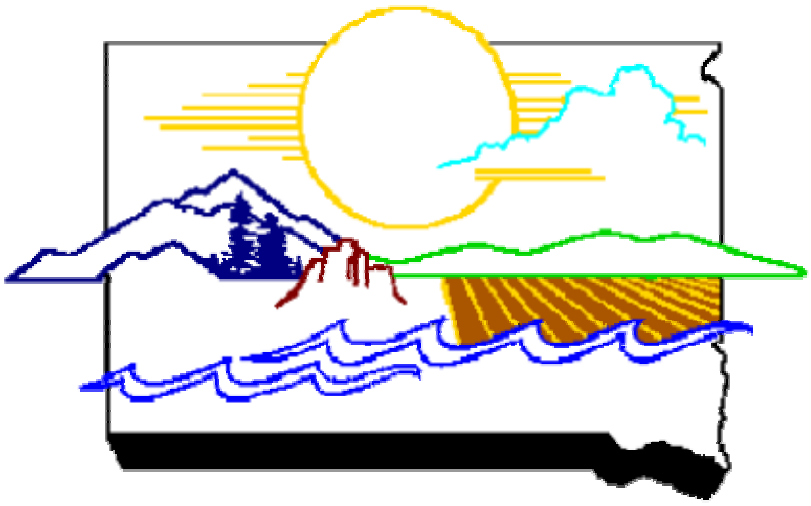
SUMMARY OF
THE MINING INDUSTRY IN SOUTH DAKOTA

2004



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, 2004. The information in this report is based on annual reports and other information submitted by mining operations permitted under Chapter 45-6B.

2004 Summary

Two companies made significant progress in 2004 in reclaiming several areas affected by large scale gold mining. Wharf Resources reclaimed 155.25 acres at its mine near Lead. About half of the mine site is now reclaimed. Homestake Mining continued work on the new park in the former mill complex area, which will be opened to the public in spring 2005. 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. The project is expected to be completed by the end of 2005. In September, Homestake demolished the Washington Street Electrical Building. Because of low levels of PCB's 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 will select two or three of the proposals later in 2005 that will be given funding to develop a more detailed proposal.

Gold production decreased slightly in 2004, but the value increased slightly due to the increase in gold prices. Wharf produced 76,119 ounces in 2004, which is an increase from the 70,902 ounces reported in 2003. Homestake, which ended operations in January 2002, recovered 90 ounces of gold during mill demolition activities. LAC Minerals recovered 79 ounces of gold during removal of sediments from its process ponds.

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Steven M. Pirner
Secretary

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

2004

Photo 1.1 – Reclaimed leach pad at Golden Reward looking toward Terry Peak.

MAJOR EVENTS IN 2004

Homestake Mining Company Makes Significant Progress in Closure of Historic Mine

Homestake made significant progress on several reclamation projects at its historic gold mine in Lead during 2004. The company continued work on the new park in the former mill area. A new stream channel was constructed in the park to help restore Gold Run Creek. The new stream channel will be reconnected with Gold Run Creek in 2006 after the remaining sand dam structures are removed. Fencing, walking paths, and restrooms were also constructed. Homestake plans to open the park to the public in the spring of 2005.

The company also began reclaiming the Yates Waste Rock Facility in July. A portion of the Mickelson Trail and Whitewood Creek were relocated as part of the reclamation project. A temporary trail was constructed so that people could continue to use the Mickelson Trail during reclamation activities. Regrading of the waste rock facility began after the temporary trail was constructed and will be completed, including revegetation, sometime in 2005.

Photo 1.2 – Regrading of Yates Waste Rock Facility

Photo 1.3 – Electrical Building Reclaimed to Parking Lot.

The Washington Street Electrical Building was demolished in September in compliance with state and federal requirements. Prior to demolition, concrete and brick with high levels of PCB were removed from the building and properly disposed. Since there were still low levels of PCB throughout the building, Homestake decided to place the demolished building within its basement and place an asphalt cap over the basement. A polyurethane sealant was sprayed on the basement floor prior to demolition. The area will be used as a parking lot.

Homestake also reclaimed about 75 percent of the Open Cut landfill where the mill demolition debris was deposited. The demolition debris was encapsulated with a plastic liner. After the liner was installed, the area was covered with topsoil and seeded in the fall.

