

1 FOREWORD

2 by
3 U.S. Rep. Morris K. Udall, Chairman
4 House Interior and Insular Affairs Committee
5 January, 1990
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Congressman Morris (“Mo”) Udall, tireless champion of the federal strip mining laws, passed away on December 12, 1998. This foreword, which first appeared in the 1980 edition of this book, is included in its entirety as a tribute to Mo and to his extraordinary efforts to protect the public and the environment from the ravages of strip mining.

In the 1960's and early 1970's coal strip mining quickly overwhelmed underground mining as the dominant mining method. But the new mining methods brought ravaged hillsides and polluted streams to the once-beautiful landscape. State governments proved ill-equipped to prevent the severe environmental degradation that this new mining method left in its wake. From our rivers, forests and Appalachian Mountains in the East, to our prime farmlands of the Midwest, to our prairies and deserts of the great West, stories abound during this time of reckless coal operators devastating landscapes, polluting the water, destroying family homes, churches and cemeteries, and threatening fragile ecosystems. Perhaps the most tragic case of abuse came on February 26th, 1972, at Buffalo Creek in Logan County, West Virginia, when a crudely constructed coal waste dam collapsed causing a flood that killed 125 people, left scores of others homeless, and caused millions of dollars in property damage. Something had to be done.

I was proud to stand in the White House Rose Garden on August 3rd, 1977, to witness the President sign into law a bill that I sponsored — the federal Surface Mining Control and Reclamation Act (SMCRA). That Act was passed after years of struggle by people in the coalfields — people who had lived with the mutilated mountainsides, spoiled streams, landslides and destruction of their homes. The voices of those people were heard on that August day.

SMCRA was written to ensure that coal is mined under stringent public safety and environmental protection standards, and that all mined lands must be fully reclaimed to their pre-mining productivity. It also established a strong state/federal regulatory authority with vast enforcement powers to compel operator compliance. To help make sure this happened, the public was provided sweeping citizen rights to participate at every level of mining. Consequently, the Act was, and is, more than a piece of legislation; it is a vehicle of hope for those who live in America's coalfields and their children.

30 Unfortunately, this Act has not accomplished all that we had hoped. Overall the law has produced a vast
31 improvement in mining methods and reclamation compliance in much of the coalfields. Nevertheless, in
32 some regions — too often the very regions which compelled the passage of the law — abuses continue at
33 an alarming rate.

34 There are many reasons for this. Clearly, in recent years the federal government and certain
35 states have not fulfilled their mission under the law. They have lacked the political will to stand up to
36 irresponsible mining, and use their enforcement tools to bring it to an end. This is not a problem with
37 a law that is flawed or is too weak; it is a resistance to enforce it.

38 Regrettable as this is, it was not unforeseen. Congress envisioned that the regulatory authorities
39 could not always be counted on to enforce this law. More than any other reason, this is why
40 Congress provided the public with sweeping citizen rights. I believe that SMCRA's accompanying
41 House Report sums this up best:

42 The success or failure of a national coal surface mining regulation program will depend, to a significant
43 extent, on the role played by citizens in the regulatory process. The State or Department of Interior can
44 employ only so many inspectors, only a limited number of inspections can be made on a regular basis
45 and only a limited amount of information can be required in a permit or bond release application or
46 elicited at a hearing. While citizen participation is not, and cannot be a substitute for governmental
47 authority, citizens' involvement in all phases of the regulatory scheme will help ensure that the
48 decisions and actions of the regulatory authority are grounded upon complete and full information. In
49 addition, providing citizens access to administrative appellate procedures and the courts is a practical
50 and legitimate method of assuring the regulatory authority's compliance with the requirements of the
51 act. Thus in imposing several provisions which contemplate active citizen involvement, the committee is
52 carrying out its conviction that the participation of private citizens is a vital factor in the regulatory
53 program as established by the act. (H.R.95-218)

54 No regulatory law, in of itself, will resolve a problem. It is only a tool to be used. If we are ever to
55 rid ourselves of irresponsible mining practices in this country, citizens must learn to use this law to
56 that end.

57 I am delighted that the Environmental Policy Institute (EPI) is publishing this handbook so that
58 coalfield citizens will better understand and exercise their rights under SMCRA. I commend Mike
59 Clark, EPI President, and Jim Lyon, Director of EPI's Citizens Mining Project for envisioning the need
60 and making the commitment to produce this book. I also commend the book's author, Mark

61 Squillace, for his hard work, talent and commitment to the coalfields that he so ably demonstrates
62 through this publication.

63 EPI has a long history of working on this issue. They were with me in the 1970's as we worked for
64 years to get this law passed. Afterwards, in the spirit of this law, EPI set up a citizen watchdog
65 project to work with citizens in monitoring SMCRA's implementation and enforcement.

66 The Strip Mine Handbook is a natural extension of EPI's work. It translates key components of
67 the law into easy to understand language. In addition, it explains the rights and remedies people can
68 utilize when faced with a mining or regulatory problem.

69 Make good use of this book. By doing so, together we will continue to fight to curb the ravaging of the
70 coalfields, and help preserve the beauty that distinguishes these areas of our nation.



Signed,
Morris K. Udall
Morris K. Udall

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73 PREFACE

74 This book grows out of a very simple idea — that citizens have the right to engage their government to
75 enforce environmental laws that are supposed to protect their communities, the land, and the environment
76 from adverse impacts of surface coal mining. In order for citizens to exercise that right effectively,
77 they need a clear understanding of the law and the tools available to them to enforce that law. This
78 handbook is designed to meet that need.

79 The Surface Mining Control and Reclamation Act of 1977 gave unprecedented powers to citizens to play an
80 active role in the implementation and enforcement of the law. For more than 30 years, citizens groups around
81 the country have demanded that the promises of the law be fulfilled. Too often the state and federal agencies
82 responsible for carrying out the law resisted their efforts and allowed coal companies to engage in unlawful or
83 questionable practices with severe adverse consequences for the environment. The fight for equitable

84 enforcement has not been easy and is far from over.

85 By using this book, you can help keep pressure on public officials to protect citizens and their communities
86 and ensure sure that public officials are accountable for their actions. There is no getting around the fact
87 that the Surface Mining Control and Reclamation Act is complicated. But citizens should not have to depend
88 upon a lawyer, mining engineer, or scientist to have the law enforced.

89 This handbook is designed to demystify the law, to explain mining techniques, to identify typical mining
90 abuse problems, to translate into everyday language the law's many provisions and requirements, and to
91 explain how citizens can use the law to stop mining abuse. And for the first time, this new edition will be
92 available on-line on the Red Lodge Clearinghouse Website [www.rlch.org]. Not only will this make the
93 handbook more readily available, it will provide a forum for interacting with other citizens engaged in the
94 struggle to enforce the law. Working together, citizens can gain the knowledge and experience to take on
95 the coal mining industry effectively and restore the promise of the Surface Mining Act envisioned by two of
96 the real heroes of the law – Mo Udall and John Seiberling.

97 **ABOUT THE AUTHOR**

98 Professor Mark Squillace is the Director of the Natural Resources Law Center at the University of
99 Colorado Law School. Before coming to Colorado, Professor Squillace taught at the University of
100 Toledo College of Law where he was the Charles Fornoff Professor of Law and Values. Prior to
101 Toledo, Mark taught at the University of Wyoming College of Law where he served a three-year term
102 as the Winston S. Howard Professor of Law. He is a former Fulbright scholar and the author or co-
103 author of numerous articles and books on natural resources and environmental law. In 2000,
104 Professor Squillace took a leave from law teaching to serve as Special Assistant to the Solicitor at the
105 U.S. Department of the Interior. In that capacity he worked directly with the Secretary of the
106 Interior, Bruce Babbitt, on variety of legal and policy issues.

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INTRODUCTION

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111 **F**ew experiences affect and confound average citizens more than having a coal mining operation

112 under or near their home or community.

113 Despite assurances from the operator and government agencies that they will protect the public and

114 the environment, those living in the neighborhood of a mine frequently encounter very serious problems.

115 Efforts to combat these problems are often frustrated by complex technical responses from teams of coal

116 company technicians and lawyers that serve only to further muddy the real problems caused by strip mining.

117 Yet, people willing to assert their rights can prevail, thanks to the Surface Mining and Reclamation Act of

118 1977 (SMCRA). This law — fought by mining interests from its beginnings and always susceptible to half-

119 hearted enforcement efforts by the responsible state and federal agencies — can nevertheless provide

120 citizens with effective relief from most problems associated with mining.

121 The *Strip Mining Handbook* was written to give citizens in mining areas a fighting chance to protect their

122 homes and communities from the ravages of mining operations by providing them with the tools they need

123 to understand the law and use the often complex provisions of SMCRA to their advantage.

Strip Mining and Society

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127 An important historical problem that helped shape the conflict between Appalachian surface

128 owners and coal companies was the **broad form deed**. When coal companies bargained with

129 landowners to buy mineral rights, they commonly negotiated favorable terms for themselves and did

130 not adequately explain the terms to the largely uneducated landowners, who often did not
131 understand the contracts.¹ The companies paid very little for the coal, despite the fact that they
132 reserved the right to use the land surface for coal development.²

133 Most of the mineral rights deeds were made in the late nineteenth century and early twentieth
134 century, when underground mining was common and surface mining was rare.³ Land owners who
135 signed these deeds never expected that their homesteads would be turned into strip mines. Yet up
136 until the mid-1980's, courts in Appalachia consistently interpreted broad form deeds to permit
137 surface mining operations even though the grantor had retained the surface rights to the land above
138 the coal seam. Broad form deeds included language that waived mining companies' liability for
139 surface impacts that were "convenient or necessary" to the mining operation.⁴ Based on the turn-
140 of-the-century mining technologies in use during that time period, this language meant that the
141 mining company, which owned only the subsurface mineral rights, could build roads, buildings, coal
142 waste piles, and other structures, as well as harvest timber, on the surface land to facilitate an
143 underground mining operation.⁵ Finally, in 1988, Kentucky amended its constitution so that broad
144 form deeds are interpreted in accordance with the intentions of the parties based on the commonly
145 known coal extraction methods at the time the deed was signed.⁶ That interpretation limited coal
146 companies' ability to take advantage of the broad language in the old deeds to conduct surface
147 mining on lands for which they did not own surface rights.

148 Although traditionally the surface owners possess an absolute right to have surface land
149 supported by the underlying strata of rock and soil,⁷ if the deed conveying mineral rights contains a
150 specific provision that waives that right to **subjacent support** then the surface owner cannot receive
151 compensation for damage to the surface land when the ground underneath it sinks.⁸ Moreover,
152 courts have interpreted the vague language in broad form deeds to waive the right to subjacent
153 support in cases where longwall mining caused subsidence damage to the surface owner's property.

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155 Furthermore, West Virginia courts do not require mining companies to compensate landowners

¹ Harry Caudill, *Night Comes to the Cumberlands*, (1962) at 72-75.

² *Id.*

³ *Id.*

⁴ See *McIntire v. Marian Coal Co.*, 227 S.W. 298 (Ky. Ct. App. 1921); *Martin v. Kentucky Oak Mining Co.*, 429 S.W.2d 395 (Ky. Ct. App. 1968).

⁵ Harry Caudill, *Night Comes to the Cumberlands*, (1962) at 72-75.

⁶ Ky. Const. § 19(2).

⁷ *Stonegap Colliery Co. v. Hamilton*, 89 S.E. 305, 311 (Va. 1916).

⁸ *Ball v. Island Creek Coal Co.*, 722 F.Supp. 1370, 1373-74 (W.D.VA. 1989).

⁹ *Culp v. Consol Penn. Coal Co.*, 1989 WL 101553, at *1, 11 (W.D.Pa. May 4, 1989).

156 for the loss of surface water when subsidence from longwall mining drains away surface water
157 resources.¹⁰ Other courts have been reluctant to acknowledge that subsidence constitutes substantial
158 surface damage. In Virginia, the state's highest court refused to recognize that any substantial
159 damage had occurred after a surface owner's land subsided as much as three feet.¹¹ The court based
160 its opinion on the biased testimony of the defendant coal company's own expert witness.¹² In
161 coalfield states, this kind of judicial sympathy for mining companies is all too common.
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163 **Strip Mining and the Environment**

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166 From its earliest beginnings, strip mining has been synonymous with environmental controversy.
167 Grossly underregulated coal mining in the 1960's and 70's spawned one of the greatest abuses of the
168 environment in the history of the United States.

169 The statistics of strip mine abuse numb the mind and overwhelm the spirit. At the time SMCRA
170 was passed in 1977, more than 264,000 acres of cropland, 135,000 acres of pasture, and 127,800 acres
171 of forest had been lost.¹³ More than 11,000 miles of streams had been polluted by sediment or acid
172 from surface and underground mining combined.¹⁴ Some 29,000 acres of reservoirs and
173 impoundments had been seriously damaged by strip mining.¹⁵ Strip mining had created at least 3,000
174 miles of landslides and left some 34,000 miles of highwalls.¹⁶ Two-thirds of the land that had been
175 mined for coal had been left unreclaimed,¹⁷ and the cost of reclamation in 1977 was estimated at
176 between \$10 billion and \$35 billion.¹⁸ ¹⁹ While many of the worst abuses have been addressed by
177 SMCRA, problems remain.

¹⁰ Section 1307(b) of SMCRA was interpreted to protect surface water from the impacts of surface mining, but not from the surface impacts of underground mining. *Rose v. Oneida Coal Co., Inc.*, 466 S.E.2d 794, 799 (W.Va. 1995). See also *National Wildlife Federation v. Hodel*, 839 F.2d 694, 754 (D.C. Cir. 1988).

¹¹ *Large v. Clinchfield Coal Co.*, 387 S.E.2d 783, 785 (Va. 1990).

¹² *Id.* at 787 (J. Russell, dissenting).

¹³ Final Environmental Impact Statement. Permanent Regulatory Program. OSM-EIS-I.p. Bill-17 (1979).

¹⁴ H.R. Rep. 94-1445. 94th Cong.. 2d Sess. 19. 135 (1976).

¹⁵ S. Rep. No. 95-128. 95th Cong.. 1st Sess. 50: Surface Mining and Our Environment. U.S. Dept. of the Interior. 42 (USGPO. 1967-0-258-263).

¹⁶ *Id.* at 83. Twenty thousand miles of abandoned highwalls exist in Appalachia alone. *Id.* at 54. [op. cit.]

¹⁷ *Id.* at 85. [op. cit.]

¹⁸ H.R. Rep. No. 95-218. 95th Cong.. 1st Sess. 135 (1977).

¹⁹ Michael S. Hamilton, *Mining Environmental Policy: Comparing Indonesia and the USA* 8 (2005).

178 The most serious adverse impacts from coal mining have occurred in the Appalachian region, especially
179 the states of Kentucky, Pennsylvania, Tennessee, Virginia, and West Virginia, but coal mining occurs in many
180 parts of the country including the Midwest, the South and the West. Large mines in such western states as
181 Colorado, New Mexico, Utah and Wyoming began operating in the 1970's. The Powder River Basin of
182 Wyoming and Montana alone produces 40 percent of the coal burned in the United States.²⁰ Although many
183 unique problems have been encountered at these western mines, many of the problems are the same
184 as in other parts of the country.

185 Perhaps the greatest modern threat from coal mining comes from **mountaintop removal mining**
186 in the Appalachian region. This practice is described in more detail in Chapter 2. Improved technology
187 allows mine operators to remove entire mountaintops to access underlying coal seams by moving
188 mountaintop vegetation, topsoil, and **overburden** (the mining term for the rock, subsoil, soil, and
189 vegetation overlying the coal seam) to adjacent valleys where mountain streams often run. Most
190 affected streams are considered headwater streams, which are important because they contain
191 unique aquatic life and provide organic energy to fish and other species downriver.²¹ The
192 Environmental Protection Agency estimates that over 700 miles of streams have been buried by
193 removed material and 1,200 miles have been directly affected by mountaintop removal mining.²² In
194 Kentucky, for example, the number of polluted streams rose by twelve percent between 2001 and
195 2005.²³

196 Mountaintop removal mining will cause a projected loss of 1.4 million acres of land by 2010.
197 Roughly 800 square miles of mountains had already been destroyed by 2003,²⁴ and, while there is
198 little reliable data after 2001, current estimates suggest that as many as 470 mountains have now
199 been flattened in West Virginia, Virginia, and Kentucky.²⁵

200 Coal mining causes many other risks as well. For example, mine fires threaten local communities
201 and contribute significantly to climate change. These fires release poisonous gases and cause
202 sudden subsidence, opening holes large enough to swallow vehicles and buildings. Burning deep
203 underground along cracks in the coal seam, the fires are very difficult to extinguish. One fire in
204 Centralia, Pennsylvania has been burning underground for over 45 years. Centralia's residential

²⁰ Jeff Goodell, *Big Coal: The Dirty Secret Behind America's Energy Future* 4 (2006).

²¹ *Id.* at 3

²² "Mountaintop Mining/Valley Fills in Appalachia Final Programmatic Environmental Impact Statement" (EPA 9-03-R-05002, EPA Region 3, October 2005) 7

²³ Reece, *Death of a Mountain*

²⁴ [Ilovemountains.org/resources](http://lovemountains.org/resources), or find in EIS

²⁵ <http://www.thestar.com/sciencetech/Environment/article/306165>

205 properties were condemned in 1992, yet a few holdouts remain.²⁶

206 Another serious problem involves coal **slurry**. Coal slurry is liquid waste created when coal is
207 rinsed with water, starches, or lime. It is often stored in **impoundments** at coal mining sites. On
208 February 26, 1972, an impoundment dam failed above Buffalo Creek, releasing 132 million gallons of
209 slurry. The toxic water washed away a dozen towns, destroyed 4000 homes, and left 125 residents
210 dead.²⁷ A generation later, in 2000, a Martin County Coal Company slurry impoundment failed near
211 Inez, Kentucky, releasing an estimated 300 million gallons of slurry into several rivers and streams.²⁸
212 Slurry flooded downstream residents' properties,²⁹ killed aquatic life, and contaminated the water
213 systems of 27,000 people.³⁰ All said, this disaster affected more than 100 miles of streams and
214 floodplains, and slurry remains in the stream systems today; it is unlikely that all of it will ever be
215 removed.³¹

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218 **Making SMCRA Work**

219 The widespread degradation of land and water resources caused by strip mining — and the failure of
220 the states to effectively regulate the industry themselves — resulted in the passage of the Surface Mining
221 Control and Reclamation Act of 1977. The overriding purpose of SMCRA was to make mine operators conduct
222 their operations in a way that would avoid environmental and public health injury, and to restore the
223 land after mining to its pre-mining condition.

224 SMCRA, however, has been as controversial as strip mining itself. SMCRA was one of the most bitterly
225 contested environmental statutes ever considered by Congress. The battle did not end when the law was
226 passed. Representatives of the energy and electrical utilities industries (who often burn coal to produce
227 energy) and a number of major coal-producing states fought hard against passage of the legislation. Having
228 lost that battle, these same forces set out to frustrate its implementation.

²⁶ Pennsylvania Department of Environmental Protection. A Brief History of the Centralia Mine Fire. (February 1996). <http://www.depweb.state.pa.us/abandonedminerec> (follow "Centralia Mine Fire" hyperlink).

²⁷ ALMOST FLAT, WEST VIRGINIA: HOW CITIZENS BATTLE AGAINST THE MINING COMPANIES THAT CARVE OFF THEIR MOUNTAINTOPS Pittsburgh Post-Gazette (Pennsylvania) February 26, 2006 Sunday

²⁸ U.S. Dep't of Health and Human Services, Health Consultation, Martin County Coal Slurry Release 2. (Citation)

²⁹ *Id.* at 3.

³⁰ Jeff Goodell, Big Coal: The Dirty Secret Behind America's Energy Future 26 (2006).

³¹ Leslie Cole, *Agency Tours Slurry Spill Site*, LAND AIR & WATER, 2003, at 18.

229 Citizens groups from around the country have fought hard to maintain the gains achieved through
230 SMCRA. It sometimes has seemed an endless fight. In the early years after passage of the law, the federal
231 Office of Surface Mining made great strides towards achieving the goals that had been established by
232 Congress. But the appointment of James Watt as Secretary of the Interior in 1981 triggered a series of
233 setbacks from which the agency has struggled to recover.

234 In one of his first moves as Secretary, Watt asked some of the most outspoken opponents of SMCRA to
235 fill key agency posts within OSM. The result was predictable.³² Enforcement actions dropped dramatically and
236 a frenzied effort to weaken the strict federal regulations began. The zeal with which the new
237 administrators set about to deregulate the industry, however, was coupled with a shocking ignorance of
238 the legal requirements of SMCRA. The initial efforts thus were frustrated. Subsequent efforts persisted,
239 however, and eventually the federal rules were weakened dramatically. Fortunately, the citizen groups
240 that had fought so hard for passage of the law did not give in. Lawsuits were filed successfully challenging
241 many of these new rules. But, as the recent battles over mountaintop removal mining illustrate, efforts to
242 undermine the law have not subsided, and citizens interested in preserving SMCRA should expect the fight to
243 continue for many years to come.

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246 **A Continuing Demand for Coal**

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249 Coal is the most abundant fossil fuel used for energy production worldwide. At the current rate
250 of consumption, world coal reserves are estimated to last over 150 years.³³ As oil and gas become
251 scarcer and their prices continue to rise, pressure to develop coal resources increases. World coal
252 consumption is growing faster than the consumption of any other kind of energy. The demand for
253 coal in 2030 is expected to be double the demand in 2007.³⁴

³² An anecdote told by a lawyer for the Office of Surface Mining during the early days of the Watt administration aptly describes the attitude of the new appointees. Approximately five months after the Watt administration took control of the Interior Department, the United States Supreme Court handed down decisions reversing the rulings of two lower courts that had found several key provisions of SMCRA unconstitutional. These cases had been defended by the previous administration and were pending in the courts when Watt assumed authority. When word arrived that the Supreme Court had unanimously sustained SMCRA against all of the constitutional attacks, the lawyer contacted the Deputy Director for OSM, Steve Griles, to inform him of the outcome. "We won!", she said excitedly. "No, we lost." he replied.

³³ U.S. DOE Energy Information Administration. *Coal Reserves Current and Back Issues*. (Nov. 2007). Available at; <http://www.eia.doe.gov/cneaf/coal/reserves/reserves.html>.

³⁴ 2007 IPCC Fourth Assessment Report "Energy Supply". Working Group III.

254 Currently the United States depends on coal for half of its electricity production.³⁵ With more
255 proven coal reserves than any other country, the United States will continue coal mining not only for
256 domestic use but for export to meet increasing international demand.³⁶ The United States currently
257 exports approximately six percent of the coal it produces.³⁷

258 The continued burning of coal to generate electricity and heat contributes significantly to global
259 warming and climate change. Climate change results from a buildup of carbon dioxide and other
260 greenhouse gases (“GHGs”) in the atmosphere that trap heat that would normally disperse into
261 space. Burning coal with current technologies results in more GHG emissions per unit of energy
262 produced than any other form of energy.³⁸ To make matters worse, the mere extraction of coal
263 produces 10% of U.S. methane emissions. Methane, which inevitably escapes from the coal beds
264 during the mining process,³⁹ is a dangerous GHG that traps twenty-one times more heat in the
265 atmosphere than carbon dioxide.⁴⁰ (graphic)

266 Carbon dioxide emissions from burning coal can be reduced in two ways. One is to increase the
267 efficiency of energy conversion in coal combustion; the other is to capture and sequester the GHGs
268 emitted from burning coal.⁴¹ Much work is being done to promote efficiency and carbon
269 sequestration technology, but unless the GHG footprint of coal consumption is considerably
270 reduced, the long-term future of coal remains in doubt. In the short-term, however, coal will
271 continue to serve as the primary source of energy for electric power generation, and the prospects
272 for further coal development remain fairly strong.

273 Fortunately, coal mining can be conducted in a reasonably responsible fashion on most lands. The task
274 for citizens is to ensure that the state and federal agencies are carrying out their responsibility to protect the
275 public and the land, air, and water resources that may be adversely impacted by mining.

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277 **How to Use This Handbook**

³⁵ U.S. DOE Energy Information Administration. *Electric Power Monthly April 2008: with Data from January 2008*. Executive Summary at 1. Available at: http://www.eia.doe.gov/cneaf/electricity/epm/epm_sum.html.

³⁶ U.S. DOE Energy Information Administration. *Quarterly Coal Report October – December 2007*. Executive Summary at 3. March 2008. Available at: http://www.eia.doe.gov/cneaf/coal/quarterly/qcr_sum.html.

³⁴ *Id.*

³⁵ *Supra* note 31.

³⁹ *Id.*

⁴⁰ United States Environmental Protection Agency. *Methane*. <http://www.epa.gov/methane/scientific.html>. accessed June 19, 2008.

⁴¹ *Id.*

278 This handbook has been designed to provide ordinary citizens with the background information they
279 need to understand SMCRA, and how the law can be used to protect their homes, property, community
280 and surroundings from problems resulting from strip mining operations. Chapter 2 describes the
281 environmental effects typically produced by different types of mining operations. Chapter 3 gives an
282 overview of the requirements of the federal law, and Chapter 4 explains the rights of citizens to enforce
283 those requirements. The last three chapters provide a step-by-step explanation of how citizens can take
284 action at three crucial stages of a strip mining operation: reviewing the operator's application for a permit to
285 begin mining; monitoring an ongoing surface mine operation; and participating in the proceedings after
286 mining which release an operator from the bond posted at the beginning of the mining operation.

287 Eight appendices provide you with additional information, including forms, checklists, and the addresses
288 of citizen organizations and regulatory agencies. These materials are designed to help you through the
289 complex rules of the statute. While every attempt has been made to explain unfamiliar terms in the text,
290 a glossary is also provided in an appendix.

291 Where appropriate, the handbook cites the correct authority, usually the federal statute or regulation.
292 These citations can be helpful in understanding the scope of the law and in describing a perceived problem to
293 an agency official. Be careful, however, about how you use these citations. Most states have their own laws
294 and regulations for implementing SMCRA. In most cases, therefore, the federal regulations themselves are
295 not directly applicable. It is also possible that, over time, the federal regulations may change. Remember
296 that state provisions must be at least as effective as the federal standards. Therefore, the federal standards
297 are an appropriate benchmark against which a state program can be measured, and citizens may
298 reasonably demand that state programs be interpreted to ensure that citizens are protected to the
299 same extent as they would have been under the federal standards.

300 Those actively involved with a surface mining problem should obtain the most recent copy of the federal
301 and state laws and rules. The federal rules can be browsed online at the Government Printing Office website:
302 ecfr.gpoaccess.gov. This website provides free access to an electronic version of the Code of Federal
303 Regulations. To find the surface mining regulations, select "Title 30" from the drop-down menu and click on
304 parts "700-999." The federal rules can also be purchased from the Government Printing Office. Your local
305 Congressperson or Senator may be able to assist you in obtaining the federal documents at little or no cost.
306 State statutes and regulations should be readily available from your state agency (see websites and addresses
307 listed in Appendix G).

308 The reader who faces serious mining problems may ultimately have to look beyond this publication. But this
309 citizen's manual should provide you with the information and the confidence to get started.

The Need for Continuing Citizen Involvement

A primary reason that coal operators and states have fought so hard against SMCRA is that it gives citizens extensive rights to participate in the process of controlling strip mining abuse. In providing for maximum citizen participation, Congress parted company with the coal operators and the states. Congress believed that citizen involvement would be crucial to SMCRA's success.

Congress was right. The law won't work unless citizens make it work, just as it wouldn't have been passed in the first place if citizens hadn't demanded it. In short, if you want to see the abuses of strip mining ended, you are going to have to do part of the job yourself. Many resources — from this handbook to local environmental organizations — exist to help you. Use them.

One final note of encouragement is in order. As a private citizen you should not expect to know as much about mining and reclamation as either the coal operator or the government agency in charge of regulation. Don't allow your lack of knowledge to discourage or intimidate you. You most likely will be the first to recognize that your property is threatened by a mining operation; Congress intended that you should be able to stop any damage before it starts. Notify the state and federal authorities of the problem immediately. Ask them to explain in detail their response and the reasons for that response. Even if no violation of law is ultimately found, you will have accomplished an important step by putting government agencies and coal operators on notice that private citizens are watching them. And when other problems do arise, both you and the agency will have gained valuable experience with the public participation requirements of the law.

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THE

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ENVIRONMENTAL

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EFFECTS OF

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STRIP MINING

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338 **A**ll mining operations have a disruptive effect on the environment, but the sheer volume of material

339 involved in strip mining makes the impact on the environment especially acute. Surface mining (another
340 name for "strip mining") can severely erode the soil or reduce its fertility; pollute waters or drain
341 underground water reserves; scar or altar the landscape; damage roads, homes, and other structures; and
342 destroy wildlife. The dust and particles from mining roads, stockpiles, and lands disturbed by mining are a
343 significant source of air pollution. In order to participate effectively in controlling the abuses of strip
344 mining, it is important to understand the basic techniques of surface mining and the types of
345 environmental damage that can result.

The Mechanics of Strip Mining

This section describes the five main types of surface coal mining techniques: area mining, open pit mining, contour mining, auger mining, and mountaintop removal. Underground mining is also considered in this section. Terrain, economics, and custom generally dictate which technique an operator chooses.

All surface or strip mining first removes the overlying vegetation, soil and underground rock layers in order to expose and extract coal from an underground seam or coal deposit. Responsible surface mining attempts to limit the side effects of this removal through several basic steps:

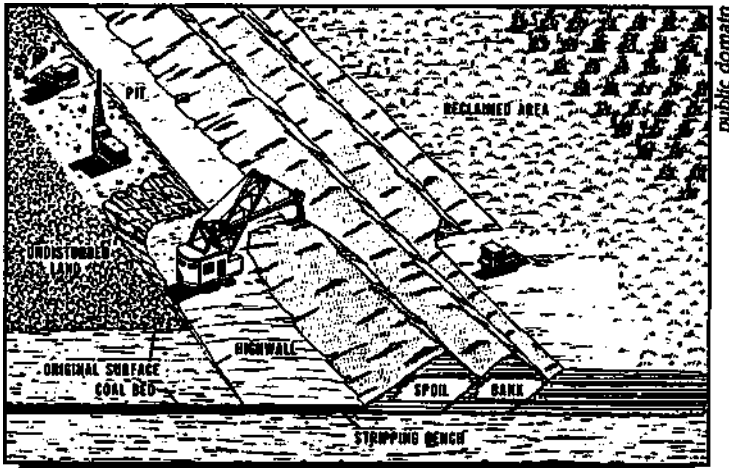
1. First, the surface vegetation (trees, bushes, etc.) under which the coal seam lies is scalped or removed.
2. Next, the operator removes the topsoil, usually by bulldozers or scrapers and loaders. The operator either stockpiles the topsoil for later use or spreads it over an area that already has been mined.
3. The exposed overburden is then usually drilled and blasted, and removed by bulldozers, shovels, bucketwheel excavators, or draglines, depending on the amount of overburden and the type of mining.
4. After removing the overburden, the exposed coal seam is usually fractured by blasting.
5. The operator then loads the fractured coal onto trucks or conveyor belts and hauls it away.
6. Next, the operator dumps the overburden or **spoil** that was removed during the mining process on a previously mined area and grades and compacts it. (Special handling may be necessary if any of the overburden contains toxic materials, such as acid or alkaline producing materials.)
7. Any excess overburden that remains after the mined area is completely backfilled (Eastern mines generally have substantial excess spoil) is deposited in a fill.
8. Finally, the operator redistributes the topsoil and seeds and revegetates the mined area.

376 While these basic steps are relatively consistent, the environmental impacts of the five main techniques
377 vary significantly.

378

Area Mining

379 Area mining is the technique most often employed in the flat or gently rolling countryside of the
380 Midwest and western United States. Area mines excavate large rectangular pits, developed in a series of
381 parallel strips or cuts which may extend several hundred yards in width and more than a mile in length.
382 Following scalping of the vegetation and topsoil removal, area mining begins with an initial rectangular
383 cut (called the **box cut**).



384

385 *Area strip mining with concurrent reclamation.*

386

387 The operator places spoil from the box cut on the side away from the direction in which mining will
388 progress. In large mines, huge stripping shovels or **draglines** remove the overburden. After extracting the
389 coal from the first cut, the operator makes a second, parallel cut. The operator places the overburden from
390 the second cut into the trench created by the first cut and grades and compacts the spoil. The backfilled
391 pit is then covered with topsoil and seeded. This process continues along parallel strips of land so long as
392 the ratio between the overburden and the coal seam, called the **stripping ratio**, makes it economically
393 feasible to recover coal. Mining may cease in a particular area, for example, where the coal seam
394 becomes thinner or where the seam dips further below the surface.

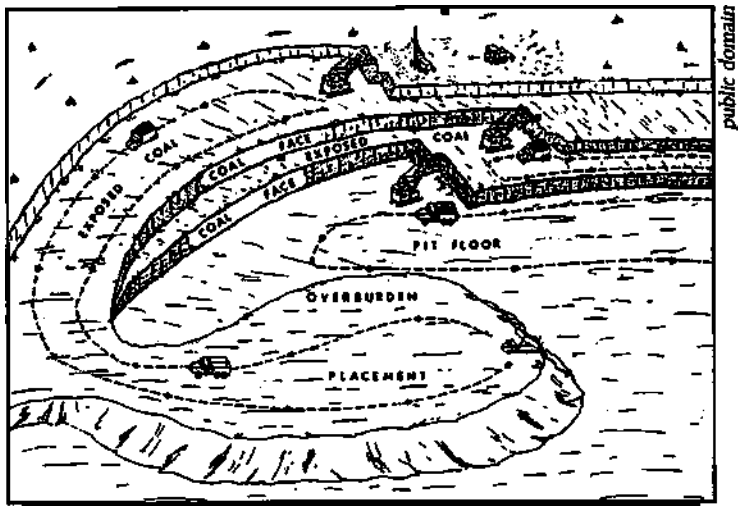
395 When the operator reaches the last cut, the only spoil remaining to fill this cut is the overburden from the
396 initial or box cut. Yet, since the box cut spoil may lie several miles from the last cut, the operator generally finds

397 it cheaper not to truck the box cut spoil to the last cut. Instead, he may decide to establish a permanent
398 water impoundment in the last cut. These **last cut lakes** are commonplace in the coal regions of the
399 Midwest but may pose environmental and land use problems. A later section of this handbook describes
400 strategies for challenging these last cut lakes.

401 Open Pit Mining

402 Open pit mining is similar to area mining. The technique is common in the western United States (and
403 other parts of the world) where very thick — 50 to 100 foot — coal seams exist. Open pit mines are
404 usually large operations. Production levels may exceed 10 million tons of coal per year.

405 The thick coal seams found at these large mines ensure that the amount of land disturbed for each
406 ton of coal produced is much smaller than for most Eastern and Midwestern mines. Nonetheless, the sheer
407 size and capacity of these mines necessitates substantial surface disturbance. In open pit mining, the
408 operator first removes the overburden to uncover the coal seam. The overburden may be placed on
409 adjacent, undisturbed land, or it may be transported by belt or rail to the other end of the same mine or to
410 an exhausted mine that needs to be backfilled. Typically, several different pits, at various stages of
411 development or reclamation, are being worked at any given time on a single site.



412
413 Typical open pit mining method with thick coal seam.

414
415 Large machines remove the overburden in successive layers until the coal seam is reached. The operator
416 then extracts the coal and transports it to a power plant or to a rail line for shipment to a power plant. Next,

417 the operator backfills the pit with previously extracted overburden and grades it. Topsoil that either has
418 been saved or transported from the ongoing operation is spread over the spoil, and the area is seeded.

419 The thin overburden and thick coal seams that are frequently encountered with open pit mines may
420 result in insufficient spoil material to reclaim the mined land. SMCRA provides an exemption from the "ap-
421 proximate original contour" or AOC requirement for operators confronting this situation.⁴²

422 Contour Mining

423 The contour method is used almost exclusively in the steep Appalachian region of the United States,
424 where coal seams outcrop from the sides of hills or mountains. Contour mining makes cuts on the slope
425 where the coal seam is located, to remove first the overburden and then the coal itself. Overburden from
426 adjacent cuts is used to fill previous cuts. The operator continues making cuts until the ratio of overburden
427 to coal becomes uneconomical. The operation then continues along the contour of the mountain until the
428 coal resources, or the operator's resources, are exhausted.

429 Contour mining uses small earth-moving equipment such as power shovels, backhoes and bulldozers —
430 similar to equipment used for many other kinds of construction activities. Contour mining is therefore a
431 favorite technique of small, often undercapitalized operators in Appalachia. Persons in the construction
432 business, for example, can easily move in and out of the mining business as market conditions change.

433 In contrast to open pit operators, contour operators frequently have too much spoil after mining is
434 completed. This results from a phenomenon called the **swell factor**. When overburden is removed it
435 breaks up and loses some of the compaction that occurred over the thousands of years that it laid
436 undisturbed. Even after replacement and mechanical compaction, the volume of the material increases by
437 up to 25%.⁴³ The pits left after extracting the relatively thin coal seams of the East are often not large enough
438 to hold this added volume. As a result, most contour miners must dispose of their excess spoil in another **fill**
439 or disposal area. The most common disposal areas are at the heads of valleys, called **valley fills or head of**
440 **hollow fills**. The construction of a fill means that additional land beyond that required for mining must be
441 disturbed in order to accommodate that mining. The harmful effects of valley fills are discussed
442 further under the section on mountaintop removal.

⁴² 30 U.S.C. § 1265(b) (3) (2008).

⁴³ Bragg v. Robertson, 248 F.3d 275, 286 (4th Cir. 2001)

Auger Mining

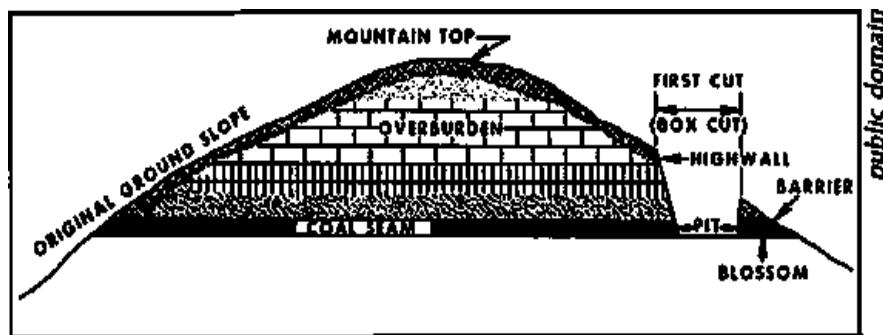
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Auger mining usually takes place in conjunction with a contour mining operation. Once the contour operator reaches the point where the height of the highwall makes it uneconomical to remove further overburden, the operator may choose to extract further coal, before beginning reclamation, by drilling into the face of the highwall with a mining auger. Large diameter drill bits, which can be broken into relatively small lengths, may bore as much as 200 feet into a coal seam, thereby extracting as much as 60 percent of the coal resources. Because auger mining removes support for the materials above it, care must be taken to fill the auger holes after extracting the coal. Failure to fill auger holes may cause tension cracks and other problems on the surface.

Mountaintop Removal

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The final method of surface coal extraction to be described here is aptly called mountaintop removal. Using this technique, operators remove entire mountaintops to reach the coal seam lying underneath it. Mountaintop removal requires more capital and engineering skill than the contour mining method, but it allows the operator to extract virtually the entire coal seam. Mountaintop removal, which is used increasingly in Appalachia, became possible only after technology evolved and the economics of mining changed to allow greater stripping ratios. Today it is economical to remove as much as 1,000 feet of mountain to reach a sizable coal seam.⁴⁴



Mountaintop removal method.

460
461

Mountaintop removal is a controversial mining method that generates an enormous amount of spoil, and unlike every other technique, none of the mined area is backfilled. What used to be the top of the

⁴⁴ Stop Mountaintop Removal, *What is Mountaintop Removal?*, <http://www.stopmountaintopremoval.org/what-is-mountaintop-removal.html> (last visited June 22, 2009).

462 mountain becomes a large, flat plateau. Because steep mountain grades make restoring the natural
463 contour of the landscape impossible, SMCRA provides an exception to the normal rule that post-mining
464 land must be restored to its approximate original contour.⁴⁵ Typically, the operator places the spoil in a fill
465 in an adjacent valley or hollow. The massive fills constructed in Appalachia appear generally stable.
466 Fewer than twenty slope movements have been reported out of the more than 6,800 fills built from
467 1985 to 2003.⁴⁶ However, the fills bury streams that flow through Appalachian valleys,⁴⁷ and the
468 deforested mine sites cause flooding, even after revegetation efforts are complete. Rivers and
469 streams are polluted. The mining process itself causes dust, noise, and fires. Subsidence cracks the
470 foundations of nearby houses and disrupts the operation of nearby wells.⁴⁸ The change in
471 topography is startling.⁴⁹

472 Mountaintop removal mining has an immeasurable effect on wildlife.⁵⁰ The areas most suitable for
473 mountain top removal fills are the narrow, V-shaped, steep-sided hollows that are sometimes inhabited
474 by endangered or rare animal and plant species. Streams buried by mountaintop spoil or polluted by heavy
475 metals contain endangered and threatened aquatic species. Fish migration routes are cut off. Of course,
476 removal of mountaintops may also damage the aesthetic quality of an area.

477 Mountaintop removal mining is occurring more and more frequently, and citizens' efforts to stop it
478 through litigation have proven largely unsuccessful.⁵¹ ⁵² During the debate over SMCRA, citizen groups in

⁴⁵ 30 U.S.C. § 1265(c) (2008).

⁴⁶ Environmental Protection Agency, Mountaintop Mining/Valley Fills in Appalachia Final Programmatic Environmental Impact Statement, 5 (EPA 9-03-R-05002, EPA Region 3, October 2005).

⁴⁷ Recently proposed legislation, if passed, will make it even easier for mine operators to dispose of excess spoil in valley fills. Currently, 30 C.F.R. 816.57 prohibits mining activities within 100 feet of streams (called the "stream buffer zone" rule) without special authorization. The Office of Surface Mining Reclamation and Enforcement's ("OSM") proposed legislation, however, would explicitly allow valley fills without prior authorization. 72 Fed. Reg. 48890 (2007). However, a recent EPA press release claims that the EPA will now apply stricter standards for permits under the Clean Water Act. (Press release date: 06/11/2009) available at:

<http://yosemite.epa.gov/opa/admpress.nsf/bd4379a92ceceac8525735900400c27/e7d3e5608bba2651852575d200590f23!OpenDocument>.

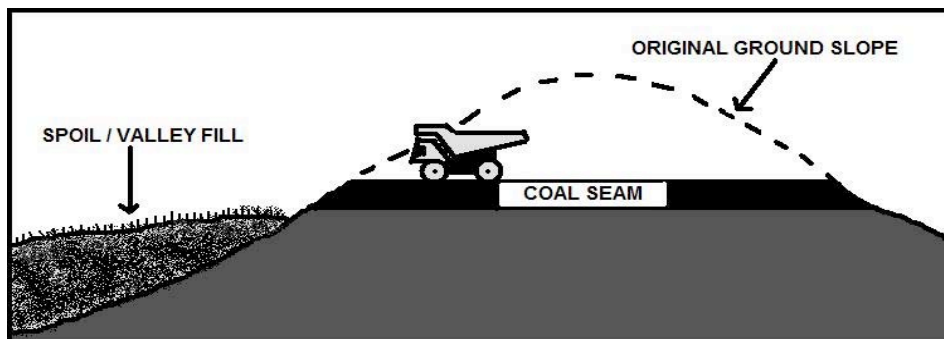
⁴⁸ Bragg, 248 F.3d at 286 (4th Cir. 2001).

