CASE STUDY

50,000 Mtpy Copper Bacterial Leaching SX/EW Tankhouse

EPCM

TABLE OF CONTENT

INTRODUCTION

The 50,000 Mtpy Copper Bacterial Leaching SX/EW Tankhouse project aims to revolutionize copper extraction through innovative bacterial leaching processes. This case study details the Engineering, Procurement, Construction, and Management (EPCM) services provided from feasibility studies to the supply of major equipment.

PROJECT BACKGROUND

The project was initiated with a primary goal of enhancing copper extraction efficiency and sustainability. Initial requirements focused on evaluating the feasibility of bacterial leaching, followed by comprehensive process R&D and engineering.

EPCM SCOPE OF SUPPLY

Feasibility Study to Bacterial Leach Concentrate

- Detailed analysis of ore samples.
- Evaluation of bacterial leaching potential.
- Economic feasibility assessment.

Process R&D

- Laboratory-scale experiments.
- Development of optimal leaching conditions.
- Scale-up trials.

Basic and Detail Engineering

- Design of leaching tanks and associated infrastructure.
- Detailed engineering of SX/EW process.
- Integration with existing plant facilities.

Major Equipment Supply

- **Cathodes:** High-efficiency cathodes for copper deposition.
- **Cathode Stripping Machine:** Automated system for cathode handling.
- **Filters:** Advanced filtration systems for process solutions.
- **Mixers:** Industrial mixers for maintaining solution homogeneity.

MAJOR EQUIPMENT DETAILS

Cathodes

- Specifications and design.
- Installation and commissioning.

Cathode Stripping Machine

- Features and capabilities.
- Operational efficiency.

Filter

- Types of filters used.
- Performance and maintenance.

Mixer

- Design and functionality.
- Impact on process efficiency.

PROJECT EXECUTION

Timeline

- Project phases and key milestones.

Challenges & Solutions

- Technical and logistical challenges.
- Solutions implemented to overcome obstacles.

OUTCOMES

Key Achievements

- Successful bacterial leaching process implementation.
- Enhanced copper recovery rates.

Performance Metrics

- Production output.
- Cost-efficiency improvements.

CONCLUSION

The 50,000 Mtpy Copper Bacterial Leaching SX/EW Tankhouse project demonstrates the successful integration of innovative technologies in copper extraction. The comprehensive EPCM services provided ensured the project's success, paving the way for future advancements in the industry.

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