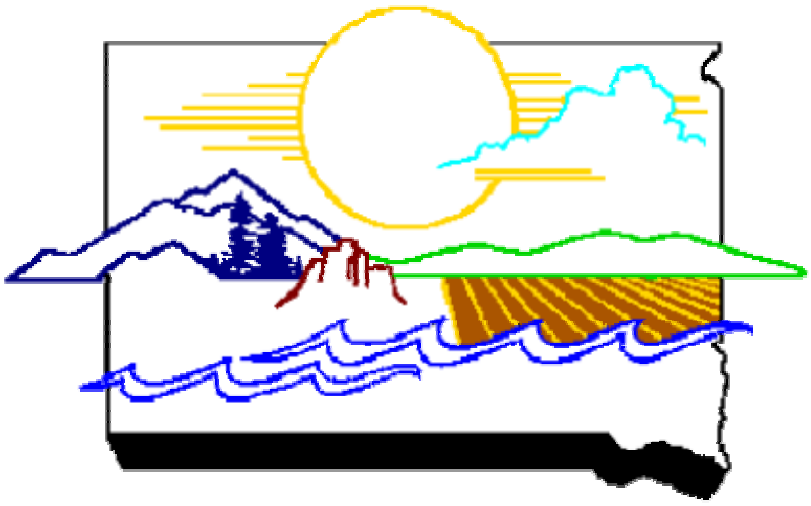
SUMMARY OF
THE MINING INDUSTRY IN SOUTH DAKOTA

2003



PREPARED BY
THE MINERALS AND MINING PROGRAM
SD DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
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INTRODUCTION

The Department of Environment and Natural Resources is required by state law to prepare a "Summary of the Large Scale Gold Surface Mining Industry in the Black Hills" and a "Publication of Surface Mine Disturbed Land and Reclamation Acreages under Chapter 45-6B." These two reports have been combined into a single report entitled "Summary of the Mining Industry in South Dakota." This report covers mining activities from January 1 to December 31, 2003. The information in this report is based on annual reports and other information submitted by mining operations permitted under Chapter 45-6B.

2003 Summary

A major milestone at the Gilt Edge Mine was reached in 2003. Construction and revegetation of a geosynthetic cap covering the Ruby Waste Rock Depository, which is a major source of acid rock drainage at the mine, was completed. Water treatment at the site also resumed when a new lime treatment plant began operating in September. Reclamation also continued at the Wharf, Golden Reward, and Homestake gold mines. About 55 percent of the land in the Black Hills that was disturbed by permitted large scale gold mines has now been reclaimed.

Significant progress was made on plans to convert the Homestake mine into an underground national laboratory to study neutrinos and other sub-atomic particles. Governor Michael Rounds was instrumental in working out an agreement with Barrick Gold, Homestake's parent company, to allow for the transfer of the mine to the state for use as an underground laboratory. Governor Rounds also convinced the state Legislature to support plans for accepting the mine and to provide funding to the state Science and Technology Authority to prepare for the transfer. The lab now needs to be approved and funded by the National Science Foundation before a transfer occurs.

Gold production decreased again in 2003. The main reason for the decrease is that Wharf Resources is now the only producing large scale gold mine in the state. Wharf produced 70,902 ounces in 2003, which is a decrease from the 82,127 ounces reported in 2002. Homestake, which ended operations in January 2002, recovered 7,754 ounces of gold during mill demolition activities. LAC Minerals recovered 149 ounces of gold during removal of sediments from its process ponds.

\S/

Steven M. Pirner
Secretary

SUMMARY OF THE LARGE SCALE GOLD MINING INDUSTRY IN THE BLACK HILLS

2003

Photo 1.1 – Deer grazing on reclaimed pit impoundment at Richmond Hill Mine.

MAJOR EVENTS IN 2003

Homestake Mining Company Continues Closure of Historic Mine

Homestake continued closure activities at its historic gold mine in Lead during 2003. The mine was closed at the end of 2001 due to low gold prices, high production costs, and lower than expected ore grades. On June 10, 2003, Homestake turned off the pumps to the underground mine and allowed it to begin filling with water. Before the pumps were turned off, department staff conducted several inspections of the underground mine to ensure that potential pollutants such as fuels, solvents, and other chemicals were removed from the mine. All fluids were drained from equipment left in the mine, and spill sites such as fueling areas were cleaned up. Homestake also continued closure activities at the former mill site. Reclamation of the upper portion of the mill site was completed as part of a project to return the area to an interpretive park. The company also closed an aqueduct that diverted Little Spearfish Creek to its Hydroelectric Plant #2 in Spearfish Canyon. As a result, in November, year round flows returned to Spearfish Falls for the first time in many years.

Photo 1.2 – Underground mine water samples being collected.

Photo 1.3 – Inspectors looking for waste materials.

Homestake Lab Proposal

After Homestake announced that its mine would close at the end of 2001, a group of scientists began work to establish an underground science laboratory in the mine to study neutrinos and other sub-atomic particles. On May 30, 2003, a National Science Foundation committee selected the Homestake mine as the best site for an underground laboratory. In June, Governor Michael Rounds created the Homestake Laboratory Conversion Office to prepare a plan to submit to the National Science Foundation for converting the mine into an underground laboratory. Homestake has worked cooperatively with the office and has taken steps to protect the main mine shafts from deterioration while the lab proposal proceeds. However, because there were still no approved plans or funding to

convert the mine into a lab, Homestake decided to shut off the underground pumps on June 10. This created some controversy and concern within the scientific community about possible delays to access the lower levels of the mine.

In the fall of 2003, Governor Rounds worked out an agreement with Barrick Gold, Homestake's parent company, for donating the mine to the state. Under the agreement, Homestake would donate the mine to the newly created state Science and Technical Authority that would make the mine available to the National Science Foundation for scientific research. The Authority would indemnify Homestake for all future liabilities associated with the lab. Liability insurance and an indemnification fund would be created to cover any claims against Homestake and its successors. The South Dakota Legislature approved the Governor's plan in early 2004 and also approved state funding to get the Authority started. The lab still needs approval and funding from the National Science Foundation before a transfer takes place and construction of the lab begins.

