

December 5, 2017

VIA U.S. PRIORITY MAIL EXPRESS
RETURN RECEIPT REQUESTED

Administrator
NASA Headquarters
Executive Secretariat
Washington, DC 20546

**Re: Appeal Under the Freedom of Information Act;
FOIA Request 17-HQ-F-00141**

Dear Administrator:

Pursuant to 14 C.F.R. § 1206.700, on behalf of Dr. Nathan Myhrvold, we write to appeal adverse initial determinations by the Jet Propulsion Laboratory (“JPL”) and NASA Headquarters (“HQ”) on our client’s July 2016 requests (the “Requests”) under the Freedom of Information Act (“FOIA”). Because NASA consolidated the processing of these related requests, our appeal addresses both adverse determinations.

This is Dr. Myhrvold’s second appeal of NASA’s response to the Requests. In a prior appeal, NASA ruled by final determination letter of November 14, 2016, that JPL and HQ erred by summarily rejecting all of Dr. Myhrvold’s requests on the grounds that they did not reasonably describe the documents sought, and directed JPL and HQ to process most of the Requests.

The present appeal challenges JPL’s and HQ’s inadequate responses to the Requests on remand from that November 14, 2016 final determination. This appeal raises four issues:

First, JPL and HQ did not conduct adequate searches in response to many of Dr. Myhrvold’s requests and failed to produce most of the core scientific material he seeks about the NEOWISE mission’s estimates of asteroid diameters. *See* pages 5-13 below.

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Second, JPL and HQ improperly withheld certain records and portions of records on the basis of the (b)(5) exemption for records that would be privileged in litigation. *See* pages 13-16 below.

Third, JPL and HQ misclassified the Requests as “commercial use” for fee purposes and charged fees not allowed by FOIA. *See* pages 16-18 below.

Fourth, JPL and HQ unduly delayed processing the Requests and failed to make the few records they ultimately produced promptly available as required by FOIA. *See* pages 18-19 below.

Dr. Myhrvold accordingly requests that NASA order JPL and HQ to conduct full and adequate searches, withdraw their erroneous exemption claims and produce the previously withheld information, classify the Requests correctly for fee purposes and refund all improper charges, and complete their processing of the Requests expeditiously.¹

Background

A. The FOIA Requests

On July 11, 2016, Dr. Myhrvold submitted two separate FOIA Requests, one to HQ and one to JPL (attached as Exhibits 1 and 2 to the Declaration of Andy Wang).² The Request to HQ included five categories of requested records, denominated (a) through (e). The Request to JPL included eight categories of requested records, denominated (a) through (h), five of which were the same as the requests also directed to HQ. The Requests were assigned Nos. 16-HQ-F-00806 and 16-JPL-F-00800 respectively.

Broadly speaking, the Requests seek various categories of records all relating to NASA’s NEOWISE team’s research and methodology for estimating the diameters of asteroids. NASA’s website states that NEOWISE, which stands for Near-Earth Object

¹ This appeal is timely because the agency issued its final determination, which started the 90-day clock for appeal under the FOIA Improvement Act of 2016, on September 6, 2017, as more fully described below.

² This appeal contains a number of exhibits, all of which are attached to the Declaration of Andy Wang submitted herewith.

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Wide-field Infrared Survey Explorer, “assist[s] NASA’s efforts to identify potentially hazardous near-Earth objects (NEOs), which are asteroids and comets on orbits that bring them into the vicinity of Earth’s orbit.”³ JPL further explains that the NEOWISE program seeks to “rapidly characterize near-Earth objects (NEOs) and obtain accurate measurements of their diameters and albedos (how much light an object reflects).”⁴ We understand that the NEOWISE program is managed and operated by JPL for NASA’s Science Mission Directorate.

B. HQ’s and JPL’s Initial Responses

In July 2016, HQ and JPL each sent us separate communications stating that they could not process the Requests at all because it was unclear what specific records Dr. Myhrvold was seeking, and inviting clarification. For example, JPL explained in this regard that NASA generally could not search electronic files and NASA’s “official files are primarily paper files” (Exhibit 3).

On August 5, 2016, we sent separate responses to HQ and JPL with additional information about the requested searches (Exhibits 4 and 5 respectively). However, HQ and JPL continued to take the position they could not process the Requests, and closed the cases.

C. The Fall 2016 Administrative Appeal

By letter dated September 8, 2016, Dr. Myhrvold appealed those initial determinations. On November 14, 2016, NASA, by its Associate Administrator Krista Paquin, issued its final determination of the September 8, 2016 consolidated appeal. The Associate Administrator reversed HQ’s and JPL’s initial determinations as to all but two of the categories of requested documents. The Associate Administrator remanded the respective cases to HQ and JPL and directed that searches be conducted for records responsive to the Requests. A copy of the November 14, 2016 appeal determination letter is attached as Exhibit 6.

³ <https://www.nasa.gov/feature/goddard/2017/nasa-funded-website-lets-public-search-for-new-nearby-worlds>.

⁴ <https://neowise.ipac.caltech.edu/>.

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D. Processing on Remand

On November 29, 2016, HQ wrote on behalf of both HQ and JPL to acknowledge receipt of the remand and indicate the Requests were being processed (attached as Exhibit 7). The two Requests were consolidated into a new case number, No. 17-HQ-F-00141. HQ provided certain information about how HQ and JPL planned to implement the search for responsive records. HQ further advised that “[b]ased on your request, we are placing you in the ‘Commercial Use’ category for fee assessment purposes.” Ex. 7 at 3.