In late August, Homestake shut down its water treatment plant which has been in operation for the last twenty years. The "state of the art" plant treated waste water from the mine. Terry Mudder and Jim Whitlock, former Homestake employees, won state and national awards for discovering a cyanide eating bacteria that was used in the treatment plant. The plant will eventually be replaced by a new plant that will be constructed next to the Grizzly Gulch Tailings Impoundment. The impoundment will store water for treatment while the new plant is being constructed. The old plant will be mothballed and possibly used if the mine is chosen as the site for the underground lab.

Homestake Lab Update

Work continued in 2004 on the conversion of the Homestake underground mine into a national underground science laboratory. A proposal to convert the mine was developed in 2004 and was one of eight proposals submitted to the National Science Foundation in February 2005. The Foundation will select two or three of the proposals later in 2005 for further development and funding.

Gilt Edge Update

EPA continued water treatment at the Gilt Edge Superfund Site in 2004. Adjustments were made throughout the year to improve the efficiency of the water treatment plant. The new plant, which was dedicated on September 19, 2003, treated 2.25 million gallons of water per week after the adjustments were made. However, due to drought conditions and the lack of water to treat, the plant was shut down for the year on August 23.

Over the last few years, EPA has been conducting a large-scale test to treat water in the Anchor Hill Pit using biological processes. After pH adjustments using lime and caustic, ethanol, molasses, and phosphoric acid were added to the water to enhance the growth of bacteria. The bacteria created conditions for metals precipitation. The goal of the test was to reduce the acidity and heavy metal concentrations of the water so it could meet water quality standards and be directly discharged without further treatment. During 2004, the test entered its operational phase where EPA could directly discharge water from the pit. After adding a filtration process, EPA's contractor discharged 100,000 gallons of water from the pit. The process still needs additional work before it can be considered as an alternative treatment method to the current water treatment plant. Additional discharges are planned for 2005.

EPA and the state continued to prepare plans to reclaim the rest of the site, including the mine pits and heap leach pad.

Wharf Makes Significant Reclamation Progress

Wharf Resources made significant progress in reclaiming disturbed areas at its mine in 2004. Areas reclaimed include the Portland Pit, portions of the Foley and Trojan Pits, and remaining disturbance

at the Reliance rock depository. Reclamation work included the completion of the backfill in the Portland Pit, some partial backfill of the Trojan Pit, and recontouring of the Reliance rock facility. Topsoil was applied to regraded areas and hydroseeding was completed in June. A total of 155.25 acres were reclaimed at the mine in 2004, which is the most final reclamation conducted at the mine within a year. About half of the mine site is now reclaimed.

Photo 1.4 – Wharf hydroseeding top of Reliance depository.

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 in the early 1990's, 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 the capping systems are effective in reducing water infiltration into the spent ore. Most chemical 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 January to November 2004 and discharged about 31.2 million gallons of water. Effluent from the leach pads is collected and stored in the former process ponds and is then treated prior to discharge. LAC's goal in 2004 was to reduce the volume of water in the Stormwater Pond. In July, the company announced plans to construct a smaller pond on the existing site of the Stormwater Pond. The water in the current pond needed to be treated to

water quality standards and discharged, and pond sediments need to be removed before the new pond can be constructed. The smaller pond will enable LAC to reduce water treatment costs by reducing the volume of water requiring treatment at the mine.

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 continue to show decreasing or steady 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 despite low flows due to drought conditions in the Black Hills.

Technical Revisions Approved by the Department in 2004

April 1	LAC Minerals – Transfer hydroxide sludge from sludge basin at Richmond Hill Mine to Homestake Construction and Demolition Waste Cell Facility.
April 2	Homestake Mining – Accept new waste types at the Homestake Construction and Demolition Waste Cell Facility.
May 13	LAC Minerals – Add copper sulfate to the Stormwater Pond and other process ponds to control algae growth.
May 18	Golden Reward – Modify survival evaluation criteria for containerized tree and shrub plantings and pine tree and shrub seeded areas for the entire mine.
August 10	Wharf Resources – Place an additional 1.65 million tons of spent ore on the North Foley spent ore containment liner.
August 25	Homestake Mining – Construct seepage control structures in Gayville Gulch and East Ravine near the East Waste Rock Depository toe.
September 15	Wharf Resources – Reduce the sampling frequency of the Ross Valley biological treatment facility.
September 22	Wharf Resources – Place about one million tons of crushed ore between Pads 2 and 3.
September 29	Golden Reward – Terminate water sampling at several sites and allow wells that will no longer be sampled to be plugged.
October 20	Wharf Resources – Modify acid rock drainage sampling plan for the Trojan Pit.

