

# Appendix No 7

Tailings Dam Incidents, U.S. Committee on Large Dams - USCOLD, Denver, Colorado, ISBN 1-884575-03-X, 1994, 82 pages [compilation and analysis of 185 tailings dam incidents]

Environmental and Safety Incidents concerning Tailings Dams at Mines: Results of a Survey for the years 1980-1996 by Mining Journal Research Services; a report prepared for United Nations Environment Programme, Industry and Environment external link. Paris, 1996, 129 pages [compilation of 37 tailings dam incidents]

Tailings Dams - Risk of Dangerous Occurrences, Lessons learnt from practical experiences, Bulletin 121, Published by United Nations Environmental Programme (UNEP) Division of Technology, Industry and Economics (DTIE) and International Commission on Large Dams external link (ICOLD), Paris 2001, 144 p. [compilation of 221 tailings dam incidents mainly from the above two publications, and examples of effective remedial measures]

**Third Party Planning Appeal of the decision by Meath County Council to grant planning permission for development Planning Reference Number: 22331 Meath CoCo.**

**Planning Application Reference:** 22331 Meath County Council  
**Development Address:** Randalstown, Simonstown and Sillogue, Navan, Co Meath

**Applicant:** Boliden Tara Mines DAC,  
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LTR DATED FROM Applicant

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# Chronology of major tailings dam failures

(from 1960)

(last updated 11 Nov 2022)

Note: Due to limited availability of data, this compilation is in no way complete

Date	Location	Parent company	Ore type	Type of Incident	Release	Impacts
2022, Nov. 7	Williamson Mine, Mwadui Lohumbo, Kishapu District, Shinyanga Province, Tanzania	<a href="#">Petra Diamonds Ltd</a> (75%), <a href="#">Government of Tanzania</a> (25%)	diamond	tailings dam failure: the tailings escaped through an approx. 150 m wide breach of the eastern wall of the impoundment; the outflow of tailings was still ongoing between Nov. 7 and Nov. 8	?	The mud wave (up to 1.2 km wide) traveled over 8 km, damaging 13 houses and farmland. Three injuries have been reported. About 115 citizens of Ngw'wanholo village have been severely affected.
2022, Sep. 11	Jagersfontein ( <a href="#">map</a> ), Kopanong, Xhariep, Free State, South Africa	Jagersfontein Developments (Pty) Ltd (then part of Superkolong Consortium) acquired the site in 2010 from <a href="#">De Beers</a> ; in April 2022, Jagersfontein Developments (Pty) Ltd became part of <a href="#">Stargems Group</a> ; Dubai; current ownership is disputed	diamond (recovery by processing of old spoil heaps)	tailings dam failure > <a href="#">Watch video</a> (Youtube)	?	The mud wave (up to 1.5 km wide) traveled approx. 8.5 km, sweeping away and/or destroying 51 houses and affecting another 103, sweeping away cars, disrupting power lines, killing two persons, injuring another 76, and displacing more than 300. One person is still missing. At least 500 animals have died. The mud then entered Wolwas Dam, then Prossesspruit, a tributary to Rietrivier, which flows into Kalkfontein Dam, located in a Nature Reserve. > <a href="#">Watch video</a> (Youtube)
2022, July 23	Agua Dulce, Potosí, Bolivia	Federación Departamental de Cooperativas Mineras de Potosí (Fedecomín)	silver, zinc	tailings dam failure	?	A mud wave with unrecovered minerals and chemical elements reached the river of la Rivera, as well as the Quebrada de Tarapaya, which connects with the Pilcomayo River. Argentina's Salta province has issued an order forbidding the use of the Pilcomayo River water.
2022, Mar. 27	Wenguan Township, Jiaokou County, Shanxi Province, China	Shanxi Daocer Aluminum Co., Ltd.	bauxite	tailings dam failure	?	Part of the factory area was buried; a large pit was formed in the tailings pond, the dam body was flushed with a gap of about 70 to 80 meters, causing 7.5 mu [0.5 ha] of arbor forest land to be buried, more than 200 meters of seasonal ditches and rural roads were blocked, and part of the surrounding walls of adjacent enterprises were washed away.
2022, Jan. 20	Banjibberana village, Thelkolo: area, Sambalpur district, Odisha (formerly Orissa), India	<a href="#">JSW Bhushan Power and Steel Limited</a>	iron	breach of tailings pond wall holding iron slurry generated from beneficiation plant	?	at least 20-30 acres [8-12 hectares] of farmland were submerged under the iron ore slurry while two ponds were contaminated, causing a fish kill; a security guard is reported missing
2022,	Pau Branco mine,	<a href="#">Vallourec S.A.</a>	iron	After heavy rain, a slope failure	?	The mud wave overflowing from the retention dam blocked the



