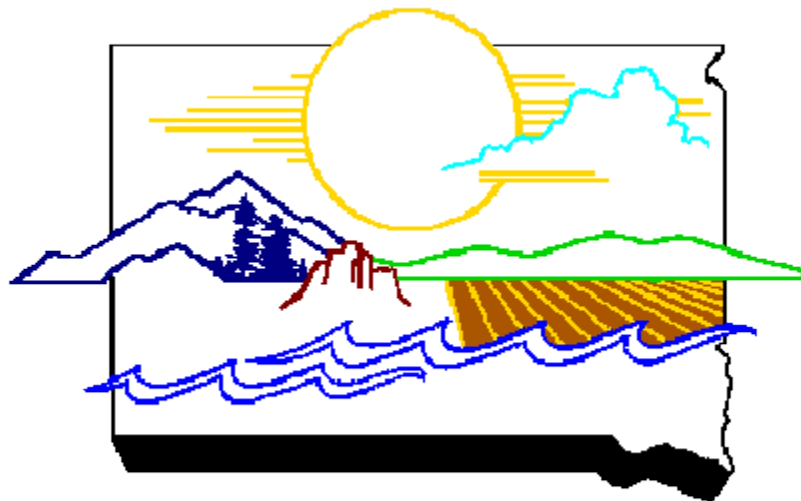


**SUMMARY OF
THE MINING INDUSTRY IN SOUTH DAKOTA**

2011



Protecting South Dakota's Tomorrow ... Today

**PREPARED BY
THE MINERALS AND MINING PROGRAM
SD DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
MAY 2012**

<http://denr.sd.gov>

Summary of the Mining Industry in South Dakota - 2011
May 2012

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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, 2011. The information in this report is based on annual reports and other information submitted by mining operations permitted under Chapter 45-6B.

2011 Summary

At the end of 2011, there were a total of 47 mine permits that covered mining of minerals in the state including gold, bentonite, dimension stone, slate, and mica schist. Heap leach gold mining led all permitted mines in production with 3.38 million tons of ore mined, followed by dimension stone (191,233 tons), bentonite (114,888 tons), mica schist (20,300 tons), agricultural lime (4,192 tons), and slate (2,801 tons). Other minerals produced in lesser amounts include limestone and placer gold ore. Even though gold production decreased in 2011, gold value increased due to higher gold prices. Wharf Resources was the only company to report gold production in 2011, with 67,147 ounces produced, a decrease from the 73,325 ounces reported in 2010. The average price of gold in 2011 was \$1,572/ounce, yielding a gross value of about \$105.5 million.

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

\S/

Steven M. Pirner
Secretary

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

2011



Photo 1.1 – Reclaimed Reliance Waste Rock Facility at the Wharf Mine.

MAJOR 2011 GOLD MINING EVENTS

There are currently 11 mine permits that cover six large scale gold mining operations in South Dakota. Wharf Resources, the only gold mine still actively mining in South Dakota, holds five of the permits. The other permits are held by Bald Mountain Mining, Homestake Mining, LAC Minerals, and Brohm Mining. Wharf Resources reported 67,147 ounces of gold production in 2011. With the exception of Wharf and Bald Mountain Mining, the other mines are in varying stages of reclamation and closure, with about 504 acres of Homestake's reclaimed area being released from reclamation liability and placed into postclosure since 2006. Also, about 405 reclaimed acres at the Golden Reward Mine have been released and placed into postclosure status since 2009.

Board Issues Mine Permit for Wharf Expansion Project

As the first step in the process for obtaining a mine permit for its expansion project, Wharf Resources submitted in September 2010 a Request for Determination of Special, Exceptional, Critical, or Unique Lands. On January 13, 2011, the department determined the Terry Cemetery mentioned in Wharf's Request for Determination is eligible for inclusion on the Preliminary List of Special, Exceptional, Critical, or Unique Lands. In addition, petitions to nominate the cemetery to the preliminary list were submitted by Jeannine Guern, Vernon Davis, and Larry Miller. On March 17, 2011, the Board of Minerals and Environment held a hearing to consider the petitions. It also determined the cemetery should be placed on the preliminary list.

On February 18, 2011, Wharf Resources submitted a large scale mine permit application for its expansion project near Lead. The proposed mine expansion project will involve open pit mining and disposal of overburden primarily to the south of the existing Wharf Mine and to the west of the Golden Reward Mine. A portion of the reclaimed Golden Reward Mine will be redisturbed during the project. Ore extracted from the expansion area will be hauled to the existing heap leach facility at the Wharf Mine for processing. As new mine areas are developed, waste rock and overburden will be used to backfill previously mined areas. A portion of State Highway 473 will be relocated during the project.

