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MINERALS & MINING PROGRAM

SOCIOECONOMIC ASSESSMENT

WHARF MINING CO.

Prepared in Connection with Proposed Mining Permits
for Extending the Life of the Mine.

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SECTION I INTRODUCTION

PURPOSE OF STUDY

The purpose of this study is to document the economic, fiscal and social impacts likely to be associated with a proposed state mining permit that would extend the life of the Wharf Resources (Wharf) gold mine near Lead, SD. This type of impact study is also required under Section 5.11.6 of the Lawrence County Zoning Ordinance. Both levels of government utilize this and other submittals in deliberating such applications.

The regulations specify subject matter to be addressed in socioeconomic studies, and also provide discretionary authority to tailor the contents of the assessment to concerns associated with a specific project. Topics which are generically required include demographic factors such as population impacts, economic issues like employment and income and expenditures, and a myriad of social considerations related to education, public safety and utility services as well as quality-of-life issues including health, parks and recreation. The study of these matters differ dramatically in cases where a given permit is associated with an entirely new operation in contrast with one that merely extends the life of a project.

EXTENSION OF THE LIFE OF THE MINE

In the case of Wharf, the proposed mining permit simply extends the life of a mining operation. Total levels of employment, spending for supplies and equipment, capital investment, and the utilization of subcontractor services are not projected to materially change from levels experienced over the past 10 or 15 years. Accordingly many of the inferences arrived at in this document will involve an extrapolation of economic contributions and social factors which have demonstrated to have occurred in recent years. The study also examines issues regarding adjacent land use for residential and recreational purposes. A central focus of this study is to identify these factors.

The pending permit application will involve the development of new ore reserves owned by the company and will consequently extend the life of the mine to approximately 7 years. Since there are about two years of mine life remaining under current permitting, the approval of the proposed permit would extend the life of the mine to the range of 2019 to 2020. Of course the estimate of mine life is somewhat tentative until ore testing and mine operations are finalized.

BUSINESS HISTORY

Wharf Resources mining properties consist of predominately patented mining claims in and around the Bald Mountain Mining District in Lawrence County, South Dakota. This district is located in the northern portion of the Black Hills approximately four miles west of the historic town of Lead. A portion of these claims comprise the former Golden Reward Mining operation one or two miles south and east of the original Wharf mining area.

Wharf Resources first became involved in mining within Lawrence County in 1974, more than 35 years ago. Exploration and testing of ore deposits began after that date in the area including and surrounding the present mining operation. Several years of exploration and preparation, was followed by construction of mine and milling facilities beginning in 1982 after the necessary county and state permits were obtained. Gold Recovery began in the summer of 1983 by employing a heap-leach technique. At the time this procedure was relatively new to South Dakota and much of this technology was refined and enhanced in its application by Wharf at its South Dakota mine.

Through the last 27 years improvements in heap-leach technology and the expansion of production capacities have allowed Wharf to experience substantial increases in gold recovery efficiency. Production levels have varied from a high of more than 110,000 ounces in 1998 to about 60,000 ounces during these years depending on variations in ore grade and the phases of mining operations experienced from year to year. In all, more than two million ounces of gold have been produced since the mine's commencement of operations.

As the Wharf mining operation has grown and developed, corresponding expansion of its economic benefits to the area took place. Although other gold mining operations including the large underground mining operation owned by Homestake Mining Company have ceased mining activity over the last two decades, Wharf has maintained a relatively constant pattern of business activity in terms of employment and gold production. Business spending, employment and household incomes have all been positively affected in local economies. The state and local governments have also experienced enhanced fiscal strength through additional tax receipts generated by Wharf. More detail of these impacts will be explored later in this document.

PERMITTING HISTORY

Gold mining activity is comprehensively regulated and monitored at both the county and state levels in South Dakota. The bases for this activity is related to environmental, land use and socioeconomic concerns. Lawrence County has adopted a zoning ordinance which identifies applicant requirements associated with acquiring a conditional Use Permit (CUP) for the purpose of engaging in large scale mining. The state of South Dakota, through the Department of Environment and Natural Resources, applies departmental rules and statutes in connection with acquiring the necessary permits to engage in mining activity. These rules are then enforced through on-site inspections and regular interaction with mining companies. Gold mining is also regulated by Federal agencies such as the Environmental Protection Agency and the Mine Safety and Health Administration.

Wharf Resources has applied for and received numerous state permits and conditional use permits in connection with its mine operation. Chronologically, these permits first involved what is known as the Annie Creek deposits, then the Foley Ridge area, the Annie Arm extension and next the Clinton extension.

Several amendments to both county CUPs and state permits have be applied for and received. In addition, numerous technical revision and permit amendments pursuant to mining regulations have been applied for and approved by the appropriate authorities.

Table 1 the following page provides an abbreviated chronological outline of the permitting associated with the Wharf mine.

TABLE 1
 CHRONOLOGY OF STATE AND COUNTY MINING PERMITS
 WHARF MINING OPERATION

DATE	COUNTY COND. USE PERMIT	STATE PERMIT NO.	COMMENTS
12/07/82		Annie Creek #356	Mining and milling of gold ore by open pit methods; 400,000 tons per year; \$732,000 cash reclamation bond.
12/08/82	CUP #63 (Annie Creek)		Mining and milling operations subject to conditions.
02/09/83	CUP #65 (Annie Creek)		Mining and milling operations subject to conditions.
02/09/83		Amendment to #356	Inclusion of additional mining claims.
07/20/83		Amendment to #356	Inclusion of additional mining claims.
08/10/83	CUP #70		Mining and Milling.
9/20/84		Amendment to #356	Increase ore/waste production to 800,000 per year, allow developmental drilling added acreage for or stockpiles.
12/20/84		Amendment to #356	Extend duration of Leach season from 180 to 365 days per year.
12/11/85/	CUP #99A (Foley Ridge)		Mining and related Activities, subject to conditions.
02/12/86	CUP #100B (Foley Ridge)		Mining and related Activities, subject to conditions.
03/12/86	CUP #102 (Amend - Annie Creek)		Amending Cup #63 to correct original application
03/21/86		Foley Ridge #434	Mining permit for 800,000 tons per year each waste and ore.
03/31/86		Annie Arm #435	Mining permit for 800,000 tons per year each waste and ore.
05/21/87		Amendment to #434	Increased annual ore production to 1.5 million tons per year.
09/14/87	CUP #122 (Annie Arm Ext.)		Amending CUPs #63 and #102 of Annie Arm Extension
09/88	CUP #132		All CUPs combined for administrative purposes.
11/17/88		Amendment to #356, 434,435	Mine Expansion Amendment Annie Arm Extension.
10/14/91		Amendment	Increase ore production to 3.5 million tons.

03/04/96		Amendment to #356, 434 and 435.	DOT Project (Altering State Highway 473).
04/07/98	CUP #224		Mining and related activities Clinton Extension for additional 8 years mine life.
12/06/98		Amendment to #356	Clinton Extension adding 616 acres under permit with two pits.
1/26/09		Amendment 464	American Eagle Pushback - adds 18 acres to existing permit.

* Minor County and State permits involving administrative streamlining, technical changes and water discharge permits, etc. are not listed.

COMMUNITY AND INDUSTRY INVOLVEMENT

During the 27 years of gold mining by Wharf, the company has demonstrated an awareness of social responsibility for their employees and the communities in the Black Hills region. The company has been recognized for their contributions with the business community of South Dakota and the nation. These accomplishments have come in the form of awards, donations, and general community involvement.

Many company employees are involved in civic and volunteer organizations. These employees donate their personal time to provide much needed community service as volunteers. These workers help to form the fabric that holds a community together. Wharf encourages this community involvement by their employees.

Wharf has also contributed, through their management and staff personnel, considerable time serving on chamber of commerce boards and on other volunteer boards and committees on both a state and local level

Awards

Over the years of operation, Wharf has placed high in safety awards sponsored by the National Mine Safety and Health Administration and American Mining Congress Sentinels of Safety Award. This recognition is given to mines that have demonstrated high standards for employee safety in connection with their operation. Wharf has also received the Environmental Achievement Award from the South Dakota Industry and Commerce Association.

Monetary Donations

As a company, each year Wharf Resources contributes thousands of dollars to the benefit of law enforcement, youth groups, youth education and general community organizations. Other entities which have received financial consideration include areas such as the arts and culture, community development, health and social issues. Organizations include 4-H, Boy and Girl

Scouts, Big Brothers/Big Sisters, the YMCA and South Dakota High School Rodeo among others.

Other Contributions

In 2005, Wharf Resources transferred ownership of a local water system to the Terry Valley-Trojan Water Project District. Included in this transfer was an access-easement along the water line route, approximately 3 miles of pipeline, two wells and pumps and a newly constructed booster station facility located on a deeded lot.

Over one million dollars was invested in the Terry Peak ski area to build a new ski lodge and install new snow making equipment. The improvements have continued to provide a consistent and quality skiing experience for the region. Wharf and Golden Reward (which is owned by Wharf) contributed to the local economy by improving the recreational opportunities offered in the community. The result of this investment is that winter recreation for Terry Peak has grown significantly at the same time that mining activity was visibly taking place nearby.

Other contributions that were important to the community included participation in a water study on Spearfish Creek and providing monetary and other assistance to the Homestake opera house and the mining museum in Lead.

BALANCE OF THIS STUDY

An abbreviated summary outline of the remaining sections of this report is presented below:

Section 2. Review of Current Lawrence County Economic Infrastructure.

- Personal income and trends
- Employment by sector and recent changes
- Expenditures

Section 3. Economic Aspects of Wharf Resources.

- Historical production trends
- Pattern of business purchases
- Employment and residency
- State and local government revenue

Section 4. Economic Impacts Associated with Proposed Permit Extending the Life of the Mine.

- Employment
- Income
- Expenditures
- Fiscal benefits.

Section 5. Social Impacts Associated with Proposed Permit extending the Life of the Mine.

- Public Safety - Law Enforcement - Fire Protection - Emergency Services
- Public Utilities - Water - Sewer - Solid Waste
- County Roads and Highways
- Recreation
- Schools
- Housing
- Adjacent Land Use Issues
- Residential Housing

Section 6. Summary

SECTION II CURRENT LAWRENCE COUNTY INFRASTRUCTURE

The last two decades have brought significant changes in the economy of Lawrence County. Some of these changes are unprecedented in terms of rapidity and magnitude. Some of the more salient changes are briefly summarized below.

