DAKOTA GOLD

Economic Impact of Dakota Gold Corp. in South Dakota

An Economic Impact Study

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UNIVERSITY OF SOUTH DAKOTA

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Executive Summary

The Homestake Mine in Lead, South Dakota has been closed since 2002. Dakota Gold Corp. is committed to revitalizing the Homestake District and creating a substantial positive economic impact in the State of South Dakota. This report explores, in detail, the various ways in which this impact would manifest and the assumptions underlying the estimates.

The Homestyle-style mining project described would produce between 2.4 million and 4 million ounces of gold.[1] It is envisioned as an introductory project that would likely lead to other mining projects in the Homestake District, potentially multiplying this impact over and over. All economic impacts in this report refer to 2.4 million oz. (2.4M), 3 million oz. (3M), and 4 million oz. (4M) mining projects as indicated, and all dollar values are reported in current dollars unless otherwise noted.

Highlights of the modeled impact to the state economy include:

- Historical impact from Dakota Gold's spending to date
  - » Output Impacts: $121.8 million
  - » Disposable Personal Income: $38.8 million
  - » State Revenue: $2.7 million
- A total of $3.5 to $5.5 billion dollars of impact on economic output over the life of the project
  - » Direct Impacts: $1.8 to $2.7 billion
  - » Indirect Impacts: $1.7 to $2.8 billion
  - » Average annual total impact on output represents approximately 0.33% of state GDP based on South Dakota's 2023 GDP
- Over 1,300 jobs during Construction and an average of roughly 1,200 jobs total during Production
  - » During Production, the Project would create 333 sustained jobs through direct hiring by Dakota Gold
  - » The Project would indirectly create an annual average of 876 additional jobs during Production
- Increased total disposable personal income[2] for South Dakota families by $2.6 to $5.7 billion. This means an increase of $154-247 per year for everyone in South Dakota or $617-989 per year for a family of 4[3].
- A total of $368-$781 million in tax revenue, excluding payroll taxes, generated for the State of South Dakota
  - » $118 to $192 million in sales, property, and other taxes
  - » $250 to $590 million in severance taxes (based on a gold price range of $1800-$2200)
  - » Average tax payments represent 0.9-1.2% of state General Fund tax receipts based on South Dakota's FY24 budget
  - » NOTE: As a result of the State Severance Tax, the tax revenue benefit of Dakota Gold is approximately four times that of similar sized firms in other industries.
- Potential for reinvestment of profits to develop other mining projects within South Dakota.

[1] The hypothetical is based on a portion of the known resource left at Homestake when the mine closed. The analysis would also apply generally to a potential project on Dakota Gold's Maitland property, although the analysis is not based on any specific plan at this point. It is for illustrative purposes only.

[2] Defined by the Bureau of Economic Analysis as, "the amount that U.S. residents have left to spend or save after paying taxes."

3 US 2020 Census population of 886,668 assumed

Introduction

Dakota Gold is a South Dakota-based responsible gold exploration and development company with a specific focus on revitalizing the Homestake District near Lead, South Dakota. Dakota Gold has high-caliber gold mineral properties covering over 48 thousand acres in the historic Homestake Mining District. The Dakota Gold team is focused on new gold discoveries and opportunities that build on the legacy of the Homestake District and its 145 years of gold mining history. Dakota Gold trades on the NYSE American under the symbol DC.

According to Lead Historic Preservation, the Homestake Mine began operations after gold was discovered in 1876 and operated continuously for 126 years, producing 41 million ounces of gold and 9 million ounces of silver. At today's gold price, this quantity of gold would have a value in excess of $78 billion. During its life, the Homestake Mine was a major driver of the South Dakota economy, particularly during periods of economic downturn (including the Great Depression) when the countercyclical nature of gold helped to offset weakness in the agricultural sector. Production ceased after 2002 as the nominal price of gold dipped below $300 an ounce.

