Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
South Africa	Bafokeng	1974	Platinum	3 millions m^3 of tailings	Liquefaction, caused by failure by infiltration and piping through cracks; Heavy rain	12 deaths	The slurry reached river Kwa-Leragane (it was dry), until the river Elades, tailings flow 45 km downstream	G.E. Blight, Destructive mudflows as a consequence of tailing dyke failures, Proc. Inst. Civ. Eng. Geotech. Eng. 125 (1997) 9–18.; M. Davies, T. Martin, P. Lighthall, Mine Tailings Dams : When Things Go Wrong, Assoc. State Dam Saf. Off. US Comm. Large Dams. (2000) 261–273.
South Africa	Harmony mine, Merriespruit	1994	Gold	600,000 m^3 of tailings and 90.000 m^3 of water	Liquefaction, dam wall breach following heavy rain and instability; lack of maintenance	17 deaths, houses destroied; tailings reached 2,5m of height in houses	Tailings stopped when reached an ornamental lake, 2km of the dam, covered cobriu 500.000 m^2	M.P. Davies, Tailings Impoundment Failures : Are Geotechnical Engineers Listening ?, Geotech. News. (2002) 31–36.; A. Kumah, Sustainability and gold mining in the developing world, J. Clean. Prod. 14 (2006) 315–323. doi:10.1016/j.jclepro.2004.08.007.; A.B. Fourie, G.E. Blight, G. Papageorgiou, Static liquefaction as a possible explanation for the Merriespruit tailings dam failure, Can. Geotech. J. 38 (2001) 707–719. doi:10.1016/j.soildyn.2005.02.011.; D. Kossoff, W.E. Dubbin, M. Alfredsson, S.J. Edwards, M.G. Macklin, K.A. Hudson-Edwards, Mine tailings dams: Characteristics, failure, environmental impacts, and remediation, Appl. Geochemistry. 51 (2014) 229–245. doi:10.1016/j.apgeochem.2014.09.010.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Zambia	Mufulira	1970	Copper	1 million tons	Liquefaction of tailings, flowing into underground workings	89 miners killed	Not reported	M. Davies, T. Martin, P. Lighthall, Mine Tailings Dams : When Things Go Wrong, Assoc. State Dam Saf. Off. US Comm. Large Dams. (2000) 261–273.
Zambia	Konkola Copper Mines Plc (KCM); Nchanga, Chingola	2006	Copper	Unknown	Failure of tailings slurry pipeline	Drinking water supply of downstream communities shut down	Release of highly acidic tailings into Kafue river; high concentrations of copper, manganese, cobalt in river water;	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
Zimbabue	Arctutus	1978	Gold	39,000 m^3 of tailings	Heavy Rain	1 death	Waterborne sedimentation	M. Rico, G. Benito, A. Díez-Herrero, Floods from tailings dam failures, J. Hazard. Mater. 154 (2008) 79–87. doi:10.1016/j.jhazmat.2007.09.110.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
Canada	Sullivan mine, Kimberley, British Columbia	1948	Lead and Zinc	1,100,000 m^3 of tailings	Liquefaction of the dam due to instability	Not reported	Another dam stopped the flood, avoiding further impacts outside the region	M.P. Davies, Tailings Impoundment Failures : Are Geotechnical Engineers Listening ?, Geotech. News. (2002) 31–36.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Canada	Sullivan mine, Kimberley, British Columbia	1991	Lead and Zinc	75000 m^3 of tailings	Dam failure (liquefaction in old tailings foundation during construction of incremental raise)	0 deaths	0 impacts - the slided material was contained in an adjacent pond	M.P. Davies, P.C. Lighthall, S. Rice, T.E. Martin, Design of Tailings Dams and Impoundments, Keynote Address Tailings Mine Waste Pract. SME,. (2002) 1–18.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
Canada	Pinchi Lake, British Columbia (Teck cominco ltd.)	2004	Mercury	6000 - 8000 m^3 of rock, dirty and waste water	Tailings dam (100-metres long and 12-metres high) collapses during reclamation work	Not reported	Tailings spilled into 5,500 ha Pinchi Lake	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
Canada	Former Gullbridge mine site, Newfoundland	2012	Copper	Not reported	Embankment dam failure	Non-consumption water advisory has been issued for the Town of South Brook	Not reported	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Canada	Sherritt International, Obed Mountain Coal Mine, northeast of Hinton, Alberta	2013	Coal	Spill of 670,000 m^3 of coal wastewater and 90,000 tonnes of muddy sediment	Breach of wall in containment pond	Not reported	Plume of slurry containing fine coal particles, clay and heavy metals into the Apetowun und Plate creeks and eventually the Athabasca River	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
Canada	Mount Polley, British Columbia	2014	Gold and copper	7.3 million m^3 of tailings, 10.6 million m^3 of water, and 6.5 million m^3 of interstitial water	Construction site (lacustrine glacial clay soil), very steep dam; Tailings dam failure due to foundation failure	0 deaths	Tailings flowing into adjacent Polley Lake and, through Hazeltine Creek, into Quesnel Lake (Mitchell Bay), affected the salmon population	J.A. Caldwell, C. Oboni, Tailings Facility Failures in 2014 and an Update on Failure Statistics, Tailings Mine Waste 2015. (2014).; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
Mexico	Dos Estrellas	1937	Gold	6.65 m^3 (16Mt)	Slope instability	70 deaths, flooded church El Carmen and some houses	Flood reached 2,5 km	M.P. Davies, P.C. Lighthall, S. Rice, T.E. Martin, Design of Tailings Dams and Impoundments, Keynote Address Tailings Mine Waste Pract. SME,. (2002) 1–18.; J.L. Macías, P. Corona-Chávez, J.M. Sanchéz-Núñez, M. Martínez-Medina, V.H. Garduño-Monroy, L. Capra, F. García-Tenorio, G. Cisneros-Máximo, The 27 May 1937 catastrophic flow failure of gold tailings at Tlalpujahua, Michoacán, Mexico, Nat. Hazards Earth Syst. Sci. 15 (2015) 1069–1085. doi:10.5194/nhess-15-1069-2015.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Mexico	Buenavista del Cobre mine, Cananea, Sonora	2014	Copper	40.000 m³ de rejeitos	Tailings dam failure	Directly affecting 800,000 people	Flow into the 420km-long Bacanuchi river waterway, a tributary of the Sonora River	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
USA	Kennecott copper mine/ Bingham Canyon mine, Utah	1942	Copper	Not reported	Structure failure	Not reported	Not reported	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
USA	Gypsium tailings dam, East Texas	1966	Gypsum	76,000 - 130,000 m³ of gypsum	Tailings dam failure	0 deaths	Flow slide traveled 300 meters	M. Rico, G. Benito, A. Díez-Herrero, Floods from tailings dam failures, J. Hazard. Mater. 154 (2008) 79–87. doi:10.1016/j.jhazmat.2007.09.110.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
USA	Fort Meade, Flórida (Mobil Chemical)	1967	Phosphate	250,000 m³ of phosphatic clay slimes, 1.8 million m³ of water	Unknown	Not reported	Spill reaches Peace River, fish kill reported	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
USA	Cities service, Fort Mead, Flórida	1971	Phosphate	9 million m³ of clay water	Clay pond dam failure, cause unknown	Not reported	Tailings traveled 120 km downstream with Peace River, large fish kills	M. Rico, G. Benito, A. Díez-Herrero, Floods from tailings dam failures, J. Hazard. Mater. 154 (2008) 79–87. doi:10.1016/j.jhazmat.2007.09.110.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
USA	Buffalo Creek Valley, West Virginia	1972	Coal	17,6 milhões m³ de rejeitos; 500.000 m³	Collapse of tailings dam after heavy rain	118 deaths; 125 deaths, 500 homes were destroyed. Property and highway damage exceeded $65 million.	The tailings traveled 27 km downstream	J.H. Saleh, A.M. Cummings, Safety in the mining industry and the unfinished legacy of mining accidents: Safety levers and defense-in-depth for addressing mining hazards, Saf. Sci. 49 (2011) 764–777. doi:10.1016/j.ssci.2011.02.017.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
USA	Deneen Mica Yancey County, North Carolina	1974	Mica	38,000 m³	Dam failure after heavy rain	Not reported	Tailings traveled 30 m, released to an adjacent river	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
USA	Galena mine, Idaho	1974	Silver, copper, lead and zinc	3,800 m³	Overtopping	Not reported	Tailings traveled 610 m	M. Rico, G. Benito, A. Díez-Herrero, Floods from tailings dam failures, J. Hazard. Mater. 154 (2008) 79–87. doi:10.1016/j.jhazmat.2007.09.110.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Tailings.info, Tailings Related Accidents - Failures, Breaches and Mudflows, (n.d.). http://www.tailings.info/knowledge/accidents.htm (accessed July 24, 2017).