⁴⁹ Penny Loeb, *Shear Madness*, U.S. News & World Rept., Aug. 11, 1997, available at http://www.usnews.com/usnews/culture/articles/970811/archive_007620.htm.

⁵⁰ *Id.*

⁵¹ In *Bragg*, 248 F.3d at 286 (4th Cir. 2001), the Fourth Circuit Court of Appeals reversed a lower court decision that would have brought mountaintop removal mining to a grinding halt. West Virginia citizens and an environmental group had sued state mining officials and the Corps of Engineers (COE), claiming that they issued mining permits, "without making requisite findings, that (1) authorized valley fills, (2) failed to assure the restoration of original mountain contours, and (3) violated other environmental protection laws." *Id.* at 286-87. The district court's decision would have required operators, before obtaining a permit, to make the nearly-impossible showing that valley fills would not violate a 100-foot "buffer zone" around streams unless it was shown that the streams would not be affected. *Id.* at 287. The Fourth Circuit, however, reversed on sovereign immunity grounds—essentially a technicality, meaning that the plaintiffs could not sue a state official under state law in federal court. A pre-litigation settlement of some of the issues resulted in an agreement by federal agencies to produce an environmental impact

479 Appalachia tried to persuade Congress to ban mountaintop removal completely. After heated discussions,
480 Congress allowed the technique, but only under special conditions which are described later in this
481 handbook.



482
483 After Mountaintop Removal.

484 Underground Mining

485 Despite its title, SMCRA's provisions apply not only to surface mining, but also to the surface effects of
486 underground mining.⁵³ As a percentage of all coal mining, underground coal mining has been declining for
487 many years, but in 2007 it still accounted for approximately 31 percent of coal mining, as compared with 69
488 percent surface mining.⁵⁴ An underground coal mine usually begins much like a contour mine, with a cut into
489 the side of a hill. Indeed, many abandoned surface mines serve as the **face** for the underground mine.
490 The **bench** created by the cut often houses the mine office and equipment storage. Several portals
491 are usually dug into the coal seam at the base of the highwall. These portals serve both as entryways

statement detailing the harmful effects of mountaintop removal and identifying potential remedies. *Bragg v. Robertson*, 54 F. Supp. 2d 653, 666 (S.D. W. Va. 2000). Permitting procedures are explored further in **Chapter 5**.

⁵² In *Kentuckians for the Commonwealth, Inc. (KFTC) v. Rivenburgh*, 317 F.3d 425, 430 (4th Cir. 2003), the Fourth Circuit again overturned a plaintiff's victory that would have struck a major blow to mountaintop removal mine operators. (KFTC), a non-profit social justice group, challenged COE's practice of issuing Clean Water Act § 404 permits (described later in this chapter under "Water Resource Damage") to operators dumping overburden into valley fills. A §404 permit allows operators to dump "fill material" into rivers and streams. But KFTC argued that "fill material," as used in § 404, should be defined as material dumped in waters for some primary beneficial purpose, while the COE had defined "fill" to include mining waste such as overburden. *Id.* The district court would have adopted KFTC's proposed interpretation, preventing the dumping of overburden in valleys containing streams and eliminating operators' cheapest overburden disposal method. *Id.* The Fourth Circuit Court of Appeals, however, reversed and held that COE had acted within its authority by defining "fill material" to include coal mining waste. *Id.*

⁵³ 30 U.S.C. § 1266 (2008); 30 U.S.C. § 1291(28)(A) (2008).

⁵⁴ National Mining Association, *Most Requested Statistics- U.S. Coal*, NMA, 2007, available at http://www.nma.org/pdf/c_most_requested.pdf.

492 for the mine and for ventilation.

493 Underground mining can take various forms. Traditionally, operators used a **room-and-pillar**
494 method whereby large pillars of coal were left in place to hold up the roof and protect the miners. In
495 retreat mining, operators return to the mine after it was otherwise completed to rob the pillars, or
496 extract the coal pillars and allow the roof to subside while retreating toward the coal portals.

497 In recent years, the majority of underground mines have moved to a process called **longwall mining**.
498 In contrast to more traditional techniques, longwall mining uses powerful coal extraction machinery and
499 hydraulic lifts to remove the entire coal seam during the initial mining operation. A cutting machine shaves
500 coal from the face of the seam while hydraulic lifts support the roof near the working face. When the
501 hydraulic lifts move forward, the unsupported overburden collapses behind it, causing the ground surface
502 to subside. This collapsing of the surface above the mine is called **planned subsidence**. Because of the
503 nature of the machinery that is used, longwall mining is only practical where the coal seam is of relatively
504 uniform thickness.

505 Unless the mine workings have been backfilled to support the overburden, any surface area lying
506 above a spot where coal has been mined by underground methods may subside at any time in the future.
507 Sinkholes from room-and-pillar mining develop unpredictably 20 to 50 years after mining takes place. The
508 advantage of planned subsidence is that the damage occurs relatively soon after mining occurs, and the
509 operator is readily available to mitigate any damage that results. Nonetheless, the environmental effects of
510 planned subsidence may be unacceptable in certain circumstances. For example, structures above the
511 mining, including buildings, roads and pipelines can be seriously damaged. Also, subsidence cracks may
512 drain or dewater streams, ponds, wells and groundwater aquifers above the coal seam. These events can
513 cause an irreversible adverse impact on the hydrologic balance.

514 Despite these problems, SMCRA does not forbid mining methods that involve planned subsidence. It
515 does, however, set standards to control subsidence and other forms of surface damage caused by under-
516 ground mining.

517 **Environmental Effects**

518 Unless proper precautions are taken, any of these mining techniques will significantly harm the
519 environment. The older mining areas of Appalachia testify daily to this reality. In Appalachia alone,

520 thousands of square miles of mountainous terrain have been scarred by strip mining and left unreclaimed.
521 For 25 years, operators simply pushed overburden downslope from the mountain mines, causing
522 landslides, erosion, sedimentation, and flooding. The remaining unstable highwalls, often 100 feet high,
523 crumble and erode, disrupting drainage patterns and causing massive water pollution.

524 Erosion increases dramatically when the protective plant cover is removed and the remaining soil is not
525 stabilized. Studies show that water flows from selected mines carry sediment loads up to 1,000 times greater
526 than flows from unmined areas.⁵⁵ In a 1979 analysis, the Department of the Interior found gullies greater
527 than one foot in depth on more than 400,000 acres of mined land.⁵⁶ High sediment loads and erosion also
528 increase the likelihood and severity of floods, fill lakes and ponds, degrade water supplies, increase water
529 treatment costs, and adversely affect the breeding and feeding of certain fish.

530 Not all strip mining damage is as dramatic as mutilated mountainsides with highwalls exceeding 100
531 feet. SMCRA has helped eliminate many of these more obvious abuses. But long-term damage to the soil,
532 water and wildlife continues despite Congress' efforts to control it.

533 **Damage to Land Resources**

534 Long-term damage to soil resources from strip mining may be masked when intensive, short-term
535 land management gives a false impression that reclamation has been successful. Strip mining eliminates
536 existing vegetation and alters the soil profile, or the natural soil layers. Mining disturbs and may even
537 destroy the beneficial micro-organisms in the topsoil. Soil also may be damaged if reclamation operations
538 mix the topsoil with subsoils, diluting matter in the surface soil.

539 Strip mining also may degrade the productive capacity of adjacent land. Spoil placed on adjacent land
540 that has not been properly prepared may erode and thereby cover topsoil or introduce toxic materials to
541 the soil.

542 Mining also may alter the natural topography of the area in ways that prevent a return to the previous
543 land use, such as farming. Returning the soil from the mined area to full productivity is especially important
544 in the Midwest, where some of the world's most prime farmland is now being mined for the coal that lies

⁵⁵ Final EIS. OSM-EIS-1. *supra*, note 2, at BIII-59. According to the EIS, the heaviest sediment loads occur 5-25 years after unreclaimed mining. Unrevegetated spoil piles may continue to erode 50-65 years after mining has been completed. *Id.*

⁵⁶ *Id.* at BIII-28, 29.

545 beneath it.

546 In the western United States the arid or semiarid conditions of that region may increase the damage to
547 soils caused by mining. Once the natural vegetation is removed, erosion may increase dramatically. One of
548 the most persistent problems at western mines is establishing a "diverse, effective, and permanent
549 vegetative cover... capable of self-regeneration and plant succession at least equal...to the natural
550 vegetation of the area,"⁵⁷ Native vegetation in the West has adapted to the arid climate to provide maximum
551 soil stability during drought periods. Moreover, diverse native species provide forage for animals throughout
552 the year. But because revegetation using native species is often difficult and expensive, many operators
553 choose non-native species, which stabilize the soil over the short-term. Often, however, these species are
554 not suited for forage and they may not be capable of long-term self-regeneration as required by SMCRA.

555 Water Resource Damage

556 Irresponsible strip mining can pollute streams and disrupt water supplies. SMCRA was intended to
557 prevent these problems. Sometimes water pollution is easy to spot. Clear water often turns reddish-orange
558 if it contains a high concentration of iron. However, other types of pollution are harder to detect. A highly
559 acidic stream may look no different than a clean one unless you notice that it has no fish in it.

560 Water discharged from strip or underground mines must meet pollution standards for four major
561 pollutants: pH, iron (inapplicable during rainstorms and during the reclamation phase), manganese and
562 suspended solids (i.e., sediment). Let's briefly look at each of the major pollutants and problems they
563 cause:

564 • pH — pH is a measure of the relative acidity of liquids. A pH of 7 is considered neutral. Liquid with a pH
565 below 7 is acidic; liquid with a pH above 7 is alkaline. Each number on the pH scale represents a 10-fold
566 increase or decrease in acidity. Thus, a pH of 3 describes a liquid that is 10 times as acidic as a liquid with a
567 pH of 4.⁵⁸

568 The law requires that the pH of water released from a mine be between 6 and 9.⁵⁹ Although the
569 more common problem associated with mining operations is acid drainage (low pH), alkaline drainage
570 (high pH) is less common but can also cause problems. Alkaline mine drainage or runoff is most common

⁵⁷ 30 U.S.C. § 1265(b)(19) (2008).

⁵⁸ EPA New Source Performance Standards (NSPS), 40 C.F.R. § 434.35 (2008).

⁵⁹ *Id.*

571 in the West, where alkaline overburden may be exposed to water during mining. Acid drainage is
572 typically caused when pyrite (fool's gold) or marcasite in the overburden is exposed to air and water
573 during the mining process. Rainwater mixes with the pyrite to form sulfuric acid which is washed into
574 streams and ponds below the mine.

575 Acid is one of the most damaging pollutants. It kills fish and other aquatic life, eats away metal
576 structures, destroys concrete, increases the cost of water treatment for power plants and municipal
577 water supplies, and renders water unfit for recreational use. Acid also may leach-out highly toxic
578 metals or cause them to be released from soils. These toxic substances kill aquatic life and can
579 contaminate water supplies causing serious adverse human health effects. Thousands upon thou-
580 sands of miles of streams have been degraded by acid mine drainage and runoff. Exposed acid material
581 may continue to leach acid for 800 to 3,000 years.

582 • **Iron**— (Iron hydroxide, sometimes called "yellow boy") Increased amounts of iron in streams which
583 result from mining activity can be toxic to aquatic life and contribute to the "hardness" of water.

584 • **Manganese**⁶⁰ — Manganese is a metal that is soluble in acid once it has been unearthed by mining
585 activity. It pollutes water supplies and corrodes other metals.

586 • **Suspended solids**⁶¹ — Also referred to as "TSS" (Total Suspended Solids) or sediment, suspended
587 solids are solid material, both mineral and organic, that has been moved from its place of origin by air,
588 water, ice, or gravity. Removing vegetation, blasting the overburden and using heavy equipment create
589 erosion and introduce sediment into streams. Sediment loads are particularly high in mountainous
590 and hilly terrains. Suspended solids reduce light penetration in water and alter a waterway's
591 temperature. Fish production is hindered; spawning grounds are destroyed. Sediment increases the
592 burden on treatment plants, and streams filled with sediment lose some of their capacity to carry
593 runoff following storms, thus making the stream more prone to flooding. A sediment-laden stream
594 flow can fill up a reservoir and severely reduce its useful life span. Finally, sediment may act as a carrier
595 for other pollutants such as pesticides, heavy metals and bacteria.

596 A mining operation that discharges or deposits overburden or spoil into a body of water,
597 including streams and wetlands, must obtain a permit under section 404 of the Clean Water Act
598 (CWA). Section 404 regulates any discharge of any dredged or fill material, including overburden

⁶⁰ *Id.*

⁶¹ *Id.*

599 from mining activities as well as material deposited in a water body for construction purposes. A
600 permit under SMCRA does not release a mining operation from the obligation to obtain a CWA
601 section 404 permit.

602 Section 404 applies to all “navigable waters” in the United States, which until recently the Army
603 Corps of Engineers (“COE”) has defined to include almost any river, lake, stream, pond, wetland, or
604 other body of water, including some streams that may not flow year round.⁶² Section 404 requires
605 that the mining operator provide alternative proposals evaluating the discharge effects of
606 overburden disposal on different streams within the permit boundary.⁶³ It also requires that the
607 discharge of fill does not jeopardize threatened or endangered species,⁶⁴ does not violate state or
608 federal water quality standards,⁶⁵ and does not contribute to the significant degradation of waters of
609 the United States.⁶⁶ Clean Water Act permit requirements are discussed further in Chapter 5.

610 Mining activity can also affect the quantity and quality of groundwater supplies. In many coal fields, the
611 coal beds themselves serve as **aquifers** — underground supplies of water. The water in these aquifers
612 flows — although when compared to surface water streams, groundwater flows at a very slow rate. The
613 fact that groundwater flows, however, allows it to recharge or replenish many surface water systems.
614 Surface mining operations will necessarily cut through the coal aquifer and also any aquifer above the coal
615 seam that is being mined. Blasting activity and subsidence from underground mining may break up the
616 impermeable layers of rock that hold water in these aquifers, even where the overburden is not being
617 extracted.

618 These aquifers may be the source of water for many wells. Flow patterns in such aquifers may be
619 changed, thereby adversely affecting water pressure in wells. Portions of aquifers and surface systems may
620 be dewatered, reducing the availability of water for other uses, and perhaps interfering with prior existing

⁶²The scope of waters covered by the Clean Water Act was narrowed by two Supreme Court decisions in the last decade. First, the Court in *Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. Army Corps of Engineers*, 531 U.S. 159, 166-68 (2001), held that the CWA did not extend to isolated ponds that were not adjacent to navigable waters, notwithstanding COE’s “migratory bird rule,” which would have extended CWA jurisdiction to isolated ponds visited by interstate-traveling birds. *SWANCC* clarified *United States v. Riverside Bayview Homes, Inc.*, 474 U.S. 121, 133 (1985), which had extended CWA jurisdiction to some non-navigable waters, by stressing that *Riverside Bayview Homes* applied only to wetlands adjacent to navigable waters. *SWANCC*, 531 U.S. at 167. Second, the Court held that a “significant nexus,” or close relationship, must be shown between the stream or wetland in which spoil is dumped and a navigable waterway before the COE may regulate that waterway. See *Rapanos v. United States*, 547 U.S. 715, 759 (2006); Mark Squillace, *From Navigable Waters to “Constitutional Waters”: The Future of Federal Wetlands Regulation*, U. MICH. L. REV. 799, 848-50. This post-*Rapanos* definition of “navigable waters” is murky at best, creating confusion and disparate results in section 404 enforcement actions around the country. See *Id.* at 848-50 (2007)

⁶³ 40 C.F.R. § 230.10(a)

⁶⁴ 40 C.F.R. § 230.10(b)

⁶⁵ *Id.*

⁶⁶ 40 C.F.R. § 230.10(c)

621 water rights. Even where water losses from existing aquifers do not affect other users, disposal of excess
622 water from those aquifers may cause environmental damage.

623 It has yet to be demonstrated that a groundwater system destroyed by mining can be permanently
624 restructured. If not conducted properly, coal development — especially in the West — may leave behind
625 barren landscapes vulnerable to continual erosion and disrupted groundwater systems. As a result, the
626 value of these areas for agriculture and other uses may be greatly diminished.

627 **Wildlife Damage**

628 Wildlife often suffers severely as a result of strip mining. In the short term, all species are either
629 destroyed or displaced from the area of the mine itself. Mining also may have adverse, long-term impacts on
630 wildlife, including impairment of its habitat or native environment. Many animal species cannot adjust to
631 the changes brought on by the land disturbance involved in coal mining. In cases where an important
632 habitat (such as a primary breeding ground) is destroyed, the species may be eliminated. Unique habitats
633 like cliffs, caves, and old-growth forests may be impossible to restore.⁶⁷ Larger mines, such as those in the
634 West, may disrupt migration routes and critical winter range for large game animals.

635 As previously noted, strip mining exposes heavy metals and compounds that can alter the pH or acid
636 balance of runoff and leach into streams. Such pollution can impair the habitat of fish and other aquatic
637 species, thereby reducing population levels. Even where species survive, toxic materials can lower
638 reproduction and growth rates. Strip mining also causes increased turbidity and siltation of streams
639 and ponds, greater variation in stream flow levels and water temperature, and stream dewatering,
640 all of which contribute to the endangerment of aquatic species.⁶⁸

641 When fill material is replaced following a strip mining operation, it is heavily compacted to
642 prevent it from eroding or sliding. As a result, easily-planted grasses out-compete tree seedlings,
643 whose growth is slowed by the compacted soil, and complete reforestation is unlikely. More
644 effective reclamation techniques now exist and must be promoted.⁶⁹

645 The Appalachian Mountains, where northern and southern species converge, contain an

⁶⁷ U.S. Dep't of the Interior, Office of Surface Mining Reclamation and Enforcement (OSM), Endangered Species Act—Section 7 Consultation, Biological Opinion and Conference Report 7 (Sept. 24, 1996), *available at* <http://www.osmre.gov/guidance/docs/biologicalopinion.pdf> [hereinafter *1996 Biological Opinion*].

⁶⁸ *Id.* at 6-7.

⁶⁹ Environmental Protection Agency, *supra* note 5.

646 incredible diversity of unique plants and animals. Appalachian ecoregions are home to one of the
647 richest salamander populations in the world as well as increasingly rare forest types, all of which are
648 threatened by the region’s heavy mining activity.⁷⁰

649 Proper compliance with SMCRA’s reclamation requirements can help minimize the environmental harm
650 associated with strip mining. Reclaimed land can reconnect fragmented wildlife habitats, and properly replaced
651 soil can encourage re-growth of high-value trees like the American Chestnut. According to the U.S. Fish and
652 Wildlife Service (FWS), SMCRA effectively protects endangered species through provisions designed to
653 minimize direct impacts on wildlife⁷¹– but only when properly enforced. The indirect impacts, or “incidental
654 take,” such as increased human access to endangered species created by mining roads, long-term changes in
655 land use, and invasions by new species, are impossible to quantify.⁷²

656 Furthermore, FWS’s proclamation that SMCRA can adequately protect endangered species from the
657 dangers of coal mining is now under attack. Conservation groups are petitioning FWS and the Office of Surface
658 Mining Reclamation and Enforcement (OSM), demanding that more effective measures be taken to protect at-
659 risk species.⁷³

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661 More than 31.5 billion tons of coal has been mined under SMCRA as of July 2009.⁷⁴ The chapters that follow

⁷⁰ Environmental Protection Agency, Mountaintop Mining/Valley Fills in Appalachia Draft Programmatic Environmental Impact Statement, III.A-6, (EPA 9-03-R-00013, EPA Region 3, June 2003) available at http://www.epa.gov/Region3/mtntop/pdf/III_affected-envt-consequences.pdf .

⁷¹ 1996 *Biological Opinion*, *supra* note 26, at 10.

⁷² *Id.* at 7, 11

⁷³ DEBORAH M. MURRAY ET AL., CENTER FOR BIOLOGICAL DIVERSITY, PETITION BEFORE THE U.S. FISH & WILDLIFE SERVICE AND THE OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT TO REINITIATE FORMAL CONSULTATION ON ALL SURFACE MINING ACTIVITIES CONDUCTED UNDER THE AUTHORITY OF THE SURFACE MINING CONTROL AND RECLAMATION ACT OF 1977, 1, 8-9 (Jan. 15, 2008) [hereinafter *2008 Petition*]. After initial consultation with OSM in 1996, FWS published its biological opinion stating that coal mining operations would not materially harm endangered species as long as SMCRA’s protections applied. Incidental take, described above, was predicted to be “unquantifiable”—not nonexistent, but impossible to accurately measure. 1996 *Biological Opinion*, *supra* note 26, at 10-11. The Center for Biological Diversity, the National Parks Conservation Association, the World Wildlife Fund, and the Tennessee Wildlife Resources Agency are currently petitioning FWS and OSM to revoke the 1996 *Biological Opinion* and reinitiate formal consultation on all coal mining regulated under SMCRA. 2008 *Petition*, *supra*, at 1. The petitioners claim that the 1996 *Biological Opinion* is overbroad, vague, and inadequate, and that changed circumstances require a new consultation under 50 C.F.R. § 402.16. *See id.* at 3-4. The petitioners claim that § 402.16 mandates further consultation because each of the following factors are met: (a) the amount or extent of taking specified in the incidental take statement is exceeded, (b) new information reveals effects of the action [coal mining] that may affect listed species or critical habitat in a manner or to an extent not previously considered, (c) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion, and (d) a new species is listed or critical habitat designated that may be affected by the identified action. *Id.* The petitioners offer evidence that the effect of coal mining on endangered species, while perhaps not quantifiable, is substantial—and growing. *Id.* at 15-30.

⁷⁴ STATEMENT OF EARLY BANDY, OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT – U.S. DEPT. OF THE INTERIOR (July 25, 2007) available at http://www.doi.gov/oc/2006/SMCRA_072507.htm “[As of July 2007] about 29.5 billion tons of coal have been mined while SMCRA has been in place.” *See also* MOUNTAINTOP MINING FACT BOOK, National Mining Association (March 2009), available at

662 describe the major provisions of SMCRA and the opportunities for citizens to ensure that the law is
663 fully implemented and enforced.
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http://74.125.155.132/search?q=cache:x2WYtUg_D8AJ:www.nma.org/pdf/fact_sheets/mtm.pdf+tons+of+coal+min+ed+since+SMCRA&cd=37&hl=en&ct=clnk&gl=us “The U.S. has produced more than 1 billion tons of coal annually for each of the last 14 years.”

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A BRIEF REVIEW OF SMCRA

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The Surface Mining Reclamation and Control Act (SMCRA) establishes minimum federal standards for the regulation of coal mining. Using the federal standards as a guide, each state where there is (or may be) surface coal mining may propose a state regulatory program to control mining. SMCRA requires the Secretary of the Interior to approve any state program that meets or exceeds the federal standards. This procedure allows individual states to gain primary control over the regulation of surface mining.

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The federal government must establish its own program for any state that fails to submit a program, or that submits an inadequate program. All of the major coal states have received federal approval of their state programs. However, a federal program was implemented in Tennessee when citizen groups uncovered serious problems with the state's administration of surface mining controls. Today, Tennessee remains the only significant coal mining state with a federal program.

684 SMCRA requires that each state program contain certain performance standards with which all
685 operators must comply. These performance standards set levels of environmental damage that are
686 deemed unacceptable and in some cases, they actually tell the operator how a mining operation must be
687 conducted to protect the environment. SMCRA also requires each state to adopt certain provisions to
688 govern permitting and bonding, inspection and enforcement, and to establish procedures for designating
689 certain lands unsuitable for mining. This chapter provides an overview of the basic requirements
690 established by SMCRA in each of these areas. Later chapters of the handbook contain more detailed
691 discussions of the statute.

692 **Scope of the Act**

693 SMCRA covers all surface coal mining operations in the United States as well as the surface effects of
694 underground coal mining. In addition, SMCRA covers coal preparation and processing facilities, coal waste
695 piles, and those coal-loading facilities that are located at or near a mine site. The only exceptions to the
696 Act's coverage are for: (1) operators who produce less than 250 tons of coal per year; (2) operations that
697 extract coal solely for a landowner's personal (noncommercial) use; (3) operations that extract coal
698 secondarily to the extraction of other minerals (the coal may not exceed 16.6 percent of the total minerals
699 removed); and (4) operations in which the extraction of coal is incidental to government-financed
700 construction.

701 **Permitting and Bonding**

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703 SMCRA requires that all operators obtain a valid permit from the state regulatory authority in order to
704 mine. To obtain a permit, an operator must submit extremely detailed information. For example, the
705 operator must describe the characteristics of the affected land and its ecology; the operator's legal status,
706 financial situation, and past history of complying with the law; and plans for the proposed mining and
707 reclamation operations. Based on the information submitted, an operator must show that he can meet all
708 the requirements of SMCRA and can successfully reclaim the land in compliance with the standards of the
709 Act and its implementing regulations. An operator may also need to obtain additional permits under

710 other laws, such as the Clean Water Act. The permitting process is described in detail in **Chapter 5**.

711 The operator also must obtain adequate bonding and insurance. Bonding is intended to ensure that
712 sufficient money will be available to the regulatory authority to pay for the reclamation of the affected land,
713 if the permittee fails to live up to the terms of the permit. The operator's insurance must be sufficient to
714 cover any personal injuries and property damage that may result from the operation.

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Performance Standards

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719 SMCRA requires the operator to restore the affected land to a condition capable of supporting
720 the uses it could support before mining, or to “higher or better uses.”⁷⁵ The operator must also:

- 721 1. restore the **approximate original contour (AOC)** of the land by backfilling, grading, and
722 compacting;
- 723 2. minimize disturbances to the hydrologic system by avoiding acid mine drainage and preventing
724 additional contributions of suspended solids (sediments from erosion) to nearby streams and
725 other water bodies;
- 726 3. reclaim the land as soon as practicable after the coal has been extracted, and even as the mining
727 operation moves forward; and
- 728 4. establish a permanent vegetative cover in the affected area.

729 If a site's annual rainfall exceeds 26 inches, the operator must ensure that the land remains
730 successfully revegetated for five years *after* all seeding, fertilizing, and irrigation has ended. If the
731 annual precipitation is less than 26 inches, the operator is responsible for successful revegetation for
732 10 years. Some 15 other performance standards apply to all surface mines. For example, standards
733 are established for blasting, for wildlife protection, for road construction and maintenance, and for
734 disposal of excess spoil material. In addition, special performance standards apply to particularly

⁷⁵ 30 U.S.C. §1265(b)(2) (2008).

735 vulnerable areas — alluvial valley floors in the West, prime farmland (most commonly found in the
736 coalfields of the Midwest), and steep slope areas (which dominate Appalachia). Performance
737 standards are described in detail in **Chapter 6**.

738 **Inspection and Enforcement**

739 A mine must also comply with all permit conditions and provisions of the approved state regulatory
740 program, and SMCRA generally allows state standards to be more stringent than federal standards.⁷⁶
741 Moreover, a mine operator may not conduct operations in a manner that would pose an imminent
742 hazard to public health and safety or to the environment, even if no other violation of the law results.

743 To help ensure compliance with the law, SMCRA requires at least one complete, on-site inspection per
744 quarter and one partial inspection per month *without advance notice* to the operator. Partial inspections
745 may include aerial surveys, so long as they are conducted in such manner that violations can be detected.
746 SMCRA also provides for special inspections when citizens complain about hazards or violations at a
747 particular mine.

748 When an inspector detects a violation, SMCRA requires the inspector to take enforcement action.
749 Moreover, the inspectors are vested with full legal authority to shut down a mining operation where
750 violations pose an imminent threat to the public or a significant, imminent threat to the environment.⁷⁷
751 If the violation does not cause imminent danger to the health or safety of the public, or significant
752 imminent environmental harm, the inspector must, by law, issue a **notice of violation (NOV)**.⁷⁸ If the
753 violation is not abated within the time established by the inspector, the inspector must issue a **cessation**
754 **order (CO)** and impose whatever affirmative obligations are necessary to remedy the violation.⁷⁹

755 Corporate officers or agents may be assessed civil penalties (or face criminal prosecution) for willfully
756 and knowingly failing to halt violations of SMCRA. Finally, no permit may be issued for any operation that is
757 owned or controlled by any person, corporation, or other entity with outstanding violations of SMCRA.
758 The federal government maintains a computer data base of outstanding violations, and citizens can ask the
759 government to check this data base when questions arise about individual operators.

⁷⁶ 30 U.S.C. §1255(b) (2008).

⁷⁷ 30 U.S.C. §1271(a)(2), (2008).

⁷⁸ *Id.* at §1271(a)(3) (2008).

⁷⁹ *Id.*

760 In states with approved programs, the federal Office of Surface Mining (OSM) must conduct a
761 sufficient number of oversight inspections to ensure that the state is doing its job. OSM does not have
762 authority to take enforcement action during these inspections — but if staff note violations during
763 oversight inspections, or if the office otherwise has reason to believe that violations have occurred —
764 OSM must notify the state. If the state fails to act within 10 days from the date it receives notice of a violation,
765 OSM is obligated to reinspect and take enforcement action. The inspection and enforcement provisions of
766 SMCRA are discussed in more detail in **Chapter 6**.

767 **Designating Lands Unsuitable for Mining**

768 When Congress enacted SMCRA, it decided that coal mining should be banned completely on certain
769 lands. Thus, the law flatly prohibits mining on lands where reclamation under the Act's standards is not
770 technologically or economically possible,⁸⁰ and on certain categories of federal land, including lands within
771 the National Park System, the Wild and Scenic Rivers System, and the National System of Trails. Mining is
772 also prohibited within 300 feet of occupied homes, churches, public buildings, and public parks — and
773 within 100 feet of cemeteries or public roads.⁸¹ (Public roads, however, may be relocated after notice and an
774 opportunity for a public hearing.) Finally, mining is prohibited whenever it will adversely affect a publicly-
775 owned park or place included on the National Register of Historic Sites, unless the agency having jurisdiction
776 over the park or site approves the proposed mining operation. The only exception to these prohibitions is
777 for **valid existing rights (VER)**.⁸² The VER exception was established to protect private property rights
778 against infringements by the government that would otherwise be considered unconstitutional. (See
779 box.) At a minimum, it seems clear that a party cannot invoke the mining prohibitions contained in the
780 statute if, for example, the home, road or park was built after the mining operation was approved.

781 **VALID EXISTING RIGHTS (VER)**

⁸⁰ 30 U.S.C. §1272(a)(2) (2008). An interested party, however, must petition to have the area designated as unsuitable for mining. The petition must contain allegations of facts with supporting evidence. Then, within ten months of receiving the petition, the regulatory authority must hold a public hearing after proper notice and publication of the location and date. *See id.* at §1272(c).

⁸¹ *Id.* at §1272(e).

⁸² *Id.*

782 Under the Fifth Amendment to the United States Constitution, the government
783 may not take private property for a public use without paying the owner of that
784 property "just compensation."⁸³ Over the years, the Supreme Court has held that a
785 "taking" under the Fifth Amendment includes not only physical invasions of private
786 property, but also regulations that are so onerous that they substantially diminish the
787 value of the property. Although the development of the law in this area is murky, not all
788 regulations that adversely affect property values result in a declaration that private
789 property has been taken. In some circumstances, for example when the government
790 adopts regulations to prevent activities that may harm society at large, regulations have
791 been upheld, even where they dramatically reduce property values.

792 In prohibiting mining on certain lands, Congress was aware of these constitutional
793 issues and sought to avoid the takings problem by declaring that enforcement of the
794 prohibitions would be subject to "valid existing rights" (VER). In other words, the
795 prohibitions simply don't apply to someone who has VER. On several occasions, the
796 Office of Surface Mining has tried to offer guidance as to what constitutes VER but
797 these efforts have long been mired in controversy and litigation. In January, 2008,
798 however, the Federal Court of Appeals for the D.C. Circuit, which is charged under
799 SMCRA with reviewing rules that are national in scope, issued a decision⁸⁴
800 upholding an Interior Department interpretive rule requiring an operator claiming
801 VER to:

802 (1) produce a legal document vesting him with right to mine the land at the
803 time it became subject to SMCRA *and*

804 (2) prove either that the landowner at that time had made a good faith
805 effort to obtain all necessary mining permits or that the coal was immediately
806 adjacent to – and necessary to ensure economic viability of – a surface mining
807 operation existing at SMCRA's enactment.

808 While this decision appears to resolve the issue for now, citizens should
809 recognize that the VER concept is inherently ambiguous and will likely remain the
810 subject of future litigation and administrative review.

⁸³ U.S. Const., amendment V, ("...nor shall private property be taken for public use without just compensation").

⁸⁴ National Mining Ass'n v. Kempthorne, 512 F.3d 702 (D.C. Cir. 2008)

811 SMCRA also gives the states discretionary authority to designate certain other lands as unsuitable for
812 mining. These include lands where surface mining --

- 813 • is incompatible with existing state or local land-use plans;
- 814 • affects fragile or historic lands on which such operations could cause significant damage to
815 important historical, cultural, scientific and aesthetic values and natural systems;
- 816 • affects renewable resource lands (such as forest lands and farmland); or
- 817 • affects natural hazard lands such as lands prone to earthquakes.

818 Later chapters of the handbook flesh out this brief overview of SMCRA. The next chapter reviews the
819 rights of citizens to participate in the implementation and enforcement of the Act, both at the state and the
820 federal levels.

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CITIZEN RIGHTS AND AGENCY PROCEEDINGS UNDER SMCRA

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The Surface Mining Control and Reclamation Act grants affected citizens the broadest rights to

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participate in administrative and judicial proceedings ever granted in a federal environmental statute.

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For each decision to grant a permit, SMCRA allows the citizen an informal conference, a right to go onto

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the mine site, a formal hearing on the merits of the decision, and judicial review of the hearing officer's

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decision.

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The citizen also has the right to call for and participate in inspections of mine property, to use informal

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or formal agency proceedings to challenge an agency's failure to take proper enforcement action, and to

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appeal any adverse decision to the courts. In addition, citizens can challenge in court any regulation

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promulgated under SMCRA and petition to designate an area unsuitable for coal mining.

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SMCRA also allows citizens to recover damages caused by violations of the Act. Citizens may sue in state

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or federal court if the federal government, the state government, or any operator fails to comply with the

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provisions of the Act. Most importantly, citizens need not have an economic interest to bring court actions;

842 aesthetic and recreational interests also are protected. In short, Congress gave citizens the opportunity to
843 protect their rights and to play a vital role in SMCRA's implementation. But broad public rights will not lead to
844 better mining practices. They are meaningless unless citizens assert those rights and they must assert
845 those rights in a timely manner or risk having their claims rejected simply because they failed to meet
846 deadlines established under the law. The following section describes in more detail the rights granted to
847 citizens under SMCRA.

848 **Citizen Rights in Permit Proceedings**

849 Under SMCRA, very few operators can mine coal in the United States without obtaining a permit from
850 OSM or the state regulatory authority. The prospective operator must first file a permit application, which
851 contains extensive information on the proposed mining activity and its anticipated impact on the
852 surrounding environment. When the complete application is submitted to the state regulatory authority,
853 the applicant must place an advertisement in a "local newspaper of general circulation"⁸⁵ near the proposed
854 mine at least once a week for four consecutive weeks, stating that a permit application is on file with the
855 state regulatory authority. The permit application must also be available for the public to inspect and copy
856 either at the county courthouse or another local public office near the proposed mine.

857 How can you or your citizen organizations intervene in this process? Any person who has "an interest
858 which is or may be adversely affected"⁸⁶ by the proposed mine (see box below) has the legal standing or
859 right to file written objections with the regulatory authority within 30 days of the last published newspaper
860 advertisement. These comments are open for public inspection, and the regulatory agency must
861 transmit them to the operator applying for a permit. Also within 30 days, you or other affected persons can
862 request an informal conference to discuss your objections with the state regulatory authority. Following
863 such a request, the regulatory authority must advertise and hold a conference within a reasonable time
864 and in the locality of the proposed mine.⁸⁷

865 After the informal conference, the regulatory authority must make a decision to grant or deny the
866 permit, in whole or in part. Within 30 days following that decision, you, the applicant, or any other affected

⁸⁵ 30 U.S.C. § 1263(a) (2007).

⁸⁶ 30 U.S.C. § 1263(b) (2007).

⁸⁷ 30 U.S.C. § 1263(b), (2007).

867 person may request a formal administrative hearing on the reasons for the decision. The formal hearing
868 must be held within 30 days, unless all parties agree to waive this deadline.

869 While waiting for the hearing to take place, you may request that the regulatory authority grant
870 temporary relief⁸⁸ to prevent a permit from being issued before the outcome of the hearing is known.
871 Keep in mind that an operator cannot ask the state to issue a denied permit pending the outcome of the
872 hearing. Although the exact procedures will vary from state to state, all states must provide an
873 adjudicatory or formal hearing. This allows all parties to the hearing full rights to present evidence, cross-
874 examine witnesses, subpoena persons and documents, and have their case heard by an impartial hearing
875 officer. The regulatory authority must make a decision, with written findings of fact and conclusions of law,
876 within 30 days following the hearing.

877 **WHO MAY PARTICIPATE**
878 **IN SMCRA PROCEEDINGS:**
879 **"STANDING"**

880 In most formal proceedings under SMCRA (i.e., proceedings where parties appear
881 before an administrative law judge with the right to examine witnesses), the right to
882 participate is limited to persons who have an interest that is or may be adversely
883 affected by the agency decision.

884 The courts have also held, however, that "interested persons" include not only
885 persons who potentially suffer direct affects from a mining operation, but also those
886 persons who may suffer an injury to their aesthetic or recreational interests. Thus, if a
887 mine causes pollution that may interfere with recreational opportunities such as fishing
888 or hiking – in places you live or visit – you are adversely affected within the meaning of
889 the law.

890 Furthermore, citizens groups may participate in these proceedings on behalf of
891 their members if any one of their members could participate in his or her own right. The
892 broad standards for standing under SMCRA are generally quite easy to meet.
893 Nonetheless, government agencies and industry opponents frequently question the

⁸⁸ 43 CFR § 4.1367(a) (2008).

894 standing of citizens. Accordingly, you must be prepared to make the required showing
895 before participating in a formal administrative or judicial proceeding.

896 Whenever the Office of Surface Mining (OSM) is the decision-making authority (either within a state with
897 a federal program, or because OSM has assumed enforcement authority after the state's failure to act),
898 appeals must be filed with the Office of Hearings and Appeals (OHA) at the Department of the Interior. OHA
899 assigns an administrative law judge to hear each case in the vicinity of the mine site, and to render a decision.
900 If you wish to contest that decision, you must file an appeal with the Interior Board of Land Appeals (IBLA).
901 Although the IBLA is located in Arlington, Virginia, appeal proceedings can usually be handled entirely by mail.
902 Only after exhausting these administrative appeals can you proceed into federal court.

903 While most appeals to the IBLA must be filed within 30 days from the date that you receive the decision of
904 the administrative law judge,⁸⁹ appeals from permit decisions must be filed within 20 days.⁹⁰ Check your
905 calendar carefully. Failure to meet this deadline will probably result in the loss of all rights to further challenge
906 the government's action. (The procedures used by the OHA are set forth at 43 C.F.R. Part 4. The permit
907 appeal procedures can be found at 43 C.F.R. § 4.1360-1369.) Be sure to request a copy of those procedures
908 from OHA as soon as you anticipate possible involvement in an administrative appeal.

909 Keep in mind that the terms of a mining permit cannot be changed until the coal operator obtains a
910 permit revision from the regulatory authority. If the company proposes a "significant alteration in the
911 reclamation plan", then the permit revision is subject to the same public notice, informal conference, and
912 hearing provisions granted under the normal permit application standards.⁹¹ Moreover, affected persons
913 have the same right to be notified and to participate in a permit renewal application as in any original permit
914 application. Changes to permit boundaries other than "incidental changes," generally require a new
915 permit application.⁹²

916 Mining permits are limited to terms of five years. Accordingly, many operators choose to apply for
917 permits to mine in an area where work can be completed in about five years. Other operators may file a
918 permit application that encompasses an area much larger than can be mined in five years. Although the
919 latter applicant will have to submit more data covering the larger permit area at the beginning, he has the
920 advantage of only needing to seek a permit renewal after five years has elapsed. Obtaining a permit
921 renewal involves much less scrutiny than a permit application — and as long as operators comply with the

⁸⁹ 43 CFR § 4.1271 (2008).

⁹⁰ 43 CFR § 4.1356(a) (2008).

⁹¹ 30 U.S.C §1261(a) (2007).

⁹² 30 C.F.R. §774.13(d) (2008).

922 requirements of the law, they are entitled to such a renewal.

923 Permits may also be transferred, assigned, or sold subject to the approval of the regulatory authority.
924 An application for such a transfer must be published in a newspaper in the locality of the operation, and any
925 citizen may submit written comments on the application. The procedures for appealing decisions involving
926 transfers of permits, along with procedures for reviewing decisions concerning permit revisions and
927 renewals are found at 43 C.F.R. § 4.1370-77 (2008).

928 SMCRA requires states with approved programs to have procedures that are comparable to those
929 available at the federal level. You can obtain a copy of the specific procedures that apply in your state from
930 your state agency. (For state and federal regulatory agency contact information, see [Appendix H](#).)

931

932 **Citizen Rights in Bond Release Proceedings**

933 All states require operators to post a bond before issuing a surface coal mine permit. The applicant
934 must post the bond after a permit application has been approved, but before the permit is issued. The
935 bond covers all of the land that the operator will disturb during a particular phase of the operation. The
936 amount of the bond must be large enough to allow the regulatory authority to step in and use those funds to
937 pay for the cost of reclaiming the land or other resources that may be damaged by mining in the event that
938 the operator abandons his legal responsibilities.

939 Once an operator completes mining and begins reclamation work, she may file a request for the release
940 of all or part of the bond. Sixty percent of the bond may be released after the operator has completed
941 rough backfilling, grading and drainage control. An additional portion of the bond may be released after
942 revegetation has been established, as long as the remaining bond amount is sufficient to cover the cost of
943 reestablishing vegetation, if that should become necessary. The remainder of the bond cannot be released
944 until reclamation has been fully completed and the period of responsibility for assuring its success has
945 expired — between five and ten years after reclamation is completed.

946 Upon filing a request for bond release, the operator must advertise his request at least once a week for
947 four successive weeks in a newspaper of general circulation in the locality of the surface coal operation.
948 Within 30 days after receiving a bond release request, the regulatory authority must conduct an inspection
949 and evaluation of the reclamation work at the site.

950 You and any other affected persons have the right to file written objections to the proposed release
951 from bond within 30 days after the last publication of the newspaper notice. If such objections are filed and

952 a hearing is requested, the regulatory authority must inform all parties and hold the hearing in the locality of
953 the mine within 30 days.⁹³ Citizens have the right to an on-site inspection during the bond release
954 proceeding.

