Findings from Complete Review:

Table 1:

* I believe “Allendite” is misspelled, according to C Ma 2014 it is spelled “Allendeite”.
* I believe the chemical formula for Niningerite is wrong, it is given as “MnS” and mindat.org gives the formula as either “(Mg,Fe2+,Mn2+)S” or MgS. Either way I think in the paper, “Mg” was accidentally transcribed as “Mn”. PubChem also gives the formula as MgS.
* I believe the chemical formula for Osbornite is wrong, it is given as “TiNi” and LF Dobrzhinetskaya ‎2009 gives the formula as “TiN”. I think “TiN” was accidentally transcribed in the paper as “TiNi”.
* Both the IMA and nondescript formulae listed for Panethite use “Fe2+” instead of “Fe” in the formula...(Na,Ca)2(Mg,Fe)2(PO4)2.
* The paper gives the formula for Keilite as “(Fe,Mn,Mg,Ca,Cr)S” which I think comes from webmineral.com. I note that the formula given by M. Shimizu as “(Fe,Mg)S”, the formula given by the handbook of mineralogy as “(Fe2+,Mg)S” and the formula given by the IMA as FeS.
* For Kangite, C Ma lists the formula as “(Sc,Ti,Al,Zr,Mg,Ca,□)2O3” and in the paper it is listed with a “C” instead of “Ca”. I think the “Ca” may have been mistyped and transcribed as a “C” in the paper.
* The IMA formula and nondescript formulae for Cohenite are listed as “Fe3C” with the annotation “May contain minor Ni or Co replacing Fe”. I don’t know if this means the formula should be listed as it appears in our paper, “(Fe,Ni,Co)3C”, or as “Fe3C” with impurities.
* I believe the mineral name “Moniptite” is misspelled. According to Mindat, J. Becket and C. Ma, I believe it should be spelled “Monipite.” I note this in a later section, if it should be spelled “monipite” then it is misspelled throughout the whole paper.
* Khatyrkite appears in table six but not table 1 or 5. I think Khatyrkite is a typo (in table six) and should really be Kryachkoite. I talk about this more in table six edits, but if Khatyrkite doesn’t appear in our database at all, should we add it?

Table 5:

* No other occurrence is listed for Adrianite in the paper; according to mindat.org and RRUFF, Adrianite has also been detected in the Qutrixpileo meteorite.
* No other occurrence is listed for Allendeite in the paper; according to mindat.org and RRUFF, Adrianite has also been detected in the Qutrixpileo meteorite.
* Decagonite is said to be found in fragments ~60 mm across - this is actually confusing because two publications of the same paper by L Bindi state this dimension as 60 μm across ([1](https://wwwphy.princeton.edu/~steinh/decagonite.pdf), [2](https://profiles.si.edu/display/sro_137501)) but another on research gate states it as 60mm. I wonder if the paper that uses “mm” had a preprint error.
* No other occurrence is listed for Grossite in the paper; according to mindat.org Grossite has also been detected in Acfer 182 (CH3).
* No other occurrence is listed for Hexamolybdenum in the paper; according to mindat.org and Chi Ma 2011 it has also been detected in NWA 1934 (CV3).
* Lonsdaleite’s crystal behavior is described to be cubic with side lengths of 0.25mm, but the handbook of mineralogy states it also forms cubes and “cubo-octahedra, to 0.7 mm.” I don’t know if this is noteworthy (and I don’t really trust the handbook), though I noted it. Per width, P. Németh 2014 states: “The twins in the Canyon Diablo sample divide the grains into domains that are 1- to 3-nm wide (Fig. 2), and the stacking faults produce domains two to four layers across (0.4–0.8 nm wide; Fig. 3). The synthetic sample shows a similar domain structure, although the domains are wider (2–20 nm).”
* I believe I believe Monipite is spelled wrong, as it appears in the paper as “Moniptite” and C. Ma has it as “Monipite.”
* Stolperite is described to form irregular grains up to 3mm in size, the handbook of mineralogy puts this figure as 3𝜇m, but I couldn’t actually verify the handbook’s claim externally so I think the original figure is good.
* No other occurrence is listed for Troilite, according to SS Hontsova 2016, it has also been detected in Seymchan (PMG).

