SUMMARY OF
THE MINING INDUSTRY IN SOUTH DAKOTA

2002

Protecting South Dakota's Tomorrow ... Today

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 Mined 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, 2002. The information in this report is based on annual reports and other information submitted by mining operations permitted under Chapter 45-6B.

2002 Summary

Significant progress was made in reclaiming three large scale gold mines in 2002. Homestake Mining Company demolished its mill facilities in Lead. Demolition debris from the mill was placed in a disposal facility near the Open Cut. At the Gilt Edge Mine, the major portion of the capping system for the Ruby Waste Rock Dump was completed by the end of the year. Wharf Resources completed the bulk of required reclamation at its Golden Reward Mine at the base of Terry Peak. The mine closure plan allows the Terry Peak Ski area to use the process ponds at the mine to increase snow making capacity at the ski area. As a result of the reclamation activities in 2002, a little over half of the acreage disturbed by large scale gold mining has now been reclaimed.

After an increase in gold production in 2001, production decreased markedly in 2002. The main reason for the decrease was the closure of the historic Homestake Mine. Production from the Homestake mine decreased from 185,307 ounces in 2001 to 36,334 ounces in 2002. All of the production came from the underground portion of the mine, as Homestake completed mining in the Open Cut in September 1998. Wharf Resources (USA), Inc. reported gold production of 82,127 ounces in 2002, a decrease from the 104,019 ounces reported in 2001. Golden Reward Mining Company recovered 50 ounces of gold during reclamation activities.

\S/
Steven M. Pirner
Secretary

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

2002

Photo 1.1 – Visitor Center constructed by Homestake Mining Company at reclaimed Wasp Tailings on Whitewood Creek south of Lead.

MAJOR EVENTS IN 2002

Homestake Mining Company Continues Closure of Historic Mine

Homestake Mining continued closure activities at its historic gold mine in Lead during 2002. The mine was closed at the end of 2001 due to low gold prices, high productions costs, and lower than expected ore grades. On January 18, 2002, the last ore was milled and on February 13, 2002, the mill was shut down forever. The mill processed 167.63 million tons of ore and produced 39.62 million ounces of gold and 9 million ounces of silver during its long history. In June 2002, demolition of the mill facilities began. Homestake hired Cleveland Wrecking Company to demolish 25 structures in the mill complex, including the South Mill, refinery, and the East and West Sand Plant. Demolition debris from the mill was hauled to a demolition disposal facility constructed at the East Waste Rock Disposal Facility near the Open Cut. In November, mill demolition was completed. The company then began an extensive soils testing program of the mill site. These tests will help Homestake determine recontouring and mill foundation removal plans for the site which will take place in 2003.

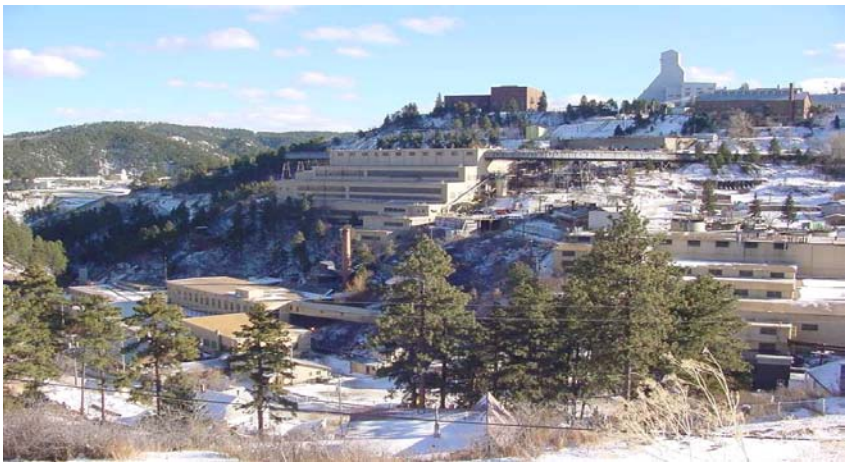

Photo 1.1 - Homestake mill area as of January 1, 2002

Photo 1.2 - Homestake mill area as of July 31, 2002

Homestake continued decommissioning of the underground mine while discussions continued on whether to convert the mine to a national underground laboratory to study neutrinos.

Gilt Edge Ruby Dump Reclamation Nears Completion

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, 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.

