frontiers | Frontiers in Earth Science

TYPE Correction
PUBLISHED 04 November 2022
DOI 10.3389/feart.2022.1073465

Corrigendum: Estimation of porosity and facies distribution through seismic inversion in an unconventional tight sandstone reservoir of Hangjinqi area, Ordos basin

Umar Ashraf[1†], Aqsa Anees[1†], Wanzhong Shi[2,3]*, Ren Wang[2,3], Muhammad Ali[4], Ren Jiang[5], Hung Vo Thanh[6], Ibrar Iqbal[7], Xiaonan Zhang[1] and Hucai Zhang[1]*

[1]Institute for Ecological Research and Pollution Control of Plateau Lakes, School of Ecology and Environmental Science, Yunnan University, Kunming, China, [2]School of Earth Resources, China University of Geosciences, Wuhan, China, [3]Key Laboratory of Tectonics and Petroleum Resources, Ministry of Education, China University of Geosciences, Wuhan, China, [4]Institute of Geophysics and Geomatics, China University of Geosciences, Wuhan, China, [5]Research Institute of Petroleum Exploration and Development, Petro-China Company Limited, Beijing, China, [6]School of Earth and Environmental Sciences, Seoul National University, Seoul, South Korea, [7]College of Earth Sciences, Guilin University of Technology, Guilin, China

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Frontiers Editorial Office,
Frontiers Media SA, Switzerland

*CORRESPONDENCE
Wanzhong Shi,
shiwz@cug.edu.cn
Hucai Zhang,
zhanghc@ynu.edu.cn

†These authors have contributed equally to this work and share first authorship

SPECIALTY SECTION
This article was submitted to Solid Earth Geophysics, a section of the journal Frontiers in Earth Science

RECEIVED 18 October 2022
ACCEPTED 19 October 2022
PUBLISHED 04 November 2022

CITATION
Ashraf U, Anees A, Shi W, Wang R, Ali M, Jiang R, Thanh HV, Iqbal I, Zhang X and Zhang H (2022), Corrigendum: Estimation of porosity and facies distribution through seismic inversion in an unconventional tight sandstone reservoir of Hangjinqi area, Ordos basin. *Front. Earth Sci.* 10:1073465. doi: 10.3389/feart.2022.1073465

KEYWORDS

constrained sparse spike inversion, porosity estimation, Shanxi and Taiyuan formations, tight sandstone, Hangjinqi area, Ordos basin

A Corrigendum on
Estimation of porosity and facies distribution through seismic inversion in an unconventional tight sandstone reservoir of Hangjinqi area, Ordos basin

by Ashraf U, Anees A, Shi W, Wang R, Ali M, Jiang R, Vo Thanh H, Iqbal I, Zhang X and Zhang H (2022) Front. Earth Sci. 10:1014052. doi: 10.3389/feart.2022.1014052

In the published article, Figures 2, 4–7 show some resemblance to a recently published article (Anees et al., 2022) as the same data and software were used as part of the authors' research. Modifications have been made to the figures, which aim to establish that the current study has no resemblance to any of the previously published articles. The colors and layout of Figures 2, 4–7 have been revised by employing the same well, logs, and section locations and zoomed versions of the original figures have been provided. The current study is original and focuses on the porosity and facies estimation of the Hangjinqi area. The corrected Figures 2, 4–7 and their captions appear below.

The authors apologize for this error and state that this does not change the scientific conclusions of the article in any way. The original article has been updated.

