42007-2635 TRUE PRODUCTION COST OF MATERIAL

Specification for the introduction of scheduling for changes in material costs.

Project:	42007
System:	QESTMix
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DOCUMENT CONTROL

Date	Author	Revision	Change Reference
28 Apr	Marat Bakhtiyarov	1.0	Original Document
11 May 2006	Marat Bakhtiyarov	1.1	Changed 2 errors – sections and 1.1 and 2.4

RELATED DOCUMENTATION

Name	Location	Details

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1. Business Requirements

1.1 Overview

It is desired to be able to see the true cost of a material and the sum of all costs constituting a mix. This cost would be the true cost of producing the material and the true cartage cost (that is storing and delivering the material to the plant), without any profit component.

Currently, for true cost analysis production cost and cartage cost can be entered for each material. Therefore the upstream profit can be calculated as delivered cost – production cost – cartage cost. However cartage cost has a profit component if internally carted.

The true cartage cost – CartageNettCost field will be added to the database and will appear along with the existing CartageCost (CartageGrossCost) on each material and plant screen.

COST FUNCTIONALITY (will be added to QEST Online):

Production cost (Material.NettCost) = true cost to produce a material at a quarry (no profit component)

ExBin cost (Material.GrossCost) = cost to buy a material at the quarry, no delivery or storage costs = Production cost + Production profit

Cartage Nett Cost (PlantMaterialCosts.CartageNettCost) = true cost to store and deliver the material to the plant (no internal profit included)

Cartage Gross Cost (PlantMaterialCosts.Cost) = cost to store and deliver the material to the plant (includes profit component if internally carted)

Delivered Cost (PlantMaterialCosts.DeliveredCost) = Total cost of the material at plant = Exbin cost + Cartage cost.

DELIVERED = (PROD + PROD PROFIT) + (CARTAGE + CARTAGE PROFIT) = TRUE COST + PROFIT

2. Functional Requirements

2.1 Overview

The changes will involve adding new fields (Cart Nett Cost) to the Material screen grid and the Plant screen grid next to the Cart Cost fields. This field will be added to the database to the PlantMaterialCosts table.

Changes will have to be made in QMO to change the cartage costs when one or the other or the delivered cost is changed by the user.

New properties will have to be added to Plant and Mix objects for calculating the DeliveredNettCost and display it on the Mix screen.

The relevant imports will need to be updated as well.

Access to these new fields will be controlled via the "Extended Cost" user rights.

2.2 Changes to the Plant/Material Objects

There are 3 events that we need to take care of in QMO.Plant and QMO.Mix objects. The basic rule is to assume that the cartage has been done externally if the CartageNettCost and CartageCost are the same. In this case updating one should result in the other one updated to the same value.

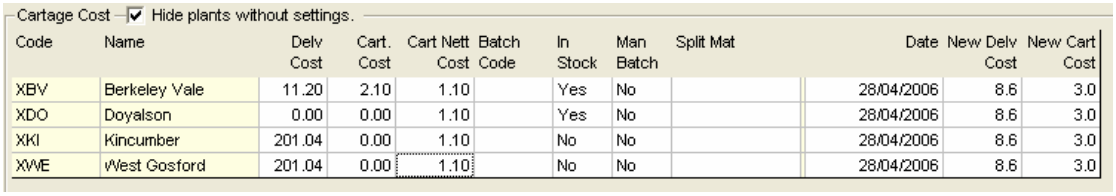
- if the user changes CartageNettCost, then CartageCost should take the same value only if these values were the same before updating.

- if the user changes CartageCost, then CartageNettCost should take the same value only if these values were the same before updating.

- if the user changes DeliveredCost, the code will update the CartageCost, and the above rules should apply.