The focus of reclamation activity at the mine during 2002 was on capping the Ruby waste rock dump, the major source of acid mine drainage at the site. The majority of the capping system was completed by the end of the year. Delhur Industries, the primary contractor at the site, placed a one to two foot liner bedding layer over the regraded dump. Comanco, a subcontractor for Delhur, then installed 304,000 square yards (or 62.9 acres) of 80-mil Linear Low Density Polyethylene (LLDPE) geomembrane liner and geotextile over the bedding layer. Staff from the Minerals and Mining Program and the Bureau of Reclamation performed construction quality assurance and quality control for the lining project.

Photo 1.3- Liner Placement on Ruby Dump.

Photo 1.4 – Drain layer placed on top of liner.

As the liner was completed, Delhur placed drain layer material over the geotextile. About 150,000 cubic yards of crushed rock was used for the drain layer. Some of the drain layer material came from rock brought to the mine site from the Highway 385 reconstruction project. By the end of the year, the drain layer was completed, and Delhur placed cover soil over the drain layer on the upper portion of the dump. Geomembrane liner and riprap were also placed in 4,000 feet of perimeter diversion ditches. Plans are to complete cover soil placement and seeding of the dump in spring 2003.

Water treatment continued at the mine site during the first part of 2002. In August, the water treatment plant was shut down in order to convert it from a caustic system to a high density sludge lime treatment system. The plant conversion, which will be completed in June 2003, will

lower water treatment costs at the site. Acid water is currently being stored in the mine pits until the water treatment plant is operating again.

Plans for completing reclamation of the rest of the site, including the mine pits and heap leach pad, are currently being prepared by EPA and the state.

Wharf Resources (USA), Inc. Reclaims Golden Reward Mine

Wharf Resources (USA), Inc. completed the bulk of required reclamation at its Golden Reward Mine during 2002. The company announced in 2001 that it would close the Golden Reward Mine and begin final reclamation. The mine is owned by Wharf Resources and has been in temporary cessation for the past five years. Wharf began reclamation activities in April 2002 by backfilling the Harmony and Liberty Pits with spent ore and waste rock. The upper Fantail Creek drainage was reconstructed through the backfilled Liberty Pit. After the spent ore was removed from the leach pad, the asphalt liner was ripped and the area was recontoured. Golden Reward placed topsoil on the regraded areas and completed seeding in November 2002. A total of 3.3 million cubic yards of material was moved during the project. Demolition of the crusher building and truck shop was completed in August. About 194 acres were reclaimed in 2002. Only some minor reclamation remains to be completed.

Photo 1.5 – Backfilled and recontoured East Liberty Pit

Photo 1.6 – Reclamation work on leach pad.

Terry Peak Using Golden Reward Ponds for Snowmaking

When Wharf Resources announced that it would be closing the Golden Reward Mine, the Terry Peak Ski Area became interested in using Golden Reward's process building and associated ponds to increase its snow making capabilities. In March, Wharf Resources requested state approval to leave two process area buildings and the process ponds for snow making purposes. The ski area will use the process building to store snow making equipment, and Wharf Resources will use the office building to store records. The Board of Minerals and Environment approved Wharf Resources'

request in April. In the event the buildings and ponds are not used, Wharf Resources is required to reclaim the facilities in accordance with its reclamation plan. Eight million gallons from the process ponds were used for snow making in November and December 2002.

Acid Mine Drainage Mitigation Update at Richmond Hill Mine

The Richmond Hill Mine, an open pit heap leach gold mine that developed an acid mine drainage problem during operations, continues to show improvement. The bulk of reclamation was completed by the mine operator, LAC Minerals (USA), LLC, in the mid-1990s. The performance of the pit impoundment, backfilled with acid-generating rock and covered with a low permeability capping system, continued to perform 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. No signs of settling or slumping were detected during routine surveys of the pit impoundment. A dense, self-sustaining vegetative cover has become established on the pit impoundment and most of the waste depository area.

The capped leach pads also continue to perform well. Monitoring data shows that the capping systems are effective in reducing water infiltration into the spent ore. No signs of settlement or cracking were found during routine surveys of the leach pads. A dense, self-sustaining cover is becoming established on the leach pads.

LAC resumed water treatment in October 2002 after treating no water in 2001. The company treats water 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. About 4.7 million gallons were treated with a reverse osmosis unit and discharged by the end of the year. LAC plans to continue water treatment in 2003.

