INTERMEDIATE GOLD PRODUCER FINDS MOTHER LODE IN OPERATIONAL IMPROVEMENTS

USC CONSULTING GROUP™

Empowering. Performance.

THE **CLIENT**

An intermediate gold producer operating in North America.

THE **CHALLENGES**

The company, which operates a large open-pit mine site, approached USC Consulting Group with an interest in addressing three significant operational issues:

No. 1: Ineffective heavy mobile equipment maintenance processes

The operation experienced significant downtime linked to an ineffective mobile maintenance process. Equipment operators and Maintenance personnel rarely followed formalized pre-service inspection protocols, which meant mission-critical mobile assets regularly suffered mechanical issues that reduced availability, impeded production, and increased cost per tonne.

Additionally, the organization did not leverage root cause analysis. Instead, stakeholders would convene ad hoc to discuss equipment failures and develop short term potential solutions. This unstructured approach exacerbated issues regarding availability. Furthermore, Maintenance Supervisors were not communicating regularly with mechanics to assess the condition of equipment taken in for repair. Maintenance personnel worked with little oversight, and there were no metrics to assess shift performance. Processes to allow visibility to departmental effectiveness were ineffective.

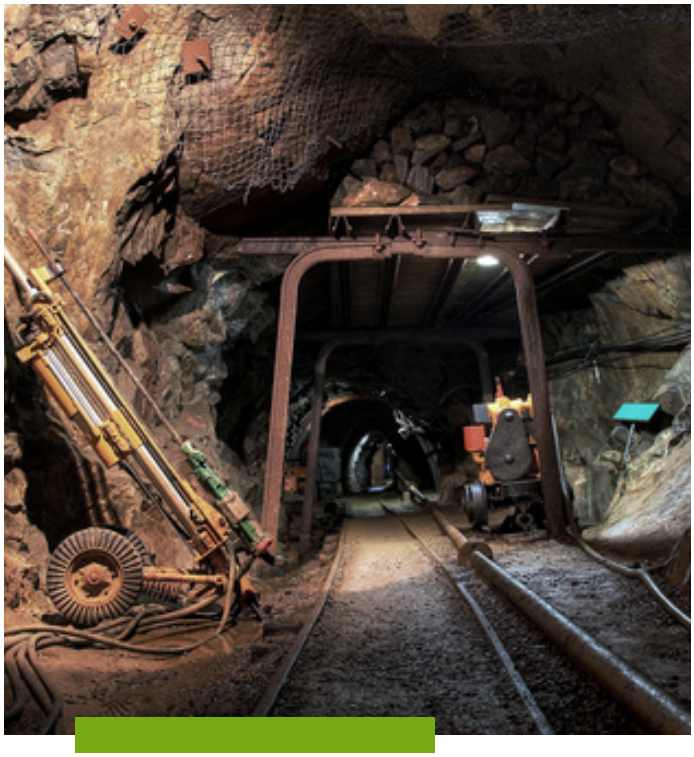
No. 2: Poor mine-to-mill interface management

Compounding the mobile maintenance issues, the organization also suffered from serious deficiencies in its mine-to-mill interface. It functioned without an overarching investigatory framework for assessing and addressing mine-to-mill and processing plant challenges. For example, if the primary crusher ran out of ore, stakeholders would gather and hold an unstructured brainstorming session, during which participants would work without the aid of industry-standard problem-solving methodologies, such as failure mode and effects analysis (FMEA). Production Supervisors taking part in mine-to-mill interface operations often did not communicate with Maintenance Supervisors responsible for repairs, essentially losing insights on the condition of mission-critical equipment for significant periods of time.

No. 3: Nonexistent role-based operational targets and standards

The Management Operating System (MOS) did not maintain or monitor role-based performance targets. Dispatchers, Drill

Operators, Grader Operators, etc., often worked without proper and specific target output metrics in mind. Some also used unauthorized processes. For instance, dispatchers and equipment operators often had different strategies and plans, creating operational inconsistencies. The lack of performance oversight left the organization unable to address this issue. It also prevented the company from conducting key operational analyses, such as not assessing the root causes of discrepancies between planned and actual work.



THE **SOLUTIONS**

USC personnel observed the client's operation first hand, over several hundred hours, across operations, shifts and crew cycles. They shared their data with company supervision and management to corroborate its validity, obtain additional insights and confirm the aforementioned issues. This allowed the proper scoping and crafting of an improvement strategy specifically designed to address those challenges through improvements to the MOS.

Solution No. 1: Maintenance and mine production MOS solution implementation

Our team worked with the organization, at all levels, to develop and implement an advanced Management Operating System designed to support the maintenance and mine production departments. With more robust scheduling, work assignment, execution, follow-up, reporting and analyses feedback loops, the MOS laid the groundwork for formalized maintenance operations and improved equipment repair and optimization outcomes. USC hosted training sessions on the maintenance-based MOS in order to ease the transition from the loose workflows used previously to the newer, more structured and disciplined alternatives.

Solution No. 2: Mine-to-mill and process plant MOS solution implementation

Utilizing the same methodology that bolstered the client's mobile maintenance workflows, our consultants collaborated with company personnel to create, roll out and implement an enhanced MOS specifically suited for mine-to-mill interface. Like its counterparts in maintenance and mine production, this MOS included

scheduling, better leveraging of systems (i.e. Dispatching), work assignment, execution, follow-up, reporting and analyses. The enhanced MOS provided structure and visibility to everyday mine-to-mill interface and process plant activities. USC performed instructional programs for users at all levels and followed up with shift-by-shift real world application of the new disciplines.

Solution No. 3: Overarching operational improvement

As part of the customized MOS platforms for the maintenance, mine production, mine-to-mill and processing plant, USC implemented tools and techniques to enhance performances at scale. For example, our consultants developed high-level collaborative methodologies to bolster communication across various departments and shifts, then utilized the existing mine plan to create optimized daily and shift schedules. They also worked with internal stakeholders to emphasize cross-functional teamwork and create viable avenues for achieving continuous performance, including stringent auditing, execution procedures and action-item creation. The team addressed more granular performance aspects as well, crafting strategies for streamlining small-scale activities such as the movement of replacement parts from warehouse to down assets in the field.

Solution No. 4: Performance management program rollout

USC rolled out a number of internal tools and techniques meant to drive organizational and individual skills advancements. Our consultants collaborated with executives and key operational stakeholders to review and revise existing high impact KPIs. The team established a steering committee and drafted a bi-weekly meeting agenda to ensure that C-suite and field contributors could meet regularly to crisply discuss

ongoing projects status, by exception. Our consultants streamlined the existing KPI reporting structure, making it easier for supervisors to accurately measure the results achieved in the field and measure them against targets. To support field worker skills advancement and formalize production methodologies, the team created an employee involvement prototype workflow. Our client approved this process. It involved establishing and promoting field-based best practices, first in the drilling operation, then following through in the remainder of the mining process.

PERFORMANCE RESULTS

24%
IMPROVEMENT

The organization saw significant and measurable operational performance improvements that translated directly to financial statements. Our client achieved 24% improvement over baseline tonnes ore processed (10% improvement over budget) during the project. The maintenance backlog dropped 40%, while fleet productivity increased by more than 18%.

CONCLUSION

This project, which unfolded over two consecutive 25-week periods, allowed this gold producer the performance boost it needed to bolster its bottom line and solidify its position as a low cost gold producer.

Businesses in the mining industry can achieve similar results by working with our seasoned consultants. Connect with USC Consulting Group today to **learn more about our work** and how our team can position your organization for success.

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