Wharf Resources plans to disturb approximately 308 acres within the 528-acre expansion area, and total production is estimated to be about 175 million tons of ore and overburden. The proposed expansion will extend the total life of the mine from 2012 to 2020. The proposed future land use is a mixture of rangeland (woodland grazing), home sites, recreation, and industrial or commercial development which will include enhancements to the Terry Peak ski area.

From November 16 through 18, the Board of Minerals and Environment held a hearing on the mine permit application. After hearing testimony from Wharf and its consultants, the department, and interveners Gary Heckenlaible and Bonnie Gestring, the board unanimously approved the mine permit application. On January 19, 2012, after the board accepted the \$32.8 million reclamation bond and the \$30.8 million postclosure bond, Large Scale Mine Permit No. 476 was issued to Wharf Resources.



Photo 1.2 – Proposed Green Mountain Mine area.



Photo 1.3 – Proposed Liberty Layback Mine area.

Additional Reclaimed Acres Released at Golden Reward

In June 2011, the department inspected the reclaimed but unreleased acres at Golden Reward. During the inspection, the department determined an average live vegetative cover of 40 percent had been established on the 1.84 acre former Surge Pond that was diverse and self-sustaining with no noxious weed infestations. As a result, on December 17, 2011, the 1.84 acre former Surge Pond was released and placed into postclosure status. This increased the total amount of reclaimed acres released for large scale gold mines to 909.89 acres.

Gilt Edge Update

In 2011, EPA continued acid water treatment at the Gilt Edge Superfund site located four and one-half miles southeast of Lead. A total of 125.4 million gallons were treated and discharged in 2011, and water treatment will continue in 2012. At the end of 2011, acid water and sludge volumes at the mine were reduced to 33.1 million gallons. EPA also completed repairs on storm water diversion ditches along the capped Ruby Waste Rock Depository to prevent storm water from entering the depository and creating additional acid drainage. In December, EPA submitted the intermediate (65 percent) design for Operational Unit 1 (OU1) which covers reclamation of the site except for the reclaimed Ruby Depository.

Mitigation Update at Richmond Hill Mine

Reclamation activities at the Richmond Hill Mine, located four miles northwest of Lead, continue to be successful. This was an open pit heap leach gold mine that developed an acid-mine drainage problem during operations in the early 1990's. Most of the reclamation was completed by the mine operator, LAC Minerals (USA), LLC, in the mid-1990's. The pit impoundment, backfilled with acid-generating rock and covered with a low permeability capping system, continues to perform as designed. The capped leach pads also continue to perform well. Monitoring data shows the capping systems are effective in reducing water infiltration into the spent ore.

Ground and surface water quality around the mine site is closely monitored. With a few minor exceptions, monitoring continues to show stable or improving water quality in all of the reclaimed areas. Biological assessments of Cleopatra Creek below the mine show that the stream remains healthy and supports a viable cold water fishery.

Development of Homestake Mine as Site for Deep Underground Laboratory Continues

In July 2007, the National Science Foundation selected the Homestake underground mine in Lead as the site for a deep underground science and engineering laboratory. Work continued in 2011 to develop an interim lab at the 4850 level of the mine. Construction of a research facility is nearing completion, and scientists hope to begin moving in underground physics experiments in spring 2012.

Technical Revisions Approved by the Department in 2011

March 29	Wharf Resources – Use the Juno Pond for storage and batch treatment of nitrate water.
April 18	LAC Minerals – Modify and reline the Pregnant Pond.
April 21	LAC Minerals – Reline the Barren Pond and convert it into a sludge disposal pond.
August 11	Wharf Resources – Improve the off-load facilities and bulk chemical storage areas at the Process Plant.
October 11	Wharf Resources – Construct a water treatment plant in the Process Area for treatment of drain down solution from the heap leach pads.

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, total reclaimed, and released acreage are in Appendix 1. The bar chart on page A-2 compares affected acreage, reclaimed acreage, and released acreage for each company. The graph on page A-2 shows the trend of total affected acres, total reclaimed acres, and released acres for the large scale gold industry from 1990 to 2011. The pie chart on page A-3 shows total reclaimed acres, total unreclaimed acres, and released acres for the large scale gold mine industry in 2011.