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Citizen Rights in Proceedings to Designate Lands Unsuitable for Mining

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959 As a condition for approval of each state program, all states were required to develop a planning
960 process to determine which lands may be unsuitable for mining. In areas designated as unsuitable, mining
961 permits would not be granted.⁹⁴ Under each state program, any person having an interest that is, or may
962 be, adversely affected has the right to petition the regulatory authority to have an area designated as
963 unsuitable. Operators, however, may petition to have such a designation terminated.

964 A petition must allege facts and supply supporting evidence. The designation petition seeks to
965 demonstrate one or more of the following points:

- 966 • Reclamation is not technologically and economically feasible;
- 967 • Coal mining operations will be incompatible with existing state or local land use plans or programs,
- 968 • Mining operations will affect fragile or historic lands and could result in significant damage to
969 important historic, cultural, scientific and aesthetic values and natural systems;
- 970 • Mining operations will affect lands that feature renewable resources (including aquifer recharge
971 areas) and could result in a substantial loss or reduction of long-range productivity of water supply
972 or food or fiber production; or
- 973 • Mining activities will affect natural hazard lands (including areas with unstable terrain or those
974 subject to frequent flooding), which could substantially endanger life and property.

975 The first of the above allegations — that reclamation is not technologically or economically feasible — is

⁹³ 30 U.S.C § 1269 (2007).

⁹⁴ 30 U.S.C. § 1272 (2007).

976 the most powerful. If the regulatory authority finds that reclamation is infeasible, it must designate the lands
977 as unsuitable for mining. However, it may be extremely difficult to convince an agency that reclamation
978 cannot be accomplished. Statements, studies, and the testimony of experts will likely be needed to build a
979 solid case. On the other hand, while it is generally easier to prove any of the other four allegations, SMCRA
980 affords the regulatory authority broad discretion in deciding whether to designate land as unsuitable for
981 those enumerated reasons. Thus, it is critically important to marshal both public and expert support to
982 bolster a designation petition that depends on one or more of the latter four criteria.

983 The regulatory authority must hold a public hearing in the locality of the area under consideration
984 within 10 months after a designation petition is filed. Within 60 days of the hearing, the agency must issue
985 a written decision along with reasons for the decision. You may appeal a designation decision to the
986 appropriate state court or, in the case of a federal designation, to federal court. While a petition is
987 pending, or an area is otherwise under study for designation, no mining permits may be issued.⁹⁵

988 Even in states with an approved program, the Secretary of the Interior is the authority for designating
989 federal lands as unsuitable for mining.⁹⁶ The process for determining the unsuitability of federal lands must
990 employ the same standards and procedures as for non-federal lands. In addition, the Secretary of the
991 Interior has an affirmative obligation to review all federal lands to determine whether they include any
992 areas unsuitable for mining.

993

994 **Citizen Rights in Inspection and Enforcement**

995 A mine must comply with all permit conditions, all provisions of the approved state program, and all
996 other applicable state and federal statutes and regulations. Moreover, a mine operator may never conduct
997 operations that pose an imminent hazard to public health and safety or threaten a significant, imminent
998 hazard to the environment. Where a mine operator fails to meet its statutory obligations, citizens have
999 certain rights to demand inspections and appropriate enforcement action.

1000

1001

Citizen Requests for Inspection-Citizen Complaints

⁹⁵ 30 U.S.C. § 1260 (2007).

⁹⁶ 30 U.S.C. §1272(b) (2007).

1002 SMCRA grants you the right to request and receive an inspection whenever you present information
1003 to the regulatory authority that suggests a violation of the Act. The complaint may be written or oral, but
1004 an oral complaint must be followed by a written statement. Citizens requesting an inspection have the
1005 right to accompany the inspector on the inspection or to keep their identity confidential. If you wish to
1006 keep your identity confidential, you should make this choice clear in your written complaint. The state
1007 must make an inspection unless it has a good reason to believe that the information is incorrect or that
1008 it does not constitute a violation.

1009 An inspection in response to a citizen complaint must be conducted within a set period of time, usually
1010 15 days. If the regulatory authority has reason to believe that an imminent danger to the public or
1011 environment exists, however, an immediate inspection is required.⁹⁷ Following the inspection, the
1012 regulatory authority must inform you in writing, within a set period (usually 10 or 15 days), of any
1013 enforcement action it has initiated, or will initiate, or the reason why no action was deemed necessary.

1014 If the regulatory authority refuses to conduct an inspection, or if you are dissatisfied with the
1015 thoroughness of the inspection, you can request informal review of the agency's actions by the head of
1016 the agency. The agency must respond to a citizen's request for review in writing, within a reasonable time
1017 period (usually no more than 30 days).⁹⁸

1018 In states with an approved regulatory program, it is a good idea to file a citizen complaint with both the
1019 federal OSM and the state agency simultaneously. The state agency will still bear the primary responsibility
1020 for conducting the inspection and for taking any enforcement action, but it may feel more pressure to act
1021 if it knows that the federal government is looking over its shoulder. Moreover, the receipt of a complaint at
1022 the federal agency should trigger notice to the state agency that it must take appropriate action within 10
1023 days or risk having OSM step in and assume direct enforcement responsibility for any violations that may
1024 exist. Although the federal agency's involvement may prove helpful, federal rules require you to notify the
1025 state agency either before or at the same time you notify OSM — and OSM will probably insist that you do
1026 so before it takes any action. Appendix E contains a sample citizen complaint.

1027 Citizen Review of NOV and COs

⁹⁷ 30 CFR § 842.11(b)(1) (2008).

⁹⁸ 30 C.F.R. § 842.15

1028 Any time a notice of violation (**NOV**) or a cessation order (**CO**) is issued, modified, vacated, or
1029 terminated (as a result of a citizen inspection or otherwise), a citizen who is, or may be, adversely affected can
1030 request formal administrative review of the action.⁹⁹ Usually, when an operator challenges the issuance of
1031 a notice or order, he argues that no violation occurred or that the time provided for correction is too short.
1032 On the other hand, citizens initiating review usually contend that the time for abatement should not be
1033 extended, that the notice should not be terminated, or that the inspector should have imposed stronger
1034 remedial action requirements. Citizens also may argue that the situation warrants a CO rather than an
1035 NOV.

CITIZEN INTERVENTION IN FORMAL ADMINISTRATIVE PROCEEDINGS

1041 In many cases, a coal operator will initiate formal administrative proceedings to challenge an NOV or other
1042 agency enforcement actions. Citizens may want to intervene in those proceedings. Normally, persons
1043 who have an interest which is or may be adversely affected may intervene as a matter of right.¹⁰⁰ In other
1044 cases, the hearing officer may exercise discretion in deciding whether or not to allow intervention.¹⁰¹ If you
1045 are permitted to intervene, you become a full party to the proceedings with all the rights and privileges of
1046 the other parties.¹⁰²

Civil Penalties

1048 After issuing a notice of violation, a state may assess a civil penalty. Penalties are extremely important to
1049 the success of SMCRA because they deter future violations, not only by the operator assessed the penalty,
1050 but also by other operators who are aware of such penalties. Depending on the circumstances, penalties
1051 may be assessed for a set amount, or they may be separately assessed for each day of a continuing violation

⁹⁹ 30 U.S.C § 1275 (2007).

¹⁰⁰ 43 CFR § 4.1110(c) (2008).

¹⁰¹ 43 CFR § 4.1110(d) (2008).

¹⁰² 43 CFR § 4.1110(e) (2008).

1052 — a procedure which provides an incentive to abate the violation quickly. To help ensure consistency, most
1053 states follow set procedures for determining the amount of penalties. As a concerned citizen, you can use
1054 these procedures to make your own judgments about whether or not the state is complying with its
1055 enforcement responsibilities. When a CO is issued, a penalty must be assessed. Moreover, if the CO is for
1056 failure to abate a NOV, then a minimum penalty of \$750 a day is required for each day that the violation
1057 continues.

1058 The amount of the penalty affects not only the abatement efforts of the individual violator, but also the
1059 compliance efforts of other operators and, ultimately, the overall enforcement climate. Therefore, it is
1060 important for citizens to participate to ensure that adequate penalties are assessed. Most states have
1061 established procedures both for informal and formal hearings concerning civil penalty assessments, and
1062 citizens usually are able to participate in these proceedings.

1063 **Suspending or Revoking Permits**

1064 Whenever the regulatory authority determines that any requirements of SMCRA or the permit have
1065 been or are being violated, and concludes that these violations were willfully caused or were the result of
1066 unwarranted failures of the operator to comply, it must issue a suspension order.

1067 This order suspends the mining permit and requires the permittee to show cause — show why his
1068 permit should not be suspended or revoked. A permittee who requests a public hearing on the issue is
1069 entitled to a formal hearing that includes basic rights of cross-examination and discovery – a process that
1070 allows a party to conduct a formal investigation to learn about all information that is available to adverse
1071 parties before a hearing is held. For example, a party may send written questions to another party about
1072 issues in the case, may ask the other party to admit or deny the truth of certain statements and may even
1073 examine potential witnesses who may be called by the other party. As described in the above box on
1074 citizen intervention in formal proceedings, citizens may participate as intervenors in these show-cause
1075 proceedings.

1076

1077 **Attorney Fees and Costs**

1078 All state and federal SMCRA programs provide for the award of costs and expenses, including attorney
1079 fees, to citizens in administrative enforcement proceedings (including permit hearings).¹⁰³ Such awards
1080 generally may be obtained from operators or governmental agencies that are parties to the proceeding. In
1081 order to obtain a fee award you must win all or part of the case.

1082 In contrast to the rights of private citizens to receive an award in cases in which they prevail, the mine
1083 operator or governmental agency opposing the citizen's action may recover their costs and expenses
1084 from citizens only when it is shown that the citizens initiated and/or participated in the proceeding in bad
1085 faith; that is, solely to harass or to embarrass the mine operator or governmental agency. Citizens can
1086 appeal adverse decisions on the awards of costs and expenses to the appropriate state court. If you should
1087 become involved in a proceeding that may lead to an award of costs and expenses, be sure that your attorney
1088 is aware of the provisions that allow recovery of these costs and of the importance of keeping accurate
1089 records to support a possible fee petition.

1090 Despite SMCRA's strong support for citizen recovery of attorney fees, states and operators alike have
1091 strongly resisted attorney fee claims by citizens. Thus, while you should not assume that fees will be
1092 readily recovered, you should recognize the importance of fee recovery when you have prevailed in a case.
1093 Even if your request is denied, you will help pave the way for future citizens seeking fee recoveries. And if
1094 your request is denied improperly, your case may trigger an OSM review of the state program and a
1095 substantial improvement in the administration of fee recovery under SMCRA.

1096 **Citizen Access to Agency Information**

1097 Access to agency information may be critical for citizens to successfully exercise their right to
1098 participate in various agency proceedings. As a general rule, state laws must allow citizens access to all
1099 information and records relating to permits, inspections, bonds and other background data on which the
1100 agency makes its decisions.¹⁰⁴ Information provided by an operator that, if released, might jeopardize an
1101 operator's competitive position with regard to other operators, however, is protected from public
1102 scrutiny.¹⁰⁵

¹⁰³ 30 U.S.C. 1275(e) (2007).

¹⁰⁴ 30 U.S.C. § 1267(f) (2007).

¹⁰⁵ 5 U.S.C. § 552(b) (4-5) (2007).

1103 Citizens may also use the Federal **Freedom of Information Act (FOIA)**¹⁰⁶ or a counterpart, which exists
1104 in many states, to obtain needed information. These statutes allow access to most documents which are
1105 held by the government, usually at little or no charge.

1106 The chief advantage of FOIA is that it imposes strict time limits on the agency's response to a citizen's
1107 request for information. Usually documents must be provided within 20 working days from the date of
1108 receipt of a request.¹⁰⁷ In certain limited situations, one 10-day extension may be available to the agency if
1109 it provides the requesting party with written notice.¹⁰⁸ The agency may charge *reasonable* search and/or
1110 photocopy fees,¹⁰⁹ but these charges can be waived upon request if the agency finds that furnishing the
1111 information will primarily benefit the general public.¹¹⁰ If the agency denies your request for a fee waiver, you
1112 may nonetheless be able to reduce or eliminate copying costs by agreeing to review the documents at the
1113 agency's office.

1114 In 1996, President Clinton signed into law the Electronic Freedom of Information Act
1115 Amendments. These amendments recognize that information is increasingly stored on computers or
1116 other electronic media and clarified that FOIA applies to electronic “documents” as well as to
1117 paper.¹¹¹ The amendments also allow you to request that information in either paper or electronic
1118 form.¹¹² Agencies may or may not accept FOIA requests by e-mail.

1119 If the agency denies your request for documents — in whole or in part — you may file an administrative
1120 appeal.¹¹³ The agency must generally rule on your appeal within 20 days from receipt.¹¹⁴ You may further
1121 appeal to federal court,¹¹⁵ where a freedom of information case takes precedence over most other cases.

1122 Even if your state does not provide the same responsiveness to requests for information as the
1123 federal FOIA, the documents you need about a particular mining operation may be available from the
1124 federal government. Thus, a federal FOIA request may prove sufficient. **Appendix A** provides a sample
1125 FOIA request.

¹⁰⁶ 5 U.S.C. § 552 (2007).

¹⁰⁷ 5 U.S.C. § 552(a)(6)(A)(i) (2007).

¹⁰⁸ 5 U.S.C. § 552(a)(6)(B) (2007).

¹⁰⁹ 5 U.S.C. § 552(a)(4)(A)(ii) (2007).

¹¹⁰ 5 U.S.C. § 552(a)(4)(A)(iii) (2007).

¹¹¹ 5 U.S.C. § 552(f)(2) (2007).

¹¹² 5 U.S.C. § 552(a)(3)(B) (2007).

¹¹³ 5 U.S.C. § 552(a)(6)(A)(i) (2007).

¹¹⁴ 5 U.S.C. § 552(a)(6)(A)(ii) (2007).

¹¹⁵ 5 U.S.C. § 552(a)(4)(B) (2007); 5 U.S.C. § 552(a)(6)(A)(ii) (2007).

1126

Citizen Suits

1127 If administrative remedies fail, you may need to go to court to compel compliance with the law. SMCRA
1128 gives affected citizens the right to bring civil actions in federal district courts against the Secretary of the
1129 Interior or the appropriate state agency in order to compel compliance with a non-discretionary duty
1130 under the Act. Citizens also may bring civil actions in federal district court against a coal operator or other
1131 person in violation of the law.¹¹⁶ In most circumstances, you must file a notice of intent to sue 60 days before
1132 filing the lawsuit. All or part of the costs of such litigation, including legal fees, can be recovered if you prevail
1133 in at least part of your lawsuit. As with administrative proceedings, you may be held responsible for the
1134 operator or agency's costs only if they can demonstrate that your claim was made in bad faith or solely to
1135 harass them.

1136 SMCRA requires state programs to have the same or similar citizen suit provisions for state court actions
1137 as those contained in the federal Act. If you believe that a lawsuit may be necessary, contact an attorney and
1138 try to arrange for representation at little or no cost to you. If you can demonstrate that you have a
1139 strong case, the attorney may be willing to take the case on the expectation of recovering legal fees after
1140 the case is completed (on a "contingency" basis). Alternatively, many law firms allow their lawyers to
1141 represent deserving clients who cannot afford an attorney "pro bono." (Short for "pro bono
1142 publico," meaning "for the good of the public.")

1143

Federal Enforcement in a State

1144 Section 521(b) of SMCRA provides that whenever the Secretary of the Interior has *reason to believe* that
1145 strip mining violations are being caused by a state's failure to enforce its program, the Secretary must
1146 notify the public and may hold a hearing to discuss the state's enforcement failures. If the hearing confirms
1147 the Secretary's suspicion, and if it is further found that the state has not adequately demonstrated its
1148 capability and intent to enforce the law, the Secretary then must substitute federal enforcement for all or
1149 part of the state program.

¹¹⁶ 30 U.S.C. § 1270(a) (2007).

1150 Citizens who believe that their state is fundamentally failing to meet their legal obligation to enforce
1151 the law should present this information to the Secretary of the Interior through the petition process,
1152 described in greater detail immediately below. If the Secretary agrees to hold a hearing as required by §
1153 521(b) of SMCRA, you may present your evidence at that hearing.

1154 **Review and Withdrawal of a State Program**

1155 The Secretary of the Interior is required to implement a federal program (and withdraw approval of a
1156 state program) if the state "fails to implement, enforce, or maintain its approved State Program as
1157 provided for in this Act."¹¹⁷ As a private citizen, you can petition the Director of OSM to evaluate a particular
1158 problem with the implementation or enforcement of a state program.¹¹⁸ While the petition will need to be
1159 tailored to address the specific failures on the part of the state, **Appendix F** contains a sample "§ 733 letter"
1160 to help you get started. Even if it seems unlikely that OSM will withdraw approval of the state program,
1161 the petition process is a good vehicle for bringing problems to OSM's attention.

1162 Within 60 days of the petition, the Director must determine whether to conduct an evaluation of the
1163 state program. The first step in evaluation is for the Director to hold an informal conference with the state.
1164 If that does not resolve the problem or problems, the Director must give notice and hold a public hearing. A
1165 decision on whether or not to withdraw approval of a state program is made following the public hearing.

1166 **The Right to Initiate and** 1167 **Participate in Federal** 1168 **Rulemakings**

1169 Under SMCRA, any person may petition the Director of OSM to issue, amend, or repeal a rule or
1170 regulation.¹¹⁹ The petition must set out the facts, technical justification, and points of law that support the

¹¹⁷ 30 U.S.C. § 1254(a)(3) (2007).

¹¹⁸ 30 CFR § 733.12 (2008).

¹¹⁹ 30 U.S.C. §1211(g) (2007).

1171 rule change — and indicate whether a hearing is desired.¹²⁰ OSM must make a decision within 90 days. If the
1172 petition is denied, OSM must notify the petitioner of the reasons in writing. This process can be used in many
1173 circumstances but it may be most useful where you have stumbled upon an apparent flaw in a state
1174 program. Under the procedure described here, you can petition OSM to commence rulemaking proceedings,
1175 which would require the state to correct such flaws. Even if OSM refuses to require the correction, it might very
1176 well provide you with an interpretation of the state program that satisfies your concerns. State refusal to
1177 accept this interpretation would supply you with substantial grounds for returning to OSM and demanding
1178 appropriate action.

1179 Under SM CRA, any person may participate in federal rulemaking. Federal agencies must publish
1180 proposed rules in the Federal Register (see box below), allow the public at least 30 days in which to file
1181 written comments, and hold at least one public hearing on proposed rules.¹²¹ The agency must consider all
1182 comments received before promulgating a final rule. If you want to comment on a proposed rule, you
1183 should be sure to obtain a copy of the official notice in the Federal Register. The Federal Register notice will
1184 contain: 1) the text of the proposed rule; 2) an explanation of the agency's reasons for proposing the
1185 rule; and 3) the name and telephone number of the agency official to contact for more information. You
1186 also may request this official to allow additional time to submit comments if you believe such time is
1187 necessary.

1188 **THE FEDERAL REGISTER** 1189 **AND THE CODE OF FEDERAL REGULATIONS**

1190 The Federal Register is a government document published every working day. It
1191 contains notices of governmental actions as well as all of the proposed and final rules that
1192 are promulgated by federal agencies. After rules become final they are published in the
1193 Code of Federal Regulations (CFR), which is updated annually. Although the CFR contains
1194 all of the final rules, it is often helpful to refer to the original Federal Register notice in
1195 which the rule was originally promulgated, since this resource often contains a detailed
1196 explanation of the agency's intent and reasoning in adopting its rules. These explanations
1197 generally are considered to be binding agency interpretations of their regulations.

¹²⁰ 30 CFR § 700.12 (2008).

¹²¹ 30 U.S.C § 1251(a) (2007).

1198 | Access to the Federal Register and the Code of Federal Regulations is available at |
1199 | www.gpoaccess.gov. |

1200 Final rules may be challenged in federal court. If the rules are national in scope, the challenge must be
1201 brought in the District of Columbia.

1202 **Protection of Coal** 1203 **Company Employees from** 1204 **Retaliation**

1205 Often miners or other employees are aware of and troubled by violations at a mine, but unwilling to
1206 come forward with the information because of fear that they will lose their jobs or suffer other reprisals
1207 from the operator who employs them. Section 703 of SMCRA prohibits discrimination against employees or
1208 representatives of employees who have filed or instituted (or caused to be filed or instituted) any proceeding
1209 under the Act, or have testified or are about to testify in any proceeding resulting from the
1210 administration or enforcement of the Act.¹²²

1211 **Damage Actions in Federal Court**

1212 Section 520(f) of SMCRA empowers individual citizens with the legal right to sue for damages
1213 caused by strip mining. To prevail under Section 520(f), you must prove that your person or property
1214 was injured as a result of a violation by any mining operation of any rule, regulation, order, or permit
1215 issued pursuant to the Surface Mining Act. Thus, unless the operator already has been cited for the
1216 violation that caused your damage, it behooves you to file a citizen complaint and obtain an agency
1217 finding that a violation did occur before proceeding with your damage claim in federal court. Once
1218 the operator has been cited for the violation, you need only prove that the violation was the cause of

¹²² 30 U.S.C §1293 (2007).

1219 your damage in order to prevail. If you prevail on your claim, your legal fees and costs may also be
1220 recovered.

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REVIEWING A

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PERMIT APPLICATION

1227

1228 The right of citizens to review an application for a permit to begin a strip mine operation is a key feature
1229 of SMCRA. The permitting process was described briefly in the **section on citizen rights in permit**
1230 **proceedings**. This section focuses more closely on the kinds of problems that might be found during a
1231 permit review.

1232 Few reading experiences are likely to be as intimidating as that of reviewing your first coal mine permit
1233 application. At first, the application will seem highly technical — even impenetrable — to an untrained
1234 citizen. Moreover, an application for a large mine may encompass 25 to 30 bound volumes. (By contrast, an
1235 application for a small mine in the East may have been prepared almost entirely by filling in the blanks on a
1236 form provided by the state agency.) But patience and perseverance will pay off. It soon becomes evident
1237 when looking at the application that much of it is comprised of maps and charts without much bearing on
1238 issues you wish to raise. Indeed, a 25-volume application may contain only two or three volumes of text.
1239 These few volumes should provide much of the information you will need to conduct your review and will
1240 help direct you to the maps and other documents relevant to your concerns. Although you should not
1241 expect to master all the technical jargon, most people can quickly get a basic grasp of the proposed
1242 mining operation and the potential problems it presents. Agency staff also can help. (See box).

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WHAT TO DO WHEN YOU ENCOUNTER QUESTIONS

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If you are having trouble interpreting a particular aspect of the permit application, ask an agency employee for assistance. Many government employees are eager to help. Be courteous and friendly, and you may wind up with a valuable contact within the agency. Remember that an agency employee charged with reviewing an application would much prefer to identify and solve problems *before* the application is approved. Once approved, agency employees may become more defensive. At that point you're not merely questioning an applicant's work; you are also calling into question the integrity of the agency's decision.

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After receiving a permit application, the state or federal agency first determines that the application is administratively complete.¹²³ An administratively complete application is one "which the regulatory authority determines to contain information addressing each application requirement of the regulatory program and to contain all information necessary to initiate processing and public review."¹²⁴ Determination that the application is complete triggers an announcement of the application in a local newspaper and the public comment period.¹²⁵

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The complexity of most permit applications requires that your review be carefully organized. First, satisfy yourself that the application is truly complete. Use the checklist in **Appendix B** to guide you in this process. The checklist contains a comprehensive listing of all permit requirements, together with citations to the applicable federal law and rules and a diagram describing the application process. Be sure to review those provisions of the law that are pertinent to your review. Don't worry too much about the content of the application at this stage, unless it seems to be so uninformative about the operator's plans that it is impossible to write meaningful comments. If you believe that the application is not sufficiently complete to allow the public comment period to begin, notify the regulatory authority immediately. Request that the agency ask the operator to supply the additional information that you think is needed and to extend the comment period until 30 days after the public has been notified that the information has been received. Be aware, however, that some citizens have tried this only to be told an application is administratively complete, even when it lacks complete hydrologic or landowner leasing information. If this happens to you, be persistent: try asking a different official within the agency, tell other concerned citizens to make the same request for information from the agency, and consider filing a complaint asking the

¹²³ 30 C.F.R. § 701.5 (2008); 30 C.F.R. § 773.6(a) (2008).
¹²⁴ 30 C.F.R. § 701.5 (2008).
¹²⁵ 30 C.F.R. § 773.6(a), (b) (2008).

1273 OSM to review the implementation of the state program. The process for filing such a complaint is
1274 described in [Chapter 4](#) and [Appendix E](#).

1275 In most states, an agency decision that an application is not administratively complete will result in a
1276 letter or notice to the applicant describing the deficiencies. The agency also must make these letters
1277 available to the public. Be sure to request copies of these letters as they may prove very helpful
1278 identifying potential problems with a proposed mining operation.

1279 Once the application is found to be administratively complete, the public comment period begins.¹²⁶ At
1280 the same time, the agency will begin its technical review of the application. If you intend to file comments,
1281 be realistic about what you can expect to accomplish. Outline those issues that concern you and the
1282 reasons for your concern. Find out what the federal law and state program require with respect to those
1283 issues. (The permit checklist in [Appendix B](#) should help identify the relevant federal standards.) You may be
1284 able to find other interested citizens willing to help you by looking at the land ownership map in the
1285 application, which should identify surrounding landowners. In many parts of the country, citizen groups
1286 have formed to help people with mine-related problems. Call one of the groups in your area and find out
1287 whether they can help you. ([Appendix G](#) provides a list of organizations that help citizens with mining
1288 problems.)

1289 If you have questions that have not been fully answered during your review of the application and your
1290 discussion of the application with agency personnel, be sure to request an informal conference on the
1291 application.¹²⁷ ([See Chapter 4: "Citizen Rights in Permit Proceedings."](#))

1292 While this handbook cannot explain all of the myriad problems and issues you may encounter when
1293 reviewing a permit application, the following sections provide an overview of the more common
1294 problems and some of the particular problems facing the three major coal regions of the United States.
1295 A separate section discusses typical problems at underground mines.

1296 ***Common Problems: Blasting***

1297 Most mining operations use blasting to break up the overburden, coal seam, or both. Many mines in the
1298 Midwest and West lie far enough away from populated areas so that blasting has little effect on homes and

¹²⁶ 30 C.F.R. § 773.6(b) (2008).

¹²⁷ 30 C.F.R. § 773.6(c) (2008) allows for informal conferences. Be sure to request a conference within 30 days after the last newspaper advertisement announcing the permit application.

1299 other structures such as concrete ditches or pipelines. But in the East, and in some areas of the Midwest
1300 and West, blasting can cause property damage and personal injury.

1301 All mines must contain a blasting plan that is designed to protect the public from damage.¹²⁸ Blasting
1302 plans tend to be highly technical in nature and difficult for untrained people to understand. Nonetheless, you
1303 should attempt to determine the extent of blasting, the proximity of blasting to any homes, buildings, or
1304 other structures, and the times during the day when blasting will be allowed, usually sunrise to sunset.¹²⁹
1305 Before any blasting can occur, the operator must mail a pre-blasting notice, along with a copy of the
1306 planned blasting schedule, to the owners of all structures within one-half mile of the **permit area** (not the
1307 area where blasting will take place or where the mine pit is located but the outer boundaries of the entire
1308 permit area as set out in the application).¹³⁰ The pre-blasting notice advises all such property owners of their
1309 right to a pre-blast survey.¹³¹ The purpose of the survey is to determine the condition of your property
1310 before blasting so you can more easily identify damage caused by blasting. Citizens reviewing a permit
1311 application should be sure that it lists the names of people who will be notified and that it includes all affected
1312 people and structures. If you own a structure within one-half mile of the permit area, you should receive a pre-
1313 blasting notice. Take advantage of your right to a pre-blast survey when you receive your pre-blasting
1314 notice.¹³² (See box.) If you fail to do so, you may have a very difficult time proving that any damage to your
1315 structure was caused by blasting.

1316 Citizens have found that some mining operators will leave homes off of their maps, underestimate
1317 the distance between company structures and homes, or fail to identify the half-mile area affected by
1318 blasting until right before the permit is approved. It is important to compare the maps in the application with
1319 what you see on the ground. If you suspect that a home is within a half-mile of proposed blasting, make sure
1320 it is on the map, and make sure that that home owner knows that his or her home might be affected by
1321 blasting.

1322 **HOW TO REQUEST**
1323 **A PRE-BLAST SURVEY**
1324 **AND WHAT TO EXPECT**

¹²⁸ 30 U.S.C. § 1257(g) (2007).

¹²⁹ 30 C.F.R. § 816.64(a)(2) (2008).

¹³⁰ 30 U.S.C. § 1265(b)(15)(A) (2007).

¹³¹ 30 U.S.C. § 1265(b)(15)(E) (2007).

¹³² 30 C.F.R. § 816.62(e) (2008). As long as you request a pre-blasting survey at least 10 days before the planned start of blasting, the operator must complete your survey before blasting begins.

FROM IT

Send a *written* request for a pre-blast survey to both the coal company and the state or federal regulatory agency as soon as you receive notice of your right to a pre-blast survey.¹³³ Federal law requires operators to notify all residents within a half-mile of the permit boundary of the right to request a pre-blast survey thirty days before blasting begins.¹³⁴ If you do not receive notice, but you believe you should be afforded a pre-blast survey, ask for one. Even if your request is not granted, the coal company will know that you will be monitoring their blasting operations to ensure that they are conducted in accordance with the law. You may be able to get your insurance company to do the survey instead.

In response to your request, the company will send a surveyor to your home to review your property. The survey is paid for by the coal company, but the person conducting the survey must comply with state requirements for blasters.¹³⁵ You should plan to accompany the surveyor during his inspection so that you can verify the accuracy of the information in the report. Ask questions about anything you don't understand. Be sure that the surveyor looks at the foundation of your house, and the condition of your doors and windows. He should record the exact length and width of any cracks as well as the absence of cracks in the foundation and around the windows and doors. He should check to see whether the doors and windows open and close freely. If your water supply comes from a well, the water quality and yield must be checked and recorded.

After the survey is completed, the company must prepare a written report and send copies of that report to the regulatory agency and to you.¹³⁶ The report must describe the condition of your property and make recommendations to prevent damage from blasting.¹³⁷ Review the report carefully and inform the agency in writing of any errors or omissions.

The operator might strongly encourage you to sign a non-disclosure agreement,

¹³³ 30 U.S.C. § 1265(b)(15)(E) (2007); 30 C.F.R. § 816.62(b) (2008).

¹³⁴ 30 C.F.R. § 816.62(a) (2008).

¹³⁵ 30 C.F.R. § 816.61 (2008).

¹³⁶ 30 C.F.R. § 816.62(d) (2008).

¹³⁷ 30 C.F.R. § 816.62(d) (2008).

1352 which prohibits you from disclosing to others information about damage to your house, in
1353 exchange for a cash payment up front. Although you may feel intimidated, the operator
1354 cannot make you sign a non-disclosure agreement. Ask the state agency to cite the
1355 operator if he refuses to pay you for actual damages inflicted to your property.

1356 You can further protect yourself by keeping your own records. Take pictures
1357 of your home, the foundation, doors and windows before blasting begins. (A
1358 good time to take the pictures is during the surveyor's visit to your home. Include
1359 some pictures with the surveyor in them.) Be sure to record on the back of the pictures
1360 the date they were taken, the name of the person who took the pictures, and the type
1361 of camera and lens that was used. (You can also write all of the pertinent information
1362 down on a piece of cardboard and take a picture of it; that way you'll have all of the
1363 information you need with your photos.) If your camera has a date and time
1364 stamp feature, use it.

1365 **Common Problems: Water Quantity** 1366 **and Quality Degradation**

1367 Mining inevitably affects surface and groundwater resources. If you obtain water from a well near a
1368 proposed mining operation or if you are otherwise concerned about the effects of mining on surface and
1369 groundwater systems near the mine site, you should become familiar with SMCRAs standards for water
1370 quantity and quality. At the permitting stage, the most important step is the preparation of a document by
1371 the operator to assess the **probable hydrologic consequences (PHC)** of mining.¹³⁸ Surface mine applicants
1372 normally hire a consultant to prepare this information for them, but small operators (less than 300,000
1373 tons/year) may arrange to have it prepared at the regulatory authority's expense.¹³⁹ The regulatory
1374 authority uses the PHC determination to prepare an *assessment* of the probable **cumulative hydrologic**
1375 **impacts (CHIA)** of all anticipated mining in the area.¹⁴⁰ The regulatory authority is supposed to assess
1376 the impacts on the entire basin or watershed in which the mine is located, but it often fails to go

¹³⁸ 30 U.S.C. § 1257(b)(11) (2007).

¹³⁹ 30 U.S.C. § 1257(c)(1)(A) (2007).

¹⁴⁰ 30 U.S.C. § 1257(b)(11) (2007).

1377 beyond an assessment of the individual permit application site. For example, states may fail to
1378 consider the cumulative effects of nearby mine sites that have not yet received permits, even though
1379 the law requires that they do so.

1380 A complete PHC determination and CHIA provide substantial information about the effects of mining on
1381 water resources. Because of the substantial federal coal reserves in the western United States, the federal
1382 government has prepared CHIAs for many of the major coal basins in that region. Check to see whether a
1383 CHIA has been prepared for your area.¹⁴¹ If you can afford it, hire a hydrologist to evaluate the completeness of
1384 the CHIA.

1385 In addition to these requirements, operators must include in their reclamation plans "a detailed
1386 description of the measures to be taken...to assure the protection of" the quality and quantity of
1387 surface and groundwater systems both on-site and off-site from adverse effects of the mining and
1388 reclamation process, and to preserve the rights of present users to that water.¹⁴² Where they cannot
1389 assume that the quantity of water will be protected, surface mine operators must provide an
1390 alternative water source.¹⁴³ Since at least 1992, underground mine operators have also been required to
1391 replace damaged drinking, domestic, or residential water supplies,¹⁴⁴ unless the surface owner has signed
1392 a deed that waives the operator's liability for damages caused by subsidence.¹⁴⁵

1393 SMCRA requires the mine operator to monitor groundwater levels, infiltration rates, subsurface flow,
1394 storage characteristics and the quality of the groundwater both before and during mining.¹⁴⁶ Operators
1395 may be required both to drill wells of their own and to sample nearby wells that may be affected.¹⁴⁷ It is to
1396 your advantage to allow the mine operator to sample your water supply before mining begins so that you
1397 can later determine scientifically whether the water has been affected. If the operator refuses to check

¹⁴¹ Examples of the baseline data required for a CHIA for each region of the country are *available at*:
<http://permanent.access.gpo.gov/websites/osmregov/www.osmre.gov/pdf/phcchiareport.pdf>, Appendices H, I, J
(2002). Additionally, the United States Geologic Service (USGS) has published 57 regional "coal area" reports,
which include data on water quality and quantity for most regions of the country. To find a report for your area,
contact Office of Assistant Chief Hydrologist for Information, U.S. Geological Survey, Water Resource Division,
439 National Center, Reston, Virginia 20192. Telephone: Carole Marlow (703) 648-6803 or Celso Puente (703)
648-5601.

¹⁴² 30 U.S.C. § 1258(a)(13) (2007).

¹⁴³ 30 U.S.C. § 1258(a)(13) (2007).

¹⁴⁴ 30 C.F.R. § 817.41(j) (2008); *see also* 30 C.F.R. § 784.14(g) (2008).

¹⁴⁵ The Energy Policy Act of 1992, 30 USCA § 1309a (a)(2) (2007), provides that any operator permitted after 1992:
"Promptly replace any drinking, domestic, or residential water supply from a well or spring in existence prior to the
application for a surface coal mining and reclamation permit, which has been affected by contamination, diminution,
or interruption resulting from underground coal mining operations." *But see also* National Mining Association v.
Babbitt, 172 F.3d 906, 916 (C.A.D.C. 1999), holding that waivers of liability for damage caused by subsidence
made both before and after 1992 are not superseded or invalidated by the language at 30 USCA § 1309a(a)(2).

¹⁴⁶ 30 C.F.R. § 816.41(c) (2008).

¹⁴⁷ *See* 30 C.F.R. § 780.21(b)(1) (2008).

1398 your well and the regulatory authority will not require it, try to get your water tested privately.

1399 When a mining company representative comes to your home to test your water, you should get a
1400 written, signed agreement from him to supply you with the results of the test. At a minimum, the operator
1401 should test the sample for the following characteristics:

- 1402 • static water level in the spring or well at the time of sampling;
- 1403 • pH;
- 1404 • levels of iron and manganese (dissolved and total);
- 1405 • presence and level of sulfates;
- 1406 • specific conductance;
- 1407 • hardness;
- 1408 • temperature; and
- 1409 • yield of a well or flow of a spring (in gallons per minute).

1410 If you suspect that mining may cause other forms of contamination, ask that those contaminants be
1411 tested for too. The Environmental Protection Agency (EPA) maintains detailed information about
1412 groundwater contamination, including information about approximately 90 contaminants for which the
1413 EPA has set drinking water standards at www.epa.gov/safewater/hfacts.html. The water sample should
1414 be taken from your drinking water supply before it is treated or purified. The operator should also note
1415 the type of well (dug or drilled); the year it was drilled or dug; casing; land surface elevation of well or
1416 spring; total depth of well; diameter of well; type of pump; pump setting; and type of water treatment
1417 (softening, chlorination, etc.), if any. If you are aware of other contaminants that have been found
1418 in local water supplies, be sure the sample is tested for those too.

1419 In addition to the sample taken by the operator, you should obtain your own independent sample if
1420 possible. Test the water in your well or at its source, before it has been treated or purified for drinking.
1421 Take the sample in a clean, wide-mouthed jar, totally full. Totally immerse the jar with the opening at an
1422 angle, being careful not to skim the surface water or disturb the bottom. Cap it tightly, date it, and have it
1423 analyzed as soon as possible. Be sure to place it in the refrigerator immediately, to maintain the quality of
1424 the sample. Usually, the state health department, the state geological survey, or a local university will
1425 analyze a water sample for a small fee or without charge.

1426 If the mine operator does not sample and measure your water supply, or if the analysis of your sample
1427 differs greatly from that of the mine operator, you should notify your state agency, preferably in writing,
1428 and request that the difference be resolved before the application is approved.

1429 Finally, bear in mind that the operator must "restore the recharge capacity of the mined area to
1430 approximate pre-mining conditions."¹⁴⁸ This means that the operator must insure that the natural
1431 processes which replenish groundwater supplies are restored. Of course, if the operator has breached a
1432 groundwater aquifer it is unlikely that the aquifer itself will be fully restored. More likely, the recharge water
1433 will replenish a deeper aquifer that may become an important source of groundwater in the future. Keep
1434 in mind that the operator is required to provide an alternative source of water for you if your water
1435 supply is adversely affected by mining.¹⁴⁹
1436

1437 THE NATIONAL ENVIRONMENTAL POLICY 1438 ACT 1439

1440 The **National Environmental Policy Act (NEPA)**¹⁵⁰ is the "basic national
1441 charter for protection of the environment."¹⁵¹ NEPA requires federal agencies
1442 proposing "major federal actions" that might significantly affect the "quality of
1443 the human environment" to prepare an **environmental impact statement** (EIS).¹⁵²
1444 The "heart" of an EIS is the alternatives analysis. It is supposed "to present the
1445 environmental impacts of the proposal and the alternatives in comparative form
1446 thus sharply defining the issues and providing a clear basis for choice among
1447 options..."¹⁵³

1448 Where the impacts of a proposed action are less significant, the agency may
1449 prepare an **Environmental Assessment** (EA).¹⁵⁴ The purpose of the EA is to
1450 determine whether an EIS is required, but as a practical matter the EA serves as a
1451 kind of mini-EIS. NEPA also requires an analysis of alternatives whenever there are

¹⁴⁸ 30 U.S.C. § 1265(b)(10)(D) (2007).

¹⁴⁹ 30 U.S.C. § 1258 (a)(13)(C) (2007).

¹⁵⁰ 42 U.S.C. §§ 4321-4347 (2006).

¹⁵¹ 40 C.F.R. § 1500.1(a) (2008).

¹⁵² 42 U.S.C. § 4332(C) (2006). Regarding NEPA, Congress "declare[d] that it is the continuing policy of the Federal Government...to use all practicable means and measures...to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans." 42 U.S.C. § 4331(a) (2006).

¹⁵³ 40 C.F.R. § 1502.14 (2008).

¹⁵⁴ 40 C.F.R. § 1501.3 (2008); 40 C.F.R. § 1501.4 (2008).

1452 “unresolved conflicts concerning alternative uses of available resources,”¹⁵⁵ even
1453 where an EIS is not required.

1454 Because NEPA only applies to the actions of federal agencies, citizens who
1455 want a NEPA analysis must find a “federal hook” to trigger the statute. If OSM is
1456 the permitting agency, or if some other federal permit, such as a § 402 or § 404
1457 permit under the Clean Water Act, is needed, then the permitting agency must
1458 comply with NEPA.¹⁵⁶ Even if you can’t find a federal hook, your state may have a
1459 “little NEPA” that parallels the federal NEPA. If so, your state mining agency may
1460 be required by state law to publish a document assessing the environmental
1461 impacts of each permit it approves.¹⁵⁷

1462 Where NEPA applies, it requires the action agency to provide the public with
1463 detailed information about the potential environmental consequences of the
1464 proposed action and the reasonable alternatives to the proposed action. It also
1465 affords broad rights for the public to participate in the decision-making process.
1466 In particular, the agency must generally prepare a *draft* EIS or EA for public review
1467 and comment.¹⁵⁸ If you are concerned about the impacts from a proposed mining
1468 operation and a NEPA proceed is being used to assess the impacts of that
1469 operation, be sure to become involved by meeting with agency officials, attending
1470 public hearings and offering detailed comments. This is one of the best
1471 opportunities you will have to positively influence the agency decision.

1472

1473

Common Problems: Existing Violations

¹⁵⁵ 42 U.S.C. § 4332(E) (2006).

¹⁵⁶ A Clean Water Act Section 404 permit is one example that has been raised by environmental groups, with inconclusive results. In *Kentuckians for the Commonwealth, Inc. (KFTC) v. Rivenburgh*, 317 F.3d 425, 430 (4th Cir. 2003), the court did not reach the issue of whether issuance of a Nationwide Permit 21 required NEPA compliance, leaving the question open (see fn. 27). Issuance of an individual Section 404 permit, however, must comply with NEPA. See 40 C.F.R. 230.2 (2008).

¹⁵⁷ The Council on Environmental Quality maintains a list of states with NEPA-like laws. You can find it online at <http://ceq.hss.doe.gov/nepa/regs/states/states.cfm>.

¹⁵⁸ 40 C.F.R. § 1502.19 (2008); 40 C.F.R. § 1503 (2008).