1. In late 1989, limited gaming became legal in the City of Deadwood. This event set in motion a series of dramatic changes in the local, if not regional, economic structure. After many years of gradual decline in business activity in that city, the economy changed substantially in volume and in focus.
2. The new local business sector was oriented toward the tourism industry and was supplemented by regional gaming enthusiasts on a year around basis. The rapid expansion of the gaming industry brought about an increased demand for labor virtually over a few short months. By 1991, the number of new workers in Deadwood exceeded 1,000 and has continued to grow by at least that amount again over a more gradual span of years. For the first time in decades Lawrence County became a significant net importer of workers from other Counties. In gaming related jobs alone, more than 30 percent of the employees came from outside Lawrence County.
3. At the same time, gold extraction using surface mining technology was ramping up in employment, the number of companies and in production volume. Although limited surface mining occurred prior to 1989, it was in the 1990 decade that the industry grew to five separate mining firms. During the same span of years underground mining began contracting, but the associated reductions in underground mining was absorbed by growth in surface mining thereby maintaining relatively constant mining employment levels - at least until the later part of the decade.
4. A significant shift in retail activity to Spearfish occurred in the 1990's as retail space in Deadwood was displaced by gaming establishments that could afford the escalating rents. A lesser retail stimulus took place in Lead, but the magnitude was dampened by a 1995 mud slide that caused an abrupt slowdown in this expansion. The town of Lead was also limited in attracting modern retail development because of transportation and terrain challenges. Large flat land areas are preferred for building larger shopping centers that are accessible on a regular basis by their customer base.
5. The second half of this most recent twenty year period saw a transition into one of softening of employment numbers in the mining industry as the surface mines exhausted their ore bodies. From a total of 1,938 mining sector employees in 1993 the gradual decline in mining activity reduced employment in 2008 to 181 workers with some of this

count reflected in mining operations other than reclamation and gold extraction such as rock quarrying.

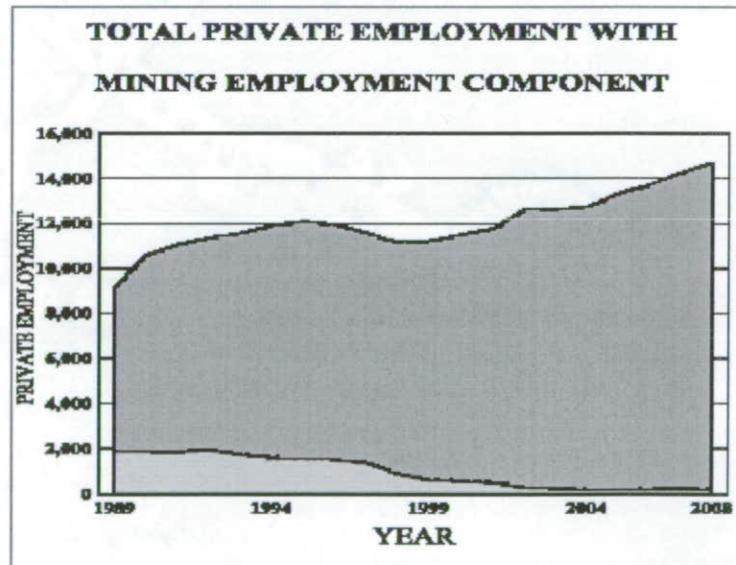
6. Despite the disappearance of most mining jobs in the 2000 decade, total private employment grew significantly, not only in the travel and entertainment industry, but also finance, real estate and information technology sectors as well as the Spearfish retail sector.

Although the Lawrence County infrastructure has many facets, this section focuses on employment, income and expenditures as measured by taxable sales.

EMPLOYMENT

The preceding narrative provides some insight concerning secular movements in employment over the past twenty years. The accompanying graph provides further illumination to the trends that have been experienced in the local economy. In 1989 mining employment accounted for about 1,900 jobs out of 9,200 total private employment or about 20 percent. However, because of the relatively high wages earned by miners, accounted for more than

GRAPH 1



44 percent of private worker earnings in the county. The graph also illustrates the period beginning in 1996 in which substantial drops in private employment occurred primarily because of the scaling back of underground mining. During the ensuing years some surface mines were scaling back as well so that by 2002, most gold mining employment was traced to Wharf Resources. Since 2002,

Source: Bureau of Economic Analysis

private employment grew in Lawrence County. Much of this growth was traced to the travel industry, but significant jobs were also added in finance, real estate and various technology service sectors. In 2008, total private employment in the county equated to 14,700 with about

181 being employed in the mining sector. Mining accounted for 3 percent of total private earnings. The following table provides sector detail regarding changes in employment experienced in Lawrence County.

TABLE 2

LAWRENCE COUNTY EMPLOYMENT TRENDS AND % CHANGE 2001 AND 2007			
	2001	2007	% CHANGE
Total employment	14,199	16,819	18%
Wage and salary employment	10,683	12,441	16%
Proprietors employment	3,516	4,378	25%
Farm proprietors employment	276	267	-3%
Nonfarm proprietors employment	3,240	4,111	27%
Farm employment	309	296	-4%
Nonfarm employment	13,890	16,523	19%
Private employment	11,980	14,484	21%
Forestry, fishing	163	150	-8%
Mining	484	227	-53%
Utilities	47	39	-17%
Construction	948	1,234	30%
Manufacturing	599	742	24%
Wholesale trade	121	137	13%
Retail trade	1,684	2,001	19%
Transportation and warehousing	245	313	28%
Finance and insurance	598	1,081	81%
Real estate and rental and leasing	540	788	46%
Prof., Admin., Mgmt, Info.	1,096	1,385	26%
Health care and social assistance	1,335	1,461	9%
Arts, entertainment, and recreation	1,522	1,488	-2%
Accommodation and food services	1,858	2,553	37%
Other services	778	885	14%
Government	1,910	2,039	7%
Federal	333	319	-4%
State and local	1,577	1,720	9%

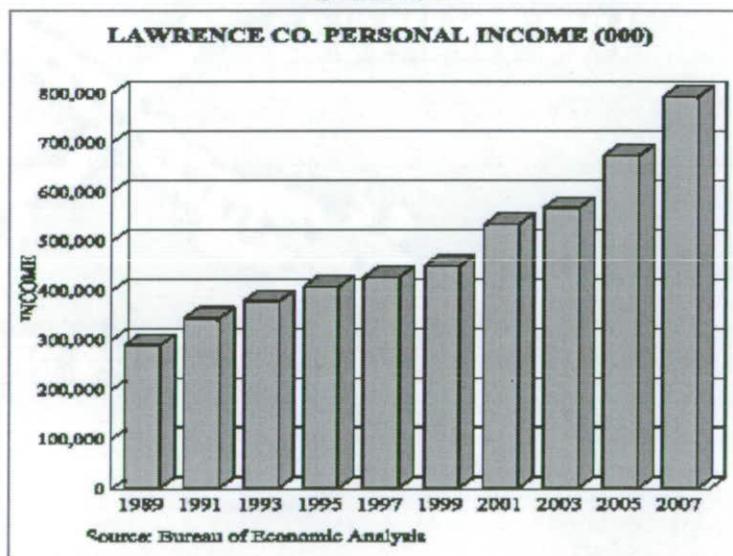
Source: Regional Economic Information System, Bureau of Economic Analysis, US Department of Commerce

As would perhaps be expected, retail workers and others working in accommodations and food services accounted for much of the absolute growth. However, the real estate, professional workers, finance and insurance sectors grew by large relative amounts. The reduction in mining employment is significant in the table since this span of years coincided with the final phasing out of Homestake.

INCOME

Income has been growing in Lawrence County over long periods of time. In 1989, total income from all sources was about \$290 million. By 2007, the last year for which data is available, it had grown to 793 million. The pattern of change appears in the following graph.

GRAPH 2



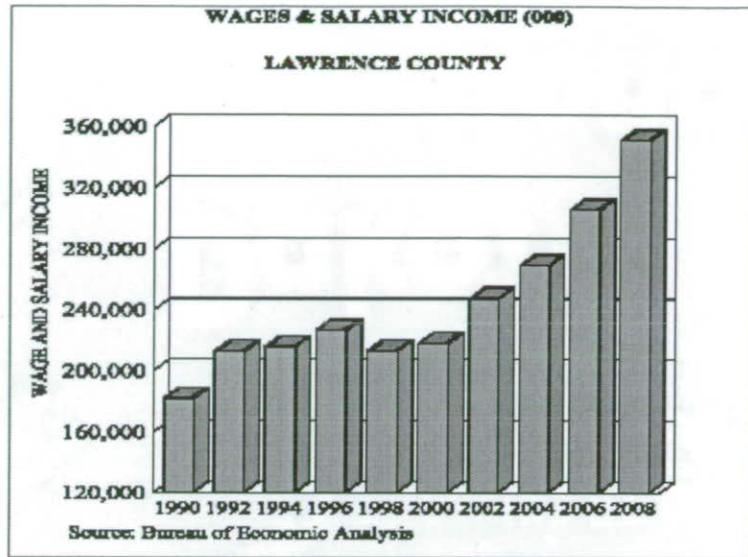
The change in income was significant subsequent to the enactment of legal gaming in 1989. A leveling off of the growth rate happened in the late 1990s because of the reduction of mining activity and the loss of relative high paying jobs. In the 2000 decade income increased again at a quite rapid rate.

The rate of growth for Lawrence County is quite comparable to that which occurred in the entire state of Wyoming. Over this span of time, statewide income grew by 277 percent while Lawrence county income grew by 274 percent.

Wage and salary income is a subset of total personal income, the latter of which also includes interest, dividends, proprietor's income, pensions and other transfer payments. The importance of the contribution of mining sector earnings is quite apparent when isolating wage and salary income from total county income. This is shown in the following graph.

Wage in salary income reached a peak at the time in 1996 and then dropped off significantly in following years due to the reduction in gold mining activity. This loss in income spilled over into other sectors as the multiplier impact in sectors supported by the mining industry took effect. Wage and salary income did not recover to 1996 levels until five years later in 2001. From 2001 to 2008 income arising from wages and salaries rose significantly each year.