Photo 1.4 – Reclaimed portion of Gold Run Creek at Homestake’s former East Sand Plant area.

TABLE 1.1 – AFFECTED MINED LAND ACREAGE

Permit Number	Operator	Original Permitted Affected Acres	Released Acres	Current Permitted Affected Acres	Acres Affected Year 2011	Total Acres Affected as of Dec. 31, 2011
416	Bald Mountain Mining	122.00	0.00	122.00	0.00	0.00
439 & 462	Brohm Mining Corp.	564.00	0.00	564.00	0.00	263.00
332 & 456	Homestake Mining Company	679.95	504.58	175.37	0.00	137.16
445	LAC Minerals (USA), LLC	439.10	0.00	439.10	0.00	337.37
356, 434, 435, 450* & 464	Wharf Resources (USA), Inc.	1532.38	405.31	1127.07	7.44	1039.74
TOTALS		3337.43	909.89	2427.54	7.44	1777.27

*Permit No. 450 was transferred from Golden Reward to Wharf Resources on November 18, 2010.

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. Released acres are not included.

Released Acres - Final reclaimed acres meeting the post-mine land use that have been released by the Board of Minerals and Environment. These acres are no longer considered permitted affected acres. As a result, the current permitted affected acreage is 3.13 acres for Wharf's Golden Reward Mine and 175.37 acres for Homestake.

Acres Affected Year 2011 - Previously unaffected acres disturbed from January 1 to December 31, 2011. This acreage is also included in "Total Acres Affected as of Dec. 31, 2011."

Total Acres Affected as of Dec. 31, 2011 - All land currently affected by the large scale gold and silver operations under permit as of December 31, 2011. This includes all lands described above in "Permitted Affected Acres." Released acres are not included.

TABLE 1.2 – SURFACE MINING DISTURBED LAND ACREAGE			
Permit Number	Operator	Surface Mining Disturbed Acres Year 2011	Total Surface Mining Disturbed Acres as of Dec. 31, 2011
416	Bald Mountain Mining	0.00	0.00
439 & 462	Brohm Mining Corp.	0.00	202.10
332 & 456	Homestake Mining Company	0.00	108.39
445	LAC Minerals (USA), LLC	0.00	202.02
356, 434, 435, 450 & 464	Wharf Resources (USA), Inc.	7.44	984.30
TOTALS		7.44	1496.81

Definitions:

Surface Mining Disturbed Acres Year 2011 - Previously unaffected surface mining land disturbed from January 1 to December 31, 2011. This acreage is also included in "Total Surface Mining Disturbed Acres as of Dec. 31, 2011."

Total Surface Mining Disturbed Acres as of Dec. 31, 2011 - 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. Released acres are not included.

TABLE 1.3 – INTERIM RECLAIMED ACREAGE			
Permit Number	Operator	Interim Reclaimed Acres Year 2011	Total Interim Reclaimed Acres as of Dec. 31, 2011
416	Bald Mountain Mining	0.00	0.00
439 & 462	Brohm Mining Corp.	0.00	0.95
332 & 456	Homestake Mining Company	0.00	0.00
445	LAC Minerals (USA), LLC	0.00	14.43
356, 434, 435, 450 & 464	Wharf Resources (USA), Inc.	0.00	32.65
TOTALS		0.00	48.03

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 2011 - Acres under interim reclamation from January 1 to December 31, 2011. These acres are also included in "Total Interim Reclaimed Acres."

Total Interim Reclaimed Acres as of Dec. 31, 2011 - The total number of acres under interim reclamation as of December 31, 2011. Acres redisturbed or now considered as final reclamation are not included in these totals.

TABLE 1.4 – FINAL RECLAIMED ACREAGE FOR YEAR 2011			
Permit Number	Operator	Final Reclaimed Acres Year 2011 that Meet Post-Mine Land Use	Final Reclaimed Acres Year 2011 that Do Not Meet Post-Mine Land Use
416	Bald Mountain Mining	0.00	0.00
439 & 462	Brohm Mining Corp.	0.00	0.00
332 & 456	Homestake Mining Company	0.00	0.00
445	LAC Minerals (USA), LLC	0.00	0.00
356, 434, 435, 450 & 464	Wharf Resources (USA), Inc.	0.00	2.67
TOTALS		0.00	2.67

Definitions:

Final Reclaimed Acres Year 2011 That Meet Post-Mine Land Use – Affected land reclaimed prior to 2011, previously considered as not meeting the post-mine land use, that met the post-mine land use in 2011. These acres meet the requirements of the reclamation plan, SDCL 45-6B, and ARSD 74:29, and can be considered for bond release. Released acres are not included.

