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Student: Orynbassarova E.O.
Degree: Doctor (PhD) in specialty 6D071100 - "Geodesy"
Title of Thesis: Improvement of the Method of Complex Preparation and Use of Space Images in the Problems of Assessing the Deformation of an Industrial Surface in the Conditions of Exploitation of the Tengiz Oil Field

Foreign Supervisor: Dr Andrew Sowter

Ms. Orynbassarova has been working on the above thesis, which is a study of the land deformation around the Tengiz Oil Field, using a novel remote sensing technique, the Intermittent Small Baseline Subset (ISBAS method). The ISBAS method is based upon the analysis of stacks of satellite synthetic aperture radar (SAR) data. The work that she has performed has involved the gathering of satellite data for the task, the operation of software in a laboratory in order to convert the satellite data into measurements of land motion and the analysis and interpretation of the results in the context of the geology and industrial topography of the Tengiz deposit. The thesis considers the deformation processes and undertakes an analysis of their causes using specialist software capable of analysing the data and integrating it with other map-related information. A number of complex research methodologies were applied to derive the results. Importantly, the novelty of the research has been demonstrated through the publication of initial findings in a high-ranking peer-reviewed publication.

I take no hesitation in recommending that the work undertaken by Ms Orynbassarova meets all the requirements of the Education Control Committee of the Ministry of Education and Science of the Republic of Kazakhstan and that she is fully deserving of the Ph.D. degree in specialty 6D071100 - "Geodesy".

Signature:

A handwritten signature in black ink, appearing to read 'A.S.', with a small flourish at the end.

Date: 20th August 2019

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