

South Dakota Minerals and Mining Program

History of Mining Regulation in South Dakota

The following is a history of mine regulation in South Dakota since the first laws that regulated surface mining were enacted in 1971. Events are listed in chronological order, starting with the most recent year.

Note: This Information was download in 2019 from <https://denr.sd.gov/des/mm/History.aspx> - this link now redirect to the new DANDR's main site. They no longer provide this resource that we can find on the new site.

2018 In January, the Board of Minerals and Environment released Homestake's reclamation liability for 44.02 acres at its Open Cut surface mine in Lead. The board also reduced Homestake's reclamation bond from \$1,246,000 to \$178,700 and increased its postclosure surety from \$41,979,523 to \$47,797,929. Remediation work continued at the Gilt Edge Mine. In 2018, the EPA contractor removed sludge from and partially backfilled the Dakota Maid Pit. Partial backfilling of the Sunday Pit was also completed. Activities under this phase were completed in September 2018.

On February 12, 2018, EPA, the state of South Dakota, and a mining company entered into a contract to conduct a hydrogeologic study of the area to better define geology, structure, contaminant sources, and groundwater flow at the Gilt Edge Mine.

After an appeal from the Oglala Sioux Tribe, the U.S. Court of Appeals for the District of Columbia Circuit ruled on July 20 the Nuclear Regulatory Commission (NRC) violated the National Environmental Policy Act (NEPA) when it left Powertech's license in effect after it was determined the agency did not conduct an adequate survey of Native American cultural, religious, and historic resources prior to issuing the license. However, the court declined to vacate the license and instead remanded the matter back to the NRC. Meanwhile, the NRC, Powertech, and the Oglala Sioux Tribe continue to work to resolve the tribal cultural issues.

In August, DENR and the US Forest Service entered into a revised Memorandum of Understanding (MOU). This is the first major revision to the MOU since its inception in the late 1980's. The revised MOU combines the previous mine permit and exploration notice of intent MOU and a previous MOU for mine licensed operations into one document. It also updates the terms for interactions between the two agencies regarding reclamation requirements and bonding for mining operations on US Forest Service administered property.

2017 In April, remediation work resumed at the Gilt Edge Mine Superfund site. Funding from potential responsible party settlement payments allowed EPA to resume work at the site. The main emphasis for this phase of the project is the partial backfilling of the Sunday and Dakota Maid Pits. In 2017, the EPA contractor removed sludge from and began partially backfilling the Sunday Pit with spent ore for the leach pad and blasted material from the reduction of the Union Hill highwall. It also constructed a new sludge cell, pipeline system, and access road.

EPA's Region 8 Underground Injection Control (UIC) Program issued draft permits and a proposed Aquifer Exemption Record of Decision for Powertech's proposed uranium in-situ mining operation. In May, EPA held public hearings on the draft permits and Record of Decision in Rapid City, Hot Springs, and Edgemont. EPA has yet to finalize Powertech's UIC permits.

In July , the South Dakota Supreme Court upheld the September 2016 circuit court decision to deny Harlan Schmidt's appeal of the Board of Minerals and Environment decision to release LAC Mineral's reclamation liability for 265.94 acres of land.

On December 1, EPA decided not to issue financial assurance rules under CERCLA 108(b). After careful analysis of comments received on the proposed rule, EPA determined modern mining practices coupled with existing state and federal requirements adequately address risks from operating mining facilities. The agency concluded the degree and duration of risks associated with modern mining operations did not warrant issuance of a final rule.

In December, VMC, LLC was issued a notice of violation and order by the South Dakota Department of Environment and Natural Resources for violations of the terms and conditions of EXNI-419. The violations were a result of exceeding the 100 foot drill depth limit in the EXNI and failing to notify the Department of Game, Fish, and Parks before drilling around mine adits or openings so they could be assessed for bat habitat. VMC was required to reclaim all drill sites by June 1, 2018 and pay an \$11,000 penalty.

2016 On January 29, the U.S. Court of Appeals for the District of Columbia Circuit ordered the Environmental Protection Agency (EPA) to initiate proposed rulemaking on financial assurance requirements under Section 108(b) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) for the hard rock mining industry by December 1, 2016. The court also ordered EPA to provide notice of its final action by December 1, 2017. Proposed rules were issued by EPA on December 1, 2016.

In February, Harlan Schmidt, on behalf of Robert Fowler and himself, filed an appeal of the Board of Minerals and Environment's decision in October 2015 to release LAC Minerals' reclamation liability for 265.94 acres of land at its Richmond Hill Mine near Lead with the Fourth Judicial Circuit Court. In September, the circuit court denied the appeal of the board's decision. Mr. Schmidt appealed the circuit court's decision to the South Dakota Supreme Court in December.

2015 Goldcorp announced in January that it would sell its 100 percent interest in the Wharf Mine to Coeur Mining Inc. of Chicago, IL. After the transaction was completed in February, Wharf Resources (USA) Inc. became a wholly-owned subsidiary of Coeur Mining Inc.

On April 30, the Nuclear Regulatory Commission's (NRC's) Atomic Safety and Licensing Board issued its decision on Powertech's uranium in-situ mining operation in Custer and Fall River counties. The licensing board found in favor of Powertech on five of the opponent's contentions relating to water quality and quantity. However, the board revised Powertech's license to require the company to make an effort to find and properly abandon hundreds of existing historic drill holes. The board also ruled in favor of the Oglala Sioux Tribe regarding impacts the operation would pose to Native American cultural, historic and religious sites. Several petitions for review of the board's decision have been filed with the NRC.

In October, the Board of Minerals and Environment released LAC Mineral's reclamation liability for 265.94 acres of land at its Richmond Hill Mine near Lead. This is the second large scale heap leach gold mine to have reclaimed land released from reclamation liability. The board also accepted the company's postclosure plan, set a 100-year period for postclosure care and maintenance, and accepted a \$19,667,216 bond to cover monitoring and maintenance of the site during the postclosure period. The board has now released reclamation liability for 1,201.05 acres affected by large scale gold mines in the Black Hills.

