

XERPIUM

Pertambangan Batubara

Enterprise Resource Planning

Solusi ERP lengkap untuk industri
pertambangan batubara

2000+

MODUL

AI

ASSISTANT

SaaS

/ ON
PREMISE

Bahasa Indonesia Edition — brostur.xerpium.com

Ekosistem Tambang Batubara Enterprise

XERPIUM COAL adalah solusi ERP lengkap untuk tambang batubara — dari mine site & block, produksi per shift, quality lab, heavy equipment, HSE, stockpile, delivery, hingga pelaporan ESDM & akuntansi.

Master Data Tambang Batubara

Data master terstruktur untuk seluruh entitas tambang batubara — site, block, seam, cost center, shift.

coal.mine.site — Site Tambang

Site Code — Unique per company, GPS coordinates (lat/lon)

Area — Total area (hectares), province, district, address

Permit Management — Permit no, type (IUP/IUPK/IPR), issue date, expiry, days remaining (computed)

State — Active, Suspended, Closed (with workflow actions)

Stats — Block count, total reserve ton (computed from blocks)

coal.mine.block — Blok Tambang

Block Code — Unique per site, area (ha), depth (m)

Mining Type — Open Pit, Underground, Alluvial

Geological Zone — Geological zone reference

Reserve & Quality — Estimated reserve (ton), estimated CV (kcal/kg)

Linked Seam — coal.seam reference

Status — Exploration → Development → Production → Depleted

coal.seam — Lapisan Batubara

Seam Code — Unique, thickness (m), depth from/to

Quality Parameters — Typical CV (kcal/kg), ash %, moisture %, volatile matter %, sulfur %

Reference Data — Used in block estimation & production quality

coal.cost.center + coal.shift

Cost Center — Analytic account per site/block, budget tracking

Shift Management — Day/Night/Evening for 24/7 operations

Linked — Cost center to production order, shift to daily operations

Produksi Batubara per Shift

Alur produksi tambang dari perencanaan hingga stockpile — shift-based, equipment tracking, quality parameters langsung di MO.

coal.production.order — MO Batubara

Auto-sequence — CPO/2026/00001 format, unique per company

Site & Block — Linked to mine site + block (in production), seam reference

Shift & Date — Required shift, production date, responsible employee

Planning — Planned ton vs actual ton, achievement % computed

Quality at Extraction — Actual CV (kcal/kg), actual ash %, actual moisture % langsung di MO

Fuel — Total fuel liter computed from production lines

Stockpile Link — Target stockpile, auto-add ton saat done

coal.production.line — Detail Produksi

Equipment — coal.equipment linked, domain per site + active

Operator — hr.employee assignment, start/end time

Duration — Duration hours computed from start-end datetime

Output — Tons extracted (required), fuel used liter

Notes — Per-line operational notes

coal.stockpile — Stockpile Batubara

Capacity — Max capacity ton, current tonnage tracking

Quality — Weighted average CV, ash, moisture

Auto Update — _add_tons method called saat production done

Movement — In/out tracking with weighted average quality

coal.equipment — Alat Berat

Types — Excavator, Dump Truck, Loader, Bulldozer, Grader, Drill Rig, Compactor

Registry — Asset code, brand, model, year, plate no, serial/engine no

Status — Active, Under Maintenance, Idle, Retired

Metrics — Current hours, purchase value, residual, insurance

Maintenance — Schedule, history (one2many), total cost computed

Fuel — Total fuel liter, total operating hours computed

Quality Lab & Coal Analysis

Laboratorium quality batubara — sampling, proximate/ultimate analysis, calorific value, quality certification.

coal.sample — Sample Batubara

Auto-sequence — CS/2026/00001, source: mine face, stockpile, delivery, rehandle

Sample Types — Chip, Grab, Channel, Composite

Collection — Date collected, collected by (employee), location

Linked — To production order or stockpile

State — Draft → Submitted → Analyzed → Reported

coal.lab.result — Hasil Lab

Proximate Analysis — Total moisture %, ash %, volatile matter %, fixed carbon %

Ultimate Analysis — Carbon %, hydrogen %, nitrogen %, oxygen %, sulfur %

Calorific Value — Gross CV (kcal/kg), Net CV (kcal/kg)

Analyst — Employee assigned, analysis date

State — Draft → Done → Verified

coal.quality.certificate — Sertifikat Kualitas

Auto-sequence — Certificate no, linked to sample

Grade Classification — Grade A/B/C/Sub-bituminous/Lignite based on CV

Parameters — CV, ash, moisture, sulfur, weight ton

Customer — Customer linked for delivery cert

State — Draft → Issued → Revoked

Delivery Order & Penjualan

Manajemen delivery batubara dari stockpile ke customer — truck/vessel tracking, quality certificate, invoice integration.

coal.delivery.order — Delivery Order

Auto-sequence — Unique DO number, linked to sale.order

Transport — Truck no, driver name, vessel (for barging)

Weight — Gross weight, tare weight, net weight (computed)

Quality at Delivery — CV, ash, moisture untuk quality cert

Schedule — Dispatch date, delivery date

State — Draft → Dispatched → Delivered

coal.sale.order + coal.vessel

Sale Order — Customer contract, pricing per ton, quality specs

Vessel Registry — Barge/vessel name, capacity, dimension

Invoice Integration — Account.move linked for billing

Quantity Tracking — Ordered vs delivered tonnage

Health, Safety & Environment

Sistem HSE terintegrasi untuk tambang batubara — incident reporting, safety inspection, permit to work.

