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## GOLD KING MINE SPILL: ENVIRONMENTAL LAW AND LEGAL PROTECTIONS FOR ENVIRONMENTAL RESPONDERS

Clifford J. Villa\*

### *Abstract*

*On August 5, 2015, EPA contractors working at the Gold King Mine in southwestern Colorado accidentally released approximately three million gallons of contaminated mine water into the drainage of the Animas River. The water contained metals which created a bright orange plume that coursed down the Animas River and into the connecting San Juan River for many days, attracting nationwide attention and creating great concern for many local communities. The plume touched at least three states, three tribes, and numerous municipalities. The release fortunately did not prove an environmental catastrophe as many people feared at the time. However, it did inspire much angst, ire, investigation, and litigation.*

*The first part of this Article attempts to explain what really happened with the Gold King Mine spill, both the causes of the spill and the response to it. The Article then considers a number of federal environmental laws, including the Endangered Species Act, the Clean Water Act, and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), in order to assess alleged violations and demonstrate some of the important legal protections available to parties who engage in the challenging work of responding to mining contamination in the United States. The Article concludes with a look at protections for individual responders and hopes for cooperative efforts to address the mining contamination in the Animas River watershed and other contaminated mine sites across the country.*

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## I. INTRODUCTION

*“Typically we respond to emergencies; we don’t cause them . . . .”*<sup>1</sup>

On August 4, 2015, work seemed to go according to plan at the Gold King Mine. The plan provided for limited excavation at the Gold King Mine Level 7 mine portal in order to locate the edges of the mine opening, which had been covered by loose materials sliding down the steep slope of Bonita Peak in the San Juan Mountains of southwestern Colorado.<sup>2</sup> By the morning of Wednesday, August 5, 2015, the excavation work conducted by contractors for the U.S. Environmental Protection Agency (EPA) had almost been completed. Two mine specialists from the Colorado Division of Reclamation, Mining and Safety (DRMS) visited the site that morning, talked with the EPA On-Scene Coordinator who supervised the contractors, and agreed with the plan for proceeding that day.<sup>3</sup> After the DRMS personnel left, at approximately 10:51 a.m., the operator of the excavator observed a spurt of clear water shooting up from the floor of the excavation.<sup>4</sup> Within minutes, the clear spurt turned into a massive release of acidic mine water, picking up a bright orange color as the pressurized water blew out of the mine and through a pile of waste rock on the hillside below.<sup>5</sup> By 11:33 a.m., the peak of the flow from the mine had passed,<sup>6</sup> although pressurized water continued to drain from the mine for nine hours.<sup>7</sup> In total,

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<sup>1</sup> Bruce Finley, *Regional EPA Director Calls Wastewater Spill in Animas River ‘Tragic,’* DENVER POST (Aug. 7, 2015), <https://www.denverpost.com/2016/10/12/gold-king-mine-epa-employee-will-not-prosecute/> [<https://perma.cc/B9LX-7757>] (quoting Dave Ostrander, EPA regional director of emergency response).

<sup>2</sup> The plan for work on August 4–5, 2015, was largely set out in an email dated July 29, 2015. Email from Steven Way, Federal On-Scene Coordinator, to Matt Francis, Response Manager, Environmental Restoration, LLC, (July 29, 2015, 10:42:00 AM) [hereinafter Way email] (on file with author). While names in the Way email remain redacted, the identities have been widely revealed. *See, e.g.*, HOUSE COMM. ON NAT. RES., 114TH CONG., EPA, THE DEPARTMENT OF THE INTERIOR, AND THE GOLD KING MINE DISASTER 8 n.19 (Com. Print. 2016) [hereinafter MAJORITY STAFF REPORT]; *see also* Jonathan Thompson, *Silverton’s Gold King Reckoning*, HIGH COUNTRY NEWS (May 2, 2016), <https://www.hcn.org/issues/48.7/silvertons-gold-king-reckoning> [<https://perma.cc/GFE7-K3JK>] (reporting names of lead and back-up On-Scene Coordinators for the EPA).

<sup>3</sup> BUREAU OF RECLAMATION, U.S. DEP’T OF THE INTERIOR, TECHNICAL EVALUATION OF THE GOLD KING MINE INCIDENT 51–52 (2015) [hereinafter BOR TECHNICAL EVALUATION].

<sup>4</sup> *Id.* at 53 fig.48.

<sup>5</sup> The metal load was dominated by iron and aluminum, which gave the water its infamously bright color. U.S. ENVTL. PROT. AGENCY OFFICE OF RESEARCH & DEV., ANALYSIS OF THE TRANSPORT AND FATE OF METALS RELEASED FROM THE GOLD KING MINE IN THE ANIMAS AND SAN JUAN RIVERS ii (2017) [hereinafter ORD REPORT].

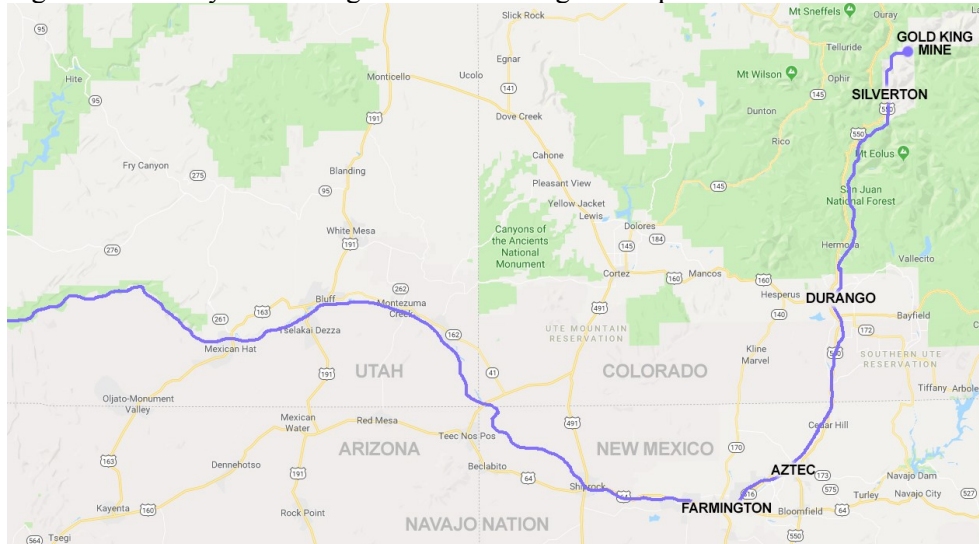
<sup>6</sup> BOR TECHNICAL EVALUATION, *supra* note 3, at 60 fig.59.

<sup>7</sup> ORD REPORT, *supra* note 5.

the blowout on August 5, 2015, resulted in a discharge of some three million gallons of acidic mine water from the Gold King Mine.<sup>8</sup>

From the Gold King Mine Level 7 portal, high up on Bonita Peak at 11,400 feet,<sup>9</sup> the mine water crashed down a steep slope to the North Fork of Cement Creek below. After joining Cement Creek, the orange plume flowed eight miles to enter the Animas River near Silverton, Colorado. From that point, the Animas River flows south 126 miles, through Durango, Colorado, crosses the Southern Ute Indian Reservation, then enters the State of New Mexico. Near Farmington, New Mexico, the Animas River empties into the San Juan River. West of Farmington, the San Juan River enters the Navajo Nation, swings north back into Colorado and the Ute Mountain Ute Reservation, then enters the State of Utah (See Figure 1). After 215 miles, the San Juan River flows into Lake Powell, which the plume reached nine days after the Gold King Mine spill, on August 14, 2015.<sup>10</sup>

Figure 1: Pathway of discharge from Gold King Mine spill.



Graphic: Tony Anderson, UNM School of Law

The spectacle of the “orange river” naturally attracted the attention of news media far and wide for days and weeks.<sup>11</sup> This was followed by months and years of

<sup>8</sup> *Id.*; see also JONATHAN P. THOMPSON, RIVER OF LOST SOULS: THE SCIENCE, POLITICS, AND GREED BEHIND THE GOLD KING MINE DISASTER 5 (2018). Thompson’s book-length treatment of the Gold King Mine spill builds upon a series of related articles published originally in the *High Country News*, setting the spill in the broader context of decades of resource development (and associated follies) in the San Juan Basin.

<sup>9</sup> BOR TECHNICAL EVALUATION, *supra* note 3, at 7.

<sup>10</sup> *Id.* at 1.

<sup>11</sup> Chase Olivarisu-Mcallister, *Catastrophe on the Animas*, DURANGO HERALD, Aug. 6, 2015, at A1; Ollie Reed, Jr., *Spill Heads to NM*, ALBUQUERQUE J., Aug. 8, 2015, at A1; Jonathan Thompson, *When Our River Turned Orange*, HIGH COUNTRY NEWS (Aug. 9, 2015),

technical evaluations, congressional hearings, and inevitably, litigation. Over time, parties including the State of New Mexico, the State of Utah, the Navajo Nation, and hundreds of private plaintiffs sued parties including the EPA, EPA contractors, and a handful of mining companies under theories of liability including common-law tort claims, as well as statutory claims under a number of federal environmental laws. Whatever the outcome of this litigation, the Gold King Mine spill succeeded in drawing attention back to the massive and continuing problems of mining contamination in the United States. Besides the astronomical scope and scale of mining contamination in the United States,<sup>12</sup> one of the particular challenges of remediating mine sites is the constant threat of physical hazards. Despite safety improvements, the mining industry still experiences dozens of fatalities each year due to accidents.<sup>13</sup> The Gold King Mine itself reportedly suffered at least two dozen fatalities over its active years of operations.<sup>14</sup> The adjoining Sunnyside Mine narrowly avoided a calamity on June 4, 1978, when Lake Emma burst into the mine workings, sending an estimated 500 million gallons of mud and water through the mine and out through the American Tunnel; if this blowout had not happened on a Sunday, 125 miners might have lost their lives at that one time.<sup>15</sup>

The Lake Emma blowout highlights the hazards to mine workers and mine cleanup workers alike. Much has already been written about the general legal

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<https://www.hcn.org/issues/48.7/silvertons-gold-king-reckoning> [<https://perma.cc/GFE7-K3JK>]; David Kelly, *River Spill Is a Toxic Blast from the Past*, L.A. TIMES, Aug. 10, 2015, at A1; Julie Turkewitz, *Environmental Agency Uncorks Its Own Toxic Spill*, N.Y. TIMES, Aug. 11, 2015, at A12; Richard Parker, *A River Runs Yellow*, THE ATLANTIC (Aug. 21, 2015), <https://www.theatlantic.com/national/archive/2015/08/a-river-runs-yellow/401966/> [<https://perma.cc/L6QL-A7LQ>].

<sup>12</sup> For a quick snapshot of the impacts of mining pollution in the United States, see Identification of Priority Classes of Facilities for Development of CERCLA Section 108(b) Financial Responsibility Requirements, 74 Fed. Reg. 37, 213–17 (Priority Notice of Action July 28, 2009). According to estimates presented here, hardrock mining may be responsible for polluting 3,400 miles of streams and 440,000 acres of land. To address this contamination, the EPA estimates it spent approximately \$2.7 billion between 1988 and 2007. The EPA also estimated that “the cost of remediating all hardrock mining facilities is between \$20 and \$54 billion.” Notwithstanding this staggering sum to address existing mining contamination, the EPA noted that the hardrock mining industry continued to generate “between one to two billion tons of mine waste” annually. *Id.*

<sup>13</sup> See *Mine Safety and Health at a Glance*, MINE SAFETY & HEALTH ADMIN., U.S. DEP’T OF LABOR, <https://www.msha.gov/data-reports/statistics/mine-safety-and-health-glance> [<https://perma.cc/A58Y-RBL4>].

<sup>14</sup> Jonathan Thompson, *A Gold King Mine Timeline: A Tangled History of Profit, Tragedy and Unfulfilled Dreams*, HIGH COUNTRY NEWS (May 2, 2016), <https://www.hcn.org/issues/48.7/silvertons-gold-king-reckoning/a-gold-king-mine-timeline> [<https://perma.cc/6B6Y-8FZM>] [hereinafter Thompson, *Gold King Mine Timeline*] (reporting four workers killed in 1899 and “the total death toll at the mine . . . easily exceed[ing] two dozen” by the time the mine shut down in 1924).

<sup>15</sup> BOR TECHNICAL EVALUATION, *supra* note 3, at 16.

frameworks for responding to mining contamination in the United States.<sup>16</sup> This Article will consider the unusual circumstances of the Gold King Mine spill as a means of exploring the particular legal protections available to government agencies and contractors who engage in the challenging but necessary work to address mining pollution in the United States. Part II explores the roles of the EPA and other agency partners in carrying out the emergency response to the Gold King Mine spill. Part III backs up before the spill on August 5, 2015, to examine *why* it happened. From that deeper contextual examination, Part IV evaluates whether and to what extent the EPA or agency partners or contractors may be liable under federal environmental law for the Gold King Mine spill. Part IV considers the application of environmental statutes such as the Endangered Species Act, the Clean Water Act, and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), along with relevant legal doctrines such as sovereign immunity. Part V then concludes with a look at legal protections for individual responders and what may be next for the final cleanup of the Animas River watershed.

## II. THE EMERGENCY RESPONSE

Despite all the attention to the Gold King Mine spill, major media and congressional critics largely overlooked the massive emergency response to the spill led by the EPA.<sup>17</sup> The emergency response to the Gold King Mine spill began within minutes after the initial blowout. After ensuring the immediate safety of all personnel at the site, the EPA On-Scene Coordinator and contractor crew went back to work at the adit after the peak flow had passed. By 12:06 p.m., the EPA crew had rebuilt berms and routed the mine flow away from the waste pile and into an existing pipe.<sup>18</sup>

Another immediate response was to notify downstream parties. One problem, however, with providing immediate notice was the lack of cell phone service high

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<sup>16</sup> For perhaps the most thorough and exhaustive scholarly examination on the subject of mining contamination and federal law, see John Seymour, *Hardrock Mining and the Environment: Issues of Federal Enforcement and Liability*, 31 *ECOLOGY L.Q.* 795 (2004) (including 850 footnotes). For one focused examination of the environmental threats posed by abandoned mines in the West and the particular context of the Gold King Mine spill, see Kelly Roberts, *A Legacy that No One Can Afford to Inherit: The Gold King Disaster and the Threat of Abandoned Hardrock Legacy Mines*, 36 *J. NAT'L ASS'N ADMIN. L. JUDICIARY* 361 (2016).

<sup>17</sup> In some cases, it is clear that this oversight was more than an innocent mistake. For just one example, Senator John Barrasso of Wyoming, in a Senate field hearing on April 22, 2016, stated, "Because it's Navajo, only \$157,000 has been spent" by the EPA on the response, even after Senator Barrasso had been advised that same morning in sworn testimony that the EPA had already spent more than \$22 million on response efforts by that time. *Examining EPA's Unacceptable Response to Indian Tribes: Field Hearing Before the Comm. on Indian Affairs U.S. Senate*, 114th Cong. 8 (2016) [hereinafter *Field Hearing*] (statement of Hon. Mathy Stanislaus, Ass't Administrator, U.S. EPA); *id.* at 49 (statement of Sen. Barrasso).

<sup>18</sup> BOR TECHNICAL EVALUATION, *supra* note 3, at 61 fig.60.

up on Bonita Peak at the Gold King Mine. In fact, even satellite phone service was unreliable and unavailable in that area.<sup>19</sup> To compound the problem, the blowout had washed across an access road, temporarily trapping the EPA crew up on the mountain. Fortunately, via two-way radios, the EPA crew was able to contact other contractors and Colorado DRMS personnel who were working lower down on the mountain. The DRMS personnel drove to Silverton, Colorado, established cell service, and notified the National Response Center at 12:27 p.m.<sup>20</sup> Within twelve minutes, the NRC notified parties including the U.S. Department of Homeland Security, the U.S. Department of the Interior, the EPA Region 8 Emergency Operations Center, and the Colorado Department of Public Health and Environment (CDPHE).<sup>21</sup> CDPHE, in turn, notified downstream water users, reporting to the EPA that it completed these notifications by 1:39 p.m.<sup>22</sup>

After that initial round of official notifications, word of the Gold King Mine spill spread through unofficial channels. The Southern Ute Indian Tribe, for example, reported that it received word later that same day from the Colorado Department of Natural Resources.<sup>23</sup> The next day, August 6, 2015, as the potential geographic reach of the spill became clearer, further notices were issued. By 2:00 p.m., EPA Region 6 had provided notice to the New Mexico Environment Department.<sup>24</sup> That same day, EPA Region 8 provided email notice to members of its Regional Response Team, including representatives from the State of Utah.<sup>25</sup> By that evening, EPA Region 9 had provided email notice to the Navajo Nation.<sup>26</sup>

Following the emergency notices, as the scale of the incident became more apparent, the EPA mounted what eventually became one of the largest emergency responses in its history, deploying more than 210 emergency response personnel from across the country.<sup>27</sup> One of the first needs was to take samples of river water and

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<sup>19</sup> U.S. ENVTL. PROT. AGENCY OFFICE OF INSPECTOR GEN., GOLD KING MINE RELEASE: INSPECTOR GENERAL RESPONSE TO CONGRESSIONAL REQUESTS 20–21 (2017) [hereinafter OIG RESPONSE].

<sup>20</sup> *Id.* at 21.

<sup>21</sup> *Id.* at 22.

<sup>22</sup> *Id.* at 23.

<sup>23</sup> *Id.* at 23–24.

<sup>24</sup> *Id.* at 24. EPA Region 6, based in Dallas, Texas, is responsible for implementing EPA programs and initiatives in New Mexico and four other states. *See EPA Region 6 (South Central)*, U.S. EPA, <https://www.epa.gov/region6> [<https://perma.cc/JV2L-NCFV>].

<sup>25</sup> OIG RESPONSE, *supra* note 19, at 24. EPA Region 8, based in Denver, Colorado, is responsible for implementing EPA programs and initiatives in Colorado, Utah, and four other states. *See EPA Region 8 (Mountains and Plains)*, U.S. EPA, <https://www.epa.gov/region8> [<https://perma.cc/K5RQ-JR93>].

<sup>26</sup> OIG RESPONSE, *supra* note 19, at 24. EPA Region 9, based in San Francisco, California, is responsible for implementing EPA programs and initiatives in the Navajo Nation, regardless of the states the Navajo Nation may cross. *See EPA Region 9 (Pacific Southwest)*, U.S. EPA, <https://www.epa.gov/region9> [<https://perma.cc/X8AK-EVA6>].

<sup>27</sup> U.S. ENVTL. PROT. AGENCY, ONE YEAR AFTER THE GOLD KING MINE INCIDENT 10 (2016), <https://www.epa.gov/sites/production/files/2016-08/documents/mstanislausgkm1yr>

sediments immediately before and after the plume passed. By August 20, 2015, at the height of the emergency response, the EPA had taken 462 surface water samples, 325 sediment samples, and 555 samples from private drinking water wells.<sup>28</sup> By the same day, responding to concerns about the use of river water, the EPA had delivered 327,000 gallons of drinking water to affected communities, over 2 million gallons of water for livestock and agricultural purposes, and 628 bales of hay for livestock.<sup>29</sup> Meanwhile, back at the Gold King Mine, temporary treatment ponds had been constructed by August 10, 2015, to capture the continuing flow from the mine, followed three months later by the installation of a larger treatment system farther down on Cement Creek.<sup>30</sup> By September 15, 2015, the mine opening had been cleared of waste rock and debris, and the face of the surrounding rock had been stabilized to provide a safer work environment for continuing investigations inside the mine.<sup>31</sup>

Of course, the EPA did not do this work alone. On August 20, 2015, there were 282 personnel on-site, working out of command posts in Durango, Farmington, and other locations in the area.<sup>32</sup> On-site personnel included a number of EPA employees and contractors, but also personnel from the U.S. Fish and Wildlife Service, U.S. Coast Guard, the Colorado Office of Emergency Management, the CDPHE, the New Mexico Environment Department, the Utah Department of Environmental Quality, the Southern Ute Indian Tribe, the Ute Mountain Ute Tribe, the Navajo Nation, the Durango Fire Department, and the San Juan County Health Department, among many other governments and agencies.<sup>33</sup>

While perhaps getting off to a slow start, the EPA soon realized the need for providing public information about the spill. Over the first four days, in addition to daily calls with media and elected officials, the EPA participated in four public meetings in Silverton and Durango.<sup>34</sup> Within ten days, the EPA participated in nine public meetings on the Navajo Nation alone.<sup>35</sup> At first, much of the public information focused on public health advisories and preparations for the ecological catastrophe anticipated from the Gold King Mine spill.<sup>36</sup> Fortunately, many of the worst fears from the spill never materialized.

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reportwhole8-1-16.pdf [<https://perma.cc/XE9M-LPSR>] [hereinafter ONE YEAR AFTER]. For background on the EPA's emergency response program, including trained personnel and response tools and assets, see *Emergency Response*, U.S. EPA, <https://www.epa.gov/emergency-response> [<https://perma.cc/AE55-6GMP>].

<sup>28</sup> U.S. ENVTL. PROT. AGENCY AREA COMMAND, SITUATION REPORT #10, at 3 (2015) [hereinafter SITUATION REPORT #10].

<sup>29</sup> *Id.* at 4.

<sup>30</sup> ONE YEAR AFTER, *supra* note 27, at 10.

<sup>31</sup> BOR TECHNICAL EVALUATION, *supra* note 3, at 62–64 figs.62–65.

<sup>32</sup> SITUATION REPORT #10, *supra* note 28, at 8.

<sup>33</sup> *Id.* at 7; see also ONE YEAR AFTER, *supra* note 27, at 9–10.

<sup>34</sup> ONE YEAR AFTER, *supra* note 27, at 10.

<sup>35</sup> *Id.*

<sup>36</sup> For example, on August 6, 2015, the day after the Gold King spill, the New Mexico Environment Department (NMED) issued an advisory to public water systems to shut down



Initially, the spill appeared worse than first understood, with the original spill estimate of one million gallons of mine water soon revised to three million gallons of mine water.<sup>37</sup> Those three million gallons were acidic but not at levels presenting any immediate threats to human health or the environment.<sup>38</sup> And, of course, the spill high up on Bonita Peak eventually crossed three states, three reservations, and dozens of local jurisdictions and concerned communities. However, both the initial results and the final analyses confirmed that neither a public health emergency nor an ecological catastrophe ever followed from the Gold King Mine spill, as indicated below.

A peer-reviewed study by scientists from the EPA Office of Research and Development (ORD), issued in January 2017, found that the estimated three million gallons of mine water released from the Gold King Mine on August 5, 2015, carried approximately 540 tons of metals into the Animas River.<sup>39</sup> Of this mass, approximately 96% consisted of aluminum or iron,<sup>40</sup> while less than 2.4% consisted of more toxic metals such as arsenic, cadmium, copper, lead, and zinc.<sup>41</sup> More encouraging news concerned the form of the metals released. According to EPA scientists, only 3% of the metals released from the Gold King blowout were in dissolved state, leaving 97% of the metals in the less mobile and less toxic particulate form.<sup>42</sup> Consistent with this relative immobility and reduced toxicity, there were no observed or reported fish-kills as a result of the Gold King Mine spill.<sup>43</sup> Nor were there any

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water intakes from the Animas River. News Release, State of New Mexico Env't Dep't, New Mexico Reminds Animas River Water Users to Stop Taking Water from Animas River During EPA Gold King Mine Toxin Spill (Aug. 6, 2015), <https://www.env.nm.gov/documents/150806PR-OOTS-KingGoldMineEPAAnimasRiverSpill.pdf> [<https://perma.cc/8TD2-AWF2>]. The following day, NMED issued another advisory expanding precautions to include both the Animas River and San Juan River. News Release, State of New Mexico Env't Dep't, Environment Department Issues Precautions for EPA Gold King Mine Spill (Aug. 7, 2015), <https://www.env.nm.gov/documents/150807PR-OOTSGoldKingMineEPASpill2.pdf> [<https://perma.cc/2KAJ-RBVQ>].

<sup>37</sup> *Press Releases and Updates for Gold King Mine Response*, U.S. EPA (Aug. 9, 2015), <https://www.epa.gov/goldkingmine/press-releases-and-updates-gold-king-mine-response> [<https://perma.cc/Q4QD-KZE3>] (click "August 9, 2015" to expand content toward the bottom of the page).

<sup>38</sup> As the spill plume passed Silverton, Colorado, entering the Animas River, it was measured with the pH of approximately 4.8, which the EPA noted was less acidic than either black coffee or apples. U.S. ENVTL. PROT. AGENCY, PH OF COMMON SUBSTANCES (2015), <https://semspub.epa.gov/work/08/1622624.pdf> [<https://perma.cc/QF7E-3YWG>].

<sup>39</sup> ORD REPORT, *supra* note 5, at ii.

<sup>40</sup> In kilograms, the total metals released into the Animas River was estimated at 490,000 kg. *Id.* at 56. Scientists found this amount included approximately 433,086 kg of iron and 41,132 kg of aluminum. *Id.*

<sup>41</sup> Of the estimated 490,000 kg of total metals released into the Animas River, some 11,600 kg consisted of the toxic metals arsenic, cadmium, copper, lead, and zinc. *Id.*

<sup>42</sup> *Id.* at ii–iii.

<sup>43</sup> *Id.* at iv. These observations were confirmed by biologists who walked and paddled the river looking for dead fish. *Frequent Questions Related to Gold King Mine Response*,

confirmed impacts to terrestrial animals, including birds or mammals,<sup>44</sup> or benthic invertebrates.<sup>45</sup> Assuaging concerns for human health, there were no exceedances of federal drinking water standards for metals in potentially affected well-water.<sup>46</sup> Nor were there any exceedances for recreational use of the affected water.<sup>47</sup>

Within two weeks, data indicated that water quality had returned to “pre-event conditions,”<sup>48</sup> allowing the rivers to be reopened for recreation<sup>49</sup> and bans on the use of river water for public and private water supplies to be lifted.<sup>50</sup> While there were

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U.S. EPA (Mar. 16, 2017), <https://www.epa.gov/goldkingmine/frequent-questions-related-gold-king-mine-response> [<https://perma.cc/2JR8-232Z>]. These observations were also consistent with studies by Colorado Division of Parks and Wildlife biologists, who placed fingerling trout in cages in the Animas River before the Gold King plume arrived, in order to test the toxicity of the contaminated waters. *EPA’s Animus Spill: Joint Oversight Hearing before the Comm. on Natural Resources and Comm. on Oversight and Gov’t Reform*, 114th Cong. 95 (2015) (testimony of Larry Wolk, M.D. P.S.P.H., Executive Director and Chief Medical Officer, Colo. Dept. of Public Health and Env’t). Of 108 fish placed in the cages before the plume arrived, only one fish died, and reportedly not due to change in water quality. *Id.*

<sup>44</sup> *Frequent Questions Related to Gold King Mine Response*, U.S. EPA (Mar. 16, 2017). In at least one case, biologists for the New Mexico Department of Game and Fish found wild birds with staining apparently from the Gold King Mine spill. *EPA Prioritizes Data, Safety During Today’s Gold King Mine Response*, U.S. EPA (Aug. 11, 2015), <https://www.epa.gov/goldkingmine/epa-prioritizes-data-safety-during-todays-gold-king-mine-response> [<https://perma.cc/8DQH-XKK5>]. However, the New Mexico biologists observed that these birds were still able to fly and did not require rehabilitation. *Id.*

<sup>45</sup> ORD REPORT, *supra* note 5, at 161 (reporting results of a 2016 study conducted by Mountain Studies Institute, which found that benthic communities in the affected area had mostly survived despite exposure to concentrated heavy metals).

<sup>46</sup> *Id.* at iv.

<sup>47</sup> *Id.* Among other things, this was good news for the three kayakers in the famous photograph where they are seen paddling on the bright orange Animas River below Silverton on August 6, 2015. See Shane Benjamin, *Durango Kayaker Reacts to Animas River Photo that Went Viral*, THE DURANGO HERALD (Aug. 9, 2015), <https://durangoherald.com/articles/1532> [<https://perma.cc/SK56-2LS6>].

<sup>48</sup> ORD REPORT, *supra* note 5, at iii. Note that “pre-event conditions” does not mean clean, but recognizes the existence of significant and continuing contamination in the rivers before and after the Gold King Mine spill, as will be discussed *infra*.

<sup>49</sup> See, e.g., Press Release, San Juan Health Dep’t et al., Update on Local Response to Gold King Mine and Animas River Impacts – Sheriff Smith Opens Recreation on the River in La Plata County (Aug. 14, 2015), [https://www.colorado.gov/pacific/sites/default/files/Animas\\_Sheriff\\_Opens\\_River.pdf](https://www.colorado.gov/pacific/sites/default/files/Animas_Sheriff_Opens_River.pdf) [<https://perma.cc/SJV7-SN46>].