2014 - On January 30, the Nuclear Regulatory Commission (NRC) issued its 1,310-page final supplemental environmental impact statement (SEIS) for Powertech's proposed Dewey-Burdock in-situ uranium recovery project. The SEIS concluded there are no environmental impacts that would preclude licensing the facility. The NRC subsequently issued Powertech an operating license for its proposed uranium mine on April 8. However, its Atomic Safety and Licensing Board issued a temporary stay on April 30 in response to the Oglala Sioux Tribe's argument the project will disturb cultural and historic sites. On May 20, the stay was lifted. In August, the Atomic Safety and Licensing Board hosted public comment sessions and a formal hearing in Rapid City on several contentions regarding Powertech's NRC license. After the hearing, the board's decisions on the contentions were delayed until 2015.

In June, Wharf Resources began mining a portion of the reclaimed Golden Reward Mine as part of its expansion project approved by the Board of Minerals and Environment in 2011.

2013 A contested case hearing on Powertech (USA) Inc.'s mine permit application was held before the Board of Minerals and Environment from September 23 to 27, 2013, in Rapid City, SD. The hearing was continued to the week of November 11 through 15, 2013. However, the Board of Minerals and Environment (BME) issued an Order postponing the hearing until the Nuclear Regulatory Commission (NRC) and the US Environmental Protection Agency (EPA) have ruled and set the federal surety, and the state Water Management Board has decided the water rights. The Order further states that until those areas are completed "the BME cannot conditionally approve the permit and fulfill its statutory duties."

A contested case hearing on Powertech (USA) Inc.'s water rights and ground water discharge permit applications was held before the Board of Water Management from October 28 to November 1, 2013, in Rapid City, SD. The hearing was continued to the week of December 9 through 13, 2013. However, the Board of Water Management issued an Order as well postponing the hearing until the Nuclear Regulatory Commission (NRC) and the US Environmental Protection Agency (EPA) permits have been issued and the federal surety has been set as requested by Powertech.

2012 Powertech (USA) Inc. submitted a large scale mine permit application on October 1, 2012 for a proposed uranium in situ leach mine and processing facility located about 13 miles northwest of Edgemont, SD. For the Dewey-Burdock Project, Powertech will use injection wells to pump groundwater fortified with oxygen and carbon dioxide into the ore deposits to dissolve uranium. Production wells will be used to pump the uranium-laden fluids to the surface for recovery. The fluids from the production wells will be processed at two separate facilities at the mine site to extract and concentrate the uranium. Powertech may also recover vanadium in the future which will require additional processing equipment. After uranium has been removed from a well field, the groundwater will be restored to meet NRC restoration standards. Powertech will also be required to obtain an EPA aquifer exemption for any well field. Wastewater generated by the operation will be treated and disposed by injection in Class V injection wells permitted through the EPA Underground Injection Control (UIC) Program. If there is not sufficient capacity in the Class V wells, the excess wastewater may be disposed by land application permitted under a Groundwater Discharge Plan, which is subject to approval by the Board of Water Management. The proposed post-mining land uses are rangeland and agricultural or horticultural crops.

The South Dakota Legislature repealed certain obsolete statutes involving the Department of Environment and Natural Resources, including the requirement for the department to publish an annual summary of large scale gold and silver mines in South Dakota. The Legislature also approved a bill to set fees for

amendments to existing large scale precious metal, coal, or uranium mine permits at \$5,000.

2011 In November, the Board of Minerals and Environment unanimously approved Wharf Resources' large scale mine permit application for its proposed mine expansion project approximately three miles west of Lead. The proposed mine expansion project will involve open pit mining and disposal of overburden primarily to the south of the existing Wharf Mine and to the west of the Golden Reward Mine. A portion of the reclaimed Golden Reward Mine will be redisturbed during the project. Ore extracted from the expansion area will be hauled to the existing heap leach facility at the Wharf Mine for processing. A portion of SD Highway 473 will be relocated during the project. Wharf Resources plans to disturb approximately 308 acres with the 528-acre expansion area, and total production is estimated to be about 175 million tons of ore and overburden. The proposed expansion will extend the total life of the mine from 2012 to 2020. The proposed future land use is a mixture of rangeland (woodland grazing), home sites, recreation, and industrial or commercial development which will include enhancements to the Terry Peak ski area.

The board also approved increasing Wharf's reclamation bond to \$32.8 million and postclosure bond to \$30.8 million to cover increased reclamation and long term water treatment costs from the expansion project.

Senate Bill 158 was approved by the South Dakota Legislature which eliminated duplication of state and federal requirements for in situ uranium mining operations by tolling, or setting aside, the department's Class III UIC rules and in-situ leach mining rules (ARSD 74:29:11). As a result, companies interested in in-situ uranium mining in South Dakota are no longer required to obtain a Class III UIC permit from the department or address the in situ mining rules in a mine permit application unless the department obtains primary enforcement authority of the comparable federal programs from EPA and the Nuclear Regulatory Commission (NRC).

2010 In September 2010, the department received a Request for Determination of Special, Exceptional, Critical, and Unique Lands from Wharf Resources for its proposed mine expansion project approximately three miles west of Lead. This is the first step in the process of obtaining a large scale mine permit for the project. Wharf will affect approximately 430 acres during the seven year life of the expansion project. It will involve open pit mining and the use of waste rock to backfill previously mined areas. Ore extracted from the expansion areas will be trucked to the existing permitted Wharf Mine heap leach facility for processing. Neutralized spent ore will be deposited in permitted facilities which may include the current American Eagle and Deep Portland Pits. The land will be reclaimed to woodland grazing, recreation, and residential and commercial development. Wharf submitted a mine permit application for the expansion in March 2011, and a public hearing on the application is anticipated in late 2011 or early 2012.

2009 In January, the Board of Minerals and Environment released Golden Reward's reclamation liability for 401 acres of land at its mine site near Lead. This was the second largest block of acreage the board has ever released from reclamation liability. Golden Reward is the first large scale heap leach gold mine to have reclaimed land released from reclamation liability. The board also accepted the company's postclosure plan, set a 30-year period for postclosure care and maintenance, and accepted a \$1,767,077 bond to cover monitoring and maintenance of the site during the postclosure period.