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
USA	Silver King, Idaho	1974	Silver	6,000 m³	Overtopping	Not reported	Not reported	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Tailings.info, Tailings Related Accidents - Failures, Breaches and Mudflows, (n.d.). http://www.tailings.info/knowledge/accidents.htm (accessed July 24, 2017).
USA	Mike Horse, Montana	1975	Lead and Zinc	150,000m³	Heavy Rain	Not reported	Unknown	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
USA	Silverton, Colorado	1975	Silver	116,000 tonnes	Dam failure	Severe property damage; no injuries	Tailings flow slide polluted nearly 100 miles (160 km) of the Animas river and its tributaries	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
USA	Homestake Mining Company; Homestake, Milan, New Mexic	1977	Uranium	30,000 m³	Dam failure, due to rupture of plugged slurry pipeline	No impacts outside the mine site	No impacts outside the mine site	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
USA	Churchrock, New Mexico	1979	Uranium	370,000 m³ of radioactive water, 1,000 tonnes of contaminated sediment	Unknown	Unknown	Contamination of Rio Puerco sediments up to 110 km downstream	M. Rico, G. Benito, A. Díez-Herrero, Floods from tailings dam failures, J. Hazard. Mater. 154 (2008) 79–87. doi:10.1016/j.jhazmat.2007.09.110.; D. Kossoff, W.E. Dubbin, M. Alfredsson, S.J. Edwards, M.G. Macklin, K.A. Hudson-Edwards, Mine tailings dams: Characteristics, failure, environmental impacts, and remediation, Appl. Geochemistry. 51 (2014) 229–245. doi:10.1016/j.apgeochem.2014.09.010.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
USA	Phelps -Dodge, New Mexico	1980	Copper	2 million m³	Dam wall breach, due to rapid increase in dam wall height, causing high internal pore pressure	Inundate farmland	Tailings flow 8 km downstream	M. Rico, G. Benito, A. Díez-Herrero, Floods from tailings dam failures, J. Hazard. Mater. 154 (2008) 79–87. doi:10.1016/j.jhazmat.2007.09.110.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
USA	Ages, Harlan County, Kentucky	1981	Coal	96,000 m³ coal refuse slurry	Heavy Rain	1 person was killed, 3 homes destroyed, 30 homes damaged	The slurry wave traveled the Left Fork of Ages Creek 1.3 km downstream, fish kill in Clover Fork of the Cumberland River	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
USA	Olinghouse, Nevada	1985	Gold	25,000 m³	Embankment collapse from saturation	Not reported	Tailings flow 1.5 km downstream	M. Rico, G. Benito, A. Díez-Herrero, Floods from tailings dam failures, J. Hazard. Mater. 154 (2008) 79–87. doi:10.1016/j.jhazmat.2007.09.110.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
USA	Montcoal n.7, Raleigh County, West Virginia	1987	Coal	87,000 m³ of water and slurry	Dam failure after spillway pipe breach	Not reported	Tailings flow 80 km downstream	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
USA	Gardinier, Riverview, Flórida	1988	Phosphate	Acidic spill	Unknown	Not reported	Thousands of fish killed at mouth of Alafia River	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
USA	TN Consolidated Coal No.1, Tennessee	1988	Coal	250,000 m³	Dam wall failure from internal erosion, caused from failure of an abandoned outlet pipe	Not reported	Not reported	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
USA	Cyprus Thompson Creek, Idaho	1989	Molybdenum	27 million m³	Seepage	Not reported	Not reported	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
USA	Silver King, Idaho	1989	Silver	Small amount released (not quantified)	Overtopping	Not reported	Not reported	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
USA	Southern Clay, Tennessee	1989	Clay	300 m^3	Seepage	Not reported	Not reported	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
USA	Stancil, Maryland	1989	Sand and gravel	38,000 m^3	Dam failure during capping of the tailings after heavy rain	Not reported	Tailings flowside covered 5000 m^2	M. Rico, G. Benito, A. Díez-Herrero, Floods from tailings dam failures, J. Hazard. Mater. 154 (2008) 79–87. doi:10.1016/j.jhazmat.2007.09.110.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
USA	Cargill, Gibsonton, Florida	1993	Phosphate	Unknown	Unknown	Not reported	Fish killed when acidic water spilled into Archie Creek	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
USA	Cargill; Fort Meade, Florida	1994	Phosphate	76,000$m^3$of water	Unknown	Not reported	Spill into Peace River near Fort Meade	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
USA	Hopewell Mine, Hillsborough County, Florida	1994	Phosphate	Nearly 1.9 million m³ of water from a clay settling pond	Dam failure	Keysville flooded	Spill into nearby wetlands and the Alafia River	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
USA	IMC-Agrico, Florida	1994	Phosphate	Unknown	Sinkhole opens in phosphogypsum stake	Not reported	Release of gympsum and water into groundwater	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
USA	Payne Creek Mine, Polk County, Florida	1994	Phosphate	6.8 million m³ of water from a clay settling pond	Dam failure	Not reported	Majority of spill contained on adjacent mining area; 500,000 m³ released into Hickey Branch, a tributary of Payne Creek	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
USA	Tapo Canyon, California	1994	Sand	Not reported	Earthquake	Loss of a water treatment plant downstream of the dam	There was a fault that ran through two different streams reaching 60 and 90 m downstream	L.F.J. Harder, J.P. Stewart, Failure of Tapo Canyon tailings dam, J. Perform. Constr. Facil. 10 (1996) 109–114. http://dx.doi.org/10.1061/(ASCE)0887-3828(1996)10:3(109).; M. Rico, G. Benito, A. Díez-Herrero, Floods from tailings dam failures, J. Hazard. Mater. 154 (2008) 79–87. doi:10.1016/j.jhazmat.2007.09.110.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
USA	Golden Cross, New Zealand Coeur d'Alène; Idaho	1996	Gold	Not reported	Dam movement of dam containing 3 million tonnes of tailings	Nil	Nil	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
USA	BHP copper, Pinto Valley, Arizona	1997	Copper	230,000 m^3 of tailings and mine rock	Tailings dam slope failure	Not reported	Tailings flow covers 16 hectares	M. Davies, E. McRoberts, T. Martin, Static liquefaction of tailings–fundamentals and case histories, Proc. Tailings Dams 2002. (2002). http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.561.3723.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
USA	Mulberry Phosphates, Inc.; Mulberry Phosphate, Polk County, Florida	1997	Phosphate	200,000 m^3	Phosphogypsum stack failure	Not reported	Biota in the Alafia River eliminated	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
USA	Inez, Martin County, Kentucky	2000	Coal	250 million gallons (950,000 m^3) of coal waste slurry released into local streams	Tailings dam failure from collapse of an underground mine beneath the slurry impoundment	Towns along the Tug were forced to turn off their drinking water intakes	About 75 miles (120 km) of rivers and streams turned an irridescent black, causing a fish kill along the Tug Fork of the Big Sandy River and some of its tributaries	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
USA	Riverview, Flórida (Cargill crop nutrition)	2004	Phosphate	60 million gallons (227,000 m³) of acidic liquid	A dike at the top of a 100-foot-high gypsum stack holding 150-million gallons of polluted water broke after waves driven by Hurricane Frances bashed the dike's southwest corner	Not reported	Liquid spilled into Archie Creek that leads to Hillsborough Bay	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
USA	Mississippi Phosphates Corp.; Bangs Lake, Jackson County, Mississippi	2005	Phosphate	Approx. 17 million gallons of acidic liquid (64,350 m³)	Phosphogypsum stack failure, because the company was trying to increase the capacity of the pond at a faster rate than normal, according to Officials with the Mississippi Department of Environmental Quality (the company has blamed the spill on unusually heavy rainfall, though)	Not reported	Liquid poured into adjacent marsh lands, causing vegetation to die	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
USA	Kingston fossil plant, Harriman, Tennessee	2008	Coal ash and Hg	Release of 5.4 million cubic yards (4.1 million m^3) of ashy slurry	Retention wall failure	It damaged 12 homes, and one person had to be rescued, though no one was seriously hurt.	The ash slide covered 400 acres (1.6 km^2) as deep as 6 feet (1.83 metres). The wave of ash and mud toppled power lines, covered Swan Pond Road and ruptured a gas line	L. Ruhl, A. Vengosh, G.S. Dwyer, H. Hsu-Kim, A. Deonarine, M. Bergin, J. Kravchenko, Survey of the potential environmental and health impacts in the immediate aftermath of the coal ash spill in Kingston, Tennessee, Environ. Sci. Technol. 43 (2009) 6326–6333. doi:10.1021/es900714p.; D. Kossoff, W.E. Dubbin, M. Alfredsson, S.J. Edwards, M.G. Macklin, K.A. Hudson-Edwards, Mine tailings dams: Characteristics, failure, environmental impacts, and remediation, Appl. Geochemistry. 51 (2014) 229–245. doi:10.1016/j.apgeochem.2014.09.010.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
USA	Eden, North Carolina	2014	Coal ash	about 82,000 short tons (74,400 t) of toxic coal ash and 27 million gallons (100,000 m^3) of contaminated water	Collapse of an old drainage pipe under a 27-acre ash waste pond	0 deaths	Ash flowing through drainage pipe into Dan River	J.A. Caldwell, C. Oboni, Tailings Facility Failures in 2014 and an Update on Failure Statistics, Tailings Mine Waste 2015. (2014).