<sup>50</sup> See, e.g., News Release, New Mexico Env’t Dep’t, Ban on Domestic Well Water Use in Animas Floodplain Lifted by New Mexico Environment Department and Health Department (Aug. 14, 2015), <https://www.env.nm.gov/documents/150814PR-OOTSGoldKingMineSpill7.pdf> [<https://perma.cc/86WC-P3VA>]; News Release, New Mexico Env’t Dep’t, New Mexico Departments of Environment, Health, and Game & Fish Lift Ban on Water Systems’ Supply Connection to Animas and San Juan Rivers and on Public’s Recreational Use of Rivers (Aug. 15, 2015), <https://www.env.nm.gov/documents/150815PR-OOTSGoldKingMineSpill-9.pdf> [<https://perma.cc/HQG9-YCHJ>].

temporary rises in metals following a storm in late August 2015 and again following the 2016 spring snowmelt,<sup>51</sup> monitoring through the summer and fall of 2016 indicated the metal concentrations in both the water and sediments of the Animas River and San Juan River had returned to and remained at pre-event levels.<sup>52</sup>

So, other than the psychic trauma inflicted by the orange river, was there ever any real environmental catastrophe caused by the Gold King Mine spill? The spill did contribute to elevated levels of metals in both the Animas River and San Juan River as the plume passed within forty-eight hours.<sup>53</sup> This led to exceedances of water quality standards most frequently for aluminum and lead,<sup>54</sup> both of which exceeded criteria for domestic water supply, human contact, and agriculture.<sup>55</sup> Tribal water quality criteria for aluminum and lead were also exceeded in segments of the San Juan River through the Navajo Nation and Ute Mountain Ute Tribe reservation.<sup>56</sup> But for the most part, the sudden release from the Gold King Mine on August 5, 2015, appeared not to result in the ecological calamity that many observers feared.

What the Gold King Mine spill certainly did do, however, was draw attention to the real calamity created by thousands of abandoned mines across the United States. According to one 2011 estimate by the U.S. Government Accountability Office, there are at least 161,000 abandoned hardrock mines in twelve western states and Alaska, and at least 33,000 of these mines have resulted in the contamination of surrounding surface waters and groundwater.<sup>57</sup> In the immediate area surrounding the August 5, 2015 spill, the Gold King Mine plus thirty-two other mines in the Animas River watershed discharge a combined average of 5.4 million gallons of mine water *every day*,<sup>58</sup> a daily discharge that will continue to degrade water quality in the Animas River and San Juan basins until these on-going discharges are addressed.

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<sup>51</sup> Both of these spikes represented the predictable result of particulate metals, settled into the sediments, resuspended into the water by high river flows. ORD REPORT, *supra* note 5, at iii–iv.

<sup>52</sup> *Id.*

<sup>53</sup> *Id.* at 160–61.

<sup>54</sup> *Id.* at 161. Brief exceedances of acute criteria, lasting only several hours, were also observed for metals including cadmium, copper, lead, manganese, and zinc. *Id.*

<sup>55</sup> *Id.* at 160.

<sup>56</sup> *Id.*

<sup>57</sup> GOV'T ACCOUNTABILITY OFFICE, ABANDONED MINES: INFORMATION ON THE NUMBER OF HARDROCK MINES, COST OF CLEANUP, AND VALUE OF FINANCIAL ASSURANCES i (2011), <https://www.gao.gov/assets/130/126667.pdf> [<https://perma.cc/6KUW-TFVA>] [hereinafter GAO REPORT] (statement of Anu K. Mittal, Director Natural Resources and Environment Team at the Government Accountability Office).

<sup>58</sup> ONE YEAR AFTER, *supra* note 27, at 6.

## III. BEFORE THE SPILL: WHY IT HAPPENED

“[E]ach mine is unique.”<sup>59</sup>

After the Gold King Mine spill, many observers concluded that the release was caused by the negligent action of the EPA.<sup>60</sup> As time and further investigations revealed, however, such conclusions were premature and perhaps unwarranted. For a full and accurate understanding of what really happened, and *why*, this Part begins by reviewing some of the history of hardrock mining in the West and particularly in the Animas River watershed. This Part then focuses on the sources of pollution associated with hardrock mining, with a particular focus on mining pollution in the Animas River watershed. Following that, this Part considers various efforts to address mining pollution in the Animas River watershed, including the specific efforts by the EPA that led directly to the Gold King Mine spill. Finally, this Part will take a close look at what went wrong, considering the findings of multiple investigations.

*A. Mining in the Animas River Watershed*

As in many parts of the American West, the history of European settlement in the San Juan Mountains of southwestern Colorado is largely a story of hardrock mining.<sup>61</sup> The first European exploration into what is now the southwestern part of the United States was driven in part by a search for precious metals, with Spanish explorers in the early 16th century stomping around present New Mexico in search of the fabled Seven Cities of Gold.<sup>62</sup> While the Spanish never found those cities of

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<sup>59</sup> U.S. ENVTL. PROT. AGENCY OFFICE OF INSPECTOR GEN., GOLD KING MINE RELEASE: INSPECTOR GENERAL RESPONSE TO CONGRESSIONAL REQUESTS 12 (2015), [https://www.epa.gov/sites/production/files/2017-06/documents/\\_epaig\\_20170612-17-p-0250.pdf](https://www.epa.gov/sites/production/files/2017-06/documents/_epaig_20170612-17-p-0250.pdf) [<https://perma.cc/2S4Y-V9PP>].

<sup>60</sup> For example, at a hearing on Earth Day, April 22, 2016, Senator John McCain summarily declared, “There’s no question as to the EPA’s culpability and negligence in this disaster.” *Field Hearing*, *supra* note 17, at 3; *see also* Roberts, *supra* note 16, at 379 (noting “the EPA’s negligence in not checking the water levels”); PAUL J. LARKIN, JR. & JOHN-MICHAEL SEIBLER, THE HERITAGE FOUNDATION, THE ONGOING LACK OF EPA ACCOUNTABILITY FOR THE GOLD KING MINE SPILL: THE EPA’S NEW “RESPONDER” THEORY 2 (2016) (“The federal government has criminally prosecuted private parties under the Clean Water Act for negligently polluting bodies of water like the Animas River.”). Leaping past negligence, some corners of the Internet suggested that the EPA caused the Gold King Mine spill intentionally. *See, e.g.*, Michael Bastasch & Ethan Barton, *EPA’s Gold King Mine Blowout Was No Accident*, DAILY CALLER (Mar. 14, 2016), <http://dailycaller.com/2016/03/14/breaking-epas-gold-king-mine-blowout-was-no-accident/> [<https://perma.cc/4E8V-4F9N>].

<sup>61</sup> “Hardrock” mining refers to a process of extracting valuable minerals from rock types that are hard and strong. Hardrock minerals include gold, silver, lead, copper, nickel, uranium, and zinc, and exclude softer minerals such as oil, gas, coal, phosphate, potassium, and sulfur. NAT’L RESEARCH COUNCIL, HARDROCK MINING ON FEDERAL LANDS 243 (1999) (defining “Hardrock”).

<sup>62</sup> JOSEPH P. SANCHEZ ET AL., NEW MEXICO: A HISTORY 12–17 (2013).

gold, of course, other explorers did eventually strike gold in the West. Most famously, the discovery of gold at Sutter's Mill on the American River in 1848 set off the California Gold Rush and stampede of "Forty-Niners."<sup>63</sup> This was soon followed by many other gold strikes in the western United States, including the Colorado Gold Rush starting in 1858, which drew an influx of "Fifty-Niners."<sup>64</sup>

The story of mining in the San Juan Mountains of southwestern Colorado would follow similar lines. In 1860, gold was discovered in the San Juan Mountains.<sup>65</sup> In 1872, commercial mining operations began in the San Juans, followed two years later by the founding of the town of Silverton.<sup>66</sup> By 1890, the mining industry of the San Juans was bustling, with 176 mines and thirteen mills active in San Juan County.<sup>67</sup> By 1907, mining in the district reached its peak, with more than 2,000 men employed in the industry.<sup>68</sup> From that point, commercial production from the district would fall, then rise up for a while, following the traditional cycles of "boom and bust" in mining.<sup>69</sup>

In 1886, as mining in the district expanded rapidly, production began at the Gold King Mine high up on the west slope of Bonita Peak. A literal as well as

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<sup>63</sup> RODMAN WILSON PAUL & ELLIOTT WEST, *MINING FRONTIERS OF THE FAR WEST, 1848–1880* 12–14 (1974).

<sup>64</sup> *Id.* at 113. Beginning along the Platte River and its tributaries including Cherry Creek within the present Denver metro area, miners soon located deposits of gold, silver, and other precious metals throughout the Colorado Territory. See DUANE A. SMITH, *THE TRAIL OF GOLD AND SILVER* 12–14 (2009). In 1859, prospectors discovered gold along Clear Creek, near Idaho Springs, Colorado. *Id.* at 37. In 1860, prospectors discovered gold in California Gulch, near Leadville, Colorado. *Id.* at 50–51, 100–02. By 1880, Leadville was the second largest city in Colorado, with an annual output of silver that surpassed the total production of almost every nation. PAUL & WEST, *supra* note 63, at 128. By the mid-1880s, however, the "silver queen" crown was wrested away by the mining district that came to be known as Aspen, Colorado, with famous diggings including the Smuggler Mine. SMITH, *supra* note 64, at 114–20. A century later, of course, with a more developed and diversified economy, Aspen and other Colorado towns became famous for more than just mining. Still, mining continued to play a role in the state economy with new discoveries such as the Summitville Mine in the San Luis Valley of southern Colorado. *Id.* at 237. In 1992, Summitville became the scene of another EPA emergency response after its Canadian owner suddenly abandoned the property, leaving behind some 150 million gallons of contaminated solution from a cyanide heap-leaching operation, and threatening the headwaters of the Rio Grande. *Id.* at 238. Significantly, each of these four mining districts—along with many others in Colorado—would leave behind a legacy of toxic metals, eventually placing each on the National Priorities List of the federal Superfund statute.

<sup>65</sup> See BOR TECHNICAL EVALUATION, *supra* note 3, at 13; see also SMITH, *supra* note 64, at 52–53.

<sup>66</sup> Aptly named, Silverton and the surrounding mines would quickly become more famous for silver mines than gold. SMITH, *supra* note 64, at 84; see also Thompson, *Gold King Mine Timeline*, *supra* note 14.

<sup>67</sup> Thompson, *Gold King Mine Timeline*, *supra* note 14.

<sup>68</sup> *Id.*

<sup>69</sup> See generally *id.*

figurative gold mine, the Gold King Mine proved “wildly profitable,”<sup>70</sup> producing more than 343,000 ounces of gold and more than 1.6 million ounces of silver before operations ended around 1923.<sup>71</sup> Lower down the mountain on the east side of Bonita Peak was the Sunnyside Mine, the largest mine in the county. After the Gold King Mine shut down, the Sunnyside Mine continued operations into the late 1930s.<sup>72</sup> In 1959, the Sunnyside Mine regained new life with extension of the two-mile American Tunnel, connecting opposite faces of Bonita Peak.<sup>73</sup> For three more decades, the county enjoyed a revival of the local mining industry. Then in 1991, almost inevitably, the Sunnyside Mine shut down,<sup>74</sup> bringing an end to commercial mining in the San Juan Mountains around Silverton.

### *B. Mining Pollution in the Animas River Watershed*

As demonstrated in the Animas River watershed and many other mining regions of the West, mining processes may result in massive volumes of pollution to the environment from a number of different waste streams. First, the digging, drilling, blasting, loading, hauling, and other elements of the process for extracting valuable minerals from the ground may result in substantial volumes of waste rock piled outside of mine portals or spilled down mountainsides.<sup>75</sup> Once this waste rock comes in contact with water, contaminants in the waste rock, including metals in a mineralized area, can be leached or otherwise mobilized for transport downstream.<sup>76</sup> Indeed, the waste rock pile outside the Gold King Mine Level 7 appears to be the source of 99% of the metals released to the waters downstream on August 5, 2015.<sup>77</sup>

Once ore is extracted from a mine, it is usually transported to a mill for concentration of the valuable minerals, a process known as beneficiation.<sup>78</sup> The beneficiation process often begins with crushing and grinding the ore into fine particles. These fine particles are then subjected to further physical or chemical processes to separate out the valuable minerals from the rest of the fine material.<sup>79</sup> The rest of the fine material, known as mill tailings, was often dumped directly into nearby watercourses

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<sup>70</sup> *Id.* at 8.

<sup>71</sup> BOR TECHNICAL EVALUATION, *supra* note 3, at 13.

<sup>72</sup> Thompson, *supra* note 2, at 6.

<sup>73</sup> *Id.*

<sup>74</sup> The Sunnyside shutdown in 1991 came in part due to competition from much larger mines outside of Colorado and outside the United States. *Id.* at 9.

<sup>75</sup> NAT'L RESEARCH COUNCIL, *supra* note 61, at 25. For an impressive view of the waste rock pile fanning out on the slope outside the Gold King Mine Level 7 near the peak of production from the mine, see the historical photograph reproduced in BOR TECHNICAL EVALUATION, *supra* note 3, at 14 fig.5.

<sup>76</sup> NAT'L RESEARCH COUNCIL, *supra* note 61, at 154.

<sup>77</sup> ORD REPORT, *supra* note 5, at ii.

<sup>78</sup> NAT'L RESEARCH COUNCIL, *supra* note 61, at 26.

<sup>79</sup> *Id.*

for efficient waste disposal before restrictions came into place.<sup>80</sup> Mills in the Silverton area, for example, followed this common practice by dumping mill tailings directly into the Animas River,<sup>81</sup> forcing Durango downstream to seek an alternate water supply in 1902.<sup>82</sup> Like waste rock, mill tailings may serve as a major source for release of toxic metals to surrounding soils, sediments, surface waters, and groundwater.<sup>83</sup> From the mill, the valuable, concentrated metals may be transported to a smelter for furthering refining into ingots, bars, or other solid forms. Smelter operations, such as the one in Durango that served the mines of the San Juan Mountains,<sup>84</sup> were also notorious sources of air pollution.<sup>85</sup>

With the Durango smelter now gone, like many others in the West,<sup>86</sup> one of the major remaining pollution problems in the Animas River watershed, like elsewhere across the West, is acid mine drainage. Acid mine drainage forms when metal sulfide minerals, commonly found in rock associated with metal mining activity, become exposed to air and water.<sup>87</sup> The resulting sulfuric acid may bring the pH of

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<sup>80</sup> In some mining districts, the volume of mill tailings dumped into watercourses reached astronomical proportions. In the Silver Valley of northern Idaho, for example, the volume of tailings dumped in the Coeur d'Alene River was estimated to be enough to cover a football field with a pile four miles high. See Clifford J. Villa, *Superfund vs. Mega-Sites: The Coeur d'Alene River Basin Story*, 28 COLUM. J. ENVTL. L. 255, 256 (2003).

<sup>81</sup> Over the life of the mining industry in the area, an estimated 8.6 million tons of tailings ended up in the Animas River watershed. BOR TECHNICAL EVALUATION, *supra* note 3, at 16.

<sup>82</sup> Thompson, *supra* note 2, at 9.

<sup>83</sup> NAT'L RESEARCH COUNCIL, *supra* note 61, at 154.

<sup>84</sup> The smelter in Durango was a major operation, boasting one of the most sophisticated plants of its time and feeding the fortunes of the ASARCO "smelter trust" and the Guggenheim family. By 1927, as the peak of Colorado mining had passed, the Durango smelter and the smelter in Leadville were reportedly the only two smelters still operating in Colorado. SMITH, *supra* note 64, at 168, 188, 205.

<sup>85</sup> Smelters cooked heavy metals such as arsenic and lead out of the ore bodies, sent these toxins up a stack into the air, and then allowed them to settle down upon surrounding areas to kill forests and other vegetation and, in the worst cases, poison animals and people. By the 1870s, early smelters in Colorado already had severe "smoke problems," with one smelter emitting "considerable arsenic" and resulting in a "silencing" of the song birds. *Id.* at 91. A full century later, smelters still contributed to some of the most egregious impacts to human health and the environment. For example, at the Bunker Hill smelter in the Silver Valley of northern Idaho, a fire in September 1973 partially destroyed the pollution control equipment and yet the company decided to run the smelter anyway, poisoning 99% of the children in the surrounding community of Smelterville and resulting in some of the highest blood-lead levels ever recorded. NAT'L RESEARCH COUNCIL, *supra* note 61, at 40-41.

<sup>86</sup> The site of the former Durango smelter is now the Smelter Mountain Hiking Trail, after the smelter complex was demolished and contaminated soils removed by the early 1990s. See *Smelter Mountain Trail*, DURANCO OUTDOORS, <https://www.durangoutdoors.com/trails/smelter-mountain-trail.htm> [<https://perma.cc/S6CV-HXA6>].

<sup>87</sup> U.S. ENVTL. PROT. AGENCY, NATIONAL HARDROCK MINING FRAMEWORK B-3 (1997).

surrounding waters down near 2.5.<sup>88</sup> In addition to the direct hazards of corrosivity, acid mine drainage can also dissolve minerals and result in releases of toxic metals such as cadmium, copper, lead, silver, and zinc into an aquatic environment.<sup>89</sup> As a result, miles of streams with acid mine drainage and dissolved metals can become uninhabitable to fish and other aquatic life.<sup>90</sup>

Acid mine drainage can form naturally, as when rain or snow falls upon exposed mineralized rock outcroppings. With the mineralized geology of the San Juan Mountains, acid mine drainage formed naturally in Cement Creek and other tributaries to the Animas River.<sup>91</sup> However, the generation of acid mine drainage may be greatly increased by mining activity, where miles of mining shafts and tunnels expose mineralized rock to precipitation and groundwater, and where piles of waste rock and tailings are left exposed to the elements.<sup>92</sup> From the earliest days of mining in the Animas River watershed, mining activities likely resulted in acid mine drainage.<sup>93</sup> Thus, the natural acid mine drainage of the Animas River watershed was likely compounded greatly by the century of mining in the region.

Once it begins, acid mine drainage is notoriously difficult to stop.<sup>94</sup> Methods for addressing acid mine drainage fall into two broad categories: methods to prevent the generation of acid mine drainage and methods to treat acid mine drainage.<sup>95</sup> Methods to prevent acid mine drainage may include capping and sealing mine openings to prevent air and water from reaching mineralized rock or to prevent the discharge of acid mine water into the environment.<sup>96</sup> Methods to treat acid mine drainage may include the addition of neutralizing materials such as lime.<sup>97</sup> Settling ponds may also be used to slow down water and give toxic metals an opportunity to fall out of solution.<sup>98</sup>

Depending on the volume of water to be treated, as well as the pH and the metals concentrations, active water treatment can be technically challenging and

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<sup>88</sup> *Id.* at B-5.

<sup>89</sup> *Id.*

<sup>90</sup> For a simple, lay explanation of the chemical processes and ecological effects of acid mine drainage, see Thompson, *supra* note 2, at 7.

<sup>91</sup> BOR TECHNICAL EVALUATION, *supra* note 3, at 16 (noting that Cement Creek and other local drainages “were biologically dead prior to any mining activity in the area”); see also Thompson, *supra* note 2, at 13 (observing that “Nature . . . is the biggest polluter in the [Animas River] watershed”).

<sup>92</sup> BOR TECHNICAL EVALUATION, *supra* note 3, at 16.

<sup>93</sup> For a clear view of acid mine drainage streaming out of the Gold King Mine Level 7 and down the hillside circa 1906, see Thompson, *Gold King Mine Timeline*, *supra* note 14.

<sup>94</sup> Lead mines operating during the Roman Empire reportedly continue to discharge acid mine drainage today, 2000 years later. NAT’L RESEARCH COUNCIL, *supra* note 61, at 154. Even further back, a mine in Spain abandoned 4000 years ago reportedly discharges acid mine drainage into the Rio Tinto to this day. Thompson, *supra* note 2.

<sup>95</sup> NAT’L RESEARCH COUNCIL, *supra* note 61, at 155.

<sup>96</sup> *Id.*

<sup>97</sup> *Id.* at 156.

<sup>98</sup> Settling ponds were constructed within days of Gold King Mine spill to capture and treat continuing mine drainage.



expensive.<sup>99</sup> This can be especially problematic for the tens of thousands of abandoned mines in the United States, where there are no identifiable owners or operators to build and maintain a treatment plant. In the 1970s, the one exception in the Silverton area was the Sunnyside Mine, the last operating mine in the region. The American Tunnel, completed beneath Bonita Peak in 1961, drained the underground workings of the Sunnyside Mine, discharging volumes of acid mine water to Cement Creek.<sup>100</sup> With the passage of the federal Clean Water Act in 1972,<sup>101</sup> the discharge from the American Tunnel required a permit<sup>102</sup> which, in turn, required treatment of the mine water before discharge into Cement Creek. When the Sunnyside Mine shut down in 1991, a big question was what to do with the Clean Water Act permit for the Sunnyside Mine and how to manage the mine water continuing to flow from the American Tunnel at a rate of about 1,700 gallons per minute.<sup>103</sup> Efforts to resolve this question and the broader issue of mine water contamination in the Animas River watershed would consume energies for the next twenty-five years, leading to and beyond the Gold King Mine blowout on August 5, 2015.

### C. Animas River Watershed Restoration Efforts: 1991–2015

From 1991, efforts to address mining contamination in the Animas River watershed—and especially the problem of acid mine drainage—proceeded along three main tracks: negotiations between the Sunnyside Mine and the State of Colorado to address mine water discharges from the American Tunnel; collaborative efforts by the Animas River Stakeholders Group to improve water quality throughout the Animas River watershed; and efforts by EPA Region 8 and the State of Colorado to address continuing discharges from abandoned mines in the watershed. This sub-

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<sup>99</sup> See, e.g., BOR TECHNICAL EVALUATION, *supra* note 3, at 18 (\$10 million to get out of water treatment obligation); see also *infra* text accompanying note 115.

<sup>100</sup> BOR TECHNICAL EVALUATION, *supra* note 3, at 13, 17.

<sup>101</sup> Clean Water Act of 1972, 33 U.S.C. §§ 1251–1388 (2018). For a classic introduction and overview of the Clean Water Act, see WILLIAM H. RODGERS, JR., ENVIRONMENTAL LAW 246 (2d ed. 1994).

<sup>102</sup> In brief, Section 301 of the Clean Water Act, 33 U.S.C. § 1311(a), prohibits the discharge of any pollutant by any person to any waters of the United States. See Clean Water Act § 502, 33 U.S.C. § 1362 (defining “discharge,” “person,” and “pollutant”). The permit program established by Clean Water Act § 402, 33 U.S.C. § 1342, is known as the National Pollutant Discharge Elimination System (NPDES). NPDES permits may be issued by the EPA or by states with permit programs approved by the EPA. NPDES permits in most states, including Colorado, are in fact issued by state agencies. *NPDES Permits Around the Nation*, U.S. EPA, <https://www.epa.gov/npdes-permits> [<https://perma.cc/YR7J-AZWL>].

<sup>103</sup> BOR TECHNICAL EVALUATION, *supra* note 3, at 17–18. Other estimates of the flow varied slightly, with attorneys for the mining company indicating a flow of 1,500 gallons per minute. See Christopher G. Hayes & William C. Robb, *Negotiating a Voluntary Agreement Under the Clean Water Act—The Sunnyside Experience*, 26 COLO. LAW. 95, 96–97 (1997). Even at 1,500 gallons per minute, this would result in nearly 2.1 million gallons of mine water discharged every day, from this one source in a region littered with hundreds of other sources.

part will examine each of these three efforts in turn to illuminate the root causes of the Gold King Mine blowout.

### *1. Sunnyside Mine Negotiations*

After the Sunnyside Mine closed in 1991, the operator of the mine, Sunnyside Gold Corporation (SGC), sought to terminate the Clean Water Act permit for the American Tunnel and end their expensive obligation for operating the water treatment plant at nearby Gladstone.<sup>104</sup> The permit program in Colorado was administered by the Colorado Department of Public Health and Environment, Water Quality Control Division (WQCD). In negotiations with WQCD, SGC proposed to be relieved of its permit requirements by shutting off the flow of water from the American Tunnel.<sup>105</sup> SGC would shut off this flow primarily by installing “a massive concrete plug” in the mine.<sup>106</sup> SGC’s experts knew this would cause the mine workings within Bonita Peak to flood, but in their estimate, this would only restore the groundwater table to some pre-mining condition and would be unlikely to have any harmful effects on water quality in Cement Creek or the Animas River.<sup>107</sup>

WQCD did not embrace this proposal wholeheartedly. In particular, it expressed concern that closure of the American Tunnel might result in new “seeps and springs” on Bonita Peak that could adversely affect water quality in Cement Creek and downstream.<sup>108</sup> The state agency even worried that rising water levels within the mine workings could lead to a “potential environmental catastrophe.”<sup>109</sup> The mining company’s attorneys dismissed this fear, claiming that “all studies showed [this] was unlikely.”<sup>110</sup> In hindsight, of course, after August 5, 2015, we know the state was right and the fears of an “environmental catastrophe” were well-founded.

Ultimately, WQCD was persuaded to accept SGC’s proposal for mine closure after SGC agreed to additional terms in a consent decree signed in May 1996.<sup>111</sup> One of these terms required SGC to conduct reclamation work at a number of “orphan” mine sites in the drainage, particularly to help reduce the amount of zinc loading to the Animas River.<sup>112</sup> SGC also agreed to maintain financial assurance in favor of

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<sup>104</sup> While precise estimates of the costs for this water treatment are not widely available, the expense must have been substantial because it was later estimated that SGC spent \$10 million on work under the consent decree to get out of its water treatment obligation. BOR TECHNICAL EVALUATION, *supra* note 3, at 18.

<sup>105</sup> Extraordinary background and details of this negotiation are available through an article authored by the legal counsel who represented SGC in this negotiation. *See generally* Hayes & Robb, *supra* note 103.

<sup>106</sup> *Id.* at 96.

<sup>107</sup> *Id.*

<sup>108</sup> *Id.* at 97.

<sup>109</sup> *Id.* at 98.

<sup>110</sup> *Id.*

<sup>111</sup> Sunnyside Gold Corp. v. Colo. Water Quality Control Div., No. 94-CV-5459 (Dist. Ct., Denver City & Cty., Colo. May 8, 1996) (consent decree and order).

<sup>112</sup> *Id.* at App. B: Mitigation Projects.

WQCD during the closure and monitoring period, in case SGC became insolvent before the completion of all required work.<sup>113</sup>

Consistent with the settlement, SGC proceeded to install hydraulic bulkheads to seal off the American Tunnel. SGC completed the first bulkhead in October 1996.<sup>114</sup> At first, the \$10 million project appeared to be the success its promoters promised, with flows from the American Tunnel dropping dramatically from 1,700 gallons per minute (gpm) to around 100 gpm.<sup>115</sup> As a result, the closure kept some “300 pounds per day of fish-killing zinc from Cement Creek”<sup>116</sup> and water quality in the Animas River appeared to improve.

Predictably, with the drain thus plugged, the vast mine workings within Bonita Peak began to fill with water like a bathtub. In 1986, the Gold King Mine appeared to be “dry,” with no identified discharge of acid mine drainage.<sup>117</sup> After the American Tunnel (10,668 feet elevation) was plugged by SGC in 1996, hydrology on Bonita Peak began to change dramatically. In 2000, acid drainage began to discharge from the Mogul Mine (11,440 feet).<sup>118</sup> Two years later, significant flows were discharging from both the Red and Bonita Mine (10,940 feet) and the Gold King Mine Level 7 (11,480 feet).<sup>119</sup> By 2005, the Gold King Mine was reported to “belch out seriously” and quickly became one of the worst polluters in the State of Colorado.<sup>120</sup> Confirming the fears expressed by WQCD in its negotiations with Sunnyside Gold Corporation, closure of the American Tunnel had indeed created an “environmental catastrophe.”<sup>121</sup>

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<sup>113</sup> *Id.* ¶ 25 (requiring \$5,000,000 in financial assurance via irrevocable letter of credit).

<sup>114</sup> BOR TECHNICAL EVALUATION, *supra* note 3, at 18. For an extraordinary, eyewitness account of this “boxcar-sized concrete plug” installed a mile deep into the American Tunnel in 1996—almost twenty years before the Gold King Mine spill—see THOMPSON, *supra* note 8, at 247–56. After completion of the first bulkhead in 1996, two more bulkheads were installed in 2001 and 2003 to prevent mine water from pouring into the Tunnel. Thompson, *Gold King Mine Timeline*, *supra* note 14.

<sup>115</sup> BOR TECHNICAL EVALUATION, *supra* note 3, at 18.

<sup>116</sup> Thompson, *supra* note 2.

<sup>117</sup> In fact, that same year, a new owner of the Gold King Mine who was hoping to restart operations there claimed that he did not need a permit under the Clean Water Act specifically because “No drainage occurs from any of the portals – the district is deep-drained by the American Tunnel.” Thompson, *Gold King Mine Timeline*, *supra* note 14 (describing the 1986 “Dry” Mine).

<sup>118</sup> BOR TECHNICAL EVALUATION, *supra* note 3, at 18 fig.8.

<sup>119</sup> *Id.*

<sup>120</sup> Thompson, *supra* note 2.

<sup>121</sup> Hayes & Robb, *supra* note 103, at 98 (warning of “potential environmental catastrophe” by Colorado WQCD staff). Of course, the Colorado WQCD was not the only party to voice concern about the tunnel closure. For example, in 1998, Peter Butler, the director of a local environmental group, prophetically worried that, “If the plugs in the mine blow out years from now, as plugs in other mines sometimes do, . . . the public may end up paying for that massive cleanup.” Ray Ring, *A Radical Approach to Mine Reclamation*, HIGH COUNTRY NEWS (Jan. 19, 1998), <https://www.hcn.org/issues/122/3884> [<https://perma.cc/A6NG-LPRZ>].