Jan. 8	Nova Lima, Minas Gerais, Brazil			involving three banks of the Cachoeirinha mine waste pile resulted in a release of mine waste into the Lisa water retention dam. The dam then overflowed on the whole length of the embankment, without compromising its stability. > <a href="#">View video of dam overflow</a> <a href="#">E</a> (Youtube)		BR-040 highway. One person was injured.
2021, Dec. 24	Ulundu, KwaZulu-Natal, South Africa	Zululand Anthracite Colliery ( <a href="#">Menar group</a> <a href="#">E</a> )	anthracite coal	slurry dam failure	1,500 cubic metres of slurry, containing a variety of several toxic heavy metals and chemical compounds that include mercury, manganese, arsenic, copper and lead	the liquid coal waste poured into the Black Umfolozi and White Umfolozi River system, flowing through rural communities and the Hluhluwe-iMfolozi and iSimangaliso wildlife reserves, raising concern about the health of people, animals and the broader environment exposed to toxic and acidic wastes
2021, Nov. 26	San Antonio de María mine, Ananea, San Antonio de Putina province, Puno, Peru	Central de Cooperativas Mineras de San Antonio de Poto (CECOMSAP)	gold	tailings dam (settling pond?) failure after heavy rain	?	the tailings wave destroyed approx. 400 meters of the national road that goes to the La Rinconada town center and spilled into three residential areas (Progreso, Central and Santiago)
2021, Nov. 18	Yedikardes village, Sebinkarahisar district of Giresun, Turkey	Nesko Madencilik A.S. (Yildizlar Holding)	lead, zinc, copper	failure of tailings dam No.2	> 4,500 t	the tailings flowed into dam No. 1 and then into the Darabul Stream and reached Kiliçkaya Dam 5 km downstream (watch <a href="#">TEMA Foundation video</a> <a href="#">E</a> on Youtube)
2021, July 27	Catoca mine, Saurimo, Lunda Sul, Angola	<a href="#">Sociedade Mineira de Catoca Lda</a> <a href="#">E</a> , Luanda	diamond	breach in spillway duct leads to massive spill of "rejected pulp"	?	Lova River polluted 100 km downstream; pollution of Tchicapa River rendered drinking water in the Muatova neighborhood in the city of Lucapa unsafe (view <a href="#">Sentinel Vision images</a> <a href="#">E</a> )
2020, July 2	Hpakant, Kachin state, Myanmar		jade	waste heap failure after heavy rain	?	a heap of mining waste collapsed into a lake, triggering a wave of mud and water that buried many workers; at least 126 people were killed
2020, May 1	San José de Los Manzanos, Canelas, Durango, Mexico	Exportaciones de Minerales de Topia SA (EMITSA)	lead, zinc	tailings dam failure	6,000 m <sup>3</sup>	the tailings spilled on a nearby road and 8,000 m <sup>2</sup> of land, reaching the San Bernabé stream after 5 km and the town of the same name
2020, Mar. 28	Tieli, Yichun City, Heilongjiang Province, China	<a href="#">Yichun Luming Mining Co., Ltd</a> <a href="#">E</a> (subsidiary of state-run <a href="#">China Railway Resources Group Co., Ltd</a> <a href="#">E</a> )	molybdenum	"No. 4 overflow well" [decant tower?] of the tailings dam tilted, resulting in the release of supernatant water and tailings through a drainage tunnel, while the embankment itself remained intact	2.53 million m <sup>3</sup>	water and tailings flowed through surrounding area, reaching Yijimi river after 3 km, threatening the drinking water resource of 68,000 people in Tieli City; by Apr. 4, the pollution reached 208 km downstream
2019, Nov. 13	La Rinconada, Ananea, San Antonio de Putina	Corporación minera San Francisco, Central de Cooperativas Mineras de San Antonio de Putina (Cecomsap)	gold	tailings dam failure	?	the tailings wave flowed over the Ananea-La Rinconada highway, killing one motorcyclist





	province, Puno, Peru					
2019, Oct. 1	Nossa Senhora do Livramento, Mato Grosso, Brazil	VM Mineração e Construção, Cuiabá	gold	tailings dam failure	?	tailings flowed 1-2 km, thereby disrupting a power line
2019, July 10	Cobrizza mine, San Pedro de Coris province, Huancavelica region, Peru	<a href="#">Doe Run Perú S.R.L.</a> <a href="#">E</a>	copper	tailings dam failure	67,488 m <sup>3</sup> of tailings	tailings covered an area of 41,574 m <sup>2</sup> and reached Mantaro River
2019, Apr. 22	Hpakant, Kachin state, Myanmar	Shwe Nagar Koe Kaung Gems Co. Ltd., Myanmar Thura Gems Co. Ltd.	jade	waste heap failure	?	3 workers killed, 54 workers are missing
2019, Apr. 9	Muri, Jharkhand, India	<a href="#">Hindalco Industries Limited</a> <a href="#">E</a>	bauxite	failure of red mud tailings pond	?	spill of red mud over 35 acres and a nearby railway line, number of casualties still unclear
2019, Mar. 29	Machadinho d'Oeste, Oriente Novo, Rondônia, Brazil	Metalmig Mineração Indústria e Comércio S/A	tin	failure of inactive tailings dam after heavy rain	?	tailings spill damaged seven bridges, leaving 100 families isolated; no deaths or injuries reported
2019, Jan. 25	Córrego de Feijão mine, Brumadinho, Região Metropolitana de Belo Horizonte, Minas Gerais, Brazil	<a href="#">Vale SA</a> <a href="#">E</a>	iron	failure of tailings dam No. 1 ( <a href="#">View details</a> )	12 million m <sup>3</sup> > <a href="#">View: video of dam failure and flow slide</a> <a href="#">E</a> ( <a href="#">Globo</a> )	The tailings wave devastated the mine's loading station, its administrative area, and two smaller sediment retention basins (B4 and B4A); it then traveled approx. 7 km downhill until reaching Rio Paraopeba, thereby destroying a bridge of the mine's railway branch, and spreading to parts of the local community Vila Ferteco, near the town of Brumadinho; the slurry was then carried further by Rio Paraopeba; 259 people were killed, and 11 are reported missing. ( <a href="#">View details</a> )
2018, June 4	Cieneguita mine, Urique, Chihuahua, Mexico	<a href="#">Minera Rio Tinto</a> <a href="#">E</a> ( <a href="#">Cluster Minero de Chihuahua A.C.</a> <a href="#">E</a> )	gold, silver	tailings dam failure	249,000 m <sup>3</sup> of tailings and 190,000 m <sup>3</sup> of embankment material	Dam failure results in tailings release travelling 29 km downstream; most of the tailings have been deposited along the course of the Catías River. The Federal Attorney's Office for Environmental Protection (PROFEPA) says that the tailings don't contain cyanide or any heavy metals. Three workers were killed, two wounded, and four are reported missing.
2018, Mar. 9	Cadia, New South Wales, Australia	<a href="#">Newcrest Mining Ltd</a> <a href="#">E</a>	gold, copper	tailings dam failure, mainly due to the existence of a low-density foundation layer in the vicinity of the slump. > Download: <a href="#">Independent Technical Review Board report</a> <a href="#">E</a> , Apr. 17, 2019 (27.6MB PDF) > <a href="#">View: video</a> <a href="#">E</a> (Youtube)	1.33 million m <sup>3</sup> of tailings	Embankment failure results in "limited breakthrough" of tailings material from the northern to the southern tailings dam. The breakthrough has been contained within the southern tailings dam.
2018, Mar. 3	Huancapati (Huancapeti), Recuay province,	Compañía Minera Lincuna SA (Grupo Picasso)		collapse of embankment of tailings dam No. 2 after heavy rain	80,000 m <sup>3</sup> of tailings	the incident has contaminated crops, the Sipchoc creek and the Santa river





