



# MAINTENANCE & RELIABILITY SCORECARD

A quick guide to measure maintenance & reliability maturity level to improve equipment availability



BORA CONSULTING INC

[www.boraconsulting.ca](http://www.boraconsulting.ca)





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# INTRODUCTION

## WHY MEASURING MAINTENANCE & RELIABILITY IS CRUCIAL TO THE **SUCCESS OF YOUR BUSINESS**

**Thank you for downloading our maintenance and reliability scorecard.**

**We are glad to have you here.**

Time and time again, we see the same issues cropping up for so many companies in maintenance: lack of parts, inadequate maintenance strategies, lack of spare parts, low tool time, etc.

If you're here, you're likely going through a similar cycle, seeking a solution once and for all.

Assessments, reviews, and audits are a standard process for maintenance teams.

However, they are more damaging than helpful when they happen with no tangible results. Team members grow frustrated as auditors leave as quickly as they come in, trailing behind a long list of actions that need to be taken in their absence.

Generally, six months after the assessment takes place, no change or improvement has happened, so the cycle continues.

Time for another assessment of the old action plan to see if it still fits with the current circumstances, and just like that, a new action plan is born replacing the old one.

It all starts to get confusing, right?

We get it. The desire to have a master plan to close the gap is common and understandable. We are looking for solutions that will create real results rather than simply fixing a problem temporarily.

However, when we keep the grade large, we are left to take on too much, too soon.

That means, after the hype of the start of a new project subsides, the maintenance team is left alone, yet again, to deal with the real day-to-day struggles, resulting in the plan being placed back on the shelf once more.

It's time to end this cycle.

Go through this assessment to understand the fundamentals of your maintenance & reliability without getting lost in the nuts and bolts.

When you complete this assessment, you will get a fast snapshot of your organization. So you have the power to tackle one problem at a time, resolving real issues for good.

**Let's get right to it.**



# MEASURING YOUR MAINTENANCE & RELIABILITY SCORE

LEVERAGING OUR MAINTENANCE FRAMEWORK, THIS SCORECARD HELPS YOU TO QUICKLY ASSESS THE HEALTH OF YOUR ORGANIZATION.

## 1 MAINTENANCE & RELIABILITY FRAMEWORK



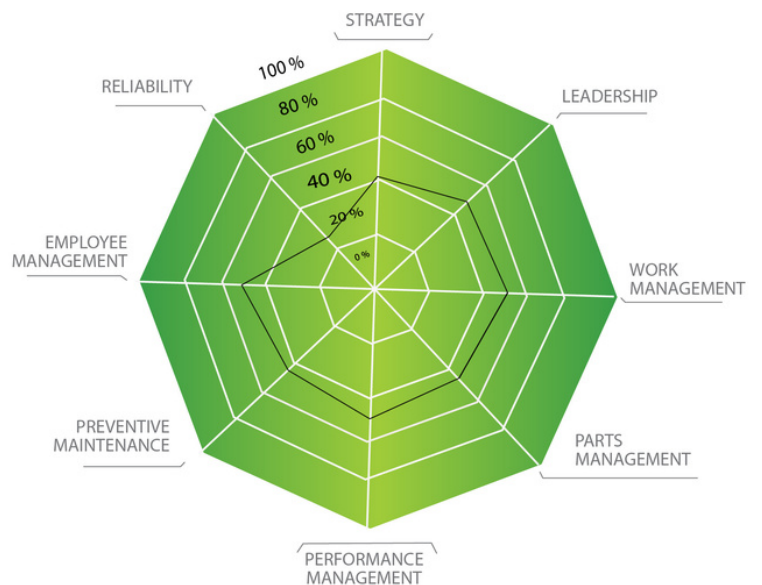
VISION & MISSION	MAINTENANCE TEAM AND STRUCTURE	MAINTENANCE BUDGET
CRITICALITY ANALYSIS	WORK MANAGEMENT	PARTS MANAGEMENT
PREVENTIVE MAINTENANCE	SHUTDOWN MANAGEMENT	DAILY MANAGEMENT SYSTEM
ASSET PERFORMANCE ANALYSIS	MAINTENANCE PERFORMANCE KPIS	TRAINING & COACHING
COST CONTROL	TOOL TIME ANALYSIS	EMPLOYEE ENGAGEMENT
CMMS / ERP UTILIZATION	DOCUMENT MANAGEMENT CONTROL	AUTOMATION & CONTROL SYSTEMS
DEFECT ELIMINATION	RELIABILITY CENTERED MAINTENANCE	TOTAL PRODUCTIVE MAINTENANCE
CONTINUOUS IMPROVEMENT	PROCESS OPTIMIZATION	FMEA