1474 As previously noted, no coal operator may be issued a permit if that operator owns or controls any coal
1475 mine that is currently in violation of the law.¹⁵⁹ This restriction has been construed broadly, so that a
1476 company with interests in several coal companies must demonstrate full compliance at each mine in which
1477 it has an interest before it can get a permit. Some companies with outstanding violations may try to avoid
1478 this restriction by changing their corporate name or the principals involved. But the Office of Surface
1479 Mining maintains a computer data base that should make the process of detecting existing violators much
1480 easier. If you provide OSM with the name of the company, its major stockholders and corporate directors
1481 (most of which is available through your local Secretary of State's Office), then the agency should be able to
1482 check its database and let you know if the company is an existing violator of the law. You can also use
1483 this system – called the “Applicant/Violator System (AVS) – yourself.¹⁶⁰

1484 **Common Problems: Wildlife Damage**

1485 Mining operations often present special problems for wildlife. The permit application should describe
1486 clearly any critical wildlife habitat (including winter range, calving grounds, and bird nesting sites) that may
1487 be disrupted by mining, and should explain how adverse impacts will be mitigated.¹⁶¹ (SMCRA requires
1488 operators to "use the best technology currently available to minimize disturbances and adverse impacts of
1489 the operation on fish, wildlife, and related environmental values, and achieve enhancement of such
1490 resources where practicable."¹⁶²) Note in particular any indication that the mining area may adversely impact
1491 an endangered or threatened species of wildlife listed under the federal Endangered Species Act (see box
1492 below). In such a case, mining may actually be prohibited.

1493

¹⁵⁹ 30 U.S.C. § 1260(c) (2007).

¹⁶⁰ The AVS is available online at <https://avss.osmre.gov>. Click Access AVS. You can then search for operators by company name or permit number. You can also investigate the relationships between an operator and other possible violators, such as parent companies or subsidiary companies, and read comments about an operator and its permits. Read the AVS report for the operator you are investigating by clicking on the “evaluate” tab. Report any suspected violations to OSM and your state permitting agency. But beware: some states consider being in the process of complying as “compliance,” so violations may not always appear in the system. Also, state regulatory agencies are no longer issuing Notices of Violation as they did early in the life of SMCRA, and only violations which have been issued will appear in the system. Some states maintain records of past violations, so check with your state regulatory agency.

¹⁶¹ 30 C.F.R. § 780.16(a),(b) (2008).

¹⁶² 30 U.S.C. § 1265(b)(24) (2007).

THE ENDANGERED SPECIES ACT

The Endangered Species Act (ESA)¹⁶³ only applies to species¹⁶⁴ that are “**listed**” under the Act by the Secretary of the Interior as threatened or endangered.¹⁶⁵ It operates by controlling the conduct of both federal agencies and other parties whose conduct might impact listed species. Section 7 of the Act imposes a mandatory duty on federal agencies to “**conserve**” listed species.¹⁶⁶ Conservation is defined to mean “the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to [the Act] are no longer necessary.”¹⁶⁷ The Secretary of the Interior must also designate critical habitat for each listed species.¹⁶⁸ Critical habitat does not necessarily include the entire range of a listed species, and these species are usually found outside of the designated critical habitat.¹⁶⁹ Decisions to list species must be made based on the best available scientific data.¹⁷⁰ Designation of critical habitat may also take into account the economic impact of designation.¹⁷¹

In addition, all federal agencies whose action might affect a listed species or its critical habitat must **consult** with the U.S. Fish and Wildlife Service (FWS)¹⁷² before taking

¹⁶³ 16 U.S.C. §§ 1531-1544 (2007).

¹⁶⁴ “Species” is defined broadly by the ESA to include “any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.” 16 U.S.C. § 1532(16) (2007).

¹⁶⁵ An “endangered species” is defined as “any species which is in danger of extinction throughout all or a significant portion of its range....” 16 U.S.C. § 1532(6). A “threatened species” is defined as “any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” 16 U.S.C. § 1532(20) (2007). The listing process can be initiated by FWS, or citizens can petition to have a species listed. 16 U.S.C. § 1533(b)(3) (2007). The Secretary must list a species as endangered or threatened based on specific factors: present or threatened habitat destruction; overuse for commercial, recreational, scientific, or educational purposes; disease or predation; inadequacy of existing regulatory mechanisms to protect the species; or other natural or manmade factors affecting the continued existence of the species. 16 U.S.C. § 1533(a)(1)(A)-(E) (2007); 50 C.F.R. § 424.11 (2008).

¹⁶⁶ 16 U.S.C. § 1531(c)(1) (2007).

¹⁶⁷ 16 U.S.C. § 1532(3) (2007). Conservation methods include, but are not limited to, “all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.” *Id.*

¹⁶⁸ 16 U.S.C. § 1533(a)(3), (b)(5)(A) (2007).

¹⁶⁹ 16 U.S.C. § 1532(5)(C) (2007).

¹⁷⁰ 16 U.S.C. § 1533(b)(1)(A) (2007).

¹⁷¹ 16 U.S.C. § 1533(b)(2) (2007). For example, the Secretary might decline to designate critical habitat if it determines that economic development in a particular area is more important than preserving the habitat of listed species.

¹⁷² FWS is responsible for administering the ESA as it applies to land and freshwater species. The National Marine Fisheries Service (NMFS) is responsible for marine species. 50 C.F.R. § 402.01(b) (2008).

1511 the action.¹⁷³ This action might include, for example, the issuance of a federal mining
1512 permit, or a federal permit under § 402 or § 404 of the Clean Water Act.¹⁷⁴ Consultation can
1513 be formal or informal. Formal consultation is needed if adverse impacts of the action
1514 cannot be readily avoided.¹⁷⁵ During formal consultation, the FWS prepares a “biological
1515 opinion” to determine whether the proposed action will jeopardize the listed species or its
1516 critical habitat. If so, the FWS identifies “reasonable and prudent alternatives” that would
1517 avoid the harm.¹⁷⁶ Unfortunately, federal agencies are not bound to follow FWS
1518 recommendations.

1519 Section 9 of the ESA also prohibits any person—even private actors—from
1520 “**taking**” listed species.¹⁷⁷ “Take” is broadly defined to mean “harass, harm, pursue, hunt,
1521 shoot, wound, kill, trap, capture or collect, or... attempt to engage in any such conduct.”¹⁷⁸
1522 Therefore, if a mining operation kills listed species or harms them in a substantial way, the
1523 operator may be subject to an injunction and/or civil or criminal penalties.¹⁷⁹ In practice,
1524 however, operators can easily obtain “incidental take” permits allowing for the killing or
1525 harming of endangered species, if the killing or harming is “incidental to, and not the
1526 purpose of” otherwise lawful mining activities. 16 U.S.C § 1539(a)(1)(B). Also, operators or
1527 landowners sometimes move or kill endangered species before starting the permit
1528 application process, in order to avoid having to comply with the ESA. This is illegal and if
1529 you suspect this is happening, contact the FWS or enlist the help of your state wildlife
1530 agency.

1531 Penalties for ESA violations are severe. Violators are subject to civil fines of up to
1532 \$25,000 per violation¹⁸⁰ and criminal fines of up to \$50,000 per violation,¹⁸¹ as well as up to
1533 one year in prison. The ESA also allows citizens to file lawsuits to prevent people or
1534 agencies from violating the Act.¹⁸² FWS maintains a list of threatened and endangered

¹⁷³ 16 U.S.C. § 1536 (2007).

¹⁷⁴ See box “**Additional Requirements under the Clean Water Act**.” If a Section 404 permit was issued under Nationwide Permit 21 (NWP 21), The Corps of Engineers will likely argue that any necessary ESA consultation was already performed prior to the issuance of NWP 21 and does not need to be performed again when an operator is granted an individual permit under NWP 21. But this argument is untested, and a new consultation may be required.

¹⁷⁵ 50 C.F.R. § 402.14 (2008).

¹⁷⁶ 50 C.F.R. § 402.14(h) (2008).

¹⁷⁷ 16 U.S.C. § 1538(a)(1) (2007).

¹⁷⁸ 16 U.S.C. § 1532(19) (2007).

¹⁷⁹ 16 U.S.C. § 1540(a)(1), (b)(1) (2007). Furthermore, “harm” includes the destruction of habitat, so a mine operator who cuts down a forest or buries a stream containing listed species may violate Section 9. *Babbitt v. Sweet Home Chapter of Cmty. for a Great Or.*, 515 U.S. 687, (1995). However, the special dangers of habitat fragmentation, where species’ habitat is divided by roads and other development, are ignored by state mining agencies.

¹⁸⁰ 16 U.S.C. § 1540(a)(1) (2007).

¹⁸¹ 16 U.S.C. § 1540(b)(1) (2007).

¹⁸² 16 U.S.C. § 1540(g) (2007).

1535 species by location on its website.¹⁸³ If you believe that listed species might be impacted
1536 by mining in your area, contact the FWS.¹⁸⁴
1537

1538

1539

Appalachian Mining

1540 Much of the mining in Appalachia occurs on steep slopes, and these rolling hillsides contribute to many
1541 of the problems associated with mining. Permit application review in this region should focus on sediment
1542 control, valley and head-of-hollow fills, and acid or alkaline mine drainage.

1543

Sediment Control

1544

1545 Heavy rainfall and steep slopes combine to create a substantial risk of landslides, erosion, and siltation of
1546 streams, lakes, and reservoirs. Citizens reviewing a permit application should be sure that measures used to
1547 stabilize topsoil and spoil materials are adequate and that the sediment control structures are designed
1548 with a sufficient capacity to handle a heavy rainfall. (Most structures must be designed to handle a 10-
1549 year/24-hour precipitation event — a 24-hour period of such severe rainfall that it occurs only once in ten
1550 years on average.¹⁸⁵) Sediment control structures often take the form of sedimentation ponds.
1551 Sedimentation ponds are designed to hold stream water in one place long enough for suspended solids
1552 such as soil particles to drop out of the water and settle on the bottom of the pond. With few exceptions,
1553 operators must place sedimentation ponds in such a way as to channel and capture the runoff from the
1554 entire area disturbed by the mining operation.¹⁸⁶ Sedimentation ponds must be built before mining begins

¹⁸³ FWS, Species Information, *available at*: <http://www.fws.gov/endangered/wildlife.html> (2009)

¹⁸⁴ FWS can be reached at 1-800-344-WILD (1-800-344-9453), or online at <http://www.fws.gov/>

¹⁸⁵ 30 C.F.R. § 816.46(c)(1)(iii) (2008).

¹⁸⁶ 30 C.F.R. § 816.46(b)(2) (2008).

1555 and must be certified after construction by a qualified professional engineer.¹⁸⁷ The ponds must be located
1556 as close as possible to the mined area, they must be large enough to provide adequate sediment storage
1557 volume,¹⁸⁸ and they must include adequate spillways.¹⁸⁹ Operators may choose to build a single
1558 sedimentation pond or a series of two or more.¹⁹⁰ Ponds may not be required, however, if the disturbed
1559 drainage area is small and the structures are not necessary to meet state and federal water quality
1560 standards.¹⁹¹ It may be difficult to determine the adequacy of proposed sediment control ponds by looking
1561 at maps. If so, try to visit the site and identify the location for the proposed ponds on the ground.

1562 Sedimentation ponds are intended to prevent, “to the extent possible,” contributions of
1563 “suspended solids sediment to streamflow or runoff outside the permit area.” If the receiving
1564 stream is a cold water fishery, state water quality standards may also impose temperature
1565 requirements. (There are no federal temperature requirements, but federal law requires that state
1566 law be upheld.)

1567 **Valley and Head of Hollow Fills**

1568 As described previously, breaking up and removing the consolidated overburden above the coal seam
1569 causes this material to swell by as much as 25 percent.¹⁹² The percentage increase in material is called the
1570 “swell factor.” The amount of swelling will depend on the type of material and the manner in which it is
1571 handled. Where the ratio of coal to overburden is low, the swell factor usually will generate a
1572 considerable amount of excess spoil, or spoil in excess of that needed to completely backfill the mined
1573 area. Mountaintop removal operations generate particularly large volumes of excess spoil since the
1574 mined area is not backfilled. In Appalachia, excess spoil is usually deposited at the top of V-shaped valleys with
1575 steeply sloping sides, referred to as valley or head-of-hollow fills.

1576 SMCRA requires all excess spoil to be “transported and placed in a controlled manner... in such a way
1577 to assure mass stability and to prevent mass movement.”¹⁹³ The Act and regulations further require that
1578 the design be certified by “[a] qualified registered professional engineer experienced in the design of earth

¹⁸⁷ 30 C.F.R. § 816.46(b)(3) (2008).

¹⁸⁸ 30 C.F.R. § 816.46(c) (2008).

¹⁸⁹ 30 C.F.R. § 816.49(a)(9) (2008); 30 C.F.R. § 816.46(c)(2) (2008).

¹⁹⁰ 30 C.F.R. § 816.46(c)(1)(i) (2008).

¹⁹¹ 30 C.F.R. § 816.46(e) (2008).

¹⁹² *Bragg v. Robertson*, 248 F.3d 275, 286 (4th Cir. 2001).

¹⁹³ 30 U.S.C. § 1265(b)(22)(A) (2007).

1579 and rock fills.”¹⁹⁴ Citizens reviewing an application should make certain that these requirements are met. If
1580 the application does not indicate the engineer's experience with fills, ask that these qualifications be
1581 provided. To ensure that the reviewer is indeed a professional engineer (“PE”), look for the PE seal
1582 on the application documents.

1583 It will be difficult for a person without an engineering background to evaluate the sufficiency of a fill
1584 design. (Detailed requirements are set forth at 30 C.F.R. § 780.35.) If you suspect problems with the fill, you
1585 may want to hire an expert. Local colleges and universities may have experts, soils scientists, or geologists
1586 who would be willing to review this part of the application without charge or for a modest fee.

1587 The chief concern with fills is stability, and water is the most likely element to destabilize a fill. Accordingly,
1588 you should review with care any sources of water under or near the fill area and how the operator proposes
1589 to manage that water. The operator may plan, for example, to channel water around the fill or allow it to
1590 pass through a rock drain at the bottom of the fill. Chapter 6, on monitoring a strip mine, provides
1591 additional suggestions regarding fills.

1592 OSM’s stream buffer zone rule provides that “no land within 100 feet of a perennial or
1593 intermittent stream shall be disturbed by surface mining activities.”¹⁹⁵ Because valley fills invariably
1594 result in burying streams, they would seem to be a direct violation of the stream buffer zone rule.
1595 The rules, however, allow an exception if the fill will not violate state and federal water quality
1596 standards and will not adversely affect the water quantity and quality or other environmental
1597 resources of the stream.¹⁹⁶ Under NWP 21, discussed in the box, “Section 404 of the Clean Water
1598 Act,” mining companies are generally able to obtain approval for valley fills. While Corps’ approval
1599 would seem to indicate compliance with water quality standards,¹⁹⁷ approval does not necessarily
1600 prove compliance. Fills may still violate the federal rules if they adversely impact the stream
1601 environment. If you suspect that such impacts may result from construction of a fill, be sure that the
1602 regulatory authority makes a pre-fill assessment of the water and environmental resources of the
1603 stream or streams that will be impacted. This way you will be able to document any adverse impacts
1604 that result from the construction or maintenance of the fill.

¹⁹⁴ 30 U.S.C. §1265(b)(22)(H) (2007); *see also*, 30 C.F.R. §816.71(b)(1) (2008).

¹⁹⁵ 30 C.F.R. § 816.57(a) (2008).

¹⁹⁶ 30 C.F.R. § 816.57(a) (2008).

¹⁹⁷ *See* U.S. Office of Surface Mining, *Memorandum of Understanding: Clarifying regulations related to stream buffer zones*. Available at: <http://www.osmre.gov/resources/newsroom/News/Archive/2005/021005.pdf>

Acid Mine Drainage

1605

1606 Federal regulations require the operator to identify all acid and toxic-forming strata from the surface to
1607 the stratum immediately below the coal seam in the permit application.¹⁹⁸ Be sure that all strata are
1608 properly analyzed. If any strata are toxic or acid-forming, (for example, if they contain pyrite) review the
1609 overburden handling plan to be sure that these strata will not be exposed to air and water where they might
1610 contribute to acid runoff. Some states allow alkaline addition to offset acid-producing potential,
1611 regardless of whether the acid-producing potential might exceed the neutralization potential of the
1612 addition at the site. States sometimes even issue permits without the required alkaline addition, so
1613 you will need to check the permit application and follow up by checking the operator's performance.

1614 Mine drainage can also be alkaline. Although alkaline drainage is usually not as destructive as acid
1615 mine drainage, it can contain heavy metals that degrade habitat and water supplies as well.

Midwestern Mining

1616

1617 Most mining in the Midwest occurs on flat or rolling terrain where area mining methods are used. The
1618 principal concern regarding Midwestern coal mining tends to focus on the post-mining agricultural
1619 productivity of the land. This section discusses special provisions designed to protect prime farmland, and
1620 the problems posed by final-cut lakes.

Prime Farmland

1621

1622 All permit applications are required to include the results of an inspection to determine whether any
1623 prime farmland (see box) exists within the proposed permit area.¹⁹⁹ If prime farmland may exist, a soil
1624 survey must be conducted to identify prime farmland soils within the permit area.²⁰⁰ If prime farmland
1625 soils are identified, the application must contain detailed information about those soils, their pre-mining
1626 productivity and the operator's plan to reconstruct those soils after mining to achieve pre-mining crop
1627 yields.²⁰¹

¹⁹⁸ 30 C.F.R. § 780.22(b)(1) (2008).

¹⁹⁹ 30 C.F.R. § 785.17(b) (2008).

²⁰⁰ 30 C.F.R. § 785.17(c) (2008).

²⁰¹ 30 C.F.R. § 785.17(c) (2008).

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1629

PRIME FARMLAND

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Prime farmland is defined by federal law and regulations as lands that have been identified by the Secretary of Agriculture as prime farmlands and that have been "historically used as croplands."²⁰²

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1632

1633

Lands are deemed to have been historically used for cropland if:

1634

- they have been used for cropland for five out of the 10 years immediately preceding their purchase for mining purposes;

1635

1636

- the regulatory agency determines that such lands are clearly croplands based on additional cropland history, **or**;

1637

1638

- those lands would likely have been used for cropland in the five out of 10 year period, except for the fact that the land was owned or controlled by a company for reasons

1639

1640

unrelated to the land's agricultural productivity. (Thus, for example, a mining company

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could not claim lack of historical agricultural use if such a company had held the land

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during the period in question.)

1643

1644

Because of the stringent requirements that apply to mining activities on prime farmland, it is extremely important that the operator correctly identifies all prime farmlands at the outset. Affidavits submitted by the coal company claiming that the land has not historically been used as cropland should particularly arouse the suspicion of citizens reviewing mining applications. Check with local residents who are familiar with the land to verify these claims. A local Soil Conservation Service office also may provide assistance in determining the extent of prime farmland in the permit area.

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If the proposed mining operation impacts prime farmland, be sure that the reclamation plan is adequate.²⁰³ Check to see if the prime farmland restoration plan (or general reclamation plan) proposes the use of alternative soil materials.²⁰⁴ While the operator may find it cheaper to mix soils, this procedure

1651

1652

²⁰² 30 C.F.R. § 701.5.

²⁰³ 30 C.F.R. § 785.17(e)(4) (2008) states that a permit to mine on prime farmland must contain a restoration/reclamation plan that complies with the performance requirements of 30 C.F.R. § 823 (2008).

²⁰⁴ See 30 C.F.R. § 823.12(c)(2) (2008).

1653 may also result in mixing good soils with rocky overburden. Before any alternative is approved, detailed
1654 data must be provided on the physical and chemical properties of the natural A and B soil horizons (the
1655 two uppermost soil horizons) and on the proposed reclamation mixture.²⁰⁵ Replacement of the original soil
1656 horizons in the proper order is always preferred unless data clearly shows that a proposed alternative soil
1657 mixture is at least as good as the original soil.²⁰⁶

1658 Citizens also should check the equipment proposed for restoring the soil horizons. Any proposal to
1659 use scrapers should arouse suspicion, as this equipment may cause excessive compaction.²⁰⁷ End dump
1660 trucks are generally better for soil placement. Also note how the operator proposes to measure
1661 reclamation success. The deepest-rooting row crop commonly grown in the area should be used as the
1662 reference crop to measure reclamation success.²⁰⁸ (In the Midwest, corn is usually the deepest.) If the
1663 operator is permitted to measure reclamation success through shallow hay crops, it may be impossible to
1664 accurately determine whether or not the land has been restored to full productivity.

1665 Also, be sure to check the operator's claims regarding the pre-mining productivity of the land against
1666 local estimates on the productivity of comparable land.²⁰⁹ Finally, review the soil reconstruction plan and
1667 any other available data to determine whether the operator has demonstrated that he can restore 100
1668 percent of the pre-mining productivity of the land.²¹⁰ Additional information about reviewing permit
1669 applications on prime farmlands may be found in *A Citizen's Guide to Farmland Reclamation*. This
1670 informative guide is available from the Illinois Department of Natural Resources here:
1671 <http://dnr.state.il.us/mines/lrd/farmland.pdf> .

1672 Last Cut Lakes

1673 As described in **Chapter Two**, area mine operators prefer to fill the last cut with water rather than
1674 trucking the spoil from the box-cut to the last cut. If you oppose this practice, several avenues for attacking it
1675 are available at the permit review stage. First, as a result of a successful lawsuit filed by citizen groups from
1676 around the country, last cut lakes are not permitted on prime farmland.²¹¹ This fact underscores the importance

²⁰⁵ 30 C.F.R. § 785.17(c) (2008).

²⁰⁶ See 30 C.F.R. § 823.12(c)(2) (2008).

²⁰⁷ See 30 C.F.R. § 823.14(c) (2008).

²⁰⁸ 30 C.F.R. § 823.15(b)(6) (2008).

²⁰⁹ 30 C.F.R. § 785.17(c)(3) (2008) ; 30 C.F.R. §823.15(b) (2008).

²¹⁰ 30 C.F.R. § 785.17(e)(3) (2008).

²¹¹ *National Wildlife Federation v. Hodel*, 839 F.2d 694, 719-22 (D.C. Cir. 1988); *NWF v. Lujan*, 928 F.2d 453 (D.C. Cir. 1991); *and overruled in part by NRDC v. EPA*, 437 F.Supp.2d 1137, 1147 (C.D. Cal. 2006). While part

1677 of correctly identifying prime farmland at the outset.

1678 Last cut lakes may pose several particular problems. The spoil from the box cut may be difficult to blend
1679 with the surrounding terrain to achieve the approximate original contour, as required by SMCRA.²¹² In that
1680 case, the operator might just as well truck the spoil to the final cut. Also, operators may try to place the
1681 box-cut spoil on prime farmlands. This should not be allowed because long-term storage of the spoil will
1682 damage the productivity of the land.

1683 The last cut lake also may be deemed a lesser use than the pre-mining use of the land, or it may conflict
1684 with local land-use plans.²¹³ As explained earlier, SMCRA requires that all mined land be restored to pre-
1685 mining uses, or to higher and better uses that are consistent with local land-use plans. This problem may be
1686 particularly compelling where a long, narrow last cut lake breaks up agricultural land in a way that interferes
1687 with farming activities. Last cut lakes also may pose public health or safety problems if, for example, the
1688 slopes leading down to the water are too steep. This, too, is prohibited by SMCRA.²¹⁴ Finally, the stratum below
1689 the coal seam often contains acid-producing materials that may substantially reduce any potential
1690 recreational value for the lake.

1691 **Western Mining**

1692 Most Western mines are considerably larger than Eastern mines, and the problems associated with
1693 these mines are generally related to the arid climate that prevails throughout much of the West. This section
1694 discusses three problems: dewatering, threats to alluvial valley floors, and revegetation.

1695 **Mine Dewatering**

1696 The large pits excavated for Western mines frequently breach groundwater aquifers. This creates
1697 problems not only for the mining operations but for residents who live nearby. The mine pit may drain the
1698 ground or surface water resources used by neighboring wells. Further, the water that gathers in the pit may
1699 contaminate other water sources when it is pumped out of the pit and discharged into another water

of *Hodel* was reversed, the last-cut lakes rule still stands. See 30 C.F.R. § 785.17(e)(5).

²¹² 30 U.S.C. § 1265(b)(3) (2007).

²¹³ 30 U.S.C. § 1265(b)(2) (2007).

²¹⁴ 30 U.S.C. § 1265(b)(2) (2007).

1700 body.

1701 Citizens reviewing permit applications in the West should look carefully at the operator's plans for
1702 collecting and managing mine water. Is the mine expected to draw-down ground or surface water in the area?
1703 Are the draw-down estimates realistic? What has been the experience at other neighboring mines? If you can
1704 afford it, hire a hydrogeologist (an expert on groundwater) to review this part of the permit application.
1705 Look with particular care at the water monitoring program in the permit application. Has the operator
1706 conducted sufficient pre-mining monitoring to determine the baseline (pre-mining) hydrology of the
1707 area?²¹⁵ Does the operator propose sufficient monitoring during and after mining and reclamation to
1708 assure a continuing assessment of the mine's impact on water?²¹⁶ Has the operator identified
1709 alternative sources of water in the event that he is required to replace lost water?²¹⁷ Is the proposed
1710 replacement source of similar quality?²¹⁸ Can it be extracted and used by the end user at similar
1711 cost?²¹⁹ You should demand satisfactory answers to all of these questions before the mining permit
1712 is approved.

1713

Alluvial Valley Floors

1714 When it passed SMCRA in 1977, Congress found that **alluvial valley floors (AVFs)** were "of special
1715 importance in the arid and semi-arid coal mining areas" because they form "the backbone of the
1716 agricultural and ranching economy in these areas."²²⁰ (The term "alluvial" describes fertile deposits of
1717 sediment laid down by the action of wind or water in ancient geological ages.) Quoting from a
1718 National Academy of Sciences study, Congress noted that "unconsolidated alluvial deposits are
1719 highly susceptible to erosion" and that "removal of the alluvium from the thalweg [the line along the
1720 very bottom of a stream that marks its direction] of the valley not only lowers the water table but
1721 also destroys the protective vegetative cover by draining soil moisture."²²¹ In considering this
1722 problem, Congress decided to protect the ranchers over the mine operators. SMCRA requires the
1723 operator to "preserve throughout the mining and reclamation process the essential hydrologic

²¹⁵ See 30 C.F.R. § 780.21(b) (2008).

²¹⁶ See 30 C.F.R. § 780.21 (i), (j) (2008). Includes both ground and surface water impacts.

²¹⁷ See 30 C.F.R. § 780.21(e) (2008).

²¹⁸ See 30 C.F.R. § 780.21(e) (2008).

²¹⁹ 30 CFR 780.21(f) (2008).

²²⁰ H.R. Rep. No. 95-218 at 116, 95th Cong. 1st Sess. (Apr. 22 1977).

²²¹ *Id.* at 118.

1724 functions of alluvial valley floors in the arid and semi-arid areas of the country."²²²

1725 Any permit or adjacent area west of the 100th meridian [a line coincident with the eastern border
1726 of the Texas panhandle] that encompasses a valley holding a stream may include an AVF subject to
1727 the requirements of the law.²²³ Thus, the most critical decision at the permitting stage is whether an
1728 AVF exists. By law, an AVF exists if – (1) unconsolidated stream-laid deposits are present, and (2)
1729 sufficient water exists to support agricultural activities.²²⁴ Even where an AVF exists, however,
1730 operators may be able to avoid the stringent AVF protection standards if they can show that the only
1731 land to be disrupted is undeveloped rangeland which is not significant to farming, or of such small
1732 acreage that it will have a negligible impact on a particular farm's agricultural production.²²⁵

1733 If an AVF exists and is not subject to the above exceptions, or is not a mining operation that
1734 commenced before the Act was passed in 1977, then the permit applicant must demonstrate that
1735 the mining activities will not "interrupt, discontinue or preclude farming on the AVF" or "materially
1736 damage the quantity or quality of water in surface or underground water systems that supply these
1737 valley floors."²²⁶

1738 A proposed mining operation near an AVF will have great difficulty meeting the above requirement.
1739 Concerned citizens should employ the services of a hydrologist (surface water expert) or hydrogeologist
1740 (groundwater expert), if possible. Don't forget, however, that the regulatory authority will be making the
1741 final AVF determination and will have its own water experts. If you suspect an AVF may exist, gather
1742 information about the farming potential in the area's surrounding streams. Consult with the appropriate
1743 agency people about this information and learn what you can from them about the prospects for
1744 designating one or more AVFs on or near the land proposed for mining.

1745 **Revegetation**

1746 The arid conditions that prevail throughout the West may make revegetation difficult to achieve. Short-
1747 term success generally can be accomplished without much difficulty using non-native species, fertilizers,
1748 and intensive management. Over the long haul, however, the operator's ability to restore native
1749 vegetation that is capable of self-regeneration – without fertilizers and intensive management – is much

²²² 30 U.S.C. § 1265(b)(10)(F) (2007).

²²³ 30 U.S.C. § 1260(b)(5) (2007).

²²⁴ 30 U.S.C. § 1291(1) (2007).

²²⁵ 30 U.S.C. § 1260(b)(5)(A) (2007).

²²⁶ 30 U.S.C. § 1260(b)(5)(A), (B) (2007).

1750 harder to demonstrate. Although native species are preferred, SMCRA allows the use of non-native
1751 species where "desirable and necessary to achieve the approved post-mining land use."²²⁷ In the West, the
1752 post-mining land use will almost invariably be rangeland. (Indeed, you should be suspicious of any plans to
1753 restore the land to anything but rangeland.) Thus, the species used to revegetate must be at least as suitable
1754 as the native species for grazing purposes.²²⁸

1755 Any good reclamation plan will clearly distinguish between short-term revegetation necessary for
1756 providing a protective cover, and long-term revegetation which focuses on the post-mining land use and
1757 provides a diverse cover of primarily native species.²²⁹ If the reclamation plan you are reviewing does not
1758 make such a distinction, be sure to inquire further about the operator's specific revegetation plans.

1759 Underground Mining

1760 Underground mining operations must meet most requirements that apply to surface mines.²³⁰ Thus, if
1761 you are dealing with a proposed underground coal mine you should familiarize yourself with the surface
1762 mining requirements to be sure that these are met. Keep in mind, however, that SMCRA authorizes the
1763 Secretary of the Interior to establish different standards for underground mines "as are necessary to
1764 accommodate the distinct differences between surface and underground mining."²³¹

1765 Most of the unique problems that result from underground mining relate to subsidence. Accordingly, a
1766 person reviewing an underground mine permit should look carefully at how the permittee plans to control
1767 subsidence damage. Permit applications for underground mines must include a pre-subsidence survey
1768 showing whether any structures or renewable resource lands exist within the proposed permit and
1769 adjacent area.²³² (Renewable resource lands are defined to include aquifers, recharge areas, agricultural, and

²²⁷ 30 U.S.C. § 1265(b)(19) (2007).

²²⁸ See 30 U.S.C. § 1265(b)(2) (2007). "Restore the land affected to a condition capable of supporting the uses which it was *capable* of supporting prior to any mining."

²²⁹ 30 C.F.R. § 780.18(b)(5) (2008).

²³⁰ 30 U.S.C. § 1266 (2007), *also compare* 30 C.F.R. § 780 (2008) for surface mining with 30 C.F.R. § 784 (2008) for underground mining.

²³¹ 30 U.S.C. § 1266(d) (2007).

²³² 30 C.F.R. § 784.20(a) (2008). "Angle of draw" term in 30 C.F.R. §784.20, which is used to define the area for which structures must be included for both the pre-subsidence survey and damage compensation, was struck down as arbitrary and capricious by the D.C. Circuit Court in *National Mining Association v. Babbitt*, 172 F.3d 906 (C.A.D.C. 1999). As of 2009, the OSM had still not promulgated a new rule to define the area outside the permit area to be included within the pre subsidence survey. See 30 C.F.R. §784.20 (a)(3) (2008).

1770 silvicultural areas and grazing lands.²³³) If such structures or lands do exist, the applicant must determine
1771 whether subsidence might cause "material damage or diminution of reasonably foreseeable uses" to these
1772 structures or lands.²³⁴

1773 Request that the mining operator include your property in the pre-subsidence survey. If the
1774 mining company refuses to conduct a pre-subsidence survey of your property, hire a private contractor
1775 to document the condition of all structures on your property, or document them yourself. Take
1776 photographs of all joints between walls and floors, all foundation slabs and walls, all door frames, and
1777 anything else that you suspect might be damaged by subsidence underneath the structure. Record the
1778 time and date you took the photographs. If you have a digital camera, upload the photographs to your
1779 computer immediately and email them to someone who is willing to hold them as a back-up.²³⁵

1780 If the survey shows that subsidence may harm structures, water supplies, or renewable resource
1781 lands within the permit or adjacent area, the applicant must prepare a detailed **subsidence control plan**.²³⁶

1782 The subsidence control plan must include:

- 1783 1. A description of the mining methods in relation to the physical conditions of the mine that
1784 might lead to subsidence;
- 1785 2. A map of the underground workings and a description of the locations where planned
1786 subsidence will occur;
- 1787 3. A description of how the operator will monitor, prevent, and control subsidence in areas not
1788 planned to subside;
- 1789 4. A description of the anticipated effects of subsidence and the methods that will be used to
1790 minimize those effects on residential structures and protected lands; and
- 1791 5. A description of the methods that will be taken to replace damaged domestic water supplies.

1792
1793 Be sure to review this plan. This will enable you to evaluate any claim by the applicant, either that the
1794 area does not contain structures or renewable resource lands, or that subsidence will not harm these
1795 structures or lands. Be sure that any subsidence control plan accurately identifies the structures or lands
1796 that may be affected and provides for adequate monitoring of the effects of subsidence before, during,
1797 and after mining.

1798 Regulations also require operators to identify on a map the location and type of drinking,

²³³ 30 C.F.R. § 701.5 (2008).

²³⁴ 30 C.F.R. § 784.20(b) (2007).

²³⁵ In addition to serving as a backup, the date stamp on the e-mail can provide evidence of when the photographs were taken. Indicate the date the photos were taken in the body of your e-mail message to provide further evidence.

²³⁶ 30 C.F.R. § 784.20(b) (2008).

1799 domestic, and residential water supplies that could be contaminated, diminished, or interrupted by
1800 subsidence.²³⁷ Make sure all such water sources are accurately represented on the map, and make sure
1801 the operator determines whether they will be impacted by subsidence. Mining companies often mis-
1802 identify springs, streams, wells, and ponds.

1803 Longwall mining is the most common method of underground mining in use today.²³⁸ Because
1804 SMCRA allows longwall mine operators to engage in “planned subsidence,” you should pay close
1805 attention to any mention of planned subsidence in the permit application. The reclamation and
1806 restoration requirements for damages caused by planned subsidence are different from those caused by
1807 un-planned subsidence. See the section on “Controlling the Impacts of Subsidence” in **Chapter 6** for an
1808 in-depth discussion of these requirements.

1809 **Additional Permitting Requirements under the** 1810 **Clean Water Act**

1811
1812 In addition to the permitting requirements imposed by SMCRA, operators are often required to
1813 apply for separate permits under the Clean Water Act (CWA) if their actions will disturb or pollute rivers
1814 or streams. The requirements of the CWA are especially relevant in the wet forests of the Eastern United
1815 States. The remaining subsections of this chapter describe some of the provisions of the Act and how
1816 they apply to coal mine operators.

1817 **National Pollutant Discharge Elimination System Permits**

1818
1819 Section 402 of the Clean Water Act²³⁹ establishes the National Pollutant Discharge Elimination
1820 System (NPDES), which is a permit program for point sources of water pollution.²⁴⁰ Section 402
1821 makes it illegal to **discharge** any **pollutant** from a **point source** into **waters of the United States**
1822 without a permit.²⁴¹ Each of the highlighted terms is expressly defined in the statute. For example,

²³⁷ 30 C.F.R. § 784.20(a)(1) (2008).

²³⁸ National Mining Association. Most Requested Statistics: U.S. Coal Industry. *Available at:*
http://www.nma.org/pdf/c_most_requested.pdf (June 2009)

²³⁹ 33 U.S.C. §§ 1251-1387 (2007).

²⁴⁰ 33 U.S.C. § 1342 (2007).

²⁴¹ For the meaning of “waters of the United States,” see <http://www.epa.gov/watertrain/cwa/glossary.htm>. The term includes most rivers and streams.

1823 the term “pollutant” is defined broadly to include most types of waste that a surface mine might
1824 discharge, including rock, sand, and heat.²⁴² A “point source” encompasses “any discernible,
1825 confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel,
1826 conduit, well, discrete fissure, container... from which pollutants are or may be discharged.”²⁴³
1827 NPDES permits are typically issued by state agencies pursuant to a program approved by the U.S.
1828 Environmental Protection Agency (EPA), although the EPA issues the permit in states without an
1829 approved program.²⁴⁴ Courts have held that even rainwater runoff from spoil piles into a nearby
1830 stream is point source pollution, even without “direct action by the mine operators in pumping or
1831 draining water into the waterway.”²⁴⁵ Moreover, because SMCRA regulations require that “[a]ll
1832 surface drainage from the disturbed area shall be passed through a siltation structure before leaving
1833 the permit area”²⁴⁶ (subject to minor exceptions), any discharge from the mine site will necessarily
1834 come from such a structure, which will almost certainly satisfy the requirement for a point source.²⁴⁷
1835 For this reason, mining plans should be examined carefully to determine whether and where
1836 discharges will occur, so that the appropriate NPDES permits can be obtained.

1837 An NPDES permit application must be submitted at least 180 days before the date on which
1838 discharge is to begin, unless the permitting authority grants permission for a later application.²⁴⁸ The
1839 application must contain detailed descriptions and maps of the proposed pollutant discharges, along
1840 with other reporting requirements.²⁴⁹ The permitting authority then issues a draft decision to grant
1841 or deny the permit.²⁵⁰ After notice to the public and a 30-day comment period and hearing,²⁵¹ the
1842 permitting authority makes a final decision.²⁵² The issued permit must contain technology-based
1843 effluent limitations, meaning operators must limit pollution to levels mandated and defined in

²⁴² 33 U.S.C. § 1362(6) (2007). “The term ‘pollutant’ means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal and agricultural waste discharged into water.”

²⁴³ 33 U.S.C. § 1362(14) (2007).

²⁴⁴ 33 U.S.C. § 1342(a)(5) (2007). If your state agency has been delegated Section 402 permitting authority, it may impose more stringent water pollution regulations than EPA requires. 33 U.S.C § 1370 (2007).

²⁴⁵ *Sierra Club v. Abston Construction Co.*, 620 F.2d 41, 45 (5th Cir. 1980).

²⁴⁶ 30 C.F.R. 816.46(b)(2) (2008).

²⁴⁷ In some arid regions, water collected in siltation structures is simply allowed to evaporate and does not often result in a discharge.

²⁴⁸ 40 C.F.R. § 122.21(c) (2008). As discussed above, states are free to implement more stringent standards than the minimum EPA regulations.

²⁴⁹ 40 C.F.R. § 122.21 (2008).

²⁵⁰ 40 C.F.R. § 124.6 (2008).

²⁵¹ 40 C.F.R. § 124.10 (2008); 40 C.F.R. 124.12 (2008).

²⁵² 40 C.F.R. § 124.15 (2008).

1844 accordance with detailed regulations issued by the EPA for coal mining operations.²⁵³

1845 **Permits for the Discharge of Dredged or Fill Material into Rivers and**
1846 **Streams**
1847

1848 Under Section 404 of the Clean Water Act (CWA) the U.S. Army Corps of Engineers (Corps)
1849 regulates discharges of dredged or fill material into the waters of the United States.²⁵⁴ Mining
1850 operations often dump waste rock, soil, and other materials into streams or their tributaries, rather
1851 than dispose of it in a more environmentally friendly manner. To discharge fill material into waters or
1852 wetlands, mine operators need a Section 404 permit. The CWA, however, allows the Corps to define
1853 categories of activities that do not require individual permits because they only have minimal
1854 environmental impacts. Thus, the Corps has issued numerous “nationwide permits” (NWP). NWP 21
1855 governs the placement of valley fills derived from surface coal mining operations and is unique
1856 among NWP in requiring written authorization from the Corps before construction can begin.²⁵⁵

²⁵³ 40 C.F.R. § 122.44 (2008); 40 C.F.R. 434 (2008).

²⁵⁴ 33 U.S.C. § 1344 (2007). For the meaning of the term “waters of the United States” see <http://www.epa.gov/watertrain/cwa/glossary.htm>.

²⁵⁵ Under Section 404(e), the Corps may issue “general” permits “for any category of activities involving discharges of dredged or fill material if the Secretary determines that the activities in such category are similar in nature, will cause only minimal adverse environmental effects when performed separately, and will have only minimal cumulative adverse effect on the environment.” 33 U.S.C. §1344(e) (2007). Pursuant to this authority, the Corps has issued 50 “nationwide permits” (NWP), including NWP 21, which applies to surface coal mining operations. 72 Fed. Reg. 11092, 11184 (2007). NWP are essentially rules that establish requirements and standards that apply “to any activity authorized by such general permit.” 33 U.S.C. §1344(e)(1) (2007). Three of the 50 NWP, including NWP 21, require that parties seeking to invoke the permit obtain prior approval from the Corps. 72 Fed. Reg. at 11184. The purpose of the approval process is to allow the Corps to determine whether the proposed valley fills meet the requirements of 33 U.S.C. §1344(e). Unfortunately, NWP 21 offers no guidance to help the Corps make this determination. 72 Fed. Reg. at 11114. It sets no limit, for example, on the length of a stream that can be buried, nor does it limit the total acreage within a watershed that can be impacted. *Id.* Two legal challenges were brought in the Fourth Circuit alleging that the Corps violated NEPA as well as its own regulations by authorizing valley fills under NWP 21. *Kentuckians for the Commonwealth* argued that the Corps violated NEPA by failing to prepare an Environmental Impact Statement for each individual mining operation authorized under NWP 21, and that the Corps violated the CWA requirements to avoid or minimize the impacts of discharges on streams. 2001 WL 36101573 (S.D.W.Va.). These two arguments remain to be litigated, because the District Court addressed Count 1 (regarding the definition of “fill material” under CWA Section 404) without addressing the remaining counts against the Corps. Similarly, the Ohio Valley Environmental Coalition argued that when the Corps authorized a valley fill under NWP 21, it violated the nationwide permitting rules by authorizing individual valley fills without making a sound judgment about whether or not the impacts would be minimal, and it violated NEPA by issuing NWP 21 without first completing an Environmental Impact Statement (EIS). Plaintiff’s Amended Complaint for Declaratory and Injunctive Relief. 2004 WL 4001413. (S.D.W.Va.). The Fourth Circuit ruled that the NWP 21 authorization process was lawful because it met certain technical requirements, but neither the lower court nor the appeals court addressed the arguments regarding NEPA violations or the substantial environmental effects of valley fills. Citizens may

1857 If the mining discharge is not a valley fill covered by NWP 21, an individual permit is required
1858 under Section 404. In approving an individual Section 404 permit, the Corps first determines if the
1859 application complies with the requirements of Section 404(b)(1). This section requires the mine
1860 operator to consider alternative proposals evaluating the effects of overburden disposal on different
1861 streams within the permit boundary, and to determine that the discharge does not jeopardize
1862 threatened or endangered species, violate state or federal water quality standards, or contribute to
1863 the significant degradation of waters of the United States.²⁵⁶ The Corps must also find that the
1864 project is not contrary to the public interest. The public interest standard requires the Corps to
1865 consider conservation, economics, aesthetics, wetlands, historic properties, flood hazards,
1866 floodplain values, land use, navigation, recreation, energy and mineral needs, safety, water quality,
1867 fish and wildlife values, shore erosion and accretion, water supply and conservation, food and fiber
1868 production, property ownership, general environmental concerns, and the needs and welfare of the
1869 people.²⁵⁷

1870 In addition to the Corps' authority to issue Section 404 permits, the Administrator of the EPA
1871 may deny or restrict a Section 404 permit if the discharge would harm municipal water supplies,
1872 shellfish or fish habitat, wildlife, or recreation interests.²⁵⁸ Contact the office that is reviewing the
1873 Section 404 permit that you are concerned about. They may be able to assist you in critiquing the
1874 Corps' analysis of the effects of the potential discharge.