USA	Mosaic co.; New Wales Plant, Mulberry, Polk County, Florida	2016	Phosphate	840,000 m^3 of contaminated liquid released	A 14 metre-wide sinkhole appeared in a phosphogypsum stack, opening a pathway for contamined liquid into the underground	The liquid reached the Floridan Aquifer, a major drinking water resource	Floridan aquifer contaminated	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
Bolivia	San Ildfonso, Potosí	1626	Sulfide, silver and mercury	Unknown	Unknown	4000 deaths	High concentration of Hg was released on the Pilcomayo River and is present in the lowlands of the region currently	D. Kossoff, W.E. Dubbin, M. Alfredsson, S.J. Edwards, M.G. Macklin, K.A. Hudson-Edwards, Mine tailings dams: Characteristics, failure, environmental impacts, and remediation, Appl. Geochemistry. 51 (2014) 229–245. doi:10.1016/j.apgeochem.2014.09.010.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Bolivia	El Porco	1996	Zinc, lead and silver	235,000 m³ of tailings; 400,000 m³ of sulphide	Heavy Rain	Indigenous population (from Bolivia, Argentina and Paraguay) impaired by the contamination of the Pilcomayo River; Possibly 3 children	There was contamination of the Pilcomayo River and its Affluent Pilaya. After the accident the concentration levels of Pb were of 2500 ml/L near the dam and the concentration was decreasing until reaching 500 ml/L to 50 km of the dam. The contamination was felt up to 500 km along the river with high fish mortality	M.G. Macklin, P.A. Brewer, K.A. Hudson-Edwards, G. Bird, T.J. Coulthard, I.A. Dennis, P.J. Lechler, J.R. Miller, J.N. Turner, A geomorphological approach to the management of rivers contaminated by metal mining, Geomorphology. 79 (2006) 423–447. doi:10.1016/j.geomorph.2006.06.024.; D. Kossoff, W.E. Dubbin, M. Alfredsson, S.J. Edwards, M.G. Macklin, K.A. Hudson-Edwards, Mine tailings dams: Characteristics, failure, environmental impacts, and remediation, Appl. Geochemistry. 51 (2014) 229–245. doi:10.1016/j.apgeochem.2014.09.010.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
Brazil	Itabirito, MG	1986	Iron	100,000 m³	Dam wall burst	7 deaths	Tailings flow 12 km downstream	M. Rico, G. Benito, A. Díez-Herrero, Floods from tailings dam failures, J. Hazard. Mater. 154 (2008) 79–87. doi:10.1016/j.jhazmat.2007.09.110.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Brazil	Mine Serra Grande, Crixas, Góias	1994	Gold	None	Increased water level caused by the inefficiency of installed drains and filters and the heavy rains that occurred in that year	0	Release "controlled" by the mining company of tailings in the red river, contaminating it	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
Brazil	Nova Lima, Sebastião das águas claras,Minas Gerais , Macacos' dam	2001	Iron	600,000 m³	Not Reported	5 victims	Tailings traveled 8 km downstream from Taquaras Stream. Slurry affected an area of 30 hectares. The tailings leakage caused the siltation of 6.4 km and contamination of the waters of the Taquara stream, destroyed about 80 hectares of Atlantic Forest and caused the rupture of a water pipe of COPASA	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).; R.P. et al Tonidandel, Gestão de barragens de mineração no estado de minas gerais, Águas Subterrâneas. (2008) 1–11. https://aguassubterraneas.abas.org/asubterraneas/article/view/21994.
Brazil	Miraí, dam of the river Pomba/Cataguases	2006	Bauxite and iron	Not reported	Pipe Breaking	Tailings reached 3 Fluminense municipalities; City of Laje do Muriaé stayed three days without catching water	Contamination of Miraí river streams. Death of fish due to lack of oxygen; slurry traveled 140 km	R. Antunes, R. Brum, R. Oliveira, Zona da mata ainda se recupera de rompimento de barragem há 9 anos, G1 - Globo Notícias. (2015). http://g1.globo.com/mg/zona-da-mata/noticia/2015/11/zona-da-mata-ainda-se-recupera-de-rompimento-de-barragem-ha-9-anos.html.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Brazil	Miraí, dam of the river Pomba/Cataguases	2007	Bauxite and iron	2 million m³	Mining company declared that it was the high concentration of rains in a short period of time	4 thousand people displaced and 1,200 houses affected, and interruption in water supply	Impact on the Fubá stream, the Bom Jardim stream, and the Muriaé river, also a tributary of Paraíba do Sul, and flooding the municipalities of Miraí and Muriaé, causing fish mortalities	Rompimento de barragem deixa 30% de cidade desalojada, G1 - Globo Notícias. (2007). http://g1.globo.com/Noticias/Brasil/0,,AA1417258-5598,00.htm
Brazil	Itabirito, Mina Herulano, MG	2014	Iron	Unknown	According to the investigations, the miner continued to dispose of tailings in a mine that was already deactivated (maximum stocking in 2010), as the dam that was being built presented a problem in 2014. According to the technical report of the expert report, prepared by the Institute Of Criminalistics, the reason for the disruption was water saturation	2 workers dead and 1 missing. Left 300 homes without energy and water	Contamination of streams in the Rio das Velhas basin and contamination of Ribeirão do Silva (tributary of the Itabirito river)	J.A. Caldwell, C. Oboni, Tailings Facility Failures in 2014 and an Update on Failure Statistics, Tailings Mine Waste 2015. (2014).; Rompimento de barragem de rejeitos de mineração de ferro em Itabirito (MG) provoca mortes, Veja. (2016) 3. http://verbetes.cetem.gov.br/verbetes/ExibeVerbete.aspx?verid=209.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Brazil	Samarco, Mariana , MG	2015	Iron	32 million m^3	Earthquake	158 houses destroyed, 17 dead, 2 missing, lack of clean water for the population of the region	50-60 million m^3 of mud on the Gualaxo do Norte river; 15 km^2 were flooded (Gualaxo do Norte, Carmo and Doce rivers)	J. Jacobi, Pedro Roberto e Cibim, The Necessary Understanding of the Enhanced Consequences of a Disaster, Ambient. E Soc. XVIII (2015). http://www.scielo.br/scielo.php?pid=S1414-753X2015000400001&script=sci_arttext&tlng=en.; H. Agurto-Detzel, M. Bianchi, M. Assumpção, M. Schimmel, B. Collaço, C. Ciardelli, J.R. Barbosa, J. Calhau, The tailings dam failure of 5 November 2015 in SE Brazil and its preceding seismic sequence, Geophys. Res. Lett. 43 (2016) 4929–4936. doi:10.1002/2016GL069257.;M. Marta-Almeida, R. Mendes, F.N. Amorim, M. Cirano, J.M. Dias, Fundão Dam collapse: Oceanic dispersion of River Doce after the greatest Brazilian environmental accident, Mar. Pollut. Bull. (2016). doi:10.1016/j.marpolbul.2016.07.039.; F.R. Segura, E.A. Nunes, F.P. Paniz, A.C.C. Paulelli, G.B. Rodrigues, G.Ú.L. Braga, W. dos Reis Pedreira Filho, F. Barbosa, G. Cerchiaro, F.F. Silva, B.L. Batista, Potential risks of the residue from Samarco's mine dam burst (Bento Rodrigues, Brazil), Environ. Pollut. (2016) 1–13. doi:10.1016/j.envpol.2016.08.005.
