

COLUMBIA UNIVERSITY  
IN THE CITY OF NEW YORK  
DEPARTMENT OF EARTH & ENVIRONMENTAL SCIENCES  
LAMONT DOHERTY EARTH OBSERVATORY

May 3, 2021

Dr. Isabelle Manighetti  
Editor in Chief, JGR Solid Earth

Dear Dr. Manighetti,

As required, I am including this letter with my submission of a multi-authored paper, “*Mass transfer into the leading edge of the mantle wedge: Initial Results from Oman Drilling Project Hole BT1B*”, explaining how its completion was delayed by the impacts of the COVID-19 disease.

If this paper is accepted, I am requesting that it be included in the Special Issue on Ophiolites and Oceanic Lithosphere. My understanding is that the paper will go through the JGR peer-review process, that it will be accepted or declined on the basis of that normal process, and – if accepted – that it will be incorporated into the Special Issue.

This paper has been delayed by the impacts of the COVID-19 disease in the following direct and indirect ways.

First and foremost, this is an overview of scientific results related to Oman Drilling Project Hole BT1B, and as such, completing this paper required completion of analytical work by many investigators around the world. In turn, this work was delayed by the disease. As it is, the manuscript I am submitting contains references to seven substantial papers that are still in preparation or in revision.

Just among the examples that I personally know about in detail, these delays were due in part to

- (1) the fact that I became very ill – perhaps from COVID-19 – upon my return from Oman in late January 2020 (it turned out that at least one attendee of our conference there had the disease),
- (2) postdoc Juan Carlos de Obeso contracted the disease and was unable to work for a few weeks,
- (3) postdoc Juan Carlos de Obeso was unable to access closed laboratory facilities at Lamont Doherty Earth Observatory for several months,
- (4) postdoc Juan Carlos de Obeso’s mother-in-law, who is ill with cancer, needed his and his wife’s help to move from France to Mexico during the pandemic, and then to convalesce in Mexico, and when Juan Carlos went to Mexico he became subject to various mandatory quarantine and travel restrictions,
- (5) as a result of factors 2 through 4, Dr. de Obeso was unable to complete his planned analyses of  $^{87}\text{Sr}/^{86}\text{Sr}$  and  $d^{13}\text{C}$ , and their interpretation, crucial to this paper, and his companion paper, until November (he is still revising the paper for submission),
- (6) similarly, Dr. de Obeso was unable to complete revised modeling calculations for this paper before he moved to Calgary to start a new research program,
- (7) our older daughter and her partner had to abandon plans and live with us while not working for several months,

(8) our younger daughter had to leave Colorado College and live with us while completing her final year of coursework online,

(9) in the midst of 7 & 8, we had to unexpectedly extend our rental of a house in Boulder Colorado, and then move twice, first from Boulder to our rental property in Woods Hole (which fortunately was not occupied at the time), and then from Woods Hole to our house in New York (to make room for tenants in Woods Hole),

(10) also in the midst of 7 & 8, the labs at UC Boulder closed, trapping my Raman samples and all of the related analytical data for months,

(11) I had to help our younger daughter drive her car back to Colorado – where she had to move for work– in mid-summer, then retrieve my samples – but not my data – from the still-closed lab at UC Boulder, then buy a car (we did need a new car) and drive back alone,

(12) as a result of 1-11, I did not complete a submittable draft of this paper before starting teaching in the fall semester, after which almost all my time through the end of December was occupied by teaching because

(12a) an unprecedented number of students enrolled in my courses on “Earth Resources & Sustainable Development” (an unprecedented total of 145 completed the courses), requiring that I double my time commitment for recitation sections, and

(12b) I had to set up a new home office and learn how to teach online because my course was 100% remote,

(13) and in addition to teaching, the delay in completing this paper caused its completion to compete for my time with other significant commitments I had made, which could not be postponed, including

(13a) participation in the Mars 2020 Rover Science Team, and

(13b) advising two startup companies and several larger companies on CO<sub>2</sub> removal from air and permanent storage via carbon mineralization.

(14) From May 2020 through March 2021, we made unprecedentedly frequent, distanced visits to my wife’s parents (divorced, two different homes) based on her concern about them, and

(15) we had to make special arrangements to accommodate our daughter over the winter holidays because she contracted COVID-19 en route from Colorado to New York.

Meanwhile, new postdoc James Leong was delayed

(16) in completing his dissertation, then

(17) delayed in renewing his visa (he is Filipino), and then

(18) delayed in starting his postdoc at Lamont (Columbia had

(18a) a hiring freeze, and once that was waived he still had to

(18b) complete a month-long quarantine period, and then

(18c) receive an up-to-date, negative COVID-19 test in order to satisfy the requirements our labs, which took more than a week at that time.

In turn, Dr. Leong’s modeling expertise was central to completing calculations essential for this paper, which Dr. de Obeso started before the pandemic began.

I was also counting on calculations to be completed by my colleague, UCLA Prof. Craig Manning. However, Prof. Manning's work life was seriously disrupted by the pandemic. First,

(19) he and his wife had to leave their sabbatical positions in Paris in spring 2020, to move back to the US. Then

(20) he and his wife lived in a rental cabin in Vermont for a short time, before concluding that they needed to

(21) move to Amherst Massachusetts to take care of his mother, who is ill and was unable to take care of herself during pandemic-related shutdowns, then

(22) they had to move again, to Maine. The outcome of all this was that his research work was delayed, and he did not make the promised calculations before going back to Los Angeles and starting the fall semester. After that, like me,

(23) he became very busy with teaching made more challenging by the pandemic.

Those are the reasons for the delays whose details I know about personally.

Finishing this paper also required completion of geochemical analyses by Marguerite Godard at the University of Montpellier (paper in prep for JGR), completion of structural analyses by Manuel Menzel and Janos Urai in Aachen (paper in prep for Nature Communications – their preference – or JGR – my preference), completion of interpretation of XRF and CT-scanning data by Keishi Okazaki and others at various institutes associated with JAMSTEC in Japan (JGR paper rejected this spring, with encouragement to resubmit), completion of (U,Th)/He analyses by Danny Stockli at UT Austin (Table 1 in the paper I am submitting), completion of work on the metamorphic sole of the Samail ophiolite by Alissa Kotwoski at UT Austin (paper in revision for JGR), and so on. I am sure that most or all of these other scientists could supply a similarly long list of reasons for delay of their work, related directly or indirectly to the pandemic.

I hope that you find this letter informative.

Sincerely,



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cc: Steve Parman, Editor, JGR Solid Earth