coal.hse.incident — Incident Report

Types — Personal Injury, Near Miss, Property Damage, Environmental, Fire, Vehicle, Chemical Spill, Structural

Severity — Low, Medium, High, Critical (with investigation tracking)

Root Cause — Analysis, corrective action, preventive action required before close

Impact — Lost time days (constraint ≥ 0), first aid, hospitalization

Evidence — Witnesses, photos, attachments

State — Draft → Reported → Investigating → Closed

coal.safety.inspection + Permit to Work

Inspections — Daily, weekly, monthly checklists, score % auto-compute

Permit Types — Hot Work, Confined Space, Working at Height, Excavation

PTW Details — Start/end datetime, area, responsible person

Environmental — Monitoring, waste management, reclamation tracking

Pelaporan Pemerintah (ESDM)

Sistem pelaporan otomatis untuk ESDM — produksi, penjualan, lingkungan, royalti, ekspor — dengan format JSON dan attachment management.

coal.govt.report — Laporan ESDM

Report Types — Production Report, Sales/PLN Report, Environmental Report, Royalty Report, Export Report

Period — Period start/end, site-specific, company

Auto-computed — Total production ton, delivery ton, revenue, avg CV/ash/moisture

Data Generation — `_generate_report_json()` method with structured data per type

Production Data — By block, tonnage, order count, quality averages

Sales/Export Data — By customer/vessel, tonnage, revenue

Environmental — Incident counts by type and severity

Royalty — Calculated from production x rate_per_ton

coal.royalty.rate — Tarif Royalti

Rate Configuration — Per coal type, rate per ton, effective date

Auto Calculation — Royalty amount computed in govt report

History — Rate changes tracked by effective date

Integration — Used in royalty report generation

Dashboard & KPI Tambang Batubara

Dashboard analytics real-time untuk monitoring produksi, quality, equipment, HSE, dan delivery.

AI Dashboard Features

Auto-Generate — "Buat dashboard produksi batubara" → full dashboard

NL → SQL — "Produksi bulan Januari per site" → SQL query

Chart Insight — AI analisis tren produksi, penurunan CV

Copilot Chat — SSE-streamed chat dengan konteks dashboard tambang

Akuntansi Tambang Batubara

Chart of Account khusus tambang batubara dengan alur jurnal otomatis dari produksi, stockpile, hingga penjualan.

Fitur Akuntansi Tambang

Cost Center per Site — Analytic account per site/block

Auto-Journal Production — Jurnal otomatis saat coal dipindah ke stockpile

Revenue Matching — Revenue recognition saat delivery terkonfirmasi

Royalty Accrual — Royalti di-accrue per periode produksi

Asset Depletion — Depletion sumber daya batubara

Multi-Company — Operasi multi-site dengan company terpisah

CEISA, Ekspor & Impor

Integrasi CEISA 4.0 untuk ekspor batubara — PEB, Packing List, Certificate of Origin, LC/TT, landed cost.

Export Operations

Export DO — Delivery order export: container, vessel, port loading/discharge, incoterm

PEB — Pemberitahuan Ekspor Barang: nomor pendaftaran DJBC, CEISA integration

Packing List — Total packages, gross/net weight, volume per product

Certificate of Origin — Form D (ASEAN), Non-ASEAN, preferential tariff

Export Invoice — Commercial invoice export in USD, FOB value, incoterm

Trade & Finance

LC (Letter of Credit) — Sight/usance, import/export, issuance/expiry/shipping date

TT/Remittance — Outgoing/incoming payment, bank reference, status tracking

Landed Cost — FOB + freight + insurance + duty + tax + handling

Forex Tracking — USD/IDR rate, realized vs booking gain/loss

Bank Reconciliation — Auto-match payment ke LC/TT reference

Integrasi Cross-Module

Coal Mining terintegrasi penuh dengan seluruh ekosistem XERPIUM.

Coal ↔ Accounting

COA tambang batubara, GL otomatis produksi & delivery

Revenue penjualan, royalty accrual, cost matching

Analytic per site/block untuk cost tracking

Coal ↔ Inventory

Stockpile inventory with weighted avg CV

Spare part equipment inventory

Material request untuk consumables & explosives

Coal ↔ Purchase

PO untuk solar, spare part, bahan peledak

Purchase requisition dari equipment maintenance

Vendor management (contractor, supplier)

Coal ↔ HR

Operator assignment, HSE officer, lab analyst

Shift scheduling, attendance for 24/7 ops

HSE training & certification tracking

Coal ↔ Dashboard

vit_dashboard_coal_mining — KPI end-to-end

Dashboard Studio: 19 chart types

AI auto-generate dashboard & insight

Coal ↔ AI Assistant

Cek produksi: "Produksi hari ini berapa ton?"

Cek quality: "Rata-rata CV bulan ini"

Generate report: "Buat laporan ESDM produksi"

Coal ↔ Quality

Lab results integration with production CV

Quality certificate for delivery

Grade classification per shipment

Coal ↔ Export

DO → Packing List → PEB → CoO → Invoice

CEISA integration untuk PEB submission

Container, vessel, port tracking

Coal ↔ Trade

LC sight/usance, TT/remittance

Landed cost calculation

Forex USD/IDR tracking

Coal ↔ Dynamic Stage

Configurable workflow produksi, quality, delivery

Python hooks, server actions, RBAC

Auto-sync stage ↔ native state

Xerpium ERP — xerpium.com

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