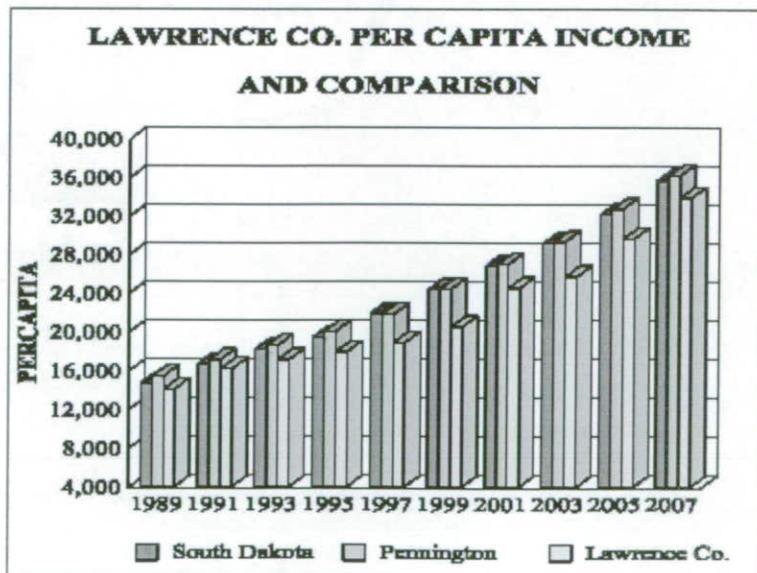
GRAPH 3



Interesting comparisons can be obtained by examining the trends in *per capita* income for Lawrence County and comparing these trends to Pennington County and the State of South Dakota as a whole. The accompanying graph provides such comparison.

Historically, per capita income in Lawrence County was approximately 95 per cent of the state average. Even though mining and its relatively high wage rates was a boost to overall per capita earnings in the county, a large component of the work force has been involved in lower paying service sectors. When mining employment dropped in the mid to late 1990s, per capita earnings in the county fell to near 80 percent of the state average.

GRAPH 4



With growth in other sectors of the economy per capita wages relative to the state have rebounded to their historic level of 95 percent of the state average.

The following table provides sector detail concerning changes in earnings during the 2000 decade. The sectors that have contributed to the improvement in earnings relative to the entire state over this decade are those whose percentages are largest in the accompanying table. They include wholesale trade, finance, insurance real estate and some service sectors.

TABLE 3

LAWRENCE CO. NONFARM EARNINGS BY INDUSTRY CLASS, (1,000)			
2001 & 2007 AND PERCENT CHANGE			
	2001	2007	% Change
Non Farm Earnings	347,545	501,226	44.2%
Private Earnings	286,362	416,577	45.5%
Forestry, Fishing	3,400	3,834	12.8%
Mining	25,872	13,992	-45.9%
Utilities	2,784	3,174	14.0%
Construction	21,670	33,757	55.8%
Manufacturing	47,033	49,404	5.0%
Wholesale Trade	2,741	5,919	115.9%
Retail Trade	29,348	46,830	59.6%
Transportation, Warehousing	5,788	9,958	72.0%
Information	2,632	7,089	169.3%
Finance and Insurance	13,851	32,566	135.1%
Real Estate	2,679	6,766	152.6%
Professional, Admin., Management	10,294	19,376	88.2%
Educational Services	2,085	629	-69.8%
Health Care and Social Assistance	37,758	62,710	66.1%
Arts, Entertainment, and Recreation	38,173	50,517	32.3%
Accommodation and Food Services	22,828	46,840	105.2%
Other Services	11,645	14,597	25.3%
Repair and Maintenance	5,596	6,252	11.7%
Government	61,183	84,649	38.4%
Federal	13,148	18,283	39.1%
State and Local	48,035	66,366	38.2%

The reader can compare this table with Table 1 to gain inferences regarding the change in employment levels with changes in sector income. The greater the variation in these percentages, the greater is the change in per capita income.

AVERAGE WAGE PER JOB

The most significant factor that separates mining employment from other from other jobs in the Lawrence County economy is that the wage per mining job is substantially higher than that found in all other business sectors. This is illustrated in data appearing in Table 4.

TABLE 4

AVERAGE WAGE PER WORKER RANKED BY SELECTED SECTORS, 2008	
Economic Sector	Annual Wage
Mining	\$45,887
Management	34,612
Manufacturing	32,943
Professional and Technical	31,254
Forestry-Agriculture	31,027
Wholesale Trade	29,718
Construction	29,145
Real Estate and Rental and Leasing	23,854
Retail Trade	23,330
Transportation and Warehousing	22,629
Arts, Entertainment, and Recreation	18,592
Administrative and Support	17,939
Other Services	17,702
Accommodation and Food Services	16,805
OVERALL AVERAGE	25,833

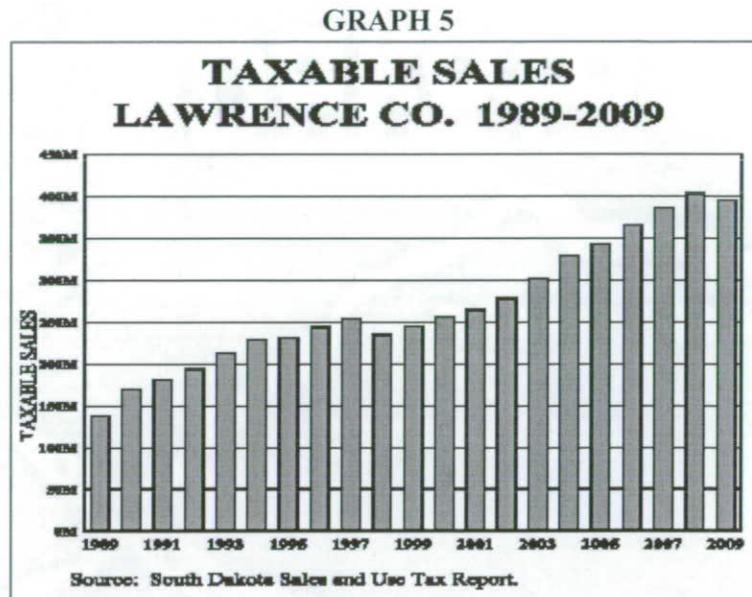
Source: County Business Patterns, US Census Bureau, 2008

Wages in the mining sector were 78 percent higher than the overall county average among all private employment in 2008, nearly twice as high all jobs in the retail sector and 2.7 times higher than accommodation and food service workers. Mining jobs are of such a pay level that

workers can support a family without an additional part time job or relying on the employment of other family members.

TAXABLE SALES

The adjacent graph tracks total taxable sales for Lawrence County for the past two decades. Taxable sales are used here to identify trends in expenditures. The application of the sales tax in South Dakota is among the broadest in the United states so it serves a good barometer of general business activity for businesses of all types in the county.



Changes shown in taxable sales mirror closely the increases in personal income and employment discussed earlier. The economic infrastructure of commercial activity in the county is such that more than 85 percent of all taxable sales are now accounted for by retail sales and services. It is noted that the substantial growth in taxable sales of 23 percent from 1989 to 1990 can be traced to the advent of gaming in Deadwood. The drop in taxable sales that first occurred in 1998 (and did not recover to 1997 levels until 2000) was due to the contraction of the mining industry - again pointing to the importance of employment in that sector to the health of the overall business environment in the county. The drop in taxable sales that year was equal to 8 percent. During this time span the only year in addition to 1998 that experienced a drop in year-over-year taxable sales was in 2009, which is explained by the current national recession that has lessened vacation travel. Over the entire time period considered in the graph, taxable sales grew by an average annual rate of 5.5 percent.

In recent years, Spearfish has accounted for about two-thirds of all taxable sales generated in the county. This percentage has been gradually rising from the 55 percent range that was typical in the mid 1990s.

SECTION SUMMARY

The above discussion provides a brief overview of the Lawrence County economy. Mining has historically been a dominating facet in terms of income, employment and spending. There are a number of significant changes that has allowed the local economy to thrive during the reduction in mining jobs in the county. There have been three developments that stand out most in this diversification effort. One concerns the development and continued growth of gaming and the associated growth of the vacation travel industry. Major inroads are also expected to occur in business and convention business with the recent development of expanded facilities tailored to that purpose. A second impact involves the transformation of the City of Spearfish into a major shopping and service location in the Northern Black Hills region. This region extends well into Wyoming and perhaps into some sparsely populated areas of Southeast Montana. A third development in the early stages of producing economic benefit to the area is the conversion of part of the underground Homestake mine to a scientific lab. This development has the potential to increase employment opportunities in the skilled and higher salaried job positions. It is too early to measure economic potential from this latest development, however.

Nevertheless, it has been shown that mining jobs will continue to serve as an important source of income for families in the Northern Black Hills that are likely to be very much needed in the region as other new economic opportunities continue to develop.

SECTION III

ECONOMIC ASPECTS - WHARF RESOURCES

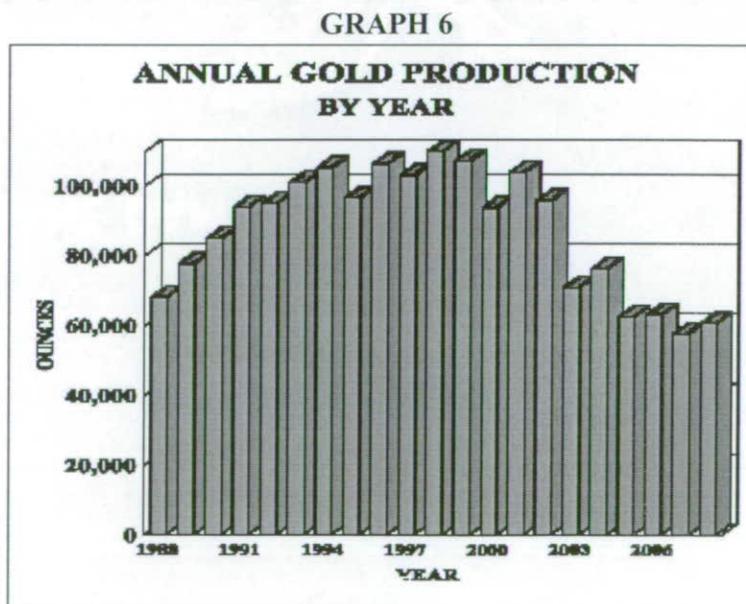
A survey of the evolution of growth and development of the Wharf Resources surface mine since 1983 will be documented in the present section. Since the beginning of operation, annual gold first increased and then maintained stable levels over the major portion of time that it has functioned. Recent years have seen drops in production that relate to a number of factors.

Along with this long period of production, has come favorable and steady economic impacts to the local and regional economies. A descriptive presentation of the movements in several key economic facets will be developed below.

PRODUCTION TRENDS

Unlike the other surface mining operations in the Black Hills, Wharf has employed a long term strategic planning process that has included exploration and testing well in advance of immediate mining needs thereby maintaining a viable production pattern over at least 30 years. Of course, there are many variables in determining the quantity of recoverable ore reserves. Such factors as the price of gold, the cost of production and the ability to acquire available mining reserves all play important parts in measuring the stock of available ore reserves.