Final Reclaimed Acres Year 2011 That Do Not Meet Post-Mine Land Use - Affected land reclaimed between January 1 and December 31, 2011, 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 AND RELEASED ACREAGE**As of December 31, 2011**

Permit Number	Operator	Final Reclaimed Acres that Meet Post-Mine Land Use¹	Final Reclaimed Acres that Do Not Meet Post-Mine Land Use	Final Reclaimed Acres that Have Been Released
416	Bald Mountain Mining	0.00	0.00	0.00
439 & 462	Brohm Mining Corp.	0.00	79.50	0.00
332 & 456	Homestake Mining Company	8.24	127.65	504.58
445	LAC Minerals (USA), LLC	261.95	0.00	0.00
356, 434, 435, 450 & 464	Wharf Resources (USA), Inc.	239.41	155.34	405.31
TOTALS		509.60	362.49	909.89

¹The 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, 2011, 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. Released acres are not included.

Final Reclaimed Acres That Do Not Meet Post-Mine Land Use - Affected land reclaimed as of December 31, 2011, 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.

Final Reclaimed Acres that Have Been Released – Final reclaimed acres that meet the post-mine land use and have been released by the Board of Minerals and Environment. These acres are now under postclosure status.

**TABLE 1.6 – SURFACE MINED RECLAMATION ACREAGE AND
RECLAMATION CREDITS
As of December 31, 2011**

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)
416	Bald Mountain Mining	0.00	0.00
439 & 462	Brohm Mining Corp.	65.00	73.20
332 & 456	Homestake Mining Company	107.12	640.47
445	LAC Minerals (USA), LLC	171.63	261.95
356, 434, 435, 450 & 464	Wharf Resources (USA), Inc.	392.04	800.06
TOTALS		735.79	1775.68

Definitions:

Surface Mined Acres Reclaimed - Total amount of surface mining disturbed acres under final reclamation as of December 31, 2011. 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. Released acres are not included.

Total Affected Acres Reclaimed That Apply as Reclamation Credit per 1992 Mining Initiative - Affected land under final reclamation as of December 31, 2011, 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. Released acres are included.

TABLE 1.7 - ORE AND WASTE ROCK PRODUCTION
January 1 to December 31, 2011

Permit Number	Operator	Tons of Ore Mined Year 2011	Tons of Ore Processed Year 2011	Tons of Waste Rock and Overburden Mined Year 2011
416	Bald Mountain Mining	0	0	0
439 & 462	Brohm Mining Corp.	0	0	0
332 & 456	Homestake Mining Company (Open Cut)	0	0	0
445	LAC Minerals (USA), LLC	0	0	0
356, 434, 435, 450 & 464	Wharf Resources (USA), Inc.	3,383,000	3,186,000	9,153,376
TOTALS		3,383,000	3,186,000	9,153,376

TABLE 1.8 – GOLD AND SILVER PRODUCTION
January 1 to December 31, 2011

Permit Number	Operator	Ounces of Gold Produced Year 2011	Ounces of Silver Produced Year 2011
416	Bald Mountain Mining	0	0
439 & 462	Brohm Mining Corp.	0	0
332 & 456	Homestake Mining Company	0	0
445	LAC Minerals (USA), LLC	0	0
356, 434, 435, 450 & 464	Wharf Resources (USA), Inc.	67,147	192,941
TOTALS		67,147	192,941
ESTIMATED VALUE¹		\$105,522,853	\$6,776,088

¹Based on 2011 average gold price of \$1,571.52/oz and 2011 average silver price of \$35.12/oz.

TABLE 1.9 – WATER AND CYANIDE USE
January 1 to December 31, 2011

Permit Number	Operator	Gallons Ground Water Withdrawn Year 2011	Gallons Surface Water Withdrawn Year 2011	Pounds of Cyanide Used Year 2011
416	Bald Mountain Mining	0	0	0
439 & 462	Brohm Mining Corp.	0	0	0
332 & 456	Homestake Mining Company	0	0	0
445	LAC Minerals (USA), LLC	587,365	0	0
356, 434, 435, 450 & 464	Wharf Resources (USA), Inc.	91,198,570	93,841,000	842,514
TOTALS		91,785,935	93,841,000	842,514

