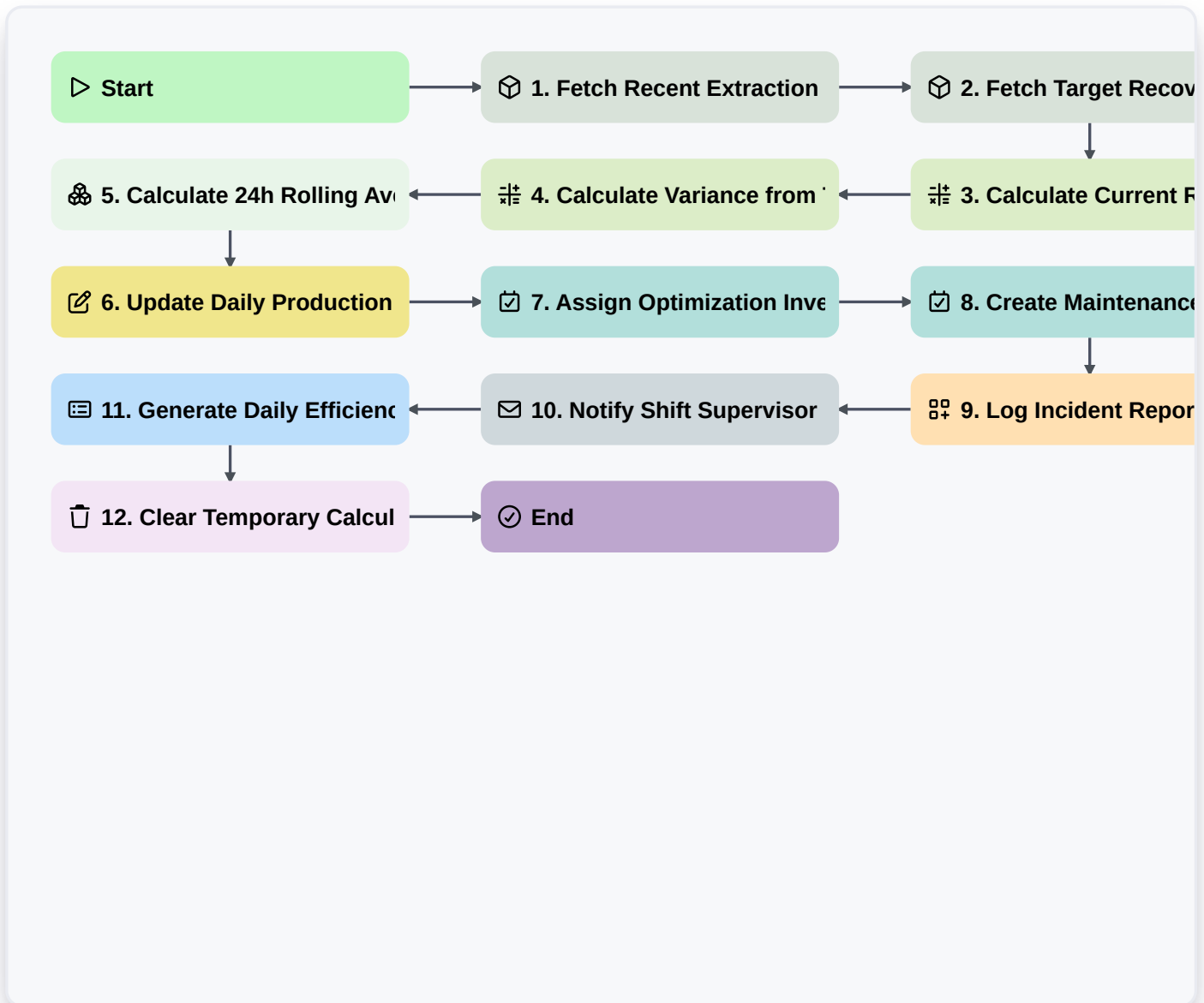


Mineral Recovery Rate Optimization



Start

Start of the Workflow/Process.

1. Fetch Recent Extraction Data

Retrieve the latest sensor readings and lab assay results from the Production Data Model.

2. Fetch Target Recovery Benchmarks

Retrieve the predefined optimal recovery rate targets for the specific mineral type currently being processed.

3. Calculate Current Recovery Rate

Execute formula: $(\text{Mass of recovered mineral} / \text{Mass of mineral in feed}) * 100$.

4. Calculate Variance from Target

Calculate the delta between the Current Recovery Rate and the Target Recovery Benchmark.

5. Calculate 24h Rolling Average

Aggregate the last 24 hours of recovery rate entries to identify trends versus single-point anomalies.

6. Update Daily Production Log

Update the 'Daily Production' entry with the newly calculated average recovery rate and variance.



📌 **7. Assign Optimization Investigation**

Create a high-priority task for the Metallurgical Engineer if the recovery rate falls below the threshold.

📌 **8. Create Maintenance Inspection Task**

Create a task for the Plant Technician to check reagent dosing pumps if a variance is detected.

📌 **9. Log Incident Report**

Create a new entry in the 'Optimization Incident' data model detailing the deviation parameters.

✉️ **10. Notify Shift Supervisor**

Send an automated email alert to the Shift Supervisor containing the current recovery metrics and variance.

📄 **11. Generate Daily Efficiency Report**

Generate a summary report comparing today's performance against the weekly trend for stakeholders.

🗑️ **12. Clear Temporary Calculation Cache**

Delete transient calculation entries from the workspace to maintain data model cleanliness.

🏁 **End**

End of the Workflow/Process.