This planning process has resulted in the following production pattern over the past 21 years. Prior to 1988, gold production at Wharf was in the early stages of development. For example in



1985, production amounted to only about 14,000 ounces. The maximum rate of production has occurred during the decade of the 1990's and extended into the early part of this century before settling to the 60,000 ounce range over the last eight years or so.

In large part, gold production follows movements in gold prices. During the late 1980's and 1990's gold prices averaged \$400 per ounce or more. By the late 1990's prices had dropped to the \$300 range. At the present, prices of gold are at all-time highs, a factor that increases the economic feasibility of mining reserves that in the past would have been marginally profitable.

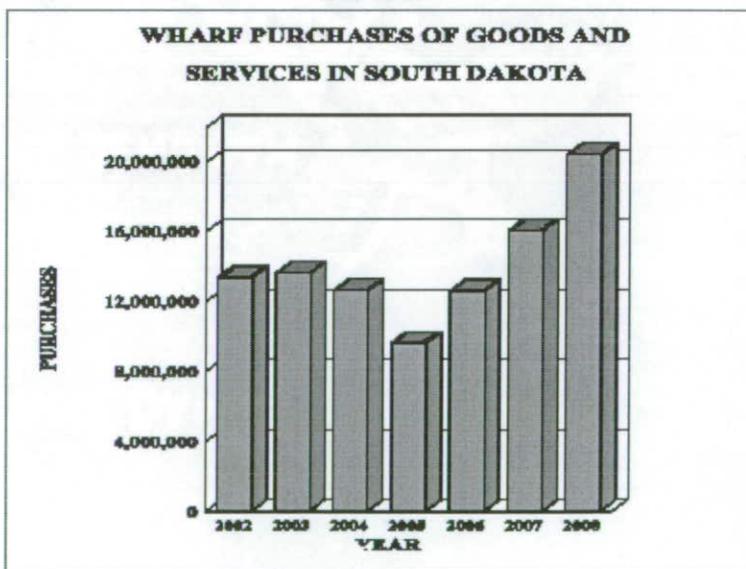
HISTORIC EXPENDITURES

Graph 7 provides a summary of Wharf outlays for all goods and services procured within South Dakota in connection with the mining operation. These annual purchase totals include capital expenditures associated with the operation. Over the seven years included in the graph, spending

has varied between a low of \$9.6 million in 2005 to a high of \$20.4 million in 2008. South Dakota purchases have averaged \$14 million from 2002 to 2008.

Approximately one-half of all spending took place with Rapid City area Businesses. Eighteen percent, or an average of 2.5 million was purchased within Lawrence County with the remaining 32 percent occurring in various South Dakota communities outside of Lawrence and Pennington County.

GRAPH 7



The following table summarizes the distribution of all spending for goods and services the last two years and includes of out-of-state purchases of certain specialized mining goods and services, including capital, that are not readily available in South Dakota.

TABLE 5

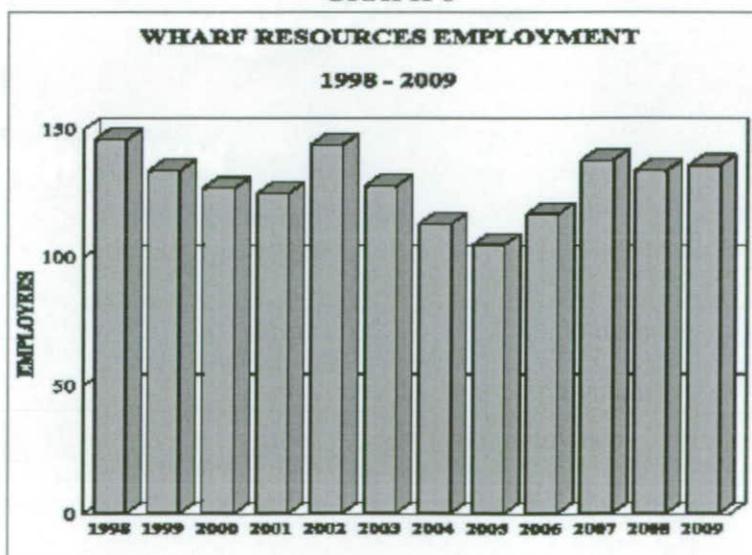
PURCHASES BY VENDOR LOCATION, 2007 AND 2008			
	2007	2008	Average % Breakdown
LAWRENCE	\$1,169,982	\$1,912,200	5%
RAPID CITY	2,155,906	11,031,350	20%
OTHER SD	12,746,282	7,472,890	31%
OUTSIDE SD	14,272,932	15,205,030	45%

When all spending for goods and services are considered, about 55 percent of all purchases were able to be made in South Dakota over the most recent years in which data is available. The remaining 45 percent represents purchases outside South Dakota. In previous years the proportion of out of state spending was higher than is the case today.

EMPLOYMENT AND PAYROLL

During the maximum production years in the 1990's, total mine employment approximated 150 workers. Annual employment levels from 1998 to 2009 appear in Graph 8. As the mine transitioned into the 2000 decade moderate drops in employment took place. Yet, employment averaged 127 over the last 10 years. It is recalled from earlier in

GRAPH 8



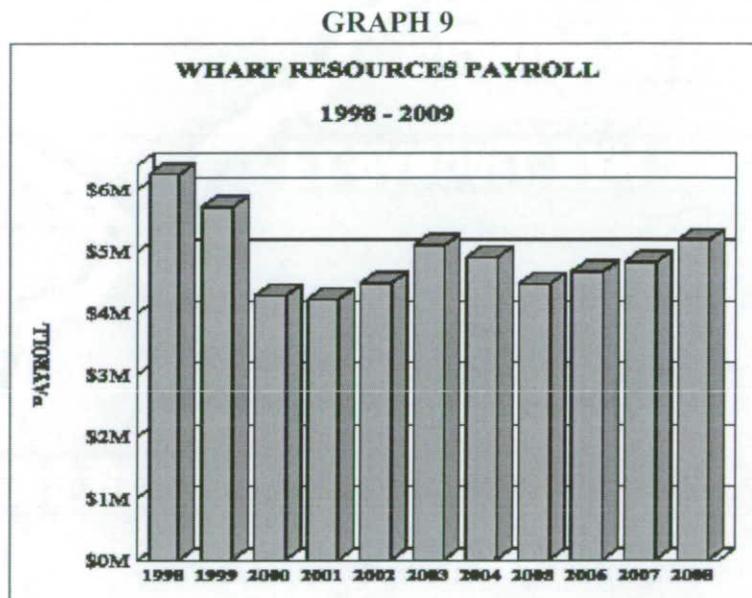
this section that gold production has likewise tapered off in the 2000 decade to around 60,000 ounces compared to the previous decade when average annual production approximated 100,000 ounces.

Employment requirements in connection with mining ore deposits associated with the proposed permit areas are projected to be about 155 workers on average, a figure that is marginally higher than 135 to 140 range employed over the last three years.

Payroll expenditures are substantial. It is recalled from earlier in this report that mining sector employees are among the highest paid in Lawrence County. The following table provides annual payroll expenditures from 1998 to 2009. It is recalled from the previous graph that the number of employees in 1998 approximated 150. In recent years fluctuations in payroll expenses largely correlate with changes in the size of the work force.

It is also important to note that employee benefits and employer expenses are *not* included in these

graphical statistics. Examples of these benefits are health insurance, workers compensation, life insurance, vacation and holiday benefits as well as social security and medicare. This assortment of benefits are extremely generous for Wharf Resources and undoubtedly rank among the best in all sectors of the local economy. Consequently their cost is considerable. For example, in 2008, payroll expense was \$6,247,000 while employer provided benefit expenses for the company amounted to an additional \$2,953,000, or 47 percent of payroll. Over several recent years, however, the added cost of benefits has normally been around 40 percent of base payroll.

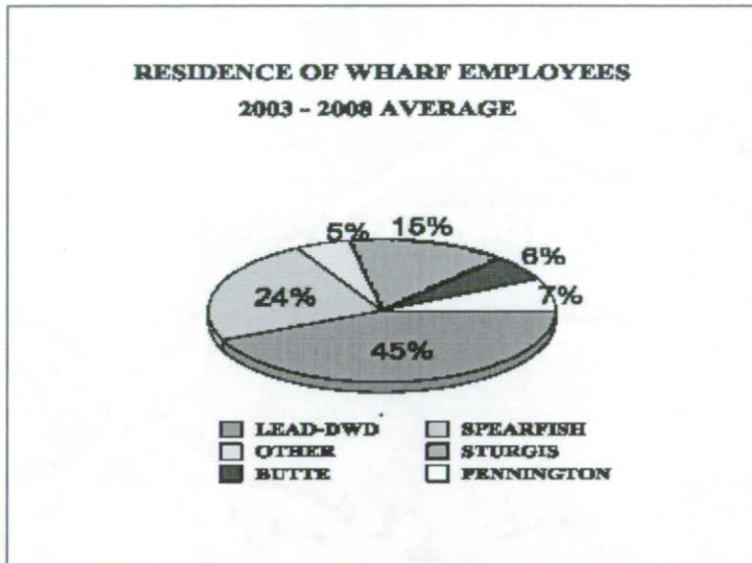


EMPLOYEE RESIDENCY DISTRIBUTION

From the beginning of production, Wharf has adhered to a policy of hiring the bulk of their workers from the local labor pool. Turnover rates are quite low so the residency breakdown by community is quite stable over time. Slightly over two-thirds of all employees were residents of Lawrence County over the 2003 to 2008 time frame.

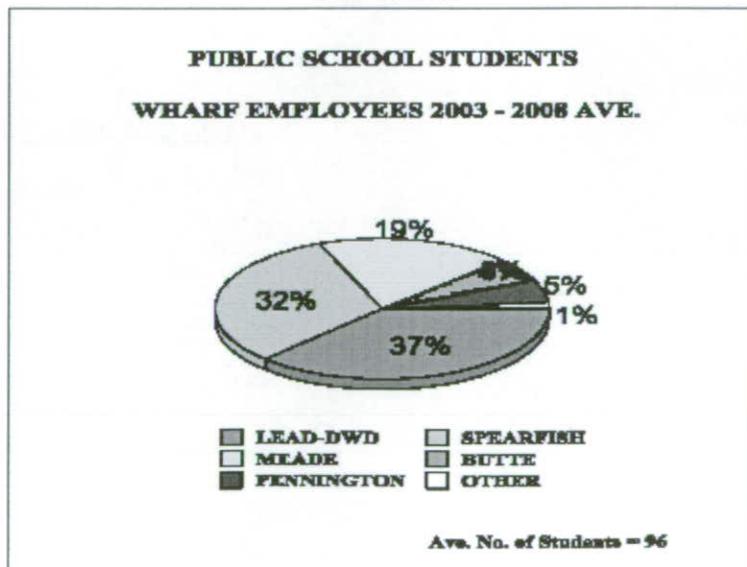
The following pie chart illustrates the employee breakdown by community since 2008. The largest proportion of workers reside in nearby Lead. Spearfish accounts for another 24 percent. The five percent of the workforce listed as 'other' have addresses in smaller towns in Lawrence and Meade County such as Whitewood and St. Onge.