	Áncash region, Peru					
2018, Feb. 17	Barcarena, Pará, Brazil	<a href="#">Hydro Alunorte / Norsk Hydro ASA</a> <sup>Ⓔ</sup>	bauxite	overflow of red mud basin after heavy rain [ <i>the company, however, maintains that no overflow has occurred at all</i> ]	?	Highly alkaline and metal-laden liquids flooded the surrounding residential areas, rendering the drinking water supply in the area unusable. > View/Download information provided by Instituto Evandro Chagas (IEC): <a href="#">Mar. 6, 2018</a> <sup>Ⓔ</sup> · <a href="#">Mar. 29, 2018</a> <sup>Ⓔ</sup> (in Portuguese)  On Mar. 12, 2018, local environmental activist Paulo Nascimento was shot dead in front of his house.
2017, Sep. 17	Kokoya Gold Mine, Bong County, Liberia	MNG Gold Liberia ( <a href="#">Redwood Global Inc.</a> <sup>Ⓔ</sup> )	gold	rupture of a section of the geo-membrane layer / overflow after heavy rain (?)	discharge of 11,500 m <sup>3</sup> of slurry containing cyanide into Sien Creek, a major water source for residents in Saywenta Town	30 people became ill as a result of pollution of the creek due to the chemical spill, but this cause for the illnesses reported was later disputed
2017, June 30	Mishor Rotem, Israel	<a href="#">Rotem Amifert Negev Ltd.</a> <sup>Ⓔ</sup> , <a href="#">Israel Chemicals (ICL)</a> <sup>Ⓔ</sup>	phosphate	phosphogypsum dam failure	100,000 m <sup>3</sup> of acidic waste water	The toxic wastewater surged through the dry Ashlaim riverbed and left a wake of ecological destruction more than 20 km long
2017, Mar. 12	Tonglvshan Mine, Hubei province, China	<a href="#">China Daye Non-Ferrous Metals Mining Limited</a> <sup>Ⓔ</sup>	copper, gold, silver, iron	a partial dam failure occurred at the northwestern corner of the tailings pond, opening a crevasse (gap) of approx. 200 metres	approx. 200,000 m <sup>3</sup> of tailings	The tailings flooded the fish pond downstream of approx. 27 hectares. Two persons were reported dead and one was reported missing.
2016, Dec. 28	Satemu, Hpakant, Kachin state, Myanmar	Jade Palace Company	jade	waste heap failure	?	approx. 50 workers missing
2016, Oct. 27	Antamok mine (inactive), Itogon, Benguet province, Philippines	<a href="#">Benguet Corp.</a> <sup>Ⓔ</sup>	gold	tailings flow through drain tunnel of underground mine after heavy rains	at least 50,000 t of tailings (an amount considered "negligible" by the company)	The leaked tailings flowed into Liang River, then Ambalanga river before reaching Agno river.
2016, Aug. 27	New Wales plant, Mulberry, Polk County, Florida, USA	<a href="#">Mosaic Co.</a> <sup>Ⓔ</sup>	phosphate	a 14 metre-wide sinkhole appeared in a phosphogypsum stack, opening a pathway for contaminated liquid into the underground; the liquid reached the Floridan Aquifer, a major drinking water resource	840,000 m <sup>3</sup> of contaminated liquid released (as of Sep. 17, 2016)	
2016, Aug. 8	Dahegou Village, Luoyang, Henan province, China	Luoyang Xiangjiang Wanji Aluminium Co., Ltd.	bauxite	failure of a tailings dam holding about 2 million cubic metres of red mud	?	village totally submerged in red mud, around 300 villagers evacuated, many farm and domestic animals killed
2016, Aug. 4	Ujina, Pica, Tamaraugal Province, Tarapacá Region, Chile	<a href="#">Compañía Minera Doña Inés de Collahuasi SCM</a> <sup>Ⓔ</sup> ( <a href="#">Anglo American plc</a> <sup>Ⓔ</sup> (44%), <a href="#">Glencore</a> <sup>Ⓔ</sup> (44%), Japan <a href="#">Collahuasi Resources B.V.</a> (12%))	copper, molybdenum	breakage in a tailings transport chute, allegedly caused by an earthquake that occurred in the area	4,500 cubic metres of tailings	the spilled toxic material ran into an ancestral grazing area, threatening four specimens of Vicuña, a protected camelid species, and the groundwater
2016,	Ridder, Kazakhstan	Kazinc ( <a href="#">Glencore</a> <sup>Ⓔ</sup> (69.61%))	zinc	failure of former "water discharge	?	tailings slurry containing cyanide, zinc, lead, copper and



May 22				collector system" (decant tower?) at the Talovsky Tailings Dam			manganese was discharged into the Filippovka River, later reaching Tikhaya River and Ulba River, and was to reach the Siberian city of Omsk 1,100 km downstream around June 2
2015, Dec. 14	Lamaungkone, Hpakan, Kachin state, Myanmar	Tun Taak Zabau jade mining company	jade	waste heap failure	?		1 worker killed, approx. 20 others missing
2015, Nov. 21	San Kat Kuu, Hpakan, Kachin state, Myanmar	Hlan Shan Myonwesu, Yadanar Yong Chi, Yadanar Aung Chan	jade	waste heap failure	?		at least 113 people killed
2015, Nov. 5	Germano mine, Bento Rodrigues, distrito de Mariana, Região Central, Minas Gerais, Brazil	<a href="#">Samarco Mineração S.A. (50% BHP Billiton (B), 50% Vale (B))</a>	iron	failure of the Fundão tailings dam due to insufficient drainage, leading to liquefaction of the tailings sands shortly after a small earthquake. For details, see: <a href="#">The Fundão Tailings Dam Investigation (B)</a>	32 million m <sup>3</sup> <a href="#">Video of the flow slide (B)</a>		slurry wave flooded town of Bento Rodrigues, destroying 158 homes, at least 17 persons killed and 2 reported missing; slurry pollutes North Gualaxo River, Carmel River and Rio Doce over 663 km, destroying 15 square kilometers of land along the rivers and cutting residents off from potable water supply; the damage is at least US\$ 6.7 billion
2014, Oct. 16	Dos Señores mine, La Concordia, Sinaloa, Mexico	Minerales Santa Rosa	gold, silver	tailings dam failure	10,800 t		The tailings traveled approximately 900 meters, affecting the El Charcas or Pánuco stream and threatening the drinking water supply in the area
2014, Sep. 10	Herculano mine, Itabirito, Região Central, Minas Gerais, Brazil	<a href="#">Herculano Mineração Ltda (B)</a>	iron	tailings dam failure	?		two workers killed and one missing
2014, Aug. 7	Buenvista del Cobre mine, Cananea, Sonora, Mexico	<a href="#">Southern Copper Corp. (B) (Grupo México (B))</a>	copper	tailings dam failure	40,000 m <sup>3</sup> of copper sulphate		flow into the 420km-long Bacanuchi river waterway, a tributary of the Sonora River, directly affecting 800,000 people
2014, Aug. 4	Mount Polley mine, near Likely, British Columbia, Canada	<a href="#">Imperial Metals Corp. (B)</a>	copper, gold	tailings dam failure due to foundation failure ( <a href="#">view details</a> )	7.3 million m <sup>3</sup> of tailings, 10.6 million m <sup>3</sup> of water, and 6.5 million m <sup>3</sup> of interstitial water		tailings flowing into adjacent Polley Lake and, through Hazeltine Creek, into Quesnel Lake (Mitchell Bay)
2014, July 4	Santiago Apóstol mining operation, Tacobamba, Potosí, Bolivia	Silver y Tim	zinc, silver, lead, tin	tailings dam failure	more than 30,000 m <sup>3</sup> of tailings		release into upper Pilcomayo basin
2014, May 15/16	Stolice mine, Kostajnik, Municipality Krupanj, Serbia	Farmakom MB	antimony	collapse of abandoned flotation tailings dam, caused by damage of the dam's drainage system by a landslide that was triggered by heavy rain	100,000 m <sup>3</sup> of tailings slurry		tailings were released into the Kostajnik River, contaminating 27 km of riverbeds and 360 hectares of agricultural land; after another storm on July 17, tailings again spilled out of the damaged dam and into the Kostajnik
2014, Feb. 2	Dan River Steam Station, Eden, North Carolina, USA	<a href="#">Duke Energy (B)</a>	coal ash	collapse of an old drainage pipe under a 27-acre ash waste pond	about 82,000 short tons [74,400 t] of toxic coal ash and 27 million gallons [100,000 m <sup>3</sup> ] of contaminated water		ash flowing through drainage pipe into Dan River