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 2004. The pie chart on the same page shows total reclaimed acres versus total unreclaimed acres for the large scale gold mine industry in 2004.

Photo 1.5 – Reclaimed area near leach pads, referred to as the "V-Notch" at the Richmond Hill mine

TABLE 1.1 – AFFECTED MINED LAND ACREAGE

Permit Number	Operator	Permitted Affected Acres	Acres Affected Year 2004	Total Acres Affected as of Dec. 31, 2004
439 & 462	Brohm Mining Corp.	564.00	0.00	263.00
450	Golden Reward Mining Co., L.P.	493.62	0.00	388.09
332 & 456	Homestake Mining Company	658.23	0.00	595.53
445	LAC Minerals (USA), LLC	439.10	0.00	337.83
416	Southpoint Resources, Inc. (formerly Naneco Minerals)	122.00	0.00	0.00
356, 434, 435, & 464	Wharf Resources (USA), Inc.	1001.17	0.51	955.94
TOTALS		3278.12	0.51	2540.39

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 2004 - Previously unaffected acres disturbed from January 1 to December 31, 2004. This acreage is also included in "Total Acres Affected as of Dec. 31, 2004."

Total Acres Affected as of Dec. 31, 2004 - All land currently affected by the large scale gold and silver operations under permit as of December 31, 2004. 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 2004	Total Surface Mining Disturbed Acres as of Dec. 31, 2004
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	548.55
445	LAC Minerals (USA), LLC	0.00	190.13
416	Southpoint Resources, Inc. (formerly Naneco Minerals)	0.00	0.00
356, 434, 435, & 464	Wharf Resources (USA), Inc.	0.51	854.71
TOTALS		0.51	2150.15

Definitions:

Surface Mining Disturbed Acres Year 2004 - Previously unaffected surface mining land disturbed from January 1 to December 31, 2004. This acreage is also included in "Total Surface Mining Disturbed Acres as of Dec. 31, 2004."

Total Surface Mining Disturbed Acres as of Dec. 31, 2004 - 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 2004**	**Total Interim Reclaimed Acres as of Dec. 31, 2004**
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.	4.98	25.43
TOTALS		4.98	44.28

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 2004 - Acres under interim reclamation from January 1 to December 31, 2004. These acres are also included in "Total Interim Reclaimed Acres."

Total Interim Reclaimed Acres as of Dec. 31, 2004 - The total number of acres under interim reclamation as of December 31, 2004. Acres redisturbed or now considered as final reclamation are not included in these totals.

TABLE 1.4 – FINAL RECLAIMED ACREAGE FOR YEAR 2004

Permit Number	Operator	Final Reclaimed Acres Year 2004 that Meet Post-Mine Land Use[1]	Final Reclaimed Acres Year 2004 that Do Not Meet Post-Mine Land Use
439 & 462	Brohm Mining Corp.	0.00	0.00
450	Golden Reward Mining Co., L.P.	52.41	0.00
332 & 456	Homestake Mining Company	6.21	140.22
445	LAC Minerals (USA), LLC	14.82	0.00
416	Southpoint Resources, Inc. (formerly Naneco Minerals)	0.00	0.00
356, 434, 435, & 464	Wharf Resources (USA), Inc.	46.05	153.51
TOTALS		119.69	293.73

[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.

Definitions:

Final Reclaimed Acres Year 2004 That Meet Post-Mine Land Use – Affected land reclaimed prior to 2004, previously considered as not meeting the post-mine land use, that met the post-mine land use in 2004. 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 2004 That Do Not Meet Post-Mine Land Use - Affected land reclaimed between January 1 and December 31, 2004, 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, 2004

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.	185.99	195.62
332 & 456	Homestake Mining Company	345.37	205.31
445	LAC Minerals (USA), LLC	244.95	19.97
416	Southpoint Resources, Inc. (formerly Naneco Minerals)	0.00	0.00
356, 434, 435, & 464	Wharf Resources (USA), Inc.	213.25	236.00
TOTALS		989.56	736.40

[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, 2004, 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, 2004, 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, 2004

