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APPENDICES

Appendix A Calculation of metal content in Cut 1 without influence of wax particles

From heteroatom results, it was shown that the H/C ratios for other cuts except Cut 1 were relatively similar. Assuming H/C ratio for asphaltenes is constant, the H/C ratios for the other cuts were averaged excluding Cut 1.

After obtaining the average H/C ratio for asphaltenes the wax fraction in Cut 1 can be calculated by using the Equation A.1:

$$(H/C)_{\text{sample}} = (1 - \text{wt. fraction of waxes})(H/C)_{\text{asphaltene}} + (\text{wt. fraction of waxes})(H/C)_{\text{wax}} \quad (\text{A.1})$$

After obtaining the weight fraction of wax in Cut 1, the metal content of Cut 1 without wax can be estimated.

For Nickel (Ni).

$$(\text{X g of Ni} / 10^6 \text{ g of sample}) * (10^6 \text{ g of sample} * \text{wax fraction} * 10^6 \text{ g of sample}) = \text{ppm of Ni without wax} \quad (\text{A.2})$$

Similarly for vanadium (V).

$$(\text{Y g of V} / 10^6 \text{ g of sample}) * (10^6 \text{ g of sample} * \text{wax fraction} * 10^6 \text{ g of sample}) = \text{ppm of V without wax} \quad (\text{A.3})$$

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