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[Your Name]

[Your Title]

[Your Company]

[Street Address, City, State ZIP]

May 14, 2026

[Opposing Counsel Name]

[Firm Name]

[Address]

Re: U.S. Patent No. US20180240021A1 — Response to Assertion of Infringement

Dear Counsel,

We acknowledge receipt of your correspondence asserting infringement of U.S. Patent No. US20180240021A1 (the "US20180240021A1 Patent"). After preliminary review, we have substantial concerns about the validity, enforceability, and scope of the asserted claims, summarized below. We reserve all rights and defenses.

1. Subject Patent — Summary

A concise summary of U.S. Patent Application Publication No. US20180240021A1, which has been granted as U.S. Patent No. 11,087,221 B2, is provided below.

Title: Well performance classification using artificial intelligence and pattern recognition

Assignee: Saudi Arabian Oil Company

Inventors: Badr M. Al-Harbi, Amell Ali Al-Ghamdi, Ali A. Al-Turki

Filing Date: February 20, 2017

Issue Date: August 10, 2021

Abstract:

A heterogeneous classifier based on actual reservoir and well data is developed to qualitatively classify oil well producer performance, and based on the classification drill a new well into a producing reservoir or adjust fluid flows in an existing well. The data includes...

2. Validity Concerns under 35 U.S.C. § 102 — Prior Art

We have identified prior-art references that, in our preliminary view, anticipate one or more asserted claims of the US20180240021A1 Patent:

Analysis of Prior Art for US Patent Application US20180240021A1

A review of the citations for U.S. Patent Application Publication No. US20180240021A1 (granted

as US11087221B2) reveals several key prior art references that were considered during its examination. These references relate to the use of computational models, simulations, and data analysis for predicting and optimizing hydrocarbon production from reservoirs. Below is an analysis of the most relevant citations and their potential impact on the claims of the '021 application.

Key Prior Art References and Potential Anticipation of Claims:

The core of the invention in US20180240021A1 lies in its method of using a machine-learning-based "classification model" to generate a "probabilistic estimate" of a target well's performance, which then informs the decision to drill the well. The independent claims (1, 8, and 15) broadly cover this method, the system that performs it, and a storage device containing the instructions for it. The analysis below focuses on how prior inventions might anticipate these core concepts.

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3. Obviousness under 35 U.S.C. § 103

Independent of § 102, we believe the asserted claims are obvious in view of combinations of prior art that a person having ordinary skill in the art would have been motivated to combine:

Obviousness Analysis of US Patent Application US20180240021A1 under 35 U.S.C. § 103

This analysis evaluates whether the invention claimed in U.S. Patent Application Publication No. US20180240021A1 (the '021 application) would have been obvious to a Person of Ordinary Skill in the Art (POSITA) at the time the invention was made. The analysis is based on the prior art references identified in the preceding section.

Under 35 U.S.C. § 103, a patent claim is invalid if the differences between the claimed invention and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.

Definition of a Person of Ordinary Skill in the Art (POSITA)

For the purposes of this analysis, a POSITA would be an individual with a degree in petroleum engineering, geological sciences, or a related field, coupled with several years of experience in reservoir engineering. This individual would be familiar with numerical reservoir simulation, conventional well planning techniques, and the application of...

4. Request

In light of the foregoing, we request that your client (i) provide a detailed claim chart identifying each accused product or service and mapping every limitation of each asserted claim, (ii) identify any prior art known to your client, including any references cited during prosecution or reexamination, and (iii) substantiate the basis for any damages or licensing demand. We are prepared to discuss the matter further once we have received and reviewed the foregoing.

Sincerely,

[Your Name]

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