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	381.61
332 & 456	Homestake Mining Company	512.33	550.68
445	LAC Minerals (USA), LLC	160.32	264.92
416	Southpoint Resources, Inc. (formerly Naneco Minerals)	0.00	0.00
356, 434, 435, & 464	Wharf Resources (USA), Inc.	438.73	449.25
TOTALS		1524.56	1719.66

Definitions:

Surface Mined Acres Reclaimed - Total amount of surface mining disturbed acres under final reclamation as of December 31, 2004. 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, 2004, 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, 2004

Permit Number	Operator	Tons of Ore Mined Year 2004	Tons of Ore Processed Year 2004	Tons of Waste Rock and Overburden Mined Year 2004
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.	3,048,978	3,035,577	9,233,924
SUBTOTAL		3,048,978	3,035,577	9,233,924
N.A.	Homestake Underground	0	0	0
TOTALS		3,048,978	3,035,577	9,233,924

TABLE 1.8 – GOLD AND SILVER PRODUCTION
January 1 to December 31, 2004

Permit Number	Operator	Ounces of Gold Produced Year 2004	Ounces of Silver Produced Year 2004
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	79	0
416	Southpoint Resources, Inc. (formerly Naneco Minerals)	0	0
356, 434, 435, & 462	Wharf Resources (USA), Inc.	76,119	89,418
SUBTOTAL		76,198	89,418
N.A.	Homestake Mill Demolition	90	0
TOTALS		76,288	89,418
ESTIMATED VALUE[2]		$31,256,719	$596,418

[1]All gold production was from Homestake's mill demolition activities. Ore production from the Open Cut ceased in 2002.
[2]Based on 2004 average gold price of $409.72 and 2004 average silver price of $6.67.

TABLE 1.9 – WATER AND CYANIDE USE
January 1 to December 31, 2004

Permit Number	Operator	Gallons Ground Water Withdrawn Year 2004	Gallons Surface Water Withdrawn Year 2004	Pounds of Cyanide Used Year 2004
439 & 462	Brohm Mining Corp.	0	0	0
450	Golden Reward Mining Co., L.P.	8,003,700[1]	0	0
332 & 456	Homestake Mining Company	0	0	0
445	LAC Minerals (USA), LLC	900,600	0	0
416	Southpoint Resources, Inc. (formerly Naneco Minerals)	0	0	0
356, 434, 435, & 462	Wharf Resources (USA), Inc.	54,977,700	0	1,128,043
TOTALS		63,882,000	0	1,128,043

[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.	$5,798,682[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]	$8,120,700[6]	$431,000

[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, 2004.

[4] The department is in the process of completing reclamation bond calculations for Golden Reward, Homestake, LAC, and Wharf Resources. The revised calculations will be completed in 2005.

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

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

OPERATIONAL PLANS FOR 2005

Brohm Mining Corp.

Due to the ongoing drought, EPA will not resume water treatment at the site until November or December 2005. Until that time, acid runoff will be collected and stored on site. However, water treatment will resume sooner if drought conditions end. Routine operation and maintenance activities will continue through the year which will include demolishing various buildings and structures on the site. The department will also continue to work with EPA 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 when federal Superfund money becomes available.

Golden Reward Mining Company, L.P.

Golden Reward will continue environmental maintenance and monitoring of its reclaimed mine site. The Black Hills Chairlift Company will continue to pump and store water in the process ponds for snow making purposes. The Surge Pond and the process building may be removed and reclaimed in 2005. Golden Reward also plans to ask the Board of Minerals and Environment for bond release on portions of the reclaimed mine area.

Homestake Mining Company (Barrick)

Homestake will continue the reclamation and closure activities it started in 2002. A water treatment plant will be constructed to treat drainage from the East waste rock depository and the Sawpit waste rock depository. The company plans to reclaim several areas around the Open Cut in 2005. Reclamation of the Yates waste rock facility along Whitewood Creek will also be completed. The park in the former mill area will be opened to the public in spring 2005.

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

LAC Minerals will continue monitoring and active water treatment at the Richmond Hill Mine. The company will be evaluating and possibly implementing alternative methods of water treatment in 2005.

Southpoint Resources, Inc.

Southpoint Resources has no activities planned for the Johnson Gulch area in 2005 under Large Scale Mine Permit No. 416, formerly held by Naneco Minerals. The mine property has been sold to a land development company.

Wharf Resources (USA), Inc.

Wharf Resources plans to continue mining in the Trojan pit. Waste rock from the pit will be used as backfill in the Foley pit and Phase 2 of the Trojan pit.