Powertech (USA) Inc. submitted various permit and license applications in 2009 for its proposed in situ uranium mine near Edgemont. Class III Underground Injection Control (UIC) permit applications were

submitted to the department and the Environmental Protection Agency (EPA).½ The company also submitted its uranium recovery license application to the Nuclear Regulatory Commission (NRC).½ Powertech hoped to submit its large scale mine permit application sometime in 2010.½

The South Dakota Legislature approved a bill to revise fees for mine licenses, increase fees for large scale precious metal, coal, or uranium mine permits to \$50,000, and increase the cap for financial assurance for operations using cyanide or other biological or chemical leaching agents from \$500,000 to \$1 million.½½½½

2008 Powertech (USA) Inc. submitted a Request for Determination of Special, Exceptional, Critical, or Unique lands in August, the first step in applying for a large scale mine permit for a proposed in-situ uranium mine near Edgemont.½ The company planned to submit its mine permit application sometime in 2009.½ The Board of Minerals and Environment also approved a second uranium exploration permit for Powertech in November as it was completing drilling under its first permit.

After the National Science Foundation selected the Homestake underground mine as the site for a Deep Underground Science and Engineering Laboratory (DUSEL) in 2007, crews were busy in 2008 refurbishing the mine infrastructure and pumping out water that had been filling the mine since it was closed.½ An agreement was reached with Homestake's parent company Barrick to blend underground mine water with water from the Grizzly Gulch Tailing Impoundment and treat it in the existing Homestake Water Treatment Plant.½ It was expected the water level in the mine would be pumped below the 4,850-foot level by spring 2009 so that physics experiments could begin in an interim lab at that level later in the year.½ The interim laboratory would allow some experiments to begin while the plans for the laboratory at the 7400 level are being developed.½½½

In April 2008, Wharf Resources was issued a notice of violation and order by the South Dakota Department of Environment and Natural Resources for violations of its surface water discharge and mine permits. The violations were a result of biomass sludge discharges from its bio-treatment facility into Annie Creek. Wharf was required to upgrade its water treatment system, evaluate and clean up short stretches of two creeks below the mine, and pay a \$149,300 penalty.

2007 On July 10, 2007, the National Science Foundation selected the Homestake underground mine as the site for a deep underground science and engineering laboratory.½ That was great news for South Dakota.½ While plans were being developed for the deep underground laboratory, a state operated interim laboratory was being developed at the 4850 level of the mine.½ Crews re-entered the mine in July to begin refurbishing the mine infrastructure and installing the equipment needed to pump out water that had been filling the mine since it was closed in preparation for the interim laboratory.½½

The Board of Minerals and Environment promulgated rules for the construction, operation, monitoring, and closure of uranium and other in situ mines.½ The board adopted the rules following a public hearing, and they became effective on July 1, 2007.½ The board also approved a uranium exploration permit for Powertech (USA) Inc. in January 2007 following a contested case hearing.½ That was the first uranium exploration application issued in more than 25 years.½ By the end of 2007, Powertech drilled approximately 70 uranium exploration holes under its exploration permit. ½

2006 A major milestone was reached in 2006 as Homestake Mining Company became the first major large scale gold mine to have liability released for reclaiming land it mined. In April, the Board of Minerals and Environment granted Homestake partial release of reclamation liability for 499.74 acres of affected land at

its Open Cut surface mine in Lead. $\frac{1}{2}$ This is the single largest block of acreage the board had ever released from reclamation liability.

With the recent increase in uranium prices, there was a growing interest from companies wanting to conduct uranium in situ leach mining in South Dakota. To prepare for that possibility, the 2006 Legislature passed a bill authorizing the Board of Minerals and Environment to promulgate rules for the construction, operation, monitoring, and closure of uranium and other in situ mines. The department subsequently prepared a draft set of rules for the board's consideration. Also the Legislature passed a bill to amend reclamation bonding requirements under SDCL 45-6D-19 and 25. Uranium companies are now required to submit a surety to cover the costs of plugging all proposed test holes without a \$20,000 statewide surety option.

On a related matter, Powertech (USA) Inc. submitted an application in July 2006 to explore for uranium north of Edgemont.½ It was the first uranium exploration application that was processed by the department in more than 25 years. ½

2005 Efforts continued to convert the Homestake mine into an underground national laboratory to study neutrinos and other sub-atomic particles.½ In July, the National Science Foundation selected the Homestake Mine and the Henderson Mine in Colorado as the two finalists for the Deep Underground Science and Engineering Laboratory (DUSEL).½ A decision on which mine would be the preferred site for the DUSEL would be made at a later date.½ In September, Governor Michael Rounds signed an agreement with Barrick Gold to turn the underground mine over to the state's Science and Technology Authority.½ The South Dakota Legislature approved \$19.9 million in additional funding during a special session in October to fund the development of an interim lab at the 4850 level of the mine.

2004 Two companies made significant progress in reclaiming several areas affected by large scale gold mining.½ Wharf Resources reclaimed 155.25 acres at its mine near Lead.½ Homestake Mining continued work on the new park in the former mill complex area, which would be opened to the public in spring 2005.½ The company also started reclamation of the Yates waste rock depository in July with the relocation of a portion of the Mickelson Trail and Whitewood Creek near the depository. ½The project was expected to be completed by the end of 2005. ½In September, Homestake demolished the Washington Street Electrical Building. Because of low levels of PCBs throughout the building, the demolition debris was placed in the basement and an asphalt cap was placed over the basement.

Efforts continued to convert the Homestake mine into an underground national laboratory to study neutrinos and other sub-atomic particles. The National Science Foundation decided to start a formal selection process, and the renowned Lawrence Berkeley National Laboratory agreed to be the lead research institution to develop a research and engineering proposal for the project. This was one of eight proposals that were presented to the National Science Foundation in February 2005. The Foundation would select two or three of the proposals later in 2005 that would be given funding to develop a more detailed proposal.