Chile	Sewell, VI region, Rancagua	1915	Not reported	180,000 m^3	Heavy Rain	Not reported	Not reported	G. Villavicencio, R. Espinace, J. Palma, A. Fourie, P. Valenzuela, Failures of sand tailings dams in a highly seismic country, Can. Geotech. J. 51 (2014) 449–464. doi:10.1139/cgj-2013-0142.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Chile	Barahona	1928	Copper	2,800,000 m³. The dam covered an area of 91 Ha, with 27 million tons of tailings.	Earthquake	54 dead. Destruction of buildings, several bridges, part of the railroad	4 million tons of tailings to flow on the Barahona river	M.P. Davies, P.C. Lighthall, S. Rice, T.E. Martin, Design of Tailings Dams and Impoundments, Keynote Address Tailings Mine Waste Pract. SME,. (2002) 1–18.; G. Villavicencio, R. Espinace, J. Palma, A. Fourie, P. Valenzuela, Failures of sand tailings dams in a highly seismic country, Can. Geotech. J. 51 (2014) 449–464. doi:10.1139/cgj-2013-0142.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Chile	El cobre, V region, Valparaíso	1965	Copper	21,000 m³ (Los Maquis), 35,000 m³ (La Patagua), 1.9 million m³ (old El Copper), 350,000 m³ (New El Copper), 85,000 m³ (Cerro Negro) and 70,000 m³ (Bellavista)	Earthquake (1 earthquake took down 17 dams)	El Copper (both of them): destroyed the city of El Copper and killed 200 people; More than 300 dead (Davies)	La Patagua, Los Maquis and Cerro Negro: tailings covered 5 km in the river; El Copper (both of them): tailings reached 12 km in the river; Bellavista: tailings traveled 800 m in the river	T. Rudolph, W.G. Coldewey, Implications of Earthquakes on the Stability of Tailings Dams, (1995) 6–8. http://www.imwa.de/docs/imwa_2008/IMWA2008_025_Rudolph.pdf.; S. Okusa, S. Anma, Slope failures and tailings dam damage in the 1978 Izu-Ohshima-Kinkai earthquake, Eng. Geol. 16 (1980) 195–224. doi:10.1016/0013-7952(80)90016-2.; JJ.K. Jeyapalan, J.M. Duncan, H.B. Seed, Investigation of Flow Failures of Tailings Dams, J. Geotech. Eng. 109 (1983) 172–189. doi:10.1061/(ASCE)0733-9410(1983)109:2(172).; M. Rico, G. Benito, A. Díez-Herrero, Floods from tailings dam failures, J. Hazard. Mater. 154 (2008) 79–87. doi:10.1016/j.jhazmat.2007.09.110.; G. Villavicencio, R. Espinace, J. Palma, A. Fourie, P. Valenzuela, Failures of sand tailings dams in a highly seismic country, Can. Geotech. J. 51 (2014) 449–464. doi:10.1139/cgj-2013-0142.; D. Kossoff, W.E. Dubbin, M. Alfredsson, S.J. Edwards, M.G. Macklin, K.A. Hudson-Edwards, Mine tailings dams: Characteristics, failure, environmental impacts, and remediation, Appl. Geochemistry. 51 (2014) 229–245. doi:10.1016/j.apgeochem.2014.09.010.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Chile	V region, Valparaíso	1981	Copper	Not reported	Earthquake	Not reported	Not reported	G. Villavicencio, R. Espinace, J. Palma, A. Fourie, P. Valenzuela, Failures of sand tailings dams in a highly seismic country, Can. Geotech. J. 51 (2014) 449–464. doi:10.1139/cgj-2013-0142.
Chile	IV region, Vallenar	1983	Copper	Not reported	Heavy Rain	Not reported	Not reported	G. Villavicencio, R. Espinace, J. Palma, A. Fourie, P. Valenzuela, Failures of sand tailings dams in a highly seismic country, Can. Geotech. J. 51 (2014) 449–464. doi:10.1139/cgj-2013-0142.
Chile	Cerro negro, V region, Valparaíso	1985	Copper	500,000 m^3 (Cerro negro) of tailings; 280,000 m^3 (veta del água)	Earthquake	Not reported	Tailings reached 8 km (Cerro Negro); Tailings reached 5 km (veta del água)	M. Rico, G. Benito, A. Díez-Herrero, Floods from tailings dam failures, J. Hazard. Mater. 154 (2008) 79–87. doi:10.1016/j.jhazmat.2007.09.110.; G. Villavicencio, R. Espinace, J. Palma, A. Fourie, P. Valenzuela, Failures of sand tailings dams in a highly seismic country, Can. Geotech. J. 51 (2014) 449–464. doi:10.1139/cgj-2013-0142.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
Chile	IV region, Vallenar	1997	Copper	Not reported	Earthquake	It dragged light poles and crossed a highway, covering it with 10 m of depth.	It reached 150 m downstream	G. Villavicencio, R. Espinace, J. Palma, A. Fourie, P. Valenzuela, Failures of sand tailings dams in a highly seismic country, Can. Geotech. J. 51 (2014) 449–464. doi:10.1139/cgj-2013-0142.
Chile	El cobre, V region, Valparaíso	2002	Copper	Not reported	Heavy rain (overtopping)	Not reported	Not reported	G. Villavicencio, R. Espinace, J. Palma, A. Fourie, P. Valenzuela, Failures of sand tailings dams in a highly seismic country, Can. Geotech. J. 51 (2014) 449–464. doi:10.1139/cgj-2013-0142.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Chile	El cobre, V region, Valparaíso (parts 2,3,4 e 5)	2002	Copper	8,000m³	Heavy rain (overtopping)	Not reported	Tailings reached 20 km on the river La Ligua	G. Villavicencio, R. Espinace, J. Palma, A. Fourie, P. Valenzuela, Failures of sand tailings dams in a highly seismic country, Can. Geotech. J. 51 (2014) 449–464. doi:10.1139/cgj-2013-0142.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
Chile	Cerro Negro	2003	Copper	80,000m³	Erosion	Not reported	Tailings led to an increase in nitrate concentration (170 mg/L) in the Tauran channel for weeks	G. Villavicencio, R. Espinace, J. Palma, A. Fourie, P. Valenzuela, Failures of sand tailings dams in a highly seismic country, Can. Geotech. J. 51 (2014) 449–464. doi:10.1139/cgj-2013-0142.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
Chile	Alhué	2010	Copper	Not reported	Earthquake	Not reported	Not reported	G. Villavicencio, R. Espinace, J. Palma, A. Fourie, P. Valenzuela, Failures of sand tailings dams in a highly seismic country, Can. Geotech. J. 51 (2014) 449–464. doi:10.1139/cgj-2013-0142.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Chile	V region	2010	Copper	80,000m³	Earthquake	Not reported	Tailings reached 100 m; 500 m	G. Villavicencio, R. Espinace, J. Palma, A. Fourie, P. Valenzuela, Failures of sand tailings dams in a highly seismic country, Can. Geotech. J. 51 (2014) 449–464. doi:10.1139/cgj-2013-0142.