2013, Nov. 15-19	<a href="#">Zangezur Copper Molybdenum Combine</a> <a href="#">E</a> , Kajaran, Syunik province, Armenia	<a href="#">Cromimet Mining AG</a> <a href="#">E</a>	copper, molybdenum	damage of tailings pipeline	?		tailings flowing into Norashenik River for several days
2013, Oct. 31	Obed Mountain Coal Mine, northeast of Hinton, Alberta, Canada	<a href="#">Sheritt International</a> <a href="#">E</a>	coal	breach of wall in containment pond	spill of 670,000 m <sup>3</sup> of coal wastewater and 90,000 tonnes of muddy sediment		plume of slurry containing fine coal particles, clay and heavy metals into the Apetowan und Plate creeks and eventually the Athabasca River
2013, Jan. 20	El Herrero mine, Otáez, Barrancas province, Durango state, Mexico	<a href="#">Grupo Minero Bacís</a> <a href="#">E</a> , Durango, Mexico	gold-silver	tailings dam failure	release of 300,000 m <sup>3</sup> of waste		four people killed and one injured; Los Remedios river in Durango, San Lorenzo river and El Comedero reservoir in Sinaloa contaminated, fish killed in Los Remedios river 130 km downstream; 300 families lost their incomes from a tilapia fish farm
2012, Dec. 17	former Gullbridge mine site, Newfoundland, Canada		copper	embankment dam failure, width 50 m			non-consumption water advisory has been issued for the Town of South Brook ( <a href="#">view details</a> <a href="#">E</a> - Newfoundland and Labrador Department of Environment and Conservation)
2012, Nov. 4	Sotkamo, Kainuu province, Finland	<a href="#">Talvivaara Mining Company Plc</a> <a href="#">E</a>	nickel, (uranium by-product planned)	leak from gypsum pond through a "funnel-shaped hole"	hundreds of thousands of cubic metres of contaminated waste water		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 ( <a href="#">view details</a> )
2012, Aug. 1	Padcal mine, Ilogon, Benguet province, Philippines	<a href="#">Philex Mining Corp.</a> <a href="#">E</a>	copper, gold	"breach" in tailings pond No.3 during heavy rains	20.6 million t of tailings		tailings discharged into the Balog River, which flows to the Agno River.
2011, Jul. 21	Mianyang City, Songpan County, Sichuan Province, China	Xichuan Mingjiang Electrolytic Manganese Plant	manganese	tailings dam damaged from landslides caused from heavy rains	?		tailings damaged residential roads and houses, forcing 272 people to leave; tailings were washed into the Fujiang River, leaving 200,000 people without drinking water supply
2011, May	Bloom Lake mine, Fermont, Québec, Canada	Bloom Lake General Partner Ltd. (then 75% owned by Cliffs Natural Resources Inc.)	iron	Dam breach of Triangle tailings pond	more than 200,000 m <sup>3</sup> of "deleterious materials"		
2010, Oct. 4	Kolontár, Hungary (Aerial View: <a href="#">Google Maps</a> <a href="#">E</a> )	<a href="#">MAL Magyar Aluminium</a> <a href="#">E</a>	bauxite	tailings dam failure ( <a href="#">view details</a> )	700,000 m <sup>3</sup> of caustic red mud		several towns flooded, 10 people killed, approx. 120 people injured, 8 square kilometres flooded
2010, Jun. 25	Huancavelica, Peru	Unidad Minera Caudalosa Chica	?	tailings dam failure	21,420 m <sup>3</sup> of tailings		contamination of río Escalera and río Opamayo 110 km downstream
2009, Aug. 29	Karamken, Magadan region, Russia	Karamken Minerals Processing Plant	gold	tailings dam failure after heavy rain (see <a href="#">background info 2004</a> <a href="#">E</a> , <a href="#">press compilation 2009</a> <a href="#">E</a> , <a href="#">update 2012</a> <a href="#">E</a> - SRIC)	more than 1 million m <sup>3</sup> of water, 150,000 m <sup>3</sup> of tailings, and 55,000 m <sup>3</sup> of dams materials		eleven homes were carried away by the mudflow; at least one person was killed