## 2. Animas River Stakeholders Group

In 1994, as negotiations continued over the Sunnyside Mine permit and closure of the American Tunnel, members of the local community around Silverton, Colorado began to look for new approaches to address mining pollution in their area. The result was the establishment of the Animas River Stakeholders Group (ARSG) in 1994.<sup>122</sup> In addition to local citizens, participants in the ARSG included representatives for local government, state agencies, federal entities, mining companies, and environmental interests.<sup>123</sup> At the time it was formed, the ARSG agreed upon a mission of “improving water quality and aquatic habitats in the Animas River watershed through a collaborative process designed to encourage participation from all interested parties.”<sup>124</sup> A secondary mission appeared to be avoiding the involvement of state and federal authorities—above all, avoiding any Superfund designation in the local area.<sup>125</sup>

The ARSG pursued its mission with a three-part strategy: first, it would conduct extensive studies of water quality to understand the baseline physical and biological conditions in the watershed; second, it would attempt to determine the most urgent needs and priorities for cleanup in the watershed; and third, it would initiate on-the-ground cleanup projects in the watershed.<sup>126</sup> To be sure, this was a massive undertaking, with more than 2,000 abandoned mines in the Animas River watershed.<sup>127</sup> And yet, to some extent, the ARSG accomplished each of these three elements. With funding from the EPA and technical assistance from state and federal agencies, the ARSG conducted detailed investigations of mine sites and water quality impacts in

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<sup>122</sup> For a thorough history of the Animas River Stakeholders Group, placed in context of a contemporary movement promoting “Community-Based Conservation” in the mid-1990s, see generally Sean T. McAllister, *The Confluence of a River and a Community: An Experiment with Community-Based Watershed Management in Southwestern Colorado*, 3 U. DENV. WATER L. REV. 287 (2000).

<sup>123</sup> *Id.* at 315–16 n. 232. State agencies included the Colorado Division of Wildlife and the Division of Minerals and Geology. Federal entities included the U.S. EPA, U.S. Forest Service, and U.S. Geological Survey. Local governments included the City of Durango and Town of Silverton. Mining interests included the then-Gold King Mining Company. Environmental interests included the Colorado River Alliance. *Id.*; see also Thompson, *supra* note 2 (interviewing members of ARSG).

<sup>124</sup> McAllister, *supra* note 122, at 316 (quoting Animus River Stakeholders Group, *History and Stakeholder Process*, <http://www.waterinfo.org/arsg/history.html> (webpage no longer available) (last visited Feb. 26 1999)).

<sup>125</sup> See, e.g., Thompson, *supra* note 2, at 12 (“The last thing most people wanted was to be declared the nation’s next Love Canal.”); McAllister, *supra* note 122, at 315 (“[L]ocals saw the collaborative approach as an opportunity to avoid the stigma of Superfund designation”).

<sup>126</sup> McAllister, *supra* note 122, at 317.

<sup>127</sup> CAROL COX RUSSELL, U.S. ENVTL. PROT. AGENCY, *PRIORITIZATION OF ABANDONED MINES IN THE ANIMAS WATERSHED, SOUTHWESTERN COLORADO* (2019).

the Animas River and its tributaries, including Mineral Creek and Cement Creek.<sup>128</sup> Based on these investigations, the ARSG identified priorities for cleanup actions in the watershed<sup>129</sup> and encouraged the initiation of discrete cleanup actions undertaken by private parties, such as Sunnyside Gold Corporation, and public entities, such as the U.S. Bureau of Land Management.<sup>130</sup>

While the ARSG achieved some clear successes, both in its technical work and in building goodwill among diverse stakeholders, the conclusion of one critical review in 2000 found that it was still too early to declare victory.<sup>131</sup> In fact, the success of the ARSG faced a number of significant challenges. One common criticism of community-based conservation groups in general is that they do not fairly represent all community interests, particularly environmental interests.<sup>132</sup> This concern was indeed expressed in relation to the composition and functioning of the ARSG.<sup>133</sup> Another common barrier to success is funding to carry out the mission of the community-based conservation group. Ironically, while a major subtext for the ARSG was minimizing the involvement of the EPA in the Animas River watershed, the EPA was the single largest source of funding to the ARSG.<sup>134</sup> In fact, for 1999, the ARSG received a substantial portion of all funding available from the EPA in Colorado under the grant program established by Clean Water Act Section 319,<sup>135</sup> some \$450,000.<sup>136</sup>

While \$450,000 may be a lot of money for most people and many community organizations, it would not go very far toward the scale of earth-moving and water management often required to address pollution in old mining districts. For example, by some estimates, Sunnyside Gold Corporation was required to spend upwards of \$22 million for reclamation of the Sunnyside mine site and a handful of other orphan mine sites in the surrounding area.<sup>137</sup> While reliable estimates for cleaning up the entire Animas River watershed remain years away, total costs upwards of \$500 million would not be surprising based upon experiences with other contaminated

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<sup>128</sup> *Id.*

<sup>129</sup> Notably, the priorities for action identified by the ARSG did not include the Gold King Mine, later recognized as one of the worst polluters in the state. *See* Thompson, *supra* note 2, at 14; accord RUSSELL, *supra* note 127, at tbl.3 (listing 16 priority mine sites in Animas River, not including Gold King Mine).

<sup>130</sup> McAllister, *supra* note 122, at 317.

<sup>131</sup> *Id.* at 320.

<sup>132</sup> *Id.* at 310 (noting “environmentalists often feel outnumbered by adverse interests and unwelcomed in the process”).

<sup>133</sup> *Id.* at 324.

<sup>134</sup> *Id.* at 331 (showing the EPA provides 25% of ARSG’s overall budget, compared to 20% each from volunteers, BLM, and U.S. Forest Service).

<sup>135</sup> Clean Water Act § 319, 33 U.S.C. § 1329 (2018) (noting that this Act makes funds available to states and tribes in order to address issues of nonpoint source water pollution). For a quick overview of the 319 Program, see U.S. ENVTL. PROT. AGENCY, 319 GRANT PROGRAM FOR STATES AND TERRITORIES, <https://www.epa.gov/nps/319-grant-program-states-and-territories> [<https://perma.cc/TNG6-PB95>].

<sup>136</sup> McAllister, *supra* note 122, at 330.

<sup>137</sup> *Id.* at 328.

mining districts.<sup>138</sup> Given this, the “experiment” with community-based watershed management represented by the ARSG obviously could not, by itself, secure a solution to the massive problems of mining contamination in the Animas River watershed.<sup>139</sup>

### 3. EPA Region 8 and Colorado Division of Reclamation, Mining and Safety

While the EPA provided financial and political support to the activities of the ARSG, it also continued to investigate and address discrete sources of mining pollution in the Animas River watershed through exercise of its independent legal authorities, including those under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA),<sup>140</sup> perhaps better known as “Superfund.” At the same time, agencies of the State of Colorado, led by the Division of Reclamation, Mining and Safety (DRMS),<sup>141</sup> continued to conduct investigations and mine reclamation as well. Unfortunately, the combined efforts of the EPA and DRMS to address the worst contributors of acid mine drainage to the Animas River watershed would lead directly to the Gold King Mine spill on August 5, 2015.

In 1986, the State of Colorado issued a new permit to authorize a restart of mine operations at the Gold King Mine.<sup>142</sup> The permit holder, however, eventually filed for bankruptcy, prompting the DRMS to foreclose on a reclamation bond in 2007.<sup>143</sup> By this point, more than ten years after closure of the American Tunnel, DRMS recognized that there was a “drastic new high quantity discharge from the Gold King Level 7 portal of extremely poor quality water,” with the portal going from

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<sup>138</sup> For example, the total estimated cost of remediation for mining contamination in the Coeur d’Alene Basin of northern Idaho is more than \$1.2 billion dollars. U.S. ENVTL. PROT. AGENCY, SUPERFUND CLEANUP IMPLEMENTATION PLAN, 2016–2025, at 5-2 (2016); *see also* Brad Tyler, *Remediating a Superfund Sacrifice Zone on Montana’s Clark Fork River*, HIGH COUNTRY NEWS (Sept. 26, 2011), <https://www.hcn.org/issues/43.16/remediating-the-countys-largest-superfund-site-on-the-upper-clark-fork-river-in-montana> [<https://perma.cc/TY26-M7AL>] (addressing the mining contamination in Butte, Montana, and along the Clark Fork River, remedial estimates amount to around \$1.3 billion dollars).

<sup>139</sup> *See, e.g.*, DOUGLAS S. KENNY, ARGUING ABOUT CONSENSUS: EXAMINING THE CASE AGAINST WESTERN WATERSHED INITIATIVES AND OTHER COLLABORATIVE GROUPS ACTIVE IN NATURAL RESOURCES MANAGEMENT 1, 2 (2000) (observing that in 2000, “collaborative efforts” have been fairly criticized as “largely unproven experiments, bolstered more by desperate enthusiasm and unsubstantiated generalizations than by real and documented results”). Whether the same critique still applies as fairly today remains open to further review.

<sup>140</sup> Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§ 9601–9675 (2018). For a useful introduction to the world of CERCLA, defined as much by case law as by statutory code, *see* RODGERS, *supra* note 101, at ch. 8.

<sup>141</sup> *See ePermitting*, COLO. DIVISION OF RECLAMATION, MINING AND SAFETY, <http://mining.state.co.us/Pages/Home.aspx> [<https://perma.cc/5Z7U-NKQD>] (giving an overview of the organization and its functions).

<sup>142</sup> *See* BOR TECHNICAL EVALUATION, *supra* note 3, at 27.

<sup>143</sup> *Id.*

“originally dry” to draining at approximately 200 gpm.<sup>144</sup> Identifying the Gold King Mine Level 7 as an urgent environmental priority, DRMS applied bond proceeds to preliminary work here in 2008 and more extensive work in 2009. The work performed by DRMS in 2009 included closing all four portals to the Gold King Mine, including the original Level 7 portal and a “new” Level 7 portal approximately 100 feet to the east.<sup>145</sup> Through the closure process, DRMS backfilled each of the four portals. At this time, both the “Old” and the “New” Level 7 portals were already partially collapsed. Before sealing the New Portal, DRMS attempted to install two pipes: one to allow for continued drainage from the adit, the other to allow for observations down into the adit. Unfortunately, neither pipe could penetrate the collapsed material inside the adit, defeating the utility of this pipe installation.<sup>146</sup>

In its 2009 Project Summary, DRMS recognized that the mine drainage from Gold King Mine Level 7 new portal “contain[ed] extremely high levels of metals and continues to flow between 150 and 300 gallons per minute.”<sup>147</sup> The 2009 Project Summary by DRMS also noted, prophetically, that “[a] future project at the site may attempt to cooperatively open the Level 7 [New] Portal in an effort to alleviate the potential for an unstable increase in mine pool head within the Gold King workings.”<sup>148</sup> In other words, by 2009, DRMS was clearly concerned about the risk of a blowout from the Gold King Mine.

The EPA was also concerned about that risk. With the support of DRMS and the Animas River Stakeholders Group,<sup>149</sup> EPA Region 8, based in Denver, began investigating the possibility of addressing major sources of acid mine drainage in the Animas River watershed, starting with the two big dischargers on Bonita Peak: the Red and Bonita Mine and the Gold King Mine.

In 2011, the EPA began work at the Red and Bonita Mine. Prior to digging open the Red and Bonita Mine portal, the EPA was aware of the danger for a blowout from this mine. To evaluate this risk, the EPA drilled a well thirty feet upslope from the mine opening. It was a challenging effort, with an unstable drill pad on the slope and the first two holes missing the adit.<sup>150</sup> The third hole, however, penetrated the mine and allowed the EPA to determine that there was water in it, but it was not full to the top.<sup>151</sup> With this information, the EPA determined it could proceed safely with

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<sup>144</sup> COLO. DIV. OF RECLAMATION, MINING & SAFETY, PROJECT SUMMARY, GOLD KING BOND FORFEITURE M-1986-013 (2009) [hereinafter DRMS PROJECT SUMMARY].

<sup>145</sup> BOR TECHNICAL EVALUATION, *supra* note 3, at 14 (discussing that the new adit was driven in the 1970s to allow for exploration after the old adit had caved in).

<sup>146</sup> *Id.* at 29–30.

<sup>147</sup> *Id.* at 32–33 fig.19 (noting that the the DRMS Project Summary from 2009 actually refers here inadvertently to the Level 7 “Old Portal,” a mistake caught later after the 2015 Gold King Mine blowout).

<sup>148</sup> *Id.* at 35.

<sup>149</sup> Thompson, *supra* note 2, at 18 (quoting ARSG coordinator Bill Simon saying, “we’d spent all of our money, plus we knew that we had limited abilities, . . . so we invited the EPA to help.”).

<sup>150</sup> BOR TECHNICAL EVALUATION, *supra* note 3, at 24.

<sup>151</sup> *Id.*

further actions at the Red and Bonita Mine. The EPA proceeded to insert a “stinger” pipe down through the debris at the mine entrance and pump out the mine pool to avoid the risk of a mine blowout. With the mine water thus removed, the Red and Bonita Mine adit was safely opened by October 2011.<sup>152</sup>

Over the next few field seasons, the EPA cleaned out and stabilized the Red and Bonita Mine, in consultation with DRMS and the U.S. Bureau of Reclamation. Incorporating input from the other agencies, the EPA completed construction of a hydraulic bulkhead inside the Red and Bonita Mine in the summer of 2015.<sup>153</sup> With this work at the Red and Bonita Mine completed, the EPA team, still mobilized for the 2015 field season, moved up the mountain to the Gold King Mine Level 7.

The EPA had actually begun its work at the Gold King Mine in 2014, when the EPA was requested by DRMS to reopen and stabilize the Gold King Mine Level 7 New Adit.<sup>154</sup> In August 2014, the EPA recorded the flow from the adit at 112 gpm; however, by September, the flow had dropped to 12.6 gpm, suggesting seasonal variations in the mountain’s hydrology.<sup>155</sup> As the EPA proceeded with initial excavation at the mine portal, EPA and DRMS personnel noticed seeps coming through the mine fill. The seeps appeared to be four feet below the top of the adit, indicating that the mine contained water but was not full.<sup>156</sup> Nevertheless, because the EPA was not ready to manage the amount of water they estimated within the mine, excavation work ended for the season while new drain pipes were installed, replacing the pipes placed by DRMS in 2009.<sup>157</sup> The EPA then buttoned up the site for the long, harsh winter in the San Juan Mountains.

The work at the Gold King Mine, as at the Red and Bonita Mine, was carried out by EPA Region 8 under authority of the CERCLA removal program. Under CERCLA removal authority, the EPA may exercise broad authorities for investigating and responding to releases or threatened releases of hazardous substances.<sup>158</sup> CERCLA removal actions are usually overseen by On-Scene Coordinators (OSCs),<sup>159</sup> a corps of highly trained personnel who may be designated at all levels

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<sup>152</sup> *Id.* at 25.

<sup>153</sup> *Id.* (noting that although the the bulkhead was completed, the valve on the bulkhead was left open due to concern that closing it could affect the mine pool at the nearby Gold King Mine).

<sup>154</sup> *Id.* at 35 (noting that the Level 7 New Adit had reportedly not been maintained or monitored since DRMS completed its closure of the portal in 2009).

<sup>155</sup> *Id.* at 35, 42 (furthering the notion of seasonal fluctuations in the mountain hydrology by referencing that, on July 15, 2015, before beginning the excavation that led immediately to the August 5 blowout, the EPA measured the drainage from the adit at 69 gpm).

<sup>156</sup> *Id.* at 36.

<sup>157</sup> *Id.* at 39–40 figs.28–29.

<sup>158</sup> See CERCLA § 104, 42 U.S.C. § 9604(a)(1) (noting the trigger for exercise of CERCLA response authorities); CERCLA § 101, 42 U.S.C. § 9601(23) (establishing the definition of “removal”).

<sup>159</sup> See National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. § 300.120 (designation and responsibilities of OSCs).



of government,<sup>160</sup> with legal authorities specified by statutes<sup>161</sup> and regulations.<sup>162</sup> The removal action for the Red and Bonita Mine, beginning in 2011, was overseen by EPA OSC Steve Way.<sup>163</sup> Over the winter of 2014–15, OSC Way worked with DRMS and many others to develop a plan for investigating the Gold King Mine. In January 2015, Way provided the ARSG with some early ideas on how to approach the Gold King Mine work for 2015.<sup>164</sup> Later in May, OSC Way along with DRMS personnel presented the Gold King Mine investigation plan to the ARSG, receiving no stakeholder objection to the proposed approach.<sup>165</sup>

As preparations for investigating the Gold King Mine continued, OSC Way was also preparing for a long-planned vacation in the first week of August 2015.<sup>166</sup> At least two months before leaving, Way requested another OSC, Hays Griswold, to fill in for him while he was gone.<sup>167</sup> Both individuals were “qualified, experienced

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<sup>160</sup> OSCs may be designated by state or tribal entities or by agencies across the federal government. Training requirements for EPA OSCs include some 300 hours of general training in response tactics, 160 hours in health and safety, and 54 hours in contracts management. See *OIG RESPONSE*, *supra* note 19, at 9.

<sup>161</sup> Among other places, Congress recognized and codified the authority of the OSC in CERCLA Section 107(d), 42 U.S.C. § 9607(d)(1) (creating limited exemption from liability for certain parties acting “at the direction of an onscene coordinator”). See *infra* notes 351–352 and accompanying text (discussing CERCLA “Good Samaritan” provision).

<sup>162</sup> Among other things, regulations under the Clean Water Act create a limited exemption from permit requirements for “[a]ny discharge in compliance with the instructions of an On-Scene Coordinator.” 40 C.F.R. § 122.3(d). See *infra* note 292 and accompanying text (discussing CWA permit exclusion).

<sup>163</sup> See Bruce Finley, *EPA Gold King Mine Coordinator Retires as Animas Water, Soil Tests Begin*, THE DENVER POST (June 14, 2016) <https://www.denverpost.com/2016/06/14/epa-gold-king-mine-coordinator-retires>. [<https://perma.cc/GF57-U6BN>]

<sup>164</sup> Meeting Summary, ARSG 1 (Jan. 27, 2015), [https://www.epa.gov/sites/production/files/2015-08/documents/asrg\\_jan\\_27\\_2015\\_meeting\\_summary\\_redacted.pdf](https://www.epa.gov/sites/production/files/2015-08/documents/asrg_jan_27_2015_meeting_summary_redacted.pdf) [<https://perma.cc/7FH9-GSZU>] (providing updates on “Activities Regarding Red & Bonita and Gold King” including that the EPA is “discussing how best to approach the opening of the Gold King”).

<sup>165</sup> U.S. ENVTL. PROT. AGENCY, SUMMARY REPORT: EPA INTERNAL REVIEW OF THE AUGUST 5, 2015 GOLD KING MINE BLOWOUT 5 (2015) [hereinafter EPA INTERNAL REVIEW]. According to the ARSG Meeting Summary dated May 27, 2015, “Steve Way with EPA and Allen Sorenson with DRMS gave a presentation” on work planned in 2015 for the “Red & Bonita and Gold King.” The proposed plan would have “the contractor start to open up the Gold King #7 level.” The plan also noted that “[t]here is a pool of water several feet deep behind the collapsed portal.” Meeting Summary, ARSG 2 (May 27, 2015), [https://www.epa.gov/sites/production/files/2015-08/documents/asrg\\_may\\_27\\_2015\\_meeting\\_summary\\_redacted.pdf](https://www.epa.gov/sites/production/files/2015-08/documents/asrg_may_27_2015_meeting_summary_redacted.pdf) [<https://perma.cc/7YKD-9AJ3>].

<sup>166</sup> U.S. ENVTL. PROT. AGENCY, ADDENDUM TO EPA INTERNAL REVIEW OF GOLD KING MINE INCIDENT 3 (Dec. 8, 2015) [hereinafter EPA ADDENDUM].

<sup>167</sup> See *id.* The EPA redacted the names of both the EPA OSCs and DRMS personnel from many documents including the EPA Internal Review and the EPA Addendum to protect the individuals from threats and harassment. See *EPA’s Animas Spill: Joint Oversight Hearing Before the H. Comm. on Natural Resources and H. Comm. on Oversight and Gov’t*

individuals with relevant expertise,” according to the findings of the EPA Inspector General, with over fifty years combined experience as EPA OSCs on top of technical degrees, professional training, and prior work experience in the mining industry.<sup>168</sup>

With an experienced field team,<sup>169</sup> the EPA approached the Gold King Mine in the summer of 2015 aware of many hazards at the mine, including the threat of landslides. In July 2015, the team observed specific evidence of landslides on the steep slope above the Gold King Mine Level 7, burying the mine portals.<sup>170</sup> There was also evidence that the unstable slope above the mine workings was caving in, with a subsidence pit observed above the Level 7 Old Adit.<sup>171</sup> This observation from the slope outside the mine workings was consistent with prior observations inside the mine, which identified roof collapses in both Level 7 adits.<sup>172</sup> In fact, while all underground mines may be dangerous, the Gold King Mine was particularly so, with perhaps two dozen deaths at the mine by the time it shut down in the 1920s, and another death in 1987 during an attempt to reopen the mine.<sup>173</sup>

The team well understood the potential for a blowout from the Gold King Mine adit. The work plan for the site specifically advised, “[c]onditions may exist that could result in a blowout of the blockages and cause a release of large volumes of contaminated mine waters and sediment from inside the mine . . . .”<sup>174</sup> Recognizing this hazard, OSC Way provided specific written instructions to his contractors on

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*Reform*, 114th Cong. 29 (2015) [hereinafter *Joint Oversight Hearing*] (“Because of threats or harassment related to the Gold King Mine release on August 5, the EPA has not released the names of employees on-site at the time of the release.”). Nevertheless, the identities of each were widely known and reported to the public. *See, e.g.*, Thompson, *supra* note 2, at 1 (identifying both Steve Way and Hays Griswold as the EPA OSCs for the Gold King Mine in 2015); Finley, *supra* note 163, at 1 (same).

<sup>168</sup> *See* OIG RESPONSE, *supra* note 19, at 9–11.

<sup>169</sup> While working on the Gold King Mine site, OSC Griswold would be assisted by two senior geologists from DRMS with a combined experience of 54 years, a removal manager contractor with 19 years of experience, an excavator operator with over 30 years of experience, and other seasoned contractor personnel. *Id.* at 10–11.

<sup>170</sup> BOR TECHNICAL EVALUATION, *supra* note 3, at 42, 43 fig.33. Among other things, they observed that rock, soil, and a tree had slid down onto the drain pipes they installed in September 2014. *See id.* at 43 fig.34, 44 fig.35.

<sup>171</sup> *Id.* at 42 fig.32.

<sup>172</sup> DRMS PROJECT SUMMARY, *supra* note 144, at 1.

<sup>173</sup> Thompson, *Gold King Mine Timeline*, *supra* note 14 (noting the cause of the death in 1987 was reported as a large rock falling from the ceiling of the Gold King Level 7, striking a mine worker in the head).

<sup>174</sup> ENVIRONMENTAL RESTORATION, LLC, ACTION / WORK PLAN 1 (2015) [hereinafter ER WORK PLAN]. In fact, a full year before the August 5, 2015, spill, the Request for Proposals soliciting bids for work at the Gold King Mine specifically advised prospective contractors of the dangers of a blowout from the mine. *See* ENVIRONMENTAL RESTORATION, LLC, REQUEST FOR PROPOSALS RFP # G8-15-001 1 (2014) (advising “[t]he blockage in the adit must be removed in a manner to prevent a surge of impounded mine water from being released”).

July 29, 2015,<sup>175</sup> setting out a series of four major steps “to prepare for opening the adit.” Step 1 involved improving pipes or channels to direct the continuing flow of water from the mine portal. Step 2 involved setting up a system of pipes, pumps, hoses, and filters to safely drain the pool of water suspected to be behind the blockage inside the adit. Step 3 involved use of an excavator to investigate the slope above the adit and “expose the rock face.” Finally, Step 4 involved “Adit face excavation,” that is, digging to expose the mine portal itself.<sup>176</sup> Work on these four steps had already begun by the time Way sent this email on Wednesday, July 29, 2015. By the end of that week, the team had begun work on a “sump basin” for capturing contaminated water pumped from the mine and had begun assembling a pipe system to filter the mine water.<sup>177</sup> The following week, Way went on his planned vacation and things at the Gold King Mine went very wrong.

#### *D. What Went Wrong*

What went wrong at the Gold King Mine on August 5, 2015, may never be fully determined. On August 4 and 5, 2015, the EPA field team was using an excavator to reach up above the adit, knock down loose soils, and expose the bedrock around the adit.<sup>178</sup> Under the direction of the OSC, “the team slowly and carefully scraped away loose soil and rubble near the face of the adit with the initial goal of locating the primary blockage.”<sup>179</sup> By the end of the day on August 4, 2015, “the team had located the blockage, which they were able to identify . . . based on the tightness and condition of the material.”<sup>180</sup> On the morning of August 5, 2015, the OSC consulted with DRMS personnel at the site,<sup>181</sup> and then directed the contractors to continue

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<sup>175</sup> Way email, *supra* note 2.

<sup>176</sup> *Id.* Unlike Steps 1–3, Step 4, “Adit face excavation,” required the on-site presence of specific project managers, suggesting this step was perceived as having the greatest risk of blowout.

<sup>177</sup> BOR TECHNICAL EVALUATION, *supra* note 3, at 44–45.

<sup>178</sup> As explained by the EPA, removal of loose material around the adit was necessary “in order to plan a safe approach to the plug.” Email from [redacted] to [redacted] (Aug. 16, 2015). Although names in this email were redacted, it was evidently sent by Hays Griswold, the backup OSC at the time of the blowout, reporting his personal observations at the time of the blowout [hereinafter Griswold email].

<sup>179</sup> EPA ADDENDUM, *supra* note 166, at 4. Ignoring this explanation of the work on August 5, a recent comment simply assumed without support that “the interim EPA project supervisor ordered [the EPA contractor] to excavate the mine in a manner that was contrary to both the plan set in place and the orders of the head supervisor.” Timbre Shriver, *Holding the Harmful Harmless: Lessons from Gold King Mine*, 89 COLO. L. REV. 1001, 1005 (2018). In a more detailed narrative, the comment later relies upon allegations in a civil complaint. *Id.* at 1009 nn.41–43 and accompanying text.

<sup>180</sup> EPA ADDENDUM, *supra* note 166, at 4. The tight “blockage” was apparently the compacted backfill placed by DRMS when it attempted to close the four portals to the Gold King Mine in 2009. *See* DRMS PROJECT SUMMARY, *supra* note 144.

<sup>181</sup> Like the names of the EPA OSCs, the names of DRMS personnel who consulted at the site have also been redacted. However, according to the contractor field notes for the day

“additional excavation to identify the location of bedrock above and around the adit.”<sup>182</sup> Just prior to finishing this excavation work on Wednesday morning, August 5, 2015, “the team noticed a water spout a couple of feet high in the air near where they had been excavating above the top of the adit.”<sup>183</sup> Minutes later, hell broke loose as the clear spurt cut rapidly through the unconsolidated waste materials in front of the adit, enlarging an opening, and ultimately resulting in a release of some three million gallons of mine water.

From the post-mortems that began almost immediately after the spill, three primary allegations emerged: (1) the EPA misestimated the top of the mine opening; (2) the EPA field team for the week of August 5, 2015 acted contrary to the plan established by lead OSC Steve Way; and (3) the EPA failed to determine the water level within the adit. This sub-part will examine each of these three allegations in turn.

### 1. Elevation of the Mine Opening

Beyond doubt, one direct cause of the Gold King Mine blowout was the EPA’s error in determining the level of the roof in the Gold King Mine. At times when the EPA thought it was digging *above* the mine opening, it was digging directly *at* the mine opening, weakening the blockage that was holding back pressurized mine water. The question is why the EPA made this error.

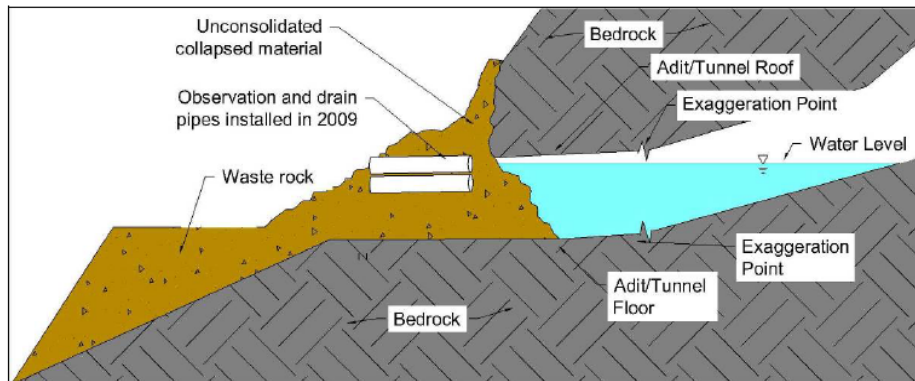


Figure 2: Cross-section of Gold King Mine Level 7 New Portal showing condition of the adit that was assumed by the EPA OSC and the abandoned mine experts from DRMS for use in planning. Source: Bureau of Reclamation, *Technical Evaluation of the Gold King Mine Incident* fig. 40 (Oct. 2015).

of the spill, “DRMS personnel” met with the OSC at the Gold King Mine site at approximately 9:30 am. They “discussed the mine adit situation and determined that excavation should be continued.” At approximately 10:30 am, “DRMS left the [Gold King Mine] site to investigate” another nearby mine. WESTON SOLUTIONS, DRAFT TECHNICAL MEMORANDUM 2 (2015).