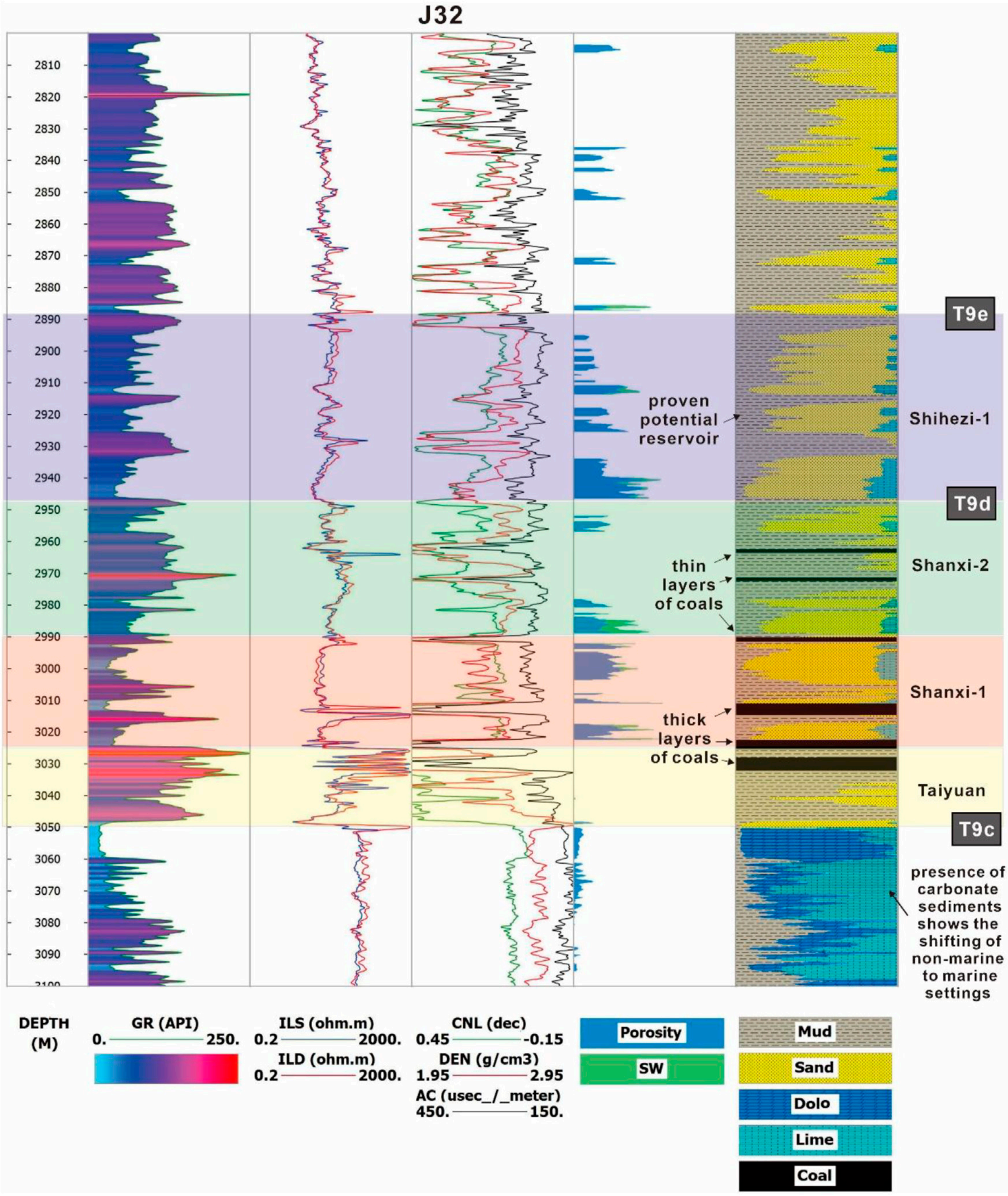

FIGURE 2
Petrophysical analysis of J32. The highlighted zones show the targeted zone of interest (ZOI). Shihezi-1 formation is a proven reservoir and mostly consists of sand and mud facies. Whereas, Shanxi-2 and Shanxi-shows coal layers, but also shows prominent porous zones. The Taiyuan formation zone shows a thick coal layer and prominent mud facies. The area below the ZOI shows frequent carbonate facies highlighting the marine depositional environment.