On December 6, 2016, we sent a letter objecting that NASA’s planned search was too narrow (attached as Exhibit 8). On December 28, 2016, HQ provided a further communication clarifying certain aspects of its search plan, but not addressing other issues we had raised (attached as Exhibit 9).

E. HQ’s Release of Responsive Records

On March 21, 2017, HQ provided its response to Dr. Myhrvold’s July 11, 2016 Requests, as remanded on November 14, 2016 (attached as Exhibit 10). HQ stated that it located and identified 1262 pages of documents as responsive to the three remaining request categories directed to HQ. Of those 1262 pages, HQ stated that it was releasing 683 pages in full and 113 pages in part. HQ stated that it was withholding 474 pages in full and 113 pages in part pursuant to FOIA exemptions (b)(4), (b)(5), and (b)(6).

In addition to withholding a large volume of records pursuant to exemptions, HQ withheld several attachments to emails without claiming any exemption, even though the attachments were plainly responsive. On April 17, 2017, we wrote to HQ to request release of the omitted materials (attached as Exhibit 11). On April 27, 2017, HQ acknowledged an oversight and released eight additional documents, totaling another 62 pages (attached as Exhibit 12).

With the April 27, 2017 supplementation included, HQ’s total release consisted of 745 full pages and 113 partially redacted pages. HQ withheld 474 pages, which were released in totally redacted form. However, those page totals greatly overstated the actual volume of meaningful information conveyed because of a high degree of duplication within the released documents as well as NASA’s insertion of 100 non-substantive document divider pages included in those counts. *See* Wang Decl. ¶¶ 49-52.

In its March 21, 2017 letter, HQ advised that “[s]ince this is a partial response involving the search at Headquarters for Headquarters documents only, we are not

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providing appeal rights at this time. Appeal rights will be afforded to you in the initial determination letter once JPL concludes processing their portion of your request.” Exhibit 10 at 3.

F. JPL’s Releases of Responsive Records

For its response to the Requests, JPL made a series of six releases beginning on May 2, 2017 and ending on September 6, 2017 (letters attached as Exhibits 13, 14, 15, 16, 17, and 18). In the six releases collectively, JPL produced 601 pages of records. Wang Decl. ¶ 49. JPL redacted information from many of these pages, claiming exemptions (b)(5) and (b)(6). Like HQ’s release, JPL’s release includes significant duplication; each of JPL’s production cover letters acknowledged that the same emails may appear multiple times and “we have removed no duplicate documents.” *See, e.g.*, Ex. 13 at 3; *see also* Wang Decl. ¶ 53 (providing examples of duplication).

JPL’s final release letter dated September 6, 2017 advised that it constituted NASA’s initial determination on the Requests, thus affording “appeal rights related to all releases we have made in processing the remanded appeal.” Ex. 18 at 3.

G. NASA’s Assessment of Fees

As noted above, NASA classified the Requests as for “commercial use.” Based on that classification, NASA invoiced Dr. Myhrvold for a total of \$1,441.75 in fees that it claimed were due for the processing of his requests. Exs. 18, 19. Although Dr. Myhrvold did not accept the validity of these charges, he timely paid each assessment under protest in order to avoid any delays in processing of the Requests. Exs. 20, 21.

Reasons Why the Adverse Initial Determinations Should Be Reversed

A. NASA Did Not Perform An Adequate Search

FOIA requires an agency to conduct “a search reasonably calculated to uncover all relevant documents.” *Aguilar v. DEA*, 865 F.3d 730, 738 (D.C. Cir. 2017) (internal quotation marks omitted). It is not sufficient merely to search one record system “‘most likely’ to contain the requested information.” *Oglesby v. U.S. Dep’t of the Army*, 920 F.2d 57, 67 (D.C. Cir. 1990). Rather, if there are *other* “possible place[s] that responsive records are likely to be located,” the agency must search those places as well. *Id.* at 68; *accord Campbell v. U.S. Dep’t of Justice*, 164 F.3d 20, 28 (D.C. Cir. 1998). This includes an obligation to follow up on any “leads that emerge during [the agency’s] inquiry.” *Campbell*, 164 F.3d at 28. In short, the agency must search “*all* files likely to

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contain responsive materials,” both paper and electronic. *Aguiar*, 865 F.3d at 738-39 (internal quotation marks omitted; emphasis added); *see also Huntington v. U.S. Dep’t of Commerce*, 234 F. Supp. 3d 94, 105 (D.D.C. 2017) (holding that agency could not exclude paper files from search absent a reasoned basis to conclude that no paper files included any responsive records).

Agencies must read a request “as drafted,” not as the agency “might wish it was drafted.” *Miller v. Casey*, 730 F.2d 773, 777 (D.C. Cir. 1984). For example, agencies may not respond to selected parts of a request but not others, in effect narrowing the request. *Republican Nat’l Comm. v. Dep’t of State*, 235 F. Supp. 3d 235, 241-42 (D.D.C. 2016). NASA’s regulations recognize that an adequate search may require “consultation with a professional NASA employee familiar with the subject area.” 14 C.F.R. § 1206.500(b).

