

9. REFERENCES

9.1. CHAPTER 1

Tintina (Tintina Montana, Inc.). 2017. Mine Operating Permit Application, Black Butte Copper Project, Meagher County, MT, Revision 3. July 14, 2017. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.

DEQ (Montana Department of Environmental Quality). 2017a. Mine Application Deemed Complete and Environmental Review to Begin. DEQ Press Releases. August 15, 2017. Accessed: August 2017. Retrieved from: <http://deq.mt.gov/Public/PressRelease/mine-application-deemed-complete-and-environmental-review-to-begin>

_____. 2017b. DEQ Begins Review of Black Butte Copper Project Under the Montana Environmental Policy Act. DEQ Press Releases. September 18, 2017. Accessed: September 2017. Retrieved from: <http://deq.mt.gov/Public/PressRelease/deq-begins-review-of-black-butte-copper-project-under-the-montana-environmental-policy-act>

_____. 2017c. Scoping Meetings held for Environmental Impact Statement of proposed mine. DEQ Press Releases. October 3, 2017. Accessed: October 2017. Retrieved from: <http://deq.mt.gov/Public/PressRelease/scoping-meetings-held-for-environmental-impact-statement-of-proposed-mine>

_____. 2017d. Additional Scoping Meeting Announced for Environmental Impact Statement of Proposed Mine. State of Montana Newsroom. October 24, 2017. Accessed: October 2017. Retrieved from: <https://news.mt.gov/additional-scoping-meeting-announced-for-environmental-impact-statement-of-proposed-mine>

_____. 2018a. Update to Proposed Treated Water Disposition for the Black Butte Copper Project. Memorandum sent to Tintina Resources Inc., January 30.

_____. 2018b. Update to Proposed Rail Load Out Facilities for Shipment of Containerized Copper Concentrates. Memorandum to Tintina Resources Inc., January 30.

_____. 2018c. Update to Mine Operating Permit Application for the Black Butte Copper Project, Proposed Holding Pond Facility for Treated Water, Revision to Annual Water Balance, and Addition of a Wet Well. Memorandum sent to Tintina Resources Inc., November 21.

Tintina (Tintina Montana, Inc.). 2018a. Update to Proposed Treated Water Disposition for the Black Butte Copper Project. Memorandum to Montana Department of Environmental Quality, Hard Rock Mining Bureau, Operating Permit Section, January 11.

_____. 2018b. Update to Proposed Rail Load Out Facilities for Shipment of Containerized Copper Concentrates. Memorandum to Montana Department of Environmental Quality, Hard Rock Mining Bureau, Operating Permit Section, January 11.

_____. 2018c. Update to Mine Operating Permit Application for the Black Butte Copper Project. Memorandum to Montana Department of Environmental Quality, Hard Rock Mining Bureau, Operating Permit Section, October 26.

9.2. CHAPTER 2

- Abelin Traffic Services. 2018. Black Butte Copper Mine Traffic Impact Study. April, 2018.
- DEQ (Montana Department of Environmental Quality). 2017a. Mine Application Deemed Complete and Environmental Review to Begin. August 15, 2017. Retrieved from: <http://deq.mt.gov/Public/PressRelease/mine-application-deemed-complete-and-environmental-review-to-begin>.
- _____. 2017b. DEQ Begins Review of Black Butte Copper Project under the Montana Environmental Policy Act. September 18, 2017. Retrieved from: <http://deq.mt.gov/Public/PressRelease/deq-begins-review-of-black-butte-copper-project-under-the-montana-environmental-policy-act>.
- _____. 2017c. Scoping Meetings Held for Environmental Impact Statement of Proposed Mine. October 3, 2017. Retrieved from: <http://deq.mt.gov/Public/PressRelease/scoping-meetings-held-for-environmental-impact-statement-of-proposed-mine>.
- _____. 2017d. Additional Scoping Meeting Announced for Environmental Impact Statement of Proposed Mine. October 24, 2017. Retrieved from: <http://deq.mt.gov/Public/PressRelease/additional-scoping-meeting-announced-for-environmental-impact-statement-of-proposed-mine>.
- _____. 2018a. Revisions to Agency Modified Alternative. Memorandum from Wayne Jepson to Craig Jones. August 8.
- _____. 2018b. Update to Proposed Rail Load Out Facilities for Shipment of Containerized Copper Concentrates. Memorandum to Tintina Resources Inc., January 30.
- _____. 2018c. Black Butte Copper Mine Operating Permit Deficiency Review Comments and Responses: 1DEQ Mine Operating Permit Revision 1. Sent from Montana Department of Environmental Quality to Environmental Resources Management, May 1, 2018.
- _____. 2018d. Update to Proposed Treated Water Disposition for the Black Butte Copper Project. Memorandum sent to Tintina Resources Inc., January 30.
- _____. 2018e. Update to Mine Operating Permit Application for the Black Butte Copper Project, Proposed Holding Pond Facility for Treated Water, Revision to Annual Water Balance, and Addition of a Wet Well. Memorandum sent to Tintina Resources Inc., November 21.
- DNRC (Montana Department of Natural Resources & Conservation). 2012. Water Rights, Conservation Districts, Water Reservations & the Oil Boom. April 19, 2012. Retrieved from: http://dnrc.mt.gov/divisions/water/water-rights/docs/oil-gas/conservation_districts_oil_boom.pdf
- _____. 2017. Baseline Environmental Geochemistry Evaluation of Waste Rock and Tailings. April 24, 2017. Appendix D of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.

- Geomin Resources, Inc. 2015. Failure Modes Effects Analysis (FMEA). December 15. Appendix R of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2016. Tailings Management Alternative Evaluation, Black Butte Copper Project, Meagher County, Montana. Appendix Q of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- Hydrometrics, Inc. 2018a. Black Butte Copper – NCWR Diversion on Sheep Creek. Memorandum from Hydrometrics, Inc. to Sandfire and Montana DEQ. August 10.
- _____. 2018b. Integrated Discharge Permit Application Narrative. Black Butte Copper Project, Meagher County, Montana. Submitted to Montana Department of Environmental Quality by Tintina Montana, Inc. December 2017. Revised February 2018.
- Knight Piésold Consulting. 2017. Tailings Storage Facility Design, Black Butte Copper Project. VA101-460/3-5 (Rev 0). September 12, 2017. Prepared for Tintina Resources Inc.
- Montana EQC (Montana Environmental Quality Council). 2017. Guide to the Montana Environmental Policy Act. Revised by Hope Stockwell, 2013. Reprinted June 2015, June 2017. Legislative Environmental Policy Office. Helena, MT.
- Peggs, Ian D. 2003. “Geomembrane Liner Durability: Contributing Factors and the Status-Quo.” In *Geosynthetics: protecting the environment*, Thomas Telford, London; UK IGS. June 2003. Accessed: November 2017. Retrieved from: <https://www.geosynthetica.net/Uploads/IDPigsUKpaper.pdf>
- Tintina (Tintina Montana, Inc.). 2017. Mine Operating Permit Application, Black Butte Copper Project, Meagher County, MT. Revision 3. July 14, 2017. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2018a. Email Interview. Project Manager (Edward J. Surbrugg) with Tetra Tech personal communication with Craig Jones, Project Manager, Hard Rock Section, Montana Department of Environmental Quality, Helena, Montana. August 15, 2018.
- _____. 2018b. Update to Mine Operating Permit Application for the Black Butte Copper Project. Memorandum to Montana Department of Environmental Quality, Hard Rock Mining Bureau, Operating Permit Section, October 26.
- _____. 2018c. Update to Proposed Treated Water Disposition for the Black Butte Copper Project. Memorandum to Montana Department of Environmental Quality, Hard Rock Mining Bureau, Operating Permit Section, January 11.
- _____. 2018d. Update to Proposed Rail Load Out Facilities for Shipment of Containerized Copper Concentrates. Memorandum to Montana Department of Environmental Quality, Hard Rock Mining Bureau, Operating Permit Section, January 11.

Zieg, J. 2018. Addendum to Integrated Discharge Permit Application for the Black Butte Copper Project. Memorandum from Tintina Montana, Inc. to Montana Department of Environmental Quality. October 29.

9.3. CHAPTER 3

9.3.1. Introduction

No references

9.3.2. Air Quality

CIRA (Cooperative Institute for Research in the Atmosphere). 1999. Introduction to Visibility. Air Resources Division/National Park Service. May 1999. Accessed: September 2017. Retrieved from: http://vista.cira.colostate.edu/Improve/wp-content/uploads/2016/03/Intro_to_Visibility.pdf.

_____. 2011. Spatial and Seasonal Patterns and Temporal Variability of Haze and its Constituents in the United States, Report V. Interagency Monitoring of Protected Visual Environments (IMPROVE), June 2011.

DEQ (Montana Department of Environmental Quality). 2007. State of Montana Modeling Guidance for Air Quality Permit Applications. DEQ Air, Energy, and Mining Division. Draft, November 2007.

_____. 2017. State of Montana Regional Haze 5-Year Progress Report. Montana DEQ, August.

FLAG (Federal Land Managers' Air Quality Related Values Work Group). 2010. Phase I Report – Revised 2010. Natural Resource Report ID: NPS/NRPC/NRR-2010/232. 2010. Retrieved from: https://www.nature.nps.gov/air/Pubs/pdf/flag/FLAG_2010.pdf.

GAO (U.S. Government Accountability Office). 2013. Water Quality: EPA Faces Challenges in addressing Damage Caused by Airborne Pollutants. January 2013. Retrieved from: <https://www.gao.gov/assets/660/651522.pdf>.

NADP (National Atmospheric Deposition Program). 2018. National Trends Mercury Deposition Network/Maps & Data/NTNMDN Data. Accessed: February 2018. Retrieved from: <http://nadp.slh.wisc.edu/data/sites/siteDetails.aspx?net=NTN&id=MT07>

NAPAP (National Acid Precipitation Assessment Program). 2011. National Acid Precipitation Assessment Program Report to Congress 2011: An Integrated Assessment. Executive Office of the President/National Science and Technology Council. December 2011. Accessed: October 2017. Retrieved from: https://ny.water.usgs.gov/projects/NAPAP/NAPAP_2011_Report_508_Compliant.pdf

NOAA (National Oceanic and Atmospheric Administration). 2017. 1981-2010 Normals. Retrieved from: <https://www.ncdc.noaa.gov/cdo-web/datatools/normals>.