<sup>182</sup> EPA ADDENDUM, *supra* note 166, at 4.

<sup>183</sup> *Id.*

According to the first post-mortem, the EPA's August 2015 Internal Review,<sup>184</sup> the EPA's investigation of the Gold King Mine adit in September 2014 revealed that the two twenty-four-inch pipes installed by DMRS in 2009 were located at the "top (roof)" of the adit.<sup>185</sup> (See Figure 2.) Assuming the height of the adit was ten feet, and noticing that water was flowing out below the two 24-inch pipes, the EPA estimated the level of impounded water in the mine at six feet.<sup>186</sup> The second post-mortem, the October 2015 Technical Evaluation by the U.S. Bureau of Reclamation,<sup>187</sup> appeared to confirm these assumptions.<sup>188</sup>

The third post-mortem, the EPA's December 2015 Addendum to its Internal Review,<sup>189</sup> revealed a significant mistake: the opening to the mine was *not* ten feet high, as the EPA had assumed. It was more like twenty feet high.<sup>190</sup> And instead of the estimated six feet of water in the adit, the twenty-foot mine opening was apparently full to the ceiling behind the blockage. As such, when the excavator operator believed he was scraping at solid bedrock above the mine adit, he was really poking at the top of the mine opening itself and at a weak barrier holding back a wall of mine water.

The reason for this mistake—and the *reasonableness* of it—remain contested questions. The EPA's Addendum suggested the mine opening had widened from ten to twenty feet as a result of collapsing of bedrock material above the adit.<sup>191</sup> This

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<sup>184</sup> EPA INTERNAL REVIEW, *supra* note 165. *The EPA Internal Review* was produced by an independent group of EPA personnel from outside of EPA Region 8, with expertise in the investigation and cleanup of mine sites. *Id.* at 2 (listing five members of the EPA's Internal Review Team).

<sup>185</sup> *Id.* at 4.

<sup>186</sup> MAJORITY STAFF REPORT, *supra* note 2, at 5.

<sup>187</sup> BOR TECHNICAL EVALUATION, *supra* note 3. The team producing the BOR Technical Evaluation consisted of three technical experts from the U.S. Bureau of Reclamation, with three peer reviewers from the U.S. Bureau of Reclamation, U.S. Geological Survey, and U.S. Army Corps of Engineers. BOR TECHNICAL EVALUATION, *supra* note 3, at 6–7.

<sup>188</sup> *Id.* at 46–47 fig.38 (depicting seepage from mine "emerging approximately 5 to 6 feet above the floor of the adit").

<sup>189</sup> EPA ADDENDUM, *supra* note 166.

<sup>190</sup> *Id.* at 4 (noting that "the adit brow . . . turned out to be approximately 19 feet above the adit floor"). The genuine shock of expecting a ten-foot opening and finding an opening twice that size was evident in the excited utterances of the contractors on-site at the moment of the blowout. In an audio recording accompanying the video of the blowout, the contractors are heard to engage in this exchange:

Contractor 1: No, this is not good.

Contractor 2: We were so high too.

Contractor 1: I know, we were about 20 feet up . . . .

Contractor 2: Ya know, we were digging high.

Contractor 1: We're digging really high . . . .

House Committee on Natural Resources, Footage from Gold King Mine Spill, YOUTUBE (Aug. 4, 2016), <https://www.youtube.com/watch?v=qBPO28FTawQ> [<https://perma.cc/XU6P-BBQN>].

<sup>191</sup> *Id.* Consistent with this conclusion, the BOR Technical Evaluation describes a "Photograph taken at 9:46 a.m. August 5, 2015, showing that the loose soil from the upper end of

explanation appears consistent with the observed collapses of bedrock inside the mine adit as well as active landslides and the sinkhole on the slope above the mine adit. However, some members of Congress who participated in an investigation of the Gold King Mine spill<sup>192</sup> offered an alternate explanation. According to this fourth post-mortem, a “Majority Staff Report” issued in February 2016,<sup>193</sup> the problem stemmed from the EPA’s assumption that the two twenty-four-inch pipes were located at the top of the adit. In fact, according to the Majority Staff Report, the two pipes were located at the bottom of the adit; i.e., on the floor of the mine tunnel. This would mean that when the EPA used the pipes as a marker for digging near the top of the adit, it was actually digging near the floor of the adit, exposing and weakening the plug holding back the mine water.

In support of this theory, the Majority Staff Report pointed to contractor documents from the work DRMS funded at the mine in 2009.<sup>194</sup> According to the Majority Staff Report, the contractor documents showed that the pipes were supposed to be installed “on the floor of the mine . . . .”<sup>195</sup> The problem with this theory is that the Majority Staff Report was focused on the *wrong* adit at the Gold King Mine. As noted previously,<sup>196</sup> there are actually two adits at the Gold King Mine Level 7, known as the “Old Portal” and the “New Portal.” The EPA work and the subsequent blowout in 2015 occurred at the New Portal. The contractor document with the language about installing the pipe “on the floor of the mine” expressly referred to the “OLD Portal” (emphasis in original).<sup>197</sup> Assuming the contractor complied with the work specifications for both the Old Portal and New Portal, it is fair to assume that the pipes were installed on the floor of the Old Portal and were *not* installed on the

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the excavation had been removed exposing *fractured and crumbly rock . . . .*” BOR TECHNICAL EVALUATION, *supra* note 3, at 53 fig.47 (emphasis added).

<sup>192</sup> MAJORITY STAFF REPORT, *supra* note 2. Other than the Committee Chairman Rob Bishop (R-Utah), the Majority Staff Report fails to identify any specific Members of Congress joining the report.

<sup>193</sup> *Id.*

<sup>194</sup> *Id.* at 7. See DRMS PROJECT SUMMARY, *supra* note 144.

<sup>195</sup> MAJORITY STAFF REPORT, *supra* note 2, at 7 n.14. The Majority Staff Report also claimed that the “contractor who performed the work for DRMS in 2009 corroborated the DRMS records, stating that the crew placed the pipes on the floor of the adit.” *Id.* (citing telephone call with Roger Prock, K and P Property Design (Jan 29, 2016)).

<sup>196</sup> See *supra* note 145 and accompanying text (discussing the Level 7 Old Portal and New Portal).

<sup>197</sup> See Colorado Division of Reclamation, Mining & Safety, IMP Bond Forfeiture / Reclamation Documents 100 (Dec. 9, 2010) [hereinafter DRMS Files] (on file with author). Notably, the same contractor document for the New Portal omits the language about installing the pipe “on the floor of the mine.” *Id.* at 101 (“BID ITEM 3 – Gold King Level 7 NEW Portal Backfill Closure”).

floor of the New Portal.<sup>198</sup> This would be consistent with the direct observations by OSC Way in the field that the pipes were near the “top (roof)” of the New Portal.<sup>199</sup>

Given Way’s observation in September 2014 that the pipes were near the top of the adit, an observation consistent with the contractor documents for installation of these pipes in 2009, it seems reasonable to believe that digging above these pipes would be digging above the adit, and not directly at it. This leaves the EPA’s supposition that the mine opening expanded due to collapsing rock on the slope above the adit as perhaps the most plausible explanation for how digging above the pipes led to release of water from the mine.

## 2. *Consistency with the Plan*

Another allegation was that the EPA team, including OSC Griswold filling in during Way’s vacation, failed to follow Way’s instructions for that first week of August.<sup>200</sup> Again, before leaving on vacation, Way provided specific instructions via email dated July 29, 2015, listing four steps “to prepare for opening the adit.”<sup>201</sup> Under Step 2, “Water management system,” Way directed the following:

B. Before any excavation towards the adit floor . . . the sump and sump-pump set up to handle adit discharge must be in place.<sup>202</sup>

C. . . . [T]he piping / hose must be in place to allow flow to be directed to the [Red and Bonita] pond before removing any adit blockage at or below 24” pipe in the adit debris. And, the steel stinger pipe, 4” threaded well casing pipe, must be prepared and available.<sup>203</sup>

There is, of course, a logic to the sequence evident in these instructions: before opening a mine full of water, you need a system in place to handle that water. What we

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<sup>198</sup> The reason for this difference in specifications between the two adits does not seem apparent. However, it also does not appear to be a mistake because the directions for the Old Portal and the New Portal are back-to-back on consecutive pages and the easiest thing to do would be to copy the specifications from one to the other, if that was the intent. Evidently, it was not.

<sup>199</sup> STEVEN WAY, U.S. ENVTL. PROT. AGENCY, POLREP #1 (INITIAL POLLUTION REPORT) – REMOVAL ASSESSMENT, GOLD KING MINE SITE (2014), [http://www.epa.gov/sites/production/files/2015-08/documents/goldkingmine\\_polrep1\\_9-23-14\\_redacted.pdf](http://www.epa.gov/sites/production/files/2015-08/documents/goldkingmine_polrep1_9-23-14_redacted.pdf) [<https://perma.cc/24XA-SDU5>] [hereinafter 2014 POLREP]. Again, names are redacted from this document, but the author remains well-known in public. *See, e.g.*, MAJORITY STAFF REPORT, *supra* note 2, at 4 n.3.

<sup>200</sup> *See* MAJORITY STAFF REPORT, *supra* note 2, at 8 (“Mr. Griswold followed neither the existing work plan nor Mr. Way’s emailed instructions”).

<sup>201</sup> Way email, *supra* note 2.

<sup>202</sup> *Id.* The Majority Staff Report misreads this step as requiring that before any excavation towards the adit floor, the sump and sump-pump must be “prepared and available.” MAJORITY STAFF REPORT, *supra* note 2, at 8.

<sup>203</sup> Way email, *supra* note 2.

know now, however, is that the water management system prescribed in Step 2 was not in place before the EPA team moved on to Step 3, “Excavation above adit / hill slope,” and Step 4, “Adit face excavation.” The question is whether that was consistent with the plan set out in Way’s instructions.

Both the EPA’s Addendum to the Internal Review and the BOR Technical Evaluation seemed to agree that the actions taken at the Gold King Mine that first week of August were consistent with Way’s plan. The BOR Technical Evaluation recognized that “excavating the fill to expose the rock crown over the adit” was a necessary step toward completion of the water management system. The BOR Technical Evaluation specifically noted that this excavation was needed before the “stinger” pipe could be inserted into the mine pool in order to pump out the water before opening the mine.<sup>204</sup> The EPA Addendum, released two months after the BOR Technical Evaluation, reached the same conclusions, finding unequivocally that “[t]he work being conducted on August 4 and 5, 2015 was completely consistent with the direction provided” by OSC Way.<sup>205</sup>

The Addendum differed from the BOR Technical Evaluation in one important respect. The BOR Technical Evaluation assumed that the EPA field team the first week of August 2015 was engaged in a “plan to open the adit.”<sup>206</sup> However, according to the EPA’s findings in the Addendum, that was not the plan at all for that first week of August. Rather, the EPA’s plan was to *assess* the adit.<sup>207</sup> Information from this assessment, including information on “the exact location of the bedrock above and around the adit,” would “help prepare for a decision on future work.”<sup>208</sup> Such decision would also be informed by consultation with a BOR mining expert in a meeting scheduled for August 14, 2015.<sup>209</sup> Until a decision to open the adit was made, and how, there would be no need to complete all the steps in Way’s email of July 29, 2015 including construction and operation of the water management system. The email was clear that the water management system must be in place before actions to open the adit.<sup>210</sup> However, the email did not specify a plan to *open* the adit during the first week of August. The July 29, 2015 directions from OSC Way were explicitly characterized as work “to *prepare* for opening the adit.”<sup>211</sup>

The Majority Staff Report, prepared by members of the House Committee on Natural Resources, disagreed with this interpretation. In their view, the EPA team was clearly engaged in a deliberate effort to “breach the plug.”<sup>212</sup> In proceeding with this deliberate effort, OSC Griswold “followed neither the existing work plan nor

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<sup>204</sup> BOR TECHNICAL EVALUATION, *supra* note 3, at 77–78.

<sup>205</sup> EPA ADDENDUM, *supra* note 166, at 5.

<sup>206</sup> BOR TECHNICAL EVALUATION, *supra* note 3, at 47.

<sup>207</sup> EPA ADDENDUM, *supra* note 166, at 3 (“This work was to assess the site conditions and to help prepare for a decision on future work.”).

<sup>208</sup> *Id.*

<sup>209</sup> *Id.*

<sup>210</sup> See Way email, *supra* note 2.

<sup>211</sup> Way email, *supra* note 2 (emphasis added).

<sup>212</sup> MAJORITY STAFF REPORT, *supra* note 2, at 38–39.



Mr. Way's emailed instructions."<sup>213</sup> As one example, the Majority Staff Report states that the EPA team did proceed with "excavation towards the adit floor" before the water management system was in place, contrary to Way's instructions. In fact, the EPA was not digging "towards the adit floor." The EPA was digging "high,"<sup>214</sup> at or above its estimation of the top of the adit. As further proof that the EPA intentionally breached the plug, the Majority Staff Report pointed to photographs of a "mound" that the EPA team constructed in front of the adit. The Majority Staff Report dismissed the EPA's assertion that the mound was constructed to serve as a ramp for the excavator to reach up to the bedrock above the adit. Instead, the Majority Staff Report speculates that the mound was constructed to "function[] as a berm that might contain or control water released from the mine."<sup>215</sup> Continuing with this theory, the Majority Staff Report suggests, "With the berm . . . constructed and the adit clear of all machinery and crew, EPA was ready to breach the plug."<sup>216</sup> What the Majority Staff Report missed, however, was that construction of this mysterious "mound" was included in Way's instructions on July 29, 2015. Specifically, Step 3 advised that "[e]xcavation above adit / hill slope . . . would require placing enough borrow material on top of the existing berm in front of the adit to allow access above the adit . . . ." <sup>217</sup> In constructing the "mound" then, OSC Griswold was not acting contrary to Way's instructions in a deliberate plan to "breach the plug." Griswold, in fact, was acting within the scope of work established by Way's instructions.

After considerably more investigation, a fifth post-mortem on the Gold King Mine spill was produced in June 2017 by the EPA Office of Inspector General (OIG).<sup>218</sup> The OIG determined that "the EPA plan did not include opening the mine

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<sup>213</sup> *Id.* at 8.

<sup>214</sup> *Id.* (describing excited utterances of contractors at time of blowout).

<sup>215</sup> *Id.* at 38.

<sup>216</sup> *Id.*

<sup>217</sup> Way email, *supra* note 2. For the uninitiated in construction jargon, "borrow material" is simply soil or dirt used to fill a space or raise an elevation. *See* Oliver A. Houck, *Damage Control: A Field Guide to Important Euphemisms in Environmental Law*, 15 TUL. ENVTL. L.J. 129, 130 (2001) (noting ironically that ordinary use of "borrow" suggests some eventual return of the material after use, a prospect that no one should expect for material used to construct levees and highways).

<sup>218</sup> The EPA Office of Inspector General (OIG) performs independent "audits and investigations of the EPA [and its contractors] to detect and prevent fraud, waste, and abuse" of government resources. *About EPA's Office of Inspector General*, U.S. EPA, <https://www.epa.gov/office-inspector-general/about-epas-office-inspector-general> [<https://perma.cc/XM6G-AYH8>]. The EPA OIG was established pursuant to the federal Inspector General Act of 1978, Pub. L. No. 95-452 (1978), which generally requires that each federal department and agency establish and maintain an Office of Inspector General for the purposes of providing "leadership and coordination" and recommending "policies . . . to promote economy, efficiency, and effectiveness in the administration of, and . . . to prevent and detect fraud and abuse in, [federal] programs." 5 U.S.C. app. 3, § 2 (2008). For a general introduction to the legal authorities and functions of the federal Inspectors General, see Margaret J. Gates & Marjorie Fine Knowles, *The Inspector General Act in the Federal Government: A New Approach to Accountability*, 36 ALA. L. REV. 473 (1985).

on August 5, 2015, and the EPA was not attempting to open the mine the day of the release . . . .<sup>219</sup> The OIG reached this determination after interviewing numerous individuals who were at the site on August 5, 2015 including the OSC, two EPA contractors, the excavator operator, and a geological engineer for Colorado DRMS.<sup>220</sup> According to the OIG, they “all indicated that the work being done that day was investigative in nature,” with a purpose “to find competent rock above the adit [and] no plan that day to open the adit.”<sup>221</sup> The OIG found that these statements were corroborated by the schedule for work at the site.<sup>222</sup> Among other things, the field schedule, prepared by the contractors in May 2015, showed that the water management system would not be completed before the end of August, and that safe access to the mine portal would not be secured until mid-September.<sup>223</sup> As neither the water management system nor safe access to the mine had been planned for or established by the first week of August, the OIG concluded, “[o]ur work shows the EPA was not attempting to open the mine the day of the release.”<sup>224</sup>

Given that the EPA was not attempting to open the mine the day of the release, and that all work performed at the site up to the moment of the blowout was within the scope of work established by Way’s email of July 29, 2015, it appears that the EPA team was acting consistently with the existing plan when the blowout occurred.

### 3. *Determination of the Water Level Within the Adit*

A third allegation against the EPA for the blowout at the Gold King Mine was that the EPA failed to take necessary measures for determining the level of water in the mine adit. In 2011, at the Red and Bonita Mine lower down on Bonita Peak, the EPA did in fact implement such a measure, drilling a well about thirty feet upslope from the mine opening.<sup>225</sup> After penetrating the mine workings, the EPA then measured the water level within the mine adit, determining it was not full to the top. With this information, the EPA proceeded to drain the mine pool with a stinger pipe and pump and then safely open the mine adit.<sup>226</sup> Why the EPA did not take the precautionary measure of drilling a well upslope to measure the water level in the Gold King Mine became another point of controversy after the blowout.

This controversy could have been resolved immediately after the blowout with the first post-mortem, the EPA Internal Review issued in late August 2015. The EPA Internal Review was produced by an independent team of mining experts from

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<sup>219</sup> OIG RESPONSE, *supra* note 19, at 18.

<sup>220</sup> *Id.* at 19.

<sup>221</sup> *Id.*

<sup>222</sup> *Id.*

<sup>223</sup> ER WORK PLAN, *supra* note 174, add. B (showing, among other things, “Set-up Pumping System” to begin “Mon 8/31/15” and “Bolt Tunnel Brow” to be conducted “Wed 9/9/15”).

<sup>224</sup> OIG RESPONSE, *supra* note 19, at 19.

<sup>225</sup> BOR TECHNICAL EVALUATION, *supra* note 3, at 24.

<sup>226</sup> *Id.* at 24–25.

outside of EPA Region 8.<sup>227</sup> As part of this review, the team visited the site during the week of August 16, 2015 and made some important observations that were overlooked by many critics. The team recognized that the procedure used at the Red and Bonita Mine, drilling a well from above the mine down into mine workings, “may have been able to discover the pressurized conditions that turned out to cause the blowout.”<sup>228</sup> However, the team also recognized that the Gold King Mine, higher up on Bonita Peak, is significantly different from the Red and Bonita Mine. In particular, “[b]ased on the site topography (steepness and ruggedness) observed by the Team . . . the use of such a technique would have been very difficult and expensive at the Adit.”<sup>229</sup> Moreover, “[t]he unstable and steep slope above the Adit had loose soils and rock and the underlying bedrock was prone to cave-ins, as observed over the nearby Old Adit . . . .”<sup>230</sup> Recognizing these factors, the Internal Review concluded, in part, that “[s]afety is a key consideration for drilling at the Gold King site, and establishing a safe location for the drill pad would be very challenging given the steepness and instability of the slopes above and in proximity to the Adit.”<sup>231</sup> In light of these serious technical challenges and safety concerns, the Internal Review declined to address this question further.

The BOR Technical Evaluation reached a similar conclusion. BOR recognized that drilling a well upslope of the mine portal had allowed the EPA to successfully determine the water level inside the Red and Bonita Mine adit.<sup>232</sup> Given this, BOR opined that had this technique been followed at the Gold King Mine, “the plan to open the mine would have been revised, and the blowout would not have occurred.”<sup>233</sup> However, BOR also acknowledged that “the prospect of drilling into the [Gold King Mine] from above was far more challenging than at Red and Bonita.”<sup>234</sup> In lieu of drilling, BOR agreed with the EPA and DRMS that “indirect evidence about the water level in the mine appeared persuasive . . . .”<sup>235</sup>

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<sup>227</sup> EPA INTERNAL REVIEW, *supra* note 165, at 2. Among the members of the EPA Internal Review Team was Ed Moreen, a registered Professional Engineer from EPA Region 10. Based in Coeur d’Alene, Idaho, Mr. Moreen has more than 20 years of field experience working on mine site cleanups, as a project manager for the U.S. EPA and as a project manager for the U.S. Army Corps of Engineers before that.

<sup>228</sup> *Id.* at 7.

<sup>229</sup> *Id.*

<sup>230</sup> *Id.*

<sup>231</sup> *Id.* at 9.

<sup>232</sup> BOR TECHNICAL EVALUATION, *supra* note 3, at 24–25.

<sup>233</sup> *Id.* at 78.

<sup>234</sup> *Id.* at 66.

<sup>235</sup> *Id.* According to the BOR Technical Evaluation, this “indirect evidence” about the water level in the mine included each of the following:

- The Gold King Mine was high up on Bonita Peak, 427 feet above the Red and Bonita Mine, making it unlikely that groundwater would be found this high up on the mountain.
- Seepage from the Gold King Mine Level 7 New Portal appeared to be flowing about four feet below the top of the adit (or six feet above the adit floor) in 2015, at about

Ignoring this “indirect evidence” of the water level inside the mine adit, and dismissing the safety concerns and technical challenges observed by the mining experts in both the EPA Internal Review and the BOR Technical Evaluation, the Majority Staff Report criticized both the EPA and BOR for “fail[ing] to discuss EPA’s critical decision not to test the pressure in the mine . . . .”<sup>236</sup> Even with the differences articulated in the EPA Internal Review and the BOR Technical Evaluation, the Majority Staff Report asked, “[i]f BOR had previously advised EPA to test the pressure at [the Red and Bonita Mine], why did BOR not address this same issue when reviewing EPA’s actions at the Gold King Mine?”<sup>237</sup>

Unlike the authors of the Majority Staff Report, the EPA Office of Inspector General showed no trouble distinguishing between the Gold King Mine and the Red and Bonita Mine, acknowledging the advice of one mining expert that “each mine is unique.”<sup>238</sup> The OIG report observed that the lead OSC for the Gold King Mine site, Steve Way, in fact had drilled the monitoring well into the Red and Bonita Mine five years earlier, so he was well-familiar with the technique.<sup>239</sup> However, the OIG also appreciated this was an easier job at the Red and Bonita Mine, where an access road above the Red and Bonita Mine allowed the EPA to lower drill equipment safely down above the adit. For the Gold King Mine, higher up on the mountain, no access road exists above the mine, creating particular challenges for getting drill equipment up above the mine.<sup>240</sup> Moreover, the OIG noted that “the Gold King Mine portal is located on a steeper and more unstable mountainside than the Red and Bonita Mine portal,”<sup>241</sup> creating the safety concerns and technical challenges that the EPA identified early on in its Internal Review. Carrying out its independent investigation, the OIG spoke with a number of mining experts and found “mixed opinions on whether drilling was feasible or advisable at the site due to these risks.”<sup>242</sup> One

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the same level observed by the EPA in 2014, indicating the water level inside the mine was stable.

- No seeps or wet spots were observed above this level, indicating dry conditions above this level inside the adit.
- Seepage at the base of the blockage was stable at 69 gallons per minute, indicating that pressure inside the mine had not increased.
- Only a small amount of seepage was coming out of the Level 7 Old Portal, located 100 feet away and connected to the New Portal inside the mine. *Id.* at 51–52.

<sup>236</sup> MAJORITY STAFF REPORT, *supra* note 2, at 44, 48 (criticizing EPA INTERNAL REVIEW, *supra* note 165 and criticizing BOR TECHNICAL EVALUATION, *supra* note 3).

<sup>237</sup> *Id.* at 48.

<sup>238</sup> See OIG RESPONSE, *supra* note 19, at 12.

<sup>239</sup> *Id.* at 14.

<sup>240</sup> *Id.* at 12–14.

<sup>241</sup> *Id.* at 14.

<sup>242</sup> *Id.* According to one of these experts, from the Colorado DRMS, collection of data from a monitoring well drilled above the mine may have proven useless, or worse, misleading, because conditions within the mine could change in the months required to drill, monitor, and proceed to open the mine. *Id.* at 15. This time lag may be particularly concerning given the short field season at the high altitude of the Gold King Mine, requiring drilling in

expert, for example, suggested that horizontal drilling into the side of the mountain could be used to determine water levels inside the mine. However, that suggestion was countered by the advice of another expert, who warned that horizontal drilling created the risk of a blowout through the drill hole.<sup>243</sup> In the end, the OIG concluded, “[w]e found it reasonable that the EPA had not conducted direct testing of the water level or pressure during the removal site evaluation at Gold King Mine by the time of the release on August 5, 2015.”<sup>244</sup>

While critics may never be satisfied, each of the criticisms concerning the EPA’s alleged failures at the Gold King Mine appears to find answers both complex and simple. One simple fact is that mines are often dangerous places. This fact is amply attested by the history of tragic mining accidents in the United States,<sup>245</sup> including perhaps two dozen deaths at the Gold King Mine itself during its operational years.<sup>246</sup> Another fact is that there are a *lot* of abandoned mines, hundreds of thousands in the western United States,<sup>247</sup> raising the odds that something will go wrong somewhere. Tens of thousands of these abandoned mines may require work to address legacy contamination, requiring hazardous activities such as drilling and excavation that give rise to accidents every year in the course of active mining operations. To carry out the hazardous work of mine cleanup requires the collective efforts of many agencies and entities such as the EPA, the Colorado Division of Reclamation, Mining and Safety, the Animas River Stakeholders Group, and private industry. What happened with the EPA crew on August 5, 2015, could have happened on anyone else’s watch. Unlike many other tragic accidents in the history of mining, we are lucky that this time no one was killed. Of course, that’s a far cry from saying the EPA was lucky that day, as the continuing controversy and litigation clearly demonstrate.

#### IV. THE GOLD KING MINE SPILL AND ENVIRONMENTAL LIABILITY

To say that the Gold King Mine blowout was truly an accident does not mean, of course, that the EPA has no liability for the spill. The EPA may, for example, still have tort liability for the Gold King Mine spill under the Federal Tort Claims Act (FTCA).<sup>248</sup> The EPA might also have liability under various federal environmental

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the late summer of one year and then, based on the results, reopening the mine in the late summer of the following year.

<sup>243</sup> OIG RESPONSE, *supra* note 19, at 14.

<sup>244</sup> *Id.* at 15.

<sup>245</sup> Evidence of this fact is unfortunately plentiful. *See, e.g.*, GREGG OLSEN, THE DEEP DARK: DISASTER AND REDEMPTION IN AMERICA’S RICHEST SILVER MINE (2006) (discussing how in 1972, 91 miners were killed in the Sunshine Mine Disaster in Kellogg, Idaho).

<sup>246</sup> Thompson, *supra* note 2, and accompanying text.

<sup>247</sup> *See* GAO REPORT, *supra* note 57 and accompanying text (GAO estimate).

<sup>248</sup> Federal Tort Claims Act (FTCA), Pub. L. No. 89-506, 80 stat. 306–08 (codified as amended in scattered sections of 26 U.S.C.). For discussion of the FTCA in the context of the Gold King Mine spill, *see infra* note 427 and accompany text.

statutes. For example, both the Majority Staff Report<sup>249</sup> and individual Members of Congress<sup>250</sup> alleged that the EPA's actions at the Gold King Mine violated the Clean Water Act and the Endangered Species Act. While early allegations such as these were largely rhetorical,<sup>251</sup> ongoing litigation alleging violations of both the FTCA and federal environmental laws requires that all sides engage in more rigorous analysis. This Part will take an independent look at the various federal environmental statutes the EPA may be alleged to have violated in connection with the Gold King Mine spill, along with defenses such as sovereignty immunity. Through this process, this Part will demonstrate some of the specific legal protections available to agencies and contractors responding to the challenging problems of mining contamination in the United States.

### A. *The Endangered Species Act*

The purpose of the Endangered Species Act (ESA)<sup>252</sup> is generally to protect and conserve threatened and endangered species and the habitats upon which their survival depends.<sup>253</sup> At the broadest level, the ESA endeavors to achieve such goals through two primary mechanisms: (1) the requirement for federal agencies to consult with federal wildlife services under ESA Section 7;<sup>254</sup> and (2) the general requirement for all public and private parties to avoid “take” of any threatened or endangered species under ESA Section 9.<sup>255</sup> The prohibition of “take” established by ESA Section 9 and implementing regulations generally prohibits “harm” to endangered

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<sup>249</sup> MAJORITY STAFF REPORT, *supra* note 2, at 3 (stating flatly, “EPA’s actions at the Gold King Mine violated the Clean Water Act and the Endangered Species Act”).

