

Dynamics Ax - Production Accounting II

Introduction

The Definition

Production Accounting II is the second sub module of the Production Accounting Module (PAM). It is an essential component of any metallurgical operation. PAM is 100% Microsoft Dynamics Ax.

- Production Accounting I deals with mining operations while
- Production Accounting II covers the area of surface operations (also referred to by some as Metals Accounting).

In essence Production Accounting II *tracks the value of the mineral content* (assay multiplied by mass) throughout the normally complex production process (also known as the flowsheet).

The Production Accounting discipline provides a batch by batch view of the minerals processing performance of the plant and its team. Each of the team members are gatekeepers of vital elements of the recovery process. Plant management is the decision makers aided by the information provided by the Production Accounting role.

Elements of a good Production accounting system (surface ops) include:

- Mass Balancing method
- Good LIMS (Lab) system
- Reliable weighing devices
- Control (SCADA/PLC) system
- Proper sampling and analysis processes

The Dilemma

Minerals are inorganic substances possessing reasonably defined, but not constant, chemical compositions and atomic structures. Many minerals have the same chemical composition but very different physical properties due to a difference in crystal structure. For example; graphite and diamonds have exactly the same chemical composition (carbon atoms) but have different properties.

To extract these minerals is complex. For example the six different PGM's embedded in the ore requires *different* processes. These processes do not happen in parallel. Some PGM's go around in circles before they emerge, taking longer than others.

It is impossible to measure the stream in its entirety and places reliance on sampling. This introduces potential inaccuracies.

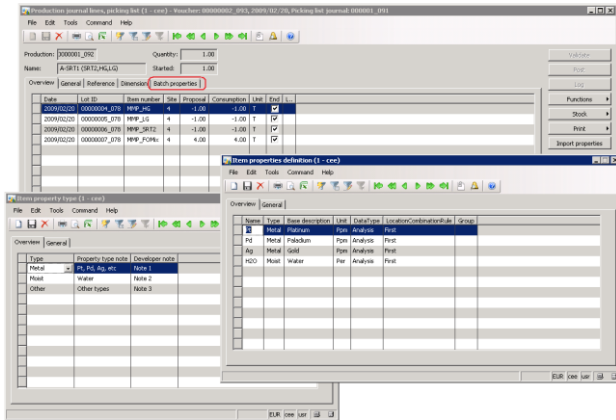
The above issues are compounded by; high prices for these Minerals; lack of corporate transparency and increased pressure from stakeholders for these mining houses to adhere with Sarbanes Oxley and the AMIRA P754 best practices.



Solution

Dynamics Ax

The production module in Microsoft Dynamics Ax is used as the backbone and integration repository of Production accounting. This module with Axnosis MMP (Mining and Metals Processing) gives users the ability to create a *production recipe* so you can track the metal content through the entire metallurgical process. Actual material consumption and finished product information is automatically posted to the general ledger from this module.



As the minerals exit the processing pipeline the commercial aspects of production accounting becomes important. Invoice data, penalties are determined from analysis results agreed with the customer etc.

Dynamics Ax has compelling integrated functionality designed for Mining and Minerals Processors and includes amongst others:

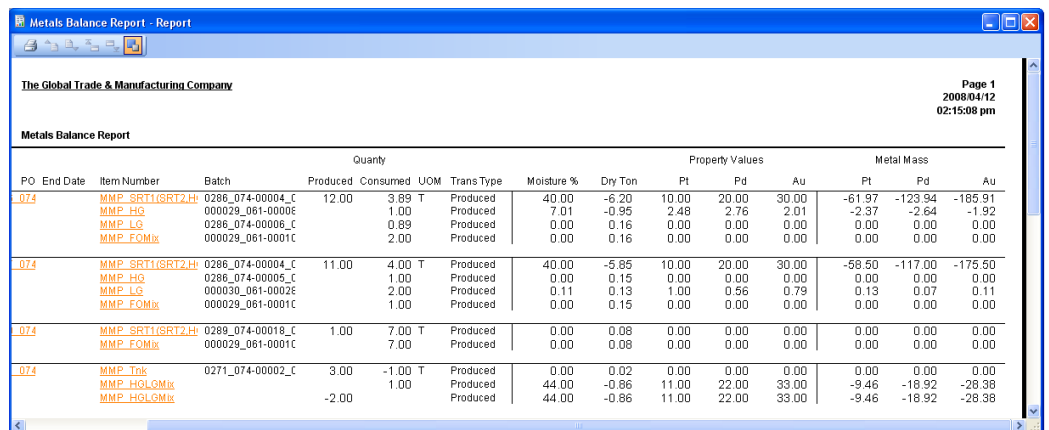
- Supplier Relationship Management
- Service & Asset Maintenance
- Transportation Management
- Supply Chain Management
- Financial Management
- Project Management
- Business Analysis
- Etc.

The Differentiator

Some of the Production accounting solutions in the market takes pride in their functions and features at the expense of integrated information. Most, if not all of these, have separate and stand alone modules for inventory (including WIP) valuations (ERP), mass balance calculations, sampling, plant maintenance (SAM) and more. The objective of these vendors is to have these modules integrated but in reality they are not.

Dynamics Ax with the Axnosis Production Accounting supports the best of breed features and above all *does not* separate the ERP, SAM and production accounting. The same inventory master file is used for all these functions. The same user interface exists across the disciplines. Add to this the Microsoft technology with trusted, scalable and robust platforms and you have a compelling and very cost effective solution.

Well integrated information support reliable and timely information delivery to stakeholders and decision makers. Plant data from SCADA/PLC operators delivered directly as stream masses and LIMS data for stream samples combine to give a contained metals result for a particular stream.



PO	End Date	Item Number	Batch	Quantity				Property Values				Metal Mass			
				Produced	Consumed	UOM	Trans Type	Moisture %	Dry Ton	Pt	Pd	Au	Pt	Pd	Au
074		MMP_SRT1(SRT2.H)	0286_074-00004_C	12.00	3.89	T	Produced	40.00	-6.20	10.00	20.00	30.00	-61.97	-123.94	-185.91
		MMP_HG	000029_061-0000E		1.00		Produced	7.01	-0.95	2.48	2.76	2.01	-2.37	-2.64	-1.92
		MMP_LG	0286_074-00006_C		0.89		Produced	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00
		MMP_FOMix	000029_061-0001C		2.00		Produced	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00
074		MMP_SRT1(SRT2.H)	0286_074-00004_C	11.00	4.00	T	Produced	40.00	-5.85	10.00	20.00	30.00	-58.50	-117.00	-175.50
		MMP_HG	0286_074-00005_C		1.00		Produced	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00
		MMP_LG	000030_061-0002E		2.00		Produced	0.11	0.13	1.00	0.56	0.79	0.13	0.07	0.11
		MMP_FOMix	000029_061-0001C		1.00		Produced	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00
074		MMP_SRT1(SRT2.H)	0289_074-00018_C	1.00	7.00	T	Produced	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00
		MMP_FOMix	000029_061-0001C		7.00		Produced	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00
		MMP_Trk	0271_074-00002_C	3.00	-1.00	T	Produced	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
074		MMP_HSLGMix			1.00		Produced	44.00	-0.66	11.00	22.00	33.00	-9.46	-18.92	-28.38
		MMP_HSLGMix			-2.00		Produced	44.00	-0.66	11.00	22.00	33.00	-9.46	-18.92	-28.38

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