- Plantmaps. 2018. Interactive United States Koppen Climate Classification Map. Accessed: February 2018. Retrieved from: <http://www.plantmaps.com/koppen-climate-classification-map-united-states.php>
- Tintina (Tintina Montana, Inc.). 2017. Mine Operating Permit Application. Black Butte Copper Project, Meagher County, MT, Revision 3. July 14, 2017. Accessed: January 7, 2018. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>
- _____. 2018. Montana Air Quality Permit Application. Black Butte Copper Project. Revised application, April 20, 2018.
- UMT (University of Montana). 2018. Wilderness Areas of the United States. Accessed: February 2018. Retrieved from: <http://www.wilderness.net/map.cfm?xmin=-12920133.2047&ymin=5520332.8381&xmax=-11582021.8268&ymax=6274865.9287>
- USDA (U.S. Department of Agriculture) et al. 2011. Memorandum of Understanding Among the U.S. Department of Agriculture, U.S. Department of the Interior, and U.S. Environmental Protection Agency, Regarding Air Quality Analyses and Mitigation for Federal Oil and Gas Decisions through the National Environmental Policy Act Process. USDA, June 2011. Accessed: February 2018. Retrieved from: <https://www.epa.gov/sites/production/files/2014-08/documents/air-quality-analyses-mou-2011.pdf>.
- USEPA (U.S. Environmental Protection Agency).1996. Compilation of Air Pollutant Emission Factors (Document AP-42). Office of Air Quality Planning and Standards. Section 3.3 Gasoline and Diesel Industrial Engines. October 1996. Accessed: March 2018. Retrieved from: <https://www3.epa.gov/ttn/chief/ap42/ch01/index.html>
- _____. 2002. Health Assessment Document for Diesel Engine Exhaust. U.S. Environmental Protection Agency Office of Research and Development. EPA/600/98-90/057F. Accessed: October 2017. Retrieved from: <https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=29060>
- _____. 2008. Compilation of Air Pollutant Emission Factors (Document AP-42). Office of Air Quality Planning and Standards. Section 1.5 Liquefied Petroleum Gas Combustion. July 2008. Accessed: March 2018. Retrieved from: <https://www3.epa.gov/ttn/chief/ap42/ch01/index.html>
- _____. 2012. Approval and Promulgation of Implementation Plans: State of Montana State Implementation Plan and Regional Haze Federal Implementation Plan; Final Rules. *Federal Register* 77(181) September 18, 2012.
- _____. 2017. EPA Guideline on Air Quality Models, 40 CFR Part 51, Appendix W. *Federal Register* 82 (5203). January 17, 2017. Accessed: May 2017. Retrieved from: <https://www.ecfr.gov>
- _____. 2018a. National Ambient Air Quality Standards (NAAQS) Table (webpage). Accessed: February 2018. Retrieved from: <https://www.epa.gov/criteria-air-pollutants/naaqs-table>.

- _____. 2018b. Reviewing National Ambient Air Quality Standards (NAAQS). Nitrogen Dioxide and Sulfur Dioxide Secondary Air Quality Standards (webpage). Accessed: February 2018. Retrieved from: <https://www.epa.gov/naaqs/nitrogen-dioxide-no2-and-sulfur-dioxide-so2-secondary-air-quality-standards>.
- _____. 2018c. New Source Review (NSR) Permitting/Prevention of Significant Deterioration (PSD) Basic Information (webpage). Accessed: October 2017 Retrieved from: <https://www.epa.gov/nsr/prevention-significant-deterioration-basic-information>.
- _____. 2018d. Air Quality System/U.S. Environmental Protection Agency. Monitor Values Report 2008-2016. Accessed: May 2017. Retrieved from: <https://www.epa.gov/outdoor-air-quality-data>.
- VCAPCD (Ventura County Air Pollution Control District). 2003. Ventura County Air Quality Assessment Guidelines. Accessed: February 2018. Retrieved from: <http://www.vcapcd.org/pubs/Planning/VCAQGuidelines.pdf>.

9.3.3. Cultural and Tribal

- Tetra Tech. 2013a. A Cultural Resource Inventory of 970 Acres in the Black Butte Copper Project Area, Meagher County, Montana. Prepared for Tintina Resources Inc.
- _____. 2013b. Pedestrian Inventory and Testing for National Register Eligibility at Site 24ME163 in the Black Butte Copper Project Area, Meagher County, Montana. Prepared for Tintina Resources Inc.
- _____. 2015. Cultural Resource Inventory of Proposed Mine Facilities and Access Roads within the Black Butte Copper Project Area, Meagher County, Montana. Prepared for Tintina Resources Inc.
- _____. 2016. Archaeological Testing Plan to Determine National Register Eligibility and Mitigation Measures for Prehistoric Cultural Resources within the Black Butte Copper Mine Project Area. Prepared for Tintina Resources Inc.
- _____. 2018. Cultural Resource Inventory of the Hay Meadows Project Area, Meagher County, Montana. Prepared for Sandfire Resources America, Inc.
- _____. 2019. Email information. Lynn Peterson, Cultural Resources Specialist, personal communication with James Strait, Montana Department of Environmental Quality. July 15, 2019.

9.3.4. Groundwater Hydrology

- Daly, C., M. Halbleib, J.I. Smith, W.P. Gibson, M.K. Doggett, G.H. Taylor, J.C. Curtis, and P.P. Pasteris. 2008. Physiographically sensitive mapping of climatological temperature and precipitation across the conterminous United States. *Int. J. Climatol.* (2008).
- DEQ (Montana Department of Environmental Quality). 2014. Circular DEQ-12A Montana Base Numeric Nutrient Standards. July 2014. Montana Department of Environmental Quality, Water Quality Planning Bureau. Helena, Montana. July 2014.

- _____. 2017. Circular DEQ-7 Montana Numeric Water Quality Standards. May 2017. Accessed: April 2018. Retrieved from:
http://deq.mt.gov/Portals/112/Water/WQPB/Standards/PDF/DEQ7/DEQ-7_Final_May2017.pdf
- Dragun, J. 1998. The Soil Chemistry of Hazardous Materials. Second edition. *Amherst Scientific Publ.* June 1, 1998.
- Enviromin. 2017. Water Quality Model Report. April 24, 2017. Appendix N of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- Geomin Resources, Inc. 2018. A Summary of CTF Design Features and Seepage Analysis during Operations and Closure, Black Butte Copper Project, Meagher County, MT. October 17.
- Hydrometrics, Inc. 2016a. Temporary WRS Facility Percolation (HELP) Model. February 18, 2016. Appendix M-1 of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from:
<http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2016b. Actual Water Resources Sampling and Analysis Plan. June 2016. Appendix U of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2016c. Hydrological Assessment of Proposed Cemented Tailings Facility. June 2016. Appendix B-1 of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from:
<http://deq.mt.gov/Land/hardrock/tintinamines>
- _____. 2016d. Facility Embankment Percolation (HELP) Model. September 1, 2016. Appendix M-2 of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2016e. Post Closure Nondegradation Evaluation, Black Butte Copper Project. Appendix N-1 of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2016f. Groundwater Modeling Assessment. November 2015 (Revised June 2016). Appendix M of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from:
<http://deq.mt.gov/Land/hardrock/tintinamines>
- _____. 2017a. Evaluation of Open Access Ramps and Ventilation Raises in Closure. March 8, 2017. Appendix M-3 of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from:
<http://deq.mt.gov/Land/hardrock/tintinamines>.

- _____. 2017b. Infiltration Study Report. December 6, 2017. Appendix E to the Integrated Discharge Permit Application Narrative, Black Butte Copper Project, Meagher County, Montana.
- _____. 2017c. Baseline Water Resources Monitoring and Hydrogeologic Investigation Report. August 2015. Revised March 2017. Appendix B of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2018a. Integrated Discharge Permit Application Narrative. Black Butte Copper Project, Meagher County, Montana. Revision - 2. Submitted to Montana Department of Environmental Quality by Tintina Montana, Inc. Original Submittal: December 2017. Revision 1: February 2018. Revision 2: April 2018.
- _____. 2018b. Application for Source Specific Mixing Zone for Total Nitrogen. December 2017. Revised in February 2018. Appendix D to Integrated Discharge Permit Application Narrative, Black Butte Copper Project, Meagher County, Montana.
- _____. 2018c. Sheep Creek Alluvial Flow Model Report. December 2017. Revised April 2018. Appendix F of the Integrated Discharge Permit Application Narrative, Black Butte Copper Project, Meagher County, Montana.
- Tintina (Tintina Montana, Inc.). 2017. Mine Operating Permit Application, Black Butte Copper Project, Meagher County, MT. Revision 3. July 14. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2018b. Explanation of Purpose for Hydraulic Plugs and Rinsing. Memorandum sent to the Montana Department of Environmental Quality and Environmental Resources Management on March 5.
- _____. 2018c. Update to Mine Operating Permit Application for the Black Butte Copper Project. Memorandum sent to Montana Department of Environmental Quality, Hard Rock Mining Bureau, Operating Permit Section, October 26.
- Tintina (Tintina Resources Inc.). 2018a. Update to Proposed Treated Water Disposal for the Black Butte Copper Project. Memorandum sent to Montana Department of Environmental Quality, Hard Rock Mining Bureau, Operating Permit Section, January 11.
- Zieg, J., T. Johnson, L. Schultz, and L. Kirk. 2018. Black Butte Copper Project Water Quality Model of Agency Modified Closure Alternative. Technical Memorandum. October 16.

9.3.5. Surface Water Hydrology

- Amec Foster Wheeler. 2017. Water Quality Modeling Memorandum. May 2, 2017. In Appendix V of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.

- DEQ (Montana Department of Environmental Quality). 2012. Circular DEQ-7 Numeric Water Quality Standards, Montana Department of Environmental Quality, Helena, Montana. October 2012.
- _____. 2014. Circular DEQ-12A Montana Base Numeric Nutrient Standards. Montana Department of Environmental Quality, Water Quality Planning Bureau. Helena, Montana. July 2014.
- _____. 2017. Circular DEQ-7 Montana Numeric Water Quality Standards. May 2017. Accessed: April 2018. Retrieved from:
http://deq.mt.gov/Portals/112/Water/WQPB/Standards/PDF/DEQ7/DEQ-7_Final_May2017.pdf
- _____. 2018. DEQ Low Flow Stats Calculations for the Black Butte Copper Project MPDES Permit. Sent from Montana Department of Environmental Quality to Environmental Resources Management, February 14, 2018.
- Enviromin. 2017a. Water Quality Model Report. April 24, 2017. Appendix N of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2017b. Baseline Environmental Geochemistry Evaluation of Waste Rock and Tailings. April 24, 2017. Appendix D of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from:
<http://deq.mt.gov/Land/hardrock/tintinamines>.
- Hydrometrics, Inc. 2016a (revised). Water Resources Monitoring Field Sampling and Analysis Plan. March 2013 (revised June 8, 2016). Appendix U of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from:
<http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2016b. Groundwater Modeling Assessment. November 2015 (Revised June 2016). Appendix M of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from:
<http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2016c. Post Closure Nondegradation Evaluation, Black Butte Copper Project. Appendix N-1 of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2017a. Baseline Water Resources Monitoring and Hydrogeologic Investigations Report. August 2015 (revised March 14, 2017). Appendix B of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from:
<http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2017b. Black Butte Copper–Nondegradation Analysis for MPDES Outfalls. Technical Memorandum. March 21. Appendix V-1 of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from:
<http://deq.mt.gov/Land/hardrock/tintinamines>.