GRAPH 10



Graph 11 provides a distribution of students from households of Wharf employees. Of course the distribution of students among public school districts mirrors the residential pattern of the work force. However, there is a slightly higher proportion of students in the Spearfish School District than the proportion of workers living in Spearfish.

GRAPH 11



On average, since 2008 there have been 96 students who have one or more parents working at Wharf Resources. Given the present size

of these districts, one can conclude that the impact on school enrollment to school districts is small relative to their overall student population.

STATE AND LOCAL GOVERNMENT REVENUE

The South Dakota tax structure interacts with the gold mining industries. A severance tax is levied by the state of South Dakota in connection with the mining of precious metals. Currently the standard levy is the sum of a 10 percent tax on net mining profits and a flat \$4.00 per ounce for all gold produced. However, in 1994 the legislature added a system of increments to the standard \$4.00 per ounce severance tax. The relevant South Dakota Statute is quoted as follows:

10-39-68. Additional tax on precious metals--Rate. In addition to the tax imposed in § 10-39-43, there is hereby imposed an additional tax on each ounce of precious metals severed as follows:

- (1) Four dollars per ounce of gold severed during a quarter if the average price of the precious metal is eight hundred dollars per ounce or greater;
- (2) Three dollars per ounce of gold severed during a quarter if the average price of the precious metal is seven hundred dollars per ounce or greater;
- (3) Two dollars per ounce of gold severed during a quarter if the average price of the precious metal is six hundred dollars per ounce or greater; and
- (4) One dollar per ounce of gold severed during a quarter if the average price of the precious metal is five hundred dollars per ounce or greater.

The average price of gold shall be computed by summing the daily London Final price of the precious metal for each business day of the quarter and dividing by the number of business days in the quarter.

Source: SL 1994, ch 89, § 5.

Given current world prices of gold, it is apparent that the effective severance portion of the tax would in all likelihood be equal to \$8.00 per ounce for the foreseeable future. Tax rates of these magnitudes produce substantial revenue benefits to the State of South Dakota.

Also, in the late nineteen eighties, a provision to revert 20 percent of state severance taxes from each surface mining company to Lawrence County up to a \$1,000,000 cap was enacted. Wharf reach this \$1 cap in 1993, the only mining company to ever have done so.

The general state sales and use tax is assessed on all transactions which involve either the sale or use of any item utilized in the process of conducting business within the state. The present sales

and use tax rate is 4 percent. Cities and towns in South Dakota also have the ability to assess a sales tax on goods and services transacted within their boundaries. This tax generally varies between one and two percent. Additionally, cities are provided an option of imposing a one percent gross receipts tax which is applicable to many items frequently purchased by the traveling public.

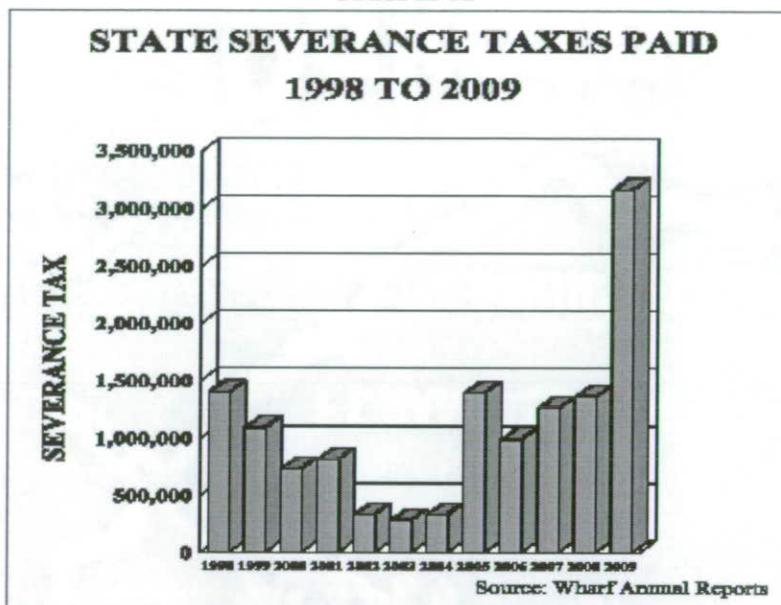
In addition to sales taxes, local governments such as cities, school districts and counties depend to varying degrees on a property tax. In the case of mining properties, the appraisal and therefore tax is based on the degree of gold production potential of individual mining operations.

Graph 12 illustrates the pattern of growth of state mineral

severance tax payments made by Wharf Resources from 1998 to 2008. For simplicity, the net profits tax is included as part of what is referred in the graph as severance tax.

Because of frequent changes in economic conditions such as the price of gold, and operational expenses, as well as differences in output levels the severance tax has fluctuated significantly in recent years. From 2002 to 2004, these taxes obligations fell to around \$300,000 per year. However, from 2005 and up to the present, severance taxes paid began to increase where in 2009 they dramatically increased to almost \$3.2 million, largely due to the substantial increase in the market price of gold.

GRAPH 12



The adjacent chart compares the average amount of property taxes paid in recent years to the amount of state severance taxes. Property taxes comprise very important components of revenue to local governments. In the case of the Lead-Deadwood school districts, nearly all of their means of finance is centered on the local property tax. Other school districts with more limited tax bases receive state aid to education that is determined by a

state generated formula. For example, in 2007, total expenditures for the school year amounted to about \$9 million, contributions of state aid totaled only \$500,000 leaving \$8.5 million as financed through property taxes. (Source: Lead-Deadwood School District Facility Use Study, 2008.)

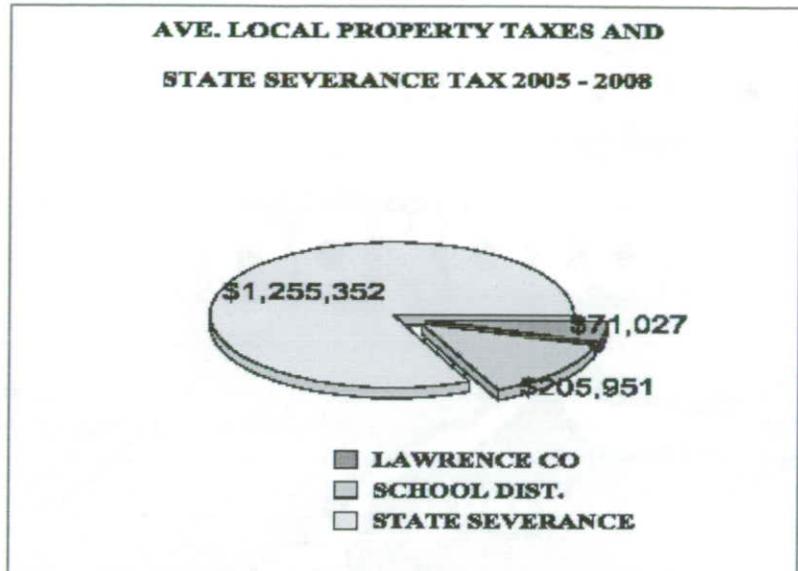
During the years 2005 to 2008, Wharf paid an average of about \$206,000 or about 2.5 percent of the districts property tax revenue.

In the case of Lawrence County, about \$7.8 million in property taxes is raised through the standard mill levy and this amount funds about half of the total budgetary needs of Lawrence County Government. During the 2005 - 2008 time frame, Wharf paid \$71,000 annually in County Property taxes. Since virtually all Wharf property lies outside any municipality, property taxes received from them by cities and towns is very minor. However, many Wharf employees reside in cities and pay municipal sales and property taxes in Lead, Deadwood, Spearfish as well as other towns and cities.

Other special district taxes such as fire districts, and various improvement districts also typically assess property taxes in South Dakota, but are of lesser amounts and are not included here.

GRAPH 13

**AVE. LOCAL PROPERTY TAXES AND
STATE SEVERANCE TAX 2005 - 2008**



The state government and also municipalities rely heavily on sales and use taxes. The amount of sales taxes paid by Wharf annually correlates with the level of mine operation outlays for current expenditures and many capital investments. Sales and use tax payments for recent years are recounted in the following graph.

Over this eleven year period, sales taxes to the state have varied between \$521,000 and upward to \$900,000 in 2007. Over this interval of time, nearly \$8 million has been received by the State of South Dakota in the form of Sales tax receipts.

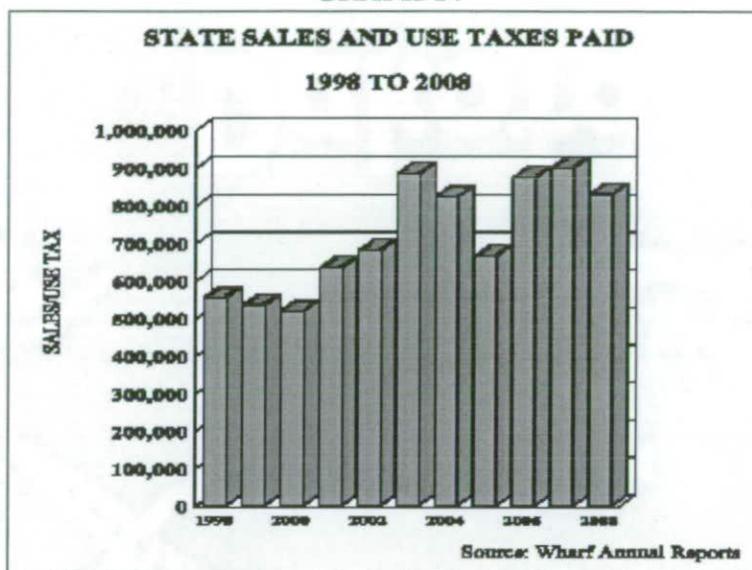
It is also noted that subcontractors and other firms that provide services to Wharf also pay considerable sales taxes in connection with their work for the company. These receipts are not included within this data.

Since most purchases made by Wharf do not occur within city boundaries, a more limited amount of sales tax from the company is received by local municipalities. However, the bulk of employee purchases, no doubt, take place within the jurisdiction of municipal sales tax laws.

SECTION SUMMARY

The purpose of the preceding discussion was to track movements of various economic data which has been associated with the Wharf mining operation. An analysis such as this provides the reader with a time-dimensioned understanding of how the growth of a company produces changes in economic variables which in turn produce impacts on the local and regional economies.