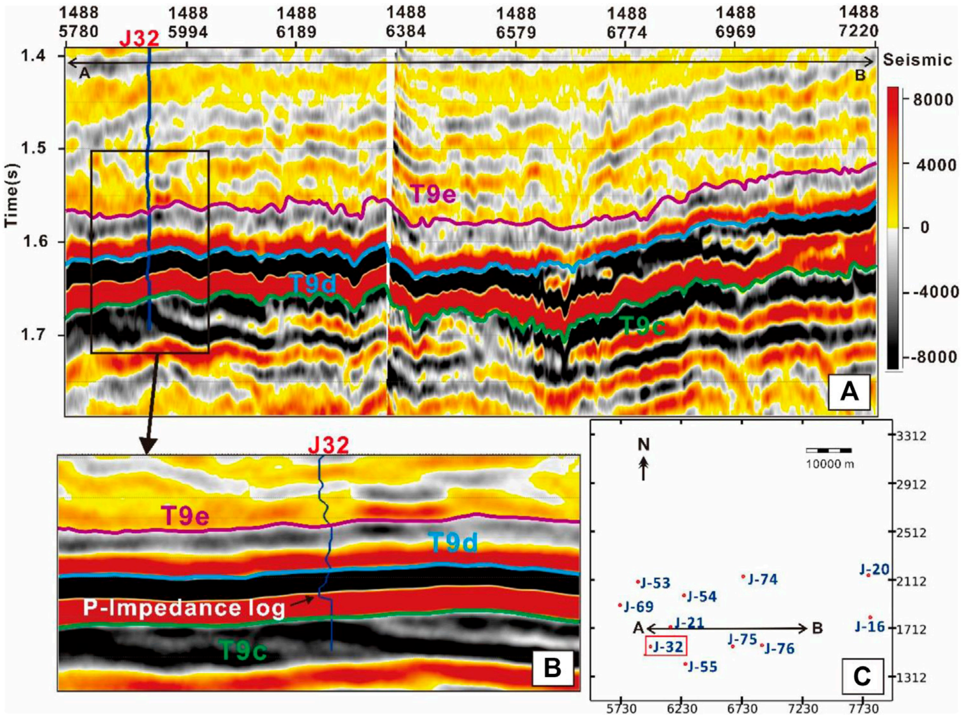

FIGURE 4
(A) A inline showing a regional section crossing well J32. Three horizons are marked named T9c, T9d, and T9e. **(B)** A zoomed section highlights the deflections of P-impedance log within the ZOI. **(C)** Basemap showing the corresponding studied inline (AB) and well J32.