- _____. 2018a. Black Butte Copper Seep & Spring All Data Summary Report. [Excel file: SeepSpring AllDataToDate 060118_AM.XLSX]. Compiled data from quarterly and annual Water Resources Monitoring reports 2011 through 2017 prepared for Tintina Alaska Exploration Inc.
- _____. 2018b. Black Butte Copper Surface Water All Data Summary Report. [Excel file: SW AllDataToDate 060118_AM.XLSX]. Compiled data from quarterly and annual Water Resources Monitoring reports 2011 through 2017 prepared for Tintina Alaska Exploration Inc.
- _____. 2018c. Integrated Discharge Permit Application Narrative. Black Butte Copper Project, Meagher County, Montana. Submitted to the Montana Department of Environmental Quality by Tintina Montana, Inc. Original Submittal: December 2017. Revision 1: February 2018. Revision 2: April 2018.
- _____. 2018d. Black Butte Copper – Coon Creek Ditch Realignment Design. Memorandum. August 7, 2018.
- _____. 2018e. Black Butte Copper – NCWR Diversion on Sheep Creek. Memorandum from Hydrometrics, Inc. to Sandfire and Montana DEQ. August 10.
- _____. 2019. Temperature in Sheep Creek after Mixing with Non-Contact Water Reservoir Discharge. Technical Memorandum. G. Bryce, Hydrometrics, Inc., to J. Zieg, Tintina Resources Inc. August 26, 2019.
- Knight Piésold Consulting. 2017. 2015 Geotechnical Site Investigation Report. Prepared for Tintina Montana, Inc. VA101-460/3-1 (Rev 4). July 6, 2017. 377 p. Appendices A through F in Appendix K-4 of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- Parkhurst, D., and C. Appelo. 1999. User's guide to PHREEQC (Version 2) - a Computer Program for Speciation, Batch-reaction, One-dimensional Transport and Inverse Geochemical Calculations. Water-Resources Investigations Report 99-4259. U.S. Geological Survey: Denver, Colorado.
- Tintina (Tintina Montana, Inc.). 2017. Mine Operating Permit Application. Black Butte Copper Project, Meagher County, MT. Revision 3. July 14, 2017. Accessed: January 7, 2018. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>
- _____. 2018b. Update to Mine Operating Permit Application for the Black Butte Copper Project. Memorandum sent to Montana Department of Environmental Quality, Hard Rock Mining Bureau, Operating Permit Section, October 26.
- Tintina (Tintina Resources Inc.). 2018a. Update to Proposed Treated Water Disposition for the Black Butte Copper Project. Memorandum sent to Montana Department of Environmental Quality, Hard Rock Mining Bureau, Operating Permit Section, January 11.

- Williams, G.P. 1963. "Heat transfer coefficients for natural water surfaces." *International Association of Scientific Hydrology*, Issue 62. November. National Research Council Canada, Division of Building Research.
- Zieg, J. 2019a. Revision: Data to support responses to thermal impacts to water in the NCWR for the Black Butte Copper Project. Technical Memorandum. July 25.
- _____. 2019b. Data to support responses to thermal impacts to water from the TWSP for the Black Butte Copper Project. Technical Memorandum. August 1.
- Zieg, J., T. Johnson, L. Schultz, and L. Kirk. 2018. Black Butte Copper Project Water Quality Model of Agency Modified Closure Alternative. Technical Memorandum. October 16.

9.3.6. Geology and Geochemistry

- DEQ (Montana Department of Environmental Quality). 2016. Draft DEQ Hard Rock Soil and Alternate Growth Media Guidelines, October 2016.
- _____. 2018. Revisions to Agency Modified Alternative. Memorandum from Wayne Jepson to Craig Jones. August 8.
- Enviromin. 2017a. Baseline Environmental Geochemistry Evaluation of Waste Rock and Tailings. April 24, 2017. Appendix D of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2017b. Baseline Environmental Geochemistry Evaluation of Near Surface Materials. April 24, 2017. Appendix D-1 of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2017c. Water Quality Model Report. April 24, 2017. Appendix N of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2017d. Results of Total Organic Carbon Analysis of Waste Rock. Technical Letter Report prepared for Tintina Montana. July 5, 2017. Appendix N-2 of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- Geomin Resources, Inc. 2016. Tailings Management Alternative Evaluation, Black Butte Copper Project, Meagher County, Montana. Appendix Q of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- Godlewski, D.W., and G.A. Zieg. 1984. Stratigraphy and depositional setting of the Precambrian Newland Limestone, in S.W. Hobbs, ed. *The Belt: Abstracts with Summaries*, Belt Symposium II, 1983: Montana Bureau of Mines and Geology Special Publication 90.

- Graham, G., M.W. Mitzman, and J. Zieg. 2012. Geologic Setting, Sedimentary Architecture, and Paragenesis, Belt Symposium II, 1983. Montana Bureau of Mines and Geology Special Publication 90.
- Himes, M. D., and E.U. Petersen, 1990. Geological and mineralogical characteristics of the Sheep Creek copper-cobalt sediment-hosted stratabound sulfide deposit, Meagher County, Montana, *in* D.M. Hausen, D.N. Halbe, E.U. Petersen, and W.J. Tafuri, eds.: Gold '90, Proceedings of the Gold '90 Symposium, Salt Lake City, Utah, February 26 to March 1, 1990; Littleton, Colorado. Society for Mining, Metallurgy, and Exploration, Inc.
- Hydrometrics, Inc. 2017. Baseline Water Resources Monitoring and Hydrogeologic Investigation Report. August 2015 (Revised March 2017). Appendix B of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2018. Integrated Discharge Permit Application Narrative. Black Butte Copper Project, Meagher County, Montana. Revision 2. Submitted to Montana Department of Environmental Quality by Tintina Montana, Inc. Original Submittal: December 2017. Revision 1: February 2018. Revision 2: April 2018.
- Knight Piésold Consulting. 2017a. Waste and Water Management Design for MOP Application. VA101-460/3-2 (Rev 8). July 6, 2017. Appendix K of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2017b. Geotechnical Site Investigation Report. VA101-460/3-1 (Rev 4). July 6, 2017. Appendix K-4 of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- Lyons, T.W., J.J. Luepke, M.E. Schreiber, and G.A. Zieg. 2000. Sulfur Geochemical Constraints on Mesoproterozoic Restricted Marine Deposition: Lower Belt Supergroup, northwestern United States. *Geochimica et Cosmochimica Acta*. Vol. 64, No. 3.
- Price, W.A. 2009. Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials. MEND Report 1.20.1.
- Resource Modeling, Inc. 2010. Sheep Creek Project – Upper Copper Zone Inferred Resource. Prepared for Tintina Alaska Exploration Inc. Report dated December 20, 2010. As cited in “Amendment to Exploration License 00710 Tintina Alaska Exploration, Inc. For Exploration Decline for Underground Drilling and Bulk Sampling, Black Butte Copper Project, Meagher County, MT.” November 7, 2012.
- Tetra Tech, Inc. 2013. Updated Technical Report and Preliminary Economic Assessment for the Black Butte Copper Project, Montana, document no. 1391880100-REP-R0004-01.1, effective date: July 12, 2013.

- Tintina (Tintina Montana, Inc.). 2017. Mine Operating Permit Application. Black Butte Copper Project, Meagher County, Montana. Revision 3. July 14, 2017. Accessed: January 7, 2018. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>
- _____. 2018. Update to Proposed Treated Water Disposal for the Black Butte Copper Project. Memorandum sent to Montana Department of Environmental Quality, Hard Rock Mining Bureau, Operating Permit Section, January 11, 2018.
- White, J., C. Gammons, and G. Zieg. 2013. Paragenesis of cobalt and nickel in the Black Butte shale hosted copper deposit, Belt Basin, Montana, USA, *Mineralium Deposita*, vol. 49, issue 3.
- Winston, D. 1986. Sedimentation and tectonics of the Middle Proterozoic Belt basin, and their influence on Phanerozoic compression and extension in western Montana and northern Idaho, in J. Peterson, ed. Paleotectonics and sedimentation in the Rocky Mountain Region, United States: AAPG Memoir 41, Pt. II.
- Zieg, G.A., and Craig H.G. Leitch. 1993. The Geology of the Sheep Creek Copper Deposits, Meagher County, Montana: in Belt Symposium III Abstracts, Richard B. Berg, compiler, Montana Bureau of Mines and Geology Open-File report 381. This is a companion volume to the following: Belt Symposium III, Montana Bureau of Mines and Geology Special Publication 112.

9.3.7. Land Use and Recreation

- Central Montana. 2017a. Camping in Central Montana. Accessed: December 15, 2017. Retrieved from: <http://centralmontana.com/outdoors/camping/>
- _____. 2017b. Hiking & Backpacking in Central Montana. Accessed: December 15, 2017. Retrieved from: <http://centralmontana.com/outdoors/hikingandbackpacking/>
- City of White Sulphur Springs. 2017. Growth Policy February 2017. Accessed: December 11, 2017. Retrieved from: http://whitesulphurspringsmontana.municipalimpact.com/documents/77/1_WSS_GP_2-23-17.pdf
- Fly Fishing Montana. 2017. Bar Z Riverside Ranch. Accessed: December 18, 2017. Retrieved from: <http://www.fly-fishing-montana.com/montana-fly-fishing/>
- FWP (Montana Fish, Wildlife & Parks). 2016. Harvest & Hunting Reports. Accessed: February 2018. Retrieved from: <http://fwp.mt.gov/hunting/planahunt/harvestReports.html>
- _____. 2017a. Email Interview. Linnaea Schroerer, MEPA Coordinator with the Montana Fish, Wildlife & Parks, personal communication with Craig Jones, MEPA Coordinator, Montana Department of Environmental Quality, Helena, Montana. December 5, 2017
- _____. 2017b. Smith River State Park and River Corridor Visitor Use & Statistics Monitoring Report. Accessed: December 13, 2017. Retrieved from: stateparks.mt.gov/fwDoc.html?id=2542