GRAPH 14



Considerable operational costs are associated with the type of mining carried out by Wharf. Spending for standard mining supplies, equipment and various contract services add to millions of dollars annually. Expenditure policies of the company include the goal of purchasing as much as is practical and available locally first. For items that are not readily available locally, purchases are made elsewhere in South Dakota. Some mining equipment and services that are not readily available in the state are purchased outside South Dakota.

Recent employment levels have ranged between 135 and 140. Payroll outlays approximated \$6.2 million in 2008. Added expense of forty percent of payroll is normally expended in employee benefits and employer payroll costs. More than two-thirds of the households represented by the Wharf work force reside in the Lead or Spearfish areas.

During the last three years severance taxes paid to the state plus local government property taxes have approximated \$1.5 million. Sales and use taxes paid by the company in connection with mine operations have totaled about \$875,000.

The following section will involve a discussion of economic impacts associated with extending the life of the mine.

SECTION IV
ECONOMIC IMPACTS ASSOCIATED MINE LIFE EXTENSION

The following pages provide a summary of economic impacts that are likely to take place over the additional years of operation that would be afforded by the approval of a mining permit contemplated at this time. The methodology involves straightforward extrapolations of past experience with the existing mine coupled with certain expenditures somewhat unique to the proposed location of the ore bodies associated with this proposed permit. The extrapolations involve a window of time beginning in approximately 2012 and extending for approximately 7 additional years beyond 2012.

EXPECTED CAPITAL INVESTMENT AND PURCHASES OF GOODS AND SERVICES

Mining requires significant capital investments, particularly when mine plans change substantially in connection with newly permitted acreage. Wharf Resources invested substantial amounts of capital during the 1986 to 1992 time frame when production was expanded to a year-around cycle, and larger acreages were permitted. In the mid nineteen eighties when the east pits were permitted, additional capital investments were required. There will also be significant and unique capital investments when the new proposed permit involving areas to the south of the present operation and also portions of the former Golden Reward property.

In terms of prospective capital expenditures, such spending levels are tentative in nature and will ultimately depend on final testing, engineering and permit requirements.

TABLE 6

CAPITAL EXPENDITURE REQUIREMENTS PROPOSED MINING PERMIT	
Year	
1	\$3.25 M
2	\$2.25 M
Yrs. 3 to 7	\$1 - 1.5 M

These amounts represent preparation of the ore bodies for mining and ongoing expenditures to sustain the project during the remaining active life of the mine. The seven year life of the mine estimates is also quite tentative at this point in time, but will be more definite when testing and exploration work has been completed.

In addition to the above amounts, a substantial capital outlay is anticipated in connection with the partial re-routing of State Highway 473 to allow the mining of the ridge immediately to the north of this route. In conjunction with this expenditure, the construction of a tunnel for access of mining equipment from the Golden Reward ore bodies to the present Wharf processing facilities. The sum of these two capital projects is estimated to be \$2.25 million and would be expended during the first two years after permitting.

EMPLOYMENT AND EARNINGS

Based on experience from 2008, an average of 134 employees received total pay (excluding benefits) of about \$6,245,790 or an average of \$46,600 per worker. Preliminary company estimates suggest that the required number of employees during the extended mine life is equal to 155. In current dollars, this means that total pay received by a work force of that size is equal to \$7,223,000 per year. Additionally, it is estimated that benefits and payroll expenses add to another forty percent of net payroll as has been the case in recent years. Total labor expense to the company will accordingly amount to \$10,112,000. Under the assumption that the permit is granted, payroll over the 7 years of extended mine life would sum to \$50,561,000.

No assumption is made concerning annual improvements in wages during the extended mine life. Increases in pay are determined by labor market conditions, productivity gains and rates of price inflation, all of which are not easily projected during the current economic times.

Another important aspect of sustaining mining jobs over the extended life of the mine afforded by the pending permit is the maintenance of induced employment increments in the region. This is because basic employment in the mining industry generates an *induced* incremental employment impact because of the labor requirements that are added due to increased local demand on goods and services produced in other sectors of the economy. This so called multiplier effect is

technically the result of the spending of wage income by Wharf employees and also the local non-labor expenditures of the mining operation itself. The ratio of total employment to basic employment is known as the employment multiplier. The size of the multiplier is, of course, not directly observable, but rather is analytically measured using various econometric techniques. Two past examples of multipliers suggest an estimate value of 1.7 and 2.3 respectively. (Sources: Socioeconomic Assessment, Golden Reward Project, Lawrence County, SD, 1987, Economic Impact Analysis of the Mining Industry in South Dakota, Michael K. Madden, June 1995.) These two estimates are probably viewed by most as being a lower and upper limit to a reasonable multiplier for surface mining projects such as is discussed here. A midpoint multiplier value of 2.0 would imply that one job outside the mining sector is induced for each job within the mining sector. This means that the sustaining of 155 jobs within the mining sector would induce another 155 jobs throughout the balance of the economy elsewhere in the private and public sector.

MINE EXPENDITURES

In addition to capital expenditures discussed earlier in this section, ongoing purchases of goods and services for the operation of the mine will also positively impact the local, state and regional economy. Over the last four years for which data is available, outlays for these type of operational costs averaged \$11,457,000. About 6 percent took place with Lawrence County businesses, 24 percent originated in the Rapid City area, 26 percent took place elsewhere in South Dakota and a 44 percent occurred outside South Dakota.

This means that over a seven-year extension of mine life, Lawrence County businesses could expect to sell \$4,812,000 in goods and services to Wharf Resources. Rapid City area businesses would be able to generate an additional \$19,248,000 in sales and the balance of the state would see sales \$20,851,000 over the added seven years. The balance of \$35,288,000 expenditures would be expected to take place outside South Dakota.

FISCAL IMPACTS TO LOCAL GOVERNMENTS

Projecting the fiscal implications of the extension of the life of the mine entails various challenges. It is recalled that the major interactions that gold mines have with the state and local tax structures are through the sales tax, property tax and the severance tax on precious metals.

The projection of the sales tax is straightforward. This is because the scale of operation under the new permit is expected to remain at essentially the same level as has been experienced in recent years. The primary difference in the operation simply involves moving gradually to new ore bodies encompassed within the proposed mining permit under consideration at the present time. Recent years have seen sales taxes paid to the state range between \$670,000 to \$902,000. The last four years of available sales tax data have seen average spending on taxable items such that \$820,000 per year has been paid in state sales tax.

Property taxes are more difficult to forecast. Property tax levies are based on the value of the expected ore body permitted to be mined. Important inputs into the valuation formula involve the price of gold and the quantity of recoverable gold and silver reserves associated with the acreage. In addition to that, the property tax rate experiences changes from year to year. In past years when recoverable gold reserves were near their highest level, property taxes to school districts and Lawrence County government reached a maximum of about \$540,000 with about 74 percent of this total paid to the school district. However, since these years placed gold values in the \$400 per ounce range, it is in fact the case that gold carries a market price approximately *three* times that level at \$1,200 per ounce at the present time. The use of a straight extrapolation from years past is likely to result in a projection that is too low since it is quite certain that over much of the extended life of the mine, gold is in all likelihood, going to be of higher unit value than has ever been experienced by the company. Even considering that the net cost of recovering gold is going to be higher than in years past, it is still a safe and perhaps conservative estimate to expect that property taxes will amount to \$900,000 and possibly much more during part of the 7-year extension. It is also noted that during the last segment of this time span, property taxes will be expected to decline as the amount of recoverable gold nears exhaustion.

The state tax on gold mines is actually made up of two components. One component is that there is a flat \$4.00 per ounce severance tax on mined gold, but this tax rises to \$8.00 if the market price of gold exceeds \$800. If one assumes that the targeted level of gold produced per year averages 70,000 ounces, this component of the tax is straightforwardly estimated to \$560,000. The other component of the state tax on mined gold is actually a form of an income tax. This tax is a flat 10 percent of net profits generated by the company each year. It is far beyond the scope of this report to predict company profits over the extended life of the mine. This means that for any given year, for every \$10 million in net profit generated the state's ten percent tax would generate \$1,000,000. An examination of past production costs, coupled with a market price of gold likely

to be \$1,000 per ounce or more, suggest strongly that annual company profits for some of the years of the extended mine life to be \$20,000,000.

Although there are no methodologies that would be able to forecast the state severance tax accurately over the years 2012 to 2019, it seems safe to assume that state severance and profits taxes will range somewhere between \$1,500,000 and \$2,500,000 over these years and could actually be higher given the recent volatility of investment markets.

SUMMARY

In all the annual and cumulative economic impacts are substantial to potential employees, to the business sector and also to local governments and the State of South Dakota. The prospect of an additional seven years of mining will maintain jobs that are important to the local economy.

The impacts discussed in this section can be summarized in the following table:

TABLE 7

ECONOMIC IMPACT ASSOCIATED WITH EXTENDED MINE LIFE		
2010 DOLLARS		
Type of impact	Annual	Cumulative 7 Yrs.
Startup Capital Exp.	\$2.25M - \$1.75M	
Ongoing Capital Exp.	\$1.0M - \$2.25M	\$7.0M - \$15.8M
Direct Employment	155	1,085*
Indirect Employment	155	1,085*
Direct Earnings + Benefits	\$10,112,000	\$70,784,000
Non Labor Expenditures	\$11,457,000	\$80,200,000
Local Gov. Prop. Taxes	\$900,000	\$6,300,000
State Sales Tax	\$820,000	\$5,740,000
State Severance & Income	\$1.5M - \$2.5M	\$10.5M - \$17.5M

* Interpreted as man-years of employment..(= Employment x number of years employed)

Many of these estimates are quite tentative for reasons discussed earlier in this section. The conclusion one can reach irrespective of their provisional nature is that the economic benefits are substantial for the general Black Hills region.

SECTION V

SOCIAL AND COMMUNITY IMPACTS

The issues considered in this section involve a digression into local phenomena that relate to public services, housing, recreation, and various adjacent land use considerations. Public services as a group includes public safety efforts such as fire and law enforcement and emergency response services. Common public utilities such as water, sewer, solid waste and local road maintenance are also included. Many of these individual social impacts interrelate with many other social and economic effects. For example, most police, fire and emergency services rely on local tax revenue for support - the amount of which is partly determined by the tax base provided by private industries such as mining. Likewise, it is not easy to separate a social impact on the housing market without considering the health of the local labor market.

