

7-26-2023

Coal Ash Dumps in the Mountain West

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Repository Citation

Salangsang, J., Diaz Del Valle, N., Billot, Z., Saladino, C. J., Brown, W. E. (2023). Coal Ash Dumps in the Mountain West. *Environment Fact Sheet No. 15* 1-3.

Available at: https://digitalscholarship.unlv.edu/bmw_lincy_env/15

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COAL ASH DUMPS IN THE MOUNTAIN WEST

Environment Fact Sheet No. 15 | July 2023

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PURPOSE:

This fact sheet presents data on coal ash dumps, their management, and the pollutants that exist at each site in the Mountain West states of Arizona, Colorado, Nevada, New Mexico, and Utah.¹ The original report includes data on coal ash dumping sites for all 50 states.

ABOUT THE DATA:

The original data set comes from the 2022 report “Poisonous Coverup: The Widespread Failure of the Power Industry to Clean Up Coal Ash Dumps” by the Environmental Integrity Project and EarthJustice. The fact sheet lists the locations of coal ash dump sites in the Mountain West and pollutant contamination information that exceeds the health-based guidelines as prescribed by the U.S. Environmental Protection Agency (EPA). This fact sheet also includes the level of pollutants found at coal ash dump sites that pose the greatest risks for human and wildlife health.

KEY TERMS:

Coal Ash Dump	An active on-site landfill or surface impoundment where power plants dispose of coal ash (coal combustion residual) produced from burning coal ²
Regulated Disposal Unit	A disposal location within a coal ash dump that receives hazardous waste and is regulated by the EPA ³

KEY FINDINGS:

1. In 2022, two Mountain West coal ash dump sites, the Reid Gardner Generating Station, NV (2nd) and the Hunter Power Plant, UT (9th) ranked among the top ten most contaminated sites in the nation.
2. The EPA regulates 13 coal ash pollutants. The Reid Gardner Generating Station in Nevada contains 12 pollutants, making it the site with the highest number of pollutants exceeding safe levels in the Mountain West in 2022.
3. Among the 22 coal ash dump sites in the Mountain West, two sites contained zero pollutants exceeding safe levels in 2022: Apache Generating Station, AZ and Navajo Generating Station, AZ.
4. In 2022, the Reid Gardner Generating Station (NV) was the only site in the Mountain West with coal ash dump pollutants exceeding 100 times healthy levels: Beryllium (x127), Cadmium (x114), and Cobalt (x488).
5. The Cholla Power Plant (AZ), the Reid Gardener Generating Station (NV), and the Four Corners Power Plant (NM) each report four regulated disposal units, the most among Mountain West coal ash dump sites for 2022.

¹ Poisonous Coverup The Widespread Failure of the Power Industry to Clean Up Coal Ash Dumps. 2022. *Environmental Integrity Project*. Retrieved from <https://environmentalintegrity.org/wp-content/uploads/2022/10/Coal-ash-report-EMBARGOED-for-11.3.22.pdf>

² Coal Ash Basics. *United States Environmental Protection Agency*. Retrieved from <https://www.epa.gov/coalash/coal-ash-basics>

³ Definition Of Regulated Unit. 1984. *United States Environmental Protection Agency*. Doc. 9481.15(84). Retrieved from <https://nepis.epa.gov/Exec/ZyPDF.cgi/9100UB7G.PDF?Dockey=9100UB7G.PDF>

Table 1 provides a list of the 13 coal ash pollutants that the EPA declares dangerous enough a risk to warrant regular monitoring. Pollutants found in coal ash dumps create threats to human health and the environment.

Table 1: Environmental Protection Agency Declared Dangerous Pollutants Found in Coal Ash, 2022

Pollutants	Risks
Arsenic	multiple forms of cancer, neurological impairments in children, and skin conditions
Boron	developmental and reproductive toxicity (e.g., low birthweight and testicular atrophy), also toxic to aquatic life
Cadmium	kidney damage, probably carcinogenic (according to EPA), also toxic to fish themselves
Cobalt	associated with blood disease, thyroid damage, and other endpoints
Chromium	can cause cancer at very low doses, can also cause liver damage and other non-cancer health effects
Fluoride	a neurotoxin that can also cause tooth and bone damage, and may be carcinogenic
Lead	potent neurotoxin, a “probable carcinogen,” and can be toxic to aquatic life
Lithium	kidney damage, neurological damage, decreased thyroid function, and birth defects
Mercury	potent neurotoxin that bioaccumulates in aquatic food chains
Molybdenum	has been associated with gout-like symptoms in humans, and reproductive toxicity in laboratory animals
Radium	radioactive and cancer-causing metal
Selenium	toxic to fish, can also be toxic to humans, affecting skin, blood, and the nervous system
Thallium	has been associated with a long list of adverse health effects including liver, kidney damage, and hair loss