2003 A major milestone at the Gilt Edge Mine was reached in 2003.½ Construction and revegetation of a 62.9 acre geosynthetic cap covering the Ruby Waste Rock Depository, which was a major source of acid mine drainage at the mine, was completed.½ The cap has been successful in controlling formation of acid rock drainage (ARD) in the depository.½ Also, the cap and subsequent ditch grouting have reduced the amount of ARD generated by the depository by about 80 percent.½ Water treatment at the site also resumed when a new lime treatment plant began operating in September.½ The plant replaced a caustic treatment system.½ ½ ½ ½

2001 Homestake Mining Company, which had been a part of South Dakota history for 125 years, mined its last ton of gold ore on December 14, 2001.½ The last mining occurred at the 1400 level, which is almost directly under the Open Cut where the original Homestake gold strike occurred.½ The mine, which was once the largest gold mine in the Western Hemisphere, began closure activities which included dismantling buildings and reclaiming areas associated with its 125-year mining history.

In addition to the mine closure, Homestake announced a merger with Barrick Gold Corp., making the new company the third largest gold mining company in the world.¹² The consolidation was completed on December 14, 2001, the same day the last ton of gold ore was mined at the Homestake Mine.¹³ Homestake Mining Company was also removed from the New York Stock Exchange on this date.¹⁴ It was originally listed on January 25, 1879.

Reclamation activities at the Gilt Edge Mine continued throughout 2001.½ Reclamation efforts concentrated on getting the Ruby Gulch waste rock dump, the major source of acid mine drainage at the site, ready for capping.½ About 1.4 million cubic yards of material was moved in order to reduce slopes to a 3.5:1 slope.

Wharf Resources announced that it would close the Golden Reward Mine and begin final reclamation in 2002.¹ The mine was under temporary cessation since 1997.

The Board of Minerals Environment approved an increase in Wharf Resourcesâ€™™ reclamation bond from \$3 million to \$12 million.

On August 7, 2001, a Notice of Violation was issued to Wharf for violating pond leakage reporting and repair requirements of its mine permit and selenium effluent limits of its surface water discharge permit. In settlement of the Notice of Violation, Wharf paid a \$31,382 penalty and agreed to improve compliance with pond leakage requirements and install a system capable of treating selenium to surface water discharge permit standards.

The Board of Minerals and Environment approved release of reclamation liability for 16.1 acres at the Red Placer Mine northeast of Deadwood.¹ This mine was operated by Dakota Placers and others since the mid 1970²s and was reclaimed by Homestake and Brightwater.³ This was the second large scale placer gold mine to be released by the board.⁴⁵⁶⁷⁸⁹¹⁰

2000 On August 1, 2000, EPA and the Bureau of Reclamation took over acid water treatment operations and management of the Brohm Mine from the State of South Dakota.½ Before EPA took over, the state had funded water treatment and site maintenance beginning in July 1999.½ On December 1, 2000, EPA listed the mine on the Superfund National Priorities List, which made it eligible for remedial Superfund money to reclaim the mine.½ EPA was developing Records of Decision for interim water treatment and for capping the waste rock dump.½ The agency is also preparing feasibility studies for final closure of the site.½ Regrading of the Ruby Waste Rock Dump began late in the year to prepare it for capping.

On September 11, 2000, Homestake Mining Company announced that it was closing its flagship mine in Lead at the end of 2001.½ The mine had been in operation for 125 years and produced nearly 40 million ounces of gold.

In May, the department issued a Notice of Violation and Order to Wharf for violating certain effluent limits of its surface water discharge permit.^{1/2} In settlement of the Order, Wharf paid a \$9,120 fine to the

department and agreed to make changes to its water management and treatment processes to prevent future violations.

1999 In early 1999, Brohm was in the process of settling a lawsuit with Earthlaw and was working with the US Forest Service to complete the operating plan for Phase 2 of the Anchor Hill Pit.½ Because of delays in obtaining Forest Service permission to mine the Anchor Hill project, no cash flow, low gold prices, and creditors no longer willing to pay for environmental compliance work, Brohm Mining Corporation's parent, Dakota Mining Corporation, declared bankruptcy in Canada on July 8, 1999.½ The bankruptcy was filed just days before the settlement agreement was reached on the Earthlaw lawsuit.½

The state took immediate action to prevent acid water from leaving the mine site.½ Governor William J. Janklow authorized the department to begin paying for water treatment from the Regulated Substance Response Fund, a state fund created to respond to environmental emergencies.½ Steps were also taken to transfer Brohm's \$6 million reclamation bond into a state account so that funds would be available for reclamation work at the mine site.½

A Consent Decree of the 1997 NRDA lawsuit was negotiated, in which Homestake agreed to:

- Pay a \$4 million settlement into the Homestake Mining Company Natural Resource Restoration Fund.
- Pay the United States \$500,000 for reimbursement of natural resource damage assessment incurred costs.
- Pay the Cheyenne River Sioux Tribe \$500,000 for future environmental monitoring or other environmental purposes.½ Homestake also agreed to transfer by gift deed, 400 acres of land from its holdings within the Black Hills area to the tribe for non-commercial purposes.
- Develop a land exchange for BLM lands alleged to be contaminated by tailings.

DENR and the Department of Game, Fish and Parks (GFP), along with the U.S. Department of Interior (DOI), entered into a Memorandum of Agreement (MOA) in order to coordinate and organize restoration efforts in the Whitewood Creek NRDA.½ The MOA created State and Federal Approving Officials to authorize expenditure of Homestake Mining Company Natural Resource Restoration Fund monies.½ The Approving Officials created a Restoration Management Team consisting of technical experts from DENR and GFP, and the U.S. DOI.

1998 Brohm Mining's plans to mine Phase II of the Anchor Hill Project were delayed.½ In November 1997, the US Forest Service issued the final Environmental Impact Statement (EIS) and a Record of Decision (ROD) that would allow Brohm to proceed with the project.½ In early January 1998, several parties appealed the Forest Service decision.½ In February 1998, the Forest Service withdrew its approval of the project, citing deficiencies in the EIS.½ The deficiencies were corrected and a new supplemented EIS and new ROD were issued in July 1998.½ In September 1998, Earthlaw, on behalf of several parties, appealed the Forest Service decision.½ On October 29, 1998, the Forest Service denied the Earthlaw appeal.½ No subsequent appeals were filed for the remainder of 1998.