Along with housing in general, the social makeup of a community is impacted by the availability and overall quality of the education system. This section deals briefly with the current and expected future impact of Wharf on the public education system

Another aspect in the analysis of social impacts that should be clearly understood is that considering the social impacts traced to an entirely *new* economic development opportunity is vastly different than the *continuation* of a very similar existing economic enterprise. In the case of mining for example, if we examine the impact on public services and housing under the assumption of a new gold mine that is projected to hire 155 new employees the social impact is far different than the mere continuation a similar number of employees. Indeed it is probably of considerably greater interest and importance to analyze the negative social impacts of the *closing* of an existing mine than the continuation of its operation such as is in the present case.

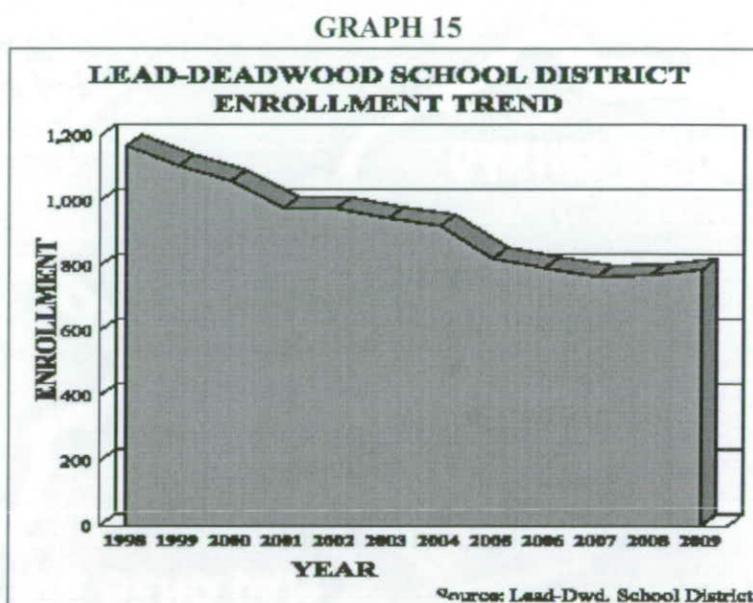
Because the present study involves a continuation of an operation through extending the life of the mine, the traditional analysis of social factors result in essentially no impact in many instances simply because there are no changes likely to be expected for many of them.

EDUCATION

In 2007 and 2008 average student enrollment originating from Wharf households in the Lead-Deadwood School District averaged 26. In Spearfish, the corresponding number was 35. During

those years, average enrollment at the Lead-Deadwood District was 780 K-12 students. Spearfish school district averages more than two and one-half times more students at 2,000 during the same two years. Therefore, neither school district is impacted significantly by the incremental enrollment traced to Wharf Resources. The Spearfish School District has experienced moderate enrollment growth over the last decade while Lead-Deadwood enrollment has fallen. This reflects the population shift that has been occurring in Lawrence County over the last twenty years.

The following graph illustrates the change in enrollment in the Lead-Deadwood school district since 1998. Peak enrollment over the last twenty years was 1,500 students and occurred in 1991. By 1998, as the graph shows, enrollment stood at 1,170. Generally enrollment has continued to slide, but has now apparently subsided and has actually grown slightly from the recent low point of 767 reached in 2007.



Using cohort models the Lead-Deadwood District has made enrollment projections out to the year 2017. This model uses school grade progressions for students by grade and then sums enrollments for each grade to arrive at K-12 enrollment forecasts. This model suggests that there will be moderate growth in enrollment beginning in 2012 and extending to 2107. (Source: Lead-Deadwood School District Facility Use Study, D. F. Uerling, 2008.) Of course the outcome of individual economic development opportunities such as the National Science Foundation project in the Homestake mine could change the outcome on projections dramatically.

School administrators in the Lead-Deadwood district strongly feel that increases in enrollments are net *positive* impacts to the school district and drops are considered negative impacts. Much of this opinion is formed by the intricacies of the state education formula that dictates total budget allowances on a per-pupil basis. In this formula, drops in available funding are directly

proportionate to decreases in enrollment. This policy, in effect, leaves the fixed costs of the school district under-funded each time enrollment falls.

The mining permit contemplated presently by Wharf suggest that labor requirements will moderately increase by about 20 employees. Given the proportionate impact on school enrollment produced by existing employees, the twenty additional workers would be projected to add 4 students to the Lead-Deadwood School District.

One can conclude that the extension of the life of the Wharf mining operation would produce either no impact or a slightly positive impact from the stand point of the school District.

HOUSING

A general barometric reading of the overall housing market was obtained by independently interviewing three real estate professionals, each with many years of industry experience. The information compiled from them was corroborated by an interview with a deputy Lawrence County assessor. Generally, there is unanimity of opinion that the real estate market, particularly in the Lead-Deadwood section of the county clearly is and has been a buyer's market in recent years. Key indicators of abnormally high listing counts, high number of days on the market and few potential buyer contacts all point to a general housing surplus, at least as far as market conditions indicate. An opinion among real estate professionals in the area that the combination of local weakness of the economy that began in many sections of the county a number of years ago with the closing of Homestake added to the current national recession has become somewhat of a long-run problem. There was a unanimity of opinion that any additional employment that would be forthcoming if twenty or so jobs were added to the Wharf payroll during the expansion of mine ore deposits would be welcome in the housing sector at this time.

PUBLIC SAFETY

Law Enforcement

The Lawrence County Sheriff Department, is the principal law enforcement agency for the county. The cities of Lead, Deadwood and Spearfish have municipal police departments. The South Dakota Highway Patrol also has a number of officers working out of communities in Lawrence

County. The sheriff of Lawrence County reports that neither the mining operation or their employees have imposed any burdens on law enforcement duties. (Interview with Sheriff Rick Mowell, July 2010)

Approval of the mining permit is not expected to either increase or decrease requests for calls-for-service than at present. The operation itself is not directly reached by traveling over county or city roads. State Highway 373 is the main access and egress from the mine and does not require major amounts of patrol.

Fire Protection and Emergency Services

Since the Wharf mining facilities are surrounded by forested acreage, the possibility of wildfires is a factor that must be considered. In addition, heavy equipment, fuel and structural improvements are fire risks on mine property as they are in all other industrial settings.

Wharf has a responsibility to maintain on-site fire protection and therefore essentially has responsibility for its own fire protection costs for events that originate on company property. Wharf employees are trained to respond to fires and other emergency events on company property and have been trained into a unit called the Surface Mine Rescue Team. In the surrounding area, primary responsibility for fires on private property is the Lead Fire Department. The State Division of Conservation and Forestry has responsibility for wildfire suppression prevention in the area. This department has a physical location that houses offices and equipment two or three miles from the Wharf mine on Highway 373. Fire events within the national forest boundary would also have a work involvement by the U.S. Forest Service.

Many of these governmental fire suppression and prevention organizations have mutual aid agreements with each other and with Wharf so if exceptional fire events take place the particular organization with primary management responsibilities can receive assistance from any or all of the others.

Emergency response services have rarely been needed in connection with the operation of the mine. Immediate first aid and other basic emergency procedures are provided by the Surface

Mine Rescue Team. Ambulance and EMT services are provided in the Lead area by Black Hills Ambulance Service with headquarters in Deadwood.

HEALTH SERVICES

Employees of Wharf and their dependents are provided a comprehensive health insurance program, these individuals and residents of households indirectly associated with the project support medical and dental practices in the region in parallel with other members of the community. Hospitals in Deadwood, Spearfish and Rapid City are relied upon to provide medical care to all of the individuals associated with the company.

Care facilities are presently in ample supply and it is expected that a continuation of the life of the mine and the continued patronage that the employees and their families generate would be viewed as positive by the medical care community.

PUBLIC UTILITIES

Water

The Wharf mining operation has its own potable water source and distribution system. Water for dust suppression is also provided independent of outside utility companies. Since no new or additional water needs are projected in connection with the proposed permit, it is not believed that adverse impacts on adjacent properties are likely. No new impacts are expected in connection in conjunction with the contemplated mine permit.

Sewer and Solid Waste

Public Utilities are not required for sewer services on company property. The Wharf structures are served by its own wastewater treatment system. Solid waste is limited in connection with the operation. Any solid waste is regularly collected by private contractors and hauled to state approved landfill sites. No change or increase in requirements for these services are expected in connection with the proposed addition to the permitted acreage.

Roads

No county roads are in the vicinity of the proposed project. Private roads within residential areas are not expected to be disturbed in any manner. South Dakota Highway number 473 (Nevada Gulch Road) is the primary highway accessing the Wharf Mine. It ties into U.S. Highway 14A approximately three miles from the entrance to the mine. This highway carries vehicular traffic to and from the mine. It also serves the residents of the Lost Camp subdivision and adjacent residential areas. Recreational and other tourist traffic also utilize this road, especially during the winter ski season.

The road is likely to be re-aligned in connection upon approval of the proposed mining permit. All costs of relocating the highway will be at Wharf's expense and subject to the approval of the South Dakota Transportation Department.

The proposed permit, if approved, will extend the life of the mine for up to seven additional years. No additional traffic is expected to be generated than what has been accustomed to occur in connection with its present operation.

RECREATION

Outdoor recreation abounds in every direction from the location of the Wharf mining operation. Hiking and biking trails, hunting, all terrain vehicle use, snowmobiling, camping and a myriad of other activities occur throughout the year on private and public land in the vicinity of the Wharf mine. Although such activities are not permitted on property within the permitted mining boundary, recreation of some types are permitted on Wharf owned land elsewhere in the Black Hills. Land area that is presently accessible to the public that is also included under the pending permit application is quite limited. Any Wharf or Golden reward land that would be approved for mining under the new permit would not be accessible to the public.

ADJACENT LAND USE

Recreation

In addition to the recreational uses discussed immediately above, the remaining major recreational activity concerns the commercial downhill skiing operation on Terry Peak which is essentially adjacent to the additional mining parcels contemplated in the pending permit. The Terry Peak ski area is unique in that it is one of the few places in the region not situated along the spine of the Rocky Mountains. Terry Peak does not offer the diversity and challenge of many western ski resorts, but does provide a valuable recreational opportunity for residents from the Black Hills region and many other more distant communities to the east.

Terry Peak is owned and operated by the Black Hills Chairlift Company, which also holds a special use permit from the U.S. Forest for a portion of the lift and trail system on Terry Peak. The Terry Peak Ski Area consists of two lodge/parking areas, five major lifts and over two dozen trails. The ownership makeup of this company is comprised of a limited number of partners with a still more limited number of major partners. Wharf Resources is one of the partners in the company, but there is no individual owner, including Wharf, that owns a controlling interest in the company.