- McFarland, R.C., and J.E. Hughes. 1997. Montana statewide angling mail survey 1995. Montana Fish, Wildlife & Parks. Bozeman, Montana.
- McFarland, R.C., and D. Meredith. 1998. Montana Statewide Angling Pressure Mail Survey 1997. Montana Fish, Wildlife & Parks. Bozeman, Montana.
- _____. 2000. Montana Statewide Angling Pressure Mail Survey 1999. Montana Fish, Wildlife & Parks. Bozeman, Montana.
- _____. 2002. Montana Statewide Angling Pressure Mail Survey 2001. Montana Fish, Wildlife & Parks. Bozeman, Montana.
- _____. 2005. Montana Statewide Angling Pressure Mail Survey 2003. Montana Fish, Wildlife & Parks. Bozeman, Montana.
- McFarland, R.C., and J. Dykstra. 2007. Montana Statewide Angling Pressure Mail Survey 2005. Montana Fish, Wildlife & Parks. Bozeman, Montana.
- _____. 2008. Montana Statewide Angling Pressure Mail Survey 2007. Montana Fish, Wildlife & Parks. Bozeman, Montana.
- Meagher County. 2015. Draft Growth Policy. Accessed: March 13, 2018. Retrieved from: https://www.meagherco.com/mc_boards/Meagher%20County%20Growth%20Policy%20102015%20Compressed.pdf
- Meagher County Planning Board. 1981. Meagher County City of White Sulphur Springs Comprehensive Plan. Accessed: December 11, 2015. Retrieved from: <https://archive.org/stream/comprehensivepla1981meagrigh#page/n1/mode/2up>
- Montana State Library. 2018. Montana Cadastral Data. Accessed: March 13, 2018. Retrieved from: <http://svc.mt.gov/msl/mtcadastral/>
- Selby, C., C. Hinz, and D. Skaar. 2015. Montana Statewide Angling Pressure 2013. Montana Fish, Wildlife & Parks. Bozeman, Montana.
- _____. 2007. Montana Statewide Angling Pressure 2015. Montana Fish, Wildlife & Parks. Bozeman, Montana.

9.3.8. Visuals and Aesthetics

- FWP (Montana Fish, Wildlife & Parks). 2016. Montana State Parks. Website. Accessed: March 2018. Retrieved from: <http://stateparks.mt.gov>
- Maps of World. 2016. Montana State Parks Map. Accessed: March 2018. Retrieved from: <https://www.mapsofworld.com/usa/states/montana/montana-state-parks-map.html>
- MDT (Montana Department of Transportation). 2016a. Statewide Traffic Count Site Map. Accessed: March 2018. Retrieved from: http://mdt.mt.gov/publications/datastats/traffic_maps.shtml
- _____. 2016b. Official Highway Map, Version 2.

- Montana Office of Tourism. 2016. Website Homepage. Accessed: March 2018. Retrieved from: <https://www.visitmt.com/>
- Tintina (Tintina Montana, Inc.). 2017. Mine Operating Permit Application, Black Butte Copper Project, Meagher County, MT, Revision 3. July 14, 2017. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- USDA (U.S. Department of Agriculture), Forest Service, Northern Region. 1997. Forest Visitors Map, Lewis and Clark National Forest. Map Scale 1:126,720.
- USEPA (U.S. Environmental Protection Agency). 2002. Ecoregions of Montana, 2nd edition (color poster with map, descriptive, summary tables, and photographs). Map scale 1:1,500,000.
- USGS (U.S. Geological Survey). 1995. Quadrangle Map: Strawberry Butte, Montana. Map scale 1:24,000. Accessed: March 2019. Retrieved from: <https://www.mytopo.com/products/quad.cfm?code=o46110g8>
- _____. 1967. Quadrangle Map: Moose Mountain, Montana. Map scale 1:24,000. Accessed: March 2019. Retrieved from: <https://www.sciencebase.gov/catalog/item/5a8a2f1fe4b00f54eb3d0399>
- Woods, Alan J., James M. Omernick, John A. Nesser, J. Sheldon, J.A. Comstock, Sandra H. Azevedo. 2002. Ecoregions of Montana, Second Edition. Color poster with map, descriptive text, summary tables, and photographs. Map scale 1:1,500,000.

9.3.9. Socioeconomics

- County Health Rankings. 2017. Accessed: February 6, 2018. Retrieved from: <http://www.countyhealthrankings.org/>
- CTA (CTA Architects Engineers). 2017. White Sulphur Springs Growth Policy, April 18, 2017. Accessed: February 6, 2018. Retrieved from: https://whitesulphurspringsmontana.com/documents/77/1_WSS_GP_April_Final__1_.pdf
- Lewis, Michael S. 2018. "Summary of Research: Statewide Estimates of Resident and Nonresident Hunter & Angler Trip Related Expenditures in Montana (2018)." Montana Fish, Wildlife & Parks (FWP), Human Dimensions Unit Research Summary No. 45. November 2018. Accessed: August 15, 2019. Retrieved from: <http://fwp.mt.gov/doingBusiness/reference/surveys/socialEconomic/fishAndWildlife.html>
- Meagher County. 2015. Meagher County 2015 Draft Growth Policy. October 2015. Prepared for the Meagher County Planning Board. Accessed: September 19, 2019. Retrieved from: https://www.meagherco.com/mc_boards/Meagher%20County%20Growth%20Policy%20102015%20Compressed.pdf
- Montana DLI (Department of Labor & Industry). 2016. Research & Analysis Occupational Employment Statistics. Accessed: February 6, 2018. Retrieved from: <http://lmi.mt.gov/>

- _____. 2017. Montana-County Labor Force Statistics, December 2017. Accessed: February 6, 2018. Retrieved from: <http://lmi.mt.gov/>
- SAIPE (U.S. Census Bureau, Small Area Income and Poverty Estimates). 2016. 2016 All Ages in Poverty. Accessed: May 16, 2018. Retrieved from: <https://www.census.gov/data-tools/demo/saibe/saibe.html>
- Sandfire (Sandfire Resources America Inc.). 2018. Hard Rock Mining Impact Plan. Black Butte Copper Project. Meagher County, Montana. August.
- U.S. Census Bureau (United States Census Bureau). 1995. Population of Counties by Decennial Census: 1900 to 1990. Accessed: July 15, 2018. Retrieved from: <https://www.census.gov/population/cencounts/mt190090.txt>
- _____. 2010. 2010 Census. Accessed: February 6, 2018. Retrieved from: <http://www.census.gov/2010census/data/>
- _____. 2016. 2012-2016 American Community Survey 5-Year Estimates. Accessed: February 6, 2018. Retrieved from: <https://factfinder.census.gov>
- USBEA (United States Bureau of Economic Analysis). 2016a. Table CA25N, Total full-time and part-time employment by NAICS industry, for study area counties and Montana. Accessed: February 8, 2018. Retrieved from: <http://www.bea.gov/iTable>
- _____. 2016b. Table CA30 Economic Profile, Average earnings per job, for study area counties and Montana. Accessed: February 8, 2018. Retrieved from: <http://www.bea.gov/iTable>
- USBLS (United States Department of Labor, Bureau of Labor Statistics). 2018. Labor Force Statistics from the Current Population Survey. Accessed: May 14, 2018. Retrieved from: <https://www.bls.gov/cps/cpsaat18.htm>

9.3.10. Soils

- Birnbaum, C., L.E. Bradshaw, K.X. Ruthrof, and J.B. Fontaine. 2017. “Topsoil Stockpiling in Restoration” Impact of Storage Time on Plant Growth and Symbiotic Soil Biota.” *Ecological Restoration*. Volume 35, Number 3. Pages 237-245.
- Hydrometrics, Inc. 2013. Project Report Background Concentrations of Inorganic Constituents in Montana Surface Soil. Prepared for Montana Department of Environmental Quality. Accessed: April 5, 2018. Retrieved from: <http://deq.mt.gov/Portals/112/Land/StateSuperfund/Documents/InorganicBackground/BkgdInorganicsReport.pdf>
- Malloch, D., K. Pirozynski, and P. Raven. 1980. “Ecological and Evolutionary Significance of Mycorrhizal Symbiosis in Vascular Plants (a Review).” *Proceedings of the National Academy of Sciences*. Volume 77. Pages 2113–2118.

- NRCS (Natural Resources Conservation Service). 2017. Natural Resources Conservation Service, United States Department of Agriculture. Official Soil Series Descriptions. Accessed: December 11, 2017. Retrieved from: https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053587
- Tintina (Tintina Montana, Inc.). 2017. Mine Operating Permit Application. Black Butte Copper Project, Meagher County, MT, Revision 3. July 14, 2017. Accessed: January 7, 2018. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>
- USDA (U.S. Department of Agriculture). 1993. Soil Survey Manual – U.S. Department of Agriculture Handbook 18. Accessed: December 14, 2017. Retrieved from: https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1335011.pdf
- WESTECH (WESTECH Environmental Services, Inc.). 2017. Baseline Soils Report. March 2017. Appendix E of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.

9.3.11. Noise

- Abelin Traffic Services. 2018. Black Butte Copper Mine Traffic Impact Study. April, 2018.
- Big Sky Acoustics, LLC. 2017. Black Butte Copper Project Revised Noise Assessment. Big Sky Acoustics, LLC, Helena, Montana. April 2017.
- _____. 2018. Black Butte Copper Project – Traffic Noise Update. Big Sky Acoustics, LLC, Helena, Montana. August 2018.
- Cavanaugh, William, and G.C. Tocci. 2002. Criteria for Community Acceptance of Outdoor Concert Sound. . . A Progress Report on Continuing Research. The 2002 International Congress and Exposition on Noise Control Engineering. Dearborn, Michigan. August 2002.
- FTA (Federal Transit Administration). 2006. Transit Noise and Vibration Impact Assessment. FTA, Office of Planning and Environment. May 2006.
- MDT (Montana Department of Transportation). 2016. Traffic Noise Analysis and Abatement Policy. December 7. Helena, Montana.
- Menge, Christopher. 2005. Assessment of Community Reaction to Proposed Club Racetrack. *Proceedings of the Institute of Noise Control Engineering NOISE-CON 2005 Conference*. Minneapolis, Minnesota. October 2005.
- USEPA (U.S. Environmental Protection Agency). 1978. Protective Noise Levels, Condensed Version of EPA Levels Document. USEPA, Office of Noise Abatement and Control. November 1978.

9.3.12. Transportation

- Abelin Traffic Services. 2018. Black Butte Copper Mine Traffic Impact Study. April 2018.