The company also plans to reclaim about 25 acres in the Juno, Reliance, Portland, and Trojan Phase 2 areas.

Photo 1.6 –Reclaimed Maria pit at the Wharf mine.

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

2004

Photo 2.1 – Hills Materials backfilling Rapid City limestone quarry.

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, 2004. This does not include acreages for mining operations regulated under SDCL Chapter 45-6 (500 active licensed mine operators and 1,928 active licensed sites), mineral exploration regulated under SDCL Chapter 45-6C (9 operators and 39 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 was granted a large scale mine permit in 2004. In July 2004, Pacer Corporation submitted a large scale mine permit application to expand its mica schist mine covered under Large Scale Mine Permit No. 311. The department issued the uncontested mine permit on November 24, 2004. The operation will be expanded approximately 150 feet to the northwest and will disturb an additional 2.71 acres. A permit boundary was also established and the department was authorized to approve technical revisions for the mine site. The reclamation plan for the mine was also amended to a post-mine land use of grazing. Mining in the expansion area will begin in spring 2005 contingent on Pacer obtaining an operating plan from the US Forest Service.

Photo 2.2 – Pacer Brite-X Mine northwest of Custer.

Special or Unique Land Determinations

The department received one request for the determination of special, exceptional, critical, or unique lands for a small scale placer mining operation in 2004. Black Hills Mining, LLC submitted a request for its proposed placer mining operation along Whitewood Creek, located approximately two miles north of Deadwood. After reviewing the request, the department determined on June 29, 2004, that the proposed mining area is eligible for inclusion on the Preliminary List of Special, Exception, Critical, and Unique Lands. The main reasons for the department's determination were:

- American Dippers, a state threatened bird species, are present at the site
- Large volumes of relic mine tailings containing heavy metals exist at the site

- Mining at the site could destabilize the tailings and release heavy metals into surface and ground water
- Mining the alluvial sediments and tailings could result in the loss of stream flow in Whitewood Creek

Photo 2.3 – Area placed on Preliminary List.

Photo 2.4 – Tailings along Whitewood Creek.

Black Hills Mining appealed the department's determination, and on September 16, 2004, a hearing was conducted before the Board of Minerals and Environment to determine whether the area should be placed on the Preliminary List of Special, Exceptional, Critical, or Unique Lands. The board voted to place the area on the preliminary list. The designation allows the board to either prohibit mining or place special conditions on the permit to protect the American Dipper and prevent the loss of stream flow in and the release of heavy metals into Whitewood Creek.

Black Hills Mining has submitted a small scale mine permit application for the area. A hearing on the mine permit application, including a final determination on whether the area should be designated special, exceptional, critical, or unique will be conducted sometime in 2005.

WMC Ends Nickel and Copper Exploration in Southeast South Dakota

In November and December 2003, WMC Explorations conducted nickel and copper exploration activities in Clay County in southeastern South Dakota. This exploration was conducted by the Australian company to test targets identified during an earlier airborne geophysical survey of the area. On April 8, the company announced that samples from the exploration program indicated little potential for nickel and copper in the area. As a result, the company does not plan to conduct any further exploration work in southeastern South Dakota.

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	19	11	47
Permitted Affected Acres	719	2,992	3,278	6,989
Total Affected Acres	57	1,693	2,540	4,290
Surface Mining Disturbed Lands Acres	43	1,388	2,150	3,581

[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	24	1,003	1,720	2,747
Reclaimed Surface Mining Disturbed Acres	13	893	1,525	2,431
Releasable Reclaimed Acres	5	240	990	1,235
Released Reclaimed Acres in 2004	0	0	0	0

[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 2004. 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