TABLE 1.10 – BOND AMOUNTS FOR LARGE SCALE GOLD MINES As of December 31, 2011				
Permit Number	Operator	Reclamation Bond	Postclosure Bond¹	Cyanide Spill Bond²
416	Bald Mountain Mining	\$13,362	\$0	\$0
439 & 462	Brohm Mining Corp.	\$7,599,215	\$0	\$0
332 & 456	Homestake Mining (Open Cut)	\$1,246,000	\$41,866,975	\$0
445	LAC Minerals (USA), LLC	\$10,700,000 ⁴	\$0	\$0
356, 434, 435, 450 & 464	Wharf Resources (USA), Inc.	\$15,558,622	\$9,921,577	\$551,300

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.

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 and has submitted a \$551,300 bond since the maximum amount was increased to \$1 million on July 1, 2009.

³ Because of Dakota Mining Corp’s 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, 2011.

⁴The department is in the process of reviewing reclamation and postclosure bond calculations for LAC Minerals. Any revisions to the calculations will be completed in 2012.

OPERATIONAL PLANS FOR 2012

Bald Mountain Mining

Bald Mountain Mining's permit covers a site located about five miles west of Lead in the Ragged Top area along the rim of Spearfish Canyon. The mine permit will be transferred to Valentine Mining Company in spring 2012. The new company hopes to mine the property in the next few years. As Valentine Mining is proposing an expansion of the mine area, a new mine permit will be required. As the first step in the permitting process, Valentine Mining Company will submit a Request for Determination of Special, Exceptional, Critical, or Unique Lands sometime in 2012.

Brohm Mining Corp.

EPA will continue water treatment at the Superfund site located four and one-half miles southeast of Lead in 2012. Because the Sunday and the Anchor Hill Pits will essentially be empty of acid water at the beginning of 2012, the water treatment plant will be shut down for maintenance from mid-January through mid-March. Routine operation and maintenance activities will continue through the year. The remaining reclamation activities are anticipated to begin when federal Superfund money becomes available. The department will continue review of the intermediate designs for Operational Unit 1 (OU1) which covers reclamation of the site except for the reclaimed Ruby Depository.

Homestake Mining Company (Barrick Gold Corp.)

Homestake will continue reclamation and closure activities in 2012 at its Lead Open Cut surface mine. Postclosure monitoring, maintenance, and water treatment activities will continue in the released areas.

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

LAC Minerals will continue monitoring and active water treatment at the Richmond Hill Mine located four miles northwest of Lead. The company may also submit a release of reclamation liability petition, updated reclamation plan for unreclaimed areas of the mine site, and a postclosure plan to the department sometime in 2012. The Pregnant Pond will be relined.

Wharf Resources (USA), Inc.

Wharf will continue to mine the highwalls between the American Eagle, Summit Flats, and Deep Portland Pits. Crushed ore from the mining area will be loaded onto Leach Pads 3, 4, and 5. Leach Pads 3 and 4 will be off loaded. Off loaded spent ore from the leach pads will be placed on the lined Portland Denitrification Pad and in the American Eagle Pit. Wharf will also begin phase 1 operations under its new large scale mine permit which includes the relocation of Highway 473.



Photo 1.5 – Reclaimed leach pads in background and to the right at LAC Minerals' Richmond Hill Mine.

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

2011



Photo 2.1 – Area reclaimed by Black Hills Prospecting Club in Foster Gulch.

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 for the period January 1 to December 31, 2011. This does not include acreages for mining operations regulated under SDCL Chapter 45-6 (515 licensed mine operators and 1,815 active licensed sites), mineral exploration regulated under SDCL Chapter 45-6C (12 operators and 31 permits, excluding oil and gas), or uranium exploration regulated under SDCL Chapter 45-6D (1 operator, 1 permit.) Sources for this information include permit applications, operating and reclamation plans, annual reports, department inspections, and operator information.

New Mine Permit Applications

One new mine permit application was submitted to the department in 2011. Teresa Fox submitted a small scale mine permit application for a placer gold mining operation near Iron Creek Lake southwest of Spearfish. About five acres will be affected during the six year life of the operation. Exposed placer gravels will be mined and processed with a portable trommel/slucice. Reclamation will be conducted concurrently with mining. The proposed future use of the mined area is forest grassland. A hearing on the application may be held sometime in late 2012.



Photo 2.1 – Proposed Teresa Fox placer mine area.