Guyana	Omai	1995	Gold	4,2 million m³ of cyanide slurry	Internal erosion of the dam; Problems in construction (Davies)	$ 15 million of direct losses	80 km of the Essequibo River declared as an environmental disaster zone.Documented 346 fish were killed in the surveys on the Omai River	S.G. Vick, Failure of the Omai tailings dam, Geotech. News. 15 (1996) 34–39. https://file.ejatlas.org/docs/omai-gold-mine-tailings-dam-guyana/Failure_of_the_Omai_Tailings_Dam.pdf.; M.P. Davies, Tailings Impoundment Failures : Are Geotechnical Engineers Listening ?, Geotech. News. (2002) 31–36.; A. Kumah, Sustainability and gold mining in the developing world, J. Clean. Prod. 14 (2006) 315–323. doi:10.1016/j.jclepro.2004.08.007.; M. Rico, G. Benito, A. Díez-Herrero, Floods from tailings dam failures, J. Hazard. Mater. 154 (2008) 79–87. doi:10.1016/j.jhazmat.2007.09.110.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
Peru	Chungar	1971	Limestone	Not reported	Earthquake, causing landslide and leading to rupture of the dam	Only 25 miners survived	Not reported	T. Rudolph, W.G. Coldewey, Implications of Earthquakes on the Stability of Tailings Dams, (1995) 6–8. http://www.imwa.de/docs/imwa_2008/IMWA2008_025_Rudolph.pdf.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Peru	Marsa	1993	Gold	Not reported	Breaking of the dam (Overflowed)	6 deaths	Not reported	M. Davies, T. Martin, P. Lighthall, Mine Tailings Dams : When Things Go Wrong, Assoc. State Dam Saf. Off. US Comm. Large Dams. (2000) 261–273.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
Peru	Amatita, NazcaPeru	1996	Not reported	300,000 m³	Liquefaction failure of upstream-type tailings dam during earthquake	Contaminação de terras de agricultura	Flow runout of about 600 meters, spill into river, croplands contaminated	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
Peru	Unidad Minera Caudalosa Chica, Huancavelica	2010	Iron	21,420 m³	Tailings dam failure	Not reported	Contamination of río Escalera and río Opamayo 110 km downstream	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
China	Yunnan province	1962	Tin	3,30 million m³ of tailings and 0,38 million m³of water	Rupture after heavy rains	Destruction of 11 villages; 171 deaths and 92 wounded; 13,970 homeless	Material was transported up to a distance of 4.5 km beyond the dam	Z. Wei, G. Yin, J.G. Wang, L. Wan, G. Li, Design, construction and management of tailings storage facilities for surface disposal in China: case studies of failures, Waste Manag. Res. 31 (2013) 106–112. doi:10.1177/0734242X12462281.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
China	Hunan province	1985	Copper	0,73 million m³	Storm triggered mud flows and debris around the mine, down the mountain and into the Niujiaolong basin, which resulted in failure	Destruction of houses; 49 dead; Direct losses of 1,6 million US dollars	Pollution of the affected area; Material transported up to a distance of 4.2 km from the dam site	Z. Wei, G. Yin, J.G. Wang, L. Wan, G. Li, Design, construction and management of tailings storage facilities for surface disposal in China: case studies of failures, Waste Manag. Res. 31 (2013) 106–112. doi:10.1177/0734242X12462281.
China	Anhui	1986	Not reported	Not reported	Dam failure	19 deaths and more than 100 injured	Not reported	J. Hu, X. Liu, Design and implementation of tailings dam security monitoring system, Procedia Eng. 26 (2011) 1914–1921. doi:10.1016/j.proeng.2011.11.2384.
China	Huangmeishan	1986	Iron	Unknown	Infiltration and instability failure	19 deaths	Not reported	M. Davies, T. Martin, P. Lighthall, Mine Tailings Dams : When Things Go Wrong, Assoc. State Dam Saf. Off. US Comm. Large Dams. (2000) 261–273.
China	Jinduicheng, Shaanxi province	1988	Molybdenum	700,000 m³	The lagoon level rose greatly causing the dam to break; Bad maintenance	~20 deaths	Not reported	M.P. Davies, P.C. Lighthall, S. Rice, T.E. Martin, Design of Tailings Dams and Impoundments, Keynote Address Tailings Mine Waste Pract. SME,. (2002) 1–18.; D. Kossoff, W.E. Dubbin, M. Alfredsson, S.J. Edwards, M.G. Macklin, K.A. Hudson-Edwards, Mine tailings dams: Characteristics, failure, environmental impacts, and remediation, Appl. Geochemistry. 51 (2014) 229–245. doi:10.1016/j.apgeochem.2014.09.010.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
China	Luanchuan	1992	Not reported	Not reported	Tailing dam rupture	12 deaths	Not reported	J. Hu, X. Liu, Design and implementation of tailings dam security monitoring system, Procedia Eng. 26 (2011) 1914–1921. doi:10.1016/j.proeng.2011.11.2384.
China	Panluo de Fujian	1993	Iron	Not reported	Land sliding	14 deaths e 4 injured	Not reported	J. Hu, X. Liu, Design and implementation of tailings dam security monitoring system, Procedia Eng. 26 (2011) 1914–1921. doi:10.1016/j.proeng.2011.11.2384.
China	China	1994	Copper	Not reported	Rupture of tailings dam caused by heavy rainfall	28 deaths e 3 disappeared	Not reported	J. Hu, X. Liu, Design and implementation of tailings dam security monitoring system, Procedia Eng. 26 (2011) 1914–1921. doi:10.1016/j.proeng.2011.11.2384.
