

Note: 000092

Overview

Number	000092
Description	TCV (Total Calculated Volume) - Customer Solution Example
Version	2 from 01.03.2021
Status	Released to Customer
Language	EN
Responsible	Markus Seng
Product	BCP
Category	Consulting & Configuration

Symptom

Part 1:

For your MQCI crude oil conversion group, you wish to enter the TCV (Total Calculated Volume) as transaction quantity and the Free Water value (FW) as an additional reading group parameter value, so that the system calculates the Gross Standard Volume (GSV) from these two values and subsequently all values for the UoM defined in the UoM group assigned to the calculation.

The definition of the Total Calculated Volume (TCV) is:

TCV equals gross standard volume (GSV) plus free water (FW) – API MPMS Chapter 12.1.1.

Thus GSV = TCV - FW (in appropriate UoM, e.g. all values in barrels)

Part 2:

For your MQCI crude oil conversion group, you wish to enter any NOV, NSV, GOV or GSV UoM (or any mass or weight UoM - NSM, NSW, GSM, GSW) as transaction quantity and the Free Water value (FW) as an additional reading group parameter value, so that the system also calculates the Total Calculated Volume (TCV) from these two values.

TCV = GSV + FW (in appropriate UoM, e.g. all values in barrels)



Cause

API MPMS crude oil model extension requirement - TCV and FW are reported from terminals / operators / TCV needs to be calculated and reported.

Solution

This solution may only be implemented with the support of a QW-Certified consultant.

Depending on your business process design and configuration (e.g. TSW ticketing, delivery processing ...), you can extend the BCP MQCI crude oil conversion group with two customer specific MQCI functions. One function performs the simple calculation of an "internal" GSV for one dedicated TCV transaction UoM. The FW value can be passed to the MQCI as customer specific parameter:

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CI : Calculato	or for a	additic	onal qual	ntities						
Material 🔶 📩 📩 Material	Defaults									
Calculation parameters										
Conv. Group	Y147	CRUDE	OIL 2004 BS	SW/MCF/PR	ESS API	60 °F				
JoM Group	QTU	QUANTI	TYWARE U.S.	CRUDE E	XAMPLE					
Date nput Qty	30.04.2	2020 13:	46:39	Add.param	eters for ch	nemicals				
	30.04.2	2020 13:	46:39	Add param	eters for ch	nemicals				
nput Qty	30.04.2		46:39	Add.param Base densi		nemicals				_
	30.04.2				ty	nemicals				-
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nput Qty Fransactn. qty.	30.04.2	1		Base dens	ty oan. coeff.		U	M		
nput Qty Fransactn. qty. Result		1	000 TCV C Value 90.00	Base densi Therm. ex	ty pan. coeff. III AddI.q	ty	U 40.50BB6	M	· •	-
nput Qty Fransactn. qty. Result Parameter		1	000 TCV	Base densi Therm. ex	ty pan. coeff. III Addl.q	ty 9		M		-
nput Qty Fransactn. qty. Result Parameter Observed temperature	2	1	000 TCV C Value 90.00	Base densi Therm. ex U FAH BBL	ty pan. coeff. III Addl.q	ty 95	40.50BB6	M		
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nput Qty Fransactn. qty. Result Parameter Observed temperature Free water (bbl) Observed density (vac	e) s. dens.)	1	000 TCV C Value 90.00 50.000 10.0000	Base densi Therm. ex FAH BBL 00 API	ty pan. coeff. III Addl.q	ty 95 3990 3	40.50BB6 0.000GB6 0.000GG6	M		



The second function performs the calculation of the dedicated UoM TCV:

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CI : Calculat		audition	ai qual	nuties				
Material 対 (Re)us	e Defaults							
Calculation paramete	rs							
Conv. Group	Y147	CRUDE OII	2004 BS	SW/MCF/PRESS AP	PI 60 °F			
JoM Group	TCV	QUANTITYW	ARE U.S.	. CRUDE EXAMPLE	E & TCV			
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Date	19.02.2	2021 16:46:	29					
nput Qty				Add.parameters for	or chemicals			
nput Qty Transactn. qty.		10000	GB6	Add.parameters for Base density	or chemicals			
· · · · ·		10000	GB6					
ransactn. qty.		10000	GB6	Base density				0
· · · · ·		10000	GB6	Base density Therm. expan. cod	eff.			
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ransactn. qty. esult Parameter Observed temperatu	ıre		Value 90.00	Base density Therm. expan. cod U III Ad FAH	eff. Idl.qty 990	00 <mark>.</mark> 00BB6	1	
ransactn. qty. esult Parameter Observed temperatu Free water (bbl)			Value 90.00 10.000	Base density Therm. expan. cod U III Ad FAH A BBL Y	eff. Idl.qty 990	00.00BB6 0.000GB6		
ransactn. qty. esult Parameter Observed temperatu Free water (bbl) Observed density (v	ac.)		Value 90.00 10.000 10.0000	Base density Therm. expan. cod FAH BBL 00 API	eff. Idl.qty 10000 420000	00.00BB6 0.000GB6 0.000GG6		
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ransactn. qty. Parameter Observed temperatu Free water (bbl) Observed density (v Test temperature (c	ac.) bbs. dens.) dicator	C	Value 90.00 10.000 10.0000 60.00	Base density Therm. expan. cod FAH BBL FAH FAH FAH	eff. Idl.qty 990 10000 420000 340 340 340	00.00BB6 0.000GB6 0.000GG6 66605LB 62782LBA 0.000TCV		

With this note, QuantityWare releases a general consultancy-based solution example (Part 1 and Part 2) containing:

- two example function modules (ABAP code), which you may plug into your existing conversion group configuration
- an example UoM TCV configuration specific to the function modules
- configuration steps how to integrate the customer functions into existing crude oil configurations

Transport Reference

No SAP-based transport

Detailed implementation Detailed information is available in two separate PDF documents (Part 1 and Part

QuantityWare

2) for certified BCP consultants - accessible via the QuantityWare Service Portal in the "Consultant Files" area.

Validity

SAP Release	From SP	To SP	In SP Shipment
ECC600	BCS 3.0 CSP01		
S/4 HANA	BCS 3.0 CSP00		