- CDM Smith and MDT (Montana Department of Transportation). 2019. I-90 Three Forks to Billings Road Closure Analysis: Final Report. March 2019. Accessed: September 2019. Retrieved from: <https://www.mdt.mt.gov/pubinvolve/i90closurestudy/docs/I-90-Closure-Final-Report.pdf>
- MDT (Montana Department of Transportation). 2019. 2018 Traffic by Sections Report: On System. Accessed: August 2019. Retrieved from: http://mdt.mt.gov/other/webdata/external/Planning/traffic_reports/TBS_ONSYSTEM.pdf
- Tintina (Tintina Montana, Inc.). 2017a. Mine Operating Permit Application, Black Butte Copper Project, Meagher County, MT, Revision 3. July 14, 2017. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- Tintina (Tintina Resources Inc.). 2017b. Emergency Response Plan. April 24, 2017. Appendix P of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- Transportation Research Board. 2010. *Highway Capacity Manual 2010*. Accessed March 10, 2018. Retrieved from: <http://www.trb.org/Main/Blurbs/164718.aspx>
- _____. 2014. Innovative Applications of the *Highway Capacity Manual 2010*. Transportation Research Circular Number E-C190. Accessed: February 28, 2018. Retrieved from: <http://onlinepubs.trb.org/onlinepubs/circulars/ec190.pdf>.
- Zieg, J. 2019. Email information. Sandfire Senior Vice President Exploration personal communication with Craig Jones, DEQ Project Manager. September 26, 2019.

9.3.13. Vegetation

- FWP (Montana Fish, Wildlife & Parks). 2015. Program Evaluation; Nongame, Threatened, Endangered, and Candidate Species. January 13, 2015. Accessed: December 12, 2017. Retrieved from: <http://leg.mt.gov/content/Committees/Interim/2015-2016/EQC/Meetings/Jan-2016/program-eval-fwp-nongame-threatened-endangered.pdf>
- MTNHP (Montana Natural Heritage Program). 2016. Montana Natural Heritage – SOC Report Plant Species of Concern. Accessed: August 2, 2018. Retrieved from: http://mtnhp.org/SpeciesOfConcern/output/NHP_Plant_SOC.pdf
- _____. 2017. Montana Field Guide. Accessed: December 12, 2017. Retrieved from: <http://fieldguide.mt.gov/displayPhyDiv.aspx?kingdom=Plantae>
- Tintina (Tintina Montana, Inc.). 2017. Mine Operating Permit Application, Black Butte Copper Project, Meagher County, MT, Revision 3. July 14, 2017. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- WESTECH (WESTECH Environmental Services, Inc.). 2015. Baseline Vegetation Inventory. March 2017. Appendix H of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>

_____. 2016. Noxious Weed Management Plan. March. Appendix O of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.

9.3.14. Wetlands

Cowardin et al. 1979. Classification of Wetlands and Deepwater Habitats of the United States. Accessed: December 14, 2017. Retrieved from: <https://www.fws.gov/wetlands/documents/Classification-of-Wetlands-and-Deepwater-Habitats-of-the-United-States.pdf>

DEQ (Montana Department of Environmental Quality). 2017a. Wetlands Conservation, Fen Wetlands. December 2017. Accessed: December 15, 2017. Retrieved from: <http://deq.mt.gov/Water/WPB/Wetlands/fenwetland>

_____. 2017b. Montanan Department of Environmental Quality 401 Water Quality Certification. January 19, 2017.

MDT (Montana Department of Transportation). 2008. Montana Wetland Assessment Method. March 2008. Accessed: December 14, 2017. Retrieved from: https://www.mdt.mt.gov/other/webdata/external/planning/wetlands/2008_wetland_assessment/2008_mwam_manual.pdf

Tintina (Tintina Montana, Inc.). 2017. Mine Operating Permit Application. Black Butte Copper Project, Meagher County, MT. Revision 3. July 14, 2017. Accessed: January 7, 2018. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>

_____. 2019. Responses to Questions about Noise and Traffic from TWSP and Wet Well and Pipeline, and Future Wetland Mitigations for the Black Butte Copper Project. Technical Memorandum. February 7.

USACE (United States Army Corps of Engineers). 1987. Corps of Engineers Wetlands Delineation Manual. Wetlands Research Program. Technical Report Y-87-1. January 1987. Prepared by Environmental Laboratory.

_____. 2017. Department of the Army. Approved JD and Wetland Boundary Verification for the Tintina Black Butte Project. October 3, 2017.

WESTECH (WESTECH Environmental Services, Inc.). 2015a. Baseline Wetland Delineation and Waterbody Survey Report. Appendix C-1 of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>

_____. 2015b. Functional Assessment Report. January 2015. Appendix C-2 of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>

9.3.15. Wildlife

- Brown, Casey L., Amanda R. Hardy, Jesse R. Barber, Kurt M. Fristrup, Kevin R. Crooks, and Lisa M. Angeloni. 2012. "The Effect of Human Activities and Their Associated Noise on Ungulate Behavior." *PLoS ONE*, 7(7). Accessed: February 15, 2018. Retrieved from: <https://doi.org/10.1371/journal.pone.0040505>
- Enviromin. 2017. Water Quality Model Report. April 24, 2017. Appendix N of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- FWP (Montana Fish, Wildlife & Parks). 2017. Email Interview. Jay Kolbe, Wildlife Biologist with Fish, Wildlife & Parks. November 30, 2017.
- _____. 2018a. Deer, Elk & Antelope Hunting Guide. Accessed: January 10, 2018. Retrieved from: <http://fwp.mt.gov/hunting/planahunt/huntingGuides/dea/>
- _____. 2018b. Harvest & Hunting Reports. Accessed: January 10, 2018. Retrieved from: <http://fwp.mt.gov/hunting/planahunt/harvestReports.html>
- _____. 2018c. Hunting Regulations. Accessed: January 10, 2018. Retrieved from: <http://fwp.mt.gov/hunting/regulations/default.html>
- _____. 2018d. Montana Statewide Elk Management, 2017 Chart. Accessed: January 10, 2018. Retrieved from: <http://fwp.mt.gov/fishAndWildlife/management/elk/>
- _____. 2018e. Montana's Species of Concern. Accessed: January 15, 2018. Retrieved from: <http://fwp.mt.gov/fishAndWildlife/species/speciesOfConcern/>
- _____. 2018f. Wolf Hunting Guide. Accessed: January 10, 2018. Retrieved from: <http://fwp.mt.gov/hunting/planahunt/huntingGuides/wolf/default.html>
- _____. 2018g. Wolf Population & Distribution. Accessed: January 10, 2018. Retrieved from: <http://fwp.mt.gov/fishAndWildlife/management/wolf/population.html>
- IGBC (Interagency Grizzly Bear Committee). 2018. Where We Work. Accessed: February 15, 2018. Retrieved from: <http://igbconline.org/>
- IPaC (Information for Planning and Consultation). 2018. IPaC Resource List, U.S. Fish and Wildlife Service. Accessed: March 12, 2018. Retrieved from: <https://ecos.fws.gov/ipac/>
- Lamb, Clayton T., Garth Mowat, Aaron Reid, Laura Smit, Michael Proctor, Bruce N. McLellan, Scott E. Nielsen, and Stan Boutin. 2018. "Effects of habitat quality and access management on the density of a recovering grizzly bear population." *Journal of Applied Ecology*. 2018;00:1–12. Accessed: February 2, 2018. Retrieved from: <https://doi.org/10.1111/1365-2664.13056>
- McLellan, B.N., and D.M. Shackleton. 1988. "Grizzly Bears and Resource-Extraction Industries: Effects of Roads on Behaviour, Habitat Use and Demography." *Journal of Applied Ecology*, 25(2), 451-460. Accessed: February 2, 2018. Retrieved from: https://www.jstor.org/stable/2403836?seq=1#page_scan_tab_contents

- MTNHP (Montana Natural Heritage Program). 2018. Montana Field Guides. Accessed: January 18, 2018. Retrieved from: <http://fieldguide.mt.gov/displayClasses.aspx?Kingdom=Animalia>
- Stagliano, David. 2018. Baseline Aquatic Surveys and Assessment Summary 2014-2017 of Streams in the Tintina Black Butte Copper Project Area of Meagher County, MT. Tintina Resources Inc. White Sulphur Springs, Montana.
- Tintina (Tintina Montana, Inc.). 2017. Mine Operating Permit Application. Black Butte Copper Project, Meagher County, MT. Revision 3. July 14, 2017. Accessed: January 7, 2018. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>
- USFWS (U.S. Fish and Wildlife Service). 2017. Endangered, Threatened, Proposed and Candidate Species Montana Counties, Endangered Species Act. November 17, 2017. Accessed: December 18, 2017. Retrieved from: https://www.fws.gov/montanafieldoffice/Endangered_Species/Listed_Species/countylist.pdf
- WESTECH (WESTECH Environmental Services, Inc.). 2015. Terrestrial Wildlife Resources Evaluation, Black Butte Copper Project, Meagher County, Montana. August.

9.3.16. Aquatic Biology

- BLM (Bureau of Land Management). 2008. Standard Methods for Laboratory Sample Sorting Procedures of Macroinvertebrate Samples. Bureau of Land Management/USU National Aquatic Monitoring Center, Logan, Utah. Retrieved from: <http://usu.edu/buglab/SampleProcessing/labProcedures.cfm>: (as cited in Stagliano 2018a).
- Clements, W.H. 1991. Community Responses of Stream Organisms to Heavy Metals: A Review of Observational and Experimental Approaches. *Metal Ecotoxicology: Concepts and Applications*. Lewis Publishers: (as cited in Stagliano 2018a).
- Constantz, J. 2008. Heat as a Tracer to Determine Streambed Water Exchanges. *Water Resources Research*, vol. 44, W00D10, doi:10.1029/2008WR006996. Retrieved from: <https://pubs.usgs.gov/tm/04d02/pdf/TM4-D2-chap4.pdf>.
- DEQ (Montana Department of Environmental Quality). 2011a. Sample Collection and Laboratory Analysis of Chlorophyll-a Standard Operation Procedure. Water Quality Planning: WQPBWQM-011.
- _____. 2011b. Periphyton Standard Operating Procedure. Water Quality Planning. WQPBWQM-010.
- _____. 2012. Sample Collection, Sorting, and Taxonomic Identification of Benthic Macroinvertebrates Standard Operating Procedure. Helena, Montana: Montana Department of Environmental Quality. WQPBWQM-012. Retrieved from: <http://deq.mt.gov/Portals/112/Water/WQPB/QAProgram/Documents/PDF/SOPs/WQPBWQM-009.pdf>.

