



**HORSBURGH & SCOTT**

GEAR UP™

## **'Sentry' Solutions**

Problem/Solution Cost/Benefit 'Case' study:

- √ AG Mill: Foundation impact on Mill damage and lowered Production "Throughput" rate.

## The 'Sentry' Concept

Predicts the future “health” of equipment to proactively ensure maximum Uptime, Prevent Downtime and Protect your investment.

Provides 24/7 “At a Glance” equipment condition (of vibration, strain, temperature) using intuitive Red/Yellow/Green “Traffic Light” system.

Creates 3-D “movies” to rapidly identify the TRUE Root Cause of equipment “hot spots”.

Enhances Predictive Maintenance (PdM) and Process optimization.

H&S takes full ownership for detailed Corrective Actions specific to the unique Needs of the Customer. (Extension of Customer Reliability Group)

















Conclusion: Mill (after repairs) can 'Push' the Throughput allowing for Optimum Loading. High Load but Moderate (yet acceptable) Vibration.

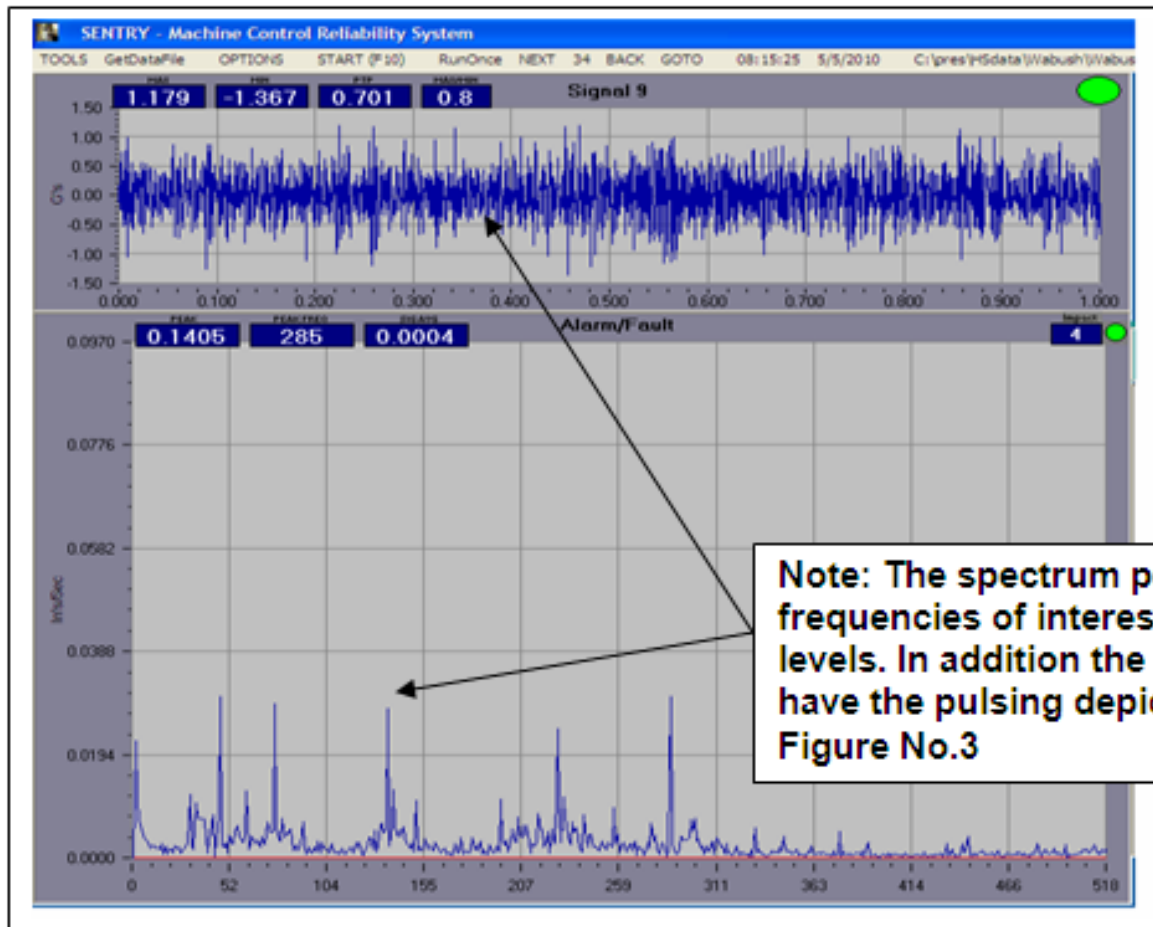


Figure No.4 the Screen above is for a period of heavy mill loading but with a low mill load to power % power ration. Once a mill is operated lower that then ratio resulting in excitation the teeth do not deflect and mechanical stressing is greatly reduced. This ration value will change based on the density of the mill feed since this weight will influence to a certain extent the frequency of excitation.

## Investments, Cost/Benefit analysis

- \$ 500K investment: Condition Assessment (material and Engineering Services Labor), new/re-mfg. components and labor.
- ROI: Much higher reliability >> \$1 M/year of increased Uptime (\$1 invested >>2\$ of Return)
- ROI: Higher Production rate 'Throughput' created \$10K/Day of additional profit (rate now dependent on low/high power Ore).