China	Nandan Tin mine, Dachang Guangxi	2000	Tin	Unknown	Dam failure	15 deaths, 100 missing, 100 houses destroyed; 28 deaths	Not reported	Z. Wei, G. Yin, J.G. Wang, L. Wan, G. Li, Design, construction and management of tailings storage facilities for surface disposal in China: case studies of failures, Waste Manag. Res. 31 (2013) 106–112. doi:10.1177/0734242X12462281.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
China	Shaanxi province	2006	Gold	Unknown	Failure during construction to expand dam (6th expansion)	17 missing, 5 injured, 130 people evacuated	Toxic potassium cyanide released into the Huashui River, contaminating 5 km downstream	Z. Wei, G. Yin, J.G. Wang, L. Wan, G. Li, Design, construction and management of tailings storage facilities for surface disposal in China: case studies of failures, Waste Manag. Res. 31 (2013) 106–112. doi:10.1177/0734242X12462281.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
China	Taoshi, Linfen City, Xiangfen, Provincia Shanxi (Tashan mining Company)	2008	Iron and molybdenum	0,29 million m^3; 0,19 million m^3	Poor management in damming + heavy rain	Destruction of houses; 277 dead; 33 injured; Direct loss of 13 million US dollars	Tailings flow reached a distance of up to 2.5 km from the dam; Reached 35 hectares of land	Z. Wei, G. Yin, J.G. Wang, L. Wan, G. Li, Design, construction and management of tailings storage facilities for surface disposal in China: case studies of failures, Waste Manag. Res. 31 (2013) 106–112. doi:10.1177/0734242X12462281.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
China	Huayuan County, Xiangxi, Provincia Hunan	2009	Manganese	50,000 m³	Dam failure	3 deaths, 4 injured	Not reported	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
China	Xichuan Minjiang Electrolytic Manganese Plant; Mianyang City, Songpan County, Sichuan Province	2011	Manganese	Unknown	Landslide caused by heavy rains	Destroyed houses and roads, forced the evacuation of 272 people; leaved 200,000 people without drinking water	Reached Fujiang River	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
China	Luoyang Xiangjiang Wanji Aluminium Co., Ltd.; Dahegou Village, Luoyang, Henan province	2016	Bauxite	Unknown	Dam failure	Village covered by mud, 300 people evacuated, death of farm animals and domestic	Not reported	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
China	Tonglvshan Mine, Hubei province; China Daye Non-Ferrous Metals Mining Limited	2017	Copper, gold, silver and iron	200,000 m^3	Partial failure at the northwest corner of the dam opening a slit approximately 200 meters	2 dead and 1 missing	Ponds flooded with tailings (approximately 27 hectares) causing fish mortality	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
Philippines	Marinduque Mining and Industrial Corp.; Sipalay, Negros Occidental	1982	Copper	28 million tonnes	Dam failure, due to slippage of foundations on clayey soils	Widespread inundation of agricultural land up to 1.5 m high	Not reported	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
Philippines	Mankayan, Luzon	1986	Not reported	Not reported	Structure failure	Silting of Abra river affected 9 municipalities	Contamination by heavy metals and cyanide in the Abra River	A.M.R. Leung, Health profile of corporate mineworkers and communities living near corporate gold mining operations in Mankayan, Benguet (Final report of an enviromental and occupational health hazard assessment), New Left Rev. 1 (n.d.) 3–15.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Philippines	Padcal, Luzon (Philex Mining corp)	1992	Copper	80 Mm^3 of tailings	Structure failure	Not reported	Severe siltation in river irrigation system	J. Stark, J. Li, K. Terasawa, Environmental Safeguards and Community Benefits in Mining: Recent Lessons from the Philippines, Chart. (2006).; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
Philippines	Philippines	1993	Gold and silver	Not reported	Structure failure	2 deaths; Town Mogpog flooded	Not reported	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
Philippines	Placer, Surigao del Norte	1995	Gold	50,000 m^3	Structure failure	12 deaths	Coastal pollution	M. Davies, T. Martin, P. Lighthall, Mine Tailings Dams : When Things Go Wrong, Assoc. State Dam Saf. Off. US Comm. Large Dams. (2000) 261–273.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Philippines	Marcopper mine, Ilha Marinduque	1996	Copper	1,6 million m³	Structure failure	$ 80 million in damages; Evacuation of 1200 residents. There were no direct deaths, but shortly afterwards people had diseases related to toxic waste, several of which died. The Boac River was contaminated and considered lifeless, hundreds of people were left homeless	18 km of river contaminated with tailings; 26 km of the Makulaquit and Boac fluvial systems full of tailings making it unusable	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
Philippines	Surigao del Norte Placer (Manila Minging corp)	1999	Gold	700,000 tonnes of cyanide tailings	Tailings spill from damaged concrete pipe	4 deaths; 17 homes buried, 51 hectares of riceland swamped	Not reported	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Philippines	San Marcelino Zambales, Calmaca dam	2002	Copper	Not reported	Heavy Rain	Not reported	Rejecto reached Lake Mapanuepe and ended up on the St. Thomas River	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
Philippines	San Marcelino Zambales, Calmaca dam	2002	Copper	47 million m^3	Heavy Rain	250 families evacuated; Flooded villages	Not reported	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
Indonesia	Mina Grasberg	1996	Copper and Gold	40 million tonnes of tailings	Not reported	Not reported	Contamination reached Ajkwa river and surrounding communities	A. Kumah, Sustainability and gold mining in the developing world, J. Clean. Prod. 14 (2006) 315–323. doi:10.1016/j.jclepro.2004.08.007.
Israel	Mishor Rotem	2017	Phosphate	100,000 m^3 of acidic waste water	Phosphogypsum dam failure	Not reported	The toxic wastewater surged through the dry Ashalim riverbed and left a wake of ecological destruction more than 20 km long	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Japan	Hokkaido	1968	Not reported	90,000 m³	Earthquake	Not reported	Reached 150 m downstream	M. Rico, G. Benito, A. Díez-Herrero, Floods from tailings dam failures, J. Hazard. Mater. 154 (2008) 79–87. doi:10.1016/j.jhazmat.2007.09.110.
Japan	Mochikoshi	1978	Gold	80,000 m³	Earthquake	1 death	Reached 7-8 km downstream	S. Okusa, S. Anma, Slope failures and tailings dam damage in the 1978 Izu-Ohshima-Kinkai earthquake, Eng. Geol. 16 (1980) 195–224. doi:10.1016/0013-7952(80)90016-2.; J.K. Jeyapalan, J.M. Duncan, H.B. Seed, Investigation of Flow Failures of Tailings Dams, J. Geotech. Eng. 109 (1983) 172–189. doi:10.1061/(ASCE)0733-9410(1983)109:2(172).; M. Rico, G. Benito, A. Díez-Herrero, Floods from tailings dam failures, J. Hazard. Mater. 154 (2008) 79–87. doi:10.1016/j.jhazmat.2007.09.110.
Japan	Ohya mine	2011	Clinochlore and nitratine	41,000 m³of tailings, In the epicenter the magnitude of the earthquake was (M = 9.0), 150 km from the mine	Earthquake, dam rupture	0 death and damaged houses	Of rivers	K. Ishihara, K. Ueno, S. Yamada, S. Yasuda, T. Yoneoka, Breach of a tailings dam in the 2011 earthquake in Japan, Soil Dyn. Earthq. Eng. 68 (2015) 3–22. doi:10.1016/j.soildyn.2014.10.010.
Myanmar	Hpakant, Kachin state	2015	Jade	Unknown	Waste heap failure	113 deaths	Not reported	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
Germany	VEB Zinnerz, Geising/Erzgebirge	1966	Tin	70,000 m³	Collapse of stream deviation tunnel located under the Tiefenbachtal tailings dam	Not reported	The iron oxide slurry reached the Müglitz river and then the Elbe river, coloring it red until Hamburg	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Armenia	Cronimet Mining AG; Zangezur Copper Molybdenum Combine external link, Kajaran, Syunik province	2013	Copper and Molybdenum	Unknown	Damage of tailings pipeline	Not reported	Tailings flowing into Norashenik River for several days	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
Bulgaria	Sgurigrad	1966	Copper, zinc, lead and silver	450,000 m³	Heavy Rain	Tailings traveled 8 km to the town of Vratza and destroyed half of the village of Sgurigrad; 488 deaths	Traveled 1 km downstream	M. Davies, T. Martin, P. Lighthall, Mine Tailings Dams : When Things Go Wrong, Assoc. State Dam Saf. Off. US Comm. Large Dams. (2000) 261–273.; M. Rico, G. Benito, A. Díez-Herrero, Floods from tailings dam failures, J. Hazard. Mater. 154 (2008) 79–87. doi:10.1016/j.jhazmat.2007.09.110.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