*Adapted from Environmental Integrity Project & EarthJustice. (n.d.). Poisonous Coverup The Widespread Failure of the Power Industry to Clean Up Coal Ash Dumps. <https://environmentalintegrity.org/wp-content/uploads/2022/10/Poisonous-Coverup-11.03.22.pdf>

Table 2 presents the various Mountain West coal ash dump sites by rank from most contaminated to least. Colorado has the most coal ash dump sites in the Mountain West with a total of 7. New Mexico has the least number of coal ash dump sites with only 2. Reid Gardner Generating Station, NV ranks 2nd nationally among the most contaminated sites and is the most contaminated Mountain West site with 12 pollutants exceeding safe levels overall. Only two sites (Apache and Navajo Generating Stations), both from Arizona, are reported to have no pollutants exceeding safe levels.

Table 2: Contamination of Mountain West Coal Ash Dump Sites, 2022

Rank	State	Site Name	Pollutants Exceeding Safe Levels (Above Healthy Levels)	# of Regulated Disposal Units
2 nd	NV	Reid Gardner Generating Station	Arsenic (x8), Beryllium (x127), Boron (x41), Cadmium (x114), Cobalt (x488), Fluoride (x2), Lithium (x90), Mercury (x3), Radium 226+228 (x6), Selenium (x8), Sulfate (x20), Thallium (x4)	4
9 th	UT	Hunter Power Plant	Boron (x16), Cobalt (x28), Lithium (x210), Molybdenum (x11), Radium 226+228 (x2), Selenium (x7), Sulfate (x62)	1
19 th	NM	Four Corners Power Plant	Boron (x74), Chromium (x1), Cobalt (x45), Fluoride (x6), Lead (x2), Lithium (x23), Molybdenum (x4), Radium 226+228 (x5), Selenium (x2), Sulfate (x22)	4
25 th	UT	Huntington Power Plant	Boron (x28), Chromium (x1), Cobalt (x2), Lithium (x94), Molybdenum (x1), Selenium (x3), Sulfate (x10)	1
31 st	CO	Valmont Station	Arsenic (x2), Boron (x9), Cobalt (x4), Lead (x1), Lithium (x6), Mercury (x13), Molybdenum (x6), Selenium (x58), Sulfate (x11), Thallium (x2)	3
38 th	AZ	Cholla Power Plant	Arsenic (x2), Boron (x25), Cobalt (x13), Fluoride (x1), Lithium (x18), Molybdenum (x9), Radium 226+228 (x2), Selenium (x3), Sulfate (x23)	4
39 th	CO	Nucla Generating Station	Arsenic (x3), Fluoride (x1), Lithium (x83), Molybdenum (x1), Sulfate (x4)	1
43 rd	UT	Intermountain Generating Facility	Arsenic (x32), Boron (x6), Lithium (x33), Mercury (x7), Molybdenum (x4), Sulfate (x9)	3
44 th	CO	Hayden Station	Boron (x27), Cobalt (x1), Molybdenum (x34), Sulfate (x27)	1
62 nd	UT	Bonanza Power Plant	Arsenic (x13), Beryllium (x1), Fluoride (x15), Molybdenum (x34), Selenium (x5)	2
93 rd	UT	Sunnyside Cogeneration Associates Facility	Arsenic (x1), Lithium (x26), Selenium (x3), Sulfate (x13)	1
120 th	CO	Rawhide Energy Station	Boron (x1), Cobalt (x2), Lithium (x14), Molybdenum (x1), Selenium (x2), Sulfate (x8)	2
121 st	AZ	Springerville Generating Station	Lithium (x26), Sulfate (x3), Thallium (x1)	1
160 th	NM	Escalante Generating Station	Arsenic (x2), Lithium (x15)	1
161 st	AZ	Coronado Generating Station	Lithium (x14), Radium 226+228 (x1)	3
169 th	CO	Pawnee Station	Lithium (x4), Sulfate (x10)	3
188 th	CO	Cherokee Station	Boron (x2), Lithium (x3), Molybdenum (x1), Sulfate (x3)	2
232 nd	CO	Clear Spring Ranch	Boron (x2), Selenium (x4)	1
243 rd	NV	North Valmy Generating Station	Boron (x3), Fluoride (x2)	1
255 th	NV	TS Power Plant	Arsenic (x1), Lithium (x2)	1
274 th	AZ	Apache Generating Station	No pollutants present at unsafe levels	2
283 rd	AZ	Navajo Generating Station	No pollutants present at unsafe levels	1

* Adapted originally from Environmental Integrity Project & EarthJustice. (n.d.). Poisonous Coverup The Widespread Failure of the Power Industry to Clean Up Coal Ash Dumps. <https://environmentalintegrity.org/wp-content/uploads/2022/10/Poisonous-Coverup-11.03.22.pdf>