<sup>250</sup> *Joint Oversight Hearing*, *supra* note 167, at 7 (quoting Rep. Rob Bishop, “Now, EPA . . . [has] violat[ed] . . . environmental laws, like the Clean Water Act and the Endangered Species Act”).

<sup>251</sup> The Majority Staff Report, for example, after declaring flatly in the Executive Summary that “EPA’s actions at the Gold King Mine violated the Clean Water Act and the Endangered Species Act,” devotes a total of three bullet points and one footnote out of a 73-page report to demonstrate this alleged liability. MAJORITY STAFF REPORT, *supra* note 2, at 3, 17. For another example, see *Joint Oversight Hearing*, *supra* note 167, at 24 (statement of Rep. Rob Bishop: “[The Endangered Species Act] says if you anticipate a major blowout, you have to contact [the U.S.] Fish and Wildlife [Service].”). The actual language of the Endangered Species Act, however, says nothing about actions to be taken in anticipation of a major blowout. *See* Endangered Species Act of 1973 (ESA), 16 U.S.C. §§ 1531–1544 (2018).

<sup>252</sup> Endangered Species Act of 1973 (ESA), 16 U.S.C. §§ 1531–1544 (2018). For an excellent introduction and overview of the Endangered Species Act, see DANIEL J. ROHLF, *THE ENDANGERED SPECIES ACT OF 1973: A GUIDE TO ITS PROTECTIONS AND IMPLEMENTATION* (1989).

<sup>253</sup> *See* 16 U.S.C. § 1531(b) (describing the purposes of the ESA).

<sup>254</sup> 16 U.S.C. § 1536.

<sup>255</sup> *Id.* § 1538(a)(1)(B) (noting that it is unlawful to “take any [listed] species within the United States”).

and threatened species.<sup>256</sup> Fortunately, field biologists from the U.S. Fish and Wildlife Service and other agencies found no evidence or indication of any harm to endangered or threatened species as a result of the Gold King Mine spill.<sup>257</sup> As such, this section will focus on the sole question of the EPA's responsibilities for consultation under ESA Section 7.

In significant part, ESA Section 7 provides as follows:

Each federal agency shall, in consultation with . . . the Secretary, insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [critical] habitat . . . .<sup>258</sup>

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<sup>256</sup> *Id.* § 1532(19) (defining “take” to mean “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct”); 50 C.F.R. § 17.3 (2017) (defining “harm” to mean “an act which actually kills or injures wildlife”). “Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.” *Id.* For discussion of the regulatory definition of “harm,” see *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, 515 U.S. 687, 708 (1995) (affirming regulatory definition of “harm” including “significant habitat modification”). While ESA Section 9 on its face applies only to “endangered species,” implementing regulations extend Section 9 protections to threatened species as well. 50 C.F.R. § 17.31(a) (2017) (extending most, but not all, of the “take” prohibitions that apply to “endangered” wildlife to also apply to “threatened” wildlife).

<sup>257</sup> As Department of the Interior Secretary Sally Jewell testified under oath at one congressional hearing, the Fish and Wildlife Service conducted testing “to determine whether there had been an adverse impact on threatened and endangered species, and had seen no impact, and had done multiple testing.” *The Department of the Interior’s Role in the EPA’s Animus Spill: Oversight Hearing Before the H. Comm. on Natural Resources*, 114th Cong. 52 (Dec. 9, 2015) [hereinafter *DOI Hearing*] (statement of Sally Jewell, Secretary, U.S. Department of the Interior); see also Scott L. Durst and Mathan R. Franssen, Initial Observations of the Gold King Mine Spill in the San Juan River Basin 7–8 [hereinafter *Durst & Franssen Field Report*] (undated and unpublished report of field surveys on August 11–12, 2015, by U.S. Fish and Wildlife Service field biologists) (on file with author) (explaining that “[a]ll fish we encountered appeared to be healthy and in good condition”); see also *EPA’s Animus Spill: Joint Oversight Hearing Before the H. Comm. on Natural Resources and the Comm. on Oversight and Gov’t Reform*, 114th Cong. 94 (Sept. 17, 2015) (testimony of Larry Wolk, Executive Director and Chief Medical Officer, Colo. Dept. of Public Health and Env’t.) (asserting that water quality staff from the Colorado Department of Public Health worked with the Division of Parks and Wildlife, within the Colorado Department of Natural Resources, to monitor the spill’s effects on aquatic life and wildlife, and found that “[t]here were no fish kills along the Animus river during the plume event, and there were no effects observed on terrestrial animals, such as ducks or mammals” and additionally, only one fish out of 108 died when placed in cages in the plume in the river).

<sup>258</sup> 16 U.S.C. § 1536(a)(2) (2018).

For purposes of the Gold King Mine spill, the “Secretary” is the Secretary of the U.S. Department of the Interior,<sup>259</sup> acting through the U.S. Fish and Wildlife Service (FWS). Thus, if the duty to consult under ESA Section 7 applies to the Gold King Mine spill, it would require EPA consultation with the Secretary of the Interior, through the FWS. The FWS defines federal “action” broadly for purposes of Section 7 consultation, to include “all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies.”<sup>260</sup> Actions conducted by the EPA at the Gold King Mine Level 7 New Portal on August 5, 2015, were clearly actions “authorized, funded, [and] carried out” by a federal agency. Congressional critics thus accused the EPA of failing to meet legal requirements for consultation under ESA Section 7.<sup>261</sup>

Of course, Section 7 does not require federal agencies to consult with the Service agencies on *all* actions authorized, funded, or carried out by a federal agency. No one would suggest, for example, that the EPA Administrator must complete Section 7 consultation before hiring an intern or testifying at another congressional hearing on the Gold King Mine spill. Section 7 consultation is triggered only by those federal actions that may “jeopardize the continued existence of any endangered species or threatened species or result in . . . adverse modification of [critical] habitat . . . .”<sup>262</sup> Drawing directly on this language, the Director of the U.S. Fish and Wildlife Service responded to congressional critics of the Gold King Mine spill with this authoritative statement:

Federal action agency discretionary actions are subject to [ESA] section 7(a)(2) consultation when they cause effects to listed species or designated critical habitat that are reasonably certain to occur. (In the 1986 ESA implementing regulations preamble, the Service notes that this phrase is not the same as “reasonably foreseeable” under the NEPA). Webster’s New World College Dictionary (2010 edition) defines “accident” as “a happening that is not expected, foreseen, or intended.” As a general matter, the

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<sup>259</sup> The Endangered Species Act defines “Secretary” as either the Secretary of the Interior, through the U.S. Fish and Wildlife Service, or the Secretary of Commerce, through the National Marine Fisheries Service (NMFS). 16 U.S.C. § 1532(15) (defining “Secretary”). NMFS generally has jurisdiction over marine species and anadromous fishes, 50 C.F.R. § 223.102 (2017), while the Fish and Wildlife Service has jurisdiction over all other species, including terrestrial species and freshwater fishes, 50 C.F.R. § 402.01(b) (2017).

<sup>260</sup> 50 C.F.R. § 402.02; *see also, e.g.*, Lane County Audubon Society v. Jamison, 958 F.2d 290, 294 (9th Cir. 1992) (holding that U.S. Forest Service plan for managing timber harvests in old growth forests of Oregon constitutes federal “action” for purposes of ESA Section 7 consultation).

<sup>261</sup> *See, e.g., Joint Oversight Hearing, supra* note 167, at 24 (statement of Rep. Rob Bishop) (asserting that “EPA conducted no consultation with Fish and Wildlife, as is required under the Endangered Species Act”); *DOI Hearing, supra* note 257 at 52 (statement of Rep. Crescent Hardy) (claiming that, “[c]learly, [EPA’s] action reached the bar . . . which triggers a requirement of consultation with the ESA”).

<sup>262</sup> 16 U.S.C. § 1536(a)(2).



Service does not consider accidents to be discretionary agency actions subject to consultation or speculate about possible effects that are not reasonably certain to occur.<sup>263</sup>

Recognizing that the Gold King Mine spill was indeed an “accident,” the FWS Director found no need for the EPA to engage in consultation on the Gold King Mine spill “because an accidental spill is not a discretionary federal action subject to section 7 consultation.”<sup>264</sup> This conclusion was also shared by the Director’s boss, the Secretary of the Interior, who explained under oath during one of the many congressional hearings into the Gold King Mine spill that, “[i]t is the EPA’s choice whether or not to do a Section 7 consultation with the Fish and Wildlife Service.”<sup>265</sup>

Moreover, nothing about the EPA’s work at the Gold King Mine Level 7 New Portal on August 5, 2015, suggested any possibility of jeopardizing the continued existence of any listed species or critical habitat. A list of all wildlife in San Juan County, Colorado, protected under the Endangered Species Act identified a total of three species: the Canada lynx (*Lynx Canadensis*), the Boreal toad (*Bufo boreas boreas*), and the Southwestern willow flycatcher (*Empidonax trailii extimus*).<sup>266</sup> Sighting of a Canada lynx anywhere in Colorado would be a rare treat, but certainly nothing suggests that the EPA’s investigation at the Gold King Mine could jeopardize the continued existence of the species. A Boreal toad on the steep slope of Bonita

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<sup>263</sup> Letter from Dan Ashe, Director, U.S. Fish and Wildlife Service, to The Honorable Rob Bishop, Chairman, H. Comm. on Natural Resources, FWS/AES/064378, at 2 (2016) (on file with author). For the “preamble” referenced in the Director’s statement, see Interagency Cooperation – Endangered Species Act of 1973, 51 Fed. Reg. 19,926 (June 3, 1986). In the preamble, the U.S. Fish and Wildlife Service explained its rejection, for ESA consultation purposes, of the “reasonably foreseeable” standard for determining the scope of agency actions that may trigger the need to conduct an Environmental Impact Statement under NEPA. Instead, the U.S. Fish and Wildlife Service adopted a “narrower” standard of “reasonably certain” for identifying the scope of effects that could trigger requirements for consultation under ESA Section 7. *Id.* at 19,332–19,333. This narrower standard of “reasonably certain” remains today in the ESA regulations defining “indirect effect” and “cumulative effects.” 50 C.F.R. § 402.02 (2017).

<sup>264</sup> Letter from Dan Ashe, Director, U.S. Fish and Wildlife Service, to The Honorable Rob Bishop, Chairman, H. Comm. on Natural Resources, FWS/AES/064378, at 2 (2016) (on file with author).

<sup>265</sup> *DOI Hearing*, *supra* note 257, at 52 (testimony of Sally Jewell, Secretary, U.S. Department of the Interior). As explained in the 1986 preamble to the ESA regulations, the wildlife service agency “performs a strictly advisory function under section 7 by consulting with other Federal agencies . . . . However, the Federal agency makes the ultimate decision as to whether its proposed action will satisfy the requirements of section 7(a)(2).” 51 Fed. Reg. at 19,928.

<sup>266</sup> U.S. ENVTL. PROT. AGENCY, REGION 8, FINAL DRAFT BASELINE ECOLOGICAL RISK ASSESSMENT, UPPER ANIMAS MINING DISTRICT 34 (2015) [hereinafter *BASELINE RISK ASSESSMENT*].

Peak would likewise be unlikely.<sup>267</sup> As for the third listed species, the Southwestern willow flycatcher, the dense riparian habitat that this species requires only exists miles downstream from the Gold King Mine, so again, any potential jeopardy to the species from investigatory work at the Gold King Mine would be extremely unlikely.<sup>268</sup> As for aquatic species, “it is unlikely that Cement Creek,” immediately below the Gold King Mine Level 7, “ever supported fish communities” due to the highly mineralized local geology.<sup>269</sup> There are no threatened or endangered species of fish in the Animas River. Accordingly, as it was highly unlikely that the EPA’s investigation at the Gold King Mine Level 7 New Portal would jeopardize the continued existence of any listed species or critical habitat designated under the Endangered Species Act, it was reasonable for the EPA not to engage in Section 7 consultation before conducting this investigation.

This conclusion comports with both common practice and common sense in the investigation of contaminated sites. If it were true that literally “*all* activities . . . funded . . . in whole or in part by Federal agencies” required consultation under ESA Section 7, then all site investigations across the United States would likely grind to a halt. This would include all site investigations performed by the EPA, of course, but also all site investigations by every other Federal agency, including the U.S. Fish and Wildlife Service, the U.S. Forest Service, and the U.S. Army. This would include all site investigations performed by state agencies, local municipalities, tribal governments, and public universities which receive Federal funding.<sup>270</sup> This would also include the substantial work of the Animas River Stakeholders Group to investigate mine sites in the Animas River Watershed, which was funded “in whole or in part” by the EPA. Nobody would suggest that the ARSG’s work triggered ESA Section 7 consultation requirements. Similarly, suggestions that the EPA should have consulted under Section 7 before engaging in work at the Gold King Mine in the summer of 2015 should be dismissed as equally baseless.

Of course, after the spill occurred on August 5, 2015, with the slug of sediment and metals moving hundreds of miles through the river system, there came a greater potential for affecting listed species and critical habitat. This might raise a new concern for ESA Section 7 consultation, except that it is clear that the EPA did, in fact, consult with the U.S. Fish and Wildlife Service after the spill. According to ESA Section 7 regulations, “[w]here emergency circumstances mandate the need to

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<sup>267</sup> The Boreal toad requires “wet habitats (i.e., marshes, wet meadows, streams, beaver ponds, glacial kettle ponds, and lakes interspersed in subalpine forest),” quite unlike the dry, rocky slopes of Bonita Peak. See *Endangered Species|Amphibians/Reptiles: Boreal toad (Anaxyrus boreas boreas)*, U.S. FISH & WILDLIFE SERVICE, <https://www.fws.gov/mountain-prairie/es/borealToad.php> [<https://perma.cc/H97G-GX34>].

<sup>268</sup> BASELINE RISK ASSESSMENT, *supra* note 266, at 24, 34.

<sup>269</sup> U.S. ENVTL. PROT. AGENCY, REGION 8, DRAFT BASELINE ECOLOGICAL RISK ASSESSMENT, UPPER ANIMAS MINING DISTRICT, FACT SHEET 1 (2015); see also Thompson, *supra* note 2, at 13 (“Nature, it turns out, is the biggest polluter in the watershed.”).

<sup>270</sup> Nearly half (approximately 48.3%) of the EPA’s annual budget is passed through the Agency to support State & Tribal Assistance Grants. U.S. ENVTL. PROT. AGENCY, FY2018 EPA BUDGET IN BRIEF 7 (2017).

consult in an expedited manner, consultation may be conducted informally through alternative procedures . . . .”<sup>271</sup> The Animas River spill clearly constituted an “emergency circumstance” authorizing the use of “alternative procedures.” According to these alternative procedures, “[t]he initial stages of emergency consultations usually are done by telephone or facsimile . . . .”<sup>272</sup> Consistent with this expectation, within two hours of the spill, the National Response Center provided telephone notification to the U.S. Department of the Interior (DOI).<sup>273</sup>

Following that first official notification, DOI consulted with the EPA throughout the spill response operation. On August 6, 2015, the day after the spill, DOI was in direct contact with the Navajo Nation and the U.S. Fish and Wildlife Service began assessing the potential impacts to wildlife.<sup>274</sup> On August 11, 2015, Fish and Wildlife Service biologists from the FWS field office in Albuquerque, New Mexico, met at the EPA command post in Farmington with an EPA on-scene coordinator and a representative of the Navajo Nation before beginning a fish survey on the San Juan River below Farmington.<sup>275</sup> On August 12, 2015, the FWS biologists completed their fish survey and reported their findings back to the EPA command post in Farmington,<sup>276</sup> concluding their real-time consultation on the emergency response.<sup>277</sup>

“[A]fter the emergency is under control,” the ESA regulations on emergency consultation allow for the conduct of formal consultation.<sup>278</sup> However, consistent with ESA Section 7 itself, the alternative procedures for emergency consultation only require formal consultation “if listed species or critical habitat have been adversely affected.”<sup>279</sup> In this case, there was no observed effect on listed species or critical habitat as a result of the spill from the Gold King Mine.<sup>280</sup> In the San Juan

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<sup>271</sup> 50 C.F.R. § 402.05(a) (2017).

<sup>272</sup> U.S. FISH & WILDLIFE SERV. & NATIONAL MARINE FISHERIES SERV., ENDANGERED SPECIES CONSULTATION HANDBOOK 8-1 (1998) [hereinafter CONSULTATION HANDBOOK].

<sup>273</sup> See *supra* note 27 and accompanying text. According to Secretary Jewell, DOI may have been contacted even sooner, through the Colorado Department of Public Health and Environment. See *DOI Hearing, supra* note 257, at 23 (statement of Sally Jewell, Secretary, U.S. Department of the Interior).

<sup>274</sup> *DOI Hearing, supra* note 257, at 22 (statement of Sally Jewell, Secretary, U.S. Department of the Interior).

<sup>275</sup> See Durst & Franssen Field Report, *supra* note 257.

<sup>276</sup> *Id.*

<sup>277</sup> During emergency consultation, the role of the Fish and Wildlife Service (FWS) has been specifically described as “offer[ing] recommendations to minimize the effects of the emergency response action on listed species or their critical habitat.” CONSULTATION HANDBOOK, *supra* note 272, at 8-1. However, FWS personnel are also advised, “DO NOT stand in the way of the response efforts.” *Id.*

<sup>278</sup> 50 C.F.R. § 402.05(b).

<sup>279</sup> CONSULTATION HANDBOOK, *supra* note 272, at 8-4.

<sup>280</sup> See Durst & Franssen Field Report, *supra* note 257 and accompanying text. In their report, FWS biologists Durst and Franssen documented seining for fishes on a channel of the San Juan River below Farmington. At one location, they captured 14 fish, including 2 endangered Colorado Pikeminnows, and reported that, “[a]ll fish we encountered appeared to be healthy and in good condition.” *Id.* at 7.

River, there are threatened and endangered species, including the endangered Colorado Pikeminnow (*Ptychocheilus lucius*) and the endangered Razorback Sucker (*Xyrauchen texanus*), together with designated critical habitat for both species.<sup>281</sup> The FWS field surveys on August 11 and 12, 2015 recovered and examined individuals of the endangered Colorado Pikeminnow and other native fish species, and found no adverse impacts to these fishes.<sup>282</sup> As such, there was no need for the EPA to proceed with formal consultation in this matter, and no further obligations under ESA for this emergency response.

The unfortunate circumstances of the Gold King Mine spill understandably raised concerns for the protection of threatened and endangered species and their critical habitats. However, the summary declarations that the EPA's actions at the Gold King Mine violated the Endangered Species Act were clearly both premature and wrong. Factually, there was no violation of the "take" prohibition of ESA Section 9 and legally, there was no violation of the consultation requirements of ESA Section 7. Whatever else might be said about the EPA's liabilities flowing from the Gold King Mine spill, violation of the Endangered Species Act was not one of them.

### B. Clean Water Act

Beyond the ESA, critics of the EPA also declared that the "EPA's actions at the Gold King Mine violated the Clean Water Act . . . ."<sup>283</sup> This declaration of liability may find greater justification than the declaration with respect to the ESA. However, important defenses remain to be considered. There are, in fact, fundamental differences between the mining companies who created the conditions allowing the Gold King Mine to fill with water and continuously discharge contaminated water and the actions of the EPA which attempted to address this problem. In view of those differences, this section will examine three important defenses available to the EPA and other environmental agencies and actors, based upon theories of permit exemptions, permitted releases, and sovereign immunity.

Jurisdiction under the federal Clean Water Act (CWA) is generally triggered by any "discharge of a pollutant" from a point source to navigable waters.<sup>284</sup> Under

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<sup>281</sup> U.S. DEP'T OF THE INTERIOR, FINAL BIOLOGICAL OPINION FOR SAN JUAN RIVER NAVAJO IRRIGATION REHABILITATION AND IMPROVEMENT PROJECT—FRUITLAND-CAMBRIDGE AND HOGBACK-CUDEI IRRIGATION UNITS—AND COLORADO RIVER SALINITY PROGRAM HABITAT REPLACEMENT (2018). In addition to the Colorado Pikeminnow and Razorback Sucker, other potentially affected fish species in the San Juan Basin include the endangered Zuni Bluehead Sucker (*Catostomus discobolus yarrowi*), and the threatened Greenback Cutthroat Trout (*Salmo clarki stomias*). See Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Zuni Bluehead Sucker, 79 Fed. Reg. 43,132 (July 24, 2014); Listing of the Greenback Cutthroat as a Threatened Species, 43 Fed. Reg. 16,343 (Apr. 18, 1978).

<sup>282</sup> Durst & Franssen Field Report, *supra* note 257.

<sup>283</sup> MAJORITY STAFF REPORT, *supra* note 2, at 3.

<sup>284</sup> See 33 U.S.C. § 1311 (2018) (declaring that, except as otherwise permitted under the statute, "the discharge of any pollutant by any person shall be unlawful"); see also *id.* §

CWA Section 301, such a discharge is generally prohibited, unless subject to a permit issued pursuant to the statute.<sup>285</sup> “Pollutant” is defined broadly to include “industrial . . . waste.”<sup>286</sup> “Point source” is defined broadly to mean “any discernable, confined and discrete conveyance, including but not limited to any . . . tunnel . . . .”<sup>287</sup> Likewise, “navigable waters” are defined broadly to mean “the waters of the United States, including the territorial seas.”<sup>288</sup> Pulling these definitions together, one can easily see how the Clean Water Act would apply to the Gold King Mine blowout. The tons of metals released with the three million gallons of mine water would constitute a “pollutant” from the mining industry. The Gold King Mine Level 7 adit is a “point source” as a “discernable, confined and discrete conveyance,” and specifically, a kind of “tunnel.” Finally, Cement Creek and the Animas River are “navigable waters” as defined to include “waters of the United States.”<sup>289</sup> Thus, it would appear that the discharge from the Gold King Mine triggered by the EPA on August 5, 2015, established liability under the Clean Water Act—unless the EPA had a permit for this discharge, which it did not. As any other private party causing an unpermitted discharge of pollutants to navigable waters, the EPA might thus become subject to substantial administrative, civil, and even criminal penalties for violation of the Clean Water Act.<sup>290</sup>

One important defense to such liability appears directly within the regulations implementing the Clean Water Act. While the discharge of a pollutant from a point source to navigable waters generally requires a permit under the Clean Water Act, the regulations create several exclusions to this general rule.<sup>291</sup> One exclusion applies to any discharge “in compliance with the instructions of an On-Scene Coordinator . . . .”<sup>292</sup> On the books for a quarter-century,<sup>293</sup> this exclusion allows On-Scene

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1362(12) (defining “discharge of a pollutant” to mean “any addition of any pollutant to navigable waters from any point source”).

<sup>285</sup> 33 U.S.C. § 1311.

<sup>286</sup> *Id.* § 1362(6).

<sup>287</sup> *Id.* § 1362(14).

<sup>288</sup> *Id.* § 1362(7).

<sup>289</sup> Many readers will recognize that the definition of “waters of the United States” remains one of the most controversial and contested terms in environmental law, the subject of multiple Supreme Court decisions and ongoing litigation. *See generally* JOEL A. MINTZ ET AL., A PRACTICAL INTRODUCTION TO ENVIRONMENTAL LAW 535–57 (2017). Nevertheless, as the Animas River is both “navigable-in-fact” (as attested by the vibrant paddling industry on the river) and an interstate water, there should be little doubt that the Animas River is a “waters of the United States” for purposes of the Clean Water Act. 40 C.F.R. § 122.2(a)–(b) (2014). As a *tributary* to that interstate and navigable-in-fact Animas River, Cement Creek should also be uncontroverted as a “waters of the United States.” 40 C.F.R. § 122.2(e) (2014).

<sup>290</sup> *See generally* 33 U.S.C. § 1319 (describing “enforcement” of the Clean Water Act).

<sup>291</sup> *See* 40 C.F.R. § 122.3 (2017).

<sup>292</sup> 40 C.F.R. § 122.3(d).

<sup>293</sup> *See* 48 Fed. Reg. 14,157–14,158 (Apr. 1, 1983). While there appears no evidence that the CWA permit exclusion for discharges at the direction of an OSC at § 122.3(d) was ever subject to judicial challenge, the EPA’s authority to promulgate such an exclusion from

Coordinators (OSCs) the flexibility they need to address the challenging environmental problems they must face in their work. As demonstrated by the Gold King Mine itself, mining contamination presents one of the most challenging environmental problems, particularly where underground workings and water levels within a mine may be subject to many unknowns. Thus, any discharge that occurred at the direction of the OSCs at the Gold King Mine may be excluded from permitting requirements under the Clean Water Act.<sup>294</sup>

Another defense to Clean Water Act liability in this case may be provided by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).<sup>295</sup> Recognizing the need for expeditious response to contaminated sites across the country, Congress included a “permit exemption” in CERCLA Section 121. This exemption provides, “[n]o Federal, State, or local permit shall be required for the portion of any removal or remedial action conducted entirely onsite . . . .”<sup>296</sup> Under CERCLA, “removal” action is defined to include “such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances . . . .”<sup>297</sup> The EPA’s actions to assess and evaluate the ongoing releases of contaminated mine water from the Gold King Mine Level 7 adit clearly fall within this definition of removal action. As such, “no . . . permit” under the federal Clean Water Act (or state counterpart) should have been required for the EPA’s work at the Gold King Mine, if this work was “conducted entirely onsite.” The statute does not define “onsite,” but such a definition is supplied by the regulations implementing CERCLA. In these regulations, “on-site” is defined to mean “the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action.”<sup>298</sup> For the Gold King Mine, the “areal extent of contamination” would include the several mine openings, associated piles of waste rock, and wherever wastes were carried from the mine opening by action of gravity, wind, and water. These areas would include the slopes

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permitting requirements appears established through judicial review of other exclusions in this same enumerated list. In particular, judicial challenges to § 122.3(i) may be instructive. In the *Catskill Mountains* saga, the United States Court of Appeals for the Second Circuit twice rejected the argument that the transfer of water from one basin to another should be exempt from CWA permit requirements. *Catskill Mountains Chap. of Trout Unlimited, Inc. v. City of New York (Catskill I)*, 273 F.3d 481 (2d Cir. 2001); *Catskill Mountains Chap. of Trout Unlimited, Inc. v. City of New York (Catskill II)*, 451 F.3d 77 (2d Cir. 2006). On the third try, after the EPA had formally promulgated this policy as a rule in 2008, the Second Circuit upheld the permit exclusion for water transfer, according *Chevron* deference to the EPA’s interpretation of the Clean Water Act. *Catskill Mountains Chap. of Trout Unlimited, Inc. v. EPA (Catskill III)*, 846 F.3d 492 (2d Cir. 2017).

<sup>294</sup> Of course, even where a discharge occurred after instructions from an OSC, a factual question may remain as to whether the discharge occurred “in compliance with” such instructions. Such an inquiry in any particular case may ultimately require determinations by an appropriate finder of facts.

<sup>295</sup> 42 U.S.C. § 9601 (2018).

<sup>296</sup> *Id.* § 9621(d)(1).

<sup>297</sup> *Id.* § 9601(23).

<sup>298</sup> 40 C.F.R. § 300.5.

and base of Bonita Peak as well as the waters and floodplains below Bonita Peak. The EPA's investigatory work at the Gold King Mine Level 7 in the summer of 2015 would therefore constitute actions within the "areal extent of contamination" and thus within the meaning of actions "conducted entirely onsite." As such, another defense to Clean Water Act liability available to the EPA in this case may be the CERCLA "permit exemption" for removal actions "conducted entirely onsite."

A third defense to liability under the Clean Water Act for the Gold King Mine spill may be provided by the doctrine of sovereign immunity established in American common law. According to this doctrine, derived from a principle of English law that "the king can do no wrong," sovereign entities cannot be held liable in a legal action unless they have waived their immunity to suit.<sup>299</sup> For the federal government in particular, the U.S. Supreme Court has established that any waiver of sovereign immunity must be "unequivocal" and "construed strictly in favor of the sovereign."<sup>300</sup> Consistent with these rules, not only must the particular legal requirement clearly apply to the federal government, but the penalties associated with violation of the requirement must also be expressly extended to the federal government. The seminal opinion of the Supreme Court establishing these rules actually dealt directly with the federal government's liability under the Clean Water Act as well as the Resource Conservation and Recovery Act (RCRA). The Court in *Department of Energy v. Ohio* recognized that the Clean Water Act generally applies to the federal government.<sup>301</sup> However, the Court also found that the Clean Water Act had *not* unequivocally waived the federal government's liability for all penalties under the statute.<sup>302</sup> Soon after the Court's decision in *Department of Energy v. Ohio*, Congress amended RCRA<sup>303</sup> and other statutes<sup>304</sup> to establish clear, unequivocal waivers of sovereign immunity. But Congress has never amended the Clean Water Act to establish an unequivocal waiver of sovereign immunity for penalties under the statute. Accordingly, even if the EPA's actions at the Gold King Mine constituted a violation of the Clean Water Act, penalties against the EPA would not be available under the current state of the statute and Supreme Court precedent.

