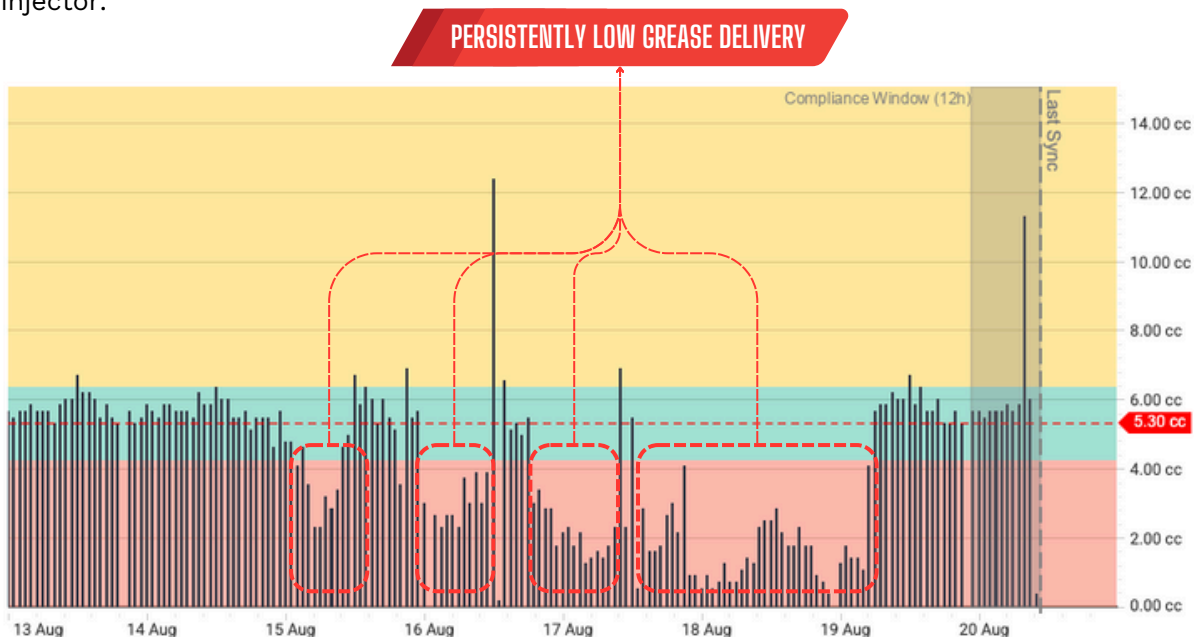
This visibility prompted the customer to take a prescriptive maintenance approach, allowing the maintenance team to schedule a planned downtime and fix the lubrication system instead of experiencing a major unplanned shutdown.



3. REVEALED SIGNS OF INJECTOR FAILURE ON DRIVE END PINION BEARINGS

The Drive End pinion shows a **pattern of persistently low/declining volumes across multiple cycles**, consistent with signs of injector failure.

This behaviour indicated **early stages of injector failure**, where partial or inconsistent delivery occurs before complete failure. This data trend was identified by the GreaseBoss team and raised with the maintenance team, who immediately raised a work order to replace the failing injector.

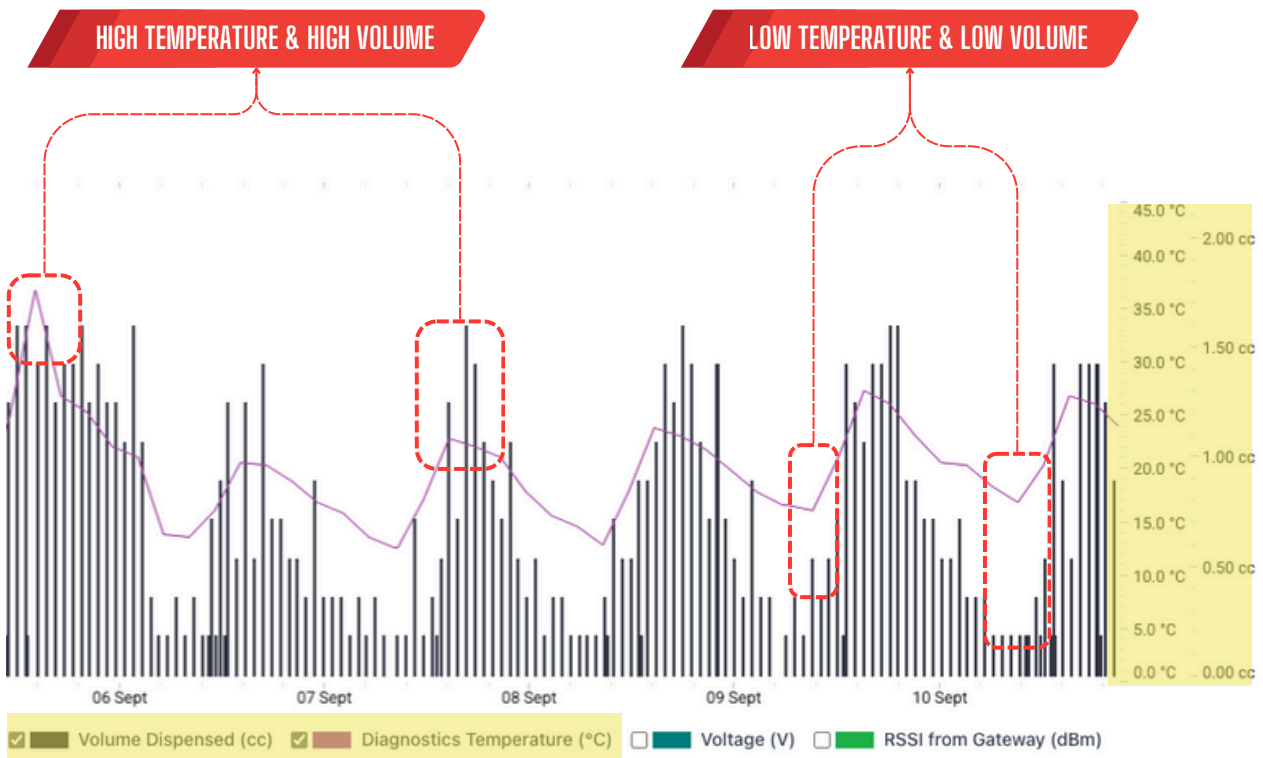


“A lot of good communication between the GreaseBoss representative and our site team.”
—Maintenance Superintendent

4. INDICATED TEMPERATURE-DRIVEN GREASE VARIABILITY

The system also clearly **identified the impact that daily temperature fluctuations had on the grease delivery volumes** into the mill. The data demonstrated that **the mill was consistently being undergreased during colder hours**.

This data enables maintenance teams to properly assess the effectiveness of any grease heating systems on site and the potential for a different grease type to be used.



CONCLUSION

Within three months of deploying GreaseBoss Critical Point Monitoring on the SAG mill, the site **uncovered a pump-timer misconfiguration** (severe under-delivery), **near-zero grease delivery at some points**, and **flagged an early injector failure** and **the impact of daily temperature fluctuations on grease delivery volumes**.

The GreaseBoss data enabled work orders to be raised just in time before any critical failures occurred

“We’re very appreciative of the data provided; it’s critical to roll this out across all of our sites.” —Corporate Maintenance Lead

THE GREASEBOSS ROI

The data enabled immediate work orders, restored proof-of-delivery, and shifted maintenance methodology from preventive to prescriptive maintenance, de-risking a potential nine day SAG mill outage.

1x SAG Mill failure per year: minimum ~AU\$25m in downtime

ROI = 124,900%