- _____. 2016. Assessment Methodology for Determining Wadeable Stream Impairment Due to Excess Nitrogen and Phosphorus Levels. WQPBMASSTR-01. Retrieved from: http://deq.mt.gov/Portals/112/Water/SurfaceWater/UseAssessment/Documents/NtrntAssessmentMethod_May2016_FINAL.pdf.
- _____. 2017a. Data Search Tools. Accessed: December 13, 2017. Retrieved from: <http://svc.mt.gov/deq/dst/app/cwaic#/home>.
- _____. 2017b. Circular DEQ-7 Montana Numeric Water Quality Standards. May 2017. Accessed: April 2018. Retrieved from: https://deq.mt.gov/Portals/112/Water/WQPB/Standards/PDF/DEQ7/DEQ-7_Final_May2017.pdf.
- _____. 2018. Email information. Craig Jones, DEQ Project Manager, personal communication with Erik Carlson, ERM Project Manager. June 21, 2018.
- Enviromin. 2017. Water Quality Model Report. April 24, 2017. Appendix N of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- Feldman, D. 2006. A Report to DEQ Water Quality Planning Bureau on the Proper Interpretation of Two Recently Developed Macroinvertebrate Bioassessment Models. Montana Department of Environmental Quality.
- FWP (Montana Fish, Wildlife & Parks). 2001. Spawning Times of Montana Fishes. Accessed: December 12, 2017. Retrieved from: <https://deq.mt.gov/Portals/112/Water/WQInfo/Documents/SpawningTimesFWP.pdf>.
- _____. 2014. Montana Fisheries Information System (MFISH). Retrieved from: <http://fwp.mt.gov/fishing/mFish/>.
- FWP (Montana Fish, Wildlife & Parks), DEQ (Montana Department of Environmental Quality), Montana DPHHS (Department of Health and Human Services). 2014. Montana Sport Fish Consumption Guidelines. Accessed: December 15, 2017. Retrieved from: <http://fwp.mt.gov/fishing/regulations/>.
- Grisak, G. 2012. An Evaluation of Trout Movements in the Upper Smith River Basin. Final Report to Canyon Ranch, Pat Barnes Missouri River Chapter of Trout Unlimited and Missouri River Flyfishers. Montana Fish, Wildlife & Parks, Great Falls.
- _____. 2013. Spawning Times and Locations of Rainbow Trout and Brown Trout in Tributaries to the Smith River, Montana. Montana Fish, Wildlife & Parks, Great Falls.
- Grisak, G., A. Strainer, and B. Tribby. 2012. Rainbow Trout and Brown Trout Movements Between the Missouri River, Sun River and Smith River, Montana. PPL-Montana MOTAC projects 021-08, 771-09, 771-10, 771-11. Montana Fish, Wildlife & Parks, Great Falls.

- Groves, C., D. Jensen, L. Valutis, K. Redford, M. Shaffer, J. Scott, J. Baumgartner, J. Higgins, M. Beck, and M. Anderson. 2002. Planning for Biodiversity Conservation: Putting Conservation Science into Practice. *Bioscience* 52: 499-512. Retrieved from: <http://bio-diversity-group.huji.ac.il/SalitKark/Groves%202002.pdf>.
- Herbst, D.B., R.B. Medhurst, and S.W. Roberts. 2011. Development of Biological Criteria for Sediment TMDLs: the Relation of Sediment Deposition to Benthic Invertebrate Communities of Streams Exposed to Varied Land Use Disturbances in the Sierra Nevada and Coast Range Mountains of California. Retrieved from: https://www.waterboards.ca.gov/lahontan/water_issues/programs/swamp/docs/3_sedtmdl_invertsreport.pdf.
- Higgins, J., M.M. Bryer, M. Khoury, and T.W. Fitzhugh. 2005. A Freshwater Classification Approach for Biodiversity Conservation Planning. *Conservation Biology* 19 (2): 432-445. Retrieved from: <http://faculty.jsd.claremont.edu/emorhardt/159/pdfs/2006/Higgins.pdf>.
- Hydrometrics, Inc. 2016. Groundwater Modeling Assessment. November 2015 (Revised June 2016). Appendix M of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2017. Black Butte Copper–Nondegradation Analysis for MPDES Outfalls. Technical Memorandum. March 21. Appendix V-1 of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2018a. Black Butte Copper – NCWR Diversion on Sheep Creek. Memorandum from Hydrometrics, Inc. to Sandfire and Montana DEQ. August 10.
- _____. 2018b. Black Butte Copper – Coon Creek Ditch Realignment Design. Memorandum from Hydrometrics, Inc. to Sandfire and Montana DEQ. July 20.
- _____. 2018c. Integrated Discharge Permit Application Narrative. Black Butte Copper Project. Meagher County, Montana. Revision – 2. Submitted to the Montana Department of Environmental Quality by Tintina Montana, Inc. Original Submittal: December 2017. Revision 1: February 2018. Revision 2: April 2018.
- Johnson, M.R., C. Boelke, L.A. Chiarella, P.D. Colosi, K. Greene, K. Lellis, H. Ludemann, M. Ludwig, S. McDermott, J. Ortiz, D. Rusanowsky, M. Scott, and J. Smith. 2008. Chapter Eight: Physical Effects – Water Intake and Discharge Facilities. From: Impacts to Marine Fisheries Habitat from Nonfishing Activities in the Northeastern United States. NOAA Technical Memorandum NMFS-NE-209.
- Lazorchak, J.M., D.J. Klemm, and D.V. Peck (editors). 1998. Environmental Monitoring and Assessment Program - Surface Waters: Field Operations and Methods for Measuring the Ecological Condition of Wadeable Streams. EPA/620/R-94/004F. U.S. Environmental Protection Agency, Washington, D.C.

- MTNHP (Montana Natural Heritage Program) and FWP (Fish, Wildlife & Parks). 2017. Montana Animal Species of Concern Report. Accessed: December 13, 2017. Retrieved from: [web application] <http://mtnhp.org/SpeciesOfConcern/?AorP=a>.
- Nelson, S.M., and R.A. Roline. 1993. "Selection of the Mayfly *Rhithrogena hageni* as an Indicator of Metal Pollution in the Upper Arkansas River." *Journal of Freshwater Ecology* 8(2):111-119.
- Pritchard, D., F. Barret, H. Berg, W. Hagenbuck, R. Krapf, R. Leinard, S. Leonard, M. Manning, C. Noble, and D. Tippy. 1993. *Riparian Area Management: A User Guide to Assessing Proper Functioning Condition*. Technical Reference 1737-9. USDI Bureau of Land Management Service Center. Denver, Colorado. USA. 109 pp. Accessed: December 12, 2017. Retrieved from: <https://www.blm.gov/nstc/library/pdf/Final%20TR%201737-9.pdf>.
- Rosgen, D.L. 1996. *Applied River Morphology*. Pagosa Springs, CO: *Wildland Hydrology*.
- Stagliano, D. 2015. *Baseline Aquatic Survey and Assessment of Streams in the Tintina Black Butte Copper Project Area of Meagher County, MT*. Tintina Resources Inc. White Sulphur Springs, Montana.
- _____. 2017a. *2016 Baseline Aquatic Surveys and Assessment of Streams in the Tintina Black Butte Copper Project Area of Meagher County, MT*. May 2017. Tintina Resources Inc. White Sulphur Springs, Montana.
- _____. 2017b. *Draft: Baseline Aquatic Surveys and Assessment Summary 2014–2017 of Streams in the Tintina Black Butte Copper Project Area of Meagher County, MT*. Tintina Resources Inc. White Sulphur Springs, Montana.
- _____. 2017c. *Final Aquatic Biological Monitoring Plan for the Black Butte Copper Project in the Sheep Creek Basin in Meagher County, MT*. Tintina Resources Inc. White Sulphur Springs, Montana.
- _____. 2017d. *Baseline Macroinvertebrate Monitoring Report 2016 for the Smith River, Meagher and Cascade Counties, Montana*. Upper Missouri Watershed Alliance (UMOWA). Wolf Creek, Montana.
- _____. 2017e. *Draft Plan of Study: Aquatic Monitoring Plan in Upper Sheep Creek Basin in Meagher County, Montana*. June 2017. Appendix G-1 of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2018a. *Baseline Aquatic Surveys and Assessment Summary 2014–2017 of Streams in the Tintina Black Butte Copper Project Area of Meagher County, MT*. Tintina Resources Inc. White Sulphur Springs, Montana.
- _____. 2018b. *Baseline Macroinvertebrate Monitoring Report 2016–2017 for the Smith River, Meagher and Cascade Counties, MT*. Upper Missouri Watershed Alliance (UMOWA). Wolf Creek, Montana.

- _____. 2019. Aquatic Monitoring Plan and Assessment Summary for Streams in the Tintina Black Butte Copper Project Area of Meagher County, MT 2014-2018. Prepared for Tintina Montana, Inc., White Sulphur Springs, Montana. Montana Biological Survey, Helena, Montana. April 2019.
- _____. 2020. Email information. Personal communication with Edward Surbrugg, Project Manager with Tetra Tech. January 3, 2020.
- Taft, E.P., J.L. Black, L.R. Tuttle, and D. Dixon. 2007. Fish and cooling water intakes: Debunking the myths. *POWER Magazine*. Published March 15, 2007. Accessed: November 5, 2019. Retrieved from: <https://www.powermag.com/fish-and-cooling-water-intakes-debunking-the-myths/?printmode=1>
- Teply, M., and L.L. Bahls. 2006. Diatom Biocriteria for Montana Streams–Middle Rockies Ecoregion. Prepared by Larix Systems, Inc. and Hannaea for the Montana Department of Environmental Quality, Water Quality Planning Bureau.
- Teply, M. 2010. Diatom Biocriteria for Montana Streams. Prepared by Cramer Fish Sciences, Lacy, Washington, for the Montana Department of Environmental Quality, Water Quality Planning Bureau.
- Thurrow, R.F., C.A. Dolloff, and J.E. Marsden. 2012. Chapter 17: Visual Observation of Fishes and Aquatic Habitat in Fisheries Techniques, third edition. Editors: A.V. Zale, D.L. Parrish, and T.M. Sutton. American Fisheries Society, Bethesda, Maryland.
- Tintina (Tintina Montana, Inc.). 2017. Mine Operating Permit Application. Black Butte Copper Project, Meagher County, MT. Revision 3. July 14, 2017. Accessed: January 7, 2018. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>
- _____. 2018. Update to Mine Operating Permit Application for the Black Butte Copper Project. Memorandum sent to Montana Department of Environmental Quality, Hard Rock Mining Bureau, Operating Permit Section, October 26.
- USFWS (U.S. Fish and Wildlife Service). 2017. Endangered, Threatened, Proposed and Candidate Species Montana Counties. November 2017.
- Winner, R.W., M.W. Boessel, and M.P. Farrel. 1980. Insect Community Structure as an Index of Heavy-Metal Pollution in Lotic Ecosystems. *Can. J. Fish. Aq. Sci.* 37:647-55.
- Witzel, L.D., and H.R. Maccrimmon. 1983. Redd-Site Selection by Brook Trout and Brown Trout in Southwestern Ontario Streams. *Trans. Amer. Fisheries Society* 112 (6): 760-771.
- Zieg, J. 2018. Addendum to Integrated Discharge Permit Application for the Black Butte Copper Project. Memorandum from Tintina Montana, Inc. to Montana Department of Environmental Quality. October 29.
- _____. 2019. Revision: Data to support responses to thermal impacts to water in the NCWR for the Black Butte Copper Project. Technical Memorandum. July 25.