Dakota Gold is focused on unlocking new opportunities presented by current higher gold prices, which averaged over $2400 in quarter 3 of 2024 per ounce of gold – more than eight times higher than when the Homestake Mine suspended operations in 2002.

Dakota Gold's initial drilling on its Maitland property has identified promising areas of gold mineralization. Additional work needs to be done to determine the size and extent of these areas. This report assumes a Maitland resource of between 2.4 million and 4 million ounces of gold and construction of an underground mine with appropriate processing facilities.

The resulting project would have a significant impact on the local and state economy of approximately $3.5 to 5.5 billion. The project's economic impact in South Dakota will be considered in three phases – exploration, construction, and production. Dakota Gold is currently in the exploration phase (i.e., looking for a ledge). This phase involves less spending than the actual mining, though there is still substantial economic impact.

Once a gold reserve has been established, the project would enter the construction phase. This phase involves 3-years of developing access to the ore deposits and process facilities. After construction, the project would enter production at rates consistent with a typical mid-size underground mine – approximately 200,000 to 250,000 ounces of gold per year. Additional discoveries or better economic conditions, such as higher gold prices, could substantially add to the production period and the positive economic impact. Years 4 and 5 are considered "ramp-up" years with full production in year 6.

As Dakota Gold's Maitland property is located near Lead, South Dakota, the economic impact, especially with respect to job creation, population, and output during production will be concentrated in the Black Hills and West River areas more than other parts of the state. The impact is not limited to West River; however, as spending will occur throughout the state, particularly during construction, and the additional State revenues, primarily through sales and severance taxes, will provide statewide benefits.

When discussing economic impact, we define the following four terms:

- **Direct Impact**: the impact of spending and hiring by Dakota Gold on South Dakota's economy.
- **Indirect Impact:** the impact of secondary increases in spending and hiring by other firms on South Dakota's economy, as well as the increases caused by additional household spending made possible by the jobs created.
- **Disposable Personal Income:** Income leftover to individuals for spending; gross income minus taxes and mandatory withholding.
- **State Revenue Impact:** Increases in state tax revenue consistent with the addition of economic activity brought by Dakota Gold plus additional tax revenue related to Severance Tax payments.

Input Data and Methodology

All data on project spending comes from the projected budgets and mining cash flow models as provided by Dakota Gold. Inputs to the model are considered in a variety of spending categories and are provided below in three broad categories: Labor/Payroll (spending on employees), Goods/Services (spending on goods, services, and contracted services), and Capital Expenditures (spending on machinery, durable goods, and land).

We calculate the impact of the project in two timeframes. We first look at the economic impact from the 5 years of exploration which have already occurred. We then look at the economic impact going forward. Table 1 shows Dakota Gold's annual expenditures to date.

Table 1. Annual Project Spending to Date

	Labor/Payroll	Goods/Services	Capital Expenditures	TOTAL
2019	$127,253	$42,038	$728,459	$897,750
2020	$1,628,733	$538,052	$4,731,043	$6,897,828
2021	$7,451,334	$2,461,546	$9,162,972	$19,075,851
2022	$13,842,438	$4,572,845	$1,296,528	$19,711,810
2023	$23,450,329	$7,746,809	$1,759,911	$32,957,048
2024	$24,494,813	$8,091,854	$1,633,770	$34,220,427
TOTALS:	**$70,994,899**	**$23,453,142**	**$19,312,683**	**$113,760,724**

Table 2 shows the expected annual expenditures for Dakota Gold in the future. In addition to spending, expected direct employment numbers are also reported; these represent the number of expected individuals employed by Dakota Gold.

The first two years of exploration phase represents what is happening now and is expected to continue for two years before construction begins. After the exploration phase, project expenditures increase greatly during the mine construction and production phases. The first three years of this phase are planned for construction. production is expected to begin at 50% capacity in year 4, 90% capacity in year 5, and full capacity from years 6 and beyond.