Permit Amendments

On December 12, 2012, the department approved Pacer Corporation's application to amend Large Scale Mine Permit No. 467. The amendment allows Pacer to add 38.63 acres of contiguous affected land inside the mine permit boundary. Most of the additional acreage will be used to expand the current mine pit to the north and west. With the expansion, Pacer will be able to mine mica schist at the site over the next 50 years.

Scenic or Unique Land Determinations

Two special, exceptional, critical, or unique lands determinations for proposed mining operations were submitted in 2011. This is the first step in the process of obtaining a state mine permit. On March 3, 2011, Teresa Fox submitted a Request for Determination for a proposed small scale placer mining operation near Iron Creek Lake southwest of Spearfish. On May 31, 2011, the department determined the proposed mine area was eligible for inclusion on the Preliminary List of Special, Exceptional, Critical, or Unique Lands since the area is within the Spearfish Canyon Watershed which was placed on the Preliminary List in 1991. As a result, the Board of Minerals and Environment will hold a hearing on Teresa Fox's mine permit application to determine whether the area is special, exceptional, critical, or unique. Teresa Fox has submitted a small scale mine permit application for the proposed mine area (see New Mine Permit Applications section).

On March 3, 2011, Robert Larson submitted a Request for Determination for a proposed small scale placer mining operation near Custer. On June 27, 2011, the department determined the proposed mine area was not eligible for inclusion on the Preliminary List of Special, Exceptional, Critical, or Unique Lands.



Photo 2.2 – Proposed Robert Larson placer mine area.

DENR Continues Review of Powertech Permit Applications for Proposed In Situ Uranium Mining Operation

Powertech (USA), Inc. is a uranium company that plans to develop an in situ leach uranium mining operation in Custer and Fall River Counties north of Edgemont, South Dakota. The company plans to use in situ leach mining techniques which involve injecting native groundwater enriched in oxygen and carbon dioxide into a uranium ore body through injection wells. The enriched water dissolves the uranium ore which is pumped to the surface through production wells. The uranium is then removed from the water and concentrated at a nearby processing plant.

In 2011, the South Dakota Legislature eliminated duplication of state and federal requirements for in situ uranium mining operations by tolling, or setting aside, the department's Class III UIC rules and in-situ leach mining rules (ARSD 74:29:11). As a result, Powertech is no longer required to obtain a Class III UIC permit from the department or address the in situ mining rules in a mine permit application.

Powertech plans to proceed with obtaining the required state permits. A ground water discharge permit application was submitted in March 2012. In addition, a large scale mine permit application and a water rights permit application will be submitted sometime in 2012.

Regarding federal permits, Powertech submitted a Class III UIC permit application to the Environmental Protection Agency (EPA) in December 2008. EPA has determined that the application is complete and continues conducting a technical review of the application.

After Powertech resubmitted its license application in August 2009, the NRC found it acceptable for technical and environmental review on October 2, 2009. The NRC conducted a technical and environmental review of the application and requested additional information from Powertech. The company submitted the additional information in June 2011, and the NRC is currently reviewing the information. The NRC anticipates a final EIS for the project will be completed sometime in 2013.

The department has developed a web page for Powertech's various permit applications which can be found at <http://denr.sd.gov/des/mm/powertechpage.aspx>. The web page has links to information from the department's permit files such as permit applications, correspondence, public notices, and inspection reports. Information on the large scale mine permit application will be made available as soon as it is submitted.

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 Permits¹	All Mine Permits
Number of Permits	17	19	11	47
Permitted Affected Acres	572	3,727	2,428	6,727
Total Affected Acres	44	1,723	1,777	3,544
Surface Mining Disturbed Lands Acres	30	1,383	1,496	2,909

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 Permits¹	All Mine Permits
Total Reclaimed Acres	25	916	872	1,813
Reclaimed Surface Mining Disturbed Acres	13	859	736	1,608
Releasable Reclaimed Acres	15	266	510	791
Released Reclaimed Acres in 2011	0	0	2	2

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 2011. 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