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<sup>299</sup> For an erudite introduction to the concept of sovereign immunity, and argument for rejecting it, see Erwin Chemerinsky, *Against Sovereign Immunity*, 53 STAN. L. REV. 1201, 1202 (2001) (arguing that "[a] doctrine derived from the premise that 'the King can do no wrong' deserves no place in American law"). At the same time as he attacks sovereign immunity, however, Dean Chemerinsky recognizes that "sovereign immunity is not fading from American jurisprudence." *Id.*

<sup>300</sup> *Dep't of Energy v. Ohio*, 503 U.S. 607, 615 (1992) ("We start with a common rule . . . that any waiver of the National Government's sovereign immunity must be unequivocal . . . and constructed strictly in favor of the sovereign . . .").

<sup>301</sup> In fact, the obligation to comply with substantive provisions of the Clean Water Act was uncontested by the federal government. *Id.* at 613.

<sup>302</sup> *Id.* at 627 (noting that waiver of sovereign immunity for "punitive" penalties that is "less certain" fails to meet standard for "unequivocal" waiver).

<sup>303</sup> See *infra* note 309 and accompanying text.

<sup>304</sup> See, e.g., Safe Drinking Water Act Amendments of 1996, Pub. L. No. 104-182, § 129, 110 Stat. 1613, 1660 (1996).

These three defenses, based upon the Clean Water Act permit exclusion, the CERCLA permit exemption, and the doctrine of sovereign immunity, should not be taken to excuse any wrongful conduct on behalf of any party including the federal government. However, these defenses may provide important safe harbors for any party engaging in the challenging work of dealing with contaminated sites such as the Gold King Mine. For example, the Clean Water Act permit exclusion for work conducted consistent with instructions from an OSC protects not only the employees and contractors of the EPA, but potentially other cooperating parties such as state and local personnel, community stakeholders, and responsible parties conducting response actions under agency oversight. Likewise, the doctrine of sovereign immunity protects not only the federal government from suit, but potentially other sovereign governments, including states and tribes.<sup>305</sup> As such, it may be important for all concerned parties to understand the applicability and contours of these protections, to encourage their continued engagement in efforts to address contaminated sites.

### C. *Resource Conservation and Recovery Act*

The Resource Conservation and Recovery Act (RCRA)<sup>306</sup> is the primary federal statute providing for the safe handling, treatment, storage, and disposal of solid and hazardous wastes in the United States. Critics of the EPA's response to the Gold King Mine spill, including the State of New Mexico,<sup>307</sup> have attempted to use RCRA to hold the EPA or EPA contractors liable for the "disposal of solid and/or hazardous wastes . . . in the Animas and San Juan Rivers . . ." <sup>308</sup> In favor of this claim, the doctrine of sovereign immunity poses no limitation to suit against federal agencies under RCRA, as sovereign immunity under RCRA, unlike sovereign immunity under the Clean Water Act, has been waived by Congress "unequivocally."<sup>309</sup>

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<sup>305</sup> For example, while CERCLA expressly waives the sovereign immunity of state governments, it does not so waive the sovereign immunity of tribal governments. *See* 42 U.S.C. § 9601(21) (defining "person" to include a "State" and any "political subdivision of a State," but not any "Tribe" or tribal government). *But see* *Seminole Tribe v. Florida*, 517 U.S. 44, 76 (1996) (holding that Congress generally lacks authority to abrogate the immunity of states under the Eleventh Amendment).

<sup>306</sup> 42 U.S.C. §§ 6921–6939g (2017). The Resource Conservation and Recovery Act of 1976, Pub. L. No. 94-580, 90 Stat. 2795 (1976), amended the earlier Solid Waste Disposal Act of 1965, Pub. L. No. 89-272, 79 Stat. 997 (1965), which sought primarily to promote the proper disposal of refuse and recycling of waste materials. *See generally* RODGERS, *supra* note 101, at 531–35.

<sup>307</sup> *See* Complaint, *State of New Mexico v. United States, et al.*, Civ. Action No. 1:16-cv-00465-KK-LF (D.N.M. May 23, 2016) [hereinafter NM Complaint].

<sup>308</sup> *Id.* at 35–36 (stating that the "Third Cause of Action" seeking injunctive relief under RCRA against parties including EPA contractor Environmental Restoration).

<sup>309</sup>

Each department, agency, and instrumentality of the executive, legislative, and judicial branches of the Federal Government . . . shall be subject to, and comply with, all Federal, State, interstate, and local requirements, both substance and



However, in response to the Gold King Mine spill, action under RCRA will likely be rejected by limitations under RCRA established by the Bevill Amendment and the RCRA citizen suit provisions, as this section will discuss.

### 1. *Bevill Amendment*

The RCRA program for safe handling, treatment, storage, and disposal of hazardous wastes,<sup>310</sup> known as “Subtitle C,” attempts to effect a system of “cradle to grave” management of hazardous wastes, from the point of generation through transportation, storage, and ultimate treatment and disposal.<sup>311</sup> The Subtitle C regulatory regime generally begins with the identification of some “hazardous waste.”<sup>312</sup> For purposes of Subtitle C regulation, “hazardous waste” may encompass a broad range of substances commonly associated with hardrock mining, including forms of arsenic, lead, and mercury.<sup>313</sup> However, in 1980, Congress effectively removed most mining wastes from regulation as hazardous waste under Subtitle C through addition to RCRA of a provision known as the “Bevill Amendment.”<sup>314</sup> Under the Bevill

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procedural . . . respecting control and abatement of solid waste and hazardous waste disposal and management in the same manner, and to the same extent, as any person is subject to such requirements. . . . The Federal, State, interstate and local substantive and procedural requirements referred to in this subsection include, but are not limited to, all administrative orders and all civil and administrative penalties and fines, regardless of whether such penalties or fines are punitive or coercive in nature or are imposed for isolated, intermittent, or continuing violations. *The United States hereby expressly waives any sovereign immunity otherwise applicable to the United States . . . .*

42 U.S.C. § 6961(a) (2017) (emphasis added). This provision was amended by Congress in Fall 1992 to effect an unequivocal waiver of sovereign immunity under RCRA following the decision of the U.S. Supreme Court earlier that spring in *Dep’t of Energy v. Ohio*, 503 U.S. 607 (1992), which held that the waiver of sovereign immunity then under RCRA and the Clean Water Act was not unequivocal. Congress responded immediately to the decision by enacting the Federal Facility Compliance Act of 1992, Pub. L. No. 102-386, 106 Stat. 1505 (codified at 42 U.S.C. § 6961). Unfortunately for the interests of environmental protection, Congress never got around to amending the Clean Water Act in order to effect a similar unequivocal waiver of sovereign immunity. For a more complete analysis of waivers of sovereign immunity in federal environmental law, see generally Kenneth M. Murchison, *Waivers of Sovereign Immunity in Federal Environmental Statutes of the Twenty-First Century: Correcting a Confusing Mess*, 32 WM. & MARY ENVTL. L. & POL’Y REV. 359 (2008).

<sup>310</sup> 42 U.S.C. §§ 6921–6939e.

<sup>311</sup> RODGERS, *supra* note 101, at 531.

<sup>312</sup> 42 U.S.C. § 6921. “Hazardous waste” may be identified either by specific designation in EPA regulations, 40 C.F.R. §§ 261.31–33, or by means of exhibiting at least one of four hazardous “characteristics,” 40 C.F.R. § 261.3(a)(2)(i).

<sup>313</sup> 40 C.F.R. § 261.33(e).

<sup>314</sup> 42 U.S.C. § 6921(b)(3)(A). On its face, the Bevill Amendment only prohibited Subtitle C regulation of certain wastes until various studies were completed. *Id.* Almost 40 years later, the Bevill Amendment remains an enduring block to Subtitle C regulations of mining

Amendment, Subtitle C regulation is generally barred for any “solid waste from the extraction, beneficiation, and processing of ores and minerals . . . .”<sup>315</sup> In this context, “extraction” generally means mining, the process of removing materials from the ground, and “beneficiation” generally means “milling,” the process of crushing the ore and separating out the valuable minerals.<sup>316</sup> These terms are directly applicable to the contaminants from the Gold King Mine spill. While the Animas River has been contaminated with wastes from mining and milling for more than a century,<sup>317</sup> the discharge from the Gold King Mine on August 5, 2015, was the direct consequence of mining activity on Bonita Peak. In short, no Gold King Mine, no possible blowout from the Gold King Mine.

This conclusion comports with the congressional purposes behind the Bevill Amendment, which recognized the impracticability of maintaining “cradle to grave” management for certain “high volume, low toxicity wastes.”<sup>318</sup> Clearly, the three million gallons of mine water from the Gold King Mine on August 5, 2015, was a “high volume” event. And yet, there was no documented impact on fish or any other species, suggesting “low toxicity” waste. As “high volume/low toxicity” waste from the “extraction . . . of ores and minerals,” mine water from the Gold King Mine, as discharged on August 5, 2015, and on every other day over the past century, should be subject to the Bevill Amendment and thus exempt from regulation as “hazardous waste” under RCRA Subtitle C.

## 2. *Citizen Suit Provisions*

While mine waste is generally exempt from regulation under RCRA as “hazardous waste,” it may still be addressed under RCRA as “solid waste.” RCRA defines “solid waste” broadly to include any “discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations.”<sup>319</sup> Thus, waste from the Gold King Mine seems to be within RCRA’s definition of solid waste. However, in order to compel action to address concerns for solid waste, prospective plaintiffs, including states and tribes, must bring claims under the citizen suit provision of RCRA Section 7002.<sup>320</sup> The RCRA citizen suit section may pose two distinct challenges to maintaining an

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wastes. For a thorough examination of the Bevill Amendment in the context of mining wastes, see Steven R. Barringer, *The RCRA Bevill Amendment: A Lasting Relief for Mining Wastes?*, 17 NAT. RESOURCES & ENV’T 155 (2003).

<sup>315</sup> 42 U.S.C. § 6921(b)(3)(A)(ii).

<sup>316</sup> Barringer, *supra* note 314, at 155.

<sup>317</sup> See *supra* Section III.B (describing how the City of Durango was forced to find alternate water source in 1902 due to discharge of wastes from mills upstream in Silverton area).

<sup>318</sup> See *Env’t. Defense Fund v. EPA*, 852 F.2d 1316, 1327–28 (D.C. Cir. 1988) (recounting legislative history of the Bevill Amendment).

<sup>319</sup> RCRA § 1004, 42 U.S.C. § 6903(27). The statutory definition also includes certain exclusions, such as for “domestic sewage,” but no reference to the Bevill Amendment.

<sup>320</sup> See 42 U.S.C. § 6972.

action in response to the Gold King Mine spill: first, the prospective plaintiff must show that its intended action is not preempted by certain other ongoing actions to address the same discharge;<sup>321</sup> and second, the prospective plaintiff would have to meet a burden of proving that conditions caused by the discharge “may present an imminent and substantial endangerment to health or the environment.”<sup>322</sup> Each of these requirements will be discussed briefly below.

The RCRA Section 7002 requirement to prove that a discharge “may present an imminent and substantial endangerment to health or the environment” stands out as an exception to the more common rule of strict liability for violations of federal environmental law. For example, in actions brought for violations of RCRA Subtitle C, the EPA need only establish “that any person has violated or is in violation of any requirement . . . .”<sup>323</sup> To bring suit under RCRA Section 7002, however, the plaintiff must prove more than simply “any . . . violation,” but must establish that the discharge resulted in some potential endangerment to human health or the environment. Courts have recognized that this standard does not require evidence of any actual injury to human health or the environment.<sup>324</sup> However, the plain language of the provision does require proof of at least some potential endangerment that is both “imminent” and “substantial.”<sup>325</sup> Three years and counting after the Gold King Mine plume passed, it may be difficult to establish that any “endangerment” remains both imminent and substantial. One might suggest that some danger lies in the metals released by the spill on August 5, 2015, some of which likely remain in the sediments of the Animas and San Juan Rivers. However, whether any danger from these metals remains “imminent” and “substantial,” particularly in light of the metals also released on any of the other 34,000 days since the Gold King Mine effectively shut down in 1923, remains to be seen.

The biggest problem with action under RCRA Section 7002 for the Gold King Mine spill probably lies in the preemption provisions of Section 7002. Under Section 7002(b),<sup>326</sup> “[n]o action may be commenced” unless several conditions are satisfied. One of these conditions is that the plaintiff must give notice of the violation at least

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<sup>321</sup> *Id.* § 6972(b)(2)(B).

<sup>322</sup> *Id.* § 6972(a)(1)(B).

<sup>323</sup> *Id.* § 6928(a)(1).

<sup>324</sup> *See, e.g., Burlington N. & Santa Fe Ry. Co. v. Grant*, 575 F.3d 1013, 1020 (10th Cir. 2007) (stating that “Endangerment,” for purposes of RCRA’s imminent hazard provision, “has been interpreted by courts to mean a threatened or potential harm,” not necessarily proof of actual harm to health or the environment).

<sup>325</sup> For a thorough study of judicial interpretations of the “imminent and substantial” endangerment provisions of RCRA and other environmental statutes, see generally Charles de Saillan, *The Use of Imminent Hazard Provisions of Environmental Laws to Compel Cleanup at Federal Facilities*, 27 STAN. ENVTL. L.J. 43, 110–17 (2008) and accompanying notes. As concluded by Mr. de Saillan, while courts have construed the “imminent hazard” provisions “quite liberally,” courts may still reject a finding of endangerment where the risk of harm “is remote in time, completely speculative in nature, or de minimis in degree,” or where the cause of the endangerment “no longer presents such a danger.” *Id.* at 110–11 (citations omitted).

<sup>326</sup> 42 U.S.C. § 6972(b).

sixty days before filing the action.<sup>327</sup> Another condition is that “[n]o action may be commenced . . . if the [EPA], in order to restrain or abate acts or conditions which may have contributed . . . to the activities which may present the alleged endangerment” takes one or more actions under CERCLA, including “actually engaging in a removal action” under CERCLA or “incur[ing] costs to initiate a Remedial Investigation and Feasibility Study” under CERCLA.<sup>328</sup> The policy choices of Congress behind this preemption provision are apparent: there should be no need for citizen litigation under RCRA if the EPA is already working to address the same contaminated site under CERCLA.

This, in fact, is what the EPA is doing now for the Gold King Mine. As the State of New Mexico expressly acknowledged in its civil complaint, “[o]n January 15, 2016—one day after New Mexico served its RCRA notice letter—EPA released an ‘action memorandum,’ which documents EPA’s decision to undertake an emergency removal action under CERCLA Section 104 after the Gold King Mine blowout.”<sup>329</sup> The EPA’s “action memorandum” documented that the EPA was “actually engaging in a removal action” for the Gold King Mine blowout, an emergency removal action that actually began the day of the blowout and continued for many weeks and months.<sup>330</sup> Therefore, the EPA was “actually engaging in a removal action” before plaintiffs, including New Mexico, filed their RCRA complaint or even filed their RCRA notice of intent to sue. Moreover, it may also be possible that the EPA “incurred costs to initiate a Remedial Investigation and Feasibility Study” under CERCLA before New Mexico or other plaintiffs filed their civil complaint or RCRA notice of intent to sue in this case. Among other things, an early component of a Remedial Investigation and Feasibility Study (RI/FS) is an assessment of risks to ecological resources posed by contamination.<sup>331</sup> Via contractor, the EPA actually completed such a Baseline Ecological Risk Assessment in April 2015,<sup>332</sup> four months *before* the Gold King Mine blowout.

The preemption provisions of federal environmental statutes, including RCRA, have been interpreted strictly by courts as establishing conditions precedent to sue; in other words, unless these conditions have been met fully, courts are without jurisdiction to hear a case. This principle was demonstrated most notably in the case

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<sup>327</sup> *Id.* § 6972(b)(1)(A). Notice must be given to the EPA, the state where the violation occurs, and the alleged violator. *Id.* The State of New Mexico implicitly recognized this notice requirement when it averred that it had provided notice of intent to sue under RCRA on January 14, 2016. NM Complaint, *supra* note 307, at 36.

<sup>328</sup> 42 U.S.C. § 6972(b)(2)(B).

<sup>329</sup> NM Complaint, *supra* note 307, at 37.

<sup>330</sup> Action Memorandum from Shaun McGrath, EPA Region 8 Adm’r et al., to Mathy Stanislaus, Assistant Adm’r, Office of Land & Emergency Mgmt. (Jan. 13, 2016) [hereinafter Action Memorandum] (documenting emergency removal action with Removal Start Date of “8/5/2015”) (on file with author).

<sup>331</sup> See generally U.S. ENVTL. PROT. AGENCY, ECOLOGICAL RISK ASSESSMENT GUIDANCE FOR SUPERFUND: PROCESS FOR DESIGNING AND CONDUCTING ECOLOGICAL RISK ASSESSMENTS, INTERIM FINAL (1997).

<sup>332</sup> BASELINE RISK ASSESSMENT, *supra* note 266.

of *Hallstrom v. Tillamook County*, 493 U.S. 20 (1989), where the U.S. Supreme Court dismissed a case that had been in litigation for many years for the plaintiffs' failure to strictly follow the notice provisions of RCRA Section 7002. While *Hallstrom* addressed the notice provisions of RCRA Section 7002, the same judicial response may be expected for enforcing other conditions precedent established by RCRA Section 7002. The EPA was "actually engaging in a removal action" before the RCRA complaint was filed in this case, and the EPA had likely "incurred costs to initiate an [RI/FS]." Therefore, as in *Hallstrom*, it may be expected that courts will dismiss the RCRA claims in this case.<sup>333</sup> More broadly, such dismissal would be consistent with the concepts of judicial efficiency inherent in the RCRA citizen suit provisions, reserving RCRA authorities for cases where no other remedial authorities, such as CERCLA, may be available.

*D. Comprehensive Environmental Response, Compensation, and Liability Act*

Jurisdiction under the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) is generally established by a "release" (or substantial threat of release) of a "hazardous substance" into the "environment."<sup>334</sup> For jurisdictional purposes, "hazardous substance" under CERCLA is a broader category of substances than "hazardous waste" under RCRA, unrestricted by the RCRA Bevill Amendment.<sup>335</sup> Among other things, "hazardous substances" under CERCLA include most metals associated with hardrock mining contamination, including arsenic, cadmium, lead, mercury, and zinc.<sup>336</sup> Accordingly, CERCLA represents the primary federal authority for addressing contamination from hardrock mining in the United States.<sup>337</sup>

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<sup>333</sup> In one early judicial decision in the Gold King Mine litigation, the U.S. District Court of New Mexico denied a motion to dismiss filed by one EPA contractor, finding that, "as pleaded, Plaintiffs may be able to prove facts establishing that [the EPA contractor] meets the definition of an operator" for purposes of CERCLA liability. *New Mexico v. EPA*, 310 F. Supp. 3d 1230, 1245 (D.N.M. 2018).

<sup>334</sup> 42 U.S.C. § 9604(a)(1). For definitions of "release," "hazardous substance," and "environment," see 42 U.S.C. § 9601.

<sup>335</sup> While the mining industry initially argued that the Bevill Amendment should apply to CERCLA hazardous substances, courts did not agree and now "continue to routinely hold that even if a material is clearly exempted from RCRA regulation under the Bevill Amendment, it can nonetheless be a hazardous substance under CERCLA." P.B. "Lynn" Walker-Coffey, *The Circle of CERCLA or Is the Silver Tarnished*, 43 ROCKY MOUNTAIN MIN. L. FOUND. J. 283, 294 (2006) (summarizing cases dismissing Bevill Amendment arguments in CERCLA litigation).

<sup>336</sup> 40 C.F.R. § 302.4.

<sup>337</sup> See NAT'L RESEARCH COUNCIL, *supra* note 61, at 72. For further background on the massive contamination resulting from a century of mining in the Coeur d'Alene River Basin of northern Idaho, and the EPA's decades of efforts to address these problems under CERCLA, see Villa, *supra* note 80, at 256–63. For a comprehensive analysis of the challenges and opportunities with applying CERCLA authorities to hardrock mining contamination, see generally Seymour, *supra* note 16.

CERCLA jurisdiction clearly applies to the Gold King Mine, where releases of hazardous substances including high concentrations of cadmium, copper, and zinc made the Gold King Mine a high priority for CERCLA response.<sup>338</sup> In fact, the EPA was acting under CERCLA jurisdiction to conduct a “Removal Assessment” at the Gold King Mine when the blowout occurred on August 5, 2015.<sup>339</sup> The question for the Gold King Mine spill is not really one of CERCLA jurisdiction, but of CERCLA liability. Unlike the Clean Water Act, for example, CERCLA liability applies comprehensively to federal agencies, given a broad waiver of sovereign immunity under CERCLA.<sup>340</sup> Applying the CERCLA waiver of sovereign immunity, the EPA could be liable in appropriate circumstances “in the same manner and to the same extent . . . as any nongovernmental entity, including liability under section [107] of this title.”<sup>341</sup> Thus, to evaluate the CERCLA liability of the EPA—and other potential responders under CERCLA, including state agencies and response contractors—we need to examine the general liability scheme of CERCLA.

CERCLA is infamous for its “draconian liability.”<sup>342</sup> Like most other federal environmental statutes, CERCLA Section 107<sup>343</sup> begins with a presumption of strict liability. To strict liability, CERCLA adds retroactive liability plus joint and several liability.<sup>344</sup> Retroactive liability under CERCLA—that is, liability that reaches conduct or circumstances prior to passage of the CERCLA statute in 1980—may be an

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<sup>338</sup> 2014 POLREP, *supra* note 199, at 3.

<sup>339</sup> *See id.* at 5 (anticipating “additional work to reopen the [Gold King Mine] portal” in 2015).

<sup>340</sup> 42 U.S.C. § 9620(a); *see* *United States v. Shell Oil Co.*, 294 F.3d 1045, 1051–53 (9th Cir. 2002) (rejecting U.S. defense to CERCLA liability based on sovereign immunity); *Clare Bienvenu, United States v. Shell Oil Co.: The Tension of CERCLA Arranger Liability for Government Wartime Production Facilities*, 16 TUL. ENVTL. L.J. 199, 200–01 (2002) (discussing *Shell Oil Co.* and, more broadly, waiver of sovereign immunity under CERCLA). Indeed, many of the costliest CERCLA sites in the United States are federal facilities, including the nuclear weapons complex managed by the U.S. Department of Energy. *High-Risk Series: Progress on Many High-Risk Areas, While Substantial Efforts Needed on Others*, U.S. GAO (Feb. 2017), [https://www.gao.gov/highrisk/us\\_government\\_environmental\\_liability/why\\_did\\_study](https://www.gao.gov/highrisk/us_government_environmental_liability/why_did_study) [<https://perma.cc/CL96-6V4H>]. According to one recent study by the U.S. Government Accountability Office (GAO), the U.S. Department of Energy (DOE) between 1989 and 2016 spent more than \$164 billion to address the cleanup of nuclear and hazardous waste at 107 contaminated sites across the country. *Id.* And yet, DOE’s environmental liability roughly doubled in the last ten years, from \$176 billion in 1997 to an estimated \$372 billion in 2016. *Id.* Half of this liability is associated with cleanup at just two designated CERCLA sites: Hanford in Washington State and the Savannah River Site in South Carolina. *Id.*

<sup>341</sup> 42 U.S.C. § 9620(a)(1).

<sup>342</sup> *See* Emilee Mooney Scott, *Bona Fide Protection: Fulfilling CERCLA’s Legislative Purpose by Applying Differing Definitions of “Disposal,”* 42 CONN. L. REV. 957, 960 n.8 (2010) (cataloging ubiquitous scholarly references to the “draconian liability” of CERCLA).

<sup>343</sup> 42 U.S.C. § 9607(a).

<sup>344</sup> For a thorough overview of the CERCLA liability scheme as of 2017, *see* MINTZ, *supra* note 289, at 765–841.

important authority for regulators to hold certain parties liable for present contamination that may have originated in the past.<sup>345</sup> Retroactive liability in the case of the Gold King Mine may be an important authority to pursue cleanup costs from the mining companies (or their corporate successors) who profited from the mining activities in the San Juan Mountains and remain most directly responsible for the present contamination in the Animas River watershed. Retroactive liability will likely not apply to CERCLA responders, however, as such responders would not have been responding under CERCLA prior to CERCLA's enactment in 1980. CERCLA responders may be liable, however, under doctrines of strict liability as well as joint and several liability, as will be considered below.

### *1. Strict Liability*

CERCLA Section 107 specifically establishes four categories of "Potentially Responsible Parties" (PRPs), two of which are (1) the current "owner and operator" of a facility; and (2) the owner or operator of a facility "at the time of disposal."<sup>346</sup> For the prima facie case against these PRPs, it is generally irrelevant whether they had anything to do with causing an actual release on the facility they own or operate; if they own or operate a facility where there has been a release of hazardous substances, they presumptively own any associated CERCLA liability as well.<sup>347</sup> As an owner and operator of facilities where there has been a release of hazardous substances, the EPA has, in fact, agreed to carry out response actions as a PRP in the past.<sup>348</sup> In the context of the Gold King Mine, the EPA and EPA contractors might be seen as strictly liable as the operators of the Gold King Mine on August 5, 2015, with an EPA On-Scene Coordinator and EPA contractors directing and actually carrying out field operations including the use of heavy equipment at the site.<sup>349</sup> However, overlooked or ignored by some critics of the EPA's response to the Gold King

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<sup>345</sup> See, e.g., *United States v. Asarco Inc.*, 280 F. Supp. 2d 1094, 1101 (D. Idaho 2003) (holding mining companies liable under CERCLA for disposal activities that occurred "over 100 years of mining in the Coeur d'Alene Basin" of northern Idaho).

<sup>346</sup> 42 U.S.C. § 9607(a)(1) (2018).

<sup>347</sup> For one of the seminal cases on strict liability as an owner/operator under CERCLA, see *New York v. Shore Realty Corp.*, 759 F.2d 1032, 1044 (2d Cir. 1985) (holding that CERCLA "unequivocally imposes strict liability on the current owner of a facility," even if all disposal activities on the property occurred before the current owner acquired the property).

<sup>348</sup> See generally U.S. ENVTL. PROT. AGENCY, SUPERFUND RECORD OF DECISION: OLD NAVY DUMP MANCHESTER LABORATORY (1998) (noting that EPA is the current owner and operator of a laboratory in Manchester, Washington, where prior disposal practices by the U.S. Navy resulted in its designation on the CERCLA National Priorities List).

<sup>349</sup> In one early judicial decision in the Gold King Mine litigation, the United States District Court for the District of New Mexico denied a motion to dismiss filed by one EPA contractor, finding that, "as pleaded, Plaintiffs may be able to prove facts establishing that [the EPA contractor] meets the definition of an operator" for purposes of CERCLA liability. *N.M. on Behalf of N.M. Environ. Dep't v. U.S. EPA*, 310 F. Supp. 3d 1230, 1245 (D.N.M. 2018).

Mine blowout,<sup>350</sup> CERCLA also contains specific provisions to protect CERCLA responders from strict liability and thus avoid the disincentives to response action that might otherwise follow from the threat of strict liability.

One provision that may protect some CERCLA responders from strict liability is the so-called “Good Samaritan” provision of CERCLA Section 107(d).<sup>351</sup> Under this provision, “no party” that takes “action . . . in the course of rendering care, assistance, or advice” in accordance with the implementing rules of CERCLA<sup>352</sup> or at the direction of a CERCLA On-Scene Coordinator “with respect to an incident creating a danger to public health or welfare or the environment as a result of any release of a hazardous substance,” shall be subject to strict liability. Such parties shall only be liable for costs or damages “as a result of negligence on the part of such person.”<sup>353</sup> Because “no party” shall be strictly liable, protection from CERCLA liability may be extended broadly to state agencies, such as the Colorado Division of Reclamation, Mining and Safety (DRMS); municipalities, such as the City of Farmington, New Mexico; private parties, such as construction contractors; and volunteer organizations, such as the Animas River Stakeholders Group. Courts have generally taken a broad understanding of the CERCLA Good Samaritan provision and specifically applied it in the context of hardrock mining contamination.<sup>354</sup> Accordingly,

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<sup>350</sup> See, e.g., LARKIN, JR. & SEIBLER, *supra* note 60, at 2 (“[T]he EPA claims to have a different interpretation of federal law for ‘polluters’ and ‘responders.’ No statute makes that distinction, however, nor does any federal law establish a ‘responders’ defense to environmental liability.”). This assertion by Larkin and Seibler is demonstrably false, as may be confirmed by a quick perusal of the CERCLA Table of Contents, which identifies such provisions as Section 9607(d) (“Rendering care or advice”) and Section 9619 (“Response action contractors”). See *infra* notes 351–360 and accompanying text for discussion of these provisions, and the specific “responders” defenses to environmental liability that they effect.