Ground and surface water quality around the mine site is closely monitored. Ground water impacted by acid rock drainage prior to mine reclamation is steadily improving. Monitoring wells generally show decreasing trends in sulfate and metal concentrations and increasing pH. Biological assessments of Squaw 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 2002.

Permit Amendments

There were no permit amendments issued to large scale gold and silver mining operations in 2002.

Notices of Violation

No Notices of Violation were issued to large scale gold and silver mines in 2002. However, the department did issue Wharf an amended order concerning the repair of liners for the Pregnant and Contingency Ponds. Wharf failed to comply with the requirements of the August 7, 2001 Notice of Violation when it did not submit mitigation or repair plans for the Pregnant and Contingency Pond liners when leakage through the primary liner of the ponds exceeded the required reporting thresholds. Wharf agreed to complete liner repairs to these ponds and comply with the Response Action Plan.

Technical Revisions Approved by the Department in 2002

January 3	LAC Minerals – Modify the monitoring requirements for the Leak Detection, Collection, and Recovery Systems and Leak Response Action Plan for the Richmond Hill Mine.
January 7	Wharf Resources – Modify the Ross Valley biological treatment facility for selenium treatment and ambient temperature nitrate treatment.
January 9	Homestake Mining – Construct a Type I Solid Waste Facility and a Type II Construction and Demolition Debris Facility on the 5200 bench of the East Waste Rock Disposal Facility.
March 4	Wharf Resources – Relocate one 15,000 gallon fuel tank from the current fueling station to the western side of the final Trojan haul road.
March 8	Golden Reward – Place mining related rubble/construction and demolition debris in the permitted spent ore and barren rock disposal areas.
March 21	Golden Reward – Modify sampling frequencies at monitor wells SM01A, SM02A, SM09, and surface site SS04.
April 19	LAC Minerals – Reduce the size of the existing Stormwater Pond and construct a new sludge pond and new sediment control structures.
May 14	Golden Reward – Eliminate monitoring of the Leak Detection, Collection, and Recovery System for the leach pad and process ponds.

August 2	Golden Reward – Modify tree and shrub planting program.
August 15	Wharf Resources – Acid rock drainage prevention and management plan for Lower Deadwood formation and Precambrian rock units in Trojan Pit.
August 16	Golden Reward – Encapsulate the sediments in the Detox Pond.
October 23	Wharf Resources – Construct a lined area for spent ore disposal in the 33 Vertical area of the Foley Pit.

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 2002.

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.

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 2002. The pie chart on the same page shows total reclaimed acres versus total unreclaimed acres for the large scale gold mine industry in 2002.

Photo 1.6 – Reclaimed Pit Impoundment at LAC's Richmond Hill Mine.

TABLE 1.1 – AFFECTED MINED LAND ACREAGE				
Permit Number	**Operator**	**Permitted Affected Acres**	**Acres Affected Year 2002**	**Total Acres Affected as of Dec. 31, 2002**
439 & 462	Brohm Mining Corp.	564.00	0.00	263.00
450	Golden Reward Mining Co., L.P.	493.62	0.00	397.00
332 & 456	Homestake Mining Company	658.23	0.00	549.74
445	LAC Minerals (USA), LLC	439.10	0.00	320.70
416	Naneco Minerals, Inc. (formerly Minerva Explorations)	122.00	0.00	0.00
356, 434, 435, & 464	Wharf Resources (USA), Inc.	1001.17	55.63	911.91
TOTALS		3278.12	55.63	2442.35

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 2002 - Previously unaffected acres disturbed from January 1 to December 31, 2002. This acreage is also included in "Total Acres Affected as of Dec. 31, 2002."

Total Acres Affected as of Dec. 31, 2002 - All land currently affected by the large scale gold and silver operations under permit as of December 31, 2002. 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 2002**	**Total Surface Mining Disturbed Acres as of Dec. 31, 2002**
439 & 462	Brohm Mining Corp.	0.00	202.10
450	Golden Reward Mining Co., L.P.	0.00	258.50
332 & 456	Homestake Mining Company	0.00	520.64
445	LAC Minerals (USA), LLC	0.00	192.90
416	Naneco Minerals, Inc. (formerly Minerva Explorations)	0.00	0.00
356, 434, 435, & 464	Wharf Resources (USA), Inc.	55.63	781.68
TOTALS		55.63	1955.82

Definitions:

Surface Mining Disturbed Acres Year 2002 - Previously unaffected surface mining land disturbed from January 1 to December 31, 2002. This acreage is also included in "Total Surface Mining Disturbed Acres as of Dec. 31, 2002."