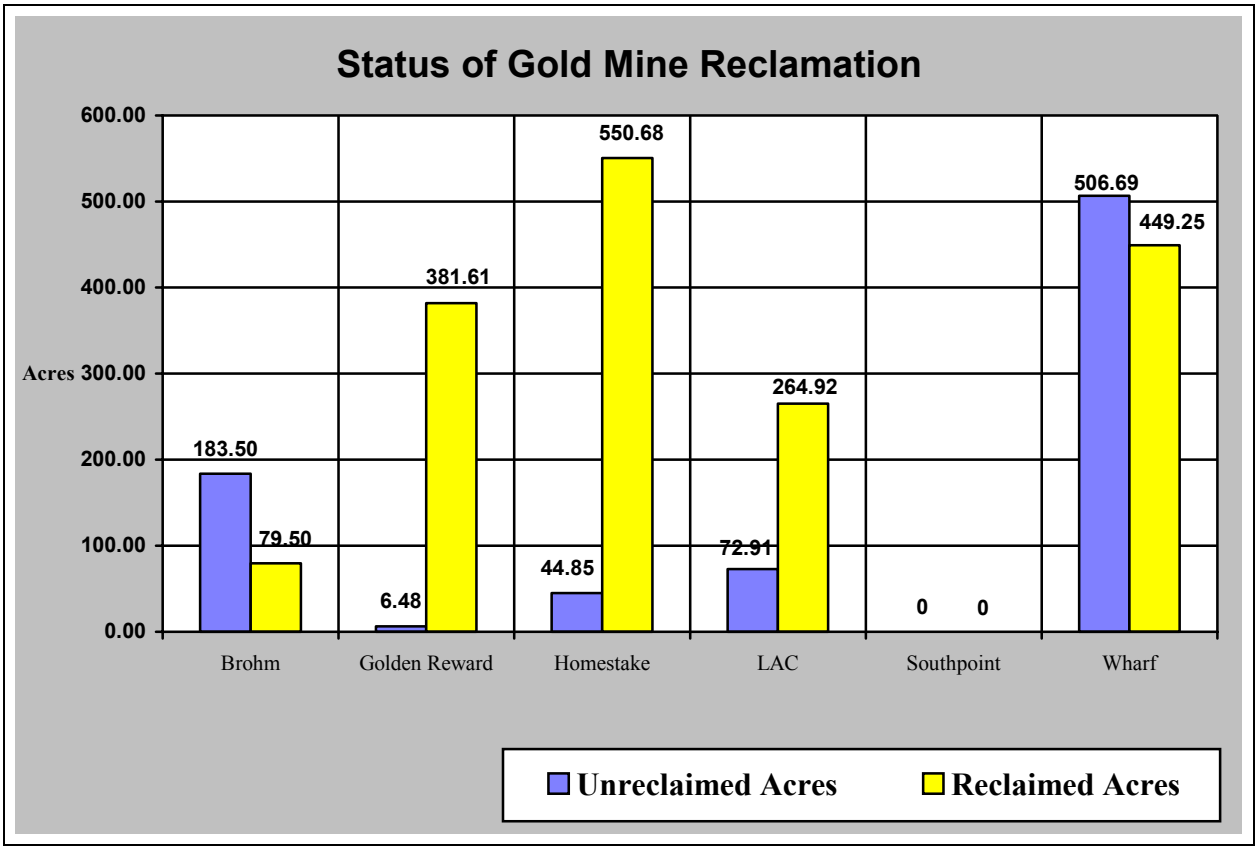

Figure 1A – Unreclaimed vs. Reclaimed Acreage at Large Scale Surface Gold Mines as of December 31, 2004.