<sup>351</sup> 42 U.S.C. § 9607(d). For analysis of the legislative history of the CERCLA Good Samaritan provision and its specific application in the context of hardrock mining contamination, see Bart Lounsbury, *Digging Out of the Holes We’ve Made: Hardrock Mining, Good Samaritans, and the Need for Comprehensive Action*, 32 HARV. ENVTL. L. REV. 149, 174–75 (2008). A recent comment erroneously characterized the CERCLA Good Samaritan provision as providing indemnity for EPA contractors. Shriver, *supra* note 179, at 1010–11. In actuality, this CERCLA provision does nothing of the kind. “[S]imply stated, indemnity is an obligation by one party to make another whole for a loss that the other party has incurred.” 41 AM. JUR. 2d *Indemnity* § 1. Nothing in CERCLA Section 107(d) creates any obligation to make a contractor or any other party “whole for a loss that the other party has incurred,” it simply may relieve a party from liability created under the CERCLA statute. See 42 U.S.C. § 9607(d).

<sup>352</sup> As indicated in CERCLA § 107(d)(1), the rules implementing CERCLA are known commonly as the “National Contingency Plan.” See 42 U.S.C. § 9607(d); 40 C.F.R. § 300.

<sup>353</sup> 42 U.S.C. § 9607(d)(1). Even more, for actions taken “in response to an emergency created by the release or threatened release of a hazardous substance,” state and local governments shall not be liable unless they acted with “gross negligence or intentional misconduct.” *Id.* § 9607(d)(2).

<sup>354</sup> See, e.g., *United States v. Iron Mountain Mines, Inc.*, 881 F. Supp. 1432, 1443 (E.D. Cal. 1995) (observing that “CERCLA expressly addresses the liability of those who act in a remedial capacity . . . and provides them with protection from strict liability”).



parties assisting in any CERCLA response action, to include assistance with response to the Gold King Mine, should have no fear of CERCLA liability, even when things go wrong, as long as they remain consistent with the CERCLA Good Samaritan provision.

Another provision of CERCLA providing protections from strict liability is Section 119, which generally confers liability protections on “response action contractors” and certain government employees.<sup>355</sup> As with the CERCLA Good Samaritan provision, the CERCLA Response Action Contractor provision preserves potential liability in cases of conduct that is “negligent, grossly negligent, or which constitutes intentional misconduct,”<sup>356</sup> but relieves the prospect of strict liability under CERCLA for any “person who is a response action contractor with respect to any release or threatened release of a hazardous substance . . . .”<sup>357</sup> For purposes of this liability protection, CERCLA defines “response action contractor” broadly to mean generally any party who enters an agreement with the EPA or other federal agencies, or an agreement with any “State or political subdivision,” or with any PRP performing work under order or settlement with the EPA, to provide for any CERCLA removal or remedial action.<sup>358</sup> The policy supporting this liability protection is readily apparent. Given the inherent hazards of working with hazardous substances, no rational contractor would eagerly agree to undertake such work without substantial liability protections. For similar reasons, Congress also extended the Response Action Contractor protection to subcontractors and consultants<sup>359</sup> and to any

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<sup>355</sup> 42 U.S.C. § 9619(a).

<sup>356</sup> *Id.* § 9619(a)(2).

<sup>357</sup> *Id.* § 9619(a)(1). In her comment, Shriver asserts that CERCLA Section 119 “grants Response Action Contractors broad indemnification from liability . . . .” Shriver, *supra* note 179, at 1018 n.99 (emphasis added). Section 119 clearly does not *grant* indemnity to any party. Section 119 merely *authorizes* the federal government to indemnify some Response Action Contractors in certain cases. *Id.* § 9619(c)(1) (providing “The President may agree”). Such indemnity, however, must be established in a separate “written agreement.” *Id.* § 9619(c)(2). Nowhere does Shriver identify a “written agreement” providing indemnity to the Response Action Contractors working on the Gold King Mine. Shriver specifically focuses on Environmental Restoration, LLC, the EPA’s lead contractor for the work at the Gold King Mine, alleging that Environmental Restoration enjoyed “broad sweeping indemnity” from the EPA for any potential liability at the site. Shriver, *supra* note 179, at 1020. However, the actual contract with the EPA provided Environmental Restoration no “sweeping indemnity” nor any indemnity whatsoever. Emergency and Rapid Response Services Contract between U.S. EPA, Region 8, and Environmental Restoration, LLC (April 11, 2013) (on file with author).

<sup>358</sup> 42 U.S.C. § 9619(e). The definition of “response action contractor” exhibits some circularity, as “response action contractor” is defined as one who enters a “response action contract,” which itself is defined as a contract “entered into by a response action contractor.” *Id.* § 9619(e)(1). Nonetheless, the intent and effect of the Response Action Contractor provision remains clear.

<sup>359</sup> *Id.* § 9619(e)(2)(B) (defining “response action contractor” as extending to “any person who is retained or hired by a [response action contractor]”).

“state employee or an employee of a political subdivision who provides services relating to response action while acting within the scope of his authority . . . .”<sup>360</sup>

Applying this liability protection in the context of the Gold King Mine, we can see that the EPA contractors and subcontractors retained to perform the CERCLA removal assessment in the summer of 2015 should be protected from strict liability as “response action contractors.” This liability protection should also extend to employees of the Colorado DRMS and to all state and local employees and contractors engaged in the CERCLA response to the Gold King Mine spill. Without proof of negligent conduct or more, none of these agencies, private parties, or employees should worry about strict liability under CERCLA as a result of their assistance with CERCLA actions in the Animas River watershed that both preceded and followed the spill. For all these parties, given the protections of both the CERCLA Good Samaritan provision and the Response Action Contractor provision, the general rule of strict liability under CERCLA should not apply for CERCLA responders in the Animas River watershed or other contaminated sites.

## 2. Joint and Several Liability

In addition to retroactive liability and strict liability, the “draconian liability” scheme of CERCLA also provides for joint and several liability, whereby one liable party could be held liable for the entire cost of cleaning up a site contaminated by multiple parties. While joint and several liability is not articulated in the language of the CERCLA statute, courts have followed the seminal opinion in *United States v. Chem-Dyne Corp.*,<sup>361</sup> which examined the legislative history of CERCLA to find a rebuttable presumption of joint and several liability under CERCLA. Under the theory of joint and several liability, one might suggest that the EPA or any other CERCLA responder could be held liable for the entire cost of cleaning up the Animas River watershed because some amount of metals from the Gold King Mine spill on August 5, 2015, remain in the watershed today. Any such suggestion, however, would evince a fundamental misunderstanding of joint and several liability under CERCLA.

From the beginning, joint and several liability under CERCLA was always simply a *presumption*, one that could be rebutted according to “common law principles.”<sup>362</sup> In *Chem-Dyne*, Chief Judge Rubin found that the appropriate “common law principles” for determining joint and several liability under CERCLA were set forth in the Restatement (Second) of Torts, which provided the familiar rule:

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<sup>360</sup> *Id.* § 9619(a)(4).

<sup>361</sup> *United States v. Chem-Dyne Corp.*, 572 F. Supp. 802 (S.D. Ohio 1983). For a discussion of joint and several liability under CERCLA, and the courts that embraced the *Chem-Dyne* decision, see MINTZ ET AL., *supra* note 289, at 826–841. Among other courts embracing the *Chem-Dyne* analysis was the U.S. Supreme Court. *See Burlington N. & Santa Fe Ry. Co. v. United States*, 556 U.S. 599, 613–14 (2009).

<sup>362</sup> *See Chem-Dyne*, 572 F. Supp. at 806 (quoting comments from Senator Randolph, sponsor of the CERCLA bill that became enacted into law in 1980).

[W]hen two or more persons acting independently caused a distinct or single harm for which there is a reasonable basis for division according to the contribution of each, each is subject to liability only for the portion of the total harm that he has himself caused.<sup>363</sup>

Since *Chem-Dyne* in 1983, courts have accepted various means for determining a “reasonable basis for division” of liability under CERCLA. The U.S. Supreme Court, for example, in *Burlington Northern and Santa Fe Railway Co. v. United States*,<sup>364</sup> affirmed a calculation of CERCLA liability based upon three factors: the relative area of land ownership at the contaminated site, the percentage of time each party held ownership in the property, and the percentage of chemicals released at the property.<sup>365</sup> In the specific context of comingled mining contamination in northern Idaho, a federal court found a “reasonable basis” for allocating CERCLA liability based on historical records of mining production and disposal attributed to individual mining companies.<sup>366</sup>

Applying the original and enduring “common law principles” of joint and several liability to the Gold King Mine, the blowout discharged approximately three million gallons of mine water, containing some 540 tons of metals (primarily iron and aluminum) on August 5, 2015.<sup>367</sup> According to peer-reviewed, scientific estimates, this is about same amount of metals released to the Animas River in “two days of high spring runoff.”<sup>368</sup> In fact, according to some estimates, the three million gallons of mine water discharged on August 5, 2015, is exceeded *every single day* by the collective discharge of some 5.4 million gallons of mine water to the surrounding Animas River watershed.<sup>369</sup> Moreover, some of these mines in the Animas River watershed may have discharged wastes for over a century. As such, whatever share of CERCLA liability the EPA might have for the blowout on August 5, 2015, under common law principles of joint and several liability, it must be the proverbial

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<sup>363</sup> *Id.* at 810.

<sup>364</sup> 556 U.S. 599 (2009).

<sup>365</sup> *Id.* at 613–19. A number of commentators decried these rough mathematics and even proclaimed the “end of joint and several liability” under CERCLA. *See, e.g.*, Aaron Gershonowitz, *The End of Joint and Several Liability in Superfund Litigation: From Chem-Dyne to Burlington Northern*, 50 DUQ. L. REV. 83 (2012); William C. Tucker, *All Is Number: Mathematics, Divisibility and Apportionment Under Burlington Northern*, 21 FORDHAM ENVTL. L. REV. 479 (2010). However, other commentators were more reserved in their response, emphasizing application of the original principles of joint and several liability first articulated in *Chem-Dyne*. *See, e.g.*, Steve C. Gold, *Dis-Jointed? Several Approaches to Divisibility After Burlington Northern*, 11 VT. J. ENVTL. L. 307 (2009).

<sup>366</sup> *United States v. Asarco, Inc.*, 280 F. Supp. 2d 1094, 1121 (D. Idaho 2003) (finding reasonable basis for divisibility of CERCLA liability supported by determination that “Asarco is responsible for contributing 22% of the [mine] tailings and Hecla is responsible for contributing 31% of the [mine] tailings” to the Coeur d’Alene River basin).

<sup>367</sup> ORD REPORT, *supra* note 5, at ii.

<sup>368</sup> *Id.*

<sup>369</sup> ONE YEAR AFTER, *supra* note 27, at 2.

“drop in a bucket” compared to the amount of metals and volume of mine water released into the Animas River watershed over the history of mining in the region.

More fundamentally, talk of the EPA’s *liability* under CERCLA for response to the Gold King Mine spill is largely misdirected<sup>370</sup> given the EPA’s affirmative *mission* under CERCLA to protect human health and the environment. In furtherance of this mission, the EPA is likely to spend far more for cleanup as a CERCLA responder, addressing a legacy of mine contamination throughout the Animas River watershed, than as a liable party under CERCLA making amends for one day of releases from the Gold King Mine. To protect human health and the environment, the EPA exercises legal authorities and funding under CERCLA to conduct assessment activities and discrete “removal actions”<sup>371</sup> to address most contaminated sites. The largest, most contaminated sites may require long-term “remedial actions.”<sup>372</sup> CERCLA begins with a presumption that the “polluter pays” for cleanup, whether removal or remedial action, and over the history of CERCLA implementation, that has largely been true.<sup>373</sup> One of the major exceptions to this, however, has been the mining industry.<sup>374</sup> With its persistent cycles of “boom and bust,” the mining industry has left behind some of the most contaminated sites in the country and without viable parties to pay for full cleanup.<sup>375</sup> Nevertheless, the EPA can and does pursue

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<sup>370</sup> There may be some valid argument that the EPA remains liable to states, tribes, or other governments for unreimbursed costs they incurred specifically in responding to the Gold King Mine spill. Such costs are routinely reimbursed to partner agencies directly, without need for litigation between agencies. *See generally* 42 U.S.C. § 9604(d)(1) (Cooperative agreements), and implementing regulations at 40 C.F.R. §§ 35.6000–35.6025 (Cooperative Agreements and Superfund State Contracts for Superfund Response Actions). Whether such reimbursement remains to be completed in the case of the Gold King Mine spill may be a factual question beyond the scope of this article.

<sup>371</sup> The CERCLA statute defines “removal” action to include “the cleanup or removal of released hazardous substances from the environment” and “such actions as may be necessary to monitor, assess, and evaluate the release.” Emphasizing the limited nature of removal actions, the term also includes “temporary evacuation and housing of threatened individuals.” 42 U.S.C. § 9601(23).

<sup>372</sup> In contrast with removal actions, the CERCLA statute defines “remedial action” to mean “those actions consistent with permanent remedy taken instead of or in addition to removal actions in the event of a release or threatened release of a hazardous substance,” to specifically include “the costs of permanent relocation of residents and businesses and community facilities” where necessary. *Id.* § 9601(24). For one careful analysis of the difference between removal actions and remedial actions under CERCLA, see generally *United States v. W.R. Grace*, 429 F.3d 1224 (9th Cir. 2005).

<sup>373</sup> In one study from FY91 to FY99, almost 75% of the remedial sites were funded by PRPs, instead of by the EPA. KATHERINE N. PROBST & DAVID M. KONISKY ET AL., *SUPERFUND’S FUTURE: WHAT WILL IT COST?* 43 (2001).

<sup>374</sup> In the reverse of the historical record of PRP funding, the same study found that only 39% of mining sites were funded by PRPs. *Id.*

<sup>375</sup> For example, the Milltown Reservoir-Clark Fork River Superfund Site in Montana includes “120 river miles of the Clark Fork River contaminated with metals stemming from mining activities” upstream, NAT’L RESEARCH COUNCIL, *SUPERFUND AND MINING MEGASITES: LESSONS FROM THE COEUR D’ALENE RIVER BASIN* 413 (2005), requiring

mining companies, including corporate successors, for mining contamination,<sup>376</sup> and in fact the EPA is pursuing mining companies today for contamination in the Animas River watershed.<sup>377</sup>

When the EPA must pay for cleanup, it may draw funding from the Superfund trust fund.<sup>378</sup> In general, discrete removal actions funded by Superfund are capped at expenditures of \$2 million,<sup>379</sup> with exceptions for extraordinary circumstances including emergencies.<sup>380</sup> In response to the Gold King Mine spill, the EPA did, in

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cleanup costs on the order of \$1.3 billion dollars, Tyer, *supra* note 138. The East Tennessee Copper Basin, “one of the largest contaminated sites in the eastern United States,” contains “[s]oils, sediment, and water throughout the basin [that] have been severely degraded by metals contamination and acid rock drainage.” SUPERFUND AND MINING MEGASITES, *supra* at 422. The Iron Mountain Mine Superfund Site, in northern California, has been the subject of protracted litigation to address the discharge of some of the most acidic mine drainage in the world. See *United States v. Iron Mountain Mines*, 724 F. Supp. 2d 1086, 1094 (E.D. Cal. 2010) (awarding U.S. cost recovery from PRPs of more than \$57 million); Carl T. Hall, *World’s “Worst Water” Found Near Redding*, S.F. GATE (Mar. 23, 2000, 4:00 PM), <http://www.sfgate.com/green/article/World-s-Worst-Water-Found-Near-Redding-3304745.php> [<https://perma.cc/7FSH-JCXT>].

<sup>376</sup> See, e.g., U.S. ENVTL. PROT. AGENCY, CASE SUMMARY: BIG RIVER SUPERFUND SITE \$80 MILLION SETTLEMENT FOR LEAD CONTAMINATION CLEANUP OF APPROXIMATELY 4100 RESIDENTIAL PROPERTIES (2018), <https://www.epa.gov/enforcement/case-summary-big-river-superfund-site-80-million-settlement-lead-contamination-cleanup> [<https://perma.cc/7YRD-TNHK>] (describing a settlement for cleanup of mine waste in the “Old Lead Belt” south of St. Louis, Missouri); U.S. ENVTL. PROT. AGENCY, CASE SUMMARY: \$600 MILLION SETTLEMENT TO CLEAN UP 94 ABANDONED URANIUM MINES ON THE NAVAJO NATION (May 22, 2017), <https://www.epa.gov/enforcement/case-summary-600-million-settlement-clean-94-abandoned-uranium-mines-navajo-nation> [<https://perma.cc/96Y8-J862>]; U.S. ENVTL. PROT. AGENCY, CASE SUMMARY: \$143 MILLION SETTLEMENT FOR CLEANUP WORK TO PREVENT FUTURE CONTAMINATION OF RED RIVER IN NEW MEXICO (2017), <https://www.epa.gov/enforcement/case-summary-143-million-settlement-cleanup-work-prevent-future-contamination-red-river> [<https://perma.cc/BA2E-T4WU>].

<sup>377</sup> See, e.g., News Release, U.S. EPA, EPA orders Sunnyside Gold Corporation to conduct groundwater investigation at Bonita Peak Mining District Superfund site (Mar. 15, 2018), <https://www.epa.gov/newsreleases/epa-orders-sunnyside-gold-corporation-conduct-groundwater-investigation-bonita-peak> [<https://perma.cc/EHX8-XYVN>].

<sup>378</sup> The “Hazardous Substance Response Trust Fund,” known first colloquially and then officially as the “Superfund,” was originally established by Congress and funded from taxes on the chemical and petroleum industry. See generally MINTZ ET AL., *supra* note 289, at 739. In 1995, however, the tax expired, so the Superfund coffers have depended on Congressional appropriations and recovery of costs from PRPs since then. Since 1986, Congressional appropriations to the Superfund have averaged approximately \$1.3 billion per year. *Id.* at 742–43.

<sup>379</sup> 42 U.S.C. § 9604(c)(1) (2018) (stating that except in cases of remedial actions where the State has met certain requirements, “obligations from the Fund . . . shall not continue after \$2,000,000 has been obligated for response actions”).

<sup>380</sup> *Id.* § 9604(c)(1)(A) (stating that there are no obligations from the Fund beyond \$2,000,000 except where the President finds that “continued response actions are immediately required to prevent, limit, or mitigate an emergency”).

fact, invoke emergency authority to exceed the presumptive cap for removal actions,<sup>381</sup> spending nearly \$30 million in the year that followed.<sup>382</sup> Nevertheless, the staggering scale of contamination in many former mining districts often requires long-term remedial actions with attendant costs that are orders of magnitude greater, often in the hundreds of millions of dollars.<sup>383</sup> Long-term funding for remedial actions requires a designation on the National Priorities List (NPL),<sup>384</sup> resulting in what is commonly known as a “Superfund site.” Designation of a “Superfund site” (or more properly, an “NPL site”)<sup>385</sup> allows the EPA access to funding on a much larger scale, limited only by the availability of funds in the Fund and competition from other sites around the country.<sup>386</sup>

Recognizing the “severe impacts to aquatic life” from mining contamination in the area, the EPA could have designated the “Upper Animas Mining District” as an NPL site in the early 1990s.<sup>387</sup> However, due to local opposition and “[i]n

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<sup>381</sup> Action Memorandum, *supra* note 330, at 1 (“Request for Approval and Funding to Continue Emergency Removal Action including Exemptions from the . . . \$2 Million Statutory Limits on Removal Actions”).

<sup>382</sup> ONE YEAR AFTER, *supra* note 27, at 3.

<sup>383</sup> For example, to address the mining contamination in the Coeur d’Alene Basin of northern Idaho, the EPA selected a remedy in 2012 with an estimated cost of \$601 million. While this may be an enormous sum by any measure, it may still be less than half of what is ultimately needed to complete the cleanup at this site. U.S. ENVTL. PROT. AGENCY, INTERIM RECORD OF RECORD AMENDMENT, UPPER BASIN OF THE COEUR D’ALENE RIVER 12–11 (2012).

<sup>384</sup> The usual process for designating a site for the NPL is through application of the Hazard Ranking System, which Congress requires to “assess[] the relative degree of risk to human health and the environment posed by sites and facilities” where there has been a release or threat of release of hazardous substances. 42 U.S.C. § 9605(c)(1) (2018); 40 C.F.R. pt. 300 app. A (The Hazard Ranking System).

<sup>385</sup> “NPL site” is the more proper term to describe a site on the National Priorities List, among other reasons because “Superfund” monies can also be spent on sites that are not on the NPL, up to specified spending caps. *See supra* note 379 (\$2 million presumptive cap on Superfund funding for removal actions).

<sup>386</sup> Competition for funding from the Superfund trust fund can be fierce, with limited funds that must be allocated each year to dozens of Superfund sites across the country. In 1995, the EPA established a National Risk-Based Priority Panel to help ensure that limited funding goes to the highest priority sites. *See generally* U.S. ENVTL. PROT. AGENCY, SUPERFUND NATIONAL RISK-BASED PRIORITY PANEL (2018), <https://www.epa.gov/superfund/superfund-national-risk-based-priority-panel> [<https://perma.cc/2J82-X8F8>] (describing the National Risk-Based Priority Panel and the factors that help determine the level of priority of specific sites). The most successful sites in this competition are often those not only with the most urgent threats to human health and the environment, but also those that appear “shovel ready” (i.e., with completed remedy selection and remedial design) and with broad support from state, local, and tribal entities.

<sup>387</sup> U.S. ENVTL. PROT. AGENCY REGION 8, UPPER ANIMAS MINING DISTRICT (2015), <https://www.epa.gov/region8/upper-animas-mining-district> [<https://perma.cc/R5W2-KFPU>]. Had the EPA proceeded with this NPL listing in the early 1990s, it seems unlikely that the Gold King Mine blowout would have happened, as the Gold King Mine workings

recognition of the community-based collaborative effort” represented by the Animas River Stakeholders Group, the “EPA agreed to postpone” the NPL listing.<sup>388</sup> Two decades later, the blowout from the Gold King Mine in 2015 drew attention to the broader and continuing problem of mining contamination in the Animas River watershed. Faced with this reality, local communities finally dropped their opposition to NPL listing.<sup>389</sup> With the support of local communities and Colorado Governor Hickenlooper,<sup>390</sup> the EPA moved promptly to formally propose and then finalize on September 9, 2016, a new NPL listing to address mining contamination in the Animas River watershed.<sup>391</sup> This listing would include forty-eight mining features in the area, including the Gold King Mine, within a new NPL site identified as the “Bonita Peak Mining District.”<sup>392</sup>

Among other things, NPL listing brings with it new protections for CERCLA responders. In particular, CERCLA Section 113(h) presumptively bars federal courts from reviewing any “challenges to any removal or remedial action” selected under the statute until the cleanup work is actually completed.<sup>393</sup> This “blunt

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were evidently not flooded at that time. *See supra* notes 117–118 and accompanying text (plugging of American Tunnel in 1996 resulted in dramatic changes after 2000 to hydrology within Bonita Peak, including Gold King Mine).

<sup>388</sup> *See* Thompson, *supra* note 2, at 12 (“The last thing most people wanted was to be declared the nation’s next Love Canal.”).

<sup>389</sup> Letter from Town of Silverton and San Juan County, Colorado, to John W. Hickenlooper, Governor, Colorado (Feb. 22, 2016) (on file with author) (documenting a “request that the State of Colorado make a request to the EPA that the Bonita Peak Mining District Site . . . be added to the National Priority List”); Jessica Pace, *Silverton, San Juan County Say Yes to Superfund*, DURANGO HERALD, (Feb. 22, 2016, 3:38 PM), <https://durangoherald.com/articles/2033> [<https://perma.cc/5ZEP-RLV9>].

<sup>390</sup> Letter from John W. Hickenlooper, Governor, Colorado, to Shaun L. McGrath, Regional Administrator, EPA Region 8 (Feb. 29, 2016) (on file with author).

<sup>391</sup> 81 Fed. Reg. 62,397, 62,401 (Sept. 9, 2016). The NPL listing was also supported by the Navajo Nation. *Field Hearing, supra* note 17, at 14 (dictating a statement by Hon. Russell Begaye, President, Navajo Nation).

<sup>392</sup> U.S. ENVTL. PROT. AGENCY, NATIONAL PRIORITIES LIST, BONITA PEAK MINING DISTRICT (2016). Elements of the final NPL listing for the Bonita Peak Mining District, *not* including the Gold King Mine, were immediately challenged by one of the mining companies with potential liability at the site. Following oral argument before the D.C. Circuit Court of Appeals, the challenge to the NPL listing was dismissed. *Sunnyside Gold Corp. v. Env’tl. Prot. Agency*, 715 Fed. App’x 7, 9 (D.C. Cir. 2018). Notwithstanding this dismissal, the exact boundaries of any NPL site, including the Bonita Peak Mining District site, remain inherently fluid following the CERCLA definition of “facility,” which includes “any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, *or otherwise come to be located.*” 42 U.S.C. § 9601(9) (2018) (emphasis added).

<sup>393</sup> 42 U.S.C. § 9613(h) (2018). Note that challenges to removal or remedial action may be pursued through citizen suits only after the cleanup action has been “taken” (past tense), *id.* § 9613(h)(4), effectively barring challenges at some mining sites where remedial actions, including water treatment, may be needed in perpetuity.

withdrawal of federal jurisdiction<sup>394</sup> serves the congressional purposes of CERCLA to provide for expeditious completion of hazardous waste cleanups, a policy that Professor Rodgers colorfully captured as “shovels first, lawyers later.”<sup>395</sup> This policy effected by CERCLA Section 113(h), also known as the bar on pre-enforcement review,<sup>396</sup> provides the EPA, other federal agencies, states, and tribes with protection from lawsuits while they are planning and carrying out removal and remedial actions under CERCLA. For the Gold King Mine and the broader Bonita Peak Mining District NPL site, the EPA is indeed planning and carrying out removal and remedial actions under CERCLA,<sup>397</sup> an endeavor likely to carry on for years, if not decades. As a result, citizen suits and other challenges to the ongoing CERCLA actions at the Bonita Peak Mining District site may be barred by CERCLA Section 113(h).

Of course, for every rule, there may be an exception. For the CERCLA Section 113(h) bar on pre-enforcement review, one exception allowing judicial review is, of course, in a case involving enforcement. Where the EPA, for example, brings an affirmative case under CERCLA Section 107 to recover its cleanup costs, defendants may then respond by challenging the remedy selected.<sup>398</sup> This exception is not, however, limited on its face to cases where the EPA brings a cost recovery action under Section 107; it could also apply to a case where a state, tribe, or private party brings a cost recovery action under Section 107. In the case of the Gold King Mine spill, states, tribes, and private parties all brought cost recovery claims under Section 107 against the EPA.<sup>399</sup> Whether, or to what extent, this now removes the bar on pre-

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<sup>394</sup> See *Cannon v. Gates*, 538 F.3d 1328, 1333 (10th Cir. 2008) (citation omitted); *McClellan Ecological Seepage Situation v. Perry*, 47 F.3d 325, 328 (9th Cir. 1995) (quotations omitted) (citation omitted); *North Shore Gas Co. v. EPA*, 930 F.2d 1239, 1244 (7th Cir. 1991). In *McClellan Ecological Seepage Situation* (MESS), concerning the former McClellan Air Force Base near Sacramento, the Ninth Circuit found that citizen claims under both RCRA and the Clean Water Act were barred by CERCLA Section 113(h) because the inactive waste sites giving rise to the citizen concerns would be subject to an eventual cleanup plan under CERCLA.

<sup>395</sup> RODGERS, *supra* note 101, at 681.

<sup>396</sup> The CERCLA Section 113(h) bar on pre-enforcement review, and the *MESS* decision in particular, inspired considerable criticism from commentators (although no changes in the law). See, e.g., Margot J. Pollans, *A “Blunt Withdrawal”? Bars on Citizen Suits for Toxic Site Cleanup*, 37 HARV. ENVTL. L. REV. 441 (2013); Jonathan N. Reiter, *CERCLA Section 113(H) & RCRA Citizen Suits: To Bar or Not to Bar?* 17 UCLA J. ENVTL. L. & POL’Y 207 (1998); Michael P. Healy, *The Effectiveness and Fairness of Superfund’s Judicial Review Preclusion Provision*, 15 VA. ENVTL. L.J. 271 (1996).

<sup>397</sup> See, e.g., U.S. ENVTL. PROT. AGENCY, BONITA PEAK MINING DISTRICT UPDATE, 2017 YEAR IN REVIEW (2017) (identifying continuing removal actions at the Gold King Mine and several ongoing activities as part of a Remedial Investigation / Feasibility Study).

<sup>398</sup> 42 U.S.C. § 9613(h)(1) (2018) (authorizing challenge to a selected removal or remedial action under CERCLA Section 107 “to recover response costs”).

<sup>399</sup> NM Complaint, *supra* note 307, at 32 (“First Cause of Action: Cost Recovery under CERCLA 42 U.S.C. § 9607(a)”); Amended Complaint at 44, *Navajo Nation v. EPA*, No. 16-cv-00931-MCA/LF (D.N.M. Aug. 16, 2016) (consolidated with 16-cv-00465 MCA/LF (D.N.M. Mar. 28, 2017)) [hereinafter Amended Navajo Complaint] (“First Claim for Relief”



enforcement review of CERCLA actions in this particular case remains to be seen.<sup>400</sup> However, the bar remains an important authority available to CERCLA responders—including states and tribes, in many contexts—in order to promote the expeditious cleanups of contaminated sites across the country.