## 2 THE 8 AREAS OF FOCUS

By using a systematic approach to assess the maintenance maturity of a company, we always focus on three areas:

- Systems.
- Processes.
- Behaviors.



**Let's take a look at the level of your organization**



# YOUR MAINTENANCE & RELIABILITY SCORECARD

STRATEGY	YES	NO
Maintenance & reliability strategy & mission is defined & communicated?		
Maintenance budget is built with zero-based approach by department/equipment?		
Organizational chart for maintenance & reliability is in place and aligned with the strategy?		
Contractor management and outsourcing strategy is defined with HSE, performance and budget controls in place?		
Maintenance personnel roles and responsibilities are defined, communicated and reinforced?		
LEADERSHIP	YES	NO
Regular two-way communication between management and front-line workers is in place and healthy?		
Training for trades, staff and front-line supervision is planned and budgetted for?		
HSE and production objectives are communicated with all levels of production line?		
Daily management system and Lean boards are in place to reinforce safety, engagement and business goals?		
Succession planning and leadership coaching are in place and reviewed regularly?		
FUNCTIONAL LOCATION	YES	NO
Equipment and asset hierarchy are identified and captured in CMMS/ERP?		
Legal/legislative assets are identified with active maintenance tactics and documented?		
Criticality assessment of equipment is completed and reviewed regularly?		
Warranty management for the critical or new assets is active, up to date and in use?		
All engineering drawings and OEM manuals are available and up to date in a centralized system?		
WORK MANAGEMENT	YES	NO
Responsibilities for notifications and work orders creation are communicated to all parties?		
Planner job duties and planning & scheduling processes are identified with a dedicated planning team in place?		
Planned work orders are completed as scheduled and supervised for quality?		
Planner is never called upon to rush parts in for a breakdown or to step in as a supervisor?		
CMMS/ERP hygiene & utilization guidelines are followed though by all parties and reinforced?		

PARTS MANAGEMENT	YES	NO
Spare parts & bill of materials for each equipment are identified and up to date?		
Spare parts control with min/max levels and criticality is documented and actively utilized?		
Kitting process of spare parts for planned work is defined, in use and reinforced?		
Centralized warehouse with defined process for parts reservation & re-orders is in place and communicated?		
Parts turnover rate is understood and monitored on a regular basis?		

PERFORMANCE MANAGEMENT	YES	NO
Equipment & process performance KPIs (availability, schedule compliance, backlog, etc) are monitored & acted on?		
Employee performance KPIs (safety, absenteeism, overtime) are monitored, communicated and acted on?		
Maintenance supervisor follows the maintenance schedule, manages breadowns and ensures the quality of PMs/repairs?		
Cost reporting and cost control by asset, by area and by contractor are monitored and assessed?		
Clear accountability, recognition and follow up on objectives are in place?		

PREVENTIVE MAINTENANCE	YES	NO
Maintenance tactics for critical equipment and production assets are in place?		
Standard procedures for recurring work (overhauls, repairs, rebuilds), PMs & routes are documented?		
PMs are completed as per schedule and consecutive work orders are generated by trades as a result of inspection?		
PM/PdM program on critical assets based on RCM Methodology (FMEA, RCM)?		
Breadown crew exists to manage production related issues while maintenance team focuses on the planned work?		