1875 Additional CWA requirements apply to valley fills with sedimentation ponds below. Valley fills are
1876 sometimes placed in streambeds, and the mine operator typically uses the existing stream to transport
1877 sediment and other pollutants from the toe of the fill to a sedimentation pond.²⁵⁹ The valley fill is considered
1878 a new point source for pollutants. Before utilizing a section of a mountain stream for this kind of waste
1879 transport, the operator must first obtain a § 402 NPDES permit from the EPA or state permitting agency as
1880 described above.²⁶⁰

potentially find success in a lawsuit challenging the Corps issuance of NWP 21, because the cumulative environmental effects of valley fills are obviously more than minimal. The programmatic impact statements published for Mountain Top Mining and the Stream Buffer Zone Rule list these serious effects. See EPA Region 3, *Mountaintop Mining/Valley Fills in Appalachia Final Programmatic Environmental Impact Statement EPA 9-03-R-05002*, (October 2005); OSM, *Excess Spoil Minimization/Stream Buffer Zones Draft Environmental Impact Statement (EIS)*, (April 2007). (Book 1 contains the main portion of the EIS, Book 2 contains comments)

²⁵⁶ 40 C.F.R. § 230.10 (2008).

²⁵⁷ 33 C.F.R. § 320.4 (2008).

²⁵⁸ 33 U.S.C. § 1344(c) (2007). *Also note:* Notice and a public hearing are required before the EPA Administrator denies or restricts a 404 permit.

²⁵⁹ Sedimentation ponds are discussed under the "Sediment Control" section of this chapter.

²⁶⁰ *Ohio Valley Environmental Coalition v. U.S. Army Corps of Engineers*, 2007 WL 2200686 (S.D.W.Va.) at 11. The rule made in this case may lead to more litigation, because it reverses the Corps' historical practice of excluding

Ambient Water Quality Standards

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Section 303 of the Clean Water Act²⁶¹ requires states to set ambient water quality standards for every water body in the state. All standards (or “criteria” as they are called in the rules) must have a sound scientific rationale²⁶² and should be at least strict enough to satisfy the national goal of making all water bodies suitable for swimming and fishing.²⁶³ Water quality standards must include the designated uses for each water body as well as water quality criteria based on those uses.²⁶⁴ Numeric standards are required for many toxic pollutants, which are listed pursuant to Section 307 of the CWA.²⁶⁵ If these standards are not being met, the state must designate these water bodies as degraded.

For all degraded water bodies, the state must set an upper limit on the amount of each pollutant in the water body that is not meeting the standards. This upper limit is called a Total Maximum Daily Load (“TMDL”).²⁶⁶ The state must also set an upper limit on how much thermal pollution, or heat, enters the water body.²⁶⁷ Both the pollutant TMDL and the thermal limit must be set at levels “to assure protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife.”²⁶⁸

Each state must ensure that “existing instream water uses and the level of water quality necessary to protect the existing uses [are] maintained and protected.”²⁶⁹ This means that high quality streams that support a wide range of aquatic life must be maintained at high water quality. However, there is an exception that allows the state to make a finding, after allowing for public participation, that the economic and social factors in the area outweigh the value of high water quality.²⁷⁰

The state should test all water bodies regularly to see if pollution concentrations are

the stream portion above the sedimentation pond from the technical definition of waters that it may regulate.

²⁶¹ Codified at 33 U.S.C. § 1313 (2007).

²⁶² 40 C.F.R. 131.11(a) (2008).

²⁶³ The Act establishes a national goal of “protection and propagation of fish, shellfish, and wildlife, and ... recreation in and on the water.” 33 U.S.C. §1251(a)(2) (2007); *See also* 40 C.F.R. 131.10 (2008). The state designates “uses” for each water body. Each use designation must take into account “public water supplies, protection and propagation of fish, shellfish and wildlife, recreation in and on the water, agricultural, industrial, and other purposes including navigation.”

²⁶⁴ 33 U.S.C. § 1313(c)(2)(A) (2007).

²⁶⁵ 33 U.S.C. § 1313(c)(2)(B) (2007).

²⁶⁶ 33 U.S.C. § 1313(d)(1)(C) (2007).

²⁶⁷ 33 U.S.C. § 1313(d)(1)(D) (2007).

²⁶⁸ 33 U.S.C. § 1313(d)(1)(B), (D) (2007).

²⁶⁹ 40 C.F.R. 131.12 (2008).

²⁷⁰ 40 C.F.R. 131.12 (2008).

1904 exceeding the TMDL for each pollutant. Once a TMDL is set, the state must demonstrate that it is
1905 taking action to limit pollution from point and non-point sources along the water body to decrease
1906 pollution to meet the TMDL.²⁷¹ These limitations to discharges are called Water Quality Based
1907 Effluent Limitations, or “WQBELs.”

1908 Each drain, pipe, and outflow at a mine site is a point source. If the TMDL for a pollutant is
1909 not being met, a WQBEL should be imposed on the effluent from those point sources to reduce the
1910 amount of the pollutant that goes into the stream beyond the effluent limitations that would
1911 otherwise apply to an NPDES permit for a coal mining operation.

1912 **Additional State Certification for Federal Permits under the Clean Water** 1913 **Act**

1915 Another potentially powerful tool for protecting water quality is the state certification processed
1916 under, Section 401 of the Clean Water Act (CWA).²⁷² Section 401 requires an applicant for any federal
1917 license or permit to obtain certification from the state that “may result in any discharge into
1918 navigable waters.”²⁷³ The applicant meets the CWA’s pollutant discharge limitations²⁷⁴ as well as any
1919 additional state water quality standards.²⁷⁵ Among the federal permits that may be requested for
1920 any mining operation that could adversely corrupt water quality are permits for pollution discharges,
1921 permits for rights of way across federal lands, and permits for air pollution discharges. Therefore, if a
1922 mine operator applies for any kind of federal permit that will potentially discharge material into
1923 rivers or streams, the operator will need the state’s water protection certification. Without state
1924 certification, the federal permit cannot be issued.²⁷⁶ In addition, your state may impose conditions
1925 on the mine operator – for example, monitoring the operator for the life of the federally permitted
1926 project – to ensure the operator continues to meet water state and federal water quality standards.
1927 Because of the potential breadth of the conditions imposed on federal permit applicants, Section

²⁷¹ 33 U.S.C. § 1313(e) (2007).

²⁷² 33 U.S.C. § 1341 (2007).

²⁷³ “Navigable waters” is an imprecise term, but it encompasses most rivers and streams. See Mark Squillace, *From Navigable Waters to “Constitutional Waters”*: *The Future of Federal Wetlands Regulation*, 40 U. MICH. L. REV. 799, 848-50 (2007).

²⁷⁴ 33 U.S.C. § 1341(a)(1) (2007).

²⁷⁵ 33 U.S.C. § 1341(d) (2007).

²⁷⁶ 33 U.S.C. § 1341(a)(1) (2007).

1928 401 has been called the “sleeping giant” of the CWA.²⁷⁷

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²⁷⁷ ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY 674 Wolters Kluwer Law & Business (5th ed. 2006).

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MONITORING A STRIP MINE

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1946 One of the most important rights granted by SMCRA is the right to call for an inspection and obtain
1947 enforcement against coal operators who are violating the law.²⁷⁸ Citizens who request an inspection
1948 are entitled to accompany the inspector on the mine site during an inspection.²⁷⁹ It is not always easy

1949 to determine whether a violation exists, but you should not let this discourage you from exercising your
1950 rights.

1951 If, for example, you are experiencing problems with the quantity or quality of your water supply, and
1952 you have reason to believe that a mining operation is responsible, call for an inspection. Even if no violation
1953 is found, you will have put the operator and the government on notice that you are watching out for your
1954 own interests. Inevitably, you also will gain valuable insight into how well the citizen complaint process
1955 works (or doesn't work) in your state.

1956

1957 How SMCRA ENFORCEMENT 1958 WORKS

1958

1959

1960 SMCRA includes powerful tools to help ensure compliance with the law. This section briefly
1961 reviews SMCRA's enforcement program so that you can know what to expect and what to request
1962 from an inspector.

1963

1964 Inspections

1965 SMCRA requires regular inspections of every "inspectable unit", which includes mine sites as well
1966 as coal processing facilities and loading facilities that are located near the mine site. Inspections
1967 must generally occur without prior notice to the coal operator, and must average at least once each
1968 month. Complete, on-site inspections must occur at least quarterly, but the other, "partial"
1969 inspections can be conducted by aerial surveillance.²⁸⁰

1970

²⁷⁸ 30 U.S.C. § 1267(a), (h) (2007); 30 U.S.C. § 1268 (2007).

²⁷⁹ 30 C.F.R. 721.13(b) (2008); 30 U.S.C. §1271(a)(1) (2007).

²⁸⁰ 30 U.S.C. §1267 (2007); 30 C.F.R. 842.11(c) (2008).

1971 **Citizen Complaints and the Right to Accompany an Inspector on the Mine Site:** In addition to
1972 the regular inspection program, if OSM has any reason to believe that a violation of SMCRA exists,
1973 including because of a written complaint²⁸¹ by a private citizen, then OSM must notify the relevant
1974 state agency, if there is one. If no state agency exists, or if the state fails to take appropriate action
1975 to correct the violation within 10 days, then OSM must immediately conduct its own inspection and
1976 take appropriate action to cause the violation to be corrected. When an inspection by a state or
1977 federal agency occurs as a result of a citizen complaint, the complaining party or a representative is
1978 allowed to accompany the inspector on the mine site during the inspection.²⁸² If the complaining
1979 party chooses not to accompany the inspector then OSM must maintain their confidentiality.²⁸³ Bear
1980 in mind that because states with approved SMCRA programs are required to have laws that are
1981 consistent with SMCRA, they must have similar provisions allowing complaining parties to either
1982 accompany the inspector on the mine site, or have their names kept confidential.

1983

1984 Enforcement Tools

1985 **Notice of Violation (NOV):** SMCRA imposes mandatory enforcement requirements on
1986 government inspectors. Under SMCRA, whenever an inspector determines that any permittee is in
1987 violation of the law, the inspector “shall issue a notice to the permittee ... of the violation.”²⁸⁴ Thus,
1988 the law provides that when an inspector sees a violation the inspector *must* cite the operator for it.
1989 Not surprisingly, inspectors are sometimes reluctant to cite an operator, especially for minor or
1990 technical violations that can be corrected quickly, often while the inspector is still on the mine site.
1991 Use discretion in deciding how far to push this mandatory enforcement obligation. It is especially
1992 important that this obligation be preserved for more serious violations of the law.

1993 An NOV must be in writing and must include a time period to abate the violation, which may not
1994 exceed 90 days. An extension of time to abate the violation may be granted for good cause, but the
1995 total abatement period may not exceed 90 days except in narrow circumstances.²⁸⁵ If the operator
1996 fails to abate the violation within the period authorized under the NOV then the inspector must

²⁸¹ 30 CFR §§842.12(a) (2008).

²⁸² 30 C.F.R. 721.13(b) (2008); 30 USC §1271(a)(1) (2007).

²⁸³ 30 C.F.R. §§842.12(b) 2008).

²⁸⁴ 30 U.S.C. §1271(a)(3) (2007).

²⁸⁵ 30 C.F.R. §§843.12(c), (f) (2008).

1997 “immediately order a cessation” of that portion of the mining relevant to the violation.²⁸⁶ This is
1998 sometimes referred to as a “failure to abate cessation order.” SMCRA provides that a civil penalty
1999 may be assessed within 30 days from the issuance of any NOV.²⁸⁷ A “failure to abate cessation
2000 order” requires the imposition of a minimum penalty of \$750 per day for each day the violation
2001 continues.²⁸⁸ Under the federal rules, penalty assessments are based upon a point system that takes
2002 into account the statutory standards for penalties, which include the operator’s history of past
2003 violations, the seriousness of the violation, any risk to public health and safety, the operator’s
2004 negligence, and the operator’s good faith in achieving rapid compliance.²⁸⁹ The operator is entitled
2005 to a hearing before an administrative law judge on the issue of whether a violation occurred and/or
2006 on the amount of the proposed penalty.²⁹⁰ These are “public” hearings. This means that private
2007 citizens can attend the hearings and can ask to participate as a party if they are directly impacted by
2008 the alleged violation and they would like to offer evidence relevant to the case.

2009 **Cessation Order (CO):** In addition to the “failure to abate cessation order”, an inspector must
2010 issue a CO whenever the inspector finds “a condition, practice, or violation” at a mine site that
2011 “creates an imminent danger to the health or safety of the public, or is causing, or can reasonably be
2012 expected to cause, significant, imminent environmental harm...”²⁹¹ This order requires a cessation
2013 of that portion of the mining operation causing the imminent harm. Cessation orders require the
2014 imposition of a civil penalty.²⁹² Keep in mind that the statute covers any condition or practice causing
2015 imminent harm, even if you can’t show a violation of SMCRA.

2016 **Show Cause Orders:** If OSM or the relevant state agency determines that a pattern of violations
2017 exists at a particular mine site, and that such violations result from an unwarranted failure on the
2018 part of the operator to comply with SMCRA, or that the violations are deliberate, then the agency
2019 must issue an order to show cause why the operator’s permit should not be revoked.²⁹³ The
2020 operator may request a public hearing, but if the operator fails to offer a good explanation for the
2021 unwarranted pattern of violations then the agency must suspend or revoke the permit.

2022 **Criminal Penalties and Corporate Violations:** Willful violations of SMCRA may be punished by

²⁸⁶ 30 U.S.C. §1271(a)(3) (2007).

²⁸⁷ 30 U.S.C. §1268(a), (c) (2007).

²⁸⁸ 30 U.S.C. §1268(h) (2007). By rule, OSM has increased the minimum daily penalty to \$1025, but capped the number of days that this minimum penalty can be assessed at 30. This must be followed, however, by appropriate action to ensure that abatement occurs and that further sanctions are imposed. 30 CFR §§845.15(b).

²⁸⁹ 30 U.S.C. §1268(a) (2007).

²⁹⁰ 30 U.S.C. §1268(b) (2007).

²⁹¹ 30 U.S.C. §1271(a)(2) (2007).

²⁹² 30 U.S.C. §1268(a) (2007).

²⁹³ 30 U.S.C. §1271(a)(4) (2007).

2023 fines of up to \$10,000 or by imprisonment for up to one year, or both.²⁹⁴ In addition, individual
2024 corporate officers, directors, or agents who are responsible for knowingly violating the law can be
2025 subjected to same civil and criminal penalties as the operator.²⁹⁵ When operators repeatedly and
2026 willfully violate the same provisions of the law, you should not hesitate to ask the relevant state and
2027 federal agencies to seek criminal sanctions or fines directly from responsible officials. The
2028 appropriate use of these sanctions can have a powerful deterrent impact on future violations.
2029

2030 Citizen Participation in Inspection

2031 If you decide to accompany an inspector on an inspection (or if you wish to observe a mining operation
2032 from private property) be sure to prepare yourself properly before you go to the mine site. Review a map
2033 that shows the layout of the mine and, if possible, take a copy of a mine map with you, so that you can
2034 identify the various facilities you are observing. Review the Inspection Checklist in **Appendix C** and note
2035 those aspects of the mining operation that are of particular interest to you. Try to become as comfortable
2036 as possible with practices that constitute violations, but don't expect that you will be able to review and
2037 understand everything on your first inspection. Bring binoculars to obtain a close-up view of parts of the mine
2038 that may be difficult to approach.

2039 Before an inspection, ask the inspector to bring a camera and arrange for him or her to take pictures of
2040 all aspects of the operation for which you would like a photographic record. You can bring your own camera,
2041 but pictures taken by an inspector may be more credible if the operator decides to challenge a citation. If you
2042 are concerned about water quality, ask the inspector to bring the necessary containers for water samples.
2043 Also, prior to the inspection, try to develop a rapport with the inspectors you will be accompanying on the
2044 mine site. Visit them in their office and ask if they will review the mine map with you to help you understand
2045 what you are going to see. Ask plenty of questions both before and during the inspection about any
2046 aspect of the mining operation you don't understand. The better your relationship with the
2047 inspector, the more likely he or she will be sympathetic to your problem and helpful in resolving it.

2048 Take good notes of what you've seen and read carefully the inspector's follow-up report. Send
2049 written comments on the report to the inspector and ask any questions you feel have not been

²⁹⁴ 30 U.S.C. §1268(e) (2007).

²⁹⁵ 30 U.S.C. §1268(f) (2007).

2050 answered to your satisfaction.

2051 If you continue to have problems and the state and federal agencies refuse to order an
2052 appropriate remedy to address the problems, prepare yourself for further action. First, educate
2053 yourself about the mine. Review the mine's permit. The permit contains maps for the entire mining
2054 operation as well as for the area permitted for mining at that particular time. Examine the
2055 appropriate maps to learn the basic layout of the mine. Note the location of sedimentation ponds
2056 and other water impoundments, stockpiles of topsoil and fill areas.

2057 You might want to take a look between the map as it now exists and the one that you were
2058 shown prior to permitting. (These maps are large. You may be charged to reproduce these maps;
2059 color maps are much more expensive than black and white ones.)

2060 If you notice any inconsistencies between the features on the maps and the operation as
2061 conducted on the ground, ask about them. Then try to answer the following questions about the
2062 mine.

- 2063 • What type of mine is it — contour, area, mountaintop, open pit, or underground?
- 2064 • What kind of equipment is being used for each phase of the mining operation?
- 2065 • Is the operator using any special method to dispose of the spoil? Is he disposing of spoil
2066 outside of the mine workings? If so, is the spoil disposal area classified as a valley fill?
- 2067 • Is the mine operating under any variations from normal performance standards established for
2068 mining operations by the federal or state rules? The most common variances are the stream buffer
2069 zone variance and the approximate original contour (AOC) variance. A buffer zone variance allows
2070 the operator to dump spoil within 100 feet of a stream.²⁹⁶ An AOC variance allows the operator to
2071 avoid restoring the mined-out areas to the slope that the mountain originally had before mining. On
2072 what authority were such variances approved?
- 2073 • Are there any streams running through the mine? If so, does the permit authorize the operator to
2074 mine through them? Are additional permits required under Clean Water Act § 404 (for the
2075 placement of dredged or fill material in streams) or § 402 (for the discharge of point-source
2076 pollutants)? (See “Additional Permitting Requirements Under the Clean Water Act” in Chapter
2077 5.) How is the water from the stream system being diverted? Ask to review the NPDES

²⁹⁶ 30 C.F.R. §816.57(a) (2008).

- 2078 permits.²⁹⁷
- 2079 • Have state water effluent limitations been met?
- 2080 • Have any strata (layers) of overburden been identified as toxic-forming, acid-forming or
2081 combustible? How deep are these layers below the surface? How thick are they? What is the operator's
2082 plan for keeping these materials from contaminating the soil, any surface waters, or the
2083 groundwater?
- 2084 • Is the operator separating and stockpiling the topsoil?²⁹⁸ If not, why not? Some operators apply for
2085 permission from the state agency to use a commercial topsoil substitute instead of saving and
2086 re-using the original topsoil. Ask to see the operator's permit to use a topsoil substitute.
- 2087 • Has the operator been monitoring for pollutants in the ground and surface water?²⁹⁹ Is the
2088 monitoring program adequate? Are the monitoring wells in the appropriate location for the purpose
2089 of identifying possible violations of water quality standards or permits? What are the results of that
2090 monitoring? (You may want to read the operator's monitoring reports.)
- 2091 • Has the operator identified all existing wells within or near the mining area? This must be done prior
2092 to issuance of the permit. Frequently, wells and even homes are left off the mining maps. Has the
2093 operator dug new wells? Is the operator monitoring the quantity and/or quality of water in those
2094 wells?³⁰⁰
- 2095 • Are explosives being used? If so, what are the blasting procedures?³⁰¹
- 2096 • Were pre-blast surveys done for all homes in the area that requested them? Federal rules require the
2097 operator to notify all residents within a half-mile of the permit boundary of their right to request a pre-
2098 blast survey 30 days prior to blasting.³⁰²
- 2099 Once you have a general idea about how the mining operation is supposed to be run, you can begin

²⁹⁷ See 30 C.F.R. § 816.43 (2008).

²⁹⁸ 30 C.F.R. § 816.22 (2008).

²⁹⁹ 30 CFR § 816.41(c), (e) (2008).

³⁰⁰ See 30 CFR 816.13 (2008).

³⁰¹ Blasting requirements are found at 30 CFR § 816.61-68 (2008). For more information, see *The People's Guide to Blasting* by Will Collette and Freda Harris. A summary of the guide can be found at:

http://www.mtwatershed.com/resources/strip_mining/how_to_document_blasting_damage.pdf

³⁰² 30 CFR § 816.62 (2008).

2100 monitoring the mine for specific violations.

2101 **Keep Complete and Accurate Records**

2102 As you begin to work on a problem with a surface mining operation, it is essential that you keep
2103 complete, accurate, and well-organized records of the particular events that are causing the problem, and
2104 the operator's and agency's responses to those events. This information may provide valuable evidence if
2105 your case ultimately winds up before an administrative law judge. Try to keep a notebook handy and
2106 record the date, time and other pertinent information about events as they occur. Take pictures of
2107 problems that you observe or of things that might refresh your memory about those problems.

2108 For example, if you are experiencing problems with blasting from a mining operation, record the
2109 exact time and date of the blast and how it affected you. Take photographs of any important evidence
2110 such as bad water running into a stream, flyrock near your home, a new crack in foundation, broken
2111 pictures, or dishes on the floor. Record the time and location of each photograph and the name of the
2112 person who took the photograph. Keep photocopies of letters and other relevant documents in a
2113 central file that is organized chronologically. If you are keeping information on a computer, print back-up
2114 copies or store information on a back-up disk as well. You also may want to tab certain or all of the
2115 documents in that file so that they can be more easily located.

2116

2117 **Controlling Water Pollution**

2118
2119 **Chapter Two** explained how mining operations can adversely affect water quality. This section helps
2120 you understand what an operator can do to control various kinds of water pollution and assists you in
2121 determining whether a mining operation is violating the pollution control requirements of the law.

2122 **Toxic Drainage.** Toxic drainage (including iron contamination) is often controlled by simply keeping the
2123 toxic-forming materials away from contact with air and water. For this to be accomplished, the permit
2124 application should have identified all toxic materials within the overburden or in the stratum immediately
2125 below the coal seam.³⁰³ These materials should then be handled and buried in such a way that they will not
2126 come into contact with water and air.³⁰⁴ If toxic drainage is occurring, you should expect that either the

³⁰³ 30 C.F.R. § 780.21(f)(ii) (2008).

³⁰⁴ 30 C.F.R. § 816.41(f) (2008); 30 CFR § 816.102(f) (2008).

2127 reclamation plan was inadequate or that the operator is not following the plan. Rain that falls on pyrites
2128 or other acidic materials can liberate metals from overburden that should never have been exposed. This
2129 could lead to a violation of SMCRA's performance standards or a Clean Water Act permit, and if so, the
2130 operator should be cited by an inspector.³⁰⁵ In order to remedy the violation, the regulatory agency should
2131 require the operator to amend his reclamation plan or alter the method of handling the toxic material. In
2132 addition, although this should not be viewed as a long-term solution, the operator should be required to
2133 treat any water body contaminated by the toxic drainage.³⁰⁶ If toxic drainage continues, additional
2134 violations should be cited.

2135 **Sediment control:** The operator must have sediment control devices to "prevent additional
2136 contributions of sediment to stream-flow or to run-off outside the permit areas to the extent possible
2137 using the best technology currently available."³⁰⁷ There are several clues you can look for to determine if the
2138 operator is complying with this provision. The primary sediment control device is usually one or more
2139 **sedimentation ponds**. (These are also called siltation structures.) A sedimentation pond is a structure
2140 designed to collect surface runoff from a mine site and hold the collected water long enough for the
2141 sediment to settle to the bottom of the pond. Compliance with the sediment control standards can be
2142 checked by reviewing the following aspects of a mining operation:

- 2143 • Sedimentation ponds must meet certain technical size requirements. Check your state regulations
2144 to see if the ponds comply.³⁰⁸ If no pond exists, find out why not. (Some extremely small operations
2145 can obtain exemptions from this requirement.)
- 2146 • Generally, ponds should **not** be located in intermittent or **perennial streams** (streams that flow most
2147 of the year). In some cases, however, especially in Appalachia, operators receive permits to construct
2148 ponds in stream beds even though such ponds may be illegal under the Clean Water Act. The operator
2149 must obtain specific approval from the regulatory agency to locate the pond in a perennial stream.
2150 If the operator claims to have been granted the right to place a pond in the stream, ask to see
2151 the permit provision authorizing it and try to determine whether the operator is meeting all of
2152 the conditions in the permit approval, including any effluent limits established for discharges from the
2153 pond.
- 2154 • Check the pond for its capacity to hold additional sediment. If too much sediment is allowed to build
2155 up, water flowing in will not drop its pollutants, but carry them into the receiving stream. Do you see

³⁰⁵ 30 U.S.C. § 1267(e) (2007).

³⁰⁶ 30 C.F.R. § 816.41(f) (2008).

³⁰⁷ 30 U.S.C. § 1265(b) (10) (B) (2007).

³⁰⁸ 30 C.F.R. § 816.46(c). (2008).

2156 "islands" of sediment under the surface of the pond? If so, a violation may exist.

2157 • Note whether the sides of the pond have been graded, vegetated and stabilized to prevent slides

2158 or excessive sediment contributions. Bare or eroded banks may contribute additional sediment to

2159 the pond and reduce its ability to handle sediment from the mine.

2160 • Locate the dam that holds water in the pond. Is the water flowing over the top of it? If not, can you see

2161 indications that water has been flowing over the top of it? Are there any breaches or cracks in the

2162 walls of the impoundment?

2163 • Look for puddles of water below the dam which would indicate that water is either seeping through

2164 the dam or has been flowing over the top. If no standing water is evident, check for large deposits of silt

2165 or clay which would indicate that water was once standing in that spot.

2166 • Locate the two spots where water flows into and out of the pond. If these two places are in a straight

2167 line, a violation may exist, since the water might simply flow from intake to discharge without

2168 standing long enough to settle out pollutants.

2169 • Look at the pipe through which water is discharged from the settling pond. Is there any evidence of

2170 water seeping out around the pipe? Is the soil around the pipe badly eroded? In either case, the pipe

2171 may be functioning improperly and a violation may exist. If there's a discharge pipe, the operator

2172 needs an NPDES permit, which is a permit from the state to discharge substances into a waterbody.³⁰⁹

2173 There are different standards for different substances. The outflow must be tested regularly. The

2174 water in the stream below the discharge pipe must meet ambient water quality standards.³¹⁰ Also

2175 check anti-degradation standards for your state to see if variations are allowed.

2176 • If water is draining from the pipe, does it appear to be clear? If not, the pond is probably not functioning

2177 properly, and a violation may exist. (If you are visiting the site on a citizen complaint inspection, be sure

2178 that the inspector takes a water sample at any place where you suspect a violation, including the

2179 discharge pipe.) A total dissolved solids tests should also be performed if it appears that too

2180 much sediment is in the receiving stream or exiting the pond before it reaches the stream.

2181 • Look for emergency spillways. These spillways will resemble ditches or concrete drains and are

2182 designed to carry water away if the pond is in danger of overflowing. The ditches themselves should

2183 be clear and unobstructed, but there should be vegetation on the sides to control erosion. All

2184 sediment ponds must be designed by a registered engineer and must withstand a 10-year, 24-

³⁰⁹ 33 U.S.C. § 1342 (2007).

³¹⁰ See section on CWA § 303(d) in **Chapter 5**.

2185 hour precipitation event.³¹¹ Certain types of larger impoundments must satisfy additional
2186 requirements set out in the regulations.³¹² You will probably need to consult with an engineer
2187 to determine whether problems exist with a large impoundment.

- 2188 • Is all the water that runs off the mine going into settling ponds? Or can you see drainage
2189 channels that do not lead to settling ponds? If so, a violation probably exists.
- 2190 • Are there control devices (such as a rock-lined channel) where the water is discharged from the pond
2191 to prevent erosion and enlargement of stream channels? These devices are required where
2192 necessary.

2193 Other devices may be used at various points on the mine site to control sediment — such things as
2194 straw barriers, **riprap**, *vegetative sediment filters* (strips of grass or other erosion-resisting vegetation used to
2195 prevent sediment from leaving the mine site), dug-out ponds, and **sediment traps** (small, temporary basins
2196 formed by excavation and/or enlargement to interrupt sediment and water runoff). The state regulatory
2197 agency can tell you whether the mine you are monitoring is required to have any of these devices and if so,
2198 where they should be located. Keep in mind, however, that the operator is required by SMCRA to use the
2199 "best technology currently available" to control sediment runoff.³¹³ If you suspect that the technology
2200 employed is not the best available, be sure to ask the regulatory authority about it.

2201 Another problem with sediment ponds is temperature. Water that is held in place increases in
2202 temperature. An operator must not damage aquatic life by releasing warm water from a sediment
2203 pond, especially when the receiving stream is a coldwater fishery or wild trout stream. The
2204 operator's NPDES permit should include effluent limitations for temperature.³¹⁴

2205 **Stream buffer zones.** Federal rules prohibit surface mining activities within 100 feet of a
2206 perennial stream unless otherwise allowed by the regulatory agency. Mining activities within 100
2207 feet of a stream may only be approved if they will not adversely impact water quality, quantity, and
2208 environmental resources in the stream.³¹⁵

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³¹¹ 30 C.F.R. § 816.46(c)(1)(iii)(C) (2008).

³¹² 30 C.F.R. § 816.49 (2008).

³¹³ 30 C.F.R. § 816.45(a) (2008).

³¹⁴ 33 U.S.C. § 1342 (2007).

³¹⁵ 30 C.F.R. § 816.57 (2008). A Bush administration rule promulgated in late 2008 that exempted valley fills from the stream buffer zone rule will not likely be implemented as the Obama Administration has announced its intention to return to the 1983 buffer zone rule described here. The Bush rules were published at 73 Fed.Reg. 75814 (2008)

available at: <http://frwebgate6.access.gpo.gov/cgi-bin/PDFgate.cgi?WAISdocID=391321364987+0+2+0&WASAction=retrieve> .

Controlling Impacts on Water Quantity

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Mining operations can disrupt the water yields both from surface water and groundwater systems. Under the law, a surface mine operator must replace the water supply of a landowner if the mining operation contaminates, diminishes, or interrupts the water supply.³¹⁶ The operator either must drill a new well or supply water from an alternative source.

Impacts on Groundwater

Groundwater lies below the surface of the land in zones called **aquifers**. Water is held in the aquifer by strata or a bed of material (often called a *confining bed*) that is relatively impervious to water. Mining can affect aquifers in at least three ways. First, a surface mine pit may intercept an aquifer, causing water to flow into the mine. This water must be pumped out of the mine and either into a surface stream or back onto the ground. If the water is being discharged into another waterbody or wetland area it probably needs an NPDES permit as described above. Second, blasting can adversely affect aquifers by fracturing the rock strata below the aquifer and causing the water to migrate to lower strata. Finally, subsidence may damage aquifers above underground mine workings. The collapse of the strata above a mine fractures the confining bed and allows the water to migrate to lower depths. Such disruptions of the groundwater "regime" may reduce the natural pressure within the aquifer, thereby increasing pumping costs for persons who obtain water from the aquifer. Disruption from mining also may lower the water level within the aquifer, thereby reducing or depriving some users of their supplies.

In some areas, particularly in the Appalachian region where mountaintop removal is common, many aquifers are perched and shallow. Mining through these areas will inevitably destroy these aquifers and make restoration of the hydrologic balance as required by SM CRA difficult or impossible to achieve. Be sure that the state or federal officials take baseline data for all ground water wells in the vicinity before mining begins and that additional monitoring wells are drilled as needed to accurately determine the impacts from mining.

³¹⁶ 30 C.F.R. § 817.41(j) (2008), *see also* 30 C.F.R. § 784.14 (g) (2008).

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Impacts on Surface Water

2238 Mining can affect surface water systems in much the same way that it affects groundwater aquifers.
2239 Blasting and subsidence can fracture the bed confining the stream in much the same way that it fractures the
2240 bed below an aquifer. Furthermore, surface and groundwater systems often are connected hydrologically,
2241 so that depletion of an aquifer can directly affect the quantity of water available in a stream. If mining is
2242 proposed below a surface stream, or in the vicinity of a stream, you should request that the flows of that
2243 stream be monitored so that the impacts from mining can be determined. Mountaintop removal mine
2244 operators often bury surface streams completely with “valley fills.” See the section “Controlling the
2245 Impacts of Excess Spoil Disposal” below for information on the laws governing valley fills. The
2246 headwater streams buried by valley fills are critically important because they contain unique aquatic
2247 life and provide organic nutrients to fish and other species downriver.³¹⁷

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The Need for Water Monitoring

2250 The best way to determine the impact of mining on groundwater supplies is through constant
2251 monitoring. As suggested in the previous chapter on permitting, you should attempt to obtain a wide
2252 range of data about your water resources before the application is approved. Other information on water
2253 resources may be available from the U.S. Geological Survey. Call or visit your local USGS office or visit the USGS
2254 website at www.usgs.gov and search for publications on water resources for your area.³¹⁸

2255 After mining has commenced, you should continue to monitor your well for changes in water quality
2256 and quantity. If you suspect that your water has deteriorated either in quality or quantity, request an
2257 inspection and water analysis. If you are not satisfied with the results, you may want to test your own sample
2258 and have it analyzed. (Be sure to follow the procedures described in [Chapter 5](#).) Keep careful records
2259 showing the dates when you collect samples and the information from the analysis of each sample. This
2260 may be important evidence if you decide to pursue formal action against a coal company or the regulatory
2261 agency.

³¹⁷ Jeff Goodell, *Big Coal: The Dirty Secret Behind America’s Energy Future*, 3 (Houghton Mifflin Co. 2006).

³¹⁸ Go to the following website and search for a Water Data Report for your area:
<http://pubs.er.usgs.gov/usgspubs/index.jsp?view=adv>.

Enforcing Water Standards Using the Clean Water Act

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2264 Section 505 of the **Clean Water Act (CWA)**³¹⁹ authorizes citizens to file a lawsuit to enforce the
2265 Clean Water Act's provisions. Some important CWA provisions are described in **Chapter 5** because
2266 they relate to permitting. Operators must obtain permits, for example, if they intend to pollute or
2267 discharge waste into rivers or streams. Therefore, a citizen could sue a coal operator under Section
2268 505 for dumping coal slurry into a stream without a valid discharge permit (under either § 402 or §
2269 404 of the Clean Water Act), or because the coal slurry contains pollutants like suspended solids that
2270 violate the effluent limits set forth in the NPDES permit. If the agency issues a notice of violation and
2271 compliance order³²⁰ against the operator and the operator continues dumping slurry, you can sue the
2272 coal operator for failing to comply with the agency's order.

2273 A citizen may sue any person or corporation (including any government agency) that is violating
2274 Clean Water Act standards or orders issued pursuant to the law by the EPA or the state.
2275 Alternatively, a citizen may sue the EPA directly for failing to perform a mandatory act or duty under
2276 the Act.³²¹ Before a citizen can file a lawsuit, she must notify the EPA or the state agency about the
2277 violation, and then wait 60 days to see if the EPA or state agency takes appropriate legal action to
2278 remedy the violation. If the EPA or state agency initiates a lawsuit to enforce the effluent limit, you
2279 may not file a separate lawsuit but you may join the lawsuit initiated by the agency.³²²

2280 If you sue and win, you may be reimbursed for your litigation expenses, including reasonable
2281 attorneys' fees. Section 505 provides that a prevailing party or substantially prevailing party may be
2282 awarded costs if the court deems such awards appropriate.³²³

Controlling the Impact of Mining Roads

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2285 During an inspection or on any other occasion you have to observe the mine, look at the roads
2286 that serve the mine. All roads should be located on benches, ridges, or other available flat land or stable
2287 slopes — and away from the valley bottom wherever possible.³²⁴ No roads may be located in stream
2288 beds without the express approval of the regulatory authority.³²⁵ All roads must be properly drained to

³¹⁹ 33 U.S.C. § 1365 (2007).

³²⁰ 33 U.S.C. § 1319(a)(1) (2007).

³²¹ 33 U.S.C. § 1365(a) (2007).

³²² 33 U.S.C. § 1365(b) (2007).

³²³ 33 U.S.C. § 1365(d) (2007).

³²⁴ 30 C.F.R. 816.150 (c),(d) (2008); 30 C.F.R. 816.151(c)(1) (2008).

³²⁵ 30 C.F.R. § 816.150(d)(l) (2008).

2289 protect against erosion.³²⁶

2290 There should be no evidence of erosion on the road — no gullies running down the middle, for
2291 example. Look for signs of erosion on either side of the road at points where water can be expected to run
2292 over the road. This may suggest a problem in need of correction. The design and construction of any road
2293 used to haul coal or spoil must be certified by a registered professional engineer (PE).³²⁷ Check the
2294 permit file to make sure these documents are signed, dated, and stamped with the PE’s seal. You
2295 may also want to make sure the person who signed the permit is actually a registered professional
2296 engineer.

2297

2298 **Controlling the Impacts of Excess Spoil**

2299 **Disposal**

2300 Operators of mountaintop removal mines dispose of excess “overburden”—the material comprising
2301 the top of the mountain that is blasted to reach a coal seam—by placing it in “valley fills.” Valley fills are
2302 created by dumping the overburden into valleys adjacent to the mountaintop mine.³²⁸

2303 Before beginning to construct a fill, the operator must remove all vegetative material from the area —
2304 as well as remove all topsoil— and then segregate, store or redistribute the topsoil as required by law.³²⁹
2305 But, since it is far easier to just dump everything into valley fills in one fell swoop, operators often end up
2306 using a “substitute topsoil,” consisting of overburden other than topsoil to revegetate the reclaimed mine
2307 site. Substitute topsoil typically supports grasses but not trees, and it is only allowed when it is “equal to,
2308 or more suitable for sustaining vegetation than, the existing topsoil, and the resulting soil medium is the
2309 best available in the permit area to support revegetation.”³³⁰ Furthermore, unless a special exemption is
2310 obtained, fills must be constructed in four-foot layers or “lifts” and compacted before a new layer is
2311 placed in the fill.³³¹

2312 If you are able to monitor the construction of a fill, be sure that the operator has first removed and
2313 segregated the topsoil and is regularly compacting the spoil in the fill. Keep records of your observations

³²⁶ 30 C.F.R. § 816.151(d) (2008).

³²⁷ 30 C.F.R. § 816.151(a) (2008).

³²⁸ “Head-of-hollow” fills refer to overburden dumped from the mountaintop into the top, or “head,” of the adjacent valley. But most of these fills are more accurately described as “valley fills,” because modern fills often bury more than just the “head” of the hollow.

³²⁹ 30 C.F.R. § 816.22 (2008).

³³⁰ 30 C.F.R. § 816.22(b) (2008).

³³¹ 30 C.F.R. § 816.71(e)(2) (2008).

2314 and report potential problems to the regulatory authority immediately. Once the fill is constructed, it will
2315 be extremely difficult to prove that irregularities occurred during construction.

2316 Fills must be located in the most moderately sloping and naturally stable areas available, and where
2317 possible, must be placed above a natural berm or bench, if such placement will make the fill more stable.³³² If
2318 the fill area contains springs, the engineer must design a system of courses or wet weather seeps in order
2319 either to divert the water around the fill or provide a drainage system under the fill.³³³ The drainage plans
2320 must be designed to prevent infiltration of water into the excess spoil material disposed of in the fill.³³⁴
2321 Drainage systems usually will be necessary for any head-of-hollow or valley fill, and they must be approved by
2322 the regulatory authority.³³⁵ Operators often disregard the rules for creating fills completely and simply
2323 dump the overburden down the nearest valley. The resulting burial of valley streams is one of the
2324 greatest abuses in the modern coal-mining era. Burying a stream quite clearly violates the stream
2325 buffer zone rule,³³⁶ which generally allows a variance from the 100' buffer zone requirement around
2326 streams where no adverse impacts would result. In December, 2008, the Bush Administration
2327 promulgated rules that exempted excess spoil fills from the buffer zone restriction.³³⁷ Shortly after
2328 taking office, however, the Obama administration announced its intention to rescind the 2008 Bush
2329 rules.

2330 Where the fill materials are comprised of at least 80 percent *durable rocks* (such as limestone or
2331 sandstone, but not shale), less stringent requirements are imposed on operators.³³⁸ They still must have
2332 the fill certified and must control the drainage to keep water away from the fill.³³⁹

2333 For most fills, spoil material must be transported and placed in a controlled manner.³⁴⁰ This generally
2334 means that the spoil will have to be trucked or moved by conveyor to the fill area. End-dumping of spoil is
2335 generally prohibited.³⁴¹ Where an operator is mining multiple seams, however, the regulatory authority has
2336 discretion to approve excess spoil disposal by dumping spoil down chutes from a higher bench to a lower
2337 pre-existing bench.³⁴²

³³² 30 C.F.R. § 816.71(c), (2008).

³³³ 30 C.F.R. § 816.71(f) (2008).

³³⁴ 30 C.F.R. § 816.71(f) (2008).

³³⁵ 30 C.F.R. § 816.72(a) (2008); 30 C.F.R. § 816.71(b) (2008).

³³⁶ 30 C.F.R. § 816.57 (2008)

³³⁷ 73 Fed.Reg. 75883(2008) available at: <http://frwebgate6.access.gpo.gov/cgi-bin/PDFgate.cgi?WAISdocID=391321364987+0+2+0&WASAction=retrieve>.

³³⁸ 30 C.F.R. § 816.73(b) (2008).

³³⁹ 30 C.F.R. § 816.72(a) (2008); 30 CFR § 816.71(b) (2008).

³⁴⁰ 30 C.F.R. § 816.71(a) (2008).

³⁴¹ 30 C.F.R. §816.71(e)(2) (2008). “Excess spoil shall be transported and place in a controlled manner in horizontal lifts not exceeding 4 feet in thickness...”

³⁴² 30 C.F.R. §816.79(h) (2008).

2338 Fills must be inspected at least every three months during their construction by a registered
2339 professional engineer, and a report of the inspection must be provided to the regulatory authority.³⁴³
2340 These inspections are critically important, and you should contact the regulatory authority immediately if
2341 you have evidence that these inspections are not being conducted in a timely fashion. You also should
2342 check the inspection reports for accuracy and completeness and for any indications of violations. Again,
2343 make sure the inspector is actually a professional engineer and the engineer's reports contain his or
2344 her signature and seal.

2345 **Controlling Landslides**

2346 Landslides can occur when an irresponsible operator disposes of the overburden in the cheapest and
2347 quickest way possible: by dumping it over the side of the mountain. In steep terrain, spoil dumped this way
2348 on the downslope is usually unstable. Even normal rainfall may be enough to start it moving. If a landslide
2349 has come onto your property, call a state or federal inspector immediately, and demand that the mine
2350 operator remove the slide as quickly as possible, regardless of cost.