Table 6:

* No density is listed for Adrianite; according to C. Ma 2019, it has a density of 3.03 g/cm3.
* No cell parameters or information about crystal structure are provided for Cohenite; H...Bhadeshia states it “has an orthorhombic unit cell and the common convention is to set the order of the lattice parameters as a=0.50837 nm, b=0.67475 nm and c=0.45165 nm.” Granted, Bhadeshia refers to it as *Cementite*, but goes on to refer to it as: “In mineralogy, the carbide is known as cohenite (Fe,Ni,Co)3C.”
* Daubreelite is listed to be in the space group Fm3m, according to M. R. M. Izawa 2010, RRUFF, and mindat, it’s in the group Fd3m.
* Droninoite is said to be Rhombohedral, but N. V. Chukanov 2009 states “Droninoite is trigonal.” However, ALS Costa ‎2017 and ES Zhitova 2015 state it is rhombohedral, so I think the original description is correct.
* No cell parameters are listed for Grossite; D. Weber 1994 gives them as “a = 12.94Å, b = 8.910Å, c = 5.446 Å, β = 107.0°” Also, D Weber ‎1994 states Grossite is monoclinic.
* Hexamolybdenum is listed as having a density of 11.99g/cm3; according to C. Ma 2014, the density should be 11.90 g/cm3.
* I believe in this table, Kryachkoite is mislisted as “Khatyrkite.” First of all, in the paper Khatyrkite is listed as having a density of 3.79 g/cm3 (calc); according to Springer Minerals it has a density of 4.36 g/cm3. Also, P. Steinhardt 2012 states “As first reported by Razin et al (1985), khatyrkite...is a tetragonal crystal.” Additionally, Khatyrkite is listed with the group “Cmc21,” M. Mehl lists the space group I4/mcm. All of these properties listed are in conflict with Khatyrkite’s properties but match Kryachkoite’s properties perfectly. I checked C. Ma 2017 which lists the properties of Kryachkoite: “Kryachkoite occurs with khatyrkite and aluminum, having an empirical formula of Al5.45Cu0.97Fe0.55Cr0.02Si0.01 and an orthorhombic Cmc21 structure with a = 7.460 Å, b = 6.434 Å, c = 8.777 Å, V = 421.3 Å3, Z = 4.” The properties listed for “Khatyrkite” in the paper match Kryachkoite’s true properties perfectly. Additionally, Khatyrkite does not appear anywhere else in the paper whereas Kryachkoite does; I believe the name Khatyrkite is wrongly used in place of Kryachkoite in table 6.
* I believe “Linguite” is misspelled in table six, according to LG Liu ‎2007, I think it should be spelled as “Lingunite.”
* According to J. Beckett 2009 & C. Ma 2014, I believe “moniptite” is spelled wrong throughout the whole paper, I believe it should be spelled: “monipite.”
* Murchisite is listed as having hexagonal crystal behavior; when discussing Crystallography, C. Ma 2011 states it has a “trigonal structure.” I read on and found that the hexagonal reference relates to a later sentence in the same paper which states: “The structure consists of close-packed S layers in hexagonal stacking with Cr in octahedral voids and ordered vacancies in every second interlayer.”
* Oldhamite is listed as being part of the space group “Pm3m,” I believe it should be part of the space group Fm3m. In his book *Applied Mineralogy of Cement & Concrete,* M. Broekmans states oldhamite is in the space group Fm3m. Also, A. S. Povarennykh in the book *Crystal Chemical Classification of Minerals* lists Oldhamite under the Galena group which is stated to be of the space group Fm3m. MRM Izawa ‎2010 supports this.
* J. Lima-de-Faria states in the *Structural Classification of Minerals* that Osbornite is in the space class of Fm3m.
* I. Steele 1992 states Stanfieldite’s cell parameters *c* and *ß* as “17.09 Å” and “99.96o,” respectively.
* The value for Tetrataenite’s Unit Cell V is calculated from cell parameters on mindat to be 22.92 Å³ - I can’t find where 313.61 comes from, though I am suspicious because that is the exact unit cell volume for Tistarite, so I wonder if Tistarite’s unit cell volume was accidentally used for Tetrataenite as well. I also found some extra information about Tetrataenite’s cell parameters from T. Tagai 1995: it has “β = 90.04° and γ = 90.00°.”
* I found different cell parameters for Wadsleyite in J. Smyth 1997 but that particular paper discussed *Hydrous* wadsleyite so I don’t think the difference matters.

Table 7:

* As a general note, I found different colors from the handbook of mineralogy than what are listed for a couple of the minerals, but I don’t really trust the handbook of mineralogy as I’ve (not infrequently) seen discrepancies between it and published literature so I didn’t note them, however I can run through them all and get the ones that have different colors as described by the handbook if you would like.
* According to B. Pracejus 2014, Daubreelite is opaque.
* According to the Chromium(VI) Handbook edited by J. Guertin, Krinovite has a sub-adamantine lustre and it’s diaphaneity is semi transparent to opaque.
* According to *Si Silicon: System Si-C. SiC: Natural Occurrence. Preparation…*, the“Optical character of moissanite is uniaxially positive...but anomalously biaxial crystals were found.”
* If “moniptite” should be spelled “monipite” then it might be spelled wrong here too.

Other Correction Suggestions:

* On Page 10, ¶ 1, line 2, in the sentence that states: “Three examples are listed below;” I think “Three” should be replaced with “Four” because four minerals are described in § 4.3.
* On Page 11,¶ 5, line 6, a sentence starts “Otherwise The…”; I think the “The” should be written as “the” because the “T” should not be capitalized.