9.4. CHAPTER 4

- Abelin Traffic Services. 2018. Black Butte Copper Mine Traffic Impact Study. April 2018.
- Borgquist, Carl E., Rhett Hurlless, and Steve Padula. 2017. Update on Gordon Butte Pumped Storage Project. *Hydro Review*. Volume 36. Issue 9. November 1, 2017. Accessed: June 8, 2018. Retrieved from: <https://www.hydroworld.com/articles/hr/print/volume-36/issue-9/cover-story/update-on-gordon-butte-pumped-storage-project.html>
- DEQ (Montana Department of Environmental Quality). 2007. State of Montana Modeling Guidance for Air Quality Permit Applications. DEQ Air, Energy, and Mining Division. Draft, November 2007.
- _____. 2017a. State of Montana Regional Haze 5-Year Progress Report. Montana DEQ, August.
- _____. 2017b. Montana Air Quality Permit #5186-00. Air, Energy & Mining Division. Issued to Cascade County. August 17, 2017. Accessed: May 11, 2018. Retrieved from: <https://deq.mt.gov/Portals/112/Air/AirQuality/Documents/ARMpermits/5186-00.pdf>
- FERC (Federal Energy Regulatory Commission). 2016. Environmental Assessment for Hydropower License, Gordon Butte Pumped Storage Project, FERC Project No. 13642-003. September 2016. Accessed: July 5, 2018. Retrieved from: <https://elibrary.ferc.gov>
- GB Energy Park. 2018. Gordon Butte Pumped Storage Hydro Facility. Website. Accessed: May 11, 2018. Retrieved from: <https://gordonbuttepumpedstorage.com/project-overview/>
- Hydrometrics, Inc. 2016. Groundwater Modeling Assessment. November 2015 (Revised June 2016). Appendix M of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>
- _____. 2018. Integrated Discharge Permit Application Narrative. Black Butte Copper Project, Meagher County, Montana. Submitted to Montana Department of Environmental Quality by Tintina Montana, Inc. Original Submittal: December 2017. Revision 1: February 2018. Revision 2: April 2018.
- MBAC (Montana Business Assistance Connection). 2014. Helena Tri-County Region Comprehensive Economic Development Strategy (CEDS) 2014-2019. Accessed: July 5, 2018. Retrieved from: https://www.mbac.biz/wp-content/uploads/2016/04/Helena_Region_CEDS_2014.pdf
- Montana.gov. 2019. Burlington Northern Livingston Shop Complex CECRA Facility. Official State Website. Accessed: February 18, 2019. Retrieved from: <http://deq.mt.gov/Land/statesuperfund/bnlivingston>
- Montana EQC (Montana Environmental Quality Council). 2017. Guide to the Montana Environmental Policy Act. Revised by Hope Stockwell, 2013. Reprinted June 2015, June 2017. Legislative Environmental Policy Office. Helena, MT.

- The Montana Legislature. 2018. MEPA Model Rules. Accessed: May 9, 2018. Retrieved from: http://leg.mt.gov/css/Services%20Division/Lepo/mepa/model_rules.asp
- Tintina (Tintina Montana, Inc.). 2017. Mine Operating Permit Application. Black Butte Copper Project, Meagher County, MT. Revision 3. July 14, 2017. Accessed: January 7, 2018. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>
- _____. 2018. Montana Air Quality Permit Application. Black Butte Copper Project. Revised application, April 20, 2018.
- USDA (U.S. Department of Agriculture). 2018. Castle Mountains Restoration Project. Website. Accessed: May 11, 2018. Retrieved from: https://data.ecosystem-management.org/nepaweb/nepa_project_exp.php?project=41955
- WESTECH (WESTECH Environmental Services, Inc.). 2015. Terrestrial Wildlife Resources Evaluation, Black Butte Copper Project, Meagher County, Montana. August.

9.5. CHAPTER 5

- DEQ (Montana Department of Environmental Quality). 2017. Circular DEQ-7 Montana Numeric Water Quality Standards. May 2017. Accessed: April 2018. Retrieved from: http://deq.mt.gov/Portals/112/Water/WQPB/Standards/PDF/DEQ7/DEQ-7_Final_May2017.pdf

9.6. CHAPTER 6

No references

9.7. CHAPTER 7

No references

9.8. CHAPTER 8

- Abelin Traffic Services. 2018. Black Butte Copper Mine Traffic Impact Study. April 2018.
- Alakangas, L., D. Dagli, and S. Knutsson. 2013. Literature Review on Potential Geochemical and Geotechnical Effects of Adopting Paste Technology under Cold Climate Conditions. Luleå University of Technology.
- Bell, C. 2018. Smith River Nuisance Algae Study. Montana Department of Environmental Quality, Water Quality Division. February 23.
- Blodgett, S. and J.R. Kuipers. 2002. Technical Report on Underground Hard-Rock Mining: Subsidence and Hydrologic Environmental impacts. Center for Science in Public Participation. February 2002.

- CDM Smith and MDT (Montana Department of Transportation). 2019. I-90 Three Forks to Billings Road Closure Analysis: Final Report. March 2019. Accessed: September 2019. Retrieved from: <https://www.mdt.mt.gov/pubinvolve/i90closurestudy/docs/I-90-Closure-Final-Report.pdf>
- Chekan, G.J. 1985. "Design of Bulkheads for Controlling Water in Underground Mines. U.S. Department of the Interior, Bureau of Mines, Information Circular 9020.
- DEQ (Montana Department of Environmental Quality). 2014. Circular DEQ-12A Montana Base Numeric Nutrient Standards. Montana Department of Environmental Quality, Water Quality Planning Bureau. Helena, Montana. July 2014.
- _____. 2016. First Deficiency Review, Pending Operating Permit 00188. March 2016. Accessed: October 2019. Retrieved from: <http://deq.mt.gov/Portals/112/Land/Hardrock/Documents/TintinaMines/First%20Deficiency%20Review.pdf>
- _____. 2017a. Data Search Tools. Accessed: December 13, 2017. Retrieved from: <http://svc.mt.gov/deq/dst/app/cwaic#/home>.
- _____. 2017b. Circular DEQ-7 Montana Numeric Water Quality Standards. May 2017. Accessed: April 2018. Retrieved from: http://deq.mt.gov/Portals/112/Water/WQPB/Standards/PDF/DEQ7/DEQ-7_Final_May2017.pdf
- _____. 2018a. Update to Proposed Treated Water Disposition for the Black Butte Copper Project. Memorandum sent to Tintina Resources Inc., January 30.
- _____. 2018b. Update to Proposed Rail Load Out Facilities for Shipment of Containerized Copper Concentrates. Memorandum to Tintina Resources Inc., January 30.
- _____. 2018c. Update to Mine Operating Permit Application for the Black Butte Copper Project, Proposed Holding Pond Facility for Treated Water, Revision to Annual Water Balance, and Addition of a Wet Well. Memorandum sent to Tintina Resources Inc., November 21.
- _____. 2018d. FINAL 2018 Water Quality Integrated Report. Document # WQDIMTSIR-07f. January 31. Accessed: January 9, 2020. Retrieved from: <https://deq.mt.gov/Water/Resources/report>
- _____. 2018e. DEQ Low Flow Stats Calculations for the Black Butte Copper Project MPDES Permit. Sent from Montana Department of Environmental Quality to Environmental Resources Management, February 14, 2018.
- _____. 2019. Letter from Montana Department of Environmental Quality to Sandfire Resources America, Inc. July 3. DEQ Application Number: MT4011018.
- Enviromin. 2017a. Water Quality Model Report. April 24, 2017. Appendix N of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. April 24, 2017. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.

- _____. 2017b. Baseline Environmental Geochemistry Evaluation of Waste Rock and Tailings. April 24, 2017. Appendix D of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2017c. Baseline Environmental Geochemistry Evaluation of Near Surface Materials. April 24, 2017. Appendix D-1 of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2018. Surface-Placed Cemented-Paste Tailings. White Paper.
- Fetter, C.W. 2001. Applied Hydrogeology. Fourth Edition.
- FWP (Montana Fish, Wildlife & Parks). 2014. Montana Fisheries Information System (MFISH). Retrieved from: <http://fwp.mt.gov/fishing/mFish/>.
- FWP (Montana Fish, Wildlife & Parks), DEQ (Montana Department of Environmental Quality), Montana DPHHS (Department of Health and Human Services). 2014. Montana Sport Fish Consumption Guidelines. Accessed: December 15, 2017. Retrieved from: <http://fwp.mt.gov/fishing/regulations/>.
- Geomina Resources, Inc. 2015. Failure Modes Effects Analysis (FMEA). December 15. Appendix R of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2016. Tailings Management Alternative Evaluation, Black Butte Copper Project, Meagher County, Montana. Appendix Q of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2018. A Summary of CTF Design Features and Seepage Analysis during Operations and Closure, Black Butte Copper Project, Meagher County, MT. October 17.
- _____. Undated. Pressure Grouting Plan. Appendix T of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- Hydrometrics, Inc. 2016a. Groundwater Modeling Assessment. November 2015 (Revised June 2016). Appendix M of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2016b. Post Closure Nondegradation Evaluation, Black Butte Copper Project. Appendix N-1 of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.

- _____. 2017a. Baseline Water Resources Monitoring and Hydrogeologic Investigations Report. August 2015 (revised March 14, 2017). Appendix B of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2017b. Black Butte Copper–Nondegradation Analysis for MPDES Outfalls. Technical Memorandum. March 21. Appendix V-1 of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2017c. Sheep Creek Alluvial Flow Model Report. December 2017, Revised in April 2018. Appendix F of the Integrated Discharge Permit Application Narrative, Black Butte Copper Project, Meagher County, Montana.
- _____. 2017d. Alluvial Infiltration Testing and Analysis. December 6, 2017. Appendix E to the Integrated Discharge Permit Application Narrative, Black Butte Copper Project, Meagher County, Montana.
- _____. 2018a. Integrated Discharge Permit Application Narrative. Black Butte Copper Project, Meagher County, Montana. Revision 2. Submitted to Montana Department of Environmental Quality by Tintina Montana, Inc. Original Submittal: December 2017. Revision 1: February 2018. Revision 2: April 2018.
- _____. 2018b. Black Butte Copper Surface Water All Data Summary Report. [Excel file: SW AllDataToDate 060118_AM.XLSX]. Compiled data from quarterly and annual Water Resources Monitoring reports 2011 through 2017 prepared for Tintina Alaska Exploration Inc.
- _____. 2019a. Initial Review Comments on the Tom Myers Black Butte Modeling Report. Technical Memorandum. July 18.
- _____. 2019b. Temperature in Sheep Creek after Mixing with Non-Contact Water Reservoir Discharge. Technical Memorandum. G. Bryce, Hydrometrics, Inc., to J. Zieg, Tintina Resources Inc. August 26, 2019.
- _____. 2019c. Supplemental Comments on Myers’ Modeling Report of Black Butte Copper Project – DRAFT. Technical Memorandum. August 14.
- Knight Piésold Consulting. 2017a. Waste and Water Management Design for MOP Application. VA101-460/3-2 (Rev 8). July 6, 2017. Appendix K of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2017b. Tailings Storage Facility Design, Black Butte Copper Project. VA101-460/3-5 (Rev 0). September 12, 2017. Prepared for Tintina Resources Inc.
- Lang, B. 1999. Permanent Sealing of Tunnels to Retain Tailings or Acid Rock Drainage. International Mine Water Association.

