

ERRATA SHEET
Application for a Permit to Construct and Operate – Appendix X1 and X2
PolyMet Mining, Inc. – NorthMet Mining Project
January 10, 2017

Item 1: Edits to Select Text in Appendix X1 2016 Air Emission Risk Analysis (AERA) Permitting Update – Mine Site

The text in Appendix X1 pages 1-2, starting at bottom of page, is edited to read:

“Potential resident and farmer multipathway risks were estimated for receptor locations ~~outside at or beyond~~ the mining/industrial district boundary because current zoning (Mineral Mining by the City of Babbitt or Industrial by St. Louis County) does not allow residential/farming development on the lands within the mining/industrial district nor are there existing residents in this area.”

The text in Appendix X1 page 20, bottom of page, is edited to read:

“USEPA stopped regulating particles ~~less~~ greater than 10 micrometers in diameter (PM₁₀) in the form of ambient air quality standards in 1987 because potential health risks from larger particles which enter the head area of the respiratory tract (e.g., nose and throat) are sufficiently low so that they can be safely excluded from a standard (Reference (34)).”

The text in Appendix X1 page 24, middle of page, is edited to read:

“For multipathway exposure (includes inhalation), both the farmer/resident receptors were located ~~just outside of~~ at or beyond the Mineral Mining/Industrial zoning boundaries (Large Figure X1-2).”

The text in Appendix X1 page 26, bottom of page, is edited to read:

“For areas ~~outside at or beyond~~ the mineral mining industrial zoning districts, potential noncancer effects from chronic inhalation of nickel will be assessed using the current RASS value of 0.014 µg/m³, which will apply to the farmer and resident receptors.”

The text in Appendix X1 page 41, third bullet item at bottom of page, is edited to read:

“The estimated total multipathway risks (Table X1-9 and Table X1-10), assuming the farmer receptor and resident receptor are ~~immediately adjacent to~~ at or beyond the Mineral Mining/Industrial District Boundary, are as follows:
...”

Item 2: Edits to Select Text in Tables and Large Tables of Appendix X1 2016 Air Emission Risk Analysis (AERA) Permitting Update – Mine Site

The text in footnote 6 of Table X1-1 in Appendix X1, page 4, is edited to read:

“Therefore, resident and farmer multipathway risks were not calculated at the Mine Site ownership boundary. Potential multipathway risks for a potential resident and farmer receptor were calculated for areas approximately one kilometer from the Mine Site ownership boundary, ~~outside~~ at or beyond the Mineral Mining/Industrial District boundary.”

The text in footnote 5 of Table X1-9 in Appendix X1 page 31, is edited to read:

“Potential multipathway risks for a potential resident and farmer receptor were calculated for areas approximately one kilometer from the Mine Site ownership boundary, ~~outside~~ at or beyond the Mineral Mining/Industrial District boundary.”

The text in footnote 5 of Table X1-10 in Appendix X1 page 32, is edited to read:

“Potential multipathway risks for a potential resident and farmer receptor were calculated for areas approximately one kilometer from the Mine Site ownership boundary, ~~outside~~ at or beyond the Mineral Mining/Industrial District boundary.”

The text in Appendix X1, Large Table X1-1, third column, third and fourth rows, is edited to read:

“Resident and farmer ~~just outside~~ at or beyond the Mineral-Mining/Industrial district boundary”

The text in Appendix X1, Large Table X1-2, third column, second and third rows, is edited to read:

“Resident and farmer ~~just outside~~ at or beyond the Mineral-Mining/Industrial district boundary”

Item 3: Edits to Select data in Tables of Appendix X1 2016 Air Emission Risk Analysis (AERA) Permitting Update – Mine Site

Data in Table X1-7 on page 23 of Appendix X1, is edited to read:

Table X1-7 Maximum modeled air concentrations evaluated in the 2016 AERA conducted for the proposed Mine Site