2009, May 14	Huayuan County, Xiangxi Autonomous Prefecture, Hunan Province, China	?	manganese	tailings dam failure (capacity: 50,000 cubic metres)	?	The landslide set off by the tailings dam failure destroyed a home, killing three and injuring four people.
2009, April 27	Barcarena, Pará, Brazil	<a href="#">Hydro Aluminorte / Norsk Hydro ASA</a> <sup>Ⓔ</sup>	bauxite	overflow of drainage channels around red mud basin after heavy rain		
2008, Dec. 22	Kingston fossil plant, Harriman, Tennessee, USA	<a href="#">Tennessee Valley Authority</a> <sup>Ⓔ</sup>	coal ash	retention wall failure	Release of 5.4 million cubic yards [4.1 million m <sup>3</sup> ] of ashy slurry	The ash slide covered 400 acres [1.6 square kilometres] 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. It damaged 12 homes, and one person had to be rescued, though no one was seriously hurt.
2008, Sep. 8	Taoshi, Linfen City, Xiangfen county, Shanxi province, China	Tashan mining company	iron	Collapse of a waste-product reservoir at an illegal mine during rainfall	190,000 m <sup>3</sup> of tailings	A mudslide several metres high flowed 2.5 km downstream, buried a market, several homes and a three-storey building. 277 people are killed and 33 injured.
2007, Nov. 25	Shiqiaozi, Haicheng, Liaoning, China	Dingyang Mining Co Ltd (subsidiary of Xiyang Corp.)	iron	failure of tailings dam holding 150,000 cubic metres	?	an 80 m-wide mud flow hit 33 homes in the village of Xiangyang and more homes in Caijia; 10 people are killed, 3 reported missing, and 17 injured
2007, Jan. 10	Mirai, Minas Gerais, Brazil	Mineração Rio Pomba Cataguases Ltda	bauxite	tailings dam failure after heavy rain	2 million m <sup>3</sup> of mud, containing water and clay ("red mud")	the mud flow left about 4000 residents of the cities of Mirai and Muriaé in the Zona da Mata homeless. Crops and pastures were destroyed and the water supply was compromised in cities in the states of Minas Gerais and Rio de Janeiro.
2006, Nov. 6	Nchanga, Chingola, Zambia	<a href="#">Konkola Copper Mines Plc (KCM)</a> <sup>Ⓔ</sup> (51% <a href="#">Vedanta Resources plc</a> <sup>Ⓔ</sup> )	copper	failure of tailings slurry pipeline from Nchanga tailings leaching plant to Muntimpa tailings dumps	?	Release of highly acidic tailings into Kafue river; high concentrations of copper, manganese, cobalt in river water; drinking water supply of downstream communities shut down
2006, April 30	near Miliang, Zhen'an County, Shangluo, Shaanxi Province, China	Zhen'an County Gold Mining Co. Ltd.	gold	tailings dam failure during sixth upraising of dam	?	The landslide buried about 40 rooms of nine households, killing 17 residents. Five injured people were taken to hospital. More than 130 local residents have been evacuated. Toxic potassium cyanide was released into the Huashui river, contaminating it approx. 5 km downstream.
2005, April 14	Bangs Lake, Jackson County, Mississippi, USA	<a href="#">Mississippi Phosphates Corp.</a> <sup>Ⓔ</sup>	phosphate	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)	approx. 17 million gallons of acidic liquid (64,350 m <sup>3</sup> )	liquid poured into adjacent marsh lands, causing vegetation to die
2004, Nov. 30	Pinchi Lake, British Columbia, Canada	<a href="#">Teck Cominco Ltd.</a> <sup>Ⓔ</sup>	mercury	dam of former 'emergency spills lagoon' (100-metres long and 12-metres high) collapses during reclamation work	6,000 to 8,000 m <sup>3</sup> of rock, dirt and waste water	material spilled into 5,500 ha Pinchi Lake
2004,	Riverview, Florida,	<a href="#">Cargill Crop Nutrition</a> <sup>Ⓔ</sup>	phosphate	a dike at the top of a 100-foot-high	60 million gallons	liquid spilled into Archie Creek that leads to Hillsborough Bay



Sep. 5	USA				gypsum stack holding 150-million gallons of polluted water broke after waves driven by Hurricane Frances bashed the dike's southwest corner	(227,000 m <sup>3</sup> ) of acidic liquid	
2004, May 22	Partizansk, Primorski Krai, Russia	Dalenergo	coal ash		A ring dike, enclosing an area of roughly 1 km <sup>2</sup> and holding roughly 20 million cubic meters of coal ash, broke. The break left a hole roughly 50 meter wide in the dam.	approximately 160,000 m <sup>3</sup> of ash	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). For details download <a href="#">Sept. 2004 report</a> (PDF) by Paul Robinson, SRIC
2004, March 20	Malvési, Aude, France	Comurhex (Cogéma/Areva)	decanation and evaporation pond of uranium conversion plant		dam failure after heavy rain in preceding year ( <a href="#">view details</a> )	30,000 m <sup>3</sup> of liquid and slurries	release led to elevated nitrate concentrations of up to 170 mg/L in the canal of Tauran for several weeks
2003, Oct. 3	Cerro Negro, Potorca prov., Quinta region, Chile	Cia Minera Cerro Negro	copper		tailings dam failure	50,000 tonnes of tailings	tailings flowed 20 kilometers downstream the río La Ligua
2003, Aug. 30	Sasa Mine, Macedonia	State owned	lead-zinc		partial dam collapse following failure of an ancillary structure that diverted captured drainage water from Tailings Storage Facility No. 3.1 into the river diversion tunnel	70,000 - 100,000 m <sup>3</sup> of tailings	tailings flowed 12 kilometers downstream the Kamenica River into Lake Kalimanci
2002, Aug. 27 / Sep. 11	San Marcelino, Zambales, Philippines	Dizon Copper Silver Mines, Inc.			overflow and spillway failure of two abandoned tailings dams after heavy rain ( <a href="#">view details</a> )	?	Aug. 27: some tailings spilled into Mapanupe Lake and eventually into the Sto. Tomas River Sep. 11: low lying villages flooded with mine waste; 250 families evacuated; nobody reported hurt so far
2001, Jun. 22	Sebastião das Águas Claras, Nova Lima district, Minas Gerais, Brazil	Mineração Rio Verde Ltda	iron		mine waste dam failure ( <a href="#">view details</a> )	?	tailings wave traveled at least 6 km, killing at least two mine workers, three more workers are missing
2000, Oct. 18	Nandan Tin mine, Dachang, Guangxi province, China	?	tin		failure of upstream dam	?	28 people killed; more than 100 houses destroyed
2000, Oct. 11	Inez, Martin County, Kentucky, USA	Martin County Coal Corporation (100% <a href="#">A.T. Massey Coal Company, Inc.</a> , Richmond, VA (100% <a href="#">Fluor Corp.</a> ))	coal		tailings dam failure from collapse of an underground mine beneath the slurry impoundment ( <a href="#">view details</a> )	250 million gallons (950,000 m <sup>3</sup> ) of coal waste slurry released into local streams	About 75 miles (120 km) of rivers and streams turned an iridescent black, causing a fish kill along the Tug Fork of the Big Sandy River and some of its tributaries. Towns along the Tug were forced to turn off their drinking water intakes.
2000, Sep. 8	Aitik mine, Gällivare, Sweden	<a href="#">Boliden Ltd.</a>	copper		tailings dam failure from insufficient perviousness of filter drain ( <a href="#">view details</a> )	release of 2.5 million m <sup>3</sup> of liquid into an adjacent settling pond,	