Gilt Edge Ruby Depository Capped and Revegetated

The Gilt Edge Mine was an open pit heap leach gold mine operated by Brohm Mining Company. The company abandoned the site after its parent company, Dakota Mining, declared bankruptcy in 1999. The site was placed on the Superfund National Priorities List in 2000, and the state and EPA are currently in the process of reclaiming the site.

Photo 1.4 - Ruby Depository, May 2001.

Photo 1.5 – Ruby Depository, September 2003.

A major milestone at the mine was reached in 2003. Construction and revegetation of a geosynthetic cap covering the Ruby waste rock depository, which is a major source of acid mine drainage at the site, was completed. The waste dump was capped with 80 mil textured HDPE liner in 2002, and topsoil placement and hydroseeding were completed in June 2003. By late summer, a mixture of grasses and clover were becoming established on the depository. Staff from the department, the Department of Game, Fish, and Parks, the Natural Resource Conservation Service, and South Dakota State University developed the seed mix for the dump.

Water treatment at the site resumed in September 2003 after the water treatment plant was shut down in August 2002 to convert it from a caustic system to a lime treatment system. Acid water was stored in the mine pits during the time the new plant was being constructed. EPA dedicated

the plant in a public ceremony on September 19, 2003. After some adjustments were made to the treatment system, the plant is currently treating water at a rate of 170 gallons per minute.

EPA and the state are currently preparing plans to reclaim the rest of the site, including the mine pits and heap leach pad.

Wharf Postclosure Bond Increased

On October 16, 2003, the Board of Minerals and Environment approved the department's recommendation to increase Wharf Resources' postclosure bond from $1,000,000 to $8,115,055. The increase was necessary to cover costs for nitrate, selenium, and arsenic water treatment during a projected 50-year postclosure period that would begin after reclamation activities are completed. During the same hearing, the board approved a reduction of Wharf's reclamation bond from $12,411,350 to $10,730,400 due to lower water treatment costs. The denitrification plants currently in use are less expensive to operate than previous water treatment processes used at the site. Including a $405,000 cyanide spill bond, the total amount of bond the state holds for Wharf Resources is $19,250,455.

Acid Mine Drainage Mitigation Update at Richmond Hill Mine

Reclamation activities at the Richmond Hill Mine, an open pit heap leach gold mine that developed an acid mine drainage problem during operations, continue to be successful. The bulk of reclamation was completed by the mine operator, LAC Minerals (USA), LLC, in the mid-1990s. The pit impoundment, backfilled with acid-generating rock and covered with a low permeability capping system, is still performing as designed. Monitoring data shows that only minimal amounts of oxygen and water are being detected in the impoundment. This indicates the cap is effective in limiting oxygen and water infiltration and is preventing acid generation.

In addition, the capped leach pads continue to perform well. Monitoring data shows that the capping systems are effective in reducing water infiltration into the spent ore. Most parameters in the pad effluent continue to show a decreasing trend.

During routine surveys of both the pit impoundment and leach pads, no signs of settling, slumping, or cracking were noted. A dense, self-sustaining vegetative cover has become established on these facilities.

LAC operated its water treatment plant from May to September 2003 and discharged about 14.7 million gallons. Water is treated periodically based on the amount of water needing treatment and the pond storage capacities at the mine site. Effluent from the leach pads is collected and stored in the former process ponds and is then treated prior to discharge. LAC plans to treat water throughout 2004 in an effort to reduce the amount of water stored at the site. In January 2004, winds and extreme cold temperatures caused considerable damage to LAC's stormwater pond liner. The liner

was repaired, and plans are to reduce the size of the pond and reline it in 2005 which will help reduce the amount of water needing treatment.

Ground and surface water quality around the mine site is closely monitored. Ground water impacted by acid rock drainage prior to mine reclamation is generally improving. Monitoring wells show decreasing trends in sulfate and metal concentrations and increasing pH. Biological assessments of Cleopatra Creek below the mine show that the stream remains healthy and supports a viable cold water fishery.

New Permits

There were no new mine permits issued to large scale gold and silver mining operations in 2003.

Permit Amendments

There were no permit amendments issued to large scale gold and silver mining operations in 2003.

Notices of Violation

One notice of violation was issued to large scale gold and silver mines in 2003. Wharf Resources was issued a notice of violation by the department for violating its surface water discharge permit limits for total ammonia in its denitrification plant discharges. The company also violated its ground water discharge permit and drinking water limits for nitrates, and drinking water limits for total coliform. As a result of the notice of violation, Wharf entered into a settlement agreement with the department. In the settlement agreement, Wharf agreed to pay $162,000 in civil penalties. Wharf also agreed to submit plans to the department to comply with surface water standards for total ammonia and ground water and drinking water standards for nitrates.

Technical Revisions Approved by the Department in 2003

April 17	Wharf Resources – Construct a lined area for spent ore disposal in the north Foley area.
May 16	Wharf Resources – Fill valleys between heap leach pads for the purpose of leaching and neutralizing.
July 10	Golden Reward – Discontinue game bird, breeding bird, and raptor monitoring.
July 10	Wharf Resources – Discontinue game bird and breeding bird surveys.

August 11	Wharf Resources – Add ammonia removal unit, ponds, and a settling tank to Ross Valley bio-treatment facility.
December 12	Wharf Resources – Add three culture optimization/stabilization tanks to the Ross Valley bio-treatment facility, apply denitrifying and metal precipitating/stabilizing microbes to the Ross Valley spent ore depository, and repeat 2002 pilot scale program to inoculate monitoring well MW-1C in Ross Valley.

Special or Unique Land Determinations

The department did not receive any requests for the determination of special, exceptional, critical, or unique lands for potential large scale gold mines in 2003.