We model three different production scenarios based on the amount of expected available gold in the mine:

- 2.4 million ounces (2.4M) of available gold represents the baseline amount of gold available
- 3 million ounces (3M) is a low-mid-level estimate
- 4 million ounces (4M) is a high-mid-level estimate
- 6 million ounces is a high-level estimate (not modeled to ensure estimates remain conservative)

Table 2 shows the spending (in thousands of dollars) related to construction and production costs assuming a medium-sized, underground mine. Dakota Gold may decide in later years to increase the productive capacity of the mine as more gold deposits are found which would increase annual spending in each category; however, these models assume constant production where discovery of additional deposits increase the life of the mine. In years where expected spending was not delineated by detailed category, aggregate numbers were prorated to the level of years with more detailed information. Expected spending for additional years were calculated at an average of spending during full-production years.

Table 2. Estimated Annual Project Spending in 2.4M, 3M, and 4M Scenarios (in thousands of dollars)

Year	Labor/Payroll	Goods/Services	Capital Expenditures	TOTAL	Direct Employment (FYE)
1	$10,596	$1,760	$4,768	$17,024	152
2	$10,596	$1,760	$4,768	$17,024	152
3	$15,597	$65,196	$14,776	$95,568	110
4	$15,597	$117,766	$59,736	$193,099	110
5	$8,859	$113,870	$102,321	$225,050	62
6	$23,626	$64,972	$52,159	$140,757	167
7	$42,526	$64,038	$39,855	$146,419	300
8	$47,251	$47,984	$30,652	$125,887	333
9	$47,251	$49,934	$30,960	$128,146	333
10	$47,251	$53,942	$33,348	$134,541	333
11	$47,251	$51,575	$31,938	$130,765	333
12	$47,251	$48,295	$29,984	$125,530	333
13	$47,251	$48,776	$29,866	$125,893	333
14	$47,251	$47,269	$28,968	$123,489	333
15	$47,251	$46,047	$28,240	$121,539	333
16	$47,251	$44,501	$26,511	$118,262	333
17	$47,251	$47,881	$28,525	$123,657	333
18	$47,251	$40,764	$24,285	$112,300	333
19	$47,251	$33,901	$20,196	$101,348	333
TOTALS 2.4M	**$767,721**	**$1,117,115**	**$698,175**	**$2,583,011**	
TOTALS 3M	**$885,849**	**$1,245,284**	**$779,635**	**$2,910,768**	
TOTALS 4M	**$1,098,480**	**$1,448,118**	**$905,575**	**$3,452,173**	

Another interesting feature of Dakota Gold's direct job creation is the number of high-paying jobs that do not require a 4-year college degree. Table 3 provides the number of Production jobs Dakota Gold will create that do not require a 4-year degree paying a salary of more than $70,000-$100,000 annually.

Table 3. Created Jobs not Requiring a 4-year Degree (Direct impact only)

	Compensation:			
Dakota Gold Jobs	$70,000+	$80,000+	$90,000+	$100,000+
	273	258	192	156

In addition to these high-paying jobs not requiring four-year degrees, the project would also create an estimated 36 professional jobs in geology, engineering, finance, and other disciplines with an average annual compensation of around $143,000 during production. Larger numbers of similar, but shorter-term jobs are created during construction.

We use the South Dakota – Single Region model developed by Regional Economic Modeling, Inc. (REMI) to derive the impact of the expansion on state output, personal income, employment, and population. REMI is used by government agencies, nonprofits, universities, and similar institutions to determine the economic effects of initiatives and is calibrated to be representative of the geographic area. All inflation adjustments use the CPI calculated by the Bureau of Labor Statistics for the Midwest region. All reported impacts in this study assume the spending estimates are accurate representations of Dakota Gold's spending and timelines.

Full Impact of Dakota Gold on the State Economy

Before we begin exploring the potential future economic impacts, we explore the impact Dakota Gold's exploration efforts have already had on the state economy. Table 3 provides information related to the estimated impact of Dakota Gold on employment, population, state output, disposable personal income, and revenue directly to the state.