1. Documents Discussing the Accuracy of NEOWISE Diameter Estimates (Request (c)) (HQ and JPL)

HQ and JPL did not conduct an adequate search for records responsive to Request (c), which sought: “All documents discussing the accuracy of NEOWISE diameter estimates, including: (i) How the estimates were calculated; (ii) How the estimates should be described; (iii) Different approaches to calculation; and (iv) Policies or decisions regarding the accuracy and how NEOWISE-related papers or presentations should refer to them.” This request had a date range of January 1, 2010 to July 9, 2016. Ex. 4 at 4.

We understand that the development of reliable estimates of the diameter of near-Earth objects has been at the core of the NEOWISE mission since its inception in 2010. For example, JPL’s website states that NEOWISE’s function is to “rapidly characterize near-Earth objects (NEOs) and obtain accurate measurements of their diameters and albedos (how much light an object reflects).”⁵ Despite the centrality of diameter estimates to NEOWISE’s scientific mission, JPL’s release includes a scant 122 pages of records discussing the accuracy of NEOWISE diameter estimates. Ex. 15, at 3. It is not credible that JPL would have such a minuscule amount of information relating to NEOWISE’s execution of one of its core functions.

Part of the problem appears to be that JPL and HQ both refused to perform any search for responsive information beyond keyword searches of individuals’ email

⁵ <https://neowise.ipac.caltech.edu/>.

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accounts. In their letter following remand from the prior appeal, JPL and HQ advised that they intended to address Request (c) by “conduct[ing] an electronic search through the email accounts” of several individuals “for emails containing ‘NEOWISE’ and ‘diameter.’” Ex. 7 at 2. Dr. Myhrvold objected to limiting the search to email accounts, noting that while emails are one likely place where responsive records may exist, they are not the *only* potential location of responsive records. See Ex. 8 at 1. For example, discussions about the accuracy of NEOWISE diameter estimates are also likely to appear in electronic documents other than emails (*e.g.*, Word, PDF, Excel, PowerPoint, etc. documents on individual users’ computers or shared files), or in paper documents such as laboratory notebooks, working papers, or handwritten notes on articles and on printed copies of electronic documents. Dr. Myhrvold proposed that JPL and HQ consult with knowledgeable NEOWISE personnel about where records relating to NEOWISE diameter estimates and their accuracy are maintained. *Id.*

HQ and JPL ignored Dr. Myhrvold’s objection and persisted in refusing to search any documents other than email accounts or to consult with knowledgeable agency personnel about other sources or other locations of responsive documents. Thus, when they ultimately released documents responsive to Request (c), HQ and JPL each confirmed that their search effort was limited to “conduct[ing] an electronic search through the email accounts” of several individuals “for emails containing ‘NEOWISE’ and ‘diameter.’” Ex. 10 at 3; Ex. 15 at 3. That approach was inadequate under FOIA because it was not “reasonably calculated to uncover all relevant documents.” *Aguiar*, 865 F.3d at 738; see *Huntington*, 234 F. Supp. 3d at 105 (rejecting agency search that excluded paper files without basis).

Ignoring paper files was particularly problematic because NASA’s FOIA regulations state that NASA’s “official files are *primarily* paper files.” 14 C.F.R. § 1206.300(c) (emphasis added). In fact, JPL made the same representation to Dr. Myhrvold in correspondence in this case, adding in the same correspondence that NASA is generally “not equipped” to search electronic files. Exhibit 3 at 5. It was not reasonable for NASA to *exclude* from its search the very locations where its official files are *primarily* located. Nor was it reasonable for NASA to rely solely on electronic searches that NASA itself asserted it is “not equipped” to conduct.

Moreover, HQ’s search was inadequate even as to the email accounts it did search. Request (c) had a date range of January 1, 2010 to July 9, 2016, as HQ acknowledged. Ex. 10 at 2. However, HQ did not produce any emails predating March 2016. Wang Decl. ¶ 50. FOIA does not allow agencies to unilaterally truncate the date range of the request in this manner. See, *e.g.*, *Physicians for Human Rights v. U.S. Dep’t of Defense*, 675 F. Supp. 2d 149, 164 (D.D.C. 2009) (holding that agency improperly

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applied a temporal scope that “was too narrow and did not comport with [requester’s] FOIA petition”); *accord Ctr. for Biological Diversity v. Office of U.S. Trade Rep.*, 450 F. App’x 605, 608 (9th Cir. 2011).

**2. Documents Related to WISE/NEOWISE Papers or Analyses
(Request (f)) (JPL only)**

JPL also did not conduct an adequate search for records responsive to Request (f). That request sought “[a]ll documents related to papers or analyses regarding WISE/NEOWISE done by the NEOWISE team (*see, e.g.*, the following papers: Mainzer/TMC,⁶ Mainzer/NEO,⁷ Masiero/MB⁸).” The request further identified seven particular topics of interest with respect to those papers.⁹

⁶ Mainzer, A., Grav, T., Masiero, J., Bauer, J.M., Wright, E.L., Cutri, R.M., McMillan, R.S., Cohen, M., Ressler, M., Eisenhardt, P.R.M., 2011. Thermal Model Calibration for Minor Planets Observed With Wide-Field Infrared Survey Explorer/NEOWISE. *Astrophys. J.* 736, 100. doi:10.1088/0004-637X/736/2/100 (attached as Exhibit 22).