					subsequent release of 1.5 million m <sup>3</sup> of water (carrying some residual slurry) from the settling pond into the environment	
2000, Mar. 10	Baia Borsa, Maramureş County, Romania	Remin S.A., Baia Mare	copper, lead, zinc	failure of the Novat-Rosu tailings dam after heavy rain	20,000 t of heavy-metal contaminated tailings and 100,000 m <sup>3</sup> of contaminated water	contamination of the Vaser stream, tributary of the Tisza River. View <a href="#">Romanian Govt. report</a> & <a href="#">UNEP report</a> (527k PDF)
2000, Jan. 30	Baia Mare, Romania	Aurul S.A. ( <a href="#">Esmeralda Exploration</a> &, Australia (50%), Remin S.A. (44.8%))	gold recovery from old tailings	tailings dam crest failure after overflow caused from heavy rain and melting snow ( <a href="#">view details</a> )	100,000 m <sup>3</sup> of cyanide-contaminated liquid	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
1999, Apr. 26	Placer, Surigao del Norte, Philippines	Manila Mining Corp. (MMC)	gold	tailings spill from damaged concrete pipe	700,000 tonnes of cyanide tailings	17 homes buried, 51 hectares of riceland swamped
1998, Dec. 31	Huelva, Spain	<a href="#">Fertiberia</a> &, Foret	phosphate	dam failure during storm ( <a href="#">view details</a> )	50,000 m <sup>3</sup> of acidic and toxic water	
1998, Apr. 25	Los Frailes, Aznalcóllar, Spain	<a href="#">Boliden Ltd.</a> &, Canada	zinc, lead, copper, silver	dam failure from foundation failure ( <a href="#">view details</a> )	4-5 million m <sup>3</sup> of toxic water and slurry	thousands of hectares of farmland covered with slurry
1997, Dec. 7	Mulberry Phosphate, Polk County, Florida, USA	<a href="#">Mulberry Phosphates, Inc.</a> &	phosphate	phosphogypsum stack failure	200,000 m <sup>3</sup> of phosphogypsum process water	biota in the Alafia River eliminated
1997, Oct. 22	Pinto Valley, Arizona, USA	<a href="#">BHP Copper</a> &	copper	<a href="#">tailings dam slope failure</a> &	230,000 m <sup>3</sup> of tailings and mine rock	tailings flow covers 16 hectares
1996, Nov. 12	Amatista, Nazca, Peru	?	?	liquefaction failure of upstream-type tailings dam during earthquake	more than 300,000 m <sup>3</sup> of tailings	flow runoff of about 600 meters, spill into river, croplands contaminated
1996, Aug. 29	El Porco, Bolivia	Comsur (62%), <a href="#">Rio Tinto</a> & (33%)	zinc, lead, silver	dam failure	400,000 tonnes	300 km of Pilcomayo river contaminated
1996, Mar. 24	Marcopper, Marinduque Island, Philippines	<a href="#">Placer Dome Inc.</a> &, Canada (40%)	copper	Loss of tailings from storage pit through old drainage tunnel	1.6 million m <sup>3</sup>	Evacuation of 1200 residents, 18 km of river channel filled with tailings, US\$ 80 million damage
1995, Dec.	Golden Cross, New Zealand	<a href="#">Coeur d'Alène</a> &, Idaho, USA	gold	Dam movement of dam containing 3 million tonnes of tailings (continuing) ( <a href="#">view details</a> &)	Nil (so far)	Nil (so far)
1995,	Placer, Surigao del	Manila Mining Corp.	gold	Dam foundation failure	50,000 m <sup>3</sup>	12 people killed, coastal pollution



Sep. 2	Norte, Philippines					
1995, Aug. 19	Omai, Guyana	<a href="#">Cambior Inc.</a> , Canada (65%), Golden Star Resources Inc., Colorado, USA (30%)	gold	tailings dam failure from internal dam erosion ( <a href="#">preliminary report on technical causation</a> )	4.2 million m <sup>3</sup> of cyanide slurry	80 km of Essequibo River declared environmental disaster zone ( <a href="#">view details</a> )
1994, Nov. 19	Hopewell Mine, Hillsborough County, Florida, USA	<a href="#">IMC-Agrico</a>	phosphate	dam failure	Nearly 1.9 million m <sup>3</sup> of water from a clay settling pond	spill into nearby wetlands and the Alafia River, Keyssville flooded
1994, Oct. 2	Payne Creek Mine, Polk County, Florida, USA	<a href="#">IMC-Agrico</a>	phosphate	dam failure	6.8 million m <sup>3</sup> of water from a clay settling pond	majority of spill contained on adjacent mining area; 500,000 m <sup>3</sup> released into Hickey Branch, a tributary of Payne Creek
1994, Oct.	Fort Meade, Florida, USA	<a href="#">Cargill</a>	phosphate	?	76,000 m <sup>3</sup> of water	spill into Peace River near Fort Meade
1994, June	IMC-Agrico, Florida, USA	<a href="#">IMC-Agrico</a>	phosphate	Sinkhole opens in phosphogypsum stake	?	Release of gypsum and water into groundwater
1994, Feb. 22	Harmony, Merriespruit, South Africa	Harmony Gold Mines	gold	Dam wall breach following heavy rain	600,000 m <sup>3</sup>	tailings traveled 4 km downstream, 17 people killed, extensive damage to residential township
1994, Feb. 14	<a href="#">Olympic Dam</a> , Roxby Downs, South Australia	<a href="#">WMC Ltd.</a>	copper, uranium	leakage of tailings dam during 2 years or more	release of up to 5 million m <sup>3</sup> of contaminated water into subsoil	?
1994	Daye Iron Ore mine, Longjiaoshan, Hubei, China	?	iron	failure of upstream dam	?	31 people killed
1993, Oct.	Gibsonston, Florida, USA	<a href="#">Cargill</a>	phosphate	?	?	Fish killed when acidic water spilled into Archie Creek
1993	Marsa, Peru	Marsa Mining Corp.	gold	dam failure from overtopping	?	6 people killed
1992, Mar. 1	Marisa Istok 1, near Stara Zagora, Bulgaria	?	ash/cinder	dam failure from inundation of the beach	500,000 m <sup>3</sup>	?
1992, Jan.	No.2 tailings pond, Padcal, Luzon, Philippines	Philex Mining Corp.	copper	Collapse of dam wall (foundation failure)	80 million tonnes	?
1991, Aug. 23	Sullivan mine, Kimberley, British Columbia, Canada	<a href="#">Cominco Ltd.</a>	lead/zinc	dam failure (liquefaction in old tailings foundation during construction of incremental raise)	75,000 m <sup>3</sup>	the slided material was contained in an adjacent pond
1989, Aug. 25	Stancil, Perryville, Maryland, USA	?	sand and gravel	dam failure during capping of the tailings after heavy rain	38,000 m <sup>3</sup>	tailings flowside covered 5000 m <sup>2</sup>