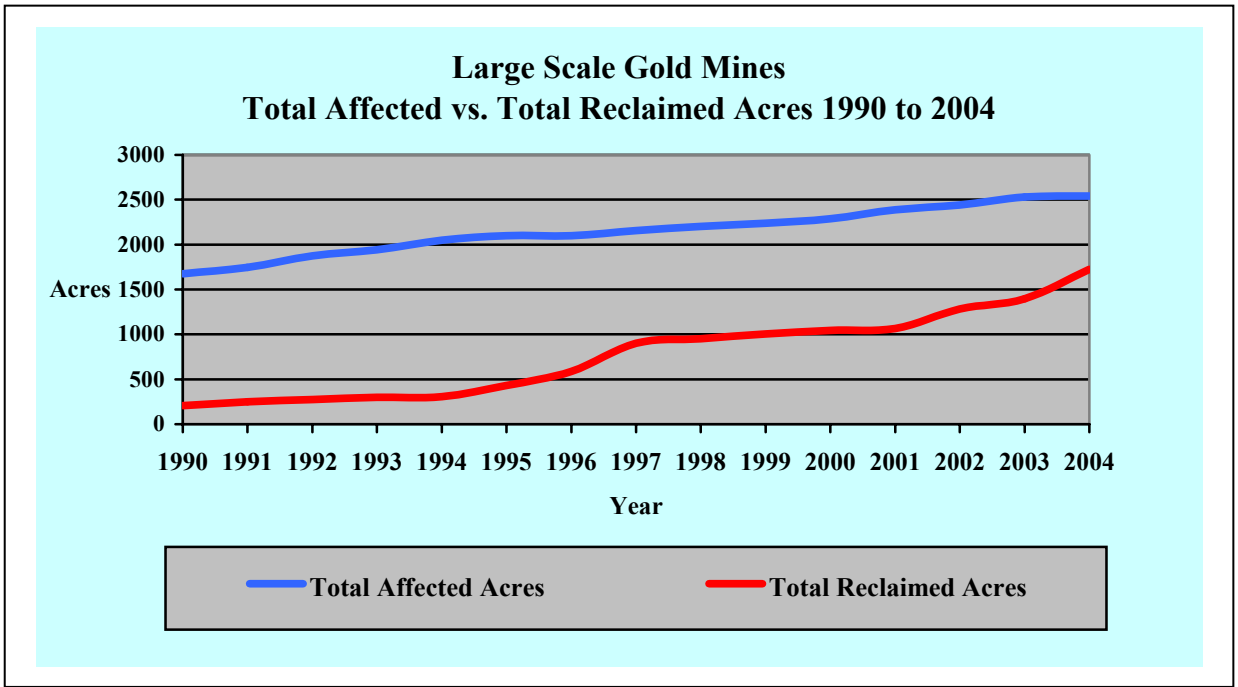

Figure 2A – Total Affected vs. Total Reclaimed Acreage at Large Scale Surface Gold Mines from 1990 to 2004.

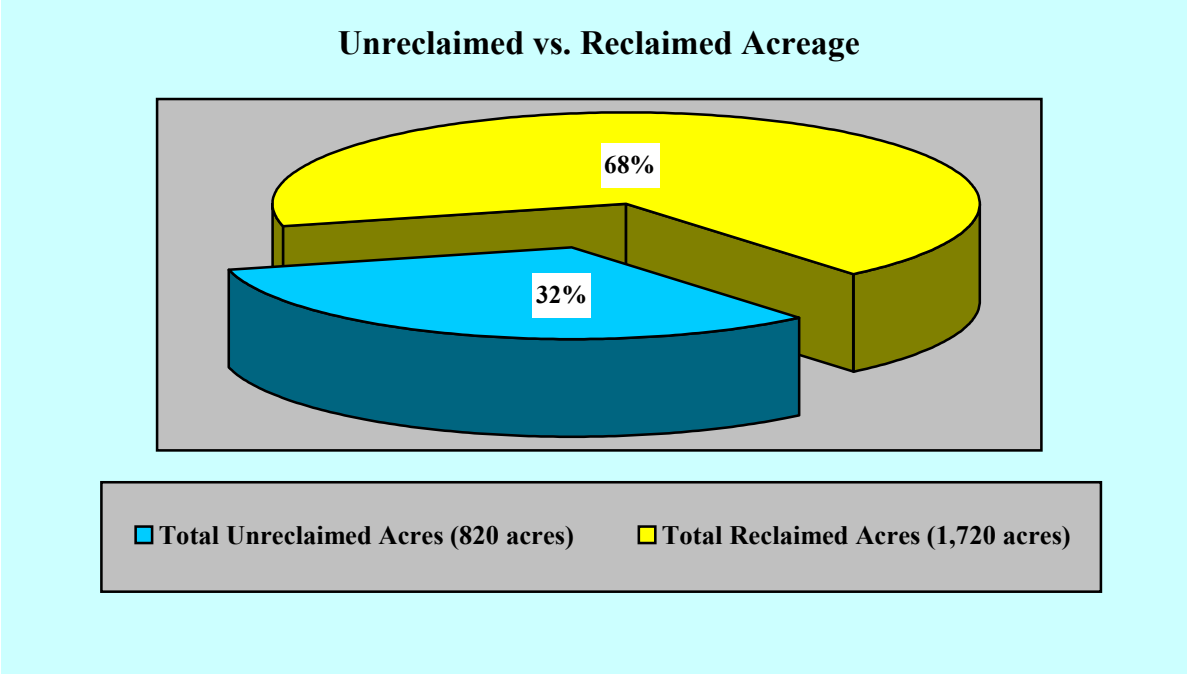

Figure 3A – Comparison of Unreclaimed vs. Reclaimed Acreage at Large Scale Surface Gold Mines in 2004.