⁷ Mainzer, A., Grav, T., Bauer, J.M., Masiero, J.R., McMillan, R.S., Cutri, R.M., Walker, R., Wright, E.L., Eisenhardt, P.R.M., Tholen, D.J., Spahr, T., Jedicke, R., Denneau, L., DeBaun, E., Elsbury, D., Gautier, T., Gomillion, S., Hand, E., Mo, W., Watkins, J., Wilkins, A., Bryngelson, G.L., Del Pino Molina, A., Desai, S., Camus, M.G., Hidalgo, S.L., Konstantopoulos, I., Larsen, J.A., Maleszewski, C., Malkan, M.A., Mauduit, J.-C., Mullan, B.L., Olszewski, E.W., Pforr, J., Saro, A., Scotti, J. V., Wasserman, L.H., 2011. NEOWISE Observations of Near-Earth Objects: Preliminary Results. *Astrophys. J.* 743, 156. doi:10.1088/0004-637X/743/2/156 (attached as Exhibit 23).

⁸ Masiero, J.R., Mainzer, A., Grav, T., Bauer, J.M., Cutri, R.M., Dailey, J., Eisenhardt, P.R.M., McMillan, R.S., Spahr, T.B., Skrutskie, M.F., Tholen, D., Walker, R.G., Wright, E.L., DeBaun, E., Elsbury, D., Gautier IV, T., Gomillion, S., Wilkins, A., 2011. Main Belt Asteroids with WISE/NEOWISE. I. Preliminary Albedos and Diameters. *Astrophys. J.* 741, 68. doi:10.1088/0004-637X/741/2/68 (attached as Exhibit 24).

⁹ (i) Model fitting and details thereof;

(ii) Any documents including least squares fitting, chi-square fitting or other model fitting approaches;

(iii) Any documents on least squares algorithms (which could also be called least squares minimization or optimization). For example, the Levenberg-Marquardt algorithm or variations thereof;

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JPL failed to release *any* documents in response to Request (f). Instead, JPL simply referred Dr. Myhrvold to “publicly available” records via a few lines of Q&A-style narrative in the FOIA officer’s cover letter. Ex. 17 at 3-4. Those “publicly available” records consist mainly of the very NEOWISE papers and analyses Dr. Myhrvold was asking about, supplemented by citations to a few other articles and links to two websites. *Id.*¹⁰

That was not an adequate response. The request sought “documents *related to*” the cited papers, not a circular referral back to those papers. As Dr. Myhrvold had explained in correspondence with JPL a full year earlier, Request (f) sought “other documents and records” such as “workpapers, email discussions relating to the papers, [and] data sets” associated with the articles. Ex. 5 at 4. As suggested at the time, JPL should have “search[ed] for such documents by consulting with the authors, identifying files associated with these papers, and searching the authors’ emails.” *Id.* at 4-5.

Footnote continued from previous page

(iv) Linear adjustment to the W3 band as described in Mainzer/TMC, Mainzer/NEO, Masiero/MB;

(v) Changes to per-observation estimated errors due to onset of saturation as described in Mainzer/TMC, Mainzer/NEO, Masiero/MB, and other NEOWISE papers/analyses;

(vi) All documents about the use of diameter estimates from prior radar, stellar occultation or spacecraft flyby in Mainzer/TMC, Mainzer/NEO, Masiero/MB, and other NEOWISE papers/analyses; and

(v) Documents expressing or indicating the rules or procedures for eliminating data from analyses conducted by the NEOWISE team, including any analysis expressed in Mainzer/TMC, Mainzer/NEO, Masiero/MB.

¹⁰ This response was confusing and surprising because in its letters outlining its search plan, JPL (and HQ) had consistently represented to Dr. Myhrvold that JPL would address Request (f) by “conduct[ing] an email search of those people on the NEOWISE team for responsive documents from 2010-2011.” Ex. 7 at 3; Ex. 13 at 3; Ex. 14 at 3; Ex. 15 at 3; Ex. 16 at 3. Indeed, JPL inexplicably included that statement even in the very letter that included the Q&A narrative as the sole response to Request (f). Ex. 17 at 3. While Dr. Myhrvold does not believe a search of 2010-2011 would have been *sufficient* to respond fully to Request (f), it is untenable for JPL not to follow through with even the limited steps to which it had committed and repeatedly reaffirmed.

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The articles in question involve intensive scientific observation and analysis conducted over a period of time and reflect the collaboration of numerous co-authors (ten, 37, and 18 co-authors, for the three papers respectively). For example, the Mainzer/TMC paper explains that the ten authors used measurements by the Wide-field Infrared Survey Explorer to “validate models of thermal emission and reflected sunlight,” and used 50 objects with diameters measured by radar or in situ imaging “to characterize the systematic errors implicit in using the *WISE* data with a faceted spherical near-Earth asteroid thermal model (NEATM) to compute diameters and albedos.” Ex. 22 at 1. The authors “compute[d] the predicted fluxes . . . in each of the four *WISE* bands and compare[d] them to the measured magnitude,” making findings about the range of flux errors and diameter and albedo errors. *Id.* The article naturally “ma[de] use of data products from the *Wide-field Infrared Survey Explorer*” and “data products from NEOWISE.” *Id.* at 8. The authors expressed gratitude to their referee, A.W. Harris, “for constructive comments that materially improved this work.” *Id.*

The Masiero/MB paper, running 42 pages with numerous graphs and charts, similarly reflects an intensive process of observations, calibration, and modeling. It explains how the authors “queried the Minor Planet Center observation file for all observations submitted from WISE” and used the results “as input for a query of the WISE individual exposure archive,” Ex. 24 at 6 (footnote omitted), thus acquiring data allowing them “to probe the composition, structure, and history of the Main Belt in ways that were previously impossible,” *id.* at 36.