LARGE SCALE GOLD MINE ACREAGE AND PRODUCTION TABLES

The following tables were developed by compiling information from operator annual reports, supplemental information submitted to the department by the large scale gold mines, inspection reports, and other available information. Acreage from the Gilt Edge Superfund site that was previously mined by Brohm is included in the tables to show the progress being made to reclaim the mine site.

Various charts and graphs comparing total affected and reclaimed acreage can be found in Appendix 1. The bar chart on page A-2 compares affected acreage versus reclaimed acreage for each company. The graph on page A-3 shows the trend of total affected acres and total reclaimed acres for the large scale gold industry from 1990 to 2003. The pie chart on the same page shows total reclaimed acres versus total unreclaimed acres for the large scale gold mine industry in 2003.

Photo 1.6 – Reclaimed Trojan waste rock facility at Wharf Mine.

TABLE 1.1 – AFFECTED MINED LAND ACREAGE

Permit Number	Operator	Permitted Affected Acres	Acres Affected Year 2003	Total Acres Affected as of Dec. 31, 2003
439 & 462	Brohm Mining Corp.	564.00	0.00	263.00
450	Golden Reward Mining Co., L.P.	493.62	0.00	384.89
332 & 456	Homestake Mining Company	658.23	0.00	590.91
445	LAC Minerals (USA), LLC	439.10	0.00	336.25
416	Southpoint Resources, Inc. (formerly Naneco Minerals)	122.00	0.00	0.00
356, 434, 435, & 464	Wharf Resources (USA), Inc.	1001.17	0.00	955.43
TOTALS		3278.12	0.00	2530.48

Definitions:

Permitted Affected Acres - As defined in SDCL 45-6B-3(1), permitted affected land involves all lands permitted to be affected by a mining operation. This includes land from which overburden is to be or has been removed; land upon which overburden, waste rock, mine spoil, or mill tailings are to be or have been deposited; land disturbed by the building of access roads, railroad loops, warehouses, storage areas, or other support facilities for the purpose of mining; and land affected by surface subsidence, unstable slopes, and other surface effects caused by underground mine workings.

Acres Affected Year 2003 - Previously unaffected acres disturbed from January 1 to December 31, 2003. This acreage is also included in "Total Acres Affected as of Dec. 31, 2003."

Total Acres Affected as of Dec. 31, 2003 - All land currently affected by the large scale gold and silver operations under permit as of December 31, 2003. This includes all lands described above in "Permitted Affected Acres."

TABLE 1.2 – SURFACE MINING DISTURBED LAND ACREAGE

Permit Number	Operator	Surface Mining Disturbed Acres Year 2003	Total Surface Mining Disturbed Acres as of Dec. 31, 2003
439 & 462	Brohm Mining Corp.	0.00	202.10
450	Golden Reward Mining Co., L.P.	0.00	354.66
332 & 456	Homestake Mining Company	0.00	550.72
445	LAC Minerals (USA), LLC	0.00	189.86
416	Southpoint Resources, Inc. (formerly Naneco Minerals)	0.00	0.00
356, 434, 435, & 464	Wharf Resources (USA), Inc.	0.00	854.20
TOTALS		0.00	2151.54

Definitions:

Surface Mining Disturbed Acres Year 2003 - Previously unaffected surface mining land disturbed from January 1 to December 31, 2003. This acreage is also included in "Total Surface Mining Disturbed Acres as of Dec. 31, 2003."

Total Surface Mining Disturbed Acres as of Dec. 31, 2003 - As defined in SDCL 45-6B-3(15), surface mining disturbed land is land from which overburden has been removed; land upon which overburden, waste rock, mine spoil, or mill tailings have been deposited; land mined which has no overburden; heap leach pads; and process ponds. Surface mining disturbed lands include overburden and waste rock dumps, spent ore dumps, tailings impoundments, heap leach pads, open pits, process ponds, haul roads in pit areas, or haul roads constructed largely of waste rock, spent ore, or overburden. Surface mining disturbed lands **do not** include access roads, haul roads constructed from normal cut and fill methods, railroad loops, utility corridors, buildings including process plants, land application areas, topsoil stockpiles, ore stockpiles, crusher areas, storage areas, sediment and erosion control structures, and land affected by surface subsidence, unstable slopes, and other surface effects caused by underground mine workings.

TABLE 1.3 – INTERIM RECLAIMED ACREAGE			
Permit Number	**Operator**	**Interim Reclaimed Acres Year 2003**	**Total Interim Reclaimed Acres as of Dec. 31, 2003**
439 & 462	Brohm Mining Corp.	0.00	0.95
450	Golden Reward Mining Co., L.P.	0.00	0.00
332 & 456	Homestake Mining Company	0.00	0.00
445	LAC Minerals (USA), LLC	0.00	17.90
416	Southpoint Resources, Inc. (formerly Naneco Minerals)	0.00	0.00
356, 434, 435, & 464	Wharf Resources (USA), Inc.	0.00	24.26
TOTALS		0.00	43.11

Definitions:

Interim Reclamation - As defined in ARSD 74:29:01:01(17), interim reclamation is reclamation performed during a mining operation or between mining phases to stabilize affected land by regrading and revegetating to control erosion, improve aesthetics, and minimize hazards. It can be construed to be temporary reclamation or soil stabilization for affected land that will be disturbed again.

Interim Reclaimed Acres Year 2003 - Acres under interim reclamation from January 1 to December 31, 2003. These acres are also included in "Total Interim Reclaimed Acres."

Total Interim Reclaimed Acres as of Dec. 31, 2003 - The total number of acres under interim reclamation as of December 31, 2003. Acres redisturbed or now considered as final reclamation are not included in these totals.

