

## Jury Member Report – Doctor of Philosophy thesis.

**Name of Candidate:** Evgenii Baraboshkin

**PhD Program:** Petroleum Engineering

**Title of Thesis:** Automated core description based on computer analysis

**Supervisor:** Professor Dmitry Koroteev

**Co-supervisor:** Dr. Denis Orlov

**Name of the Reviewer:** Prof. Alexey Cheremisin

I confirm the absence of any conflict of interest

(Alternatively, Reviewer can formulate a possible conflict)

**Date: 28-12-2022**

*The purpose of this report is to obtain an independent review from the members of PhD defense Jury before the thesis defense. The members of PhD defense Jury are asked to submit signed copy of the report at least 30 days prior the thesis defense. The Reviewers are asked to bring a copy of the completed report to the thesis defense and to discuss the contents of each report with each other before the thesis defense.*

*If the reviewers have any queries about the thesis which they wish to raise in advance, please contact the Chair of the Jury.*

### Reviewer's Report

Reviewers report should contain the following items:

- Brief evaluation of the thesis quality and overall structure of the dissertation.
- The relevance of the topic of dissertation work to its actual content
- The relevance of the methods used in the dissertation
- The scientific significance of the results obtained and their compliance with the international level and current state of the art
- The relevance of the obtained results to applications (if applicable)
- The quality of publications

The summary of issues to be addressed before/during the thesis defense

The dissertation is presented in complete thesis form (127 pages, eight chapters). The research topic is based on computer vision algorithms application for image recognition.

The research topics are relevant for oil&gas and mining industries. The application of the methods presented in the research may help to drop down uncertainties during deposits development and increase overall data quality.

The results were published in 2 Q1 journals and one patent was created during the research. Also, the research was presented on 8 international conferences. The obtained scientific results make it possible to create a software for core description.

Before defending the thesis, I recommend making the following changes:

- English proofread.
- Figure captions are non-informative and do should be extended (e.g. figure 10, 21, 26, 49)
- The organization of PhD thesis structure should be improved (e.g. add summary to each chapter).

#### 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*