2.3 Changes to the Plant/Material Screens

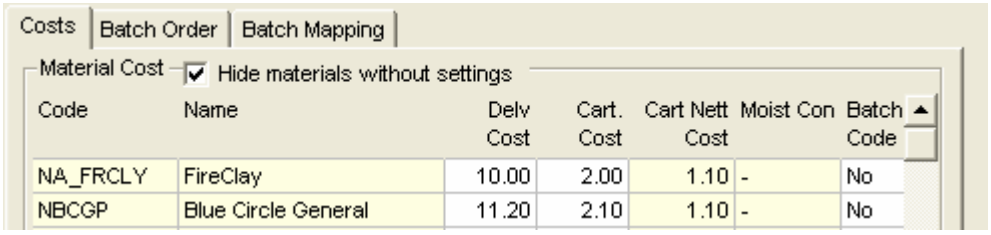
New columns Cart Nett Cost will be added to both plant and material grids next to the Cart Cost. These columns will be populated from the PlantMaterialCosts.CartageNettCost field in the same way as the CartageCost columns.



Cartage Cost — Hide plants without settings.

Code	Name	Delv Cost	Cart. Cost	Cart Nett Cost	Batch Code	In Stock	Man Batch	Split Mat	Date	New Delv Cost	New Cart Cost
XBV	Berkeley Vale	11.20	2.10	1.10		Yes	No		28/04/2006	8.6	3.0
XDO	Doyalson	0.00	0.00	1.10		Yes	No		28/04/2006	8.6	3.0
XKI	Kincumber	201.04	0.00	1.10		No	No		28/04/2006	8.6	3.0
XWE	West Gosford	201.04	0.00	1.10		No	No		28/04/2006	8.6	3.0

Figure 1 - Material Screen



Costs | Batch Order | Batch Mapping

Material Cost — Hide materials without settings

Code	Name	Delv Cost	Cart. Cost	Cart Nett Cost	Moist Con	Batch Code
NA_FRCLY	FireClay	10.00	2.00	1.10	-	No
NBCGP	Blue Circle General	11.20	2.10	1.10	-	No

Figure 2 - Plant Screen

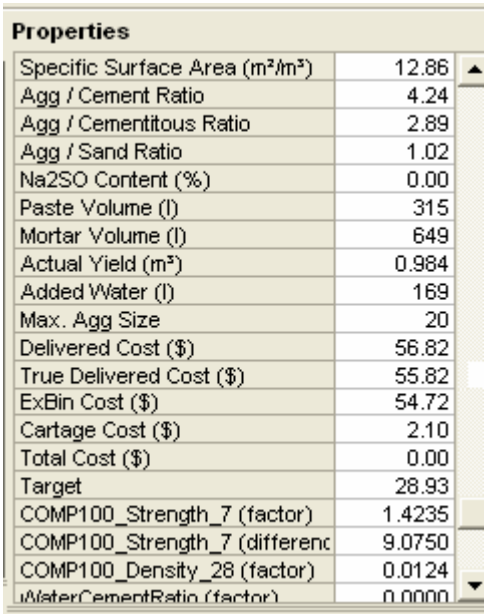
2.4 Changes to Plant and Mix objects

A new property called DeliveredNettCost will be added to the Mix object in QMO. The value is calculated as the sum Production Costs and the Cartage Nett Costs of the constituent materials. The property will return a cost value in the usual format for cost fields – 2 decimal places.

The same changes should be done to the Plant object as it is used instead of the Mix object when a particular plant is selected on the Mix screen.

2.5 Changes to Mix screen

A new row will be added to the Properties section of the Mix screen (between Delivered Cost and ExBin Cost) that displays the DeliveredNettCost of the current Mix object. As other fields on the Properties control, this field will not be editable.



Properties

Specific Surface Area (m²/m³)	12.86
Agg / Cement Ratio	4.24
Agg / Cementitous Ratio	2.89
Agg / Sand Ratio	1.02
Na2SO Content (%)	0.00
Paste Volume (l)	315
Mortar Volume (l)	649
Actual Yield (m³)	0.984
Added Water (l)	169
Max. Agg Size	20
Delivered Cost ($)	56.82
True Delivered Cost ($)	55.82
ExBin Cost ($)	54.72
Cartage Cost ($)	2.10
Total Cost ($)	0.00
Target	28.93
COMP100_Strength_7 (factor)	1.4235
COMP100_Strength_7 (differenc	9.0750
COMP100_Density_28 (factor)	0.0124
WaterCementRatio (factor)	0.0000

3. Assumptions and Additional Constraints

N/A