TABLE 1.4 – FINAL RECLAIMED ACREAGE FOR YEAR 2003

Permit Number	Operator	Final Reclaimed Acres Year 2003 that Meet Post-Mine Land Use[1]	Final Reclaimed Acres Year 2003 that Do Not Meet Post-Mine Land Use
439 & 462	Brohm Mining Corp.	0.00	62.00[2]
450	Golden Reward Mining Co., L.P.	0.00	5.79
332 & 456	Homestake Mining Company	0.00	0.00
445	LAC Minerals (USA), LLC	16.23	1.34
416	Southpoint Resources, Inc. (formerly Naneco Minerals)	0.00	0.00
356, 434, 435, & 464	Wharf Resources (USA), Inc.	0.00	13.44
TOTALS		16.23	82.57

[1]The final reclaimed acres during the past year that meet the post-mining land use in this table are industry figures. The department may not necessarily agree with the reported acreage and will need to confirm in the field that these acres do meet the post-mine land use criteria.

[2]The 62 acres is the acreage reclaimed during capping of the Ruby waste rock depository.

Definitions:

Final Reclaimed Acres Year 2003 That Meet Post-Mine Land Use – Affected land reclaimed prior to 2003, previously considered as not meeting the post-mine land use, that met the post-mine land use in 2003. These acres meet the requirements of the reclamation plan, SDCL 45-6B, and ARSD 74:29, and can be considered for bond release.

Final Reclaimed Acres Year 2003 That Do Not Meet Post-Mine Land Use - Affected land reclaimed between January 1 and December 31, 2003, that does not meet the requirements of the approved reclamation plan and the reclamation requirements of SDCL 45-6B and ARSD 74:29. Final grading, topsoil placement, erosion and drainage control, and seeding and planting have been conducted on these acres. However, these acres cannot be considered for bond release since they have not met the post-mining land use criteria.

TABLE 1.5 – TOTAL FINAL RECLAIMED ACREAGE
As of December 31, 2003

Permit Number	Operator	Final Reclaimed Acres that Meet Post-Mine Land Use[1]	Final Reclaimed Acres that Do Not Meet Post-Mine Land Use
439 & 462	Brohm Mining Corp.	0.00	79.50
450	Golden Reward Mining Co., L.P.	133.58	244.83
332 & 456	Homestake Mining Company	340.45	55.95
445	LAC Minerals (USA), LLC	230.13	19.29
416	Southpoint Resources, Inc. (formerly Naneco Minerals)	0.00	0.00
356, 434, 435, & 464	Wharf Resources (USA), Inc.	167.34	127.04
TOTALS		871.50	526.61

[1]The final reclaimed acres that meet the post-mining land use in this table are industry figures. The department may not necessarily agree with the reported acreage and will need to confirm in the field that these acres do meet the post-mine land use criteria.

Definitions:

Final Reclaimed Acres That Meet Post-Mine Land Use - Affected land reclaimed as of December 31, 2003, that has a permanent, self-sustaining vegetative cover which meets the requirements of the approved reclamation plan and meets the reclamation requirements of SDCL 45-6B and ARSD 74:29. These acres can be considered for bond release.

Final Reclaimed Acres That Do Not Meet Post-Mine Land Use - Affected land reclaimed as of December 31, 2003, that does not meet the requirements of the approved reclamation plan and the reclamation requirements of SDCL 45-6B and ARSD 74:29. Final grading, topsoil placement, erosion and drainage control, and seeding and planting have been conducted on these acres. However, these acres cannot be considered for bond release since they have not met the post-mining land use criteria.

TABLE 1.6 – SURFACE MINED RECLAMATION ACREAGE AND RECLAMATION CREDITS
As of December 31, 2003

Permit Number	Operator	Surface Mined Acres Reclaimed (SDCL 45-6B-86)	Total Affected Acres Reclaimed that Apply as Reclamation Credit per 1992 Mining Initiative (SDCL 45-6B-97)
439 & 462	Brohm Mining Corp.	65.00	73.20
450	Golden Reward Mining Co., L.P.	348.18	378.41
332 & 456	Homestake Mining Company	379.61	396.40
445	LAC Minerals (USA), LLC	160.05	249.42
416	Southpoint Resources, Inc. (formerly Naneco Minerals)	0.00	0.00
356, 434, 435, & 464	Wharf Resources (USA), Inc.	284.65	294.38
TOTALS		1237.49	1391.81

Definitions:

Surface Mined Acres Reclaimed - Total amount of surface mining disturbed acres under final reclamation as of December 31, 2003. The department is required to report these acres under SDCL 45-6B-86. Final grading, topsoil replacement, erosion and drainage control, and seeding and planting have been conducted on these acres.

Total Affected Acres Reclaimed That Apply as Reclamation Credit per 1992 Mining Initiative - Affected land under final reclamation as of December 31, 2003, that can be considered for reclaimed acreage credit as provided under SDCL 45-6B-97. Pursuant to SDCL 45-6B-97, reclamation is performed when the operator completes required grading, topsoil placement, erosion and drainage control, and seeding and planting.

TABLE 1.7 - ORE AND WASTE ROCK PRODUCTION
January 1 to December 31, 2003

Permit Number	Operator	Tons of Ore Mined Year 2003	Tons of Ore Processed Year 2003	Tons of Waste Rock and Overburden Mined Year 2003
439 & 462	Brohm Mining Corp.	0	0	0
450	Golden Reward Mining Co., L.P.	0	0	0
332 & 456	Homestake Mining Company (Open Cut)	0	0	0
445	LAC Minerals (USA), LLC	0	0	0
416	Southpoint Resources, Inc. (formerly Naneco Minerals)	0	0	0
356, 434, 435, & 462	Wharf Resources (USA), Inc.	3,590,000	3,590,000	10,830,000
SUBTOTAL		3,590,000	3,590,000	10,830,000
N.A.	Homestake Underground	0	0	0
TOTALS		3,590,000	3,590,000	10,830,000

TABLE 1.8 – GOLD AND SILVER PRODUCTION
January 1 to December 31, 2003

Permit Number	Operator	Ounces of Gold Produced Year 2003	Ounces of Silver Produced Year 2003
439 & 462	Brohm Mining Corp.	0	0
450	Golden Reward Mining Co., L.P.	0	0
332 & 456	Homestake Mining Company[1]	0	0
445	LAC Minerals (USA), LLC	149	0
416	Southpoint Resources, Inc. (formerly Naneco Minerals)	0	0
356, 434, 435, & 462	Wharf Resources (USA), Inc.	70,902	76,577
SUBTOTAL		71,051	76,577
N.A.	Homestake Mill Demolition	7,754	0
TOTALS		78,805	76,577
ESTIMATED VALUE[2]		$28,636,161	$372,930

[1]All gold production was from Homestake's mill demolition activities. Ore production from the Open Cut ceased in 2002.
[2]Based on 2003 average gold price of $363.38 and 2003 average silver price of $4.87.