2351 Obviously, however, you would be better off preventing slides before they occur. The first step is to look
2352 for spoil on the downslope (the area below the bench in a contour mining operation). If you see spoil on
2353 the downslope, find out when it was placed there, and try to determine the angle of the slope. (See box.) If
2354 the spoil was dumped over the downslope after May 4, 1978, and the slope is steeper than 20 degrees, the
2355 operator has violated the law, and you need no further information before calling an inspector.³⁴⁴

2356 If the slope is less than 20 degrees (a rare find in the Appalachian Mountain coalfields) it may not be illegal
2357 to dump spoil on the downslope. Nonetheless, as noted above, the federal regulations require that the
2358 disposal area be located "on the most moderately sloping and naturally stable areas available."³⁴⁵ If the
2359 operator has failed to comply with this requirement a violation exists. Of course, the company may
2360 also be liable – whether or not they had the correct slope – if the disposal activities cause a landslide
2361 resulting in spoil leaving the mine site.

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³⁴³ 30 C.F.R. § 816.71(h) (2008).

³⁴⁴ 30 U.S.C. § 1265(d) (2007).

³⁴⁵ 30 C.F.R. § 816.71(c) (2008).

MEASURING SLOPES

The federal law and regulations impose a variety of requirements that relate to the slope of the land. Some of these requirements apply only to slopes that exceed a certain steepness or grade; others limit the steepness of slopes following backfilling and grading. Slopes sometimes are described as percentages and other times in degrees, a possible source of confusion.

A slope described as a percentage merely measures the amount of rise or fall over a distance of 100 feet. Thus, a slope that gains 50 feet in vertical height over a horizontal distance of 100 feet is a 50 percent slope. Measuring a slope by degrees is based upon a 360 degree circle. Thus, a sheer vertical wall would be one-fourth of a circle, or 90 degrees. A 100 percent slope, (a slope that rises as quickly as it proceeds along the horizontal) is a 45 degree slope. Likewise, a 50 percent slope is equal to a 22.5 degree slope. Some of the statutory requirements apply to 20 degree slopes, which are the equivalent of 44.4 percent slopes.³⁴⁶

Generally, it's hard to gauge the steepness of a slope with your naked eye. You should be able to get OSM or your state agency to measure the slope for you. (If you prefer to do it yourself, you can use a device called an Abney level, a tool for measuring slopes that is available at hardware stores but is relatively expensive.)

It is not always easy to determine whether the spoil is stable or shows signs of sliding. But some common-sense observations may help you spot an unstable disposal area.

- First, look at the terrain. Did the operator scalp the area (removing trees and undergrowth) before dumping the spoil? If not, the spoil is likely to be unstable. Furthermore, as described earlier, failure to scalp the area before disposing of spoil is itself a violation.
- Do you see any surface water runoff? Are there ponds of water on the bench above the spoil? Are there underground water seeps or other naturally wet areas nearby? These are indications that water may be impacting the stability of the spoil.

³⁴⁶ For example, spoil may not be dumped onto the downslope below the bench cut if the slope is greater than 20 degrees. Twenty-degree slopes are considered “steep slopes” under SMCRA.

2391 • Will the terrain below the spoil provide an adequate barrier to keep it from sliding? Has the toe at the
2392 lower edges of the spoil been eroded? If so, the whole mass of spoil could come down in heavy rain.

2393 • Next, look at the spoil itself. Has the spoil been compacted (compressed by rollers or tractors) in
2394 layers? If not, it is likely to be unstable. Do you spot any tension cracks in the spoil? Deep cracks may
2395 indicate a lack of stability. If the spoil appears to be unstable, a dangerous condition exists, and an
2396 inspector should be called immediately.

2397 Once the spoil actually begins to move, it is unquestionably dangerous. Many times, sliding spoil can be
2398 spotted easily — it will creep down the hill and you can see that the whole mass has been moving. In other
2399 cases, you may have to look carefully for signs of movement. For example:

2400 • Look for cracks at the top of the spoil. This may indicate that water is saturating the material under
2401 the surface.

2402 • Look for a bulging at the toe of the spoil. This indicates that the dirt and rocks within the mass of spoil
2403 are in motion even though the surface may appear stable.

2404
2405 • Check to see whether the shape of the mass of the spoil changes, especially at the bottom. If so, the
2406 spoil is moving.

2407 These are all tell-tale signs of a landslide developing. If you see them, don't hesitate. Call an inspector.

2408 **Controlling Impacts from Blasting**

2409 Strip mine operators use explosives to shatter the overburden. Poorly-controlled blasting can result
2410 in extensive property damage. Foundations crack, windows break, wells lose water, porches separate
2411 from homes, and boulders fly through roofs. SMCRA contains detailed provisions on the proper use of
2412 explosives, which can help you to protect your property against blasting damage.³⁴⁷

2413 Only persons trained and certified by the proper state agency may conduct blasting operations,³⁴⁸

³⁴⁷ 30 U.S.C. § 1265(b)(15) (2007); 30 C.F.R. § 816.61-68 (2008).

³⁴⁸ 30 U.S.C. § 1265(b)(15)(D) (2007).

2414 and blasting may take place only between sunrise and sunset.³⁴⁹ The mine operator must publish a blasting
2415 schedule in the local newspaper 10 to 30 days before blasting begins, and copies of the schedule must be
2416 provided to all residents within a half mile of the blasting area.³⁵⁰ The schedule should contain the
2417 operator's contact information and identify the specific areas, dates, and time periods in which blasting
2418 will take place, as well as methods to be used to control access to the blasting area and types of audible
2419 warning signals to be used before blasting.³⁵¹ While mining continues, the operator must republish and
2420 redistribute his blasting schedule at least every 12 months.³⁵² If the blasting schedule is violated, you can call
2421 the state agency and ask an inspector to investigate.

2422 The size of each blast also is regulated. The operator must record information about each blast and
2423 must keep this information on file for three years.³⁵³ Blasting records must be made available for public
2424 inspection on request.³⁵⁴

2425 You should become familiar with the operator's blasting plan. Record any blasting you see. It is a good
2426 idea to check the operator's records from time to time to see if they match yours.

2427 As noted in the discussion of the permitting process, if you live (or own a structure) within a half mile of
2428 a blasting area, you can and should ask the state for a pre-blasting survey of your property. The purpose of
2429 the survey is to "determine the condition of the dwelling or structure and to document any pre-blasting
2430 damage and other physical factors which could reasonably be affected by blasting."³⁵⁵ [See **box in Chapter**
2431 **Five** for more information about pre-blast surveys.] The operator is required to perform a survey if
2432 you request one. If you live more than a half-mile from the blasting area, or if blasting has already
2433 started, you should still request a pre-blast survey. Although your request may not be granted, you
2434 will still be on record as having requested a survey. Your insurance company may also cover an
2435 independent survey if you think one is necessary.

2436 If a blast throws rock or other material on your property, you should take note of any damage that has
2437 occurred. If possible, record the exact time of the blast. Take pictures showing the damage in detail. Be sure
2438 to note the pertinent information about the camera, date, time, place, and the person taking the picture,
2439 as described previously in this chapter. It is illegal for a blasting operation to cause any damage to
2440 your home, even cosmetic damage.

³⁴⁹ 30 C.F.R. § 816.64(a)(2) (2008).

³⁵⁰ 30 C.F.R. § 816.64(b)(1), (2) (2008).

³⁵¹ 30 C.F.R. § 816.64(c) (2008).

³⁵² 30 C.F.R. § 816.64(b)(3) (2008).

³⁵³ 30 C.F.R. § 816.68 (2008).

³⁵⁴ 30 C.F.R. § 816.68 (2008).

³⁵⁵ 30 C.F.R. § 816.62(c) (2008).

2441 According to regulations, flyrock from a blasting site may not travel more than one-half the distance to
2442 an occupied structure.³⁵⁶ Therefore, any debris which reaches your property indicates a probable violation
2443 and you should file an immediate complaint with the state agency. You also should request an inspection. If
2444 your complaint has a reasonable basis, the state must inspect; if a violation is found, the inspector must
2445 issue a citation.

2446 If blasting is causing your house to shake, or some other problem such as loss of well water, ask the state
2447 agency to set up a seismograph on your property. A seismograph is an instrument sensitive to ground motion
2448 that can sometimes measure blasting accurately enough to determine whether an operator is violating the
2449 law.

2450 When the state agency sets up the seismograph, ask the official to explain its operation to you
2451 thoroughly, so that you can be sure it is working properly. Since mining companies have been known to cut
2452 back on their blasting during periods of monitoring, you should request that the operator not be told
2453 that blasting is being monitored. If the official agrees to this request, make a note of the official's name and
2454 the date. You also should confirm your arrangement in writing.

2455 With the aid of the seismograph, you and the state agency may be able to determine whether the
2456 blasting violates the law. Ask the inspector to issue a notice of violation or a cessation order for any illegal
2457 blasting activity. In case of doubt, you may want to go with an inspector to check the operator's blasting
2458 records. The inspector should compare the post-blasting damage to the pre-blast survey. It is not
2459 sufficient to simply assess the seismographic records to determine if damage *should* have occurred.

2460 If you have damage that did not exist prior to blasting, and the operator refuses to compensate
2461 you, take the company to small claims court. Check with your state regulatory agency to see if your
2462 state has a blasting office that can assist you with blasting claims.

2463 For a useful guide to protecting your home from blasting damage, see "The People's Guide to
2464 Blasting" by Will Collette and Freda Harris.³⁵⁷ The Mountain Watershed Association has also
2465 published a useful brochure.³⁵⁸

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³⁵⁶ 30 C.F.R. § 816.67(c)(1) (2008).

³⁵⁷ Will Collette, Freda Harris, THE PEOPLE'S GUIDE TO BLASTING, (1999).

³⁵⁸ Mountain Watershed Association, How Do I Document Blasting Damage, (July 1, 2009) available at:
http://www.mtwatershed.com/resources/strip_mining/how_to_document_blasting_damage.pdf

Controlling the Impacts of Topsoil and Overburden Removal

The operator is required to remove and save at least six inches of topsoil (or the most suitable subsoil as approved by the regulatory agency) before mining begins.³⁵⁹ Watch for scrapers and bulldozers to see that they are removing at least six inches of the uppermost material.

SMCRA requires the operator to either save the topsoil in stockpiles, or immediately distribute it on mined-out areas that have been regraded.³⁶⁰ If stockpiled, the soil must be protected from wind and water by the use of a snow fence, vegetation, or any other kind of treatment that preserves the soil and prevents erosion.³⁶¹ Thus, if you see wind blowing topsoil off the pile, you are probably observing a violation. Note also that stockpiles must be placed on stable sites within the permit area and cannot be moved until the material is redistributed on a regraded area without the approval of the regulatory agency.³⁶²

After removing the topsoil, the operator removes the overburden – the material covering the coal. If the regulatory agency has identified any of the layers of overburden as toxic they must be segregated from the rest of the overburden.³⁶³ Materials directly above the coal seam often are toxic.

Controlling Backfilling, Grading and Other Reclamation Work

After the coal seams have been removed, SMCRA requires the operator to put the spoil material back in place and grade the area to its approximate original contour (AOC), with all highwalls, spoil piles and depressions eliminated. **Backfilling** and grading (as well as other reclamation activities such as topsoil replacement and revegetation) generally must take place as soon as is practicable after mining.³⁶⁴ This usually means that where mining occurs in adjacent pits, an operator should remove the coal from the first pit before opening the next pit in order to use the overburden from the second pit to backfill the first pit.

³⁵⁹ 30 C.F.R. § 816.22(a) (2008).

³⁶⁰ 30 U.S.C. § 1265(b)(5) (2007); 30 C.F.R. § 816.22(c) (2008).

³⁶¹ 30 U.S.C. § 1265(b)(5) (2007).

³⁶² 30 C.F.R. 816.22(b)(2)(i), (iv) (2008).

³⁶³ 30 C.F.R. 816.71(e)(5) (2008); 30 C.F.R. 816.41 (2008). Toxic spoil should be treated or buried away from nontoxic materials in order to prevent surface and ground water contamination, minimize the adverse affects on plant growth, and the approved postmining land use.

³⁶⁴ 30 U.S.C. § 1265(b)(16) (2007).

2494 During the backfilling and grading operation, SMCRA requires the operator to bury or otherwise treat all
2495 toxic and combustible materials to assure that they do not become sources of pollution.³⁶⁵ If toxic materials
2496 are allowed to come in contact with surface water, the resulting drainage will likely be toxic, thus causing
2497 pollution of streams and other water bodies.

2498 The area must then be graded to closely resemble the original contour³⁶⁶ and probably **scarified** or
2499 roughened in some fashion, so that topsoil will not slip once it is placed on the regraded area.³⁶⁷ All final
2500 grading must be done in a manner that minimizes erosion. This generally means grading along the contour —
2501 perpendicular to the slope.³⁶⁸

2502 The regulations permit the operator to re-shape the mined area with terraces, if prior state approval is
2503 received. Check the permit to see if approval has been given.

2504 The final graded slopes must be protected from wind and water erosion.³⁶⁹ There should be no
2505 significant *rills* (small channels caused by the erosive effect of water) or gullies on these slopes, and there
2506 should be no evidence of slumping or potential landslides. If these problems develop, the operator must re-
2507 grade the area and re-seed or replant it.³⁷⁰ If rills or gullies have developed, which suggest that reclamation
2508 may fail, ask the state to require the operator to repair the damage before it becomes worse.

2509 Once an area has been graded, it must be covered with topsoil (or the approved, most suitable soil).
2510 This soil must be spread in a uniform thickness and adequately protected from wind and water erosion.

2511 The operator then must seed and mulch the graded area during "the first normal period for favorable
2512 planting conditions after placement of the plant growth medium."³⁷¹ All areas must be seeded with a
2513 temporary cover of small grains, grasses, or legumes (such as alfalfa), until adequate permanent cover is
2514 established.³⁷² If the area has been improperly prepared, you will probably see signs of gully erosion and
2515 should notify the state. You also should look closely at former stripped areas that have been growing for a
2516 year or so. Is vegetation poor in comparison with that in other parts of your region? If so, a violation may
2517 exist. Most likely, the spoil was handled improperly or seeding was inadequate. Ask the state to conduct an
2518 inspection.

2519 One new attempt to restore optimal soil conditions is the Appalachian Regional Reforestation

³⁶⁵ 30 U.S.C. § 1265(b)(14) (2007).

³⁶⁶ 30 U.S.C. § 1265(b)(3) (2007).

³⁶⁷ 30 C.F.R. § 816.102(j) (2008).

³⁶⁸ 30 C.F.R. § 816.102(j) (2008). "Preparation of final-graded surfaces shall be conducted in a manner that minimizes erosion and provides a surface for replacement of topsoil that will minimize slippage."

³⁶⁹ 30 U.S.C. § 1265(b)(8) (2007); 30 C.F.R. § 816.49(b)(4) (2008).

³⁷⁰ 30 U.S.C. § 1265(b)(20)(A) (2007).

³⁷¹ 30 C.F.R. § 816.113 (2008).

³⁷² 30 C.F.R. § 816.22(c)(2)(iii) (2008).

2520 Initiative (ARRI). The ARRI is a coalition of OSM and several Eastern coalfield state agencies. The
2521 agencies cooperate with the coal industry, environmental groups, citizens' groups, and scientists to
2522 promote the goal of replanting high-value hardwood forests on reclaimed coal mines. Traditional
2523 surface mine reclamation techniques over-compact replaced soil, making it harder for high-value
2524 hardwood trees to grow. The ARRI encourages looser soil compaction techniques and planting new
2525 trees in two stages: first, early-succession species are planted to stabilize soil and allow wildlife to
2526 return. Second, commercially valuable crop trees are planted. Using at least four feet of properly
2527 compacted soil and proper planting techniques allow effective forest regrowth. The ARRI calls their
2528 reforestation technique the "Forestry Reclamation Approach," or FRA. The ARRI's website is
2529 available at <http://arri.osmre.gov>. The program is, however, voluntary, and mining companies have
2530 little incentive to adhere to the program.

2531 **Controlling Mountaintop Removal Operations**

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2533 Under the law, an operator may be permitted to remove the entire top of a mountain if he can meet
2534 certain requirements. Mountaintop removal (MTR) is defined as a mining operation that "will remove an
2535 entire coal seam or seams running through the upper fraction of a mountain, ridge or hill by removing all of
2536 the overburden and creating a level plateau or a gently rolling contour with no highwalls remaining."³⁷³ This
2537 practice is generally confined to the mountainous areas of the Eastern coal mining states. In addition to the
2538 previously noted valley-fill regulations, an operator must meet several requirements in order to get
2539 permission for mountaintop removal:

- 2540 • The operator must establish a post-mining industrial, commercial, agricultural, residential, or public
2541 use for the mountaintop.³⁷⁴
- 2542 • The final grade of the top of the mountain must be less than 20 degrees.³⁷⁵
- 2543 • Water must drain toward the middle of the area (not down the sides of the mountain).³⁷⁶

³⁷³ 30 C.F.R. § 824.11(a)(2) (2008).

³⁷⁴ 30 U.S.C. § 1265(c)(3) (2007), 30 C.F.R. § 785.14(c)(1) (2008).

³⁷⁵ 30 C.F.R. § 824.11(a)(8) (2008).

³⁷⁶ 30 U.S.C. § 1265(c)(4) (2007).

2544 • The *outslopes* (the slopes below the coal seam) of the area cannot exceed 50 percent without the
2545 approval of the regulatory authority.³⁷⁷

2546 • To prevent slides, an outcrop barrier "of sufficient width" must be retained.³⁷⁸

2547 • Damage to streams below the mountaintop must be prevented.³⁷⁹ (This requirement is
2548 frequently violated by mountaintop removal operations, which construct valley fills that bury
2549 streams. The difficulties of enforcing against these violations are discussed briefly below.)

2550 • All mountaintop removal permits must be reviewed every three years, and the terms of such
2551 permits can be changed to reflect site conditions.³⁸⁰

2552 • All other standards of the law must be met.

2553

2554 The detailed inspection checklist at **Appendix C** sets forth the extensive requirements for conducting
2555 a mountaintop removal operation. Where appropriate, the checklist contains references to the federal
2556 statute and regulations. Take this checklist with you when you visit a mine site and use it to help you
2557 identify potential problems at the site.

2558 As described at the beginning of this book, mountaintop removal mining is perhaps the most
2559 controversial method of coal mining. When SMCRA was enacted, however, mountaintop removal was
2560 not nearly as widespread as it is today. Efforts to control or limit mountaintop removal are described
2561 throughout this book, particularly in the context of Clean Water Act challenges described in **Chapter**
2562 **5**.³⁸¹

Controlling the Impacts from Subsidence

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2565 Subsidence of the surface above underground mine workings can take the form of surface cracks or
2566 potholes and may not show up for many years. Most modern underground mining today, however, uses
2567 longwall mining methods that result in planned subsidence, which occurs soon after the coal is
2568 extracted. Planned subsidence occurs when operators allow the tunnel from which coal is extracted to

³⁷⁷ 30 C.F.R. § 824.11(a)(7) (2008).

³⁷⁸ 30 C.F.R. § 824.11(a)(6) (2008).

³⁷⁹ 30 C.F.R. § 824.11(a)(9) (2008).

³⁸⁰ 30 U.S.C. § 1265(c)(6) (2007).

³⁸¹ For an informative story of Appalachian citizens and lawyers challenging the destructive practices of MTR mine operators, see MICHAEL SHNAYERSON, *COAL RIVER*, (Farrar, Straus and Giroux 2008).

2569 collapse in a controlled manner, causing the surface of the land to sink. Under SMCRA, the mining
2570 operator has the responsibility to “minimize material damage to the extent technologically and
2571 economically feasible to non-commercial buildings and occupied dwellings.”³⁸² Additionally, if the
2572 damage occurred after 1992, the mining operator must repair or compensate for any material damage
2573 to your residential property.³⁸³

2574 In 2001, the West Virginia Supreme Court described the effect of subsidence on adjacent lands:
2575 “Because subsidence extends laterally beyond the area actually undermined, adjacent surface land is
2576 affected as well. Somewhat like the sides of a shallow trench dug in the sand on a beach tend to
2577 collapse inward, land adjacent to the undermined area may be dragged downward as the roof over a
2578 mined area collapses. When combined with the known depth of the mining activity, the angle of
2579 draw can be used to predict the general area where subsidence can be expected to occur.”³⁸⁴

2580 Your house may be impacted by subsidence even though it is located hundreds or even thousands
2581 of feet away from the area directly above a mine. A pre-subsidence survey, as well as any photographs
2582 or other proof that the property was not damaged before subsidence, will be valuable in proving that
2583 the mining operator is responsible for the damage and must repair your property or compensate you for
2584 any decrease in property value you have suffered.

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³⁸² 30 C.F.R. § 817.121(a)(2) (2008).

³⁸³ 30 CFR § 817.121(c)(2) (2008). This provision was added as part of the 1992 Energy Policy Act.

³⁸⁴ *Antco, Inc. v. Dodge Fuel Corp.*, 209 W. Va. 644, 649 (2001).

7

PARTICIPATING IN BOND RELEASE PROCEEDINGS

At the final stage of a mining operation, the state releases operators from the bond posted during the permitting stage. The purpose of the bond is to make sure that the regulatory agency has access to sufficient funds to pay for the reclamation of the affected land if operators fail to live up to the terms of their permits. Release of the bond releases the operator from any responsibility imposed by SMCRA for damages from the mining operation.

Participation at the permitting and enforcement stages will probably provide you with most of the technical information you will need to participate effectively in bond release proceedings. Put simply, the state should not release a bond unless operators have reclaimed the mined land in accordance with the terms of their permits and in the manner required by the applicable federal and state laws.

The checklist at Appendix D was designed to guide you through the review of a bond release application. Note that the checklist is divided into three parts, consistent with the three phases of bond release authorized by the statute: (1) backfilling and grading; (2) revegetation; and (3) full reclamation under the standards of SMCRA. Some operators, however, will not seek bond release until two or even all three phases are completed.

When an operator desires to have all or any portion of its bond released it must file an application with the appropriate state or federal agency and it must include a statement certifying that all relevant reclamation activities have been completed in accordance with the law. The

2610 operator must also notify local landowners and local government officials, including water
2611 treatment authorities, of its application and advertise the application by publishing a notice in a local
2612 newspaper once a week for four consecutive weeks.³⁸⁵

2613 The issues that are most likely to arise at the backfill and grading stage of reclamation have to do
2614 with the contour of the land. Recall that the operator is generally required to restore the
2615 approximate original contour of the land. Ask yourself whether the restored lands blend well with
2616 the surrounding terrain and whether proper drainage patterns have been restored. Assess the land
2617 during or right after a big rain storm to see how well water flows through the land. Keep in mind
2618 that moving dirt is the biggest expense an operator faces at a mine site and that accordingly, an
2619 operator will want to minimize this work.

2620 The regulatory authority may release up to 60% of the total bond after the first phase of
2621 reclamation has been completed. Therefore, if the contours have not been properly restored and
2622 the Phase I bond has been released, the remaining bond may not be adequate to cover the
2623 additional reclamation that will be needed.

2624 At the revegetation stage, the bond release process should generally take place during the
2625 growing season. One important issue that can arise concerns the seed mixture that is used. Native
2626 grasses are strongly preferred and non-native varieties may be used only if found to be both
2627 *desirable and necessary*.³⁸⁶ On prime farmlands, the second phase bond cannot be released until
2628 “the soil productivity ... has returned to equivalent levels of yield as nonmined land in the
2629 surrounding area...”³⁸⁷ All siltation structures must also be removed before phase two bond
2630 release. As with the first phase, it may be helpful to view the reclaimed land immediately after a rain
2631 storm. This should give you a pretty good idea as to how well the soils and vegetation are holding
2632 up against harsh weather.

2633 At the final bond release stage, the success of revegetation will likely show how successful the
2634 reclamation was overall. On eastern coal lands, the final portion of the bond cannot be released
2635 until five years after successful revegetation and natural regeneration. During the five year period,
2636 the operator may not seed, fertilize, irrigate, or perform other work designed to artificially enhance
2637 the vegetation. On the western lands, the period for successful revegetation without artificial help
2638 is ten years.³⁸⁸

³⁸⁵ 30 CFR § 800.40(a),(b).

³⁸⁶ 30 U.S.C. § 1265(b)(19). (Emphasis added.)

³⁸⁷ 30 U.S.C. § 1269(c)(2).

³⁸⁸ 30 U.S.C. § 1265(b)(20)(A). An exception applies for long-term, intensive agricultural post-mining land uses.

2639 The most difficult aspect of reclamation to evaluate is, not surprisingly, the post-mining surface and
2640 groundwater hydrology. Among other things, SMCRA requires coal operators to assure the protection of
2641 the quality and quantity of surface water systems from the adverse effects of mining; to restore the
2642 recharge capacity of the mined area to approximate pre-mining conditions; and, in Western states, to
2643 preserve the essential hydrologic functions of most alluvial valley floors. The success of reclaiming
2644 water systems is an issue that can be raised at every phase of bond release but be sure to raise the
2645 issue as early in the process as possible to maximize the chance that something effective will be
2646 done to restore the pre-mining hydrologic conditions.

2647 If expert assistance is available to help you to evaluate the operator's reclamation success, use it. If not,
2648 be persistent in asking the state and federal agencies to supply you and the public with the information
2649 necessary to evaluate the post-mining hydrology. Are a sufficient number of wells being monitored over a
2650 sufficient period of time? Are there substantial inconsistencies in data from the same well? If so, question
2651 the accuracy of the monitoring devices. If the data suggest possible water quality or quantity problems,
2652 find out what will be done to correct them. Demand that the corrections be carried out and checked for
2653 effectiveness before the bond is released. If at one phase you find insufficient information about the success
2654 of this aspect of reclamation, ask that the application be denied or, at a minimum, that the operator
2655 provide the information before applying for the next phase.

2656 Finally, bear in mind that once the entire bond has been released, the mine is no longer considered a
2657 surface coal mining and reclamation operation under SMCRA. At that point, the authority to conduct
2658 periodic inspections and to take enforcement action for violations expires. Accordingly, any problems that
2659 may develop after bond release will likely be borne not by the mining company but by the people who live in
2660 the communities around the mine.

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APPENDICES

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2669 **Appendix A**
2670 **Sample Freedom of Information Request**
2671

2672 [Your name]

2673 [Your address]

2674 [Your telephone number]

2675 [Your e-mail address]

2676

2677 [Date]

2678

2679 Director, [Name of State] Field Office

2680 Office of Surface Mining Reclamation and Enforcement

2681 Address – See **Appendix H**

2682 Re: Freedom of Information Request

2683 *[Be sure this reference appears on your envelope too]*

2684 Dear Director:

2685 In accordance with the Freedom of Information Act (FOIA), 5 U.S.C § 552, and the regulations
2686 at 43 CFR § 2.14, I hereby request copies of all documents which may relate in any way to—*[Describe*
2687 *the information you are seeking. Try to keep your inquiry narrow without allowing the agency to*
2688 *sidestep pertinent information they may want to withhold For example, don't ask for every document*
2689 *relating to a particular permit or mine; ask for all documents that relate in any way to a particular*
2690 *problem you are facing at the mine — for example, water quality. Keep in mind that, despite its name.*
2691 *FOIA applies to documents, not information; unless the information you seek has been reduced to*
2692 *writing, the government does not have to supply the information. Finally, if you know something about*
2693 *a particular document you are looking for—for example, a memo from X to Y dated 1/2/87—ask for that*
2694 *document specifically.]* As used in this request, "document" is intended to be construed broadly to
2695 encompass all memoranda, letters, e-mail messages, notes, records of meetings or telephone
2696 conversations, in any format (including electronic format) whether in preliminary or final form.

2697 This request is made on behalf of—*[state the name of your non-profit group if applicable, or*
2698 *name of others interested in information.]* The disclosure of this information primarily will benefit the
2699 general public and will not primarily benefit the commercial interests of the individual requester

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APPENDIX B

Permit Application Checklist

A complete application for a mining permit should contain all information in this checklist. Missing information is grounds for denying the permit.

The sheer length of this list may seem intimidating, but you will be surprised with how much you can accomplish with a little perseverance. If you can't figure something out, ask the agency personnel for assistance. References are to SMCRA and to the federal regulations. State programs and regulatory agencies (RAs) are required to have provisions as stringent as SMCRA and as effective as the federal regulations. Accordingly, the federal standards are an appropriate benchmark against which to measure a permit application.

If a state claims the right to approve a permit's provision on the grounds that it is consistent with the state regulation, you should ask whether that provision ensures the same level of protection as the comparable federal standard. If it does not, you should immediately request that the Office of Surface Mining conduct an evaluation of the state program in accordance with the regulations at 30 C.F.R. § 733.12(a)(2). The procedures for requesting such an evaluation are set forth in **Chapter Four** of this handbook.

I. Legal, Financial, Compliance and Related Information

- A. Name, address, phone number of applicant and type of business. 30 U.S.C. § 1257(b); 30 C.F.R. § 778.13
 - If other than sole proprietorship:
 - Names of each officer, partner, principal, director, or principal shareholder. 30 U.S.C. § 1257(b).
 - All names under which applicant, partner or principal shareholder previously operated coal mining operations within five years preceding application. 30 U.S.C. § 1257(b).
 - Statement of current and previous permits held within five years preceding application. 30 U.S.C. § 1257(b).

- 2751 Name and address of all persons owning surface or mineral estate of property to
2752 be mined and property contiguous to property to be mined. 30 C.F.R. § 778.13.
- 2753 Mine Safety and Health Act (MSHA) numbers for all structures needing MSHA
2754 approval. 30 C.F.R. § 778.13(d).
- 2755 Statement of all lands, options or bids for interest in land contiguous to permit
2756 area held by applicant. 30 C.F.R. § 778.13(c).
- 2757 B. Information regarding past violations. For general information consult 30 C.F.R. § 778.14.
- 2758 C. Whether applicant or subsidiary or affiliate has –
- 2759 Had a permit suspended or revoked within five years preceding application. 30 C.F.R. §
2760 778.14, 30 U.S.C. § 1257(b)(5).
- 2761 Forfeited a bond. If so, information regarding status and circumstances must be supplied.
2762 30 C.F.R. § 778.14, 30 U.S.C. § 1257(b)(5).
- 2763 D. List all violations (if any) incurred by applicant, affiliate, etc. during three years preceding
2764 the application and the status of any such violations. 30 C.F.R. § 778.14. NOTE: Permit cannot
2765 be issued until all violations are corrected, all fines are paid, and all monies owed are paid to
2766 the Abandoned Mined Land Fund. 30 U.S.C. § 1260(c); 30 C.F.R. § 773.15(b)(1), (c)(7). *See also*
2767 30 C.F.R. § 773.15(b)(3), which prohibits issuance of permits to operators with a
2768 demonstrated pattern of willful violations.
- 2769 E. Documentation of the operator’s legal right to enter property to be mined. 30 U.S.C. §
2770 1257(b)(9).
- 2771 F. Where the private mineral estate has been severed from the private surface, the permit must
2772 contain (30 C.F.R. § 778.15(b)) –
- 2773 Written consent of surface owner to extract coal by strip mining method; or
2774 Copy of conveyance which allows such mining; or
2775 Documentation that state law allows such mining under the type of conveyance held by
2776 applicant. 30 C.F.R. § 778.15(b).
- 2777 G. Information regarding lands within proposed permit area which are designated or subject
2778 to petition for designation as unsuitable for mining. (Mining operations are prohibited on
2779 these lands.) 30 U.S.C. § 1260(b)(4).
- 2780 H. The necessary waivers or approvals if mining is proposed within 300 feet of an occupied
2781 dwelling or 100 feet of a public road. 30 U.S.C § 1272(e)(4), (5).

2782 I. Proof of publication of intent to begin mining operation in a newspaper of general
2783 circulation once a week for four consecutive weeks. 30 U.S.C. § 1257(b)(6).

2784 **II. Environmental Resources**

2785 A. Information regarding climate, including seasonal precipitation, wind direction and
2786 velocity, and seasonal temperature ranges. (This information is required only when
2787 requested by the state. If you believe this information is important, for example to analyze
2788 the operator’s erosion control plan, ask the state to require it.) 30 C.F.R. § 779.18.

2789 B. Vegetation information adequate to predict potential for reestablishing vegetation. 30
2790 C.F.R. § 779.19.

2791 C. Study of fish and wildlife and habitats within permit area. 30 C.F.R. § 780.16.

2792 D. “The operation would not affect the continued existence of endangered or threatened
2793 species or result in destruction of adverse modification of their critical habitats, as
2794 determined under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)” 30 C.F.R. §
2795 773.15(j).

2796 E. Soil survey including description and analysis of present and potential productivity of
2797 existing soils. 30 C.F.R. § 779.21. NOTE: If the applicant proposes to use overburden materials
2798 to supplement or substitute topsoil, it must show that the resulting material is “equal to or
2799 more suitable for sustaining vegetation than the existing topsoil.”

2800 F. Description of pre-mining condition, capability, and productivity of land within permit area.
2801 30 C.F.R. § 779.11.

2802 G. Maps prepared under supervision of and certified by engineer, showing:

2803 Boundaries of lands and names of both surface and subsurface owners. 30 C.F.R. §
2804 779.24(a).

2805 Boundaries of lands over which applicant has legal rights to mine. 30 C.F.R. §
2806 779.24(b).

2807 Boundaries of lands proposed to be affected. 30 C.F.R. § 779.24(c).

2808 Location of all buildings within 1,000 feet of permit area. 30 C.F.R. § 779.24(d).

2809 Location of subsurface man-made features (such as power lines or pipelines). 30
2810 C.F.R. § 779.24(e).

2811 Boundaries of reference areas for determining revegetation success. 30 C.F.R. §
2812 779.24(f).

- 2813 Location of water supply intake and surface water discharges within affected
2814 hydrologic area. 30 C.F.R. § 779.24(g).
- 2815 Public roads within 100 feet of permit area. 30 C.F.R. § 779.24(h).
- 2816 Boundaries of any public parks, national trails, or wild and scenic rivers and locations
2817 of any cultural or historic resources near the permit area. 30 C.F.R. § 779.24(i).
- 2818 Public or private cemeteries or Indian burial grounds within 100 feet of the permit
2819 area. 30 C.F.R. § 779.24(j).
- 2820 Location of borings and core samples. 30 C.F.R. § 779.24(a)(1).
- 2821 Location of surface water, springs and subsurface water which may be encountered
2822 during mining. 30 C.F.R. § 779.24(a)(6), (7).
- 2823 Location and extent of previously mined areas within permit area. 30 C.F.R. §
2824 779.24(a)(5), (8).
- 2825 Location and dimension of existing and proposed dams, impoundments, spoil or
2826 waste piles, and air or water pollution control facilities. 30 C.F.R. § 779.24(a)(9).
- 2827 Location and elevation of air and water quality monitoring stations. 30 C.F.R. §
2828 779.24(a)(2).
- 2829 Location of coal storage, cleaning and loading areas. 30 C.F.R. § 780.14(b)(4).
- 2830 Location of proposed topsoil, spoil and waste piles. 30 C.F.R. § 780.14(b)(4).
- 2831 Location of water diversion, collection, conveyance, treatment, storage and
2832 discharge facilities. 30 C.F.R. § 780.14(b)(6).
- 2833 Location of facilities for protecting wildlife. 30 C.F.R. § 780.14(b)(9).
- 2834 Facilities for storage and handling of explosives. 30 C.F.R. § 780.14(b)(10).
- 2835 Location of excess spoil fill areas. 30 C.F.R. § 780.14(b)(11).
- 2836 H. Geological cross sections (prepared under the supervision of and certified by an engineer)
2837 showing:
- 2838 Nature, depth and thickness of coal seam, each stratum of overburden and the
2839 stratum immediately below the coal seam. 30 C.F.R. § 779.25(a)(3).
- 2840 All coal crop lines and the strike meaning and depth of coal to be mined. 30 C.F.R.
2841 § 779.25(a)(4).
- 2842 Anticipated final surface configuration of permit area. 30 C.F.R. § 780.18(b)(3); 30
2843 C.F.R. § 784.13(b)(3).

2844 I. Prime farmland investigation to determine if prime farmland exists in proposed permit
2845 area. 30 C.F.R. § 785.17(b). See Prime Farmlands, below.

2846 **III. Reclamation and operation**

2847 A. Blasting plan. 30 C.F.R. § 780.13.

2848 Monitoring system.

2849 Approval to blast within 500 feet of active underground mine.

2850 Blasting parameters (patterns, size, number, depth, sequence, etc.).

2851 B. Description of areas to be bonded. 30 C.F.R. § 780.14(b)(3).

2852 C. Air quality monitoring program and fugitive dust control plan. 30 C.F.R. § 780.15(a).

2853 (Mandatory for coal mines west of 100th meridian with more than 1 million tons of annual
2854 production; otherwise at discretion of the regulatory authority).

2855 D. Fish and wildlife protection and enhancement plan. In more detail: “Each application shall
2856 include a description of how, to the extent possible using the best technology currently
2857 available, the operator will minimize disturbances and adverse impacts on fish and wildlife
2858 and related environmental values, including compliance with the Endangered Species Act,
2859 during the surface coal mining and reclamation operations and how enhancement of these
2860 resources will be achieved where practicable.” 30 C.F.R. § 780.16.

2861 E. Reclamation plan including:

2862 Detailed timetable for completing each step in reclamation. 30 C.F.R. §780.18(b).

2863 Detailed cost estimate for reclamation with supporting data. 30 C.F.R. §780.18(b)(2).

2864 Plan for backfilling, soil stabilization, compaction and grading. 30 C.F.R. §780.18(b)(3).

2865 Plans for topsoil and subsoil removal, storage and replacement. 30 C.F.R. §780.18(b)(4).

2866 Revegetation plan including a schedule, seed mixtures, planting methods, mulching
2867 techniques and measures for determining success. 30 C.F.R. §780.18(b)(5).

2868 Plans to maximize the use and conservation of the coal resource. 30 C.F.R. §780.18(b)(6).

2869 Description of how all debris, acid-forming and toxic-forming materials, and materials
2870 constituting a fire hazard will be disposed and a description of the contingency plans
2871 which have been developed to prevent sustained combustion of such materials. 30 C.F.R.
2872 §780.18(b)(7).

2873 Measures used to seal or manage mine openings, holes or wells. 30 C.F.R. §780.18(b)(8).

2874 Measures to assure compliance with Clean Air and Clean Water Acts. 30 C.F.R. §
2875 780.18(b)(9)

- 2876 F. Hydrology information and analyses including:
- 2877 Baseline hydrologic data. 30 C.F.R. § 780.21(b).
- 2878 Ground and surface water inventories. 30 C.F.R. § 780.21(b)(1), (2).
- 2879 Determination of probable hydrologic consequences of mining. 30 U.S.C. § 1257(b)(11); 30
- 2880 C.F.R. § 780.21(f). For small mines (less than 300,000 tons/year), this shall be prepared at
- 2881 the regulatory authority's expense. 30 U.S.C § 1257(c).
- 2882 Information on hydrology outside permit area but within impacted area. 30 U.S.C. §
- 2883 1257(b)(11).
- 2884 Information on alternative water sources available. 30 C.F.R. § 780.21(e).
- 2885 Cumulative hydrologic impact assessment (prepared by the regulatory authority). 30
- 2886 C.F.R. § 780.21(g).
- 2887 Plan for protecting the hydrologic balance. 30 C.F.R. § 780.21(h).
- 2888 Surface and groundwater monitoring plans. 30 C.F.R. § 780.21(i), (j).
- 2889 G. Geology information in sufficient detail to determine:
- 2890 Probable hydrologic consequences of mining. 30 C.F.R. § 780.22(a)(1).
- 2891 All potentially acid and toxic-forming strata within permit area. 30 C.F.R. § 780.22(a)(2).
- 2892 Whether reclamation can be accomplished as required by rules. 30 C.F.R. § 780.22(a)(3).
- 2893 Must include at a minimum:
- 2894 Areas and structural geology of permit and adjacent area, including lithology of the
- 2895 strata. 30 C.F.R. § 780.22(b)(1).
- 2896 Narrative description of geology. *Id.*
- 2897 Analysis of samples of test borings to provide the following:
- 2898 Logs describing information from drill holes. 30 C.F.R. § 780.22(b)(2).
- 2899 Chemical analysis of each stratum within overburden, the coal seam, and the
- 2900 stratum immediately below coal seam. *Id.*
- 2901 Location and quality of subsurface water. *Id.*
- 2902 NOTE: A written waiver of the requirement for test borings analyses may be
- 2903 obtained if other equivalent information is available to the regulatory
- 2904 authority. 30 C.F.R. § 780.22(d).
- 2905 H. Plans describing the post-mining land use and how it will be achieved. 30 C.F.R. §
- 2906 780.23(b). Must include comments of surface owners and state and local agencies. 30 C.F.R. §
- 2907 780.23(c). NOTE: under 30 U.S.C. § 1265(b)(2), operators must restore the land to its pre-

- 2908 mining use or a “higher or better” use. Operators frequently attempt to convert pre-mining
2909 forest lands to pasture. This is not a higher or better use.
- 2910 I. Plans for all ponds, impoundments, banks and dams prepared by an engineer or geologist
2911 including:
- 2912 Description, map and cross section of each structure and its location. 30 C.F.R.
2913 §780.25(a)(1)(ii)
 - 2914 Preliminary hydrologic and geologic information. 30 C.F.R. §780.25 (a)(1)(iii)
 - 2915 Schedule when detailed design plans will be submitted. 30 C.F.R. §780.25 (a)(1)(v)
 - 2916 A stability analysis if structure is 200 feet or higher or impounds more than 200 acre-
2917 feet of water. 30 U.S.C. § 77.216(a); 30 C.F.R. § 780.25(f).
 - 2918 A narrative explaining the removal of dams, embankments, and impoundments. 30
2919 C.F.R. § 817.11(b). 30 C.F.R. § 817.84(b) explicitly recognizes that coal waste
2920 impoundments must always be removed; they may not be retained permanently as
2921 part of a post-mining land use. 48 Fed. Reg. 44031 (Sept. 26, 1983, as amended at 53
2922 Fed. Reg. 43608 (Oct. 27, 1988).
- 2923 J. If mining is proposed within 500 feet of an underground mine, measures which will assure
2924 adequate safety and environmental protection. 30 C.F.R. § 780.27.
- 2925 K. Descriptions, including maps and cross sections, of stream channel or other diversions to
2926 be constructed within the permit area. 30 C.F.R. § 780.29. Diversions must meet stability and
2927 flood-control requirements. 30 C.F.R. § 816.43.
- 2928 L. Measures to protect public parks or historic places which may be affected by the mining
2929 operations. 30 C.F.R. § 780.31.
- 2930 M. Where a public road is to be relocated or mining will occur within 100 feet of a public road,
2931 measures to ensure that the interests of the public and the affected landowners are
2932 protected. 30 C.F.R. § 780.33.
- 2933 N. Plans for excess spoil disposal sites describing geotechnical investigations, design,
2934 construction, operation, maintenance and removal if appropriate. 30 C.F.R. § 780.35(a).
2935 Results of geotechnical investigations including:
- 2936 Character of bedrock. 30 C.F.R. § 780.35(b).
 - 2937 Adverse geologic conditions. *Id.*
 - 2938 Survey of all springs, seepage and groundwater flow. *Id.*
 - 2939 Potential impact of subsidence due to past or future mining below fill. *Id.*

- 2940 Description of materials to be utilized in fill. *Id.*
- 2941 Stability analysis. *Id.*
- 2942 O. Detailed description of each road or other transportation facility including specifications
- 2943 and appropriate geotechnical analyses. 30 C.F.R. § 780.37.