It is not plausible to suggest that such complex analyses can be done and such papers can be drafted and published without a single written communication or other document being generated in the process. JPL records must include, at a minimum, drafts of the articles, work papers and calculations, data files, revisions, comments from referee Harris and others, and associated emails. Indeed, the ethical standards covering *The Astrophysical Journal* (the journal in which Mainzer/TMC, Mainzer/NEO, and Masiero/MB were published), expressly require authors to “[e]nsure all co-authors agree to the content of the original submission and subsequent revisions.”¹¹ That JPL has produced to Dr. Myhrvold not a single email, document, or communication between the lead authors and numerous co-authors of these three articles indicates that JPL’s search must have been inadequate.

On remand, JPL should be directed to conduct an adequate search for documents responsive to Request (f). Although JPL’s original statement of its search plan (for a

¹¹ <http://journals.aas.org/authors/submission.html>; see Wang Decl. ¶ 45.

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search that JPL apparently abandoned) referred to emails in the 2010-2011 period, JPL should be directed not to limit that search to that period. Communications “related to” the articles could have occurred since 2011. Indeed, the (inadequate) narrative response JPL provided mentions other articles published in 2012, 2014, 2015, and 2016, reflecting acknowledgment by JPL itself that there is no basis for assuming that relevant documents will be limited to the years 2010 and 2011. Ex. 17 at 3-4. JPL should also be directed not to limit its search to individuals’ email accounts. Any and all files, either paper or electronic, that are reasonably expected to contain responsive documents must be searched. *See supra* at pages 5-6.

3. Documents Related to NEOWISE Analysis of Ryan & Woodward or IRAS Papers (Request (g)) (JPL only)

JPL also did not conduct an adequate search for records responsive to Request (g), which sought “all documents related to NEOWISE analysis of Ryan & Woodward 2010, or IRAS (Tedesco et al 2002) (*see, e.g.,* Mainzer/TMC and Mainzer et al 2011¹²).” Although, unlike for Request (f), JPL did produce *some* documents responsive to Request (g), those documents were limited to 27 pages of emails from April 2016, a copy of an article published in *The Astrophysical Journal* in 2013, and a link to a NASA web page from which a data set called IRAS MINOR PLANET SURVEY ASTEROIDS V5 is available for download. Ex. 18 at 3; Wang Decl. ¶ 56.

The extremely limited nature of this production underscores that JPL’s search was not adequate. The 27 pages of 2016 emails are just multiple copies of one underlying April 18, 2016 email from Dr. Mainzer to Kenneth Chang that mentions IRAS and the 2002 Tedesco paper and branches off into a number of iterative email chains. As the Mainzer articles referenced in Request (g) reflect, NEOWISE personnel have done extensive analysis of the Ryan & Woodward and IRAS papers over the years. For example, the article cited in Request (g) as “Mainzer et al 2011” compared NEOWISE diameter estimates with those in the Ryan & Woodward and IRAS papers and found “that the diameters for minor planets derived from NEOWISE are generally in good agreement with those found by IRAS and are likely more free of systematic biases than the diameters provided in either Tedesco et al. (2002) or Ryan & Woodward (2010).” Ex. 43 at 6.

¹² Mainzer, A., Grav, T., Masiero, J.R., Bauer, J., Wright, E., Cutri, R.M., Walker, R., McMillan, R.S., 2011. Thermal Model Calibration for Minor Planets Observed with WISE/NEOWISE: Comparison With Infrared Astronomical Satellite. *Astrophys. J. Lett.* 737, L9. doi:10.1088/2041-8205/737/1/L9 (attached as Exhibit 43).

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It is implausible that such comparison and analysis could have been done without generating any work papers, calculations, correspondence, or other such materials beyond the face of the published articles.

**4. Relevant Correspondence with Wright, Grav, or Spahr
(Request (h)) (JPL only)**

Finally, JPL did not conduct an adequate search for documents responsive to Request (h), which sought “[a]ll correspondence about NEOWISE or any of the above topics” to or from (i) Edward Wright of UCLA, (ii) Tommy Grav of Planetary Sciences Institute, or (iii) Timothy Spahr (originally at Minor Planet Center, more recently elsewhere), in the time period of January 1, 2010, to July 9, 2016. Ex. 5 at 5.

By way of background, Dr. Wright is the Principal Investigator for the WISE project, which is closely related to NEOWISE.¹³ In the spring of 2016, Dr. Wright commented extensively in the media about Dr. Myhrvold’s criticisms of NEOWISE’s analysis, including for the *Science Magazine*, *Scientific American*, and *Washington Post* stories attached to the Requests. Dr. Grav’s bio states that he has been part of the NEOWISE team since 2008 and is “intimately involved with the efforts concerning . . . Near-Earth Object[s].”¹⁴ Drs. Wright and Grav are each co-authors of all four NEOWISE articles that are the subject of Requests (f) and (g) discussed above (Mainzer/TMC, Mainzer/NEO, Masiero/MB, and Mainzer et al. 2011), and Dr. Spahr co-authored two of the four. Drs. Grav, Spahr, and Mainzer also collaborated on a recent paper published in *The Astronomical Journal* that specifically criticizes Dr. Myhrvold’s analysis. T. Grav et al., *Modeling the Performance of the LSST in Surveying the Near-Earth Object Population*, 151 *Astronomical Journal* 172 (June 2016) (attached as Ex. 25).