- Levens, R.L., A. D. Marcy, and C.M.K. Boldt. 1996. Environmental Impacts of Cemented Mine Waste Backfill. U.S. Department of the Interior, Bureau of Mines.
- Maest, A.S., J.R. Kuipers, C.L. Travers, D.A. Atkins. 2005. Predicting Water Quality at Hardrock Mines: Methods and Models, Uncertainties, and State-of-the-Art.
- MEND (Mine Environment Neutral Drainage Program). 2006. Paste Backfill Geochemistry - Environmental Effects of Leaching and Weathering. Accessed: October 2019. Retrieved from: <http://mend-nedem.org/wp-content/uploads/2013/01/10.2.pdf> (<http://mend-nedem.org/default/?lang=en>).
- Moran, P., L. Christoffersen, J. Gillow, and M. Hay. 2013. CEMENTED TAILINGS BACKFILL – IT'S BETTER, NOW PROVE IT! SME Annual Meeting, February 24–27, 2013, Denver Colorado. Accessed: August 2019. Retrieved from: https://www.researchgate.net/publication/294787606_CEMENTED_TAILINGS_BACK_FILL_-_IT'S_BETTER_NOW_PROVE_IT
- MTNHP (Montana Natural Heritage Program) and FWP (Fish, Wildlife & Parks). 2017. Montana Animal Species of Concern Report. Accessed: December 13, 2017. Retrieved from: [web application] <http://mtnhp.org/SpeciesOfConcern/?AorP=a>.
- Myers, T. 2019a. Development of a Conceptual Model and Numerical Flow Model – Black Butte Project, Meagher County, Montana. May 1, 2019
- _____. 2019b. Review of Draft Environmental Impact Statement, Black Butte Copper Project, Meagher County, Montana. Technical Memorandum. May 8, 2019.
- Nordstrom, D.K., and C.N. Alpers. 1999. Negative pH, efflorescent mineralogy, and consequences for environmental restoration at the Iron Mountain Superfund site, California. *Proceedings of the National Academy of Science of the United States of America*, 1999 Mar 30; 96(7): 3455–3462. Accessed: November 25, 2019. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC34288/>.
- Peggs, Ian D. 2003. “Geomembrane Liner Durability: Contributing Factors and the Status-Quo.” In *Geosynthetics: protecting the environment*, Thomas Telford, London; UK IGS. June 2003. Accessed: November 2017. Retrieved from: <https://www.geosynthetica.net/Uploads/IDPigsUKpaper.pdf>
- Sandfire (Sandfire Resources America Inc.). 2019a. Third Supplemental Response to Public Comments Received for the Black Butte Copper Mine Draft EIS – Groundwater Quality and Earthjustice’s Exhibit 17. Letter to Craig Jones, Montana DEQ, from Tintina Montana Inc. and Sandfire Resources America Inc. November 1, 2019.
- _____. 2019b. Second Supplemental Response to Public Comments Received for the Black Butte Copper Mine Draft EIS – Ground Water Quantity. Letter to Craig Jones, Montana DEQ, from Tintina Montana Inc. and Sandfire Resources America Inc. September 4, 2019.

- _____. 2019c. Fourth Supplemental Response to Public Comments Received for the Black Butte Copper Mine Draft Environmental Impact Statement – Exhibits Submitted with Earthjustice Comment. Letter to Craig Jones, Montana DEQ, from Tintina Montana Inc. and Sandfire Resources America Inc. November 4, 2019.
- _____. 2019d. First Supplemental Response to Public Comments Received for the Black Butte Copper Mine Draft EIS – Surface Water Quality. Letter to Craig Jones, Montana DEQ, from Tintina Montana Inc. and Sandfire Resources America Inc. August 30, 2019.
- Silva, J., T. Worsley, and B. Lusk. 2019. “Practical assessment of rock damage due to blasting.” *International Journal of Mining Science and Technology*, 29 (2019) 379-385.
- Skiba, Ute. 2008. Denitrification. In: Jorgensen, Sven Eric; Fath, Brian D., (eds.) *Encyclopedia of Ecology*. Oxford, Elsevier, 866-871.
- Stagliano, D. 2015. Baseline Aquatic Survey and Assessment of Streams in the Tintina Black Butte Copper Project Area of Meagher County, Montana. Tintina Resources Inc. White Sulphur Springs, Montana.
- _____. 2017a. 2016 Baseline Aquatic Surveys and Assessment of Streams in the Tintina Black Butte Copper Project Area of Meagher County, Montana. May 2017. Tintina Resources Inc. White Sulphur Springs, Montana.
- _____. 2017b. Draft: Baseline Aquatic Surveys and Assessment Summary 2014–2017 of Streams in the Tintina Black Butte Copper Project Area of Meagher County, MT. Tintina Resources Inc. White Sulphur Springs, Montana. December 2017.
- _____. 2017c. Final Aquatic Biological Monitoring Plan for the Black Butte Copper Project in the Sheep Creek Basin in Meagher County, MT. Tintina Resources Inc. White Sulphur Springs, Montana.
- _____. 2017d. Baseline Macroinvertebrate Monitoring Report 2016 for the Smith River, Meagher and Cascade Counties, Montana. Upper Missouri Watershed Alliance (UMOWA). Wolf Creek, Montana.
- _____. 2017e. Draft Plan of Study: Aquatic Monitoring Plan in Upper Sheep Creek Basin in Meagher County, Montana. June 2017. Appendix G-1 of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2018. Baseline Aquatic Surveys and Assessment Summary 2014–2017 of Streams in the Tintina Black Butte Copper Project Area of Meagher County, Montana. Tintina Resources Inc. White Sulphur Springs, Montana. January 2018.
- _____. 2019. Aquatic Monitoring Plan and Assessment Summary for Streams in the Tintina Black Butte Copper Project Area of Meagher County, MT 2014-2018. Prepared for Tintina Montana, Inc., White Sulphur Springs, Montana. Montana Biological Survey, Helena, Montana. April 2019.

- Sun, Changshou. 2013. *Damage Zone Prediction for Rock Blasting*. A dissertation submitted to the faculty of The University of Utah, Department of Mining Engineering. December.
- Tintina (Tintina Montana, Inc.). 2017a. Mine Operating Permit Application. Black Butte Copper Project, Meagher County, MT. Revision 3. July 14, 2017. Accessed: January 7, 2018. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>
- _____. 2017c. Mine Operating Permit Application. Black Butte Copper Project, Meagher County, Montana. Revision 2. May 8, 2017. Accessed: October 8, 2019. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>
- _____. 2018b. Update to Mine Operating Permit Application for the Black Butte Copper Project. Memorandum sent to Montana Department of Environmental Quality, Hard Rock Mining Bureau, Operating Permit Section, October 26.
- _____. 2019. Response to Comments. MPDES Permit MT0031909. Sent by email from Montana DEQ to ERM on December 16, 2019.
- Tintina (Tintina Resources Inc.). 2017b. Emergency Response Plan. April 24, 2017. Appendix P of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- _____. 2018a. Update to Proposed Treated Water Disposal for the Black Butte Copper Project. Memorandum sent to Montana Department of Environmental Quality, Hard Rock Mining Bureau, Operating Permit Section, January 11.
- Udd, J.E. 1989. "Backfill research in Canadian Mines." Included in *Innovations in Mining Backfill Technology*. Proceedings of the 4th International Symposium on Mining with Backfill, Montreal, Canada, October 2-5, 1989.
- USACE. 2017. Department of the Army. Permit NWO-2013-01385-MTH. Omaha District USACE. November 27, 2017.
- USDA (U.S. Department of Agriculture), Forest Service. 2017. Email information. Mark Archaeologist & Heritage Program Manager, personal communication with James Strait, Montana Department of Environmental Quality, and Lynn Peterson, Tetra Tech. January 11, 2017.
- USEPA (U.S. Environmental Protection Agency). 2010. NPDES Permit Writers' Manual. Office of Wastewater Management, Water Permits Division, State and Regional Branch. EPA-833-K-10-001. September. Accessed: October 2019. Retrieved from: <https://www.epa.gov/npdes/npdes-permit-writers-manual>.
- _____. 2011. Ore Mining and Dressing Preliminary Study Report. EPA-820-R-10-025. September. Accessed: October 2019. Retrieved from: https://www.epa.gov/sites/production/files/2016-05/documents/ore_mining_study_sept_2011.pdf.

- WESTECH (WESTECH Environmental Services, Inc.). 2016. Noxious Weed Management Plan. March. Appendix O of the Mine Operating Permit Application, Black Butte Copper Project, Meagher County, Montana. Retrieved from: <http://deq.mt.gov/Land/hardrock/tintinamines>.
- Williams, G.P. 1963. "Heat transfer coefficients for natural water surfaces." *International Association of Scientific Hydrology*, Issue 62. November. National Research Council Canada, Division of Building Research.
- Zieg, J. 2017. Black Butte Copper project, Sheep Creek mineral interest. Letter from Tintina Resources Inc. to Montana Department of Environmental Quality. January 23.
- _____. 2019a. Data to support responses to thermal impacts to water in the NCWR and TWSP for the Black Butte Copper Project. Technical Memorandum. July 11.
- _____. 2019b. Data to support responses to thermal impacts to water from the TWSP for the Black Butte Copper Project. Technical Memorandum. August 1.
- _____. 2019c. Email information. Sandfire Senior Vice President Exploration personal communication with Craig Jones, DEQ Project Manager. September 26, 2019.
- _____. 2019d. Revision: Data to support responses to thermal impacts to water in the NCWR for the Black Butte Copper Project. Technical Memorandum. July 25.
- Zieg, J., T. Johnson, L. Schultz, and L. Kirk. 2018. Black Butte Copper Project Water Quality Model of Agency Modified Closure Alternative. Technical Memorandum. October 16.