Total Surface Mining Disturbed Acres as of Dec. 31, 2002 - 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 2002**	**Total Interim Reclaimed Acres as of Dec. 31, 2002**
439 & 462	Brohm Mining Corp.	0.00	0.95
450	Golden Reward Mining Co., L.P.	0.00	7.23
332 & 456	Homestake Mining Company	0.00	0.00
445	LAC Minerals (USA), LLC	0.00	31.00
416	Naneco Minerals, Inc. (formerly Minerva Explorations)	0.00	0.00
356, 434, 435, & 464	Wharf Resources (USA), Inc.	0.18	24.26
TOTALS		0.18	63.44

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 2002 - Acres under interim reclamation from January 1 to December 31, 2002. These acres are also included in "Total Interim Reclaimed Acres."

Total Interim Reclaimed Acres as of Dec. 31, 2002 - The total number of acres under interim reclamation as of December 31, 2002. Acres redisturbed or now considered as final reclamation are not included in these totals.

TABLE 1.4 – FINAL RECLAIMED ACREAGE FOR YEAR 2002			
Permit Number	**Operator**	**Final Reclaimed Acres Year 2002 that Meet Post-Mine Land Use[1]**	**Final Reclaimed Acres Year 2002 that Do Not Meet Post-Mine Land Use**
439 & 462	Brohm Mining Corp.	0.00	0.00
450	Golden Reward Mining Co., L.P.	21.49	194.91
332 & 456	Homestake Mining Company	0.00	0.00
445	LAC Minerals (USA), LLC	0.00	0.00
416	Naneco Minerals, Inc. (formerly Minerva Explorations)	0.00	0.00
356, 434, 435, & 464	Wharf Resources (USA), Inc.	53.55	48.18
TOTALS		75.04	243.09

[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 2002 That Meet Post-Mine Land Use – Affected land reclaimed prior to 2002, previously considered as not meeting the post-mine land use, that met the post-mine land use in 2002. 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 2002 That Do Not Meet Post-Mine Land Use - Affected land reclaimed between January 1 and December 31, 2002, 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, 2002			
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	17.50
450	Golden Reward Mining Co., L.P.	133.50	239.95
332 & 456	Homestake Mining Company	339.38	56.15
445	LAC Minerals (USA), LLC	196.00	21.80
416	Naneco Minerals, Inc. (formerly Minerva Explorations)	0.00	0.00
356, 434, 435, & 464	Wharf Resources (USA), Inc.	169.50	114.11
TOTALS		838.38	449.51

[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, 2002, 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, 2002, 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, 2002			
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.	3.00	11.20
450	Golden Reward Mining Co., L.P.	343.86	373.45
332 & 456	Homestake Mining Company	387.56	395.53
445	LAC Minerals (USA), LLC	157.70	217.80
416	Naneco Minerals, Inc. (formerly Minerva Explorations)	0.00	0.00
356, 434, 435, & 464	Wharf Resources (USA), Inc.	273.88	283.61
TOTALS		1166.00	1281.59

Definitions:

Surface Mined Acres Reclaimed - Total amount of surface mining disturbed acres under final reclamation as of December 31, 2002. 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, 2002, 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, 2002				
Permit Number	**Operator**	**Tons of Ore Mined Year 2002**	**Tons of Ore Processed Year 2002**	**Tons of Waste Rock and Overburden Mined Year 2002**
439 & 462	Brohm Mining Corp.	0.00	0.00	0.00
450	Golden Reward Mining Co., L.P.	0.00	0.00	0.00
332 & 456	Homestake Mining Company (Open Cut)	0.00	0.00	0.00
445	LAC Minerals (USA), LLC	0.00	0.00	0.00
416	Naneco Minerals, Inc. (formerly Minerva Explorations)	0.00	0.00	0.00
356, 434, 435, & 462	Wharf Resources (USA), Inc.	4,210,000.00	4,250,000.00	12,320,000.00
SUBTOTAL		4,210,000.00	4,250,000.00	12,320,000.00
N.A.	Homestake Underground	0.00	11,162.00	0.00
TOTALS		4,210,000.00	4,261,162.00	12,320,000.00