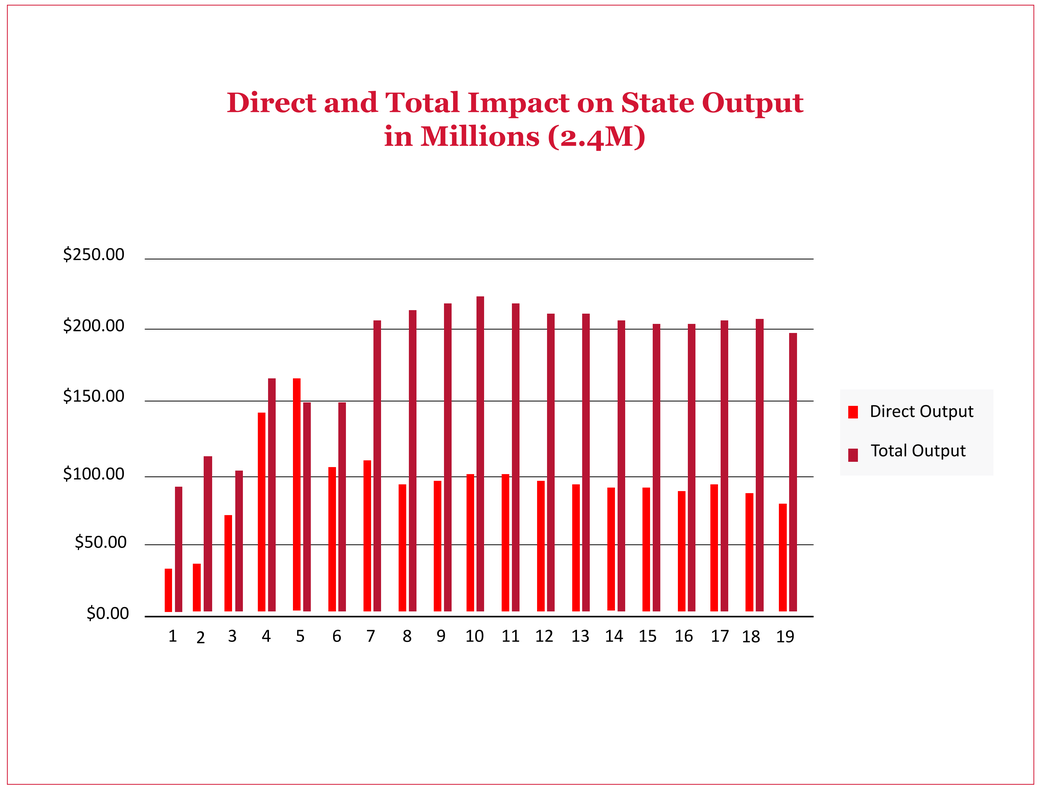
Table 4. Impact of Dakota Gold's Historial Spending

Year	Employment	Population	Output	Disposable Personal Income	State Revenue
2019	2	0	$267,861	$81,124	$44,873
2020	22	3	$3,234,236	$1,045,425	$301,539
2021	91	13	$13,791,039	$4,268,946	$629,923
2022	155	30	$23,858,038	$7,420,528	$382,166
2023	253	55	$39,260,838	$12,343,056	$607,829
2024	264	79	$41,339,443	$13,633,383	$687,000
TOTALS:			**$121,751,454**	**$38,792,463**	**$2,653,329**

In addition to the direct spending and job creation shown above, the project would also have an indirect impact on the state economy through job creation, increased state economic output, increased disposable income, increased population, and increased state tax revenues. Using these assumptions and methodology, we estimate the economic impact of Dakota Gold's exploration, construction, and production. We model two years of exploration (years 1 and 2), followed by construction in years 3 through 6. Mining would begin in year 6, reaching full capacity in year 8; production is modeled in three scenarios with 2.4M, 3M, and 4M ounces gold produced. Figure 1 depicts the direct total impact on output in South Dakota in the 2.4M ounces scenario. Table 5.1 provides a breakdown of the project's annual direct and total impacts[3] on economic output and employment under the 2.4M, 3M, and 4M scenarios. Table 5.2 series provides a breakdown of expected annual direct and total impacts on employment, population, economic output, and disposable personal income. Table 6 provides impacts to State revenue which includes both modeled impacts and the additional severance tax Dakota Gold would pay under the three production scenarios at various gold prices.