1988, Apr. 30	Jindicheng, Shaanxi province, China	?	molybdenum	breach of dam wall (spillway blockage caused pond level to rise too high)	700,000 m <sup>3</sup>	approx. 20 people killed
1988, Jan. 19	Tennessee Consolidated No.1, Grays Creek, TN, USA	Tennessee Consolidated Coal Co.	coal	dam wall failure from internal erosion, caused from failure of an abandoned outlet pipe	250,000 m <sup>3</sup>	?
1988	Riverview, Florida, USA	Gardiner (now <a href="#">Cargill</a> )	phosphate	?	acidic spill	Thousands of fish killed at mouth of Alafia River
1987, April 8	Montcoal No.7, Raleigh County, West Virginia, USA	Peabody Coal Co. (now <a href="#">Peabody Energy</a> )	coal	dam failure after spillway pipe breach	87,000 cubic meters of water and slurry	tailings flow 80 km downstream
1986, May	Itabirito, Minas Gerais, Brazil	Itaminos Comercio de Minerios	?	dam wall burst	100,000 tonnes	tailings flow 12 km downstream
1986	Huangmeishan, China	?	iron	dam failure from seepage/slope instability	?	19 people killed
1985, Aug. 25	Niujiulong, Hunan, China	Shizhuyuan Zinc Mine Company	copper	failure of upstream dam after debris inflow caused by heavy rainstorms	730,000 m <sup>3</sup> of tailings	tailings flow 4.2 km downstream, destroy many houses, 49 people killed
1985, July 19	Stava, Trento, Italy	Prealpi Mineraria	fluorite	dam failure, caused from insufficient safety margins and inadequate decant pipe construction ( <a href="#">view details</a> )	200,000 m <sup>3</sup>	tailings flow 4.2 km downstream at 90 km/h; 268 people killed, 62 buildings destroyed ( <a href="#">view details</a> )
1985, Mar. 3	Veta de Agua No.1, Chile	?	copper	dam wall failure, due to liquefaction during earthquake	280,000 m <sup>3</sup>	tailings flow 5 km downstream
1985, Mar. 3	Cerro Negro No.4, Chile	Cia Minera Cerro Negro	copper	dam wall failure, due to liquefaction during earthquake	500,000 m <sup>3</sup>	tailings flow 8 km downstream
1985	Olinghouse, Wadsworth, Nevada, USA	Olinghouse Mining Co.	gold	embankment collapse from saturation	25,000 m <sup>3</sup>	tailings flow 1.5 km downstream
1982, Nov. 8	Sipalay, Negros Occidental, Philippines	Marinduque Mining and Industrial Corp.	copper	dam failure, due to slippage of foundations on clayey soils	28 million tonnes	widespread inundation of agricultural land up to 1.5 m high
1981, Dec. 18	Ages, Harlan County, Kentucky, USA	Eastover Mining Co.	coal	dam failure after heavy rain	96,000 m <sup>3</sup> coal refuse slurry	the slurry wave traveled the Left Fork of Ages Creek 1.3 km downstream, 1 person was killed, 3 homes destroyed, 30 homes damaged, fish kill in Clover Fork of the Cumberland River
1981, Jan. 20	Balka Chuftcheva, Lebedinsky, Russia	?	iron	dam failure	3.5 million m <sup>3</sup>	tailings travel distance 1.3 km
1980, Oct. 13	Tyrone, New Mexico, USA	<a href="#">Phelps Dodge</a>	copper	dam wall breach, due to rapid increase in dam wall height, causing high internal pore pressure	2 million m <sup>3</sup>	tailings flow 8 km downstream and inundate farmland





1979, July 16	Church Rock, New Mexico, USA	United Nuclear	uranium	dam wall breach, due to differential foundation settlement	370,000 m <sup>3</sup> of radioactive water, 1,000 tonnes of contaminated sediment	Contamination of Rio Puerco sediments up to 110 km downstream
1979 or earlier	(unidentified), British Columbia, Canada	?	?	pipng in the sand beach of the tailings dam	40,000 m <sup>3</sup> of ponded water	considerable property damage
1978, Jan. 31	Arcturus, Zimbabwe	Corsyn Consolidated Mines	gold	slurry overflow after continuous rain over several days	30,000 tonnes	1 person killed, extensive siltation to waterway and adjoining rough pasture
1978, Jan. 14	Mochikoshi No.1, Japan	Mochikoshi Gold Mining Company	gold	dam failure, due to liquefaction during earthquake	80,000 m <sup>3</sup>	1 person killed, tailings flow 7-8 km downstream
1977, Feb. 1	Homestake, Milan, New Mexico, USA	<a href="#">Homestake Mining Company</a> 	uranium	dam failure, due to rupture of plugged slurry pipeline	30,000 m <sup>3</sup>	no impacts outside the mine site
1976, Mar. 1	Zlevoto, Yugoslavia	?	lead, zinc	dam failure, due to high phreatic surface and seepage breakout on the embankment face	300,000 m <sup>3</sup>	tailings flow reached and polluted nearby river
1975, June	Silverton, Colorado, USA	?	(metal)	dam failure	116,000 tonnes	tailings flow slide polluted nearly 100 miles (160 km) of the Animas river and its tributaries; severe property damage; no injuries
1975, Apr.	Madjarevo, Bulgaria	?	lead, zinc, gold	rising of tailings above design level caused overloading of the decant tower and collectors	250,000 m <sup>3</sup>	?
1975	Mike Horse, Montana, USA	?	lead, zinc	dam failure after heavy rain	150,000 m <sup>3</sup>	?
1974, Nov. 11	Barokeng, South Africa	?	platinum	embankment failure by concentrated seepage and piping through cracks	3 million m <sup>3</sup>	12 people killed in a mine shaft inundated by the tailings; tailings flow 45 km downstream
1974, Jun. 1	Deneen Mica, North Carolina, USA	?	mica	dam failure after heavy rain	38,000 m <sup>3</sup>	tailings released to an adjacent river
1973	(unidentified), Southwestern USA	?	copper	dam failure from increased pore pressure during construction of incremental raise	170,000 m <sup>3</sup>	tailings traveled 25 km downstream
1972, Oct. 20	Brunita, Cartagena, Spain	SMM Peñaroya	zinc, lead	dam failure after heavy rain	70,000 m <sup>3</sup>	the tailings affected a highway, a railway line, the electricity and telephone networks, and destroyed the cemetery of La Union; one person was killed
1972, Feb. 26	Buffalo Creek, West Virginia, USA	<a href="#">Pittston Coal</a> 	coal	collapse of tailings dam after heavy rain (view <a href="#">Citizens' Commission report</a>  )	500,000 m <sup>3</sup>	the tailings traveled 27 km downstream, 125 people lost their lives, 500 homes were destroyed. Property and highway damage exceeded \$65 million. ( <a href="#">see details</a>  )