In response to Dr. Myhrvold’s request for NEOWISE-related communications with Drs. Wright, Grav, or Spahr, JPL released just *six pages*, containing four short email threads from 2010, 2011, and 2013 all showing Dr. Wright as one of several recipients. Ex. 16 at 3; Wang Decl. ¶ 54. Given the close association of all three of the individuals with the work of NEOWISE, it is not credible for there to have been so few written communications between them and the NEOWISE team over a period of many years.

¹³ https://www.nasa.gov/mission_pages/WISE/mission/index.html.

¹⁴ <https://www.psi.edu/about/staffpage/tgrav>.

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The development of just one of the four published articles referenced above would have entailed communication between the co-authors at orders of magnitude above the volume reflected by JPL's release.¹⁵ On remand, JPL should be directed to conduct an adequate search for NEOWISE communications with Drs. Wright, Grav, and Spahr.

B. NASA Improperly Withheld Certain Records Based on Misapplication of the (b)(5) Exemption

In addition to conducting inadequate searches, NASA also withheld or heavily redacted numerous responsive documents without giving any reason other than a conclusory citation to a FOIA exemption number. That approach was not sufficient under NASA's FOIA regulations, which require a "brief statement of the *reasons* for the denial." 14 C.F.R. § 1206.307(b)(2) (emphasis added). Moreover, there is no indication that any of the withheld information is actually covered by any applicable exemption.

These extensive redactions and withholdings were not consistent with FOIA and denied Dr. Myhrvold a significant amount of the records to which he was entitled. For example, while HQ identified 1324 pages as responsive, it ultimately released only slightly over half of those pages in unaltered form (745 pages, or 56%). The requested records revolve around scientific analysis and data, do not involve lawyers or legal advice, and do not involve the setting of agency policy. NASA should reverse JPL's and HQ's overbroad and unjustified invocations of exemptions and order JPL and HQ to produce the withheld information.

¹⁵ JPL also noted that documents it had previously released in response to Dr. Myhrvold's other requests might be responsive to Request (h) as well. Ex. 16 at 3. However, while the prior releases do include 30 additional emails that include Drs. Wright, Spahr, or Grav somewhere on them (typically as part of a broad cc: distribution), those emails are mostly just various iterations of the same nine underlying threads, seven of which are from a narrow March-May 2016 window and relate to Dr. Myhrvold's paper and NASA's response to it. Wang Decl. ¶ 55. Thus, even taking into account these emails released in response to other requests, the total volume of communications with Drs. Wright, Spahr, or Grav released by NASA is only a tiny fraction of the communications NASA must have had with them about NEOWISE over the many years in which they have been integral to the NEOWISE mission.

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1. JPL

JPL extensively redacted two documents based on an assertion of the (b)(5) exemption for “inter-agency or intra-agency memorandums or letters that would not be available by law to a party other than an agency in litigation with the agency.” 5 U.S.C. § 552(b)(5); *see Huntington*, 234 F. Supp. 3d at 109 (explaining that the (b)(5) exemption covers “documents normally privileged in the civil discovery context” under either the deliberative-process, attorney-work-product, or attorney-client privilege (alteration and internal quotation marks omitted)).

The two JPL documents in question are attached as Exhibits 26 and 27. Exhibit 26 is an agenda for a February 24-25, 2016 NEO SDT (Science Definition Team) meeting at the California Institute of Technology (Caltech) that has large portions of text in various agenda items redacted. Based on the surrounding context, the redacted text would appear to relate to methods for estimating asteroid sizes and distributions. Wang Decl. ¶ 29. Exhibit 27 is a related email thread starting on February 25, 2016 and continuing through April of that year. The document starts as a follow-up to the meeting and continues into a substantive discussion about NEOWISE albedo distributions and data, large portions of which are redacted. Wang Decl. ¶ 30. We do not believe any privilege that would be applicable in litigation covers scientific and technical discussions such as these and that JPL’s withholding of this material under the (b)(5) exemption was therefore a legal error. JPL should be ordered to produce unredacted copies of these documents on remand.

2. HQ

HQ also relied heavily on the (b)(5) exemption to avoid producing information. Unlike JPL, however, HQ mostly withheld documents in their entirety rather than redacting them. Dr. Myhrvold appeals the withholding of each of the documents listed below, which based on the file title, generally appear to be scientific or technical papers or discussions related to NEOWISE:

- A 46-page Microsoft Word document with file title “Astrophysics draft FY 2017 CJ.docx.” Ex. 28. No other information is given about the document or its context.
- A 48-page Word document with file title “NEO scenarios 20160620.docx.” Ex. 29. Although the document bears a header that says “Draft/Deliberative/Pre-Decisional,” it is well-established that simply stamping a label does not make a

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document privileged. *See, e.g., Neuder v. Battelle Pac. Nw. Nat. Lab.*, 194 F.R.D. 289, 296-97 (D.D.C. 2000).