[3] Total impact includes the direct impact of Dakota Gold's direct activities, and the indirect impacts from businesses contracting with Dakota Gold and providing support services, as well as the additional impacts from the increased economic activity supported by those jobs and spending.

Figure 1. Direct and Total Impact on State Output in Millions (2.4M)



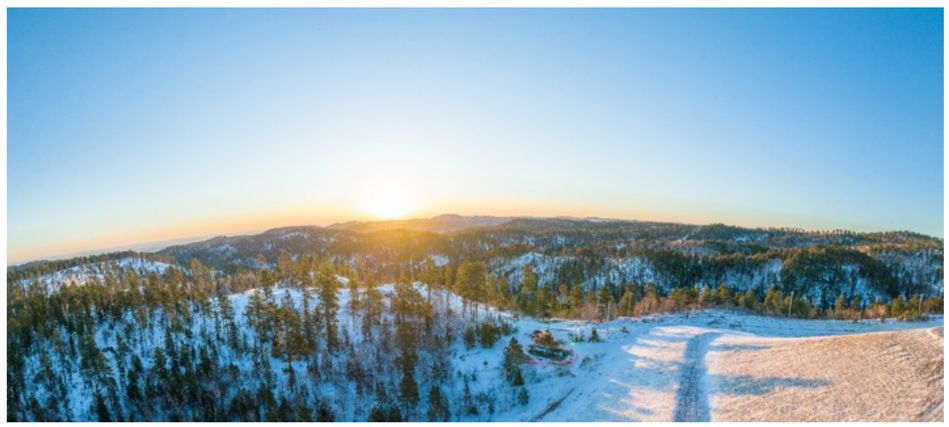


Table 5.1 Annual Direct and Total Impact 2-year Exploration Phase Plus Mine Development and Operations in 2.4M, 3M, and 4M Ounce Gold Scenarios on Employment and Output

Year	Activity	Direct Employment	Total Employment	Direct Output (Millions)	Total Output (Millions)
1	Exploration	152	524	$34.60	$94.89
2	Exploration	152	566	$34.60	$102.37
3	Construction	110	743	$71.57	$102.31
4	Construction	110	1247	$144.62	$168.28
5	Construction	62	1119	$168.28	$150.84
6	Const. + Production (50% Capacity)	167	989	$105.42	$150.57
7	Const. + Production (90% Capacity)	300	1304	$109.66	$209.49
8	Production	333	1316	$94.28	$216.34
9	Production	333	1325	$95.97	$219.71
10	Production	333	1341	$100.76	$223.82
11	Production	333	1298	$97.94	$219.49
12	Production	333	1245	$94.01	$213.53
13	Production	333	1227	$94.29	$212.57
14	Production	333	1193	$92.49	$209.19
15	Production	333	1163	$91.03	$206.56
16	Production	333	1142	$88.57	$205.09
17	Production	333	1156	$92.61	$208.98
18	Production	333	1087	$84.11	$200.76
19	Production	333	1021	$75.90	$192.82
2.4 M Scenario	**Total Direct and Indirect Impact:**			**$1,770.98**	**$3,507.62**
3 M Scenario	**Total Direct and Indirect Impact:**			**$2,103.49**	**$4,232.03**
4 M Scenario	**Total Direct and Indirect Impact:**			**$2,654.67**	**$5,462.79**

Average Employment Impacts:

Average:	**274**	**1106**
Full Production Average:	**333**	**1209**

Table 5.2 Total Annual Impact 2-year Exploration Phase Plus Construction and Production in 2.4M, 3M, and 4M Ounce Gold Scenarios Including Employment, Population, and Disposable Personal Income