TABLE 1.8 – GOLD AND SILVER PRODUCTION January 1 to December 31, 2002			
Permit Number	**Operator**	**Ounces of Gold Produced Year 2002**	**Ounces of Silver Produced Year 2002**
439 & 462	Brohm Mining Corp.	0	0
450	Golden Reward Mining Co., L.P.	50	0
332 & 456	Homestake Mining Company[1]	0	0
445	LAC Minerals (USA), LLC	0	0
416	Naneco Minerals, Inc. (formerly Minerva Explorations)	0	0
356, 434, 435, & 462	Wharf Resources (USA), Inc.	82,127	51,366
SUBTOTAL		82,177	51,366
N.A.	Homestake Underground	36,334	7,649
TOTALS		118,511	59,015
ESTIMATED VALUE[2]		$36,706,412	$270,879

[1]All gold production was from Homestake's underground operation. Ore production from the Open Cut ceased in 2002.
[2]Based on 2002 average gold price of $309.73 and 2002 average silver price of $4.59.

TABLE 1.9 – WATER AND CYANIDE USE January 1 to December 31, 2002				
Permit Number	**Operator**	**Gallons Ground Water Withdrawn Year 2002**	**Gallons Surface Water Withdrawn Year 2002**	**Pounds of Cyanide Used Year 2002**
439 & 462	Brohm Mining Corp.	0.00	0.00	0.00
450	Golden Reward Mining Co., L.P.	25,349,800.00[2]	0.00	0.00
332 & 456	Homestake Mining Company[1]	0.00	0.00	0.00
445	LAC Minerals (USA), LLC	202,090.00	0.00	0.00
416	Naneco Minerals, Inc. (formerly Minerva Explorations)	0.00	0.00	0.00
356, 434, 435, & 462	Wharf Resources (USA), Inc.	43,253,400.00	44,645,000.00	789,422.00
TOTALS		68,805,290.00	44,645,000.00	789,422.00

[1] Water use by Homestake's underground mine is not included in this table.
[2] 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.	$5,384,396[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	Naneco Minerals, Inc. (formerly Minerva Explorations)	$661,800[5]	$0	$0
356, 434, 435, & 464	Wharf Resources (USA), Inc.	$12,231,350[4]	$592,565[6]	$395,500

[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 2002.

[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 2003. Interest from the bond is compounded and applied to the bond. The bond amount shown is current as of November 8, 2002.

[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 2003.

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

[6] Wharf submitted a $550,000 postclosure bond which is not part of the reclamation bond. The postclosure bond will be recalculated in 2003.

OPERATIONAL PLANS FOR 2003

Brohm Mining Corp.

EPA plans to complete reclamation of the 65-acre Ruby Gulch Waste Rock Depository in 2003. A 2.5-foot soil cover layer and a six-inch layer of topsoil will be placed over the geomembrane liner and the 18-inch drain layer that were installed in 2002. After the topsoil is placed, the entire waste rock depository will be seeded with a mix of grasses and forbs. Seeding is scheduled to be completed by June 2003.

EPA also plans to resume water treatment at the Gilt Edge Mine. The plant was shut down in August 2002 in order to convert it to a lime based treatment system. The new plant will cost less to operate and will more reliably achieve water quality goals. The capacity of the plant is also being increased from 200 gpm to 250 gpm to ensure that the pits are dewatered to meet pit backfill schedules. The conversion of the water treatment plant is scheduled to be completed by June 2003.

Golden Reward Mining Company, L.P.

Golden Reward will complete reclamation activities at the mine site. About five acres that were graded but not seeded at the end of 2002 will be seeded. Trees and shrubs will also be planted. Environmental maintenance and monitoring of the reclaimed site will continue in 2003. 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. The foundations in the mill area will be removed and the mill area will be reshaped and revegetated. Plans are to reclaim the mill site for public use. Some of the things being considered for the mill site area include a walking tour of historic mining equipment from the mine, a natural amphitheater, and restoring Gold Run Creek. Other reclamation activities will continue for several years.

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

LAC Minerals will continue monitoring and active water treatment at the Richmond Hill Mine. Sludge from the pregnant pond will be removed to a sludge disposal area. Some touch-up reclamation in the former office area and fuel farm is planned. Performance monitoring of the pit impoundment and leach pad area will continue.

Naneco Minerals, Inc.

Naneco Minerals has no activities planned for the Johnson Gulch area in 2003 under Large Scale Mine Permit No. 416.

Wharf Resources (USA), Inc.

Wharf Resources plans to continue mining in the Trojan Pit. Barren rock from the Trojan Pit will be used to backfill the Foley and Portland Pits. Spent ore will also be placed in the 33 Vertical and Foley Pits.