Concerning the application of CERCLA to the Gold King Mine, one can imagine two wildly opposing views of the EPA: (1) a PRP with direct liability as an “operator” of the Gold King Mine on August 5, 2015; or (2) an environmental regulator, with a mission to protect human health and the environment before and after the spill on August 5, 2015. Some may see “the fox guarding the hen house,”<sup>401</sup> while others see sustained efforts to address a problem that is much greater than one terrible accident at one mine in the Animas River watershed. The two views of the EPA, however, are not irreconcilable.

The EPA may indeed be liable under CERCLA for some costs related to the spill on August 5, 2015. But how much should that be? To use the rough mathematics endorsed by the Supreme Court,<sup>402</sup> consider this analysis. Assume that the problems of mining contamination in this area developed over a period of thirty years,<sup>403</sup> roughly since the last mine shut down. Assume, as researchers found, that the Gold King Mine blowout contributed a load of metals equal to two days of high spring runoff.<sup>404</sup> Imagine high spring runoff occurs over two weeks each year. Over thirty years, that makes 420 days of high spring runoff. Liability for two days out of 420 would equal less than one-half of one percent. Double it for easy numbers and you get one percent. Assume an ultimate cleanup cost for the Bonita Peak Mining District of \$1 billion,<sup>405</sup> and you get EPA liability of \$10 million dollars. Double that for good measure and you get \$20 million. Triple it and you get \$30 million. At this point the EPA has already paid some \$30 million for responding to the Gold King

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includes “Cost Recovery Under CERCLA Against USEPA” and EPA contractors and mining companies).

<sup>400</sup> Arguments based upon CERCLA 113(h) have, in fact, been asserted by defendants in the Gold King Mine litigation and remain for resolution. *See* Gold King Mines Corp.’s Supplemental Brief on Lack of Jurisdiction Pursuant to 42 U.S.C. § 9613(h), New Mexico v. EPA, Case No. 16-cv-00465-MCA-LF (D.N.M. Nov. 22, 2017).

<sup>401</sup> Lisa A. Decker, *Is EPA the Fox Guarding the Hen House?*, 31 NAT. RESOURCES & ENV’T 48 (2016).

<sup>402</sup> *Burlington N. & Santa Fe Ry. Co. v. United States*, 556 U.S. 599 (2009).

<sup>403</sup> Of course, we know in fact that mining contamination has been pouring into this system for more than a century. *See* Thompson, *supra* note 2 and accompanying text (noting that the Animas River was so polluted by 1902 that Durango was forced to find an alternate water supply).

<sup>404</sup> *See* LARKIN, JR. & SEIBLER, *supra* note 60 and accompanying text.

<sup>405</sup> Of course, there is no reason to believe that cleanup in the Animas River watershed would cost anywhere near one billion dollars. But if the cleanup is half that, it simply doubles the point illustrated by the rough math.

Mine spill.<sup>406</sup> If the EPA is a “fox guarding the hen house,” then it is a fox that already paid for all the hens in the house, three times over.<sup>407</sup>

The real question concerning CERCLA and the Gold King Mine is not one of the EPA’s *liability*, but of the EPA’s *responsibility* for carrying out a federal program designed to ensure the protection of human health and the environment from the release of hazardous substances. That work by the EPA and its partners began decades ago in the Animas River watershed, and with the NPL listing of the Bonita Peak Mining District, may be expected to expand and accelerate toward final solutions for mining contamination in this region.

## V. WHAT NOW?

Four years after the Gold King Mine blowout, litigation continues although temperatures, perhaps, have cooled. In the weeks and months immediately after the blowout, critics cried out not only for agency accountability, but for blood.<sup>408</sup> While

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<sup>406</sup> See *supra* note 364 and accompanying text.

<sup>407</sup> The author recognizes that the costs already incurred by the EPA for responding to the Gold King Mine spill do not, at this time, include costs for damages related to the spill, such as economic losses in agricultural production. Nor can any sum of money fully compensate for every related injury that may have been suffered. See, e.g., Robert Kuehn, *A Taxonomy of Environmental Justice*, 30 ENVTL. L. RPTR. 10681, 10694 (2000) (expressing preference for “corrective justice” over “compensatory justice” because “the latter term may imply that, provided compensation is paid, an otherwise unjust action is acceptable”). More than compensation, many injured parties may desire some form of apology. The EPA did in fact offer direct apologies after the spill. See, e.g., Amy Harder & Dan Frosch, *EPA Chief Apologizes as Anger Mounts*, WALL ST. J. (Aug. 11, 2015), <https://www.wsj.com/articles/epa-chief-apologizes-for-toxic-spill-affecting-rivers-in-colorado-new-mexico-1439321379> [<https://perma.cc/2MR8-36CU>] (quoting former EPA Administrator Gina McCarthy at a news conference, “I am absolutely deeply sorry this ever happened”); Bruce Finley, *Regional EPA Director Calls Wastewater Spill in Animas River ‘Tragic,’* DENVER POST (Aug. 7, 2015), <https://www.denverpost.com/2015/08/07/regional-epa-director-calls-wastewater-spill-in-animas-river-tragic/> [<https://perma.cc/FR3K-MM5N>] (quoting Dave Ostrander, EPA regional director of emergency response, at a public meeting in Durango, “We are very sorry for what happened. This is a huge tragedy. It’s hard being on the other side of this. Typically we respond to emergencies; we don’t cause them . . . It’s something we sincerely regret”). For a powerful commentary on the value of apology, both in receiving and in giving, against a backdrop of legal liability, see Mark A. Chinen, *On Lawyers and Good Samaritans: A Reflection*, 4 SEATTLE J. SOCIAL JUST. 497 (2006).

<sup>408</sup> See, e.g., *Joint Oversight Hearing*, *supra* note 167, at 5 (statement of Rep. Rob Bishop: “If an individual or a private company had done this, EPA would already have made sure there was hell to pay. EPA’s aggressive enforcement tactics have often resulted in criminal charges for mistakes or accidents.”); *id.* at 11 (statement of Rep. Jason Chaffetz: “I am not aware of anybody who has been dismissed, held accountable, let alone given some criminal charges along the way”); Letter from Sen. John McCain & Sen. John Barrasso to Hon. Loretta Lynch, Att’y Gen. (May 3, 2016) (on file with author) (“[W]e ask that you review the circumstances surrounding the Gold King Mine spill to determine specifically whether evidence warrants the prosecution of any EPA manager, employee or contractor for the

there have been a number of retirements since the spill,<sup>409</sup> no one was fired, sued, or thrown in jail as punishment for it, and for good reasons.

In terms of civil liability, federal and state employees enjoy qualified immunity, generally protected from suit when they are acting within the scope of their employment<sup>410</sup> and are not violating any “clearly established rights” provided by statute or constitution.<sup>411</sup> The policy supporting qualified immunity has been explained succinctly by the U.S. Supreme Court: “As recognized at common law, public officers require this protection to shield them from undue interference with their duties and from potentially disabling threats of liability.”<sup>412</sup> Consistent with this policy, EPA employees and other federal and state responders generally enjoy qualified immunity when they are acting within the scope of their employment. For an EPA On-Scene Coordinator (OSC), including the “backup” OSC who was on-site the day of the Gold King Mine blowout, qualified immunity may be particularly essential as their “scope of employment” includes regular work with hazardous substances, and often in hazardous locations such as abandoned mines on steep mountain slopes like those of Bonita Peak. Without any suggestion, much less proof, that any agency personnel acted beyond their scope of employment or in violation of “clearly established rights,” it should come as no surprise that no civil liability for individual employees was ever established for the Gold King Mine spill.

As for the prospect of criminal liability, prosecution was clearly considered and quickly rejected by the local U.S. Attorney’s Office.<sup>413</sup> Like the rejection of civil liability, the rejection of criminal prosecution should also be no surprise in this case.

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criminal violation of federal environmental law, criminal negligence, obstruction or any other crime.”).

<sup>409</sup> Among other notable retirements was OSC Steve Way in June 2016. *See* Bruce Finley, *EPA Gold King Mine Coordinator Retires as Animas Water, Soil Tests Begin*, DENVER POST (July 14, 2016), <https://www.denverpost.com/2016/06/14/epa-gold-king-mine-coordinator-retires/> [https://perma.cc/TBS6-SS58].

<sup>410</sup> Federal Employees Liability Reform and Tort Compensation Act of 1988 (“Westfall Act”) provides as follows: “Upon certification by the Attorney General that the defendant employee was acting within the scope of his office or employment at the time of the incident out of which the claim arose, any civil action or proceeding commenced upon such claim . . . shall be deemed an action against the United States . . . and the United States shall be substituted as the party defendant.” 28 U.S.C. § 2679(d)(1).

<sup>411</sup> *Ashcroft v. al-Kidd*, 563 U.S. 731, 735 (2011) (“Qualified immunity shields federal and state officials from money damages unless a plaintiff pleads facts showing (1) that the official violated a statutory or constitutional right, and (2) that the right was ‘clearly established’ at the time of the challenged conduct.”).

<sup>412</sup> *Harlow v. Fitzgerald*, 457 U.S. 800, 806 (1982) (observing that “our decisions consistently have held that government officials are entitled to some form of immunity from suits for damages”). For a brief review of recent Supreme Court jurisprudence on qualified immunity, see Kit Kinports, *The Supreme Court’s Quiet Expansion of Qualified Immunity*, 100 MINN. L. REV. HEADNOTES 62 (2016).

<sup>413</sup> Bruce Finley, *No Prosecution Against EPA Official Linked to Gold King Mine Disaster, Feds Say*, DENVER POST (Oct. 12, 2016), <https://www.denverpost.com/2016/10/12/gold-king-mine-epa-employee-will-not-prosecute/> [https://perma.cc/T4MB-T38P].

Criminal prosecution assumes violation of a statute establishing criminal penalties. Most federal environmental statutes, including the Endangered Species Act, RCRA, and the Clean Water Act, do establish criminal penalties, including possible jail time.<sup>414</sup> Most of these statutes are also “general intent” crimes, where no proof of specific design to break the law or cause a particular outcome is required for criminal conviction.<sup>415</sup> As low as this standard for *mens rea* might be for environmental crimes, in the case of the Gold King Mine spill, there may be two important reasons why criminal prosecution was declined. First, as demonstrated earlier in this Article, there may have been no actual environmental violation, much less an environmental crime.<sup>416</sup> Second, the circumstances of the Gold King Mine spill likely failed to meet the traditional case selection criteria for environmental crimes. Under these criteria, for criminal prosecution, not only must there be an underlying environmental crime, but there must also be evidence of (1) “culpable conduct”; and (2) “significant environmental harm.”<sup>417</sup> “Culpable conduct” includes such considerations as a “history

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<sup>414</sup> See, e.g., 16 U.S.C. § 1540(b)(1) (2018) (noting that any person who violates certain sections of the statute “shall, upon conviction, be . . . imprisoned for not more than one year”); 33 U.S.C. § 1319(c)(2) (2018) (any person who “knowingly violates” certain sections of the statute “shall be punished . . . by imprisonment for not more than 3 years”); 42 U.S.C. § 6928(e) (2018) (any person who knowingly violates certain statutory requirements and “who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall upon conviction, be subject to . . . imprisonment for not more than fifteen years”).

<sup>415</sup> See, e.g., *United States v. Spatig*, 870 F.3d 1079, 1082–83 (9th Cir. 2017) (holding that 42 U.S.C. § 6928(d)(2)(A) provides for a “general-intent crime” so that “the prosecution is not required to prove that [defendant] intended a particular purpose or objective, as would be required for a specific-intent crime”); *United States v. Weitzenhoff*, 35 F.3d 1275, 1286 (9th Cir. 1994) (holding that the “criminal provisions of the [Clean Water Act] are clearly designed to protect the public at large from the potentially dire consequences of water pollution . . . and as such fall within the category of public welfare legislation”). Judicial findings of general intent in these and earlier cases provoked some strong criticism among commentators. See, e.g., Randall S. Abate, & Dayna E. Mancuso, *It’s All About What You Know: The Specific Intent Standard Should Govern “Knowing” Violations of the Clean Water Act*, 9 N.Y.U. ENVTL. L.J. 304 (2001); Susan F. Mandiberg, *The Dilemma of Mental State in Federal Regulatory Crimes: The Environmental Example*, 25 ENVTL. L. 1164 (1995); Kevin A. Gaynor, Jodi C. Remer & Thomas R. Bartman, *Environmental Criminal Prosecutions: Simple Fixes for a Flawed System*, 3 VILL. ENVTL. L. 1, 11 (1992) (criticizing prosecutions and convictions based upon a “watered-down version of general intent”).

<sup>416</sup> See, e.g., *supra* notes 253–298 and accompanying text (discussing lack of impacts to species protected under ESA, limited applicability of RCRA due to Bevill Amendment, and exemptions from Clean Water Act permit requirements).

<sup>417</sup> MINTZ ET AL., *supra* note 289, at 976 (“Case Selection Criteria”). The two specific criteria for prosecution of environmental crimes dates back at least to 1994 with the issuance of the “Earl Devaney memo,” which still provides directions to environmental prosecutors to this date. Memorandum from Earl E. Devaney, Dir., Office of Criminal Enforcement, to All EPA Employees Working in or in Support of the Criminal Enft Program (Jan. 12, 1994) (on file with author). For a vigorous empirical study confirming the actual application of these two major criteria for environmental prosecution, see David M. Uhlmann,

of repeated violations,” “deliberate misconduct,” and “concealment of misconduct.”<sup>418</sup> In the case of the Gold King Mine, there was certainly no “history of repeated violations,” and while there may have been some vague allegations suggesting concealment,<sup>419</sup> they were ultimately unsupported. Perhaps more significantly, in the case of the Gold King Mine spill, there may have been no “significant environmental harm” for purposes of the criminal prosecution, which generally requires “an identifiable and significant harmful impact on human health or the environment.”<sup>420</sup> As this Article has shown, no significant harmful impact to any fish or other living thing was ever identified as a result of the spill.<sup>421</sup> While the optics of the spill may have caused deep emotional responses and real economic damages, proof of a significant “environmental” harm is something that prosecutors would have to consider in deciding whether to bring charges in this case. While we may never know all the factors that prosecutors considered in the case of the Gold King Mine spill,<sup>422</sup> we do know that it resulted in a decision not to prosecute individual agency employees or contractors.

Of course, the decision not to pursue legal actions against agency employees or contract employees leaves pending many legal actions against government agencies and government contractors as a consequence of the Gold King Mine spill. In May 2016, the State of New Mexico filed suit against the EPA, EPA contractors, and three mining companies.<sup>423</sup> The New Mexico complaint alleged violations of

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*Prosecutorial Discretion and Environmental Crime*, 38 HARV. ENVTL. L. REV. 159, 164 (2014) (analyzing criminal prosecutions for “significant environmental harm” and measuring culpable conduct through factors including “deceptive or misleading conduct,” “operating outside the regulatory system,” and “repetitive violations”).

<sup>418</sup> Memorandum from Earl E. Devaney, *supra* note 417, at 4–5.

<sup>419</sup> See, e.g., Letter from John Barrasso, Chairman, Senate Comm. on Indian Affairs & John McCain, U.S. Senator, to Loretta Lynch, Attorney General, U.S. Dep’t of Justice (on file with author) (urging criminal investigation for violations including “18 U.S.C. 1001 (false statements)”).

<sup>420</sup> Memorandum from Earl E. Devaney, *supra* note 417, at 4.

<sup>421</sup> For comparison, the discharge of contaminated water from the Summitville Mine, in the San Juan Mountains east of the Animas River basin and the Continental Divide, clearly resulted in “significant environmental harm” and appropriately led to criminal investigation and charges. See Luke J. Danielson et al., *The Summitville Story: A Superfund Site Is Born*, 24 ENVTL. L. REP. 10388, 10388 (1994) (noting criminal investigation by the FBI and U.S. Dep’t of Justice); Timothy Egan, *The Death of a River Looms over Choice for Interior Post*, N.Y. TIMES (Jan. 7, 2001), <https://www.nytimes.com/2001/01/07/us/the-death-of-a-river-looms-over-choice-for-interior-post.html> [<https://perma.cc/SP35-HJP5>] (reporting that the “spill of cyanide and acidic water from a gold-mining operation killed virtually every living thing in a 17-mile stretch of the Alamosa River”). After criminal investigation, “Two former managers of the mine, and the company itself, pleaded guilty to numerous felonies arising from the pollution.” *Id.*

<sup>422</sup> See Finley, *supra* note 413 (quoting a spokesman for the U.S. Attorney’s Office in Denver, “It has been a long-standing policy that the U.S. Attorney’s Office does not discuss declinations”).

<sup>423</sup> Complaint, *New Mexico v. EPA*, No. 1:16-cv-00465 (D.N.M. May 23, 2016).

CERCLA, RCRA, and the Clean Water Act, and put forth claims for cost recovery and declaratory judgment under CERCLA, injunctive relief under RCRA, and damages under common law theories including trespass, public nuisance, and gross negligence.<sup>424</sup> In August 2016, the Navajo Nation filed a complaint alleging similar claims against similar parties, including the EPA.<sup>425</sup> Both the State of New Mexico and the Navajo Nation later amended their complaints<sup>426</sup> after the EPA declined to pay administrative claims for damages under the Federal Tort Claims Act.<sup>427</sup>

In June 2016, the State of New Mexico attempted to invoke the original jurisdiction of the U.S. Supreme Court<sup>428</sup> in a direct suit against the State of Colorado for damages relating to the Gold King Mine and discharges to the Animas River.<sup>429</sup> After a year of briefing, however, the petition by the State of New Mexico was denied by the Supreme Court.<sup>430</sup> Entering the fray a bit behind the other plaintiffs, the State of Utah filed a related complaint in July 2017 against the EPA, EPA contractors, and mining companies.<sup>431</sup> In the same month, a group of fourteen private plaintiffs from Aztec, New Mexico, filed civil claims alleging personal injuries and property damages.<sup>432</sup> A year later, in August 2018, some 295 members of the Navajo Nation filed

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<sup>424</sup> *Id.*

<sup>425</sup> Complaint, Navajo Nation v. United States, No. 1:16-cv-00931 (D.N.M. Aug. 16, 2016).

<sup>426</sup> First Amended Complaint, New Mexico v. United States, No. 1:16-cv-00465-WJ-LF (D.N.M. May 11, 2018); Amended Navajo Complaint, *supra* note 399.

<sup>427</sup> 28 U.S.C. §§ 2671–2675. The Federal Tort Claims Act (FTCA) generally waives the sovereign immunity of the United States for tort claims “in the same manner and to the same extent as a private individual under like circumstances . . . .” *Id.* § 2674. However, before filing a tort claim against the United States in court, the claim “shall have first [been] presented . . . to the appropriate Federal agency and his claim shall have been finally denied by the agency in writing . . . .” For this purpose, denial of the claim also includes the “failure of an agency to make final disposition of a claim within six months after it is filed . . . .” *Id.* § 2675(a).

<sup>428</sup> U.S. CONST. art. III, § 2, cl. 2.

<sup>429</sup> Mot. for Leave to File Bill of Complaint, New Mexico v. Colorado, No. 220141 (U.S. June 20, 2016).

<sup>430</sup> New Mexico v. Colorado, 137 S.Ct. 2319 (2017) (Thomas, J., and Alito, J., dissenting). For brief analysis, see Christine Powell, *High Court Scraps NM Suit Against Colo. over Gold King Mine*, LAW 360 (June 26, 2017), <https://www.law360.com/articles/938281> [<https://perma.cc/6RQP-9AU8>].

<sup>431</sup> Complaint, Utah v. Environmental Restoration, LLC, No. 2:17-cv-00866-BCW (D. Utah July 31, 2017). Notably, unlike the complaints filed the State of New Mexico and the Navajo Nation, the original complaint by the State of Utah did *not* name the EPA as a defendant. See Pl. State of Utah’s Response to D. Environmental Restoration LLC’s Mot. to Transfer for Coordinated or Consolidated Pretrial Proceedings under 28 U.S.C. § 1404 (Jan. 16, 2018). This is an omission that cannot be taken as a careless oversight. On January 4, 2018, Utah filed an amended complaint to add claims against the EPA. *Id.* However, Utah withheld serving the amended complaint to allow more time for pre-filing negotiations with the United States. *Id.*

<sup>432</sup> Complaint, McDaniel v. EPA, No. 1:17-cv-00710-WJ-SCY (D.N.M. July 7, 2017) (showing that the fourteen “McDaniel Plaintiffs” all alleged that they are residents of Aztec,

a similar complaint for personal injuries and property damages.<sup>433</sup> Civil litigation filed by the State of New Mexico, State of Utah, Navajo Nation, and private plaintiffs have all been consolidated and remain pending in the U.S. District Court of New Mexico.<sup>434</sup> As of 2019, litigation continues, with discovery proceeding and motions to dismiss denied.<sup>435</sup>

What does all this litigation mean for the Gold King Mine? Most immediately, one may hope that it means the United States will soon choose to settle claims for damages genuinely attributable to the Gold King Mine spill. Claims for damages such as losses in recreational opportunities and agricultural production<sup>436</sup> should have been paid already through the administrative claims process of the Federal Tort Claims Act,<sup>437</sup> and EPA Headquarters clearly should reconsider its original denial

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New Mexico, just south of the border with Colorado, and owners of property adjacent to the Animas River).

<sup>433</sup> Complaint, *Allen v. EPA*, No. 1:18-cv-00744 (D.N.M. Aug. 3, 2018) (showing that the “Allen Plaintiffs” alleged that they were “members of the Navajo Nation and residents of New Mexico, Colorado, Arizona, and Utah”). Plaintiffs farmed land and/or raised livestock adjacent to the Animas River or San Juan River and depended upon these rivers for irrigation of their crops and livestock.” *Id.* ¶ 1.

<sup>434</sup> *In re: Gold King Mine Release in San Juan County, Colorado*, on August 5, 2015, 291 F.Supp. 3d 1373 (mem.) (J.P.M.L. 2018).

<sup>435</sup> *In re: Gold King Mine Release in San Juan County, Colorado*, on August 5, 2015, 2019 WL 1282997 (D.N.M. Mar. 20, 2019) (denying Federal contractors’ motion to dismiss); *In re: Gold King Mine Release in San Juan County, Colorado*, on August 5, 2015, 2019 WL 999016 (D.N.M. Feb. 28, 2019) (denying Federal defendants’ motion to dismiss).

<sup>436</sup> By one early estimate, the Navajo Nation lost \$892,000 in agricultural production within the first few weeks of the Gold King Mine spill. *Field Hearing*, *supra* note 17, at 3 (citing economic analysis by economist Douglas Holtz-Eakin).

<sup>437</sup> Following the Gold King Mine spill, EPA staff encouraged submission of FTCA claims through use of the Standard Form 95. *Federal Tort Claims Act Information*, U.S. EPA, <https://www.epa.gov/goldkingmine/federal-tort-claims-act-information> [<https://perma.cc/Z3QF-TMTW>]. However, EPA staff were probably as surprised as anyone when these claims were later rejected by an EPA claims officer. As explained in the denial notice, the FTCA “does not authorize federal agencies to pay claims resulting from government actions that are discretionary – that is, acts of a governmental nature or function and that involve the exercise of judgment.” *Decision on Federal Tort Claims Act Claims: Jan. 13, 2017 Decision*, U.S. EPA, <https://www.epa.gov/goldkingmine/decision-federal-tort-claims-act-claims#january132017> [<https://perma.cc/Z8S7-CNCR>]. The FTCA does indeed contain a “discretionary function” exemption. *See* 28 U.S.C. § 2680(a) (excluding from the FTCA “any claim based upon an act or omission of an employee of the Government . . . based upon the exercise or performance [of] a discretionary function . . .”). The discretionary function exemption may provide a basis for denying a claim under the FTCA, but is not necessarily a *bar* against an agency paying a claim. *See generally* Katie Schaefer, *Reining in Sovereign Immunity to Compensate Hurricane Katrina Victims*, 40 *ECOLOGICAL L.Q.* 411 (2013) (analyzing the FTCA discretionary function exemption, and criticism of perceived abuses by federal agencies).

of claims.<sup>438</sup> Notwithstanding its potential legal defenses, a conciliatory approach by the EPA (represented in litigation by the U.S. Department of Justice) will facilitate settlement of all pending claims and help return the collective focus to the continuing problems of mining contamination in the Animas River watershed.

On a longer horizon, with the NPL listing of the Bonita Peak Mining District and the potential for hundreds of millions of dollars from PRPs and the Superfund trust fund, the opportunities for substantial cleanup and economic revitalization in the Animas River watershed have never been greater. Long-term remedial work creates good, local jobs for all the engineering, earth-moving, and infrastructure needed to support large-scale design and construction activity.<sup>439</sup> Completion of this work in the Animas River watershed will create new opportunities for economic redevelopment,<sup>440</sup> and ultimately, help restore the health of local communities and ecosystems impaired by more than a century of mining activity.

Finally, on the broadest level, the Gold King Mine case should reaffirm the important roles of environmental agencies, employees, and contractors in addressing the most challenging environmental problems. Just as we need police officers, firefighters, and other first responders to protect the public safety, we need environmental responders to protect our environment. We need the U.S. EPA and the Navajo Nation EPA<sup>441</sup> doing their jobs within their respective authorities. We need the

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<sup>438</sup> The EPA did, in fact, announce that it was reconsidering its original denial of claims under the FTCA. Dan Elliott, *Three years after gold king mine spill, victims awaiting payment from EPA*, DENVER POST (Aug. 3, 2018), <https://www.denverpost.com/2018/08/03/3-years-after-colorado-mine-spill-victims-awaiting-payment/> [<https://perma.cc/5PUT-8FG9>]. However, three years after the spill, the EPA had yet to approve any payments for the some 380 claims undergoing agency review. *Id.*

<sup>439</sup> For example, mining cleanup provides an estimated 400 local jobs in the Coeur d'Alene Basin of northern Idaho. See U.S. ENVTL. PROT. AGENCY, BASIN BULLETIN: UPDATES ON THE COEUR D'ALENE RIVER BASIN CLEANUP 2 (2017), <https://semsub.epa.gov/work/10/100069520.pdf> [<https://perma.cc/2VZV-VPQ4>]. For anecdotal evidence of the impacts of cleanup spending in a local economy where mining once reigned, see Dave Smith, *World's Largest Dodge Chrysler Jeep Ram Dealer*, DAVE SMITH, <http://www.davesmith.com> [<https://perma.cc/9MC2-GYNB>]. The dealership is based in the former mining town of Kellogg, Idaho, in the heart of the present Bunker Hill Mining and Metallurgical Superfund Site.

<sup>440</sup> The EPA's "Superfund Redevelopment Initiative" aims to help communities reclaim cleaned-up Superfund sites, promoting their safe reuse. See *generally Superfund Redevelopment Initiative*, U.S. EPA, <https://www.epa.gov/superfund-redevelopment-initiative> [<https://perma.cc/LR9R-J2Q6>]. The success of this initiative has been well-documented. See, e.g., U.S. ENVTL. PROT. AGENCY, SUPERFUND SITES WORK FOR COMMUNITIES: HOW SUPERFUND REDEVELOPMENT IN EPA REGION 10 IS MAKING A DIFFERENCE IN COMMUNITIES 3 (2016), <https://semsub.epa.gov/work/HQ/100000579.pdf> [<https://perma.cc/MGA8-HA5X>] (demonstrating that across the four northwestern states of Oregon, Washington, Idaho, and Alaska, the reuse and continued use of Superfund sites and former Superfund sites has supported an estimated 6,456 jobs, providing total employee income of \$491 million in 2016).

<sup>441</sup> See *generally* NAVAJO NATION ENVTL. PROT. AGENCY, <http://navajonationepa.org/main/index.php> [<https://perma.cc/J3BU-QH2Z>].



Colorado Department of Public Health and Environment,<sup>442</sup> the New Mexico Environment Department,<sup>443</sup> and the Utah Department of Environmental Quality protecting the places where people live, work, and play within their respective states.<sup>444</sup> Agencies, contractors, and, ultimately, *people*, will make mistakes. When they do, we should expect they will fix them—and learn from them. Many lessons have been learned from the Gold King Mine spill,<sup>445</sup> and much work remains to be done to restore the Animas River watershed and impaired ecosystems across the United States.

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<sup>442</sup> COLORADO DEP'T OF HEALTH & ENV'T, <https://www.colorado.gov/cdphe> [<https://perma.cc/8FLG-2QDJ>].

<sup>443</sup> NEW MEXICO ENV'T DEP'T, <https://www.env.nm.gov/> [<https://perma.cc/237P-BVNR>].

<sup>444</sup> UTAH DEP'T OF ENVTL. QUALITY, <https://deq.utah.gov/> [<https://perma.cc/MBN6-BTJ6>].

<sup>445</sup> In November 2015, the EPA assembled an internal team to study the emergency response to the Gold King Mine spill and compile lessons learned. That study resulted in ten specific recommendations for improving agency response to emergency incidents. *See In the Rearview Mirror: Implementation of the Gold King Mine After-Action Review*, U.S. EPA (Jan. 13, 2017), <https://www.epa.gov/sites/production/files/2017-01/documents/gkm-after-action-review-implementation-report.pdf> [<https://perma.cc/ADW3-XUPF>].