RELIABILITY	YES	NO
Reliability team is in place with clear roles & responsibilities?		
Automation & sensor utilization is integrated to CMMS/ERP and leveraged for condition-based monitoring?		
Maintenance engineers & reliability team focus strictly on reliability of the assets and not project/day-to-day work?		
Equipment downtime Pareto & asset history are used as part of defect elimination strategy?		
All management personnel, operators and trades have been trained in the basics of reliability?		

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if one sub-section has 3 or more NOs, this indicates a high-risk area for your business that needs your focus.

**Contact us today to make a plan on resolving these issues ASAP.**

# ABOUT ALP

Alp is the founder of Bora Consulting Inc. Throughout his career, he has worked as an operation and maintenance professional with multi-national companies such as Rio Tinto, Vale, Tata Steel, Suncor, Accenture, among others.

With an extensive engineering background, he leverages his experience in business strategy and operations to help mining companies optimize production and achieve their business objectives.

His areas of expertise are asset management, operational excellence and value creation.



**ALP BORA**



Expert in Maintenance & Operational Excellence

## Alp's Experience Includes:



Tool time analysis and roadmap to improve OEE



Reduce maintenance backlog by 25% by prioritization and training/coaching



Operational readiness activities for an iron ore concentrator - from commissioning to production



Implementation of ERP and super-user (SAP PM)



Process optimization and re-organization resulting in \$600K annual recurring savings



Strategy and re-alignment on core priorities for an HR department



Process debottlenecking: DMAIC Kaizen workshops for a production line



Transformation portfolio management over 12 months (\$100M USD)



Experience working with multiple commodities (i.e. nickel, copper, iron ore, ilmenite, manganese, aluminum)



# ABOUT BORA CONSULTING

Founded by Alp, Bora Consulting is a boutique consulting firm specializing in operational excellence in the mining & metals industry.

Bora Consulting helps mining companies to achieve operational excellence. We bring our expertise in maintenance and reliability to improve equipment availability and increase production throughput.

**How do we achieve profitable and sustainable growth?** We created an agile, tech-savvy and boots-on-the-ground firm with this objective in mind.

**We are a family-run business and we treat our clients as family.**

We only work with a handful of clients at any given time, because we want to work closely with our mining company clients, not only to achieve but to sustain operational excellence goals.

With a solid network of experienced & passionate partners, we guarantee a hands-on approach executed by a team with an entrepreneurial spirit and a drive for boots-on-the-ground progress.

SOME OF THE **SIGNIFICANT IMPROVEMENTS** WE HAVE ACHIEVED IN THE INDUSTRY INCLUDE:

INCREASE THROUGHPUT	REDUCE UNIT COST	INCREASE OEE	ELIMINATE WASTE	IMPROVE SAFETY
Achieve the nameplate capacity by debottlenecking production lines to increase overall throughput	Decrease maintenance backlog by 25 % and focus on right maintenance strategy	Increase OEE by up to 20% by focusing on equipment availability and performance	Achieve +15% reduction in spare parts by eliminating wastes in maintenance	Increase accountability, engagement and safety performance with front-line leadership coaching