- A 24-page Word document with file title "2016_NEO_SDT_CH2_edited.docx." Ex. 30.
- A 6-page Word document with file title "Stokes_NEO_2016_draft2.docx." Ex. 31.
- A 46-page Excel spreadsheet with file title "PDCO_2017_WorkingPlan.xlsx." Ex. 32. We understand that PDCO refers to Planetary Defense Coordination Office.
- An 11-page PDF file with file title "NEApop.pdf." Ex. 33. The PDF is attached to an email from a non-NASA scientist to over 15 individuals both inside and outside NASA. In the cover email, the non-NASA scientist describes the PDF attachment as relating to his methodology and analysis relating to NEOWISE albedo and diameter distributions.
- A document or series of documents entitled "Settling on Population - before Thursday!" Ex. 34. No other information is given about the document(s) or its context.
- HQ redacted the first three pages of a 37-page scientific paper on near-Earth objects by Nicholas Moskovitz, who we understand to be affiliated with the Lowell Observatory, a private organization. Ex. 35.
- A 23-page Word document with file title "2015_NEO_SDT_Candidate_Technologies_and_Systems_Master_v03.5.docx." Ex. 36. No other information is given about the document or its context.
- An 11-page PDF document with file title "LSST_resubmitted.pdf." Ex. 37. We understand that LSST stands for Large Synoptic Survey Telescope. No other information is given about the document or its context.
- 23-page, 20-page, and 22-page Word documents with respective file titles "Chapter 4V1.docx," "Chapter 3V1.docx," and "Chapter 2V1.docx." Exs. 38, 39, 40. No further information is given about these documents or their context.
- A 5-page document of unknown format, unknown title, which is totally redacted except for two paragraphs on the third page, which show that the document reflects comments by Thomas Statler on May 24, 2016 on a paper by Dr. Myhrvold and criticisms of that paper by others at NASA. Ex. 41.

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The common thread running through all these withheld documents is that neither the context nor any other information provided suggests any basis whatsoever for application of any privilege that would make the document unavailable to an adversary of the agency in litigation. Rather, to the extent anything can be gleaned from the context, it is that these documents are highly relevant to Dr. Myhrvold's requests and reflect scientific interchange and discourse that is not subject to any privilege that would shield the documents from discovery in litigation. In addition, HQ's withholding of all of these documents in full, rather than redacting them, was inconsistent with FOIA's mandate that "[a]ny reasonably segregable portion of a record shall be provided to any person requesting such record after deletion of the portions which are exempt." 5 U.S.C. § 552(b); *see also* 14 C.F.R. § 1206.307(c) (requiring agency to "[s]egregate and release" any non-exempt material unless it is "so intertwined with the exempt material that disclosure of it would leave only meaningless words and phrases"). Dr. Myhrvold requests that HQ be directed to produce the withheld documents in full on remand.

C. NASA Misclassified the Requests as For "Commercial Use" and Miscalculated Fees Charged to Dr. Myhrvold

NASA also misclassified the Requests for fee purposes. FOIA and NASA's regulations provide that (1) commercial-use requesters may be charged fees for search, duplication, and review; (2) educational and noncommercial scientific institutions may be charged fees only for duplication; (3) representatives of the news media may be charged fees only for duplication; and (4) all other requesters may be charged fees for search only after 2 free hours are exhausted, for duplication only after 100 free pages are exhausted, and no review fees at all. 14 C.F.R. § 1206.507; 5 U.S.C. § 553(a)(4)(A)(ii). FOIA forbids agencies from charging any fees other than for search, duplication, and review. 5 U.S.C. § 553(a)(4)(A)(ii) ("fees shall be limited to reasonable standard charges for document search, duplication, and review").

Dr. Myhrvold should have been placed in the "all other requesters" category, under which he would have been responsible for search fees (after 2 free hours) and duplication fees (after 100 free pages), but not for any review fees. However, HQ and JPL wrongly classified the Requests as being for "commercial use," making Dr. Myhrvold responsible for all types of fees in full. Ex. 7 at 3. In addition, HQ and JPL charged Dr. Myhrvold extra fees not permitted by law and miscalculated the amount due.

In the Requests themselves, Dr. Myhrvold explained that he was seeking information about NEOWISE diameter estimates not for commercial use but for scientific and public awareness purposes, provided information supporting that assertion, and requested placement in the "all other requesters" fee category. *See* Ex. 1 at 4, Ex. 2

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at 6-7. In its letter of November 29, 2016, NASA denied that request without explanation, placing Dr. Myhrvold in the “Commercial Use” category. *See Ex. 7 at 3.*

Under NASA’s regulations, a request for commercial use is one that “seeks information for a use or purpose that furthers the commercial, trade, or profit interests of . . . the person on whose behalf the request is made.” 14 C.F.R. § 1206.507(c)(1). A request from a corporation “may be presumed to be for commercial use.” *Id.* This definition is consistent with relevant case law. *See, e.g., McClellan Ecological Seepage Situation v. Carlucci*, 835 F.2d 1282, 1285 (9th Cir. 1987) (“Information is commercial if it relates to commerce, trade, or profit.”). Absent a basis for classifying a request as commercial-use, or for treating the requester as an educational or noncommercial scientific institution or representative of the news media, it is to be placed in the “All Other Requesters” category. 14 C.F.R. § 1206.507(c)(4).