Bulgaria	Madjarevo	1975	Lead, zinc and gold	250,000 m³	Overtopping	Not reported	Not reported	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Bulgaria	Maritsa Istok 1, perto de Stara Zagora	1992	Ash	500,000 m³	Dam failure from inundation of the beach (erosion)	Not reported	Contamination of water by metals that is diluted until it reaches acceptable values 10 km away from the source. And high concentrations of Cd and Cu in the sediments of the Maritsa and Danube rivers	G. Bird, P.A. Brewer, M.G. MacKlin, M. Nikolova, T. Kotsev, M. Mollov, C. Swain, Dispersal of contaminant metals in the mining-affected Danube and Maritsa drainage basins, Bulgaria, Eastern Europe, Water. Air. Soil Pollut. 206 (2010) 105–127. doi:10.1007/s11270-009-0090-0.;L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
Bulgaria	Mir	1996	Lead and Zinc	Not reported	Unknown	More than 10 deaths	Not reported	M. Davies, T. Martin, P. Lighthall, Mine Tailings Dams : When Things Go Wrong, Assoc. State Dam Saf. Off. US Comm. Large Dams. (2000) 261–273.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Spain	Andaluzia, Los Frailes, Aznalcóllar mine	1998	Zinc, lead, copper and silver	5 million m³ of toxic water and slurry	Soil from the separation dam gave way and then broke the main dam; Bad maintenance	Thousands of hectares of agriculture covered with mud; Loss of 152 million euros socio-economically	Acidic water has spread for 4.5 hm³, generating contamination of floodplains of the rivers Agro and Guadiamar (risk with remobilização of the sediment by the erosion of the water), generating preoccupation with the contamination of the ecosystem of the National Park Doñana and the Guadalquivir Swamp; Death of fish and shellfish	E. López-Pamo, D. Barettino, C. Antón-Pacheco, G. Ortiz, J.C. Arránz, J.C. Gumiel, B. Martínez-Pledel, M. Aparicio, O. Montouto, The extent of the Aznalcollar pyritic sludge spill and its effects on soils, Sci. Total Environ. 242 (1999) 57–88. doi:10.1016/S0048-9697(99)00376-9.; J.O. Grimalt, M. Ferrer, E. MacPherson, The mine tailing accident in Aznalcollar, Sci. Total Environ. 242 (1999) 3–11. doi:10.1016/S0048-9697(99)00372-1.; F. Gallart, G. Benito, J.P. Martín-Vide, A. Benito, J.M. Prió, D. Regüés, Fluvial geomorphology and hydrology in the dispersal and fate of pyrite mud particles released by the Aznalcollar mine tailings spill, Sci. Total Environ. 242 (1999) 13–26. doi:10.1016/S0048-9697(99)00373-3.; G. Benito, A. Benito-Calvo, F. Gallart, J.P. Martín-Vide, D. Regües, E. Bladé, Hydrological and geomorphological criteria to evaluate the dispersion risk of waste sludge generated by the Aznalcollar mine spill (SW Spain), Environ. Geol. 40 (2001) 417–428. doi:10.1007/s002540000230.; M.P. Davies, Tailings Impoundment Failures : Are Geotechnical Engineers Listening ?, Geotech. News. (2002) 31–36.; P. Madejón, J.M. Murillo, T. Marañón, F. Cabrera, M.A. Soriano, Trace element and nutrient accumulation in sunflower plants two years after the Aznalcóllar mine spill, Sci. Total Environ. 307 (2003) 239–257. doi:10.1016/S0048-9697(02)00609-5.;K.A. Hudson-edwards, J.R. Miller, D. Preston, P.J. Lechler, M.G. Macklin,

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Spain	Haelva (Fertiberia mine)	1998	Phosphate	50 m³ of toxic water and tailings	Heavy Rain	Not reported	It was observed changes in pH of the channel that was contaminated	J.A. Grande, R. Beltrán, A. Sáinz, J.C. Santos, M.L. De La Torre, J. Borrego, Acid mine drainage and acid rock drainage processes in the environment of Herrerías Mine (Iberian Pyrite Belt, Huelva-Spain) and impact on the Andevalo Dam, Environ. Geol. 47 (2005) 185–196. doi:10.1007/s00254-004-1142-9.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
Finland	Talvivaara Mining Company Plc; Sotkamo, Kainuu province	2012	Nickel	Hundreds of thousands of cubic metres of contaminated waste water	Leak from gypsum pond through a "funnel-shaped hole"	Not reported	Nickel and zinc concentrations in nearby Snow River exceeded the values that are harmful to organisms tenfold or even a hundredfold, uranium concentrations more than tenfold	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
France	Malvési, Aude (Mine Comurhex,Cogéma/Areva)	2004	Uranium	30,000 m³ of slurry	Heavy Rain	Not reported	Release led to elevated nitrate concentrations of up to 170 mg/L in the canal of Tauran and plants for several weeks	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
Hungary	Ajkai Timfoldgyar Zrt alumina plant	2010	Aluminium	6,000,000 - 7,000,000 m³	Unknown	10 deaths	Bauxite of high pH (13.5) contaminating river Marcal and Torna	D. Kossoff, W.E. Dubbin, M. Alfredsson, S.J. Edwards, M.G. Macklin, K.A. Hudson-Edwards, Mine tailings dams: Characteristics, failure, environmental impacts, and remediation, Appl. Geochemistry. 51 (2014) 229–245. doi:10.1016/j.apgeochem.2014.09.010.
Hungary	MAL Magyar Alumínium; Kolontár	2010	Bauxite	700,000 m³ of caustic red mud	Tailings dam failure	Several towns flooded, 10 people killed, approx. 120 people injured	8 km² flooded	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Italy	Stava, Trento	1985	Fluorite	200,000 m³ of liquefied tailings	Already built in the wrong way (low security factor); Tailings tube blocked; Poor maintenance; instability	268 deaths, 62 buildings destroyed. Total area affected: 43.5 hectares	Slurry destroyed the town of Stava and all the way it traveled, still reached the River Avisio, distant 4 km from the dam	G. Chandler, R.J. and Tosatti, The Stava tailings dams failure, Italy, July 1985, Proc. Inst. Civ. Eng. Geotech. Eng. 113 (1995) 67–79. doi:10.1016/0148-9062(96)87621-2.; G.E. Blight, Destructive mudflows as a consequence of tailing dyke failures, Proc. Inst. Civ. Eng. Geotech. Eng. 125 (1997) 9–18.; M.P. Davies, Tailings Impoundment Failures : Are Geotechnical Engineers Listening ?, Geotech. News. (2002) 31–36.; M. Rico, G. Benito, A.R. Salgueiro, A. Díez-Herrero, H.G. Pereira, Reported tailings dam failures. A review of the European incidents in the worldwide context, J. Hazard. Mater. 152 (2008) 846–852. doi:10.1016/j.jhazmat.2007.07.050.; D. Kossoff, W.E. Dubbin, M. Alfredsson, S.J. Edwards, M.G. Macklin, K.A. Hudson-Edwards, Mine tailings dams: Characteristics, failure, environmental impacts, and remediation, Appl. Geochemistry. 51 (2014) 229–245. doi:10.1016/j.apgeochem.2014.09.010.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Yugoslavia	Zlevoto No. 4	1976	Lead and zinc	300,000 m^3	Instability (tailings.info); Dam failure, due to high phreatic surface and seepage breakout on the embankment face	Not reported	Tailings flow reached and polluted nearby river	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
United Kingdom	Tymawr	1961	Coal	Unknown	Dam failure	Not reported	Tailings traveled 800 meters downstream	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
United Kingdom	Tymawr	1965	Coal	Unknown	Overtopping	Not reported	Tailings traveled 700 meters downstream, causing considerable damage	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
United Kingdom	Aberfan, South Wales	1966	Coal	162,000 m^3; 112,000 m^3	Improper construction; dam failure (liquefaction) from heavy rain	Burning 20 houses, a farm and a school, 144 people were killed	Not reported	J.K. Jeyapalan, J.M. Duncan, H.B. Seed, Investigation of Flow Failures of Tailings Dams, J. Geotech. Eng. 109 (1983) 172–189. doi:10.1061/(ASCE)0733-9410(1983)109:2(172).; J.H. Saleh, A.M. Cummings, Safety in the mining industry and the unfinished legacy of mining accidents: Safety levers and defense-in-depth for addressing mining hazards, Saf. Sci. 49 (2011) 764–777. doi:10.1016/j.ssci.2011.02.017.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
United Kingdom	Derbyshire, England	1966	Coal	30,000 m^3	Dam failure from foundation failure	Not reported	Tailings traveled 100 meters downstream	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
United Kingdom	Maggie Pie china clay	1970	Clay	15,000 m^3	Dam failure after raising the embankment and after heavy rain	Not reported	Tailings spilled 35 meters downstream	Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
United Kingdom	Glebe mines, England	2007	Fluorine	20,000 m^3	Overtopping	Not reported	Not reported	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