Reclamation activities in 2003 will consist of reclaiming the remaining portion of the Trojan Waste Rock Facility and portions of the Portland Pit.

Photo 1.7 – Reclaimed Tree Island Waste Rock Facility at Wharf.

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

2002

Photo 2.1 – Dakota Granite's quarry east of Milbank. Cold Spring Granite's quarry can be seen in the background.

SUMMARY OF ALL MINE PERMITS

In accordance with SDCL 45-6B-86, the Department of Environment and Natural Resources has compiled information regarding the number of acres of surface mining disturbed land and the amount of such land that has undergone reclamation as defined in Chapter 45-6B and in section 45-6B-83.1 for the period January 1 to December 31, 2002. This does not include acreages for mining operations regulated under SDCL Chapter 45-6 (474 active licensed mine operators, 1,931 active licensed sites), mineral exploration regulated under SDCL Chapter 45-6C (10 operators, 47 permits, excluding oil and gas), or uranium exploration regulated under SDCL Chapter 45-6D (no current operators or permits.) Sources for these statistics are permit applications, operating and reclamation plans, annual reports, department inspections, and operator information.

New Permits

Two companies submitted mine permit applications in 2002. In October 2002, Pacer Corporation submitted a large scale mine permit to construct a new mica milling facility at its Brite-X Mine north of Custer and to amend the mining and reclamation plan for the mine. The mine is currently operated under Large Scale Mine Permit No. 311. In April 2003, Pacer decided to withdraw the mine permit application and evaluate other locations for the mill.

Cold Spring Granite submitted a small scale mine permit application for its granite quarry operation east of Milbank. Cold Spring is planning to construct a culvert to divert an intermittent stream around one of its quarries and a quarry operated by Dakota Granite. The diversion will allow both companies to expand the quarries. The department will make its recommendation on the permit application in April 2003.

Photo 2.3 – Location of Cold Spring diversion

Permit Amendments

One company submitted a permit amendment in 2002. 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 will make its recommendation on the permit amendment application sometime in spring 2003.

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	732	2,970	3,278	6,980
Total Affected Acres	47	1,635	2,442	4,124
Surface Mining Disturbed Lands Acres	42	1,350	1,956	3,348

[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	12	975	1,282	2,269
Reclaimed Surface Mining Disturbed Acres	11	879	1,166	2,056
Releasable Reclaimed Acres	4	211	838	1,053
Released Reclaimed Acres in 2002	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 2002. 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