TABLE 1.9 – WATER AND CYANIDE USE
January 1 to December 31, 2003

Permit Number	Operator	Gallons Ground Water Withdrawn Year 2003	Gallons Surface Water Withdrawn Year 2003	Pounds of Cyanide Used Year 2003
439 & 462	Brohm Mining Corp.	0	0	0
450	Golden Reward Mining Co., L.P.	17,159,400[1]	0	0
332 & 456	Homestake Mining Company	0	0	0
445	LAC Minerals (USA), LLC	607,910	0	0
416	Southpoint Resources, Inc. (formerly Naneco Minerals)	0	0	0
356, 434, 435, & 462	Wharf Resources (USA), Inc.	49,768,900	0	1,453,756
TOTALS		67,536,210	0	1,453,756

[1]Golden Reward pumped its Bonanza well and discharged the water. None of the water was used at the mine.

TABLE 1.10 – BOND AMOUNTS FOR LARGE SCALE GOLD MINES

Permit Number	Operator	Reclamation Bond	Postclosure Bond[1]	Cyanide Spill Bond[2]
439 & 462	Brohm Mining Corp.	$5,629,099[3]	$0	$0
450	Golden Reward Mining Co., L.P.	$1,549,000[4]	$132,000	$0
332 & 456	Homestake Mining (Open Cut)	$1,737,000[4]	$0	$0
445	LAC Minerals (USA), LLC	$10,700,000[4]	$0	$0
416	Southpoint Resources, Inc. (formerly Naneco Minerals)	$661,800[5]	$0	$0
356, 434, 435, & 464	Wharf Resources (USA), Inc.	$10,730,400[4]	$8,115,055[6]	$405,000

[1] Postclosure bonds are not generally required to be submitted until the reclamation bond is released. However, by condition to Mine Permit No. 464, Wharf was required to submit a postclosure bond prior to closure. Golden Reward submitted a postclosure bond as per agreement for drainage control work in the West Liberty Pit.

[2] Financial assurance, or "cyanide spill bonds" are required under SDCL 45-6B-20.1. This financial assurance covers the cost of remediating accidental releases of cyanide or other leaching agents to the environment if a mine fails to do so. Wharf is the only mine where cyanide heap leaching is being done at this time. Wharf's cyanide bond was updated in April 2003.

[3] Because of the Dakota Mining Corp. bankruptcy, Brohm's reclamation bond has been placed in a state account for use in reclamation of the Gilt Edge Mine. $2 million was used for reclamation expenses in March 2002. Interest from the bond is compounded and applied to the bond. The bond amount shown is current as of December 31, 2003.

[4] The department is in the process of recalculating reclamation bonds for Golden Reward, Homestake, LAC, and Wharf Resources. These calculations should be completed in 2004.

[5] Southpoint Resources is required to submit a reclamation bond in the amount of $661,800 before the commencement of mining.

[6] Wharf submitted a $8,115,055 postclosure bond which is not part of the reclamation bond. .

OPERATIONAL PLANS FOR 2004

Brohm Mining Corp.

EPA plans to continue water treatment at the site with the new lime treatment system in 2004. The agency also plans to continue site maintenance and monitoring activities. A system to intercept acid seeps in Hoodoo Gulch for treatment will be constructed. The department will be working with EPA over the next two years to develop reclamation plans for the remainder of the site, including the mine pits and the leach pad. The remaining reclamation activities are anticipated to begin in 2006, pending availability of federal Superfund money.

Golden Reward Mining Company, L.P.

Golden Reward will continue environmental maintenance and monitoring of its reclaimed mine site. Trees and shrubs will be planted in spring 2004 and spring 2005. The Black Hills Chairlift Company will continue to store water in the process ponds for snow making purposes.

Homestake Mining Company (Barrick)

Homestake will continue the reclamation and closure activities it started in 2002. Reclamation of the mill area will be completed. Homestake plans to transform the area into an interpretive park with picnic areas, restrooms, parking, and a handicapped-accessible walking trail with equipment displays and informative panels. Gold Run Creek will also be re-established as part of the project. In addition, the Yates waste rock facility along Whitewood Creek will be reclaimed by recontouring the slope and revegetating the area. Homestake also plans to demolish the Washington Street electric shop building and reclaim the aqueduct system related to the Hydroelectric Plant #2 in Spearfish Canyon.

LAC Minerals (USA), LLC (Richmond Hill Mine)

LAC Minerals will continue monitoring and active water treatment at the Richmond Hill Mine. The company is reviewing options for increased sludge storage capacity from the pregnant pond. An additional pre-filter unit will be installed on the reverse osmosis treatment system to prevent the systems filters from plugging.

Southpoint Resources, Inc.

Southpoint Resources has no activities planned for the Johnson Gulch area in 2004 under Large Scale Mine Permit No. 416, formerly held by Naneco Minerals. The company has plans to mine under the permit once an agreement has been executed to process the ore at another facility.

Wharf Resources (USA), Inc.

Wharf Resources plans to continue mining in the Trojan pit. Phase 2 of the Trojan pit will be mined out and backfilling will begin. Spent ore will be placed in the Foley pit.

Reclamation activities in 2004 will consist of reclaiming approximately 85 acres of the backfilled Portland pit and Reliance waste rock facility.

Photo 1.7 – Backfilled and reclaimed Harmony pit at Golden Reward mine.