Brohm shut down its mining operation in August 1997 to wait for EIS approval.½ The delay in getting Forest Service approval added to Brohm Mining's on-going financial difficulties.½ On May 21, 1998, Dakota Mining Corporation, Brohm's parent, notified the state that because of its on-going financial difficulties it would abandon the Gilt Edge Mine on May 29, 1998.½ In response, on May 29, 1998, the state filed for, and was granted, a temporary restraining order by Judge Scott Moses that prevented Brohm from abandoning the site.½ On June 5, 1998, Judge Warren Johnson executed a Preliminary Injunction that extended the terms of the temporary restraining order.½ Brohm was able to find financing to maintain

the site throughout 1998.½ At yearâ€™s end, Brohm pursued financing for a spring 1999 start for Phase II of the Anchor Hill Project.

In January 1998, Homestake implemented a major restructuring of its mining operations in Lead. Homestake temporarily ceased production from its underground mine on January 26, 1998. During the shutdown, Homestake developed a new operating plan to reduce costs.½ On March 26, 1998, underground mining resumed, but at a significantly reduced rate.½ The workforce was reduced from 850 to 380 employees, and underground gold production was reduced from 400,000 ounces to between 150,000 to 180,000 ounces per year.

Homestake also ended mining operations in the Open Cut in 1998.½ After mining operations were temporarily suspended after a March 21, 1998 landslide in the pit, in early April, Homestake resumed mining on a smaller scale.½ Mining continued in the Open Cut until mid-September when the last ore was hauled out.

In November, Homestake completed the removal of tailings from the historic Wasp No. 2 Mine to the Grizzly Gulch Tailings impoundment.

Homestake continued adding the third raise on its Grizzly Gulch tailings impoundment dam.½ The project was scheduled for completion in 1999.

On June 18, 1998, the Board of Minerals and Environment approved Wharf Resourcesâ€™ Clinton Project.½ The Clinton Project was an expansion of the Wharf operation to the east.½ The expansion consisted of two new pits, the Portland and the Trojan, and a new waste rock facility.½ The project involved 279 acres of affected land, 21.4 million tons of ore, and 55 million tons of waste rock.½ Wharf estimated the project will recover 679,000 ounces of gold and extend the mine life until the year 2007.

In September, the department issued a Notice of Violation and Order to Brohm Mining for exceedances of three parameters (cadmium, copper and zinc) of its surface water discharge permit.½ Brohm was ordered to immediately comply with the requirements of its surface water discharge permit and promptly sample and analyze the flow at several compliance points for all parameters.½ The settlement was never resolved, as Brohmâ€™s parent company was forced to file for bankruptcy in 1999.

In December, the department issued a Notice of Violation and Order to Homestake for violations of water pollution control laws.½ Cyanide and heavy metals from mine tailings and slurry were unintentionally released into Whitewood Creek and resulted in two separate fish kills.½ In settlement of the Order, Homestake paid \$150,000 into the Regulated Substance Response Fund, paid the City of Lead \$50,000 to separate the stormwater flows from the Lead sewer system, completed a thorough assessment of its process facility to identify and correct any problems that could cause future releases, and completed biannual aquatic assessments of Whitewood Creek for three years.

1997 The Legislature passed a bill to place the mining of pozzolan under SDCL 45-6.

In June, large scale surface gold mines met the 500-acre reclamation requirement pursuant to state statute.½ If the 500-acre reclamation had not been met by September 1, 1997, a moratorium would have been placed on the issuance of new permits for large scale surface gold mines.½ As the 500-acre goal was met, the Board of Minerals and Environment conducted a hearing in July to review the state reclamation standards for large scale surface gold mines.½ The board inspected reclamation efforts at the five major surface gold mines and conducted a public hearing on the effectiveness of South Dakota mine reclamation

laws.^{1/2} At the end of the hearing the board, on an unanimous vote, found the existing South Dakota reclamation standards to be effective.

In February, Brohm Mining was approved to mine the Southeast Langley deposit.^{1/2} In May, Brohm was approved to commence mining on the non-US Forest Service portion of Anchor Hill Phase II.^{1/2} Because of delays in completing the environmental impact statement (EIS) for the Forest Service Portions of Phase II, Brohm temporarily suspended mining in September until the EIS process is complete.

Richmond Hill completed the capping system over its leach pads.

Homestake and Brightwater reclaimed the Red Placer claim (formerly Dakota Placers Mine Permit no. 208) along Whitewood Creek.

Homestake proceeded with construction of the next dam raise on Grizzly Gulch tailings impoundment, began removal of relic Wasp No. 2 tailings to the Grizzly Gulch impoundment, and started reclamation of the Wasp No. 2 Mine site.

A federal judge struck down the Lawrence County zoning ordinance banning surface mining in Spearfish Canyon watershed that was narrowly passed as an initiated measure by Lawrence County voters in November 1996.

In February and again in September, the department issued Notices of Violation and Order to Brohm Mining for discharges of acid mine drainage (AMD) to Strawberry Creek.^{1/2} In settlement of the Orders, Brohm agreed to pay a total of \$13,400 into the Regulated Substance Response Fund, increase its environmental surety by \$465,000, and submit a contingency plan to address the prevention of AMD discharge.

In December, the department issued a Notice of Violation and Order to Wharf Resources for exceeding surface water quality standards for copper, cyanide and selenium, and the ground water quality standard for nitrate.^{1/2} In settlement of the Order, Wharf paid a \$40,000 penalty and funded \$160,000 of water quality projects in the northern Black Hills.

A Preassessment Screen was conducted and a Natural Resources Damage Assessment (NRDA) was initiated for Whitewood Creek and the Belle Fourche and Cheyenne River Watersheds.^{1/2} Damages and injuries of resources and services due to hazardous substance releases from Homestake into State waters were identified and outlined.^{1/2} Such resources include surface and ground waters, fisheries resources, soils, sediments, vegetation, and wildlife. This project was prepared by the State of South Dakota, the U.S. Fish and Wildlife Service, and the U.S. Department of the Interior.^{1/2} The intent of the plan is to restore, replace and/or acquire equivalent trust natural resources and lost services within the project area for perpetual protection and conservation management.^{1/2}

Based on the NRDA, the State of South Dakota filed suit against Homestake alleging claims for natural resource damages, under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), for:

- recovery of natural resource damages;
- lost services provided to humans and the environment by those resources;
- diminished resource values and past response costs;
- declaratory judgment for future response costs, with respect to alleged releases and threatened releases of hazardous substances; and
- alleged releases resulting in a continuing public nuisance.