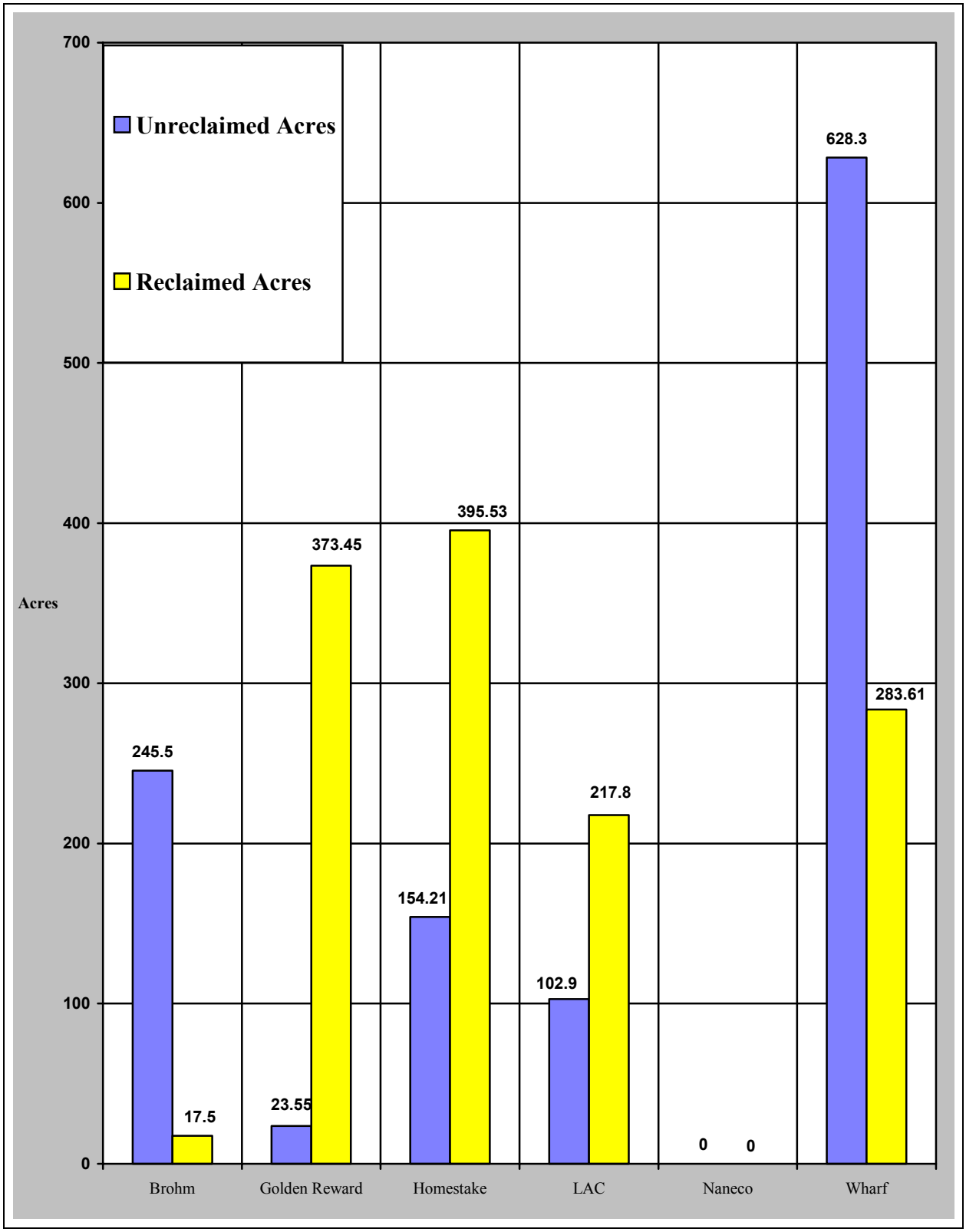

Figure 1A – Unreclaimed vs. Reclaimed Acreage at Large Scale Surface Gold Mines as of December 31, 2002.