1971, Dec. 3	Fort Meade, Florida, USA	Cities Service Co.	phosphate	Clay pond dam failure, cause unknown	9 million m <sup>3</sup> of clay water	tailings traveled 120 km downstream with Peace River, large fish kill
1971, Oct. 30	Certeju de Sus, Hunedoara County, Romania	?	gold	tailings dam failure	300,000 cubic metres of tailings	tailings flooded a radius of around 4–5 km around the impoundment, they flowed towards the town of Certej, destroying several buildings, killing 89 and injuring 76 people
1970	Mufulira, Zambia	?	copper	liquefaction of tailings, flowing into underground workings	some 1 million tons	89 miners killed
1970	Maggie Pie, United Kingdom	?	china clay	dam failure after raising the embankment and after heavy rain	15,000 m <sup>3</sup>	tailings spilled 35 meters downstream
1969 or earlier	Bilbao, Spain	?	?	dam failure (liquefaction) after heavy rain	115,000 m <sup>3</sup>	major downstream damage and loss of life
1968	Hokkaido, Japan	?	?	dam failure (liquefaction) during earthquake	90,000 m <sup>3</sup>	tailings traveled 150 meters downstream
1967, Mar.	Fort Meade, Florida, USA	Mobil Chemical	phosphate	dam failure, no details available	250,000 m <sup>3</sup> of phosphatic clay slimes, 1.8 million m <sup>3</sup> of water	spill reaches Peace River, fish kill reported
1967	(unidentified), United Kingdom	?	coal	dam failure during regrading operations	?	tailings flow covered an area of 4 hectares
1966	(unidentified), East Texas, USA	?	gypsum	dam failure	76,000 - 130,000 m <sup>3</sup> of gypsum	flow slide traveled 300 meters; no fatalities
1966	Derbyshire, United Kingdom	?	coal	dam failure from foundation failure	30,000 m <sup>3</sup>	tailings traveled 100 meters downstream
1966, Oct. 21	Aberfan, Wales, United Kingdom	<a href="#">Merthyr Vale Colliery</a> <a href="#">E</a>	coal	dam failure (liquefaction) from heavy rain	162,000 m <sup>3</sup>	the tailings traveled 600 meters, 144 people were killed ( <a href="#">view details</a> <a href="#">E</a> , <a href="#">watch video</a> <a href="#">E</a> )
1966, Oct. 9	Geising/Erzgebirge, German Democratic Republic	VEB Zimmerz	tin	collapse of stream deviation tunnel located under the Tiefenbachtal tailings dam	70,000 m <sup>3</sup>	the iron oxide slurry reached the Müglitz river and then the Elbe river, coloring it red until Hamburg
1966, May 1	Mir mine, Sgorigrad, Bulgaria	?	lead, zinc, copper, silver, (uranium?)	dam failure from rising pond level after heavy rains and/or failure of diversion channel	450,000 m <sup>3</sup>	the tailings wave traveled 8 km to the city of Vratza and destroyed half of Sgorigrad village 1 km downstream, killing 488 people. ( <a href="#">View details</a> <a href="#">E</a> · <a href="#">historic photographs</a> <a href="#">E</a> )
1965, Mar. 28	Bellavista, Chile	?	copper	dam failure during earthquake	70,000 m <sup>3</sup>	tailings traveled 800 meters downstream
1965, Mar. 28	Cerro Negro No.3, Chile	?	copper	dam failure during earthquake	85,000 m <sup>3</sup>	tailings traveled 5 km downstream





1965, Mar. 28	El Cobre New Dam, Chile	?	copper	dam failure (liquefaction) during earthquake	350,000 m <sup>3</sup>	tailings traveled 12 km downstream, destroyed the town of El Cobre and killed more than 200 people
1965, Mar. 28	El Cobre Old Dam, Chile	?	copper	dam failure (liquefaction) during earthquake	1.9 million m <sup>3</sup>	
1965, Mar. 28	La Patagua New Dam, Chile	?	copper	dam failure (liquefaction) during earthquake	35,000 m <sup>3</sup>	
1965, Mar. 28	Los Maquis, Chile	?	copper	dam failure (liquefaction) during earthquake	21,000 m <sup>3</sup>	
1965	Tymawr, United Kingdom	?	coal	dam failure from overtopping	?	tailings traveled 700 meters downstream, causing considerable damage
1962, Sep. 26	Huogudu, Gejiu, Yunnan, China	Yunnan Tin Group Co.	tin	failure of upstream dam after three days of moderate rainfall	3.3 million m <sup>3</sup> of tailings and 380,000 m <sup>3</sup> of water	tailings flowed 4.5 km downstream and destroyed 11 villages, 171 people were killed, 92 injured, 13,970 homeless
1962	Almivirca, Peru	Quinuilca	?	dam failure (liquefaction) during earthquake and after heavy rainfall	?	damage to agriculture and infrastructure
1961	Tymawr, United Kingdom	?	coal	dam failure, no details available	?	tailings traveled 800 meters downstream

tonnes = metric tonnes

Sources:

- **Tailings Dam Incidents**, U.S. Committee on Large Dams - [USCOLD](#), Denver, Colorado, ISBN 1-884575-03-X, 1994, 82 pages [*compilation and analysis of 185 tailings dam incidents*]
- **Environmental and Safety Incidents concerning Tailings Dams at Mines**: Results of a Survey for the years 1980-1996 by Mining Journal Research Services; a report prepared for [United Nations Environment Programme, Industry and Environment](#) ♪ Paris, 1996, 129 pages [*compilation of 37 tailings dam incidents*]
- **Tailings Dams - Risk of Dangerous Occurrences, Lessons learnt from practical experiences**, Bulletin 121, Published by United Nations Environmental Programme (UNEP) Division of Technology, Industry and Economics (DTIE) and [International Commission on Large Dams](#) ♪ (ICOLD), Paris 2001, 144 p. [*compilation of 221 tailings dam incidents mainly from the above two publications, and examples of effective remedial measures*]

and many others.

> See also: [Chronology of uranium tailings dam failures](#)

A compilation comprising many more tailings dam failures can be found here:

- > Download: [The Risk, Public Liability, & Economics Of Tailings Storage Facility Failures](#) ♪, by Lindsay Newland Bowker and David M. Chambers, July 21, 2015 (748KB PDF)
- > [World Mine Tailings Failures - from 1915](#) ♪

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