SUMMARY OF SURFACE MINE DISTURBED AND RECLAMATION ACRES UNDER SDCL 45-6B-86

2003

Photo 2.1 – Pegmatite mine reclaimed with forfeited reclamation bond.

SUMMARY OF ALL MINE PERMITS

This portion of the report summarizes information on the number of acres of surface mining disturbed land and the amount reclaimed as required by SDCL 45-6B-86 and as defined in section 45-6B-83.1 for the period January 1 to December 31, 2003. This does not include acreages for mining operations regulated under SDCL Chapter 45-6 (501 active licensed mine operators and 1,956 active licensed sites), mineral exploration regulated under SDCL Chapter 45-6C (13 operators and 50 permits, excluding oil and gas), or uranium exploration regulated under SDCL Chapter 45-6D (no current operators or permits.) Sources for this information include permit applications, operating and reclamation plans, annual reports, department inspections, and operator information.

New Permits

One company submitted a mine permit application in 2003. In August 2003, American Colloid submitted a large scale mine permit application to mine bentonite on land approximately 5 miles northwest of Belle Fourche. The area is immediately adjacent to an area currently being mined by American Colloid under Large Scale Mine Permit No. 6. American Colloid will submit additional information to complete the application, and the department expects to make its recommendation on the application sometime in summer 2004.

Cold Spring Granite submitted a small scale mine permit application for its granite quarry operation east of Milbank on December 30, 2002. The application is for constructing a culvert to divert an intermittent stream around one of its quarries and a quarry operated by Dakota Granite. The diversion would allow both companies to expand the quarries. After public noticing its recommendation, the department approved the uncontested permit application on April 30, 2003. Cold Spring Granite completed installation of the culvert in late August 2003.

Photo 2.3 – Culvert installed by Cold Spring Granite

Permit Amendments

One company was granted a permit amendment in 2003. Dakota Block, a division of Pete Lien & Sons, submitted a permit amendment application in December 2002, to modify the mine plan for its shale mine east of Rapid City. The amendment would allow Dakota Block to amend the mining sequence and revise the affected area boundary. The department approved the permit amendment application on June 16, 2003.

Sand and Gravel Mines Reclaimed with Forfeited Sureties

During the spring of 2003, staff from the Minerals and Mining Program inspected 13 sand and gravel mines where the reclamation sureties had been forfeited. After the inspections, reclamation plans and cost estimates were prepared for each mine.

On May 14, 2003, department staff presented a plan to the Board of Minerals and Environment to reclaim the mines. Because SDCL 45-6 sets maximum bond amounts and the bond amounts for these sites were not sufficient to fully reclaim the mines, the department requested authorization to supplement the surety money with funds from the Special Reclamation Fund. The Special Reclamation Fund was established by the Legislature in 1971 and was funded with mine permit fees. Contributions to the fund ended in 1982, and the Board of Minerals and Environment was given authority to use the fund to perform reclamation of mined lands. The board approved the department's reclamation plans and authorized using $50,225 of the fund to supplement the forfeited sureties to complete reclamation.

A total of 10 acres at two of the mine sites were reclaimed in 2003 at an average cost of $661 per acre. The two sites needed only minimal reclamation work. Contractors have been hired to reclaim 23 acres at four additional sites with more complex reclamation work in 2004 at an average cost of $1,418 per acre. Also in 2004, contractors will be hired to reclaim four acres at four other mines at an anticipated average cost of $1,943 per acre.

Permit or License No.	Operator	Location	Areas Reclaimed	Year Reclaimed	Land Use
98-639	Mike Ford	5 miles S of Redfield	2.20	2003	Grazing
98-639	Mike Ford	22 miles NE of Miller	8.29	2003	Farm Land
83-220[1]	Tyrone Peters	1 mile N of Wagner	2.39	2004	Wet Land
83-46[1]	Gordon Ziemer	12 miles E of Sisseton	15.19	2004	Farm Land
83-82[1]	Winter Concrete Products	6 miles E of Flandreau	4.74	2004	Grazing
88-367[1]	Gordon Olson	12 miles N of Yankton	0.50	2004	Grazing
98-639[2]	Mike Ford	8 miles W of Tulare	2.95	2004	Hay Prod.
83-251[2]	Gene Steffes	10 miles NW of Watertown	0.25	2004	Mining
98-641[2]	Herrick Services	4 miles NE of Roslyn	0.52	2004	Grazing
98-641[2]	Herrick Services	8 miles E of Grenville	0.75	2004	Grazing

[1]Under contract for 2004 completion
[2]Contracts being sought for 2004 completion

Table 2.1 – Number of Mine Permits and Permitted Affected, Total Affected, and Surface Mine Disturbed Acreage				
	All Small Scale Permits	**All Non-Gold Large Scale Permits**	**Large Scale Gold Permits[1]**	**All Mine Permits**
Number of Permits	17	18	11	46
Permitted Affected Acres	719	2,992	3,278	6,989
Total Affected Acres	47	1,645	2,530	4,222
Surface Mining Disturbed Lands Acres	42	1,354	2,152	3,548

[1] The acreage figures for large scale gold mines are separated for clarification purposes. The large scale gold mine statistics are not included in the figures for all non-gold large scale permits.

Definitions:

Small Scale Mining Permit - Permit for operations that extract less than 25,000 tons of ore or overburden per calendar year and disturb less than 10 acres of land.

Large Scale Mining Permit - Permit for operations that extract more than 25,000 tons of ore or overburden per calendar year and disturb more than 10 acres.

Permitted Affected Acres - Pursuant to SDCL 45-6B-3(1), this involves all lands permitted to be disturbed by a mining operation, including land from which overburden is to be or has been removed, and land upon which overburden, waste rock, mine spoil, or mill tailings is to be or has been deposited; land which is disturbed by the building of access roads, railroad loops, warehouses, storage areas, or other support facilities for the purpose of mining; and land affected by surface subsidence, unstable slopes, and other surface effects caused by underground mine workings.