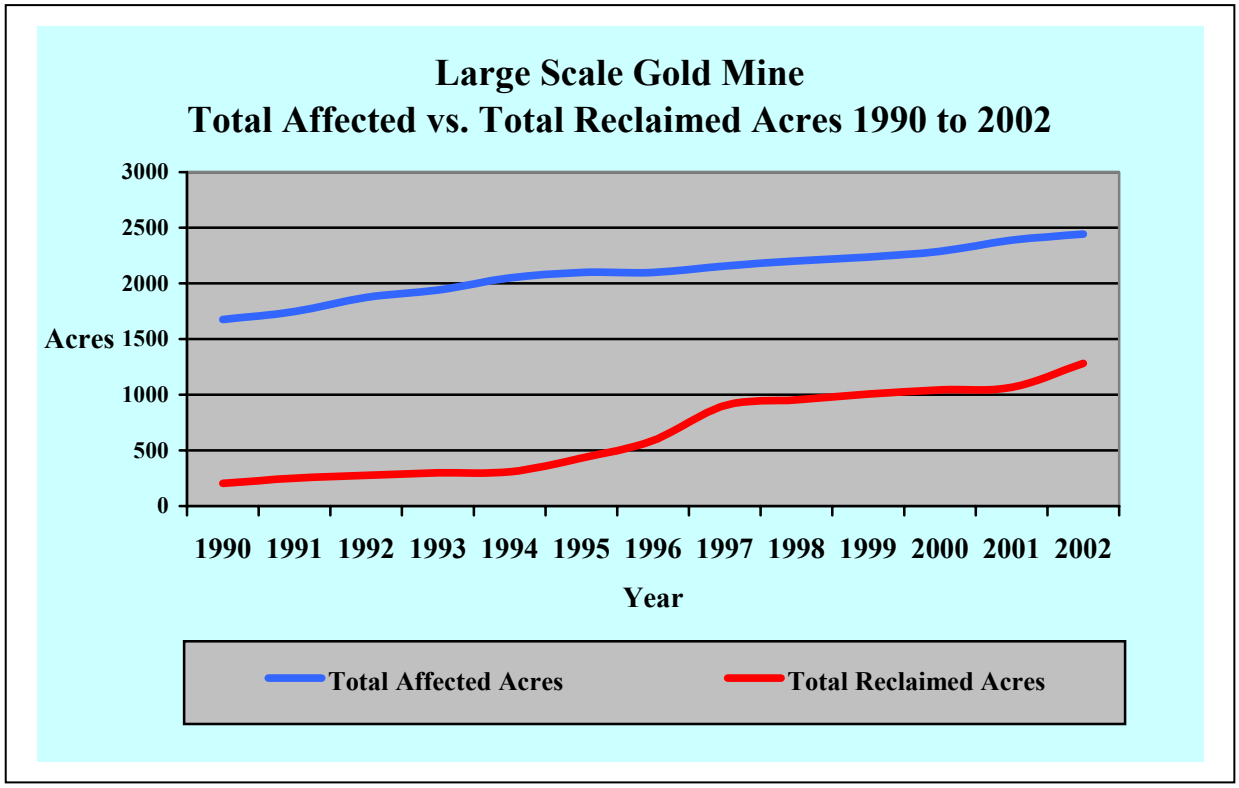

Figure 2A – Total Affected vs. Total Reclaimed Acreage at Large Scale Surface Gold Mines from 1990 to 2002.

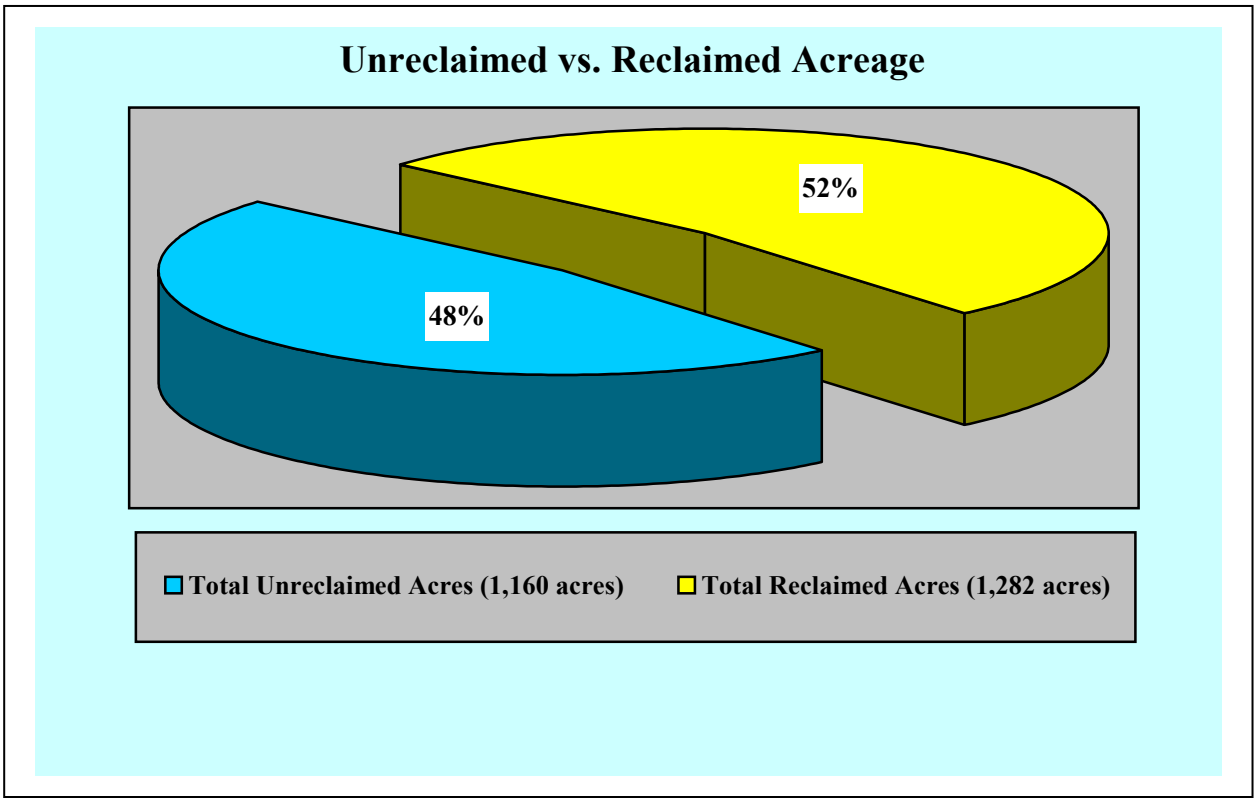

Figure 3A – Comparison of Unreclaimed vs. Reclaimed Acreage at Large Scale Surface Gold Mines in 2002.