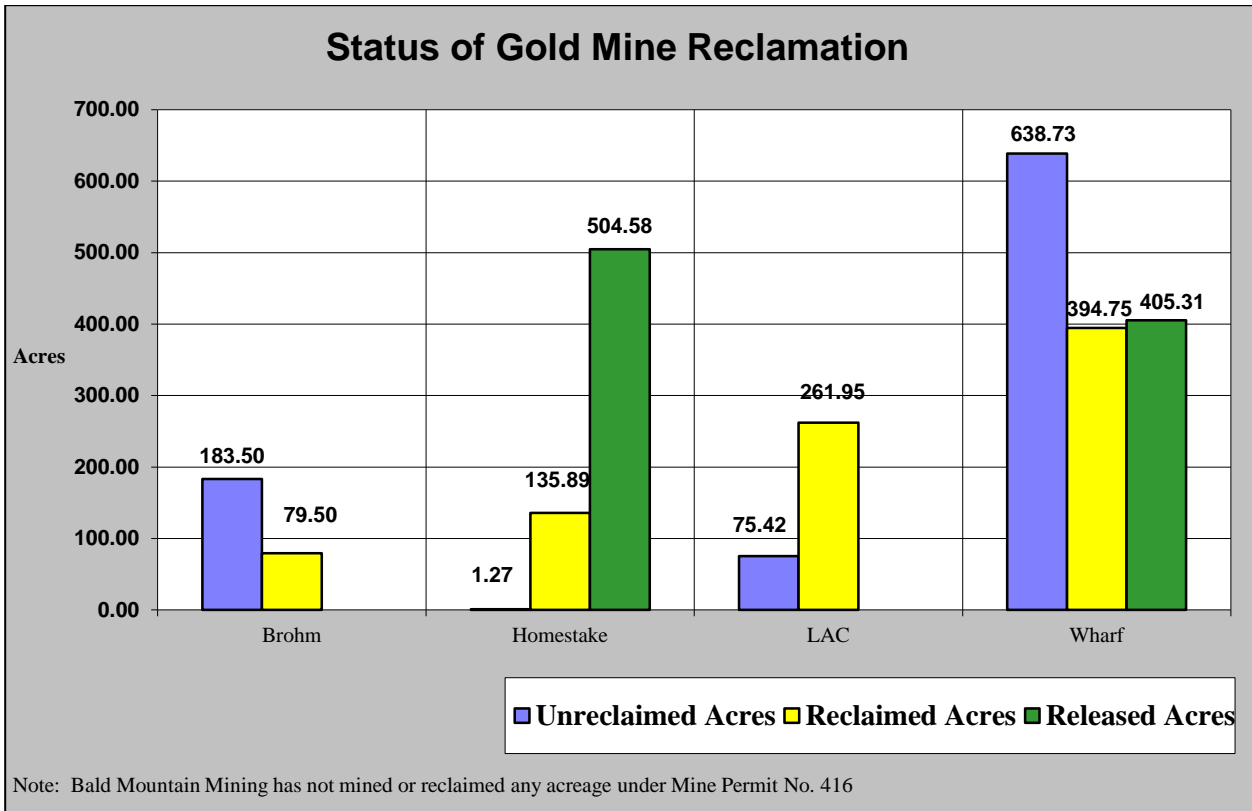


Figure 1A – Unreclaimed, Reclaimed, and Released Acres at Large Scale Surface Gold Mines as of December 31, 2011.

