

Jury Member Report – Doctor of Philosophy thesis.

Name of Candidate: Georgy Peshkov

PhD Program: Petroleum Engineering

Title of Thesis: Improving the accuracy of thermal history in basin modelling: reduction of uncertainties in petroleum system analysis

Supervisor: Professor Dimitri Pissarenko

Co-supervisor: Dr. Evgeny Chekhonin

Name of the Reviewer: Dmitry Koroteev



I confirm the absence of any conflict of interest



Date: 20-11-2021

Reviewer's Report

Mr. Georgy Peshkov presents PhD thesis covering an important applied topic of the whole petroleum industry. He studies uncertainties in the analysis of subsurface petroleum systems and a way to reduce them through an accurate assessment of thermal history in basin models.

The thesis is well structured and written with thorough attention to formatting and language. The topic of the thesis is relevant to its actual content.

Literature review outcomes with the drawbacks of the current modeling workflows and defines the overall purpose of Georgy's study.

Georgy uses the up-to-date methods of structural modeling and basing modeling and applies the methods to real-life geological formations. He also uses the most modern lab data on thermal properties. The research outcomes are purely novel and on a proper international level of knowledge.

Georgy has several publications in well-recognized peer-reviewed journals. His publications satisfy the requirements of Skoltech's PhD program.

The only issue I would like Georgy to address is a more pronounced description of the research outcomes' influence on actual reservoir modeling. I.e., I would like to see an estimate of how the workflows developed by Georgy are influencing the overall production forecasts computed with modern reservoir simulators.

Overall, I believe that Georgy's thesis fully deserve PhD status and recommend supporting Georgy in his effort of getting PhD from Skoltech

Provisional Recommendation

I recommend that the candidate should defend the thesis by means of a formal thesis defense

I recommend that the candidate should defend the thesis by means of a formal thesis defense only after appropriate changes would be introduced in candidate's thesis according to the recommendations of the present report

The thesis is not acceptable and I recommend that the candidate be exempt from the formal thesis defense