The ownership interest of the company by Wharf has been mutually beneficial to all parties. Wharf, as a company, has gained insight on the sensitivity of the ski business to what occurs on properties that are proximate to their mining operation. The ski company has benefitted by being aware of what resources Wharf is capable of providing to make the ski area more functional. Providing material for parking lots and assisting with investments in artificial snow making equipment are but two examples. The latter has been instrumental in reducing the ski down-time in the early part of the season when precipitation is often not dependable.

The last major investigation into the impact of mining activity occurred in connection with a study prepared during the 1997 permit application for the Clinton extension to the mine.

(Socioeconomic Assessment for Wharf Resource's Clinton Project, Hammer, Siler, George Associates, July 1996) This analysis provided considerable statistical evidence that skier days rises when snow conditions are better and fall when snow conditions are poor. The improved snow making capability has had measurable positive impacts on visitor volume to the ski area

simply because it is a substitute (albeit an inferior one) for natural snow. Thus, a major conclusion at the time, was if snow conditions are improved, the number of skier visits rises. It has also been learned that artificial snow and natural snow both increase business volume, but natural snow is much more important than artificial snow for increasing user volume.

Early knowledge of this and due to the unpredictable Black Hills winters, Terry Peak initiated snowmaking investments in the 1970s. Additional snowmaking improvements have continued over the years so that today there is coverage on 60 percent of the slopes. The last major investment occurred in 2002 when Terry Peak acquired three wells and three holding ponds as part of the reclamation plan and partnership of the Golden Reward mine. Also during that time, the company undertook a five year plan for major improvements which included expanded snow making coverage, improved chairlifts capacity, lodge improvements and increasing the amount of ski terrain.

During the decade of 1986 to 1996 when some of these improvements were taking place and mining was visible, visitor volume improved from the 50,000 skier visits per year to 80,000 skier visits toward the end of this 11 year period.

Actual skier visits are not readily available currently, but management indicates that, now with the improvements in artificial snowmaking ability that in a year of poor natural snow with no appreciable snowfall before the Christmas holiday period they still are able to generate 80,000 visits per year - thanks in large part to the artificial snow in the early season. If significant natural snowfall occurs prior to Christmas, they now expect to accommodate about 120,000 skier visits.

In summary, the last twenty or so years have confirmed that ski recreation can co-exist in relative harmony to nearby gold mining operations and even grow in popularity when investments are targeted to improving the skier experience on the slope. It also has shown that the visual impacts of mining activity as skiers recreate, does not interfere with their enjoyment of the sport. Both Wharf and earlier Golden Reward played some part in enabling and encouraging many of the improvements of the ski facility. It would appear this past pattern can be continued with the appropriate seasonal timing of the mining of those newly permitted mining areas that would interfere with ski activities. This means that the former Golden Reward permit areas would probably need to take place during seasons of the year other than when skiing is taking place.

ADJACENT HOUSING

The primary housing areas that are perceived to exhibit potential impacts in connection with the proposed permit consist of the Barefoot Condominium area and the Lost Camp area. Both of these areas bear proximity to the western part of proposed permit area that is adjacent to the existing Wharf operation.

A historical chronology of the Lost Camp residential area concerns the fact that it was originally envisioned as location for recreational, seasonal use cabins and cottages. As time passed, more substantial structures were developed with the potential to be occupied 12 months a year. The seasonal use that has evolved is primarily during the summer vacation period and the winter ski season, although other seasons may see some use of seasonal homes. It appears when traversing the area that there are now about eleven homes occupied year around in the subdivision. The vast majority of all buildable lots appear to be developed at this time.

Over a large number of years, many somewhat unique characteristics of the housing market in the Lost Camp area have evolved. First, the rate of turnover of properties has always been high in that subdivision. Realtors interviewed explain that this is caused in large part by the fact that a significant portion the residences are viewed as seasonal or as a family's second home. As other recreational investments, owners look at these properties as way to make use of part of their discretionary income. Second, some of the properties are viewed merely as investments. Some owners, reportedly, use the properties personally very rarely, if at all and rent them through vacation leasing brokerages. Since there is no personal residential need for this class of owners, they are quick to sell them when opportunities for capital gain arise.

The past has also seen situations when the dependability of potable water existed for these residential areas. In 2005, Wharf Resources transferred ownership a water system to the Terry Valley-Trojan Water Project District (TV-TWPD). In connection with this transfer was an access easement along the water line route, approximately 3 miles of pipe line, two wells and pumps and a booster station facility. Another lot was provided to the district for additional storage. This improvement has apparently eased most of the historical water problems experienced by the residential areas.

A main driver of the housing market in the area has historically been the benefits of the nearby ski area and its location for other vacation and recreational pursuits during other seasons of the year. Fluctuations in the housing market in this area are significantly impacted due to local and national economic conditions because of the discretionary nature of the second home market. Personnel at the county assessor's office indicate that over long periods of time the housing market near Terry Peak mirrors the overall housing market of the county. Currently, higher valued housing prices are presently experiencing market downward pressure in this particular area in a degree similar to higher value housing elsewhere in the county.

Realtor's with work experience spanning the entire span of Wharf mining activity feel that the critical factor in determining the ultimate impact on these housing areas is the degree to which environmental impacts are screened from the area in a manner similar to what has been experienced in the past. Historically, mining by Wharf has had no measurable effect on property values, and if Wharf maintains their past record of being sensitive to adjacent land use, the impact resulting from the additional mine life will remain much as it has as it has over the last quarter century.

It is important to also point out that the long-run impact to the area has the potential to greatly enhance the recreational and commercial attributes of the area if certain reclamation efforts associated with the new permit are accepted. Past reclamation land use plans were focused primarily on wildlife habitat and grazing. The present permit involves a reclamation plan that redirects reclamation efforts much more to recreational, residential and commercial land uses. Should that be approved, the opportunity for enhanced re-use of mined land will be highly compatible with present adjacent land use in the immediate vicinity of Terry Peak.

SECTION VI

SUMMARY

The socioeconomic impacts to be expected in connection with the approval of the ore bodies associated with the mining permit presently contemplated by Wharf resources can be summarized as follows:

Economic Impacts

Economic impacts are substantial relative to other economic activities in the county employing a similar number of workers. This is because mining is a primary industry that creates new wealth that is distributed throughout other sectors of the economy in the process of extracting gold. The number of workers employed in the mining industry would expand by approximately 20 from the present to 155. These employment positions would exist for a period of about 7 years the permit is approved. In the absence of this permit approval, the mine's existing ore reserves will be exhausted in approximately 2012.

Earnings associated with these employment positions totals about \$10.1 million per year including worker benefits and other employment costs. Non payroll purchases of goods and services required by the company to conduct mining activity is expected to average about \$11.5 million and is expected to be even higher than this amount in the early years of development of the ore bodies associated with the permit.

These dollars would, in turn, generate induced economic impacts to the local economy as Wharf workers spend their income in the local economy and as the mine purchases goods and services from local vendors. It is estimated that the induced employment increment would amount to another 155 positions distributed in various local economic sectors.

Fiscal Impacts

State and local tax structures interact with mining activity. Given estimated projections of required local expenditures in the South Dakota economy it appears that sales taxes paid by Wharf

to the state would range somewhere in the range of \$670,000 to \$902,000. Workers, in the process of expending their earnings, will add at least another \$300,000 in sales tax benefit to the state. Although only a limited amount of direct purchases by the company occur in municipalities, it is apparent that most of the taxable expenditures incurred by Wharf employees does occur within municipal boundaries. Estimates of local sales taxes are beyond the scope of this study.

Property taxes directly arising from mine property accrue primarily to school districts and to Lawrence County government. During some of the peak assessment years property taxes to these two entities could amount to as much as \$900,000 per year. In years past, about 74 percent of local property taxes accrued to the school district. This means that during these peak years the school district could benefit up to \$666,000 per year depending on the price of gold and therefore the value of the property containing the gold ore. The balance would be directed toward county purposes.

The state tax on gold is comprised of two components. The first consists of a basic \$4.00 severance tax on gold. If the price of gold rises above \$800 per ounce the severance tax becomes \$8.00 per ounce. In addition, a net income tax is charged to gold companies and is equal to a flat 10 per cent of net company profits. Together, these two taxes will generate substantial revenue if the price of gold maintains itself near today's present value of \$1,200 per ounce. Any estimate of this revenue far into the future is subject to significant error given the general condition of the national economy. Broad estimates suggest that it could amount to between \$1.5 and \$2.5 million annually during some of the seven years of production.

Social Impacts

Impacts on public education arise from revenue and a from enrollment points of view. As seen earlier, the revenue impact to the Lead-Deadwood school district is substantial. The impact on enrollment, however, is minor. Only about 35 students in the Lead-Deadwood school district originate from households of Wharf employees. In the case of the Spearfish district the total is somewhat less than that amount. From the standpoint of school officials, additional enrollment is a benefit rather than a detriment to the financial condition of the district.

Representative opinions from public safety services such as police, fire, health, and emergency services do not regard the existence of the mine and its employees in their service area as a detriment to their activity. They report that no undue or unexpected requirements for service arise in connection with the mine.

Public utilities for the most part are operated via enterprise accounts which suggests that the demand for services largely are paid directly by users on a fee basis. Adequate capacities exist for such services in the area and continuation of their requirement by households of Wharf employees are not regarded as problematic.

Roads and streets similarly do not experience measurable additional wear by the company or their employees. Most of the utilization of company rolling stock occurs exclusively on mine property. Any realignment or other changes to State Highway 473 that may be required in connection with the mining activity connected to the permit will be at the cost of Wharf and according to South Dakota Department of Transportation guidelines and specifications.

Commercial recreation in the area of Wharf mining activity is limited primarily to the Terry Peak Ski Area. Considerable improvements have been made to the Terry Peak ski operation since the involvement of Wharf began in the 1990's. Considerable investments in snow making equipment have been made possible by the involvement of both Wharf and earlier by Golden Reward, now owned by the parent company of Wharf Resources. Mining activity of Golden Reward ore deposits will need to be seasonally adjusted in order to minimize impacts during the ski season.

Adjacent housing areas, particularly those located near the western portion of the ore deposit included within the pending permit adjacent to the existing Wharf property is the only component of the permit that could bear an impact on residential property owners. However, the Barefoot Condominium area and the Lost Camp subdivision and adjacent residential lots will not be adversely impacted, if mining activity associated with this permit is carried out using mining practices that are similar to what they have been able to accomplish over the past 27 years. According to knowledgeable real estate professionals and employees associated with the Lawrence County equalization office, market values of residential property has not suffered any adverse economic impacts from past mining activity by the company. Over long periods of time real estate values have fluctuated similar in the Lost Camp subdivision to what has occurred elsewhere in the county.