Total Affected Acres - This includes all the land currently affected by the mining operations under permit. The total affected acres statistics are included in the figures for permitted affected acres.

Surface Mining Disturbed Lands Acres - Pursuant to SDCL 45-6B-3(15), this includes all the land from which overburden has been removed, land upon which overburden, waste rock, mine spoil, or mill tailings have been deposited, land mined which has no overburden, heap leach pads, and process ponds. The surface mining disturbed lands statistics are included in the figures for total affected acres.

Table 2.2 – Reclaimed and Released Reclaimed Acres				
	All Small Scale Permits	**All Non-Gold Large Scale Permits**	**Large Scale Gold Permits[1]**	**All Mine Permits**
Total Reclaimed Acres	13	994	1,392	2,399
Reclaimed Surface Mining Disturbed Acres	11	891	1,238	2,140
Releasable Reclaimed Acres	5	211	872	1,088
Released Reclaimed Acres in 2003	3	0	0	3

[1] The acreage figures for large scale gold mines are separated for clarification purposes. The large scale gold mine statistics are not included in the figures for all non-gold large scale permits.

Definitions:

Total Reclaimed Acres - This includes all the land for which the operator completes required grading, topsoil replacement, erosion and drainage control, and any required planting and seeding that the department finds has resulted or will later result in final reclamation. For large scale gold mines, these acres can be applied toward reclamation acreage credit as provided under SDCL 45-6B-97.

Reclaimed Surface Mining Disturbed Acres - Pursuant to SDCL 45-6B-86, this includes all surface mining disturbed lands for which the operator has completed required grading, topsoil replacement, erosion and drainage control, and any required planting and seeding that the department finds will later result in final reclamation.

Releasable Reclaimed Acres - This includes all the reclaimed land for which reclamation surety and liability can be released as determined by the department. Such land must meet the minimum reclamation standards pursuant to ARSD 74:29:07. These figures do not include any acreage for which release of surety or liability has been granted by the Board of Minerals and Environment. The releasable reclaimed acres statistics are included in the figures for total reclaimed acres.

Released Reclaimed Acres - This includes all the reclaimed land for which reclamation surety and liability has been released by the Board of Minerals and Environment in 2003. This land has met the minimum reclamation standards pursuant to ARSD 74:29:07. The released reclaimed acres statistics are included in the figures for total reclaimed acres.

APPENDIX 1

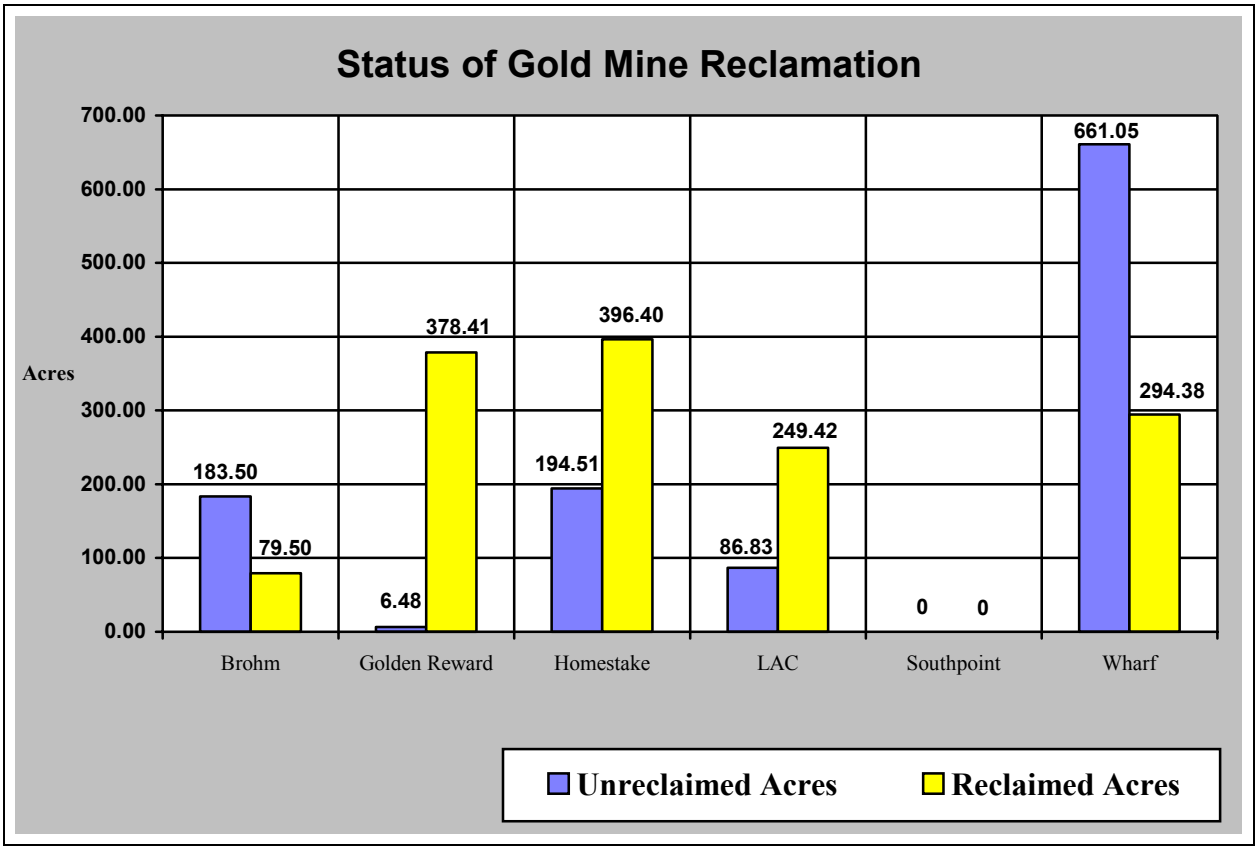

Figure 1A – Unreclaimed vs. Reclaimed Acreage at Large Scale Surface Gold Mines as of December 31, 2003.