## PAST PROJECTS

**RioTinto**

**RAYONIER**  
Advanced Materials.

  
**SNC • LAVALIN**

  
**accenture**

  
**UMBRELLA**  
GROUP OF COMPANIES

  
**SUNCOR**  
ENERGY

**BHP**

  
**VALE**

  
**TATA STEEL**

  
**COMILOG**  
The Manganese Source®




**Interested in  
getting started?**





Let's start building your path to success.  
**Contact us today.**

**Alp Bora**

Principal Consultant

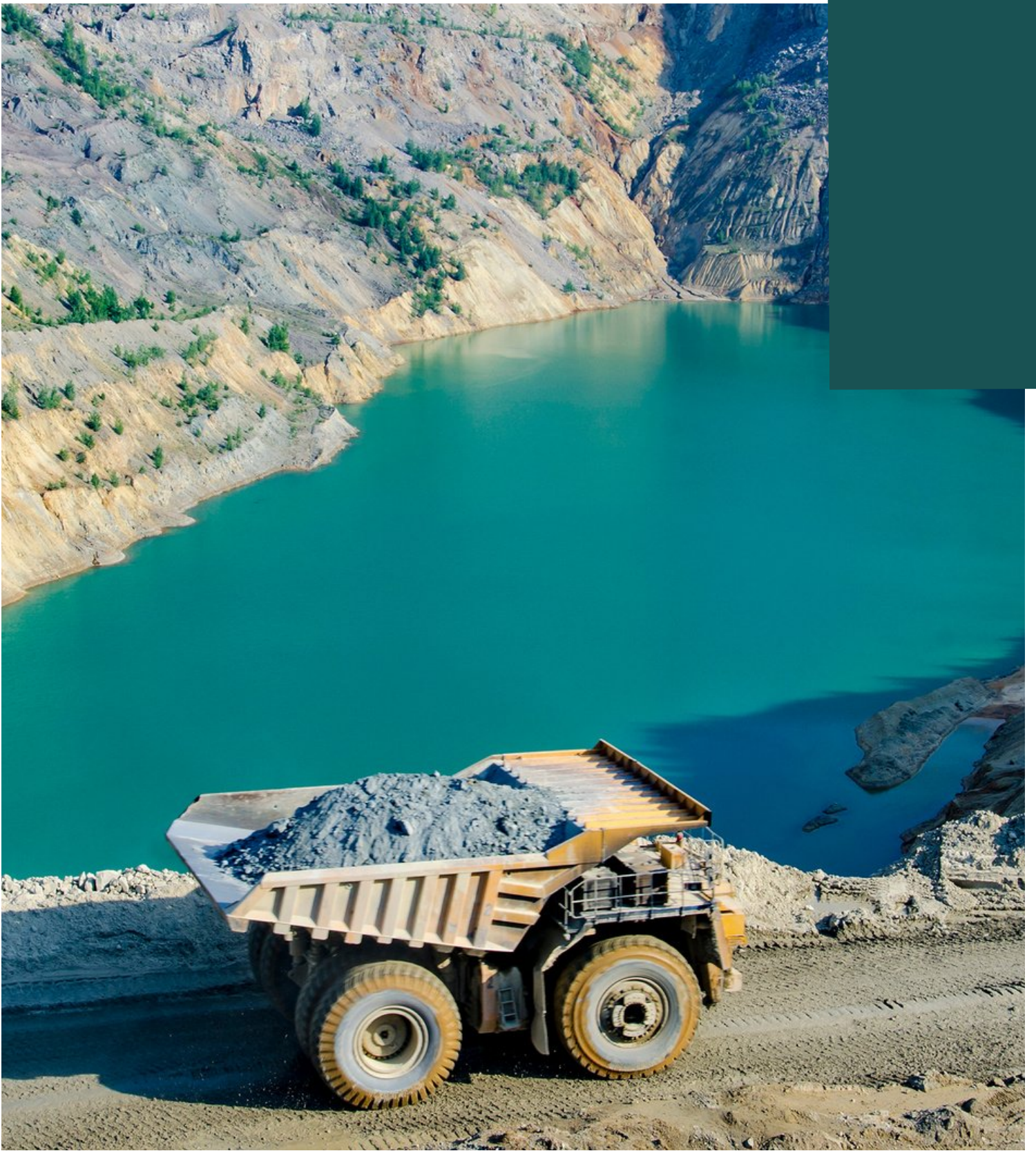
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