2944 **IV. Special Standards for Underground Mining**

2945 A. In most respects, the permit standards for surface mines are the same as those for

2946 underground mines. Separate regulations exist, however, at 30 C.F.R. Parts 783 and 784.

2947 Mostly, the regulations at Part 783 track the surface mining regulations at Part 779. Likewise,

2948 Part 784 tracks Part 780. If you are reviewing an underground mine application, you should

2949 check the underground mining regulations to be sure they apply. One important difference

2950 between surface and underground mine permit applications is that underground applications

2951 must include a survey showing whether subsidence might cause material damage or

2952 diminution of reasonably foreseeable uses of structures or renewable resource lands. 30

2953 C.F.R. § 784.20(a). If such subsidence might occur, then the application must include a

2954 detailed subsidence control plan. 30 C.F.R. § 784.20(b). The subsidence control plan may

2955 provide important information about the potential impacts of mining on structures and land

2956 resources. Set forth below is a checklist for a subsidence control plan:

- 2957 Description of method of coal removal (for example, longwall or room-and-pillar). 30
- 2958 C.F.R. § 784.20(b)(1).
- 2959 A map of underground operations which describes areas where planned subsidence will
- 2960 be employed. 30 C.F.R. § 784.20(b)(2).
- 2961 Description of physical conditions (for example, depth of cover, seam thickness, etc.)
- 2962 which may affect subsidence damage. 30 C.F.R. § 784.20(b)(3).
- 2963 Description of monitoring which will be necessary to determine when subsidence begins
- 2964 and how substantial it is. This information must be used to prevent, reduce or correct
- 2965 subsidence-related damage. 30 C.F.R. § 784.20(b)(4).
- 2966 Where subsidence is not planned, measures to be taken to minimize subsidence and
- 2967 related damage. 30 C.F.R. § 784.20(b)(5).
- 2968 Description of anticipated effects of planned subsidence. 30 C.F.R. § 784.20(b)(6).
- 2969 Description of measures to be taken to mitigate or remedy subsidence damage. 30 C.F.R.
- 2970 § 784.20(b)(7).

2971 **V. Special Requirements for Prime Farmlands**

- 2972 A. Reconnaissance inspection to determine whether prime farmland exists within permit
 2973 area. 30 C.F.R. § 785.17(b).
- 2974 B. If this inspection reveals that prime farmland historically used for cropland may be
 2975 affected by mining, then a soil survey must be used to further identify and locate prime
 2976 farmland. 30 C.F.R. § 785.17(b)(3). NOTE: Soil Conservation Service (SCS) soil surveys may be
 2977 helpful in identifying prime farmlands.
- 2978 C. If prime farmland is identified, the application must include:
- 2979 Soil survey including a description of soil mapping units and representative soil
 2980 profile. 30 C.F.R. § 785.17(c)(1).
- 2981 Information on chemical and physical properties of soil as needed. *Id.*
- 2982 Soil reconstruction plan. 30 C.F.R. § 785.17(c)(2).
- 2983 Agricultural school studies or other scientific data for areas with comparable soils,
 2984 climate, management, etc. 30 C.F.R. § 785.17(c)(3).
- 2985 Information on pre-mining productivity of soil, including average yields of food, fiber,
 2986 forage or wood products obtained under high levels of management. 30 C.F.R. §
 2987 785.17(c)(4).
- 2988 D. Regulatory authority must consult with SCS, which shall review and comment on
 2989 application and suggest revision as necessary. 30 C.F.R. § 785.17(d).
- 2990 **VI. Special Requirements for Mining on Alluvial Valley Floors (AVF) West of the 100th Meridian.** 30
 2991 C.F.R. § 785.19.
- 2992 A. If the land within a permit area is identified as an AVF and mining may impact the AVF or
 2993 waters supplying it, then the application must include detailed surveys and baseline data as
 2994 necessary to determine whether mining will interrupt, or preclude farming on, the AVF;
 2995 whether it will cause material damage to the quantity or quality of water supplying the AVF;
 2996 and whether the proposed monitoring system is adequate to measure compliance with the
 2997 law and regulations. 30 C.F.R. § 785.19(d).
- 2998 B. Mining is not permitted if it will interrupt farming or materially damage the water
 2999 supplying the AVF. 30 C.F.R. § 785.19(e)(2).
- 3000 C. Exclusions allowed if pre-mining use of AVF is undeveloped range not significant to
 3001 farming or if farming interrupted is of such small acreage as to have a negligible impact. 30
 3002 C.F.R. § 785.19(b)(2).
- 3003 **VII. Special Requirements for Mountaintop Removal Mining.** 30 C.F.R. § 785.14.

3004 A. Mountaintop removal mining means surface mining activities “where the mining operation
3005 removes an entire coal seam or seams running through the upper fraction of a mountain,
3006 ridge, or hill... by removing substantially all of the overburden off the bench and creating a
3007 level plateau or gently rolling contour, with no highwalls remaining...” 30 C.F.R. § 785.14(b).
3008 Mountaintop removal may only be allowed if the regulatory authority finds, in writing, that
3009 the following requirements are met in a complete application:

- 3010 The proposed post-mining land use will be industrial, commercial, agricultural, residential,
3011 or public facility (including recreational facilities) use. 30 C.F.R. § 785.14(c)(1).
- 3012 The proposed post-mining land use must be an equal or better public or economic use
3013 than the pre-mining use. 30 C.F.R. § 785.14(c)(1)(i).
- 3014 The proposed post-mining land use must meet the requirements of 30 C.F.R. § 816.133(a)
3015 through (c) (there must be a reasonable likelihood of achievement of the use, the use
3016 must not present any public safety hazards, the use must not be impractical,
3017 unreasonable or inconsistent with existing land use policies or plans, the use must not
3018 involve unreasonable delay in implementation, and the use must not violate any federal,
3019 state, or local laws).
- 3020 The proposed post-mining land use must be generally reasonable and within the
3021 operator’s means to implement. It must also be compatible with adjacent land uses and
3022 supported by commitments from public agencies where appropriate. The application
3023 must include a schedule for post-mining land use reclamation, and the post-mining land
3024 use must be designed by a registered engineer. 30 C.F.R. § 785.14(c)(1)(iii).
- 3025 The requirements of 30 C.F.R. part 824 (the performance standards—see Appendix C)
3026 must be made a specific condition of the permit. 30 C.F.R. § 785.14(c)(3).
- 3027 The permit must be clearly identified as being for mountaintop removal mining. 30 C.F.R.
3028 § 785.14(c)(5).
- 3029 All other requirements of SMCRA and the federal regulations must be met. 30 C.F.R. §
3030 785.14(c)(4).
- 3031 Variance from Approximate Original Contour (AOC): Variance from AOC is allowed if
3032 entire mountaintop removed; if the regulatory authority finds in writing that the
3033 proposed post-mining land use will be an industrial, commercial, agricultural, residential
3034 or public facility; and the proposed use constitutes an equal or better use, is

3035 demonstrated likely to be achieved, and is consistent with local land use plans. 30 C.F.R. §
3036 785.14(c).

3037 **VIII. Experimental Practice Variances**

3038 A. Variances from the standards established for all other mines allowed if the following
3039 conditions are met:

3040 They encourage advances in mining. 30 C.F.R. § 785.13(d)(1).

3041 They are potentially more environmentally protective or at least as protective as
3042 standard practices. 30 C.F.R. § 785.13(d)(2).

3043 They protect public health and safety. 30 C.F.R. § 785.13(d)(4).

3044 The experiment is monitored as necessary to evaluate its effectiveness. 30 C.F.R. §
3045 785.13(b)(4).

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APPENDIX C

Mine Inspection Checklist

The items in this checklist cover all major sources of environmental damage from strip mining operations. This list enables a citizen or citizen’s group to monitor the key points of a mining operation and highlights the legal protections which citizens may invoke. As with Appendix B, the length of the list may appear intimidating, but persevere and the most important pieces of this complex puzzle will eventually fall into place.

I. **Topsoil.** 30 C.F.R. § 816.22.

- Are at least six inches of topsoil (or best available subsoil) removed from area before drilling, blasting, and overburden removal? 30 C.F.R. § 816.22(a). (Note the difference between topsoil removal and leveling of bench for drilling.)
- Is the topsoil stockpiled (with signs) or immediately loaded into trucks and redistributed on backfilled areas? 30 C.F.R. § 816.22(c); 30 U.S.C. § 1265(b)(5).
- If stockpiled: 30 C.F.R. § 816.22(c); 30 U.S.C. § 1265(b)(5).
 - Is it protected from wind and water? Look for snow fence, vegetation, or other cover. Are there rills and gullies, or is it blowing in the wind?
 - Is it clearly marked?
- Topsoil replacement. 30 C.F.R. § 816.22(d).
 - Is the area scarified (broken up) immediately before topsoil is replaced to prevent slippage? (In some cases this can be done after topsoil is replaced.)
 - Is the replaced topsoil of uniform thickness?
 - Has soil been redistributed to avoid excessive compaction?
 - Has replaced topsoil been mulched or otherwise treated to protect against erosion?
 - If a topsoil substitute is not used, ask why the substitute is better than the original topsoil. 30 C.F.R. § 816.22(b).

II. **Road Construction and Maintenance.** 30 C.F.R. §§ 816.150-151.

- Was topsoil removed before construction? 30 C.F.R. § 816.22(a).

- 3075 Are mining roads located on benches, ridges, or other relatively flat or stable areas? Are
3076 they away from valley floors? 30 C.F.R. § 816.150(c), (d); 30 C.F.R. § 816.151(c)(1).
- 3077 Do all roads placed in stream beds have approval of regulatory authority? 30 C.F.R. §
3078 816.150(d)(1).
- 3079 Are roads too steep to protect against erosion? Do they allow for proper maintenance?
3080 30 C.F.R. § 816.150(c), (e).
- 3081 Are roads adequately drained? 30 C.F.R. § 816.151(d).
- 3082 Are drainage pipes and culverts placed where necessary?
- 3083 Are there ditches parallel to the road?
- 3084 Are primary roads (those used for hauling with frequent access) surfaced with durable
3085 materials? 30 C.F.R. § 816.151(e).
- 3086 Are roads maintained? 30 C.F.R. § 816.151(d)
- 3087 Is there standing water in the road bed?
- 3088 Are there gullies in the road?
- 3089 Are all ditches, culverts, and pipes cleared and maintained?
- 3090 Were design and construction of primary roads certified by a registered professional
3091 engineer? 30 C.F.R. § 816.151(a).
- 3092 **III. Blasting.** 30 C.F.R. §§ 816.61-68.
- 3093 Was a pre-blast survey conducted? (Can be requested by residents within one-half mile of
3094 permit area.) Was a written report provided? 30 C.F.R. § 816.62.
- 3095 Was a blasting schedule published? 30 C.F.R. § 816.64(b).
- 3096 Was this schedule complied with? 30 C.F.R. § 816.64(a).
- 3097 Was blasting conducted only during daytime hours? 30 C.F.R. § 816.64(a).
- 3098 Did the operator provide audible warning prior to each blast? 30 C.F.R. § 816.66(b).
- 3099 Did the operator post blasting signs on roads along edge of blasting area? 30 C.F.R. §
3100 816.66(a).
- 3101 Did flyrock travel more than one-half the distance to occupied dwellings? 30 C.F.R. §
3102 816.67(c).
- 3103 Did blasting occur within 300 feet of a home, school, or other public building? 30 U.S.C. §
3104 1272(e)(5).

3105 Has blasting design been submitted to regulatory authority if blasting within 1,000 feet of
3106 any building or 500 feet from active or abandoned underground mine? 30 C.F.R. §
3107 816.61(d).

3108 **IV. Backfilling and Grading.** 30 C.F.R. §§ 816.102-107.

3109 Were slopes restored to “approximate original contour?” 30 C.F.R. § 816.102(a)(1).

3110 Have highwalls and depressions been completely eliminated? 30 C.F.R. §
3111 816.102(a)(2).

3112 Does graded slope blend with surrounding terrain and pre-mining topography? 30
3113 C.F.R. § 816.102(a)(3).

3114 Are slopes between terrace benches no greater than 50 percent (22.5 degrees)?
3115 30 C.F.R. § 816.71.

3116 Have all toxic materials (such as pyrite) been covered or treated to protect against acid
3117 or toxic mine drainage? 30 C.F.R. § 816.102(f).

3118 Have backfilled materials been stabilized? (Look for evidence of slides.) 30 C.F.R. §
3119 816.106.

3120 Is final grading parallel to the contour of the land?

3121 Are rills and gullies in regraded areas deep enough to suggest possible reclamation
3122 failure?

3123 Do you see any steep slopes over 20 degrees (44.4%)? If so –

3124 Is there any spoil on downslopes?

3125 Land above highwall should not be disturbed unless there is prior approval by the
3126 regulatory authority. 30 C.F.R. § 716.2; 30 C.F.R. § 816.107.

3127 **V. Disposal of Excess Spoil.** 30 C.F.R. § 816.71-74.

3128 Is spoil being disposed of within permit area on an approved site? 30 C.F.R. § 816.71(a).

3129 Is disposal site located on a moderately sloping, stable area? 30 C.F.R. § 816.71(c).

3130 Has all vegetation and topsoil been removed from the area prior to dumping of spoil? 30
3131 C.F.R. § 816.71(e).

3132 Was design and construction of fill certified by a registered professional engineer? 30
3133 C.F.R. § 816.71(b).

3134 Were diversions and underdrains installed as necessary to prevent water from infiltrating
3135 the fill materials? 30 C.F.R. § 816.71(f).

- 3136 Do you see evidence of uncontrolled drainage over the surface of the fill? 30 C.F.R. §
 3137 816.71(f).
- 3138 Are quarterly inspections by an engineer occurring throughout construction? 30 C.F.R. §
 3139 816.71(h).
- 3140 Have keyway cuts (excavation to stable bedrock) or rock toe buttresses at toe (or
 3141 bottom) of fill been constructed for slopes greater than 36 percent? 30 C.F.R. § 816.71(d).

3142 **VI. Hydrologic System.** 30 C.F.R. §§ 816.41-47.

- 3143 Is contribution of suspended solids to streamflow or runoff outside permit area being
 3144 prevented to the extent possible using the best technology currently available? Is all
 3145 surface drainage from the disturbed area (not including roads otherwise maintained or
 3146 areas expressly exempted by the regulatory authority) passing through a sedimentation
 3147 pond or other structure with a point source discharge? Was design and construction of
 3148 structure certified by engineers? Are annual inspections occurring by a qualified
 3149 registered engineer? (Report must be available at or near the mine site.) 30 C.F.R. §
 3150 816.46(b).
- 3151 Are there spillways (open channels of non-erodible material) to catch any overflow from
 3152 pond? Is the pond overflowing? 30 C.F.R. § 816.46(c)(2).
- 3153 Are structures being properly maintained? Is sediment being removed from ponds if
 3154 necessary? Do you see “islands” of sediment under the surface of the pond? If so, a
 3155 violation may exist. 30 C.F.R. § 816.46(c)(1).
- 3156 Are effluent limitations being met? (pH 6.0 - 9.0; iron 7.0 mg; TSS 70 mg.) (These limits do
 3157 not apply during runoff from rain or during reclamation, so long as sediment pond is
 3158 properly constructed and maintained.) Does the water below the sedimentation pond
 3159 look clean and clear? 40 C.F.R. § 434.32.
- 3160 Is there sufficient groundwater protection?
- 3161 Is the operator submitting groundwater monitoring data at least quarterly? Is the
 3162 data complete and in accord with the monitoring plan? 30 C.F.R. § 816.41(c)(1),
 3163 (2).
- 3164 Are monitoring devices properly installed and maintained? 30 C.F.R. §
 3165 816.41(c)(4).
- 3166 Are approximate pre-mine on-site and off-site water supplies being restored? 30
 3167 C.F.R. § 816.41(c)(3)(i).

- 3168 Is disturbance to hydrologic balance (quality and quantity) being minimized? 30
3169 C.F.R. § 816.41(a).
- 3170 Is there sufficient surface water protection?
- 3171 Is the operator's monitoring data being submitted quarterly? Is the data
3172 complete and in accord with the monitoring plan? 30 C.F.R. § 816.41(e)(1), (2).
- 3173 Are monitoring devices properly installed and maintained? 30 C.F.R. §
3174 816.41(e)(4).
- 3175 Is disturbance to hydrologic balance being minimized? 30 C.F.R. § 816.41(a).
- 3176 Are there any sedimentation ponds located in perennial streams? If so, does the
3177 operator have specific approval from the regulatory authority?
- 3178 Is drainage from acid and toxic-forming materials being avoided? 30 C.F.R. § 816.41(f).
- 3179 Has any private water supply been adversely affected (surface mines only)? If so, was it
3180 replaced? 30 C.F.R. § 816.41(h).
- 3181 Has any discharge into an underground mine been approved? 30 C.F.R. § 816.41(i).
- 3182 Stream channel diversions. 30 C.F.R. § 816.43.
- 3183 Has any diversion received approval from the regulatory authority? 30 C.F.R. §
3184 816.43(a)(1).
- 3185 Do protections against flooding exist? 30 C.F.R. § 816.43(a)(2)(ii).
- 3186 Is design capacity at least that of unmodified channel? 30 C.F.R. § 816.43(b)(2).
- 3187 Has diversion been removed when no longer needed? 30 C.F.R. § 816.43(a)(3).
- 3188 Impoundments. 30 C.F.R. § 816.49
- 3189 Are all permanent impoundments approved and suitable for post-mining land
3190 use? 30 C.F.R. § 816.49(b).
- 3191 Are all temporary impoundments other than sediment ponds approved? 30 C.F.R.
3192 § 816.49(c).
- 3193 Were such impoundments designed by a registered engineer? 30 C.F.R. §
3194 816.49(a)(3).
- 3195 Have boreholes, shafts, wells, and auger holes been cased and sealed or otherwise
3196 managed to prevent pollution of surface and groundwater? 30 C.F.R. § 816.13.
- 3197 **VII. Coal Waste.** 30 C.F.R. § 816.81-87.
- 3198 Does an approved disposal area exist? 30 C.F.R. § 816.81

- 3199 ❑ Was this disposal area designed and constructed to ensure stability and minimize impacts
3200 from leaching runoff? 30 C.F.R. § 816.83(a), (b).
- 3201 ❑ Was disposal area designed and certified by engineer? 30 C.F.R. § 816.83(d).
- 3202 ❑ Are quarterly inspections occurring with certified written reports by engineers? 30 C.F.R.
3203 § 816.83(d)(1), (2). Reports must be kept at or near the mine site. 30 C.F.R. § 816.83(d)(4).
- 3204 ❑ Coal refuse piles.
- 3205 ❑ Do coal refuse piles meet all Mine Safety Health Administration (MSHA)
3206 standards? 30 C.F.R. § 77.214, 77.215.
- 3207 ❑ Has appropriate drainage control with underdrains been installed to prevent
3208 infiltration of water? 30 C.F.R. § 816.83(a)(3).
- 3209 ❑ Was vegetative material removed before placement? 30 C.F.R. § 816.83(c)(1).
- 3210 ❑ Terraces are allowed as long as the grade between terrace benches does not
3211 exceed 50 percent (22.5 degrees). 30 C.F.R. § 816.83(c)(2).
- 3212 ❑ After final grading, was refuse covered with at least four feet of non-toxic
3213 material? 30 C.F.R. § 816.83(c)(4).
- 3214 ❑ Coal waste impoundments.
- 3215 ❑ Do impoundments meet all MSHA standards? 30 C.F.R. § 816.49(a)(2); 30 C.F.R. §
3216 77.216.
- 3217 ❑ Were impoundments designed and certified by an engineer? 30 C.F.R. §
3218 816.49(a)(3).
- 3219 ❑ Does sufficient “freeboard” (difference between top of structure and top of
3220 impounded material) exist to prevent overflow? 30 C.F.R. § 816.49(a)(5).
- 3221 ❑ Does emergency spillway exist? 30 C.F.R. § 816.49(a)(9); 30 C.F.R. § 816.84(c).
- 3222 ❑ Does impoundment have a stable foundation? 30 C.F.R. § 816.49(a)(6).
- 3223 ❑ Is annual inspection occurring by an engineer with certified report? 30 C.F.R. §
3224 816.49(a)(11).
- 3225 ❑ Are impoundments removed before reclamation begins? 30 C.F.R. § 780.11. 30
3226 C.F.R. § 817.84(b) explicitly recognizes that coal waste impoundments must
3227 always be removed; they may not be retained permanently as part of a post-
3228 mining land use. 48 Fed. Reg. 44031 (Sept. 26, 1983, as amended at 53 Fed. Reg.
3229 43608 (Oct. 27, 1988).
- 3230 **VIII. Fish and Wildlife.** 30 C.F.R. § 816.97.

- 3231 Is best technology available being used to minimize impacts on wildlife? 30 C.F.R. §
3232 816.97(a).
- 3233 Mining operation cannot jeopardize endangered or threatened species or bald and
3234 golden eagles. 30 C.F.R. § 816.97(c).
- 3235 Operator must promptly report finding of such species. 30 C.F.R. § 816.97(c).
- 3236 Are any permit conditions which were imposed on the operation as necessary to
3237 protect endangered species being complied with?
- 3238 Are power lines designed to protect raptors from electrocution? 30 C.F.R. § 816.97(e)(1).
- 3239 Are fences and barriers designed to allow animal passage? 30 C.F.R. § 816.97(e)(3).
- 3240 IX. **Reclamation.** 30 C.F.R. § 816.100
- 3241 Are reclamation efforts (backfilling and grading, topsoil replacement, etc.) being
3242 conducted as contemporaneously as practicable with mining?
- 3243 X. **Revegetation.** 30 C.F.R. § 816.111-116.
- 3244 General questions.
- 3245 Has the operator achieved a diverse, effective, and permanent vegetative cover at least
3246 equal to that of natural vegetation of the area? 30 C.F.R. § 816.111(a).
- 3247 Is revegetation capable of self-generation? 30 C.F.R. § 816.111(b)(3).
- 3248 Are revegetation species compatible with native plant and animal species? 30 C.F.R. §
3249 816.111(b)(4).
- 3250 Are native species being used (or introduced species if approved and necessary to
3251 achieve post-mining land use)? 30 C.F.R. § 816.111(a)(1).
- 3252 Is revegetation being carried out during first normal period for favorable planting? 30
3253 C.F.R. § 816.113.
- 3254 Are mulching and other soil stabilizing measures being used? 30 C.F.R. § 816.114.
- 3255 Standards for measuring revegetation success:
- 3256 Specific statistical techniques should be included in each program. 30 C.F.R. §
3257 816.116(a)(1).
- 3258 Ground cover, production, and stocking are deemed equal to pre-mining if at least 90
3259 percent of success standard can be predicted to be achieved with 90 percent statistical
3260 confidence. 30 C.F.R. § 816.116(a)(2). Different standards apply where revegetation is
3261 accomplished with trees and shrubs. 30 C.F.R. § 816.116(b)(3).

- 3262 Success for cropland, pastureland, and grazing land must be based on comparison with
3263 reference area or other standards approved by states. 30 C.F.R. § 816.116(b)(1), (2).
- 3264 Periods of responsibility for revegetation must be met.
- 3265 For areas with at least 26 inches annual rainfall – five years after final
3266 augmented seeding, fertilizing, etc. 30 C.F.R. § 816.116(c)(2).
- 3267 For areas with less than 26 inches annual rainfall – 10 years after final
3268 augmented seeding, fertilizing, etc. 30 C.F.R. § 816.116(c)(3).
- 3269 Bond cannot be released until period of responsibility expires and
3270 revegetation criteria are met.

3271 **XI. Special Standards for Underground Mines.**

3272 As with the permitting rules, the performance standards for underground mines are found in
3273 a separate set of regulations at 30 C.F.R. Part 817. By and large these rules track the rules at Part 816.
3274 As with the permitting standards, the main difference relates to subsidence control.

3275 Subsidence control. 30 C.F.R. § 817.121-122.

- 3276 Has the operator adopted measures consistent with known technology to prevent
3277 subsidence from causing material damage? (Or, in the alternative, adopted a technology
3278 which provides for planned subsidence in a predictable and controlled manner?) 30 C.F.R.
3279 § 817.121(a).
- 3280 Has the operator restored land materially damaged by subsidence? 30 C.F.R. §
3281 817.121(c)(1).
- 3282 Has the operator repaired, or compensated the owner of non-commercial buildings and
3283 dwellings damaged by subsidence? 30 C.F.R. § 817.121(c)(2).
- 3284 Has the operator restored structures materially damaged by subsidence to the extent
3285 required by state law? 30 C.F.R. § 817.121(c)(2), (3).
- 3286 Has the operator provided six months' prior notice to owners and operators of surface
3287 property and structures of impending mining? 30 C.F.R. § 817.122.
- 3288 No mining is permitted under public buildings, schools, churches, hospitals, or
3289 impoundments that have greater than 20 acre-feet capacity. 30 C.F.R. § 817.121(d).

3290 **XII. Auger Mining.** 30 C.F.R. § 819.

- 3291 Operator must maximize recovery of coal. 30 C.F.R. § 819.13.
- 3292 Rules for sealing holes:

- 3293 ❑ Holes must be sealed within 72 hours with impervious material, if discharging
3294 toxic drainage. 30 C.F.R. § 819.15(b)(1).
- 3295 ❑ Holes must be sealed as contemporaneously as practicable if not discharging
3296 toxic drainage. 30 C.F.R. § 819.15(b)(2).
- 3297 ❑ Holes need not be sealed only if the regulatory authority determines that sealing
3298 will cause hazard to environment *and* the drainage meets all effluent standards.
3299 30 C.F.R. § 819.15(c).

3300 XIII. **Special Standards for Alluvial Valley Floors.** 30 C.F.R. § 822.

- 3301 ❑ Mining may not interrupt farming on AVFs unless –
- 3302 ❑ Pre-mining use was undeveloped rangeland insignificant to farm land, 30 C.F.R. §
3303 822.12(b)(1); or
- 3304 ❑ The acreage affected is so small that interruption would have negligible impact
3305 on farm’s production. 30 C.F.R. § 822.12(b)(2).
- 3306 ❑ Mining may not cause material damage to quantity or quality of water in surface or
3307 underground systems supplying AVFs unless exempted as per above. 30 C.F.R. § 822.11.
- 3308 ❑ Operator must maintain a monitoring system for all AVFs to assure compliance with
3309 standards until all bonds released. Data and analysis must routinely be made available to
3310 regulatory authority. 30 C.F.R. § 822.13.

3311 XIV. **Special Standards for Prime Farmlands.** 30 C.F.R. § 823.

- 3312 ❑ Soil must be removed before drilling, blasting, or mining in sufficient quantity to assure a
3313 minimum depth of four feet after replacement. 30 C.F.R. § 823.14(b).
- 3314 ❑ Lesser depth is allowed if natural soils have two subsurface horizons that inhibit
3315 root penetration (minimum to that depth). 30 C.F.R. § 823.14(b).
- 3316 ❑ Greater depth is required if necessary to restore productive capacity of soil. 30
3317 C.F.R. § 823.14(b).
- 3318 ❑ Has operator separately removed and stockpiled A, B, and C horizons? Some mixing of B
3319 and C horizons is allowed if equal or more favorable for plant growth. 30 C.F.R. §
3320 823.12(c)(2).
- 3321 ❑ Soil reconstruction specification.
- 3322 ❑ Are operator’s specs based on National Cooperative Soil Survey standards? 30
3323 C.F.R. § 823.14(a). See also, <http://soils.usda.gov/partnerships/ncss/>

3356 existing land use policies or plans, the use must not involve unreasonable delay in
3357 implementation, and the use must not violate any federal, state, or local laws). 30 U.S.C. §
3358 824.11(a)(4).

3359 Is all waste and acid-forming or toxic-forming materials, including the strata immediately
3360 below the coal seam, covered with non-toxic spoil to prevent pollution and achieve the
3361 approved post-mining land use? 30 C.F.R. § 824.11(a)(10).

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APPENDIX D

3364

Bond Release Checklist

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The bond release proceeding provides citizens with their last chance to use SMCRA to get coal operators to bear the full cost burden of environmental damage resulting from the mining operation. Therefore, citizens should take care to satisfy themselves as to all the items on the checklist, and to make any complaints before the three sets of deadlines run out.

3370

I. Phase I Release. 30 C.F.R. § 800.40(c)(1).

3371

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- Has the land been returned to the approximate original contour, with all highwalls, spoil piles, and depressions eliminated? 30 C.F.R. § 816.102(a)(1), (2). Have all unnecessary roads been eliminated? 30 C.F.R. § 816.150(f).

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- Has the material been backfilled to prevent slides? If backfilled on a steep angle, have independent technical analyses been performed to determine whether the backfilled area achieves a 1.3 static safety factor? 30 C.F.R. § 816.102(a)(3).

3377

3378

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- Have all toxic and acid-forming materials been adequately covered? 30 C.F.R. § 816.102(f).
- Has the recharge capacity of the mined area been restored to approximate pre-mining conditions? 30 U.S.C. § 1265(b)(10)(D).

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- Have water quantity and quality been preserved? (Compare the pre-mining information from the monitored wells with the current information from those same wells. You may also want to look at data during the mining operation.) 30 C.F.R. § 816.41. If the water quality or quantity (including artesian pressure) has been diminished, has the applicant provided a *permanent* source of replacement of the same quality and quantity? Can that water be obtained at the same or lower cost? (Thus, if pumping costs are higher for the new source, the replacement should not be deemed equivalent. 30 U.S.C. § 1258(a)(13).) NOTE: Although efforts are under way to amend the law, the replacement obligation does not apply to underground mining operations. Nonetheless, underground operators are required to assure the protection of water quality and quantity, and the rights of other water users. 30 U.S.C. § 1258(a)(13). Thus, while you may not be eligible for water

- 3391 replacement, you might be able to use SMCRA to demand appropriate remedial
3392 measures to restore your water supply.
- 3393 Have the essential hydrologic functions of alluvial valley floors at Western mines been
3394 preserved? 30 C.F.R. § 822.11.
- 3395 Has topsoil been replaced, or if not replaced, has sufficient topsoil been stockpiled to
3396 cover the reclaimed area to a suitable depth? 30 C.F.R. § 816.22(d).
- 3397 Have all boreholes, shafts and wells (other than monitoring wells) been cased and sealed
3398 or otherwise managed? 30 U.S.C. § 1265(b)(10). For underground mines, have entryways
3399 and other openings been sealed? 30 U.S.C. § 1266(b)(2).

3400 **II. Phase II Release.** 30 C.F.R. § 800.40(c)(2).

- 3401 Has a diverse and effective vegetative cover been established? 30 U.S.C. § 1265(b)(19).
- 3402 Have native plant species been used, or, if non-native species were introduced, was there
3403 a showing that they were necessary and desirable? 30 U.S.C. § 1265(b)(19).
- 3404 Has the applicant agreed to hold a sufficient bond to cover the costs of re-establishing
3405 vegetation should the current cover fail? 30 U.S.C. § 1269(c) (2).
- 3406 Are the reclaimed lands contributing suspended solids to streamflow or runoff outside
3407 the permit area in excess of the standards set by law? If so, phase II may not be released.
3408 30 U.S.C. § 1269(c)(2).
- 3409 Have all siltation structures been removed (except those approved as permanent
3410 impoundments)? 30 U.S.C. § 1265(b)(10)(ii).
- 3411 For prime farmlands, has soil productivity been returned to equivalent levels of yield as
3412 non-mined land of the same soil type in the surrounding area? (If not, Phase II bond
3413 cannot be released.) 30 U.S.C. § 1269(c)(2).
- 3414 NOTE: The hydrology questions from Phase I (D, E, and F) should be asked again here.

3415 **III. Phase III Release.** 30 C.F.R. § 800.40(c)(3).

- 3416 Has the land been restored to a condition capable of supporting pre-mining uses, or
3417 higher and better uses? 30 U.S.C. § 1265(b)(2). Has the post-mining land use been
3418 achieved?
- 3419 Has the applicant achieved successful revegetation for the statutory period (5 years, or
3420 10 years in areas with average precipitation of 26 inches per year or less) without
3421 augmented seeding, fertilizing, irrigation, or other work? An exception applies for long-
3422 term, intensive post-mining agricultural uses. 30 U.S.C. § 1265(b)(20).

- 3423 For underground mining, does a continuing potential for subsidence exist? If so, you may
3424 want to ask that a sufficient bond be retained to pay for the costs of restoring the land
3425 and any structures that may be eligible for restoration.
- 3426 Have all requirements of state and federal laws been met?
- 3427 NOTE: be sure to review here one last time the crucial hydrology questions from Phase I
3428 (D, E, and F).
- 3429
- 3430

3430 **APPENDIX E**
3431 **Sample Citizen Complaint**

3432 [Your Name]

3433 [Your Address]

3434 [Your Telephone Number]

3435 [Your e-mail address]

3436

3437 [Date]

3438

3439 Director, [Name of State] Field Office

3440 Office of Surface Mining Reclamation and Enforcement

3441 [Address - See Appendix I]

3442

3443 Director, [State Agency Office]

3444 [Address – See Appendix J]

3445

3446

3447 Re: Citizen Complaint of [Your Name]

3448 Dear Directors:

3449

3450 In accordance with Sections 517(h) and 521(a) of the Surface Mining Control and Reclamation
3451 Act, I respectfully request that you conduct an inspection without prior notice to the operator of the
3452 _____ mine, located in _____ County. The _____ mine is operated by _____.

3453

3454 I am requesting this inspection because of the conditions or practices described below which
3455 I believe have resulted in violations of the following requirements of the law:

3456

3457 *[Briefly describe the conditions at the mine site that you believe are resulting in violations of the law.*
3458 *Cite the appropriate provisions of the state and/or federal law if you know them. Be sure to request that*
3459 *the inspection be conducted immediately if any condition at the mine site is causing an imminent danger*
3460 *to the health and safety of the public, or a significant, imminent harm to the environment. If such a*

3461 *condition exists, the inspector is required to close that portion of the mine causing the imminent harm*
3462 *even if no violation of the law is found.]*

3463

3464 I further request that the inspector issue a notice of violation [or cessation order, if
3465 appropriate] to the operator and that the notice require the operator to take appropriate remedial
3466 action including: *[Briefly state what action you believe may be necessary to abate the violation and*
3467 *avoid the harm to people and the environment.]*

3468

3469 By this letter I am notifying both the State agency and OSM of this complaint. Should the
3470 State fail to issue a notice of violation to the operator within 10 days, I request that OSM conduct an
3471 inspection and take appropriate enforcement action as described above.

3472

3473 I hereby waive my right to confidentiality and request the right to accompany the inspector
3474 on the inspection of the mine site. You can reach me at the address and telephone number listed
3475 above. *[Alternatively, you may ask that the state and federal agencies maintain your confidentiality. If*
3476 *asked, they are required to do so.]*

3477

3478 In accordance with 30 CFR § 842.12(d), I request that OSM [or the State] report the results of
3479 any inspection within 10 days from the date of the inspection, or if OSM chooses not to inspect, to
3480 explain the reasons for that decision, within 15 days from the date that this letter is received.

3481

3482 Very truly yours.

3483 [Your Name]

3484

APPENDIX F

Sample Request for Withdrawal of State Approved Program

[Use letterhead with the name and contact information (including e-mail address) for the person or organization primarily responsible for this request]

[Date]

[Name of OSM Director], Director
Office of Surface Mining
1951 Constitution Avenue NW
Washington, DC 20240

Re: Request for Withdrawal of All or Part of the [name of State] Approved Program

Dear [Mr./Ms. Name of OSM Director]:

The [name of individuals or organizations filing the request] believe that the State of [name of State] is acting in violation of its approved State program and that such violations are the result of the State's failure to enforce its program effectively. Accordingly, and in accordance with 30 U.S.C. §521(b) and 30 C.F.R. §733.12, this letter respectfully requests that OSM investigate the [name of State]'s approved State program to determine whether these allegations are correct and whether the State is implementing, administering, enforcing, and maintaining its program as required by the Surface Mining Control and Reclamation Act (SMCRA).

In support of this request the undersigned offer the following information and evidence. [Concisely describe the facts that lead you to believe that the State program is not being implemented or enforced in accordance with SMCRA. You should be prepared to offer specific evidence that the State has repeatedly failed to administer or enforce particular aspects of the program and you should attach documentation that supports your claim. For example, you might indicate that the State has repeatedly failed to prepare a cumulative hydrologic impact assessment for permit applications as required by 30 U.S.C. §507(b)(11). To support this claim you should identify specific permit applications where the State failed to meet this obligation.]

As a result of the State's failure to implement and enforce the State program effectively, and as required by 30 C.F.R. §733.12(g)(2)(i), we respectfully request that the Secretary withdraw approval of all or part of the [name of State]'s approved State program and substitute direct federal implementation and enforcement.

If you would like additional information or clarification of the reasons for this request we are happy to meet with you or provide supplemental information to support this request.

Respectfully submitted,
[Include the names and contact information for all persons making this request.]

APPENDIX G

Glossary of Mining Terms

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3530

3531 **Adapted from A Dictionary of Mining Mineral and Related Terms.** Bureau of Mines, U.S. Department of the
3532 Interior (1996) (unless otherwise noted). This dictionary is available online at:
3533 <http://www.maden.hacettepe.edu.tr/dmmrt/>. Published on CD-ROM in 1996.

3534 **Acid mine drainage (AMD):** Toxic drainage that usually results from exposure of pyritic materials to air and
3535 water. The acid dissolves minerals in the rocks, further degrading the quality of the drainage water.

3536 **Administratively complete application:** a permit application "which the regulatory authority determines to
3537 contain information addressing each application requirement of the regulatory program and to contain all
3538 information necessary to initiate processing and public review." 30 C.F.R. § 701.5.

3539 **Alluvial valley floor (AVF):** "The unconsolidated stream-laid deposits holding streams where water availability
3540 is sufficient for subirrigation or flood irrigation agricultural activities...." 30 U.S.C. § 1291(1); See 30 C.F.R.
3541 701.5.

3542

3543 **Approximate Original Contour (AOC):** A key mandatory reclamation standard in SMCRA requiring that the
3544 surface configuration achieved by backfilling and grading of a mined area, including any terracing or access
3545 roads, closely resembles the general surface configuration of the land prior to mining and blends into and
3546 compliments the drainage pattern of the surrounding terrain. All highwalls and spoil piles must be
3547 eliminated. 30 U.S.C. § 1291(2).

3548 **Aquifer:** A stratum or zone below the surface of the earth that is capable of producing water, as from a
3549 well.

3550 **Backfilling:** The filling in again of a place from which the rock or ore has been removed.

3551 **Bench:** The horizontal step or floor along which coal is quarried.

3552

3553 **Box cut:** The initial cut driven into the land, where no open side exists; this results in a highwall on
3554 both sides of the cut. This term applies to cuts made into the side of a mountain (countour mining)
3555 as well as cuts into flat ground (area mining).

3556 **Broad form deed:** A contract format historically used by coal operators to gain favorable terms of
3557 mineral rights for themselves. The contract commonly used to negotiate with uneducated
3558 landowners who did not understand the terms of the contract.

3559 **Bucket-wheel excavator (BWE):** An excavating device that uses buckets around the periphery of a vertically-
3560 mounted wheel to scoop spoil material out of the ground and load it onto a conveyor belt.

3561 **Cessation Order (CO):** An order from a state inspector to discontinue operation of a mine. This
3562 occurs when the state receives word that an operator is doing something that will effect public
3563 health or safety or when the operator refuses to fix a violation. See 30 C.F.R. 840.11.

3564 **Clean Water Act (CWA):** A body of law that seeks to restore and maintain the chemical, physical, and
3565 biological integrity of the Nation's waters. 33 U.S.C. 1251.

3566 **Clinker:** (sometimes called "scoria") Material usually reddish in color, overlying a burned coal bed, and usually
3567 comprised of baked clay, shale, or sandstone which has weathered to gravel-sized pieces. Clinker is often
3568 used for road surfacing. (there are two definitions going here: one is baked rock above burnt out coal,
3569 primarily in the West. The other is a pre-cursor to cement, formed when the material is baked in the kiln.
3570 One is natural, the other is synthetic, and the synthetic one is used for road surfacing.) See
3571 https://www.dmr.nd.gov/ndgs/ndnotes/ndn13_h.htm.

3572 **Coal preparation plant:** A plant for the cleaning and sizing of the raw coal before it is loaded into railway cars
3573 or trucks. See also 30 CFR 701.5.

3574 **Coal mine waste:** The material left over following the cleaning and sizing of coal at a preparation plant. 30 CFR
3575 701.5.

3576 **Compaction:** An increase in soil density caused by mechanical handling of soil. Excessive compaction
3577 inhibits plant growth. 30 CFR 701.5; http://arri.osmre.gov/PDFs/Pubs/FRA_No.3.pdf.

3578 **Continuous mining:** Mining in which a continuous mining machine cuts or rips coal from the face and loads
3579 it onto conveyors or shuttle cars. This eliminates the need for shooting and drilling.

3580 **Cumulative hydrologic impacts (CHIA):** By using the probable hydrological consequences the permittee is
3581 then to provide the probable collective "impacts of all anticipated mining in the area upon the hydrology of
3582 the area and particularly upon water availability." 30 U.S.C. 1257(b)(11).

3583 **Dip:** The angle at which a bed, stratum, or vein is inclined from the horizontal.

3584 **Dragline:** A mechanical excavating device that casts a very large rope-hung bucket a considerable distance
3585 from its base and drags it back toward itself along the ground with a second rope thereby collecting large
3586 quantities of spoil material. The material is then elevated and dumped on a spoil pile or into a pit. Draglines
3587 are among the largest pieces of mining equipment used by mine operators.

3588 **Effluent:** Waste in the form of a liquid, solid, or gaseous product that is discharged or emerges from a
3589 process.

3590 **Environmental Assessment (EA):** A public document by a Federal agency that provides sufficient evidence
3591 and analysis to determine whether to prepare an environmental impact statement (EIS) or a finding of no
3592 significant impact (FONSI). The EA should include brief discussions of each of the elements required in an
3593 EIS. See 40 CFR 1508.9.

3594 **Environmental Impact Statement (EIS):** A detailed written statement by an agency as required by NEPA for
3595 all major Federal actions significantly affecting the quality of the human environment that specifies the
3596 environmental impacts of the proposed action, unavoidable adverse environmental effects if the plan is
3597 implemented, alternatives to the plan, and other related information. See 42 U.S.C. 4332(2)(C).

3598 **Face:** The solid surface of the unbroken portion of the coal bed at the advancing end of the working place.

3599 **Fill:** Manmade deposits of natural earth materials (e.g., rock, soil, and gravel) and waste materials
3600 (e.g., tailings or spoil from dredging) that is used to fill an empty space, such as an old excavation
3601 site or chamber in a mine.