1996 The Legislature passed a bill to place materials extracted and sold from lake dredging operations under SDCL 45-6.

Dakota (Brohm) Mining Corporation was granted a permit by the Board of Minerals and Environment to mine Anchor Hill in an open pit/heap leach surface gold mine project, located adjacent to the existing Gilt Edge Mine.½ The permit was unanimously granted by the board after hearing 3 days of testimony that summarized the detailed mine operation and reclamation plan for safely managing acid generating sulfide wastes.½ The Anchor Hill project provides superior reclamation materials to improve upon the AMD mitigation plan for the Gilt Edge site permitted in 1995.

Golden Reward ceased mining operations in June 1996 and leaching operations several months later.½ Golden Reward applied for and was approved for temporary cessation starting December 15, 1996.½ The period of temporary cessation was to remain in effect until December 15, 2001, with an option to extend it another 5 years, or until Golden Reward resumed operation.½ Golden Reward continued reclamation activities.

Richmond Hill initiated construction of caps over its leach pads.

Wharf Resources submitted an application for the Clinton Project.½ The application was procedurally incomplete at year's end.

On August 13, 1996, EPA delisted Whitewood Creek from the National Priorities List. ½ This delisting was due to initiating wastewater treatment in August of 1984 and remedial actions that were conducted in 1992 and 1993 to significantly lower residents' contact with tailings and tailings contaminated soils in high use areas (yards, gardens, driveways, etc.). ½ The site entered the Operations and Maintenance phase, which requires sampling of Whitewood Creek, monitoring of remediated residential sites for flood impacts, a yearly education program, and a five-year review of the effectiveness of the remedial action. Operation and maintenance (O & M) activities will continue for 30 years.

In November, Lawrence County voters narrowly passed an initiated zoning ordinance that would effectively ban surface mining on 48,000 acres in the Spearfish Canyon watershed.

1995 The Legislature passed a bill to ban new surface mining permits on private land from rim to rim in Spearfish Canyon.½ The Legislature also passed a resolution that encourages the USFS to designate Spearfish Canyon as a Scenic Byway, which would effectively ban surface mining on federal land within the Canyon.

After a public hearing, the Board of Minerals and Environment approved Brohm's mine permit amendment to mitigate AMD.½ Estimated costs to implement the plan exceeded \$8 million and the company posted an additional \$7.3 million in financial assurance with the state to cover the costs.½ The financial assurance consisted of a \$1 million cash deposit and a \$6.3 million demand note based on the net worth of Brohm's parent corporation, Dakota Mining.

The department entered into a Memorandum of Understanding with the EPA on the issue of protection from liability under Superfund while engaged in abandoned mine inventory and clean-up work.

In September, the department issued a Notice of Violation and Order to Wharf Resources for a discharge of improperly treated cyanide solution that resulted in a fish kill in Annie Creek.½ In settlement of the Order, Wharf paid a \$150,000 penalty and agreed to meet additional monitoring and sampling requirements for its wastewater discharge.

Richmond Hill completed a cap over backfilled pit impoundment designed to provide long term closure of acid generating waste rock.

Brohm Mining Corporation completed relocation/reclamation of tailings deposits along Strawberry Creek, significantly improving the water quality and aquatic habitat in the Bear Butte Creek watershed.

On November 23, 1995 Homestake reached a milestone by producing its 38th million ounce of gold.

1994 After a public hearing, the Board of Minerals and Environment approved LAC Mineralsâ€™ Richmond Hill permit amendment to mitigate ARD.½ Estimated costs exceed \$10 million and the company posted a Letter of Credit in that amount to act as reclamation surety.

In 1994, Lawrence, Butte and Meade counties adopted county ordinances banning future excavation and construction on tailings remaining along Whitewood Creek in the Superfund area.½ These ordinances also detail requirements for obtaining a residential building permit when constructing on "tailings impacted soils" (soil containing arsenic at greater than 100 parts per million).

1993 The Legislature passed a bill to allow for the transfer of an exploration notice of intent and revises provisions related to mining without a license.½ It also passed a bill to add the mining of lime to SDCL 45-6 and modify mine license requirements.

The Legislature passed a mining industry sponsored bill that required the department, in conjunction with the South Dakota School of Mines and Technology, to prepare an inventory of abandoned mines in the Black Hills.

The Minerals and Mining Program established an annual large scale gold mine audit program involving all programs in the department that have regulatory responsibilities related to mining.½

The Minerals and Mining Program publishes the first annual summary of the large scale gold and silver mining industry in South Dakota.½ The report is later modified to a summary of the entire mining industry in the state.½½½½½½½½

The department discovered that Brohm Mining's Gilt Edge gold mine was discharging AMD from its Ruby Waste Rock Repository to the environment.½ In April, the department issued a Notice of Violation and Order to Brohm Mining that required it submit a mitigation plan in the form of a mine permit amendment.

1992 The Legislature passed CEE Task Force recommendations as law.

The Legislature passed a law establishing temporary cessation requirements and a reclamation completion timetable for mines operating under SDCL 45-6.

The department discovered that LAC Mineralsâ€™ Richmond Hill gold mine was discharging AMD into Spruce Gulch, a tributary of Cleopatra Creek (formerly Squaw Creek).½ The discharge impacted the trout fishery in Cleopatra Creek.½ In December, the department issued the company a Notice of Violation and Order.½ In settlement of the order, the company agreed to pay \$489,000, and was required to take immediate steps to eliminate the discharge and to submit a mitigation plan in the form of a mine permit amendment.

A statewide initiative passed that limited new large scale surface gold mines to a maximum size of 320 acres and limited existing mines ability to expand up to 200 acres.