10.3389/feart.2022.1073465

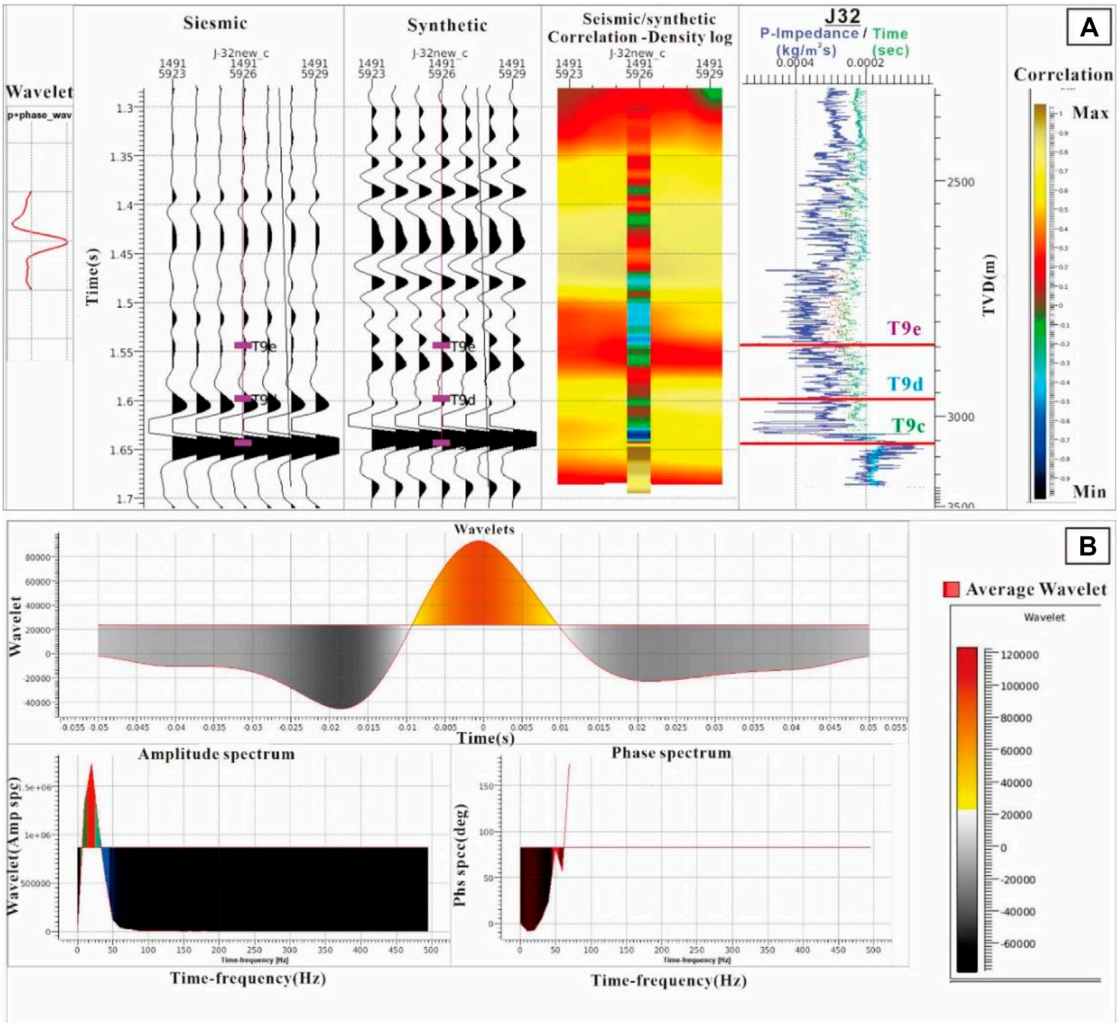

FIGURE 5
(A) The well editing window shows the synthetic seismogram utilizing the well J32. The first panel shows seismic data from well traces. The second and third panels show synthetics, third shows the correlation between the seismic and synthetics. The highest value shows a good correlation, whereas the lowest value shows a minimum correlation. An overlay log on the correlation panel shows the variations of the RHOB log within ZOI. The last and fourth panel shows the time and P-impedance log of well J32. **(B)** An average wavelet along with amplitude and phase spectrums were made by utilizing the wavelets of all the studied wells.

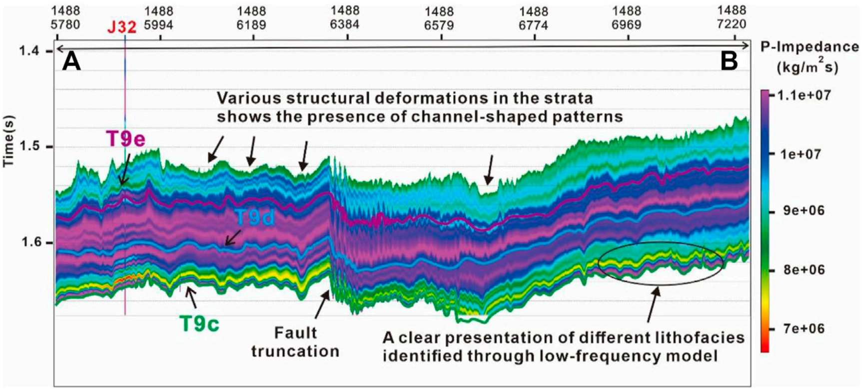

FIGURE 6
Low-frequency model of the ZOI that shows the presence of fault truncations and channel-shaped patterns associated with structural variations. A highlighted zone evidently highlights the presence of various lithofacies.

