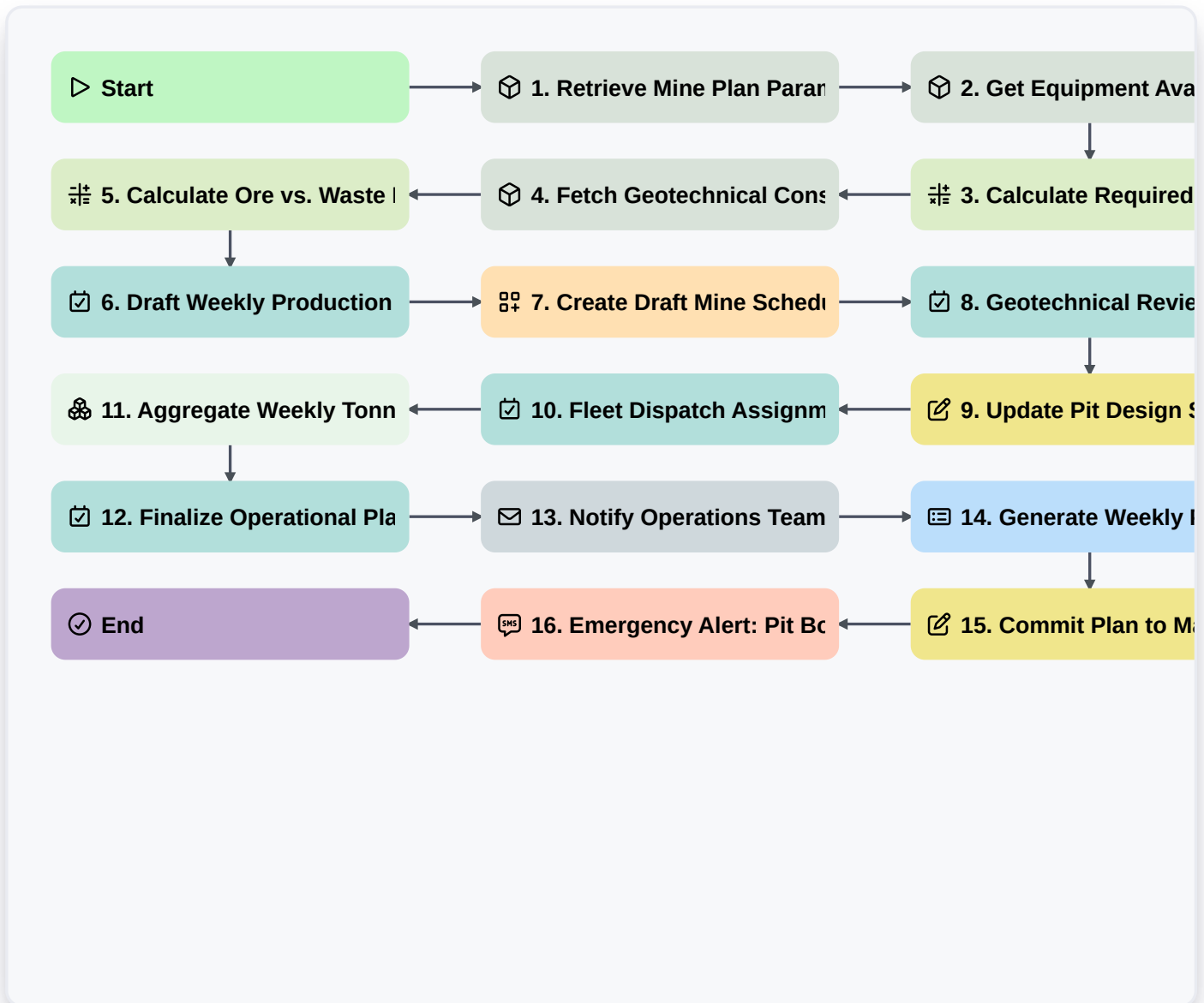


Open-Pit Mining Operational Planning



▷ Start

Start of the Workflow/Process.

📦 1. Retrieve Mine Plan Parameters

Fetch current production targets, pit boundaries, and geological constraints from the Mine Plan data model.

📦 2. Get Equipment Availability

Retrieve real-time status and availability of shovels, trucks, and drills from the Fleet Management data model.

🔢 3. Calculate Required Fleet Capacity

Execute formula to determine the number of haul trucks needed based on total tonnage target and cycle time estimates.

📦 4. Fetch Geotechnical Constraints

Retrieve slope stability limits and safety factor requirements from the Geotechnical data model.

🔢 5. Calculate Ore vs. Waste Ratio

Calculate the stripping ratio by dividing the volume of waste material by the volume of ore identified in the plan.

📅 6. Draft Weekly Production Schedule

Assign task to Mine Planner to create the detailed daily/weekly extraction sequence.



7. Create Draft Mine Schedule

Generate a new entry in the 'Operational Schedules' data model containing the proposed plan.

8. Geotechnical Review

Assign task to Geotechnical Engineer to validate the proposed pit slope angles in the new schedule.

9. Update Pit Design Status

Update the status of the Pit Design entry to 'Review Complete' once safety checks are passed.

10. Fleet Dispatch Assignment

Assign task to Dispatcher to allocate specific machines to the newly defined loading zones.

11. Aggregate Weekly Tonnage Forecast

Sum the 'Estimated Tonnage' from all daily schedule entries to calculate total weekly production target.

12. Finalize Operational Plan

Assign task to Mine Manager for final approval and authorization of the weekly plan.

13. Notify Operations Team

Send an email to all Shift Supervisors containing the finalized production targets and pit maps.

14. Generate Weekly Plan Comparison

Create a report comparing the new Operational Plan against the Long-Term Mine Plan (LTMP) deviations.

15. Commit Plan to Master Schedule

Update the Master Mine Schedule entry with the approved weekly parameters.

16. Emergency Alert: Pit Boundary Change

Send SMS to all heavy equipment operators if the plan involves immediate changes to high-risk exclusion zones.

End

End of the Workflow/Process.