1991 The Cumulative Environmental Evaluation (CEE) task force begins deliberations by holding several public meetings statewide.½ Final recommendations presented to the Board of Minerals and Environment included:

- A 6,000 acre limit on the total amount of land that can be affected by large scale surface gold mining at any one time.
- A requirement that at least 500 acres of surface mining disturbed land be reclaimed by September 1, 1997.½ If reclamation was not performed, no new permits would be issued.
- A requirement that an evaluation of the reclamation standards be conducted to determine their effectiveness and whether or not they need revision.
- A requirement for permit applicants to comprehensively describe critical resources potentially affected as part of the application for a mine permit.
- Requirements for postclosure care and bonding for reclaimed mines.
- Implement existing requirements that require operators to post up to \$500,000 in financial assurance to be used in the event of a cyanide spill.
- Establish annual reporting requirements for large scale surface gold mining and mineral exploration operations.

The CEE Task Force and staff receive an Excellence Award from EPA Region VIII.

The South Dakota Supreme Court reversed the Board of Minerals and Environment decision to deny the transfer of Mine Permit No. 416 (Ragged Top Project) from Homestake Mining Company to Minerva Explorations, Inc (now Southpoint Resources, Ltd.).½ On September 19, 1991, the board issued new Findings of Fact, in accordance the Supreme Court's decision, and the mine permit was transferred to Minerva Explorations.½ The Ragged Top Project has been controversial due to its location near the rim of Spearfish Canyon.½ No mining has been done under the permit.

In July, the department issued Brohm Mining a Notice of Violation and Order for leakage from its leach pad at the Gilt Edge Mine.½ The leak caused cyanide contamination of ground and surface water in the Strawberry and Bear Butte Creek drainages.½ In settlement of the Order, Brohm was required to submit reports regarding the extent of contamination; submit results of remediation and monitoring; cease addition of cyanide to circuit; continue increased monitoring; and submit plans to prevent reoccurrence in the future.½ Brohm agreed to pay the department a \$99,800 penalty, lower solution levels in its surge pond and install a bentonite plug in the area of leakage, permanently repair the leach pad, set up a system to treat excess solution water, post a performance bond of \$350,000, and maintain a cyanide level of not more than 220 parts per million (ppm) in the circuit.

1990 The Cumulative Environmental Evaluation of Black Hills surface gold mining was completed at a cost of \$250,000.½ All costs were paid by the mining industry.

The Legislature passed a law that required the Governor to appoint a seven-member task force to evaluate the Cumulative Environmental Evaluation and make recommendations to the Board of Minerals and Environment.

The Legislature passed a law that added the mining of sand, gypsum, and shale used in cement production to SDCL 45-6.½

The Special Legislative Tax Commission studied mine permit fees and determined that no increase was warranted because the industry already pays millions of dollars in severance and other taxes. A statewide initiated measure failed that would have limited the total amount of surface gold mining allowed in the Black Hills to 3,100 acres.

The Divisions of Land and Water Quality, Air Quality and Solid Waste are reorganized into a single Division of Environmental Regulation.½ The Minerals and Mining Program takes on air quality functions related to mining.

The Board of Minerals and Environment adopted special, exceptional, critical or unique land rules, Chapter 74:29:10, after two public hearings.½ Several areas have since been added to the preliminary list of special and unique lands following public hearings including Spearfish Canyon Watershed, Craven Canyon in Fall River County, Danby Park/Bugtown Gulch near Custer, and a portion of Whitewood Creek north of Deadwood.

The EPA issued a Record of Decision (ROD) for the Whitewood Creek Superfund Site.½ The ROD detailed selected remedial alternatives primarily for protection of human health and the environment.½ Pursuant to a Consent Decree between the U.S. and Homestake, Homestake implemented the selected remedy.

1989 The Legislature passed Governor Mickelson's Centennial Environmental Protection Act. Several sections that dealt with mining included:

- A requirement that a Cumulative Environmental Evaluation (CEE) be conducted of large scale precious metals surface mining in the Black Hills.½ A moratorium on the issuance of new mine permits was imposed during the study period.
- A requirement that small scale mines using cyanide comply with large scale permit requirements.
- A requirement that operators of open pit surface gold mines using cyanide for extractive purposes pay a fee of two cents per pound of cyanide used to fund the Groundwater Research and Education Fund for a period of five years.
- A requirement for operators using cyanide for extractive purposes to post up to \$500,000 in financial assurance with the Board of Minerals and Environment to be used in the event of accidental releases of cyanide.

The Legislature passed a law concerning the designation of lands as special, exceptional, critical or unique and authorized the Board of Minerals and Environment to promulgate rules.

Homestake requested transfer of its Ragged Top Project, Mine Permit No. 416, to Minerva Explorations, Inc (now Southpoint Resources, Ltd.).½ The transfer was denied by the Board of Minerals and Environment.½ Homestake and Minerva appealed the board's action.

In May, the department discovered that LAC Minerals' Richmond Hill gold mine was causing a reddish discoloration of the stream in Rubicon Gulch (Bridal Veil Falls) and in Spearfish Creek from runoff at their crusher area.½ Although LAC denied any violation, a Consent Decree was negotiated.½ LAC paid \$4,115 to the Regulated Substance Response Fund.

In December, the department issued Brohm Mining a Notice of Violation and Order after cyanide was detected in a groundwater monitoring well located below the leach pad at Brohm's Gilt Edge mine.½ A Settlement Agreement and Dismissal was signed in January 1991.½ The department agreed to withdraw and dismiss the Notice of Violation and Brohm agreed to reimburse the department \$4,800 for expenditures in the matter.½ Brohm relined the pad with an additional geosynthetic liner at a cost of approximately \$1 million.½

1988 St. Joe Gold Corporation (now LAC Minerals USA, Inc.) was granted a mine permit for the Richmond Hill open pit/heap leach surface gold mine.

Golden Reward Mining Company was granted a permit for the Golden Reward open pit/heap leach surface gold mine located at the base of Terry Peak near the ski area.

The Mined Land Reclamation rules, Article 74:29, are adopted on March 3, 1988.½ The rules cover the filing and review of permit applications, permit amendments, permit transfers, reclamation of mill sites, procedure for determining reclamation type, minimum reclamation standards, concurrent reclamation, and temporary cessation.

The Legislature passed a law that specified mine permit amendment fees, mine permit transfer requirements, and staff processing times.

The Legislature passed a law that added the mining of limestone or iron ore used in cement production and pegmatite materials to SDCL 45-6.

Two statewide initiated measures on mining failed.½ One would have required all large scale surface mines to return mined land to approximate original contour.½ The other would have imposed an additional 4% tax on gross sales of precious metals produced by surface mining.