As described in the Requests, Dr. Myhrvold is an individual who writes extensively for the public on scientific matters of public interest. Much of the subject matter of the requests pertained to a public scientific debate between Dr. Myhrvold and certain NEOWISE personnel over the validity of their methodology for measuring asteroid diameters. There was no basis to support any finding by JPL or HQ that Dr. Myhrvold was requesting the documents for a use or purpose that furthered his commercial, trade, or profit interests. The Requests here are nothing like those for which courts have upheld “commercial use” classifications. *See, e.g., VoteHemp, Inc. v. DEA*, 237 F. Supp. 2d 55, 65 (D.D.C. 2002) (upholding commercial-use classification where “plaintiff’s advocacy for a free market in hemp, its association with businesses with a commercial interest in hemp products, coupled with the potential benefit that businesses would acquire from disclosure support the DEA’s finding that plaintiff has a commercial interest in the disclosure sought”); *S.A. Ludsin & Co. v. SBA*, 1998 WL 355394, at *2 (E.D.N.Y. Apr. 2, 1998) (upholding commercial-use classification where FOIA requests reflected and were designed to aid corporation’s efforts to secure government contract).¹⁶

¹⁶ NASA also improperly charged Dr. Myhrvold in other ways. NASA’s invoices include an illegal \$160 surcharge for “Administrative Cost,” on top of search, review, and duplicating fees. Exs. 18, 19. FOIA expressly forbids agencies from charging requesters other than for fees strictly “limited to search, review, and duplicating.” 5 U.S.C. § 552(a)(4)(A)(ii). NASA charged Dr. Myhrvold at post-October 1, 2016 rates contrary to its own regulation providing that rates shall be “based on the date the request is received in the NASA FOIA Office,” *i.e.*, July 2016. 14 C.F.R. § 1206.500(c). And NASA imposed an automatic \$0.15-per-page “Scanned Copy” charge for all documents released (even those that consisted of blank pages because everything was redacted). The

Footnote continued on next page

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Accordingly, NASA should vacate the placement of the requests in the commercial use category, direct that the Requests instead be placed in the “all other requesters” category, and direct a refund of the fees improperly charged to and paid by Dr. Myhrvold.

D. NASA’s Extended Delay Violated Its Obligation to Promptly Release the Requested Records

Dr. Myhrvold submitted the Requests 17 months ago in July 2016. HQ and JPL initially refused to process his requests at all, based on grounds that NASA found in substantial part to be erroneous in the appeal determination of November 2016, thus giving rise to four months of needless delay. Following that appeal determination, it took over four more months for HQ and JPL to produce *any* documents, and almost ten more months for HQ and JPL to claim that they had completed their productions (which, as discussed above, were in fact far from adequate). All in all, it took NASA almost 14 months to do 24 hours of search and review work (according to NASA’s fee invoices, *see* Exs. 18, 19) that netted a release of just several hundred pages of largely duplicative records. That lengthy delay -- an average pace of under 2 hours of search and review attention per month -- comported with neither the letter nor the spirit of FOIA.

FOIA and NASA’s regulations are both very clear that upon receipt of a proper request, an agency “shall make the records *promptly available* to any person.” 5 U.S.C. § 552(a)(3)(A) (emphasis added); *see also* 5 U.S.C. § 552(a)(6)(C)(i); 14 C.F.R. § 1206.200(c) (NASA “shall” make releasable records “promptly available” upon a FOIA request”); 14 C.F.R. § 1206.701(d) (following an administrative appeal, responsive records “shall be made available promptly to the requester, as provided in the final determination”). “Promptly available” typically “would mean *within days or a few weeks*

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only types of documents released were emails and attachments converted directly from their native format to PDF, which normally entails no cost. For example, on April 27, 2017, HQ released a batch of documents simply by forwarding an original NASA email that contained the documents as attachments, requiring no copying or scanning. Ex. 12. NASA’s automatic charging of per-page fees regardless of whether any scanning or copying costs were actually incurred for those pages violated FOIA and NASA’s own FOIA regulations. *See* 14 C.F.R. § 1206.502 (providing that per-page fees are appropriate “[i]f NASA staff must scan paper documents,” but that for electronic documents produced via electronic media, only actual costs will be charged).

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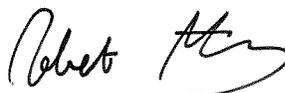
of a 'determination,' not months or years." *Citizens for Responsibility and Ethics in Wash. v. FEC*, 711 F.3d 180, 188 (D.C. Cir. 2013) (emphasis added).

HQ and JPL have not fulfilled that obligation in their treatment of the Requests. On remand, HQ and JPL should be directed to promptly and expeditiously complete their response, and to act promptly and in compliance with their statutory obligations on any future FOIA requests by Dr. Myhrvold.

* * *

For the foregoing reasons, we respectfully request that NASA HQ's and JPL's agency's initial determinations be reversed and that HQ and JPL be directed (a) to promptly conduct a full reasonable search and produce all responsive records, (b) to promptly release in full the records described above that were initially withheld in whole or in part pursuant to the (b)(5) exemption, (c) to place Dr. Myhrvold in the "all other requesters" category and refund all amounts previously paid by Dr. Myhrvold as a result of the "commercial use" misclassification, and (d) to promptly and expeditiously complete their responses to the Requests on remand.

Sincerely,



Robert J. Katerberg

Enclosures: Declaration of Andy Wang and Exhibits