

SUMMARY

[0002a] In one aspect, there is provided a computer-implemented method for simulating a well system, comprising: providing a well system model configured to define a mechanical configuration of the well system based on at least a first input parameter; providing a jet pump module including at least one jet pump model that defines a jet pump; providing at least one calculation engine; inputting at least the first input parameter into the well system model; defining the mechanical configuration of the well system; selecting the at least one jet pump model from the jet pump module; integrating the at least one jet pump model into the well system model to create a combined model; computing a solution to the combined model; and determining at least one production condition of the well system.

[0002b] In another aspect, there is provided a computer readable medium having instructions stored thereon that, when executed by a processor, cause the processor to perform a method comprising: accessing a well system model that defines a mechanical configuration of a well system based on at least a first well input parameter; accessing a jet pump model that defines a jet pump based on at least a first jet pump input parameter; integrating the jet pump model into the well system model to create a combined model; computing a solution to the combined model; and determining at least one production condition of the well system.