10.3389/feart.2022.1073465

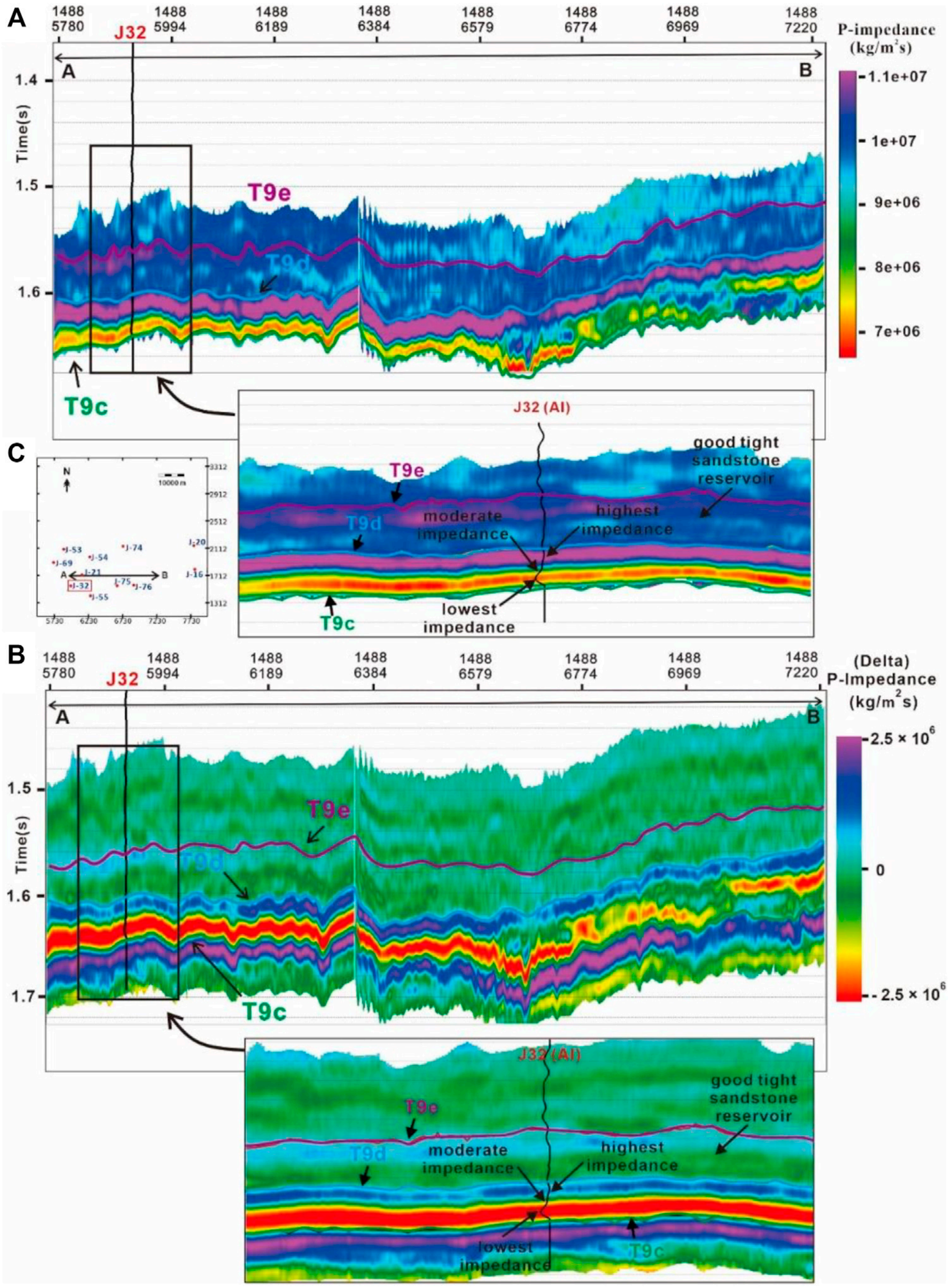

FIGURE 7
(A) Absolute AI broadband model along with the zoomed section on J32 location **(B)**. Bandlimited AI model along with a zoom section. An overlay well J32 on inverted AI models highlights the differences in impedance values. **(C)** A basemap showing the location of J32 and studied inline for inverted sections.

Publisher's note

Reference

Anees, A., Zhang, H., Ashraf, U., Wang, R., Thanh, H. V., Radwan, A. E., et al. (2022). Sand-ratio distribution in an unconventional tight sandstone reservoir of Hangjinqi area, Ordos Basin: Acoustic impedance inversion-based reservoir quality prediction. *Front. Earth Sci.* 10, 1018105. doi:10.3389/feart.2022.1018105