3602 **Freedom of Information Act (FOIA):** Government Agencies are required by law upon request to share any
3603 documents, including electronic documents, with the public. The agency may charge reasonable fees in

3604 order to supply the information. However, the agency may deny a citizen's request because the document
3605 falls within an exception (e.g. trade secrets, national security, medical records, etc.). See 5 U.S.C. 522(b).

3606 **Front-end loader:** A tractor loader with a digging bucket mounted at the front end. A front-end loader
3607 both digs and dumps from the front.
3608

3609 **Gob:** Waste coal, rock pyrites, slate or other unmerchantable material extracted during underground
3610 mining and deposited either underground or on the surface in gob piles.

3611 **Head-of-hollow fill:** (see Valley fill)

3612 **Highwall:** "The face of the exposed overburden and coal seam in an open cut of a surface coal mining activity
3613 or for entry to underground mining activities." 30 CFR 701.5.

3614 **"Hot":** A term applied to a mine or part of a mine that generates methane in considerable
3615 quantities.

3616 **Hydrologic balance:** The maintenance of the quality and quantity of surface and ground water within the
3617 mine permit area and the surrounding areas by preventing toxic contamination and dewatering. See 30
3618 U.S.C. 1265(b)(10).

3619 **Impoundment:** A reservoir in which slurry is collected and sediments settle to the bottom.

3620 **Intermittent stream:** A stream that flows in direct response to a precipitation event or only at certain
3621 times of the year but which is dry during much of the year.

3622 **Last-cut lake:** A permanent impoundment created when an area mine operator leaves the last cut empty
3623 instead of depositing the box cut spoil in the last cut.

3624 **Longwall mining:** A system of mining on straight faces up to 400 yards in length. A power machine shaves
3625 the coal along the face over the entire length of a panel designated for mining. Self-advancing hydraulic lifts
3626 are used to hold the ceiling in place until mining is completed on a given panel. The lifts are then removed
3627 and the ground is permitted to subside. (add cite)

3628 **Mountaintop removal mining:** A coal extraction technique in which entire mountaintops are
3629 removed and the underlying coal seam is mined using surface mining methods.

3630 **Mulch:** Material (usually organic) used to control erosion and retain soil moisture. 30 CFR 701.5.

3631 **National Environmental Policy Act (NEPA):** A body of law designed to encourage "productive and
3632 enjoyable harmony between man and his environment; to promote efforts" that will prevent or
3633 eliminate harm to the environment and to understand the ecological systems and natural resources
3634 important to the nation. This act also established a Council on Environmental Quality. 42 U.S.C. 4321.

3635 **Notice of Violation (NOV):** Issued lieu of a cessation order in order to inform an operator that a rule, law, or
3636 permit condition has been violated and to begin corrective action. NOVs may result in monetary penalties or
3637 criminal prosecution.

3638 **OSM:** The Office of Surface Mining Reclamation and Enforcement is a federal agency created by SMCRA to
3639 implement, oversee, and enforce the law. 30 U.S.C. § 1211.

3640 **Outcrop:** Area where the coal seam is exposed on the surface of the land.

3641 **Overburden:** Material of any nature, consolidated or unconsolidated, that lies on top of a deposit of useful
3642 materials, ores or coal, especially those deposits that are mined from the surface by open cuts.

3643 **Percolation:** Refers to the downward movement of water in the ground.

3644 **Perennial Stream:** A stream or river with continuous flow in all or part of its bed all year round.

3645 **Performance Standards:** Operators must comply with certain regulations that attempt to conserve coal
3646 resources and restore the land to its pre-mining or better condition.

3647 **Permit area:** The area of land approved in the permit application that will be used for mining purposes.
3648 This includes both mining itself and any activity connected to mining (e.g. loading coal for commerce). The
3649 area also includes land adjacent to the mine site which is incidental to mining activities (e.g. roads, dams,
3650 storage areas, etc.). See 30 C.F.R. 701.5; See also 30 C.F.R. 700.5.

3651 **pH:** A term to describe the acidity of a solution. A pH of 7 is neutral. Each whole number lower describes a
3652 solution ten times more acidic than the previous number. Higher whole numbers indicate a solution more
3653 basic by a factor of ten.

3654 **Planned subsidence:** Subsidence that occurs when all of the coal is removed during underground
3655 mining. Because subsidence is inevitable in this situation, and because it occurs quickly after mining is
3656 completed, the operator is able to plan for subsidence and reclaim that surface. Planned subsidence is
3657 most common in conjunction with longwall mining.

3658 **Pre-blast survey:** A inspection conducted prior to blasting by either the operator of the mine or by an
3659 independent inspector in order to determine the physical state of a property prior to blasting. This
3660 inspection allows both operators and citizens to identify damage caused by blasting.

3661 **Prime farmland:** "Those lands which are defined by the Secretary of Agriculture in 7 CFR 657... and which
3662 have historically been used as cropland."
3663 NOTE: The regulations at 7 C.F.R. § 657 provide for an inventory of all prime
3664 farmlands. This inventory must be published on a map of a specified scale by the Soil
3665 Conservation Service. Information from these maps should be available at your local
3666 SCS office. To locate the SCS office nearest you, visit the following website:
3667 <http://offices.sc.egov.usda.gov/locator/app>. Click on your state, then on your county,
3668 and the website will tell you the address and phone number of your local SCS office.
3669 Also, the rules define "cropland" as "lands used for the production of adapted crops
3670 for harvest, alone or in rotation with grasses and legumes..." They further define the
3671 phrase "historically used for cropland" as (a) "lands that have been used for cropland
3672 for any 5 years out of the 10 years immediately preceding the acquisition... of the land
3673 for... mining..." or (b) "lands which the regulatory authority determines, on the basis
3674 of additional cropland history of the surrounding lands and lands under
3675 consideration,... is clearly cropland..." or (c) "lands that would likely have been used
3676 as cropland for 5 out of the last 10 years immediately preceding such acquisition...but
3677 for the... ownership or control of the land unrelated to the productivity of the land."
3678 See 30 CFR 701.5.
3679

3680 **Probable hydrologic consequences (PHC):** A survey of the “hydrologic regime, quantity and quality of
3681 water in surface and ground water systems including the dissolved and suspended solids under seasonal
3682 flow conditions and the collection of sufficient data for the mine site and surrounding areas” so that the
3683 cumulative effects of mining may be predicted. 30 U.S.C. 1257(b)(11).

3684 **Pyrite:** Iron disulfide (FeS₂). (Fool's gold.) Pyrite deposits frequently occur near coal seams. When the pyrite
3685 mixes with water and air, a chemical reaction takes place which produces sulfuric acid. This is a significant
3686 source of acid mine drainage.

3687 **Recharge capacity:** The ability of the soils and underlying materials to allow precipitation and runoff to
3688 infiltrate and reach the zone of saturation or water table. 30 CFR § 701.5.

3689 **Red dog:** Solid waste from mining or coal processing that has burned. Usually reddish in color and used
3690 for road surfacing.

3691 **Reference area:** A land unit maintained under appropriate management for the purpose of measuring
3692 vegetation ground cover, productivity and plant species diversity that are produced naturally or by
3693 approved crop production methods. Reference areas must be representative of geology, soil, slope and
3694 vegetation in the permit area. 30 CFR § 701.5.

3695 **Refuse:** Solid waste from a coal preparation plant.

3696 **Retreat mining:** A method of underground mining in which the pillars are “robbed,” or removed,
3697 and the ground is allowed to subside as the miners move out toward the mine entrance. Also known
3698 as retreating system.

3699 **Riprap:** Large broken rocks or boulders, often placed along embankments and dam faces to control
3700 erosion.

3701
3702 **Rob the pillars:** The mining of coal pillars left to support the roof during development
3703 mining, often resulting in cave-ins.

3704
3705 **Room-and-pillar:** Method of mining where flat lying beds of coal are mined in rooms separated by
3706 pillars of undisturbed rock left for roof support.

3707
3708 **Safety factor:** "The ratio of the available shear strength to the developed shear stress or the ratio of the
3709 sum of the resisting forces to the sum of the loading or driving forces, as determined by accepted
3710 engineering practices." 30 CFR § 701.5. A static safety factor of one on a slope means that the slope is
3711 extremely vulnerable to slides because the forces holding the material up equal those trying to bring it
3712 down.

3713
3714 **Scalped:** The process by which surface vegetation is removed prior to mining.

3715
3716 **Scarification:** The loosening or stirring of the surface soil without turning it over. Scarification can help
reduce erosion by making it easier for the soil to absorb water.

3717
3718 **Scraper:** A machine used to remove and replace topsoil and other soil materials during mining and
reclamation. Scrapers can cause severe compaction of the soil.

3719
3720 **Sedimentation ponds:** ponds designed to hold polluted stream water in one place long enough for
3721 suspended solids such as soil particles to drop out of the water and settle on the bottom of the pond. **See**
30 C.F.R. 816.46(c).

3722 **Sink hole:** A hole or depression in the surface of the ground, caused by underground excavations or
3723 erosion of vertical support. Sink holes can be as much as 15 feet deep.

3724 **Slurry:** Liquid waste composed of fine rock particles and water that is produced when coal is
3725 washed.

3726 **Soil horizons:** A layer of soil that is characteristically distinct from adjacent layers. For example it is made
3727 up of a different texture, structure, or color than the adjacent layer. Horizons are usually designated by
3728 numerals or capital letters (e.g. Horizon A and Horizon B).

3729 **Soil profile:** A vertical section of soil that displays all of the soil's layers. Layers are often called horizons.

3730 **Spoil:** The overburden or non-ore material that has been removed to gain access to the mineral.
3731

3732 **Strata:** Beds or layers of rock that are visually separable from other layers.
3733

3734 **Stream buffer zone rule:** a federal regulation stating that land within 100 feet of a stream cannot be
3735 disturbed by mining unless the operator can prove it will not adversely affect the water quality and
3736 quantity of the stream.
3737
3738

3739 **Stripping ratio:** The unit amount of spoil or overburden that must be removed to gain access to a unit amount
3740 of coal, generally expressed in cubic yards of overburden to raw tons of coal.
3741

3742 **Subjacent support:** Support by the earth that lies underneath the land under consideration. BLACK'S
3743 LAW DICTIONARY, WESTLAW ONLINE VERSION.

3744 **Subsidence:** Surface collapse or depression caused by underground excavations.

3745 **Subsidence control plan:** A permitting requirement for underground mines; the plan must identify structures
3746 and renewable resource lands above the mine and discuss methods to prevent or reduce damages from
3747 subsidence to those structures and lands. It also must describe how the operator will monitor subsidence. See
3748 30 C.F.R. § 784.20.

3749 **Swell Factor:** The tendency of soils and overburden on being removed from their natural, compacted
3750 beds to increase in volume due to an increase in the space between soil particles.

3751 **Thalwegs** The line of greatest slope along the bottom of a valley. The thalweg thus marks the natural
3752 direction of a watercourse.

3753
3754 **Topsoil:** The surface portion of the soil, sometimes called the A-horizon. Topsoil will generally range from 6
3755 to 20 inches in depth.
3756

3757 **Valley fill:** A fill structure consisting of any material other than coal waste or other organic material that is
3758 placed in the upper most area of a valley that is steeper than 20 degrees.

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Appendix H

Local and State Organizations That Work with SMCRA

ALABAMA

Black Warrior Riverkeeper
712 37th Street South
Birmingham, AL 35222
P) (205) 458-0095
F) (205) 458-0094
www.blackwarriorriver.org

Mission: To protect and restore the Black Warrior River and its tributaries. Currently fighting permits for improperly located coal mines and working to hold polluting coal mines accountable

Friends of Hurricane Creek
P.O. Box 40836
Tuscaloosa, AL 35404
P) (205) 233-1680
F) (205) 507-0867
www.hurricanecreek.org

Mission: To promote the protection and rehabilitation of Hurricane Creek and its watershed.

ALASKA

Alaskans for Responsible Mining
810 N Street #203
Anchorage, AK 99501
P) (907) 277-0005
F) (907) 277-0990
<http://www.reformakmines.org/>

Cook Inletkeeper
308 G Street, Suite 219
Anchorage, AK 99501
P) (907) 235-4068
F) (907) 235-4069

3800 keeper@inletkeeper.org

3801 www.inletkeeper.org

3802

3803

3804 **ILLINOIS**

3805

3806 Illinois Sierra Mining Committee

3807 Joyce Blumenshine, Acting Chair

3808 2419 E. Reservoir

3809 Peoria, IL 61614-8029

3810 P) (309) 688-0950

3811 joblumen@yahoo.com

3812

3813 Committee members are involved in fighting longwall, room & pillar, and strip mines permits.

3814

3815

3816 **KENTUCKY**

3817

3818 Kentuckians For The Commonwealth

3819 P.O. Box 1450

3820 London, Kentucky 40743

3821 P) (606) 878-2161

3822 F) (606) 878-5714

3823 info@kftc.org

3824 <http://www.kftc.org>

3825

3826 KFTC works for a new balance of power and a just society. Its Canary Project is building awareness
3827 about the dangers from coal, developing skills we need to protect our communities and homes, and
3828 working for a new economy to sustain, instead of exploit, our communities.

3829

3830 Sierra Club, Cumberland Chapter

3831 P.O. Box 1368

3832 Lexington, KY 40588-1368

3833 P) (859) 296-4335

3834 www.kentucky.sierraclub.org

3835

3836

3837 **NORTH DAKOTA**

3838

3839 Dakota Resource Council

3840 P.O. Box 1095

3841 Dickinson, ND 58602

3842 P) (701) 483-2851

3843 F) (701) 483-2854

3844 www.drcinfo.com

3845

3846 Mission: To form enduring, democratic local groups that empower people to influence decision-
3847 making processes that affect their lives.

3848

3849

3850 **OHIO**

3851

3852 Meigs Citizens Action Now!

3853 48360 Carmel Road

3854 Racine, Ohio 45771

3855 P) (740)-416-2694

3856 meigscan@yahoo.com

3857 www.meigscan.org

3858 A grassroots community group who reject the unfair burden of toxic industries sited in their
3859 community and embraces a future of economic prosperity that keeps our soil and water– and our
3860 children—healthy.

3861

3862

3863 **PENNSYLVANIA**

3864

3865 Foundation for Pennsylvania Watersheds

3866 9697 Loop Rd.

3867 Alexandria, PA 16611

3868 P) (814) 669-4244

3869 F) (814) 669-1323

3870 www.wpawp.org

3871

3872 A grant-making foundation that invests in efforts to protect healthy, natural streams around the
3873 state.

3874

3875 Mountain Watershed Association

3876 P.O. Box 408

3877 Melcroft, PA 15462

3878 P) (724) 455-4200

3879 F) (724) 455-4201

3880 www.mtwatershed.com

3881

3882 A non-profit, tax-exempt community-based Pennsylvania corporation concerned with the
3883 preservation, protection, and conservation of the Indian Creek Watershed and surrounding areas.

3884

3885

3886 **TENNESSEE**

3887

3888 Save Our Cumberland Mountains
3889 Main Office
3890 P O BOX 479
3891 Lake City, TN 37769
3892 P) (865) 426-9455
3893 F) (865) 426-9289
3894 www.socm.org
3895
3896 Mission: To assist Tennessee residents to protect, defend and improve the quality of life in their
3897 communities and across the state: including stopping the devastation caused by mining.
3898

3899 United Mountain Defense
3900 Knoxville, TN
3901 P.O. Box 20363
3902 Knoxville, Tennessee 37920
3903 P) (865) 689-2778
3904 unitedmountaindefense@yahoo.com
3905 <http://www.unitedmountaindefense.org/>
3906

3907 A nonprofit organization committed to halting mountaintop removal coal mining.
3908

3909
3910 **WEST VIRGINIA**

3911
3912 Coal River Mountain Watch
3913 P) (304) 854-2182
3914 <http://www.crmw.net>
3915

3916 Mission: to stop the destruction of our communities and environment by mountaintop removal
3917 mining, to improve the quality of life in our area and to help rebuild sustainable communities.
3918

3919 Ohio Valley Environmental Coalition
3920 PO Box 6753
3921 Huntington, WV 25773-6753.
3922 P) (304) 522-0246
3923 vivian@ohvec.org
3924 <http://www.ohvec.org>
3925

3926 OVEC works to end mountaintop removal, water contamination from coal slurry injection, and
3927 improve the enforcement of mining laws. It works in much of West Virginia and portions of southern
3928 Ohio and eastern Kentucky.
3929

3930 West Virginia Highlands Conservancy
3931 Cindy Rank

3932 WWHC Mining Committee
3933 HC 78 Box 227
3934 Rock Cave, WV 26234
3935 P) (304) 924-5802
3936 clrank@hughes.net
3937 www.wvhighlands.org
3938

3939 Formed in 1967, the West Virginia Highlands Conservancy is the state's oldest environmental
3940 advocacy organization. For four decades the Conservancy has been a leader in citizen efforts on a
3941 variety of mining issues critical to protecting the environment and life in WV.
3942

3943

3944 **WYOMING**

3945

3946 Powder River Basin Resource Council
3947 934 N. Main St.
3948 Sheridan, WY 82801
3949 P) (307) 672-5809
3950 F) (307) 672-5800
3951 sanderson@powderriverbasin.org
3952 <http://www.powderriverbasin.org/>
3953

3954

3955 **REGIONAL**

3956 Appalachian Voices
3957 191 Howard St
3958 Boone, NC 28607
3959 P) (828) 262-1500
3960 Toll Free: 1-877-APP-VOICE
3961 F) (828) 262-1540
3962 <http://www.appvoices.org>
3963

3964 Citizens Coal Council
3965 P.O. Box 964
3966 670 Jefferson Avenue
3967 Washington, PA 15301
3968 P) (724) 222-5602
3969 F) (724) 222-5609
3970 ccc@citizenscoalcouncil.org
3971 <http://www.citizenscoalcouncil.org>
3972

3973 The Citizens Coal Council and its members strive to protect people, homes, water, communities, and
3974 the environment from coal mining damage, restore law and order by enforcing the federal SCMRA,
3975 and help each other win our issues.

3976
3977
3978 The Mountaintop Removal Road Show
3979 608 Allen Ct.
3980 Lexington, KY 40505
3981 P) (859) 299-5669
3982 <http://www.mountainroadshow.com/>
3983
3984 A 22-minute slide show about the impacts of mountaintop removal on coalfield residents,
3985 communities and the environment that has been shown over 500 times in sixteen states since 2003.
3986
3987 Mountain Justice
3988 PO Box 86
3989 Naoma, WV 25140
3990 www.mountainjustice.org
3991
3992 Direct action organization working for world-wide awareness of Mountain Top Removal mining and
3993 its effects.
3994
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APPENDIX I

Federal Office of Surface Mining Offices

4002

4003

4004

4005

4006

4007

Secretary of the Department of Interior

4008

1849 C Street, N.W.

4009

Washington, DC 20240

4010

P) (202) 208-3100

4011

<http://www.doi.gov/welcome.html>

4012

4013

Assistant Secretary

4014

Land & Minerals Management

4015

1849 C Street, N.W.

4016

Washington, DC 20240

4017

P) (202) 208-6734

4018

<http://www.blm.gov/wo/st/en.html>

4019

4020

4021

OFFICE OF SURFACE MINING (OSM) HEADQUARTERS

4022

4023

4024

Office of Surface Mining Reclamation and Enforcement

4025

1951 Constitution Avenue, NW

4026

Washington, DC 20240

4027

P) (202) 208-2719

4028

GetInfo@osmre.gov

4029

www.osmre.gov

4030

Director

4031

Office of Surface Mining Reclamation and Enforcement

4032

1951 Constitution Avenue, NW

4033

Washington, DC 20240

4034

P) (202) 208-4006

4035

(Reports to Assistant Secretary)

4036

4037

4038

Appalachian Regional Office

4039

4040

4041

Thomas D. Shope, Regional Director

4042

Three Parkway Center

4043

Pittsburgh, PA 15220

4044

P) (412) 937-2828

4045

tshope@osmre.gov

4046

www.arcc.osmre.gov

4047

4048

4049

4050

Columbus Office

4051

George Rieger, Manager

4052

Pittsburgh Field Division

4053

Columbus Office

4054 4605 Morse Road, room 102
4055 Columbus, OH 43230
4056 P) (412) 937-2153 (Pittsburgh, Pennsylvania.)
4057 P) (614) 416-2238 (Columbus, Ohio)
4058 grieger@osmre.gov

4059
4060 **Harrisburg Office**
4061 George Rieger, Manager
4062 Pittsburgh Field Division
4063 Harrisburg Transportation Center
4064 415 Market Street, Suite 3C
4065 Harrisburg, PA 17101
4066 P) (412) 937-2153 (Pittsburgh, Pennsylvania)
4067 P) (717) 782-4036 (Harrisburg, Pennsylvania)
4068 <http://mmr.osmre.gov/hfo>
4069 grieger@osmre.gov

4070
4071 **Johnstown Office**
4072 Joe Geissinger, Manager
4073 Richland Professional Bldg.
4074 334 Bloomfield St., Suite 104
4075 Johnstown, PA 15904
4076 P) (814) 533-4223
4077 jgeissin@osmre.gov

4078
4079 **Big Stone Gap Area Office**
4080 Ian Dye, Chief
4081 1941 Neeley Road, Suite 201
4082 Compartment 116
4083 Big Stone Gap, VA 24219
4084 P) (276) 523-0061 x16
4085 idye@osmre.gov

4086 **Charleston Field Office**
4087 Roger W. Calhoun, Director
4088 1027 Virginia Street, East
4089 Charleston, WV 25301
4090 P) (304) 347-7162
4091 rcalhoun@osmre.gov

4092
4093 **Beckley Area Office**
4094 Jack Nelson, Manager
4095 313 Harper Park Dr.
4096 Beckley, WV 25801
4097 P) (304) 255-5265 x11
4098 jnelson@osmre.gov

4099
4100 **Morgantown Area Office**

4101 Jack Nelson, Supervisor
4102 P.O. Box 886
4103 75 High Street, Rm. 229
4104 Morgantown, WV 26507-0886
4105 P) (304) 255-5265 x11 (Beckley, West Virginia)
4106 jnelson@osmre.gov

4107

4108 **Knoxville Field Office**

4109 Earl D. Bandy, Jr., Director
4110 710 Locust Street, 2nd floor
4111 Knoxville, TN 37902
4112 P) (865) 545-4103 x130
4113 Fax: (865) 545-4111
4114 ebandy@osmre.gov

4115

4116 **Lexington Field Office**

4117 Joseph L. Blackburn, Director (Acting)
4118 2675 Regency Road
4119 Lexington, KY 40503-2922
4120 P) (859) 260-3904
4121 jblackburn@osmre.gov

4122

4123 **London Area Office**

4124 Sam Turner, Team Leader
4125 P.O. Box 1048
4126 London, KY 40743
4127 P) (606) 878-6440
4128 sturner@osmre.gov

4129

4130 **Madisonville Area Office**

4131 Michael Cox, Team Leader
4132 Office of Surface Mining
4133 100 YMCA Drive
4134 Madisonville, KY 42431
4135 P) (270) 825-4500
4136 mcox@osmre.gov

4137

4138 **Pikeville Area Office**

4139 Gary Francis, Team Leader
4140 Matewan Bank Bldg.
4141 334 Main Street, Rm. 409
4142 Pikeville, KY 41501
4143 P) (606) 434-5767
4144 gfrancis@osmre.gov

4145

4146

4147

4148 **Mid-Continent Regional Office**

4149
4150 Ervin Barchenger, Regional Director
4151 Alton Federal Bldg.
4152 501 Belle Street, Rm 216
4153 Alton, IL 62002
4154 P) (618) 463-6463 x5129
4155 www.mcrc.org
4156 ebarchenger@osmre.gov

4157
4158 **Indianapolis Area Office**
4159 Andrew R. Gilmore, Director
4160 Milton-Capehart Fed. Bldg.
4161 575 North Pennsylvania St., Rm 301
4162 Indianapolis, IN 46204
4163 P) (317) 226-6700
4164 agilmore@osmre.gov

4165
4166 **Birmingham Field Office**
4167 Sherry Wilson, Director
4168 135 Gemini Circle, Suite 215
4169 Homewood, AL 35209
4170 P) (205) 290-7282 x16
4171 swilson@osmre.gov

4172
4173 **Tulsa Field Office**
4174 Al Clayborne, Director
4175 1645 South 101st East Avenue, Suite 145
4176 Tulsa, OK 74128-4629
4177 P) (918) 581-6430
4178 F) (918) 581-6419
4179 aclayborne@osmre.gov

4180
4181
4182

4183 **Western Regional Office**
4184
4185 Allen D. Klein, Regional Director
4186 P.O. Box 46667
4187 1999 Broadway, Suite 3320
4188 Denver, CO 80201-6667
4189 P) (303) 293 - 5001
4190 aklein@osmre.gov
4191 www.wrcc.org

4192
4193 **Olympia Area Office**
4194 Glen Waugh, Manager
4195 Evergreen Plaza Bldg.
4196 711 South Capitol Way, Suite 703

4197 Olympia, WA 98501
4198 P) (360) 753-9538
4199 gwaugh@osmre.gov

4200

4201 **Albuquerque Area Office**

4202 Bob Postle, Field Operations Manager
4203 505 Marquette Ave., NW, Suite 1200
4204 Albuquerque, NM 87102
4205 P) (303) 293 - 5041 (Denver, Colorado)
4206 P) (505) 248 - 5096 (Albuquerque, New Mexico)
4207 bpostle@osmre.gov

4208

4209 **Farmington Area Office**

4210 (Navajo Tribe, Hopi Tribe, and Ute Tribe)
4211 Bob Postle, Field Operations Manager
4212 501 Airport Drive, Suite 208
4213 Farmington, NM 87401
4214 P) (303) 293 - 5041 (Denver, Colorado)
4215 P) (505) 248 - 5096 (Albuquerque, New Mexico)
4216 bpostle@osmre.gov

4217

4218 **Casper Field Office**

4219 (Idaho, Montana, North Dakota, South Dakota, Wyoming, Crow Tribe,
4220 Northern Cheyenne Tribe, Cheyenne River Sioux Tribe)
4221 Jeffrey W. Fleischman, Field Office Director
4222 150 East B St., Rm.1018
4223 Casper, WY 82601-1018
4224 P) (307) 261-6550
4225 jfleischman@osmre.gov

4226

4227

APPENDIX J

STATE OFFICES WITH REGULATORY PRIMACY

4227

4228

4229 **Alabama**

4230 Governor

4231 State Capitol

4232 600 Dexter Avenue

4233 Montgomery, Alabama 36130

4234 P) (334) 242-7100

4235 <http://www.governor.alabama.gov/>

4236

4237 Alabama Surface Mining Commission

4238 P.O. Box 2390

4239 Jasper, AL, 35502-2390

4240 P) (205) 221-4130

4241 <http://www.surface-mining.state.al.us/>

4242

4243 **Alaska**

4244 Governor

4245 P.O. Box 110001

4246 Juneau, AK 99811-0001

4247 P) (907) 465-3500

4248 <http://gov.state.ak.us/>

4249

4250 Alaska Department of Natural Resources

4251 Division of Land, Mining, and Water

4252 Anchorage Office Mine Permitting/

4253 Mineral Property Mgmt

4254 550 West 7th Avenue, Suite 900B

4255 Anchorage, AK 99501

4256 P) (907) 269-8652

4257 <http://www.dnr.state.ak.us/mlw/mining/>

4258

4259 **Arizona**

4260 Governor

4261 1700 West Washington

4262 Phoenix, Arizona 85007

4263 P) (602) 542-4331

4264 <http://www.azgovernor.gov/>

4265

4266 Department of Mines and Mineral Resources

4267 1502 West Washington

4268 Phoenix, AZ 85007

4269 P) (602) 771-1600

4270 F) (602) 771-1616

4271 <http://www.admmr.state.az.us/>

4272

4273 **Arkansas**
4274 Governor
4275 State Capitol Room 250
4276 Little Rock, AR 72201
4277 P) (501) 682-2345
4278 <http://www.governor.arkansas.gov/>
4279
4280 Department of Environmental Quality
4281 Surface Mining and Reclamation Division
4282 5301 Northshore Drive
4283 North Little Rock, AR 72118-5317
4284 P) (501) 682-0807
4285 <http://www.adeq.state.ar.us/mining/>
4286
4287 **California**
4288 Governor
4289 State Capitol Building
4290 Sacramento, CA 95814
4291 P) (916) 445-2841
4292 F) (916) 558-3160
4293 <http://gov.ca.gov/>
4294
4295 Department of Conservation
4296 Office of Mine Reclamation
4297 801 K Street, MS 09-06
4298 Sacramento, CA 95814-3529
4299 P) (916)323-9198
4300 F) (916)322-4862
4301 <http://www.conservation.ca.gov/omr/Pages/Index.aspx>
4302
4303 **Colorado**
4304 Governor
4305 136 State Capitol
4306 Denver, CO 80203-1792
4307 P) (303) 866-2471
4308 F) (303) 866-2003
4309 <http://www.colorado.gov/governor/>
4310
4311 Department of Natural Resources
4312 Division of Reclamation Mining and Safety
4313 1313 Sherman St., Rm. 215
4314 Denver, CO 80203
4315 P) (303) 866-3567
4316 F) (303) 832-8106
4317 <http://mining.state.co.us/index.htm>
4318
4319 **Georgia**
4320 Governor

4321 203 State Capitol
4322 Atlanta, Georgia 30334
4323 P) (404) 656-1776
4324 <http://gov.georgia.gov/>
4325
4326 Department of Natural Resources
4327 Environmental Protection Division
4328 2 Martin Luther King Jr. Drive, Suite 1152 East Tower
4329 Atlanta, GA 30334
4330 P) 404-657-5947
4331 <http://www.georgiaepd.org/>
4332
4333 **Idaho**
4334 Governor
4335 700 W Jefferson St # 228
4336 Boise, ID 83720
4337 P) (208) 334-2100
4338 <http://gov.idaho.gov/>
4339
4340 Idaho Department of Lands: Minerals Program
4341 3780 Industrial Avenue South
4342 Coeur d'Alene, ID 83815
4343 P) (208) 769-1525
4344 F) (208) 769-1524
4345 <http://www.idl.idaho.gov/Bureau/MineralsBC.htm>
4346
4347 **Illinois**
4348 Governor
4349 207 State House
4350 Springfield, IL 62706
4351 P) (217)782-0244
4352 <http://www.illinois.gov/GOV/>
4353
4354 Department of Natural Resources
4355 Office of Mines and Minerals
4356 One Natural Resources Way
4357 Springfield, IL 62702-1271
4358 P) (217) 782-6791
4359 <http://dnr.state.il.us/mines/>
4360
4361 **Indiana**
4362 Governor
4363 200 W Washington St # 206
4364 Indianapolis, IN 46204
4365 P) (317) 232-4567
4366 <http://www.in.gov/gov/>
4367
4368 Department of Natural Resources

4369 Division of Reclamation
4370 402 West Washington Street
4371 Indianapolis, IN 46204
4372 P) (812) 665-2207, 1-800-772-6463(toll free only in Indiana)
4373 <http://www.in.gov/dnr/reclamation/>
4374
4375 **Iowa**
4376 Governor
4377 State Capitol
4378 Des Moines, IA 50319
4379 P) (515) 281.5211
4380 <http://www.governor.iowa.gov/>
4381
4382 Department of Agriculture and Land Stewardship
4383 Mines and Minerals Bureau
4384 Wallace State Office Building
4385 502 E. 9th Street
4386 Des Moines, IA 50319
4387 P) (515) 281-5321
4388 <http://www.iowaagriculture.gov/MinesAndMinerals/coalRegulatory.asp>
4389
4390 **Kansas**
4391 Governor
4392 Capitol, 300 SW 10th Ave., Ste. 212S
4393 Topeka, KS 66612-1590
4394 P) 1-877-579-6757
4395 <http://www.governor.ks.gov/>
4396
4397 Department of Health and Environment
4398 Surface Mining Section
4399 4033 Parkview Drive
4400 Frontenac, Kansas 66763
4401 P) 620-231-8540
4402 F) (620) 231-0753
4403 <http://www.kdheks.gov/mining/>
4404
4404 **Kentucky**
4405 Governor
4406 700 Capitol Avenue, Suite 100
4407 Frankfort, Kentucky 40601
4408 P) (502) 564-2611
4409 <http://governor.ky.gov/>
4410
4411 Energy and Environment Cabinet
4412 Department for Natural Resources (contains Division of Abandoned Mine Lands, Division of Mine
4413 Reclamation and Enforcement, and Division of Mine Permits)
4414 #2 Hudson Hollow
4415 Frankfort, KY 40601

4416 P) (502) 564-6940
4417 F) (502) 564-5698
4418 <http://www.dnr.ky.gov/>
4419

4420 **Louisiana**

4421 Governor

4422 PO Box 94004
4423 Baton Rouge, LA 70804-9004
4424 P) (225) 342-7015
4425 <http://www.gov.state.la.us/>
4426

4427 Office of Conservation
4428 Injection and Mining Division
4429 Surface Mining Section
4430 617 North Third Street
4431 (or P.O. Box 94275)
4432 Baton Rouge Louisiana 70804-9275
4433 P) (225) 342-5515
4434 F) (225) 242-3441
4435 <http://dnr.louisiana.gov/cons/conserin/Surfmine.ssi>
4436

4437 **Maryland**

4438 Governor

4439 100 State Circle
4440 Annapolis, Maryland 21401-1925
4441 410.974.3901
4442 <http://www.gov.state.md.us/>
4443

4444 Department of the Environment
4445 Mining Program
4446 1800 Washington Blvd
4447 Baltimore, MD 21230
4448 P) (410) 537-3000
4449 <http://www.mde.state.md.us/Programs/WaterPrograms/MiningInMaryland/index.asp>
4450

4451 **Massachusetts (federal program)**

4452 Governor

4453 Massachusetts State House
4454 Office of the Governor
4455 Room 360
4456 Boston, MA 02133
4457 Phone: 617.725.4005
4458 <http://mass.gov/governor/>
4459

4460 **Michigan**

4461 Governor

4462 P.O. Box 30013
4463 Lansing, Michigan 48909

4464 P) (517) 373-3400
4465 <http://www.michigan.gov/gov>
4466
4467 Department of Environmental Quality
4468 Office of Geological Survey
4469 P.O. Box 30256
4470 Lansing, MI 48909-7756
4471 P) (517) 241-1515
4472 http://www.michigan.gov/deq/0,1607,7-135-3306_28607---,00.html
4473
4474 **Mississippi**
4475 Governor
4476 P.O. Box 139
4477 Jackson, MS 39205
4478 P) (601) 359-3150
4479 <http://www.governorbarbour.com/>
4480
4481 Department of Environmental Quality
4482 Office of Geology
4483 Mining and Reclamation Division
4484 Mailing Address for Inquiries:
4485 Office of Geology
4486 P. O. Box 2279
4487 Jackson, MS 39225
4488 Street Address:
4489 700 North State St.
4490 Jackson, MS 39202
4491 P) (601) 961-5171
4492 http://www.deq.state.ms.us/MDEQ.nsf/page/Geology_mining_and_reclamation?OpenDocument
4493
4494 **Missouri**
4495 Governor
4496 Room 216, State Capitol Building
4497 Jefferson City MO 65101
4498 P) (573) 751-3222
4499 <http://governor.mo.gov/>
4500
4501 Missouri Department of Natural Resources
4502 Land Reclamation Commission
4503 P.O. Box 176
4504 Jefferson City, MO 65102
4505 P) (573) 751-4041
4506 <http://www.dnr.mo.gov/env/lrp/homecoal.htm>
4507
4508 **Montana**
4509 Governor
4510 Montana State Capitol Bldg.
4511 P.O. Box 200801

4512 Helena MT 59620-0801
4513 P) (406) 444-3111
4514 <http://governor.mt.gov/>
4515
4516 Department of Natural Resources and Conservation
4517 Minerals Management Bureau
4518 1625 Eleventh Ave.
4519 Helena, MT 59620
4520 P) (406) 444-2074
4521 <http://dnrc.mt.gov/trust/MMB/Default.asp>
4522
4523 **New Mexico**
4524 Governor
4525 490 Old Santa Fe Trail
4526 Room 400
4527 Santa Fe, NM 87501
4528 P) (505) 476-2200
4529 <http://www.governor.state.nm.us/>
4530
4531 New Mexico Energy, Minerals, and Natural Resources Department
4532 Mining and Minerals Division
4533 1220 South St. Francis Drive, Santa Fe, NM 87505
4534 P) (505) 476-3400
4535 F) (505) 476-3402
4536 <http://www.emnrd.state.nm.us/MMD/CMRP.htm>
4537
4538 **North Dakota**
4539 Governor
4540 600 East Boulevard Avenue
4541 Bismarck, ND 58505-0001
4542 P) (701) 328.2200
4543 <http://governor.state.nd.us/>
4544
4545 Public Service Commission
4546 Reclamation Division
4547 600 E. Boulevard, Dept. 408
4548 Bismarck, ND 58505-0480
4549 P) (701) 328-4096
4550 F) (701) 328-2133
4551 <http://www.psc.state.nd.us/jurisdiction/reclamation.html>
4552
4553 **Ohio**
4554 Governor
4555 Riffe Center, 30th Floor
4556 77 South High Street
4557 Columbus, OH 43215-6108
4558 P) (614) 466-3555
4559 <http://www.governor.ohio.gov/>

4560 Ohio Department of Natural Resources
4561 Mineral Resources Management
4562 2045 Morse Road, Building H-3
4563 Columbus, Ohio 43229-6693
4564 P) (614) 265-6633
4565 F) (614) 265-7999; (614) 265-7998
4566 <http://ohiodnr.com/mineral/mining/default/tabid/10404/Default.aspx>

4567
4568 **Oklahoma**

4569 Governor

4570 State Capitol Building
4571 2300 N. Lincoln Blvd., Room 212
4572 Oklahoma City, OK 73105
4573 P) (405) 521-2342
4574 <http://www.governor.state.ok.us/>

4575
4576 Oklahoma Department of Mines
4577 2915 North Classen Blvd., Suite 213
4578 Oklahoma City, OK 73106
4579 P) 405-427-3859
4580 F) (405) 427-9646
4581 <http://www.ok.gov/mines/>

4582
4583 **Oregon**

4584 Governor

4585 160 State Capitol
4586 900 Court Street
4587 Salem, OR 97301-4047
4588 P) (503) 378-4582
4589 <http://governor.oregon.gov>

4590
4591 Oregon Department of Geology and Mineral Industries
4592 Mineral Land Regulation and Reclamation
4593 229 Broadalbin St. SW
4594 Albany, OR 97321
4595 P) 541-967-2039
4596 F) (541) 967-2075
4597 <http://www.oregongeology.com/sub/mlr/mlrhome.htm>

4598
4599 **Pennsylvania**

4600 Governor

4601 225 Main Capitol Building
4602 Harrisburg, Pennsylvania 17120
4603 P) (717) 787-2500
4604 <http://www.governor.state.pa.us/>

4605
4606 Pennsylvania Department of Environmental Protection
4607 Bureau of Mining and Reclamation

4608 Rachel Carson State Office Building, 5th Floor
4609 Harrisburg, PA 17105
4610 P) (717) 787-5103
4611 F) (717) 783-4675
4612 <http://www.dep.state.pa.us/dep/deputate/minres/bmr/BMRhome.htm>
4613

4614 **Rhode Island**

4615 Governor
4616 State House, Room 115
4617 Providence, RI 02903
4618 P) (401) 222-2080
4619 <http://www.governor.ri.gov/>
4620

4621 **South Dakota**

4622 Governor
4623 500 E. Capitol Ave.
4624 Pierre, SD 57501
4625 (605) 773-3212
4626 <http://www.state.sd.us/governor/>
4627

4628 Department of Environment and Natural Resources
4629 Minerals and Mining Program
4630 Joe Foss Building
4631 523 E Capitol
4632 Pierre SD 57501
4633 P) (605) 773-4201
4634 F) (605) 773-5286
4635 <http://denr.sd.gov/des/mm/mmprogram.aspx>
4636

4637 **Tennessee (federal program)**

4638 Governor
4639 Tennessee State Capitol
4640 Nashville, TN 37243-0001
4641 P) (615) 741.2001
4642 <http://www.tennesseeanytime.org/governor/>
4643

4644 Department of Environment and Conservation
4645 Division of Geology
4646 401 Church Street
4647 13th Floor, L&C Tower
4648 Nashville, TN 37243-0445
4649 P) (615) 532-1502
4650 <http://www.state.tn.us/environment/tdg/>
4651

4652 **Texas**

4653 Governor
4654 P.O. Box 12428
4655 Austin, Texas 78711

4656 (512) 463-2000
4657 <http://www.governor.state.tx.us/>
4658
4659 Railroad Commission of Texas
4660 Surface Mining and Reclamation Division
4661 P.O. Drawer 12967
4662 Austin, Texas 78711-2967
4663 P) (512) 463-6900
4664 F) (512) 463-6709
4665 <http://www.rrc.state.tx.us/programs/mining/index.php>
4666
4667 **Utah**
4668 Governor
4669 Utah State Capitol Complex
4670 350 North State Street, Suite 200
4671 PO Box 142220
4672 Salt Lake City, Utah 84114-2220
4673 P) (801) 538-1000
4674 <http://www.utah.gov/governor/>
4675
4676 Utah Department of Natural Resources
4677 Division of Oil, Gas, and Mining
4678 1594 West North Temple, Suite 1210
4679 Salt Lake City, Utah 84114-5801
4680 P) (801) 538-5340
4681 <http://www.ogm.utah.gov/coal/Default.htm>
4682
4683 **Virginia**
4684 Governor
4685 Patrick Henry Building, 3rd Floor
4686 1111 East Broad Street
4687 Richmond, Virginia 23219
4688 P) (804) 786-2211
4689 <http://www.governor.virginia.gov/>
4690
4691 Virginia Department of Mines Minerals and Energy
4692 Division of Mined Land Reclamation
4693 Washington Building, 8th Floor
4694 1100 Bank Street
4695 Richmond, VA 23219
4696 P) (276) 523-8100
4697 <http://www.dmme.virginia.gov/divisionmlr.shtml>
4698
4699 **Washington (federal program)**
4700 Governor
4701 PO Box 40002
4702 Olympia, WA 98504-0002
4703 P) (360) 902-4111

4704 <http://www.governor.wa.gov/>
4705
4706 **West Virginia**
4707 Governor
4708 1900 Kanawha Boulevard, E.
4709 Charleston, WV 25305
4710 P) 1-888-438-2731
4711 <http://www.wvgov.org/>
4712
4713 Department of Environmental Protection
4714 Division of Mining and Reclamation
4715 Headquarters, 601 - 57th St.
4716 Charleston, WV 25304
4717 P) 304-926-0490
4718 <http://www.wvdep.org/item.cfm?ssid=9>
4719
4720 **Wyoming**
4721 Governor
4722 State Capitol
4723 200 West 24th Street
4724 Cheyenne, WY 82002-0010
4725 307-777-7434
4726 <http://governor.wy.gov/>
4727
4728 Wyoming Department of Environmental Quality
4729 Land Quality Division
4730 122 West 25th St, Herschler Building
4731 Cheyenne WY 82002
4732 P) (307) 777-7756
4733 <http://deq.state.wy.us/lqd/coalpermitting.asp>
4734