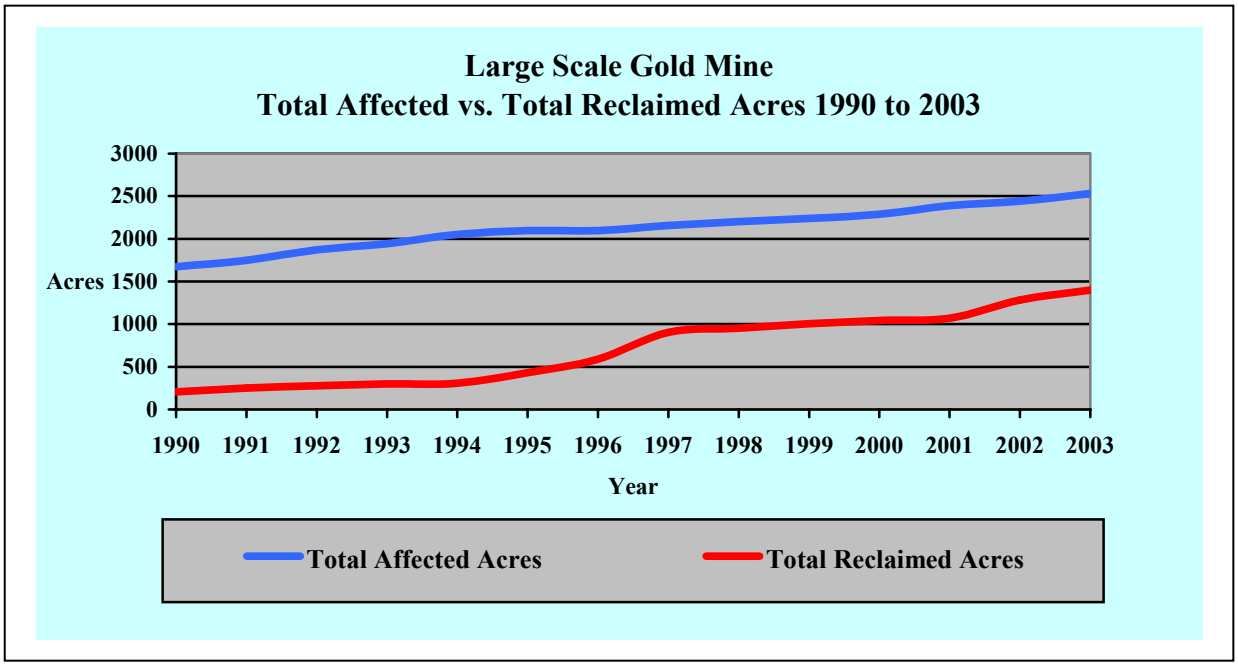

Figure 2A – Total Affected vs. Total Reclaimed Acreage at Large Scale Surface Gold Mines from 1990 to 2003.

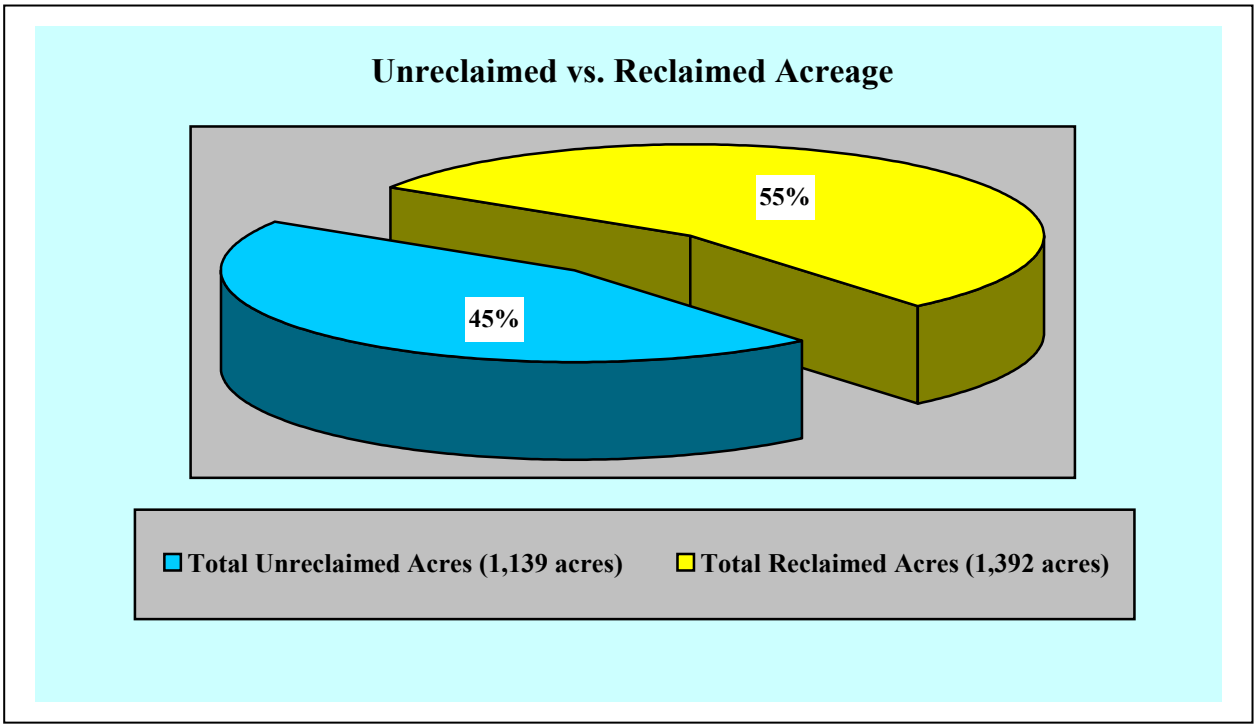

Figure 3A – Comparison of Unreclaimed vs. Reclaimed Acreage at Large Scale Surface Gold Mines in 2003.