Chemical Name	PolyMet Mine Site Ownership Boundary Maximum Modeled Air Concentrations (µg/m ³)				Mineral Mining/Industrial District Boundary Maximum Modeled Air Conc. (µg/m ³)	
	1-Hour Mine Year 8	1-Hour Mine Year 13	Annual Mine Year 8	Annual Mine Year 13	Annual Mine Year 8	Annual Mine Year 13
Acetaldehyde	0	0	0	0	0	0
Arsenic	0.006	0.007	0.00011	0.00010	0.00003 <u>0.00002</u>	0.00002
Cobalt	NA	NA	0.00046	0.00037	0.0001 <u>0.00007</u>	0.00008
Copper	0.119	0.231	NA	NA	NA	NA
Crystalline Silica	NA	NA	0.074	0.056	0.018 <u>0.011</u>	0.012
Dibenzo(a,h)anthracene	NA	NA	2.6E-08	2.4E-08	6.4E-09 <u>4.8E-09</u>	4.9E-09
Diesel Particulate Matter	NA	NA	0.081	0.079	0.011 <u>0.010</u>	0.009
Dioxins/Furans (as 2,3,7,8-TCDD TEQ)	NA	NA	2.5E-10	2.3E-10	5.7E-11 <u>4.4E-11</u>	4.3E-11
Indeno(1,2,3-cd)pyrene	NA	NA	1.5E-07	1.4E-07	3.7E-08 <u>2.8E-08</u>	2.9E-08
Manganese	NA	NA	0.011	0.009	0.003 <u>0.002</u>	0.002
Nickel	0.116	0.111	0.003	0.003	0.0007 <u>0.0005</u>	0.0005
Nitrogen Oxides (NO _x) ⁽¹⁾	144.7	179.4	NA	NA	NA	NA
Sulfur dioxide (SO ₂)	1.489	0.934 <u>0.964</u>	NA	NA	NA	NA
Sulfuric acid (H ₂ SO ₄ /SO ₃)	0	0	0	0	0	0

(1) The USEPA factor of 80% for the conversion of NO_x to NO₂ was applied to the maximum modeled one-hour NO_x air concentration. Value shown in table is NO_x not NO₂ estimate.

Item 4: Edits to Select Text in Appendix X2 2016 Air Emission Risk Analysis (AERA) Permitting Update – Plant Site

The text in Appendix X2 page 27, top of page, is edited to read:

“Potential multipathway chronic risks were also assessed for a potential resident and a potential farmer but only for those receptors located ~~outside~~ at or beyond the former LTVSMC ambient air boundary (Large Figure X2-3).”

The text in Appendix X2 page 27, top of page, is edited to read:

“The estimated total multipathway risks, assuming the farmer receptor and resident receptors ~~are immediately adjacent to~~ at or beyond the former LTVSMC ambient air boundary, are as follows: cancer = 8E-06 for the farmer receptor, 6E-06 for the resident; the noncancer chronic hazard index is 0.5 for the farmer receptor and 0.5 for the resident receptor.”

The text in Appendix X2 page 30, middle of page, is edited to read:

“For areas ~~outside of~~ at or beyond the former LTVSMC ambient air boundary, potential noncancer effects from chronic inhalation of nickel will be assessed using the current RASS value of 0.014 $\mu\text{g}/\text{m}^3$, which will apply to the farmer and resident receptors.”

The text in Appendix X2 page 46, bottom of page, is edited to read:

“The estimated total multipathway risks, assuming the farmer receptor and resident receptors are ~~immediately adjacent to~~ at or beyond the former LTVSMC ambient air boundary, are as follows: ...”

Item 5: Edits to Select Text in Large Tables of Appendix X2 2016 Air Emission Risk Analysis (AERA) Permitting Update – Plant Site

The text in Appendix X2, Large Table X2-1, third column, fourth and fifth rows, is edited to read:

“Resident and farmer ~~just outside of~~ at or beyond the former LTVSMC mineral-mining boundary”

The text in Appendix X2, Large Table X2-2, third column, second and third rows, is edited to read:

“Resident and farmer ~~just outside of~~ at or beyond the former LTVSMC mineral-mining boundary”

Item 6: Modeling File Associated with Appendix X2 2016 Air Emission Risk Analysis (AERA) Permitting Update – Plant Site

Input file “PMPA09.ADI” replaces input file “PMP09_setup_allsrc.ADI”