Republic of Macedonia	Sasa Mine	2003	Lead and zinc	70,000 - 100,000 m^3	Not reported	Not reported	Flow of material (rich in heavy metals and metalloids) along the Kamenica River valley; Reached the city of Kamenina and Lake Kalimanci	P. Vrhovnik, T. Dolenec, T. Serafimovski, M. Dolenec, N.R. Smuc, The occurrence of heavy metals and metalloids in surficial lake sediments before and after a tailings dam failure, Polish J. Environ. Stud. 22 (2013) 1525–1538.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Romenia	Aurui Gold Plant, Baia Mare	2000	Gold	100,000 m³ of cyanide-contaminated liquid	Tailings dam crest failure after overflow caused from heavy rain and melting snow	0 deaths	Contamination of the Somes/Szamos stream, tributary of the Tisza River, killing tonnes of fish and poisoning the drinking water of more than 2 million people in Hungary	M. Davies, T. Martin, P. Lighthall, Mine Tailings Dams : When Things Go Wrong, Assoc. State Dam Saf. Off. US Comm. Large Dams. (2000) 261–273.; M.G. Macklin, P.A. Brewer, K.A. Hudson-Edwards, G. Bird, T.J. Coulthard, I.A. Dennis, P.J. Lechler, J.R. Miller, J.N. Turner, A geomorphological approach to the management of rivers contaminated by metal mining, Geomorphology. 79 (2006) 423–447. doi:10.1016/j.geomorph.2006.06.024.; A. Kumah, Sustainability and gold mining in the developing world, J. Clean. Prod. 14 (2006) 315–323. doi:10.1016/j.jclepro.2004.08.007.; M. Rico, G. Benito, A.R. Salgueiro, A. Díez-Herrero, H.G. Pereira, Reported tailings dam failures. A review of the European incidents in the worldwide context, J. Hazard. Mater. 152 (2008) 846–852. doi:10.1016/j.jhazmat.2007.07.050.;D. Kossoff, W.E. Dubbin, M. Alfredsson, S.J. Edwards, M.G. Macklin, K.A. Hudson-Edwards, Mine tailings dams: Characteristics, failure, environmental impacts, and remediation, Appl. Geochemistry. 51 (2014) 229–245. doi:10.1016/j.apgeochem.2014.09.010.; M. Edraki, T. Baumgartl, E. Manlapig, D. Bradshaw, D.M. Franks, C.J. Moran, Designing mine tailings for better environmental, social and economic outcomes: A review of alternative approaches, J. Clean. Prod. 84 (2014) 411–420. doi:10.1016/j.jclepro.2014.04.079.; L.N. Bowker, D.M. Chambers, The risk,

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Romenia	Baia Borsa	2000	Cyanide	22,000 t of heavy-metal contaminated tailings;100.000 m³ of cyanide	Heavy Rain and melting snow	0 deaths	Contamination of the Vaser stream, tributary of the Tisza River	M. Rico, G. Benito, A.R. Salgueiro, A. Díez-Herrero, H.G. Pereira, Reported tailings dam failures. A review of the European incidents in the worldwide context, J. Hazard. Mater. 152 (2008) 846–852. doi:10.1016/j.jhazmat.2007.07.050.; D. Kossoff, W.E. Dubbin, M. Alfredsson, S.J. Edwards, M.G. Macklin, K.A. Hudson-Edwards, Mine tailings dams: Characteristics, failure, environmental impacts, and remediation, Appl. Geochemistry. 51 (2014) 229–245. doi:10.1016/j.apgeochem.2014.09.010.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Romenia	Novat river, west of Maramures County	2000	Residues of particles from mining of Cu, Pb and Zn	100,000 m^3 of contaminated water	Torrential rain and melting of snow on the valley, greatly increasing the water level of the lagoons	Not reported	Contamination of the water and sediment of the Novat River	M.G. Macklin, P.A. Brewer, D. Balteanu, T.J. Coulthard, B. Driga, A.J. Howard, S. Zaharia, The long term fate and environmental significance of contaminant metals released by the January and March 2000 mining tailings dam failures in Maramures County, upper Tisa Basin, Romania, Appl. Geochemistry. 18 (2003) 241–257. doi:10.1016/S0883-2927(02)00123-3.; M.G. Macklin, P.A. Brewer, K.A. Hudson-Edwards, G. Bird, T.J. Coulthard, I.A. Dennis, P.J. Lechler, J.R. Miller, J.N. Turner, A geomorphological approach to the management of rivers contaminated by metal mining, Geomorphology. 79 (2006) 423–447. doi:10.1016/j.geomorph.2006.06.024.;G. Bird, P.A. Brewer, M.G. Macklin, D. Balteanu, M. Serban, B. Driga, S. Zaharia, River system recovery following the Novaţ-Roşu tailings dam failure, Maramureş County, Romania, Appl. Geochemistry. 23 (2008) 3498–3518. doi:10.1016/j.apgeochem.2008.08.010.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Russia	Balka Chuficheva	1981	Iron	3,5 millon m³	Instability; dam failure	Not reported	Tailings travel distance 1.3 km	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
Russia	Partizansk, Primorsky Krai (Mina Dalenergo)	2004	Coal ash	~160,000 m³ of ash	A ring dike, enclosing an area of roughly 1 km2 and holding roughly 20 million cubic meters of coal ash, broke. The break left a hole roughly 50 meter wide in the dam.	Not reported	The ash flowed through a drainage canal into a tributary to the Partizanskaya River which empties in to Nahodka Bay in Primorski Krai (east of Vladivostok).	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
Russia	Karamken, Magadan Region	2009	Gold	More than 1 million m³ of water, 150,000 m³ of tailings, and 55,000 m³ of dams materials	Tailings dam failure after heavy rain	11 homes were carried away by the mudflow; at least one person was killed	Cyanide Contamination in Groundwater of Karaoke Town	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Siberia (Russia)	Bekovsky, Western Siberia	1987	Argilite and aleurolite	None	Instability	Probably nothing (there was no leak)	Probably nothing (there was no leak)	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
Sweden	Mina Aitik	2000	Copper	1,5 million m^3 of water and slurry	Insufficient filter drainage	Not reported	Contamination of the Leipojoki and Sakajoki rivers with copper. The population density of trout and umbla does not differ from the results of previous investigations	T. Göransson, A. Benckert, L. Manfred, R. Ritzén, Dam failure at the Aitik mine: Investigations, conclusions and measures taken, 13 (2005) 2005.; M. Rico, G. Benito, A. Díez-Herrero, Floods from tailings dam failures, J. Hazard. Mater. 154 (2008) 79–87. doi:10.1016/j.jhazmat.2007.09.110.; S. Azam, Q. Li, Tailings dam failures: A review of the last one hundred years, Geotech. News. 28 (2010) 50–53. http://www.infomine.com/library/publications/docs/azam2010.pdf.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Australia	Rossarden, Tasmania	1986	Tin and tungsten	Not reported	Overtopping	Not reported	The King River was contaminated by heavy metals and metalloids and there was loss of life	L. Fergusson, A 12-month Field Trial to Remediate an Exposed " Tailings Beach " in Tasmania, 4 (2014) 238–245. doi:10.5923/j.re.20140405.05.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
Australia	Story's Creek, Tasmania	1986	Tin and tungsten	Minimum	Overtopping	Not reported	Not reported	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
Australia	Olympic Dam, Roxby Downs, South Australia	1994	Copper and Uranium	5 Mm^3	Leakage of dams for 2 years or more	Not reported	Contamination of Lake Eyre	G.M. Mudd, Mound springs of the Great Artesian Basin in South Australia: a case study from Olympic Dam, Environ. Geol. 39 (2000) 463–476. doi:10.1007/s002540050452.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).
Australia	Middle arm, Launceston, Tasmania	1995	Gold	5,000 m^3	Overtopping	Not reported	Not reported	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.
Australia	Riltec, Mathinna, Tasmania	1995	Gold	40,000 m^3	Seepage	Not reported	Not reported	L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.

Country	Local	Year	Ore	Volume of tailings released	Causes	Social Impacts	Environmental Impacts	Cited in
New Zealand	Golden Cross, Waitekauri Valley, Nova Zelândia	1995	Gold	9,999 m³	Dam movement of dam	Not reported	Gold and heavy metals were detected in the Waitekauri River and in macrophytes	H. Sabti, M.M. Hossain, R.R. Brooks, R.B. Stewart, The current environmental impact of base-metal mining at the Tui Mine, Te Aroha, New Zealand, J. R. Soc. New Zeal. 30 (2000) 197–207. doi:10.1080/03014223.2000.9517617.; L.N. Bowker, D.M. Chambers, The risk, public liability & economics of tailings storage facility failures, (2015) 1–56. https://www.earthworksaction.org/files/pubs-others/BowkerChambers-RiskPublicLiability_EconomicsOfTailingsStorageFacility Failures-23Jul15.pdf.; Wise Uranium Project, Chronology of major tailings dam failures, (2017). http://www.wise-uranium.org/mdaf.html (accessed July 24, 2017).