The Mining Program and Oil and Gas Program reorganized into a single Minerals and Mining Program within the Department of Environment and Natural Resources.

In October, the department issued Brohm Mining a Compliance Order due to excessive flows found in its leach pad Leak Detection, Collection and Recovery System (LDCRS).½ In settlement of the Order, Brohm was required to cease application of cyanide leach solution, submit a repair plan, perform additional monitoring, and could not add more ore to the leach pad without departmental approval.½ Brohm made repairs and relined the pad during 1989, and the department acknowledged compliance with the Order in February 1990.

In October, the department issued a Notice of Violation and Order to Brohm Mining Corporation for failure to load the leach pad at its Gilt Edge Mine in accordance with their approved plans.½ In settlement of the Order, Brohm paid a \$1,000 penalty.

In October, the department issued Golden Reward a Notice of Violation and Order for beginning construction of its process plant prior to department approval of plans and specifications.½ In settlement of the Order, Golden Reward ceased construction until plans and specifications were approved, repaired and reconstructed any areas that were not up to the approved specifications, and paid a \$1,000 penalty. In November, the department issued Brohm Mining a Notice of Violation and Order for failure to report excessive leakage rates through the primary liner of its heap leach pad at the Gilt Edge Mine.½ Brohm failed to shut down the leach pad as required.½ In settlement of the Order, the company paid a \$1,000 penalty.

1987 Based on findings of the 1986 Legislative Summer Study, several laws passed the Legislature including requirements for socioeconomic impact studies for new mines, clarification of local controls over mining, revisions to reclamation bonding requirements, and requirements of reclamation plans. The Legislature also passed a law that authorized the Board of Minerals and Environment to promulgate rules governing mining.

Governor Mickelson declared a six-month moratorium on the issuance of new mine permits to allow staff and the Board of Minerals and Environment time to draft new rules.½ The Governor appointed a special 10-member task force to develop a set of draft rules to be presented to the Board as a recommendation.½ The task force held a series of 10 public meetings statewide to allow the public an opportunity to have input into rule development.½ The Board adopted nine separate chapters of rules following a three day public hearing.

In December, the department issued a Complaint and Order to Brohm Mining Corporation for performing construction at its Gilt Edge gold mine without adequate erosion and sedimentation controls.½ Brohm also disturbed lands designated as buffer area which were not permitted for disturbance, and initiated construction of its process plant without approval of plans and specifications by the department.½ In settlement of the Order, Brohm agreed to pay a \$10,000 penalty.

1986 A Legislative Summer Study reviewed the social and economic impacts of surface mining and oil and gas development.

Two new mining permits were granted to Wharf Resources by the Board of Minerals and Environment to expand the Annie Creek open pit/heap leach surface gold mine.

Brohm Mining Corporation (then Gilt Edge, Inc.) was granted a permit by the Board of Minerals and Environment for the second open pit/heap leach surface gold mine in the state. The department and the US Forest Service entered into a Memorandum of Understanding to eliminate duplication of reclamation requirements and bonding for mining operations on US Forest Service administered property.

1984 Homestake was granted a mining permit for the Ragged Top Project, a surface gold mining project located near the rim of Spearfish Canyon near Savoy.

In August, Homestake began operating its new waste water treatment plant, a state-of-the-art biological water treatment facility.½ The plant removed toxic metals and other constituents from the company's discharge which returned Whitewood Creek to a viable trout fishery.½ The plant was officially dedicated in 1985.

The department issued a Notice of Violation and Order to Wharf in May as they failed to install a liner in a process pond prior to use, failed to allow a minimum of 2 feet of freeboard in ponds, and had sandbagged the overflow structures of the ponds thus preventing the release of excess water.½ Wharf also failed to report a possible release of cyanide into the environment within 24 hours as required.½ In settlement of the Order, Wharf stopped the flow of process solution to several ponds until construction was completed, repaired damage to lining systems, and hauled excess liquid to a disposal area.

In June, the department issued a Cease and Desist Order to Wharf as they failed to comply with the May Notice of Violation and Order.½ In settlement, Wharf paid a \$9,200 penalty and reclaimed several acres of relic mine tailings from the Mogul Mine in Nevada Gulch.

1983 A legislative revision of the laws related to construction aggregate mining resulted in a separate chapter (SDCL 45-6) designed to streamline and simplify the permitting and regulatory process for gravel pit operators.½

1982 Based on findings of the 1981 Legislative Summer Study, legislative revision and recodification of state mining laws resulted in three separate chapters including SDCL 45-6B - The South Dakota Mined Land Reclamation Act, SDCL 45-6C - The South Dakota Mineral Exploration Act, and SDCL 45-6D - The South Dakota Uranium Exploration Act. Under SDCL 45-6B-9, all existing underground mines were grandfathered which exempted the Homestake underground mine from reclaiming surface disturbance associated with the mine which had been operational since 1876.

The first mining permit for an open pit/heap leach gold mine was granted by the Board of Minerals and Environment to Wharf Resources for the Annie Creek Mine near Terry Peak.

A mining permit was granted to Homestake for the Open Cut surface gold mining project in Lead.

1981 Governor Janklow, through an executive reorganization order, transferred mining regulatory functions from the Department of Agriculture to the Department of Water and Natural Resources (now the Department of Environment and Natural Resources (DENR)).

A Legislative Summer Study reviewed state mining laws.

On October 23, 1981, an 18-mile stretch of Whitewood Creek from Whitewood to the Belle Fourche River was proposed for inclusion on the National Priorities List (Superfund). The creek was severely impacted by tailings discharges from the Homestake Mining Company and other mining operations, raw sewage from the towns of Lead and Deadwood, and garbage dumps located along the creek bed. In order to eliminate the risk associated with the ingestion of arsenic contaminated groundwater, the State issued a ban on all shallow groundwater wells installed in the alluvium along the creek.

1977 Homestake completed construction of the Grizzly Gulch Tailings Impoundment facility which allowed the company to cease the discharge of mine tailings into Gold Run and Whitewood Creeks.

1971 The first laws that regulated surface mining are enacted. The mining regulatory program is located within the Department of Agriculture's Division of Conservation.