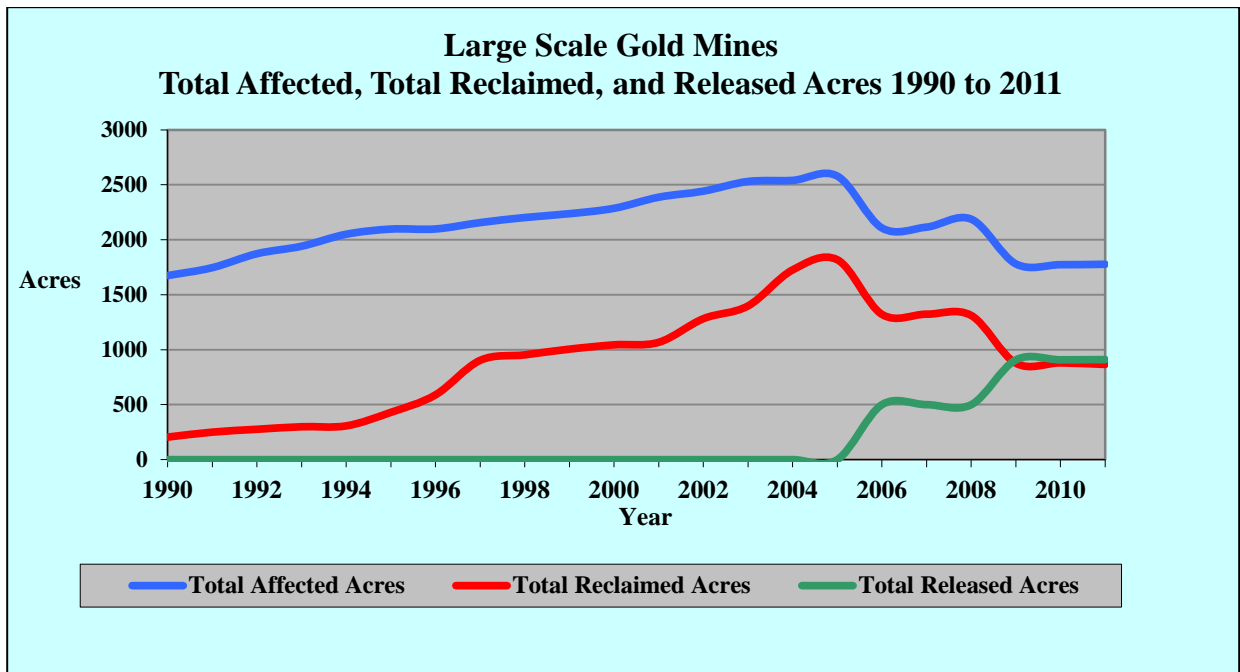


Figure 2A – Total Affected, Total Reclaimed, and Released Acreage at Large Scale Surface Gold Mines from 1990 to 2011.

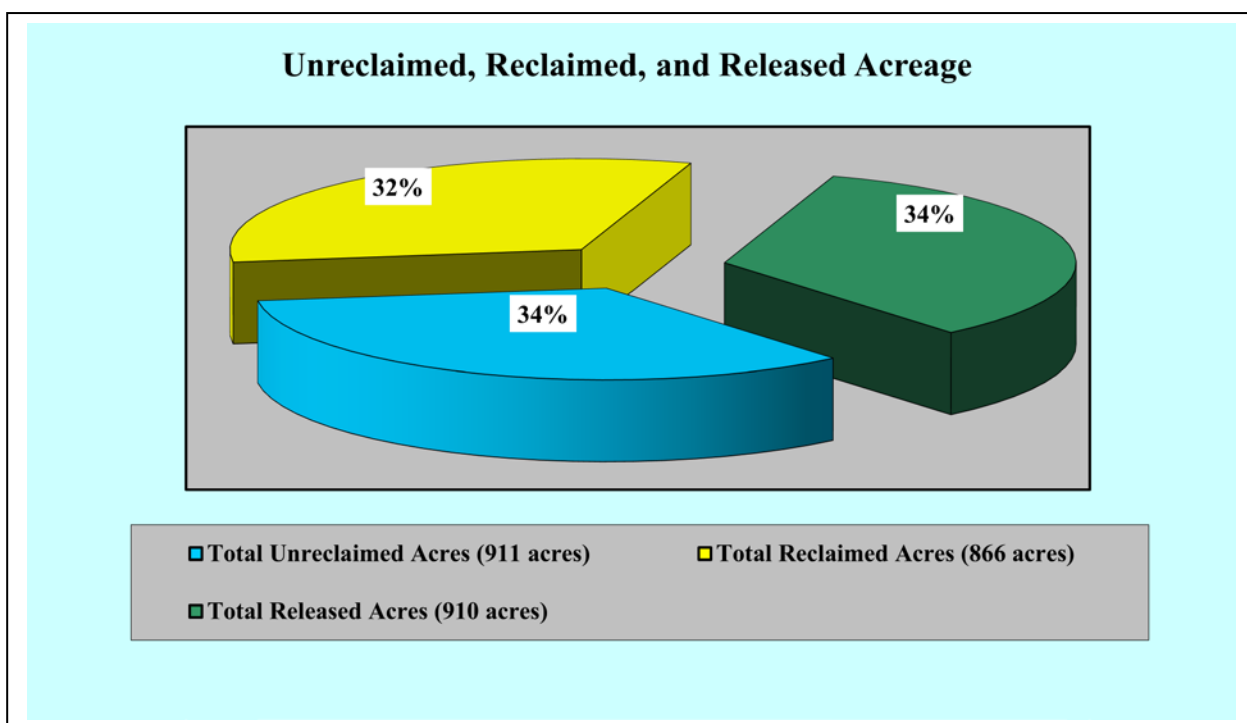


Figure 3A – Comparison of Unreclaimed, Reclaimed, and Released Acreage at Large Scale Surface Gold Mines in 2011.