Note: 000113

Overview

Number	**000113**
Description	**Support of Brazilian Standard RESOLUÇÃO ANP No 894 - 2022 / RESOLUÇÃO No 6 – 70**
Version	**03 from 25.03.2023**
Status	**Released to Customer**
Language	**EN**
Responsible	**Markus Seng**
Product	**BCP**
Category	**Documentation**

Symptom

Support of Brazilian Standard RESOLUÇÃO ANP No 894 / C.N.P. No. 6 – 70, Table I & II [MINISTÉRIO DAS MINAS E ENERGIAS, CONSELHO NACIONAL DO PETRÓLEO, 1521. ª SESSÃO ORDINÁRIA, (25 de junho de 1970) RESOLUÇÃO No 6 – 70, TABELA I,II]

NOTE: With RESOLUÇÃO ANP No 894 - 2022, RESOLUÇÃO No 6 – 70 has been revoked, and technically been put into force again. No changes to the 1970 Tables 1(I) and 2(II) content and description have been made. These tables are available as PDF documents (Agência Nacional do Petróleo, Gás Natural e Biocombustíveis) which are apparently scanned from historic 1970 documents. Thus from an implementation point of view, the documentation of this new implementation will refer to it as RESOLUÇÃO ANP No 894 - 2022 / RESOLUÇÃO No 6 – 70, whereas the technical implementation continues to utilize RESOLUÇÃO No 6 – 70 / CNP 6 - 70 as technical ID (e.g. ABAP programs).
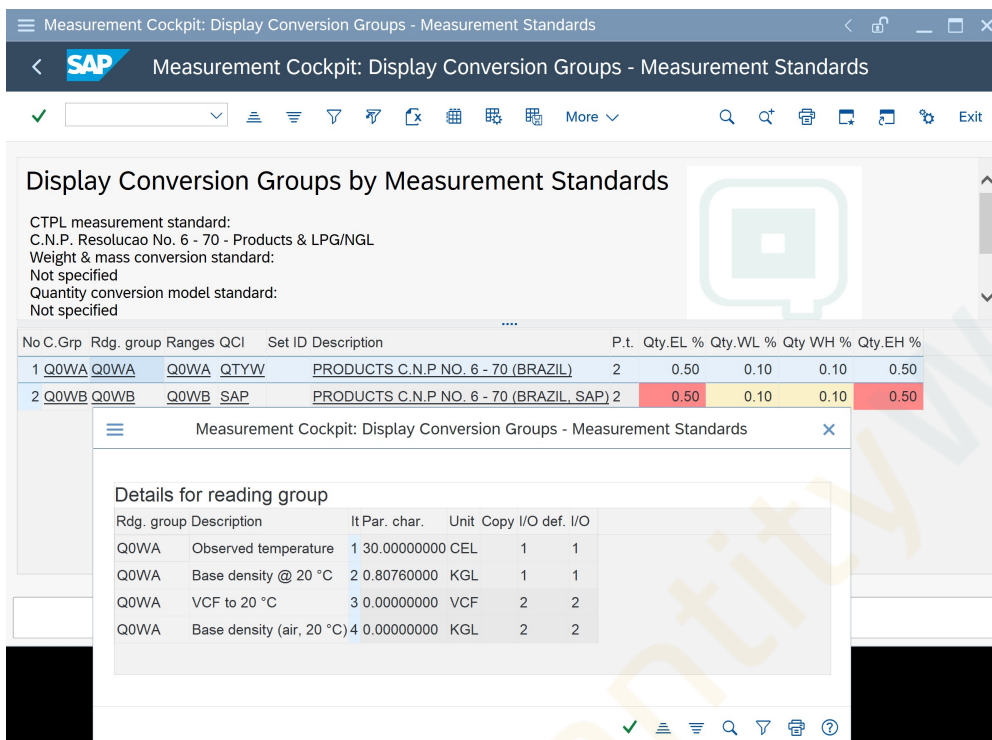
Cause

South American customers are still requiring quantity conversions based on the historical standard RESOLUÇÃO No 6 – 70, which has been reinstated with RESOLUÇÃO ANP No 894 - 2022. **This historical standard is available as printed tables only - Table I & II / Table 1 & 2** . However, it has been derived from a mathematical algorithm: "Prepared by Petróleo Brasileiro S.A. (PETROBRÁS) and calculated by electronic computer at Presidente Bernardes Refinery, in Cubatão - São Paulo, they were printed by photo lithographic process, with the consequent elimination of the possibility of introducing any calculation or printing errors." , which is not known to QuantityWare.

Solution

Since 2013, based on requirements from South American customers, QuantityWare BCP supports Brazilian Standard C.N.P. No. 6 – 70, **Table II**, which was delivered as an Advanced Development (AD). Table II provides VCF for a known base density at 20 °C. For crude oil and products two template conversion groups are available, where you enter the base density at 20 °C and the product temperature, such that the VCF can be determined by Table II:

This implementation is **not based on the printed tables**, but on a mathematical formula provided by South American customer industry experts - see ABAP function /QTYW/CNP_6_70_TII for details. This formula appears to be derived from a polynomial fit to the Table 1 & 2 printed data points.

As customers are starting to additionally require implementation of **Table I** (such that the density may be entered at any given test temperature, and the base density is determined by the Table I algorithm), QuantityWare has defined another Advanced Development (AD), where the formula for Table I will be implemented, as it has been achieved for Table II. The QuantityWare development effort - from definition to final delivery to customers - is typically 3 to 6 months. See note 000101 for details.

NOTE: QuantityWare has not performed a complete comparison analysis, to ensure that the industry expert formula results match all the printed table values. Since the now (2022) newly reconfirmed national Brazilian standard are the printed table values (as e.g., ASTM D1250-1952 Table 6), a complete validation of the formula based approach against all table values is required as part of this AD. A first random comparison analysis has shown that differences between calculated and printed values do appear. **Thus, the new AD will contain both the algorithm solution and a complete table value based solution, based on a 4 eyes principle based value comparison - with support of number scanning tools.**

For additional validation purposes, QuantityWare requests that all available Table I and Table II electronic data points within e.g. a spreadsheet are made available to QuantityWare, if customers are currently utilizing such a spreadsheet solution.

Transport Reference

No SAP-based transport

Validity

SAP Release	From SP	To SP	In SP Shipment
ECC600	ALL	ALL	
S/4 HANA	ALL	ALL	