Year	Activity	Employment	Population	Output (Millions)	Disposable Personal Income (Millions)
1	Exploration	524	56	$94.89	$33.32
2	Exploration	566	111	$102.37	$40.37
3	Construction	743	200	$102.31	$58.45
4	Construction	1247	341	$168.28	$103.54
5	Construction	1119	444	$150.84	$102.47
6	Const. + Production (50% Capacity)	989	513	$150.57	$95.11
7	Const. + Production (90% Capacity)	1304	615	$209.49	$124.34
8	Production	1316	697	$216.34	$134.93
9	Production	1325	772	$219.71	$144.33
10	Production	1341	839	$223.82	$154.40
11	Production	1298	892	$219.49	$158.72
12	Production	1245	930	$213.53	$161.43
13	Production	1227	961	$212.57	$167.38
14	Production	1193	982	$209.19	$171.45
15	Production	1163	996	$206.56	$175.85
16	Production	1142	1004	$205.09	$181.53
17	Production	1156	1012	$208.98	$191.69
18	Production	1087	1009	$200.76	$191.42
19	Production	1021	997	$192.82	$190.43
2.4 M Total Impact--Output and Income:				**$3,507.62**	**$2,581.16**
3 M Total Impact--Output and Income:				**$4,232.03**	**$3,390.82**
4 M Total Impact--Output and Income:				**$5,462.79**	**$5,670.47**

Average Employment and Population Impacts:

Averages:	**1106**	**703**
Full Production Average:	**1209**	**924**

In addition to the traditional tax revenues the state would receive from any business venture, Dakota Gold would also pay state severance tax on gold. This means Dakota Gold has a far larger impact on state budgets than would another business at the same spending levels. The only Company currently paying the State Severance tax for gold mining is the Wharf mine. The mine has operated since 1982 and has produced more than 3 million ounces of gold. The amount of gold from the Wharf mine is at the lower end of what is expected from a Homestake-style gold property.

The State Severance Tax in South Dakota includes 3 parts:

- Each ounce of gold, beyond 20, has a per unit tax which fluctuates at lower gold prices. Based on current gold prices, this is $8 per ounce of gold.
- Net Profit is taxed at 10%
- Royalty Interests are taxed at 8% of their value. (NOTE: Severance tax estimates listed below do not include any tax revenue from royalty interests.)

Severance tax revenue estimates were derived using the 2.4M, 3M, and 4M ounce gold estimates regarding the amount of gold extracted annually from a medium-sized underground mine. We selected three possible gold prices: $1800 per ounce, $2000 per ounce, and $2200 per ounce. In addition to consulting with Dakota Gold on the gold prices they expect, we also gathered data from Macrotrends, a long-term investment research platform to simulate gold prices into the future under conditions of uncertainty. The average monthly gold price from January 2018 through

December 2022 is just over $1700 per ounce. Assuming the trend of gold prices continues a similar average trajectory as from fall 2009 through summer 2024, the average simulated gold price during the mine's expected operations is approximately $2056 per ounce. Using $1800 as a conservative estimate, $2000 as a moderate estimate, and $2200 as a high-level estimate is in-line with both Dakota Gold's expectations and historical gold price trends. We note that average gold prices for the 3rd quarter in 2024 exceed $2400 per ounce according to the World Gold Council.

Table 6 provides estimates of the severance tax under $1800 per ounce, $2000 per ounce, and $2200 per ounce gold prices. These taxes will start once mining operations begin in year 6. They also include estimates from REMI for state tax revenue impacts beyond severance tax payments. The average expected impact of Dakota Gold relative to the state budget equates to 0.9 to 1.3% of state General Fund tax receipts based on South Dakota's FY24 budget for the range of gold prices and production levels estimated.

Table 6 Expected Total State Revenue Impacts Including Severance Tax Payments to the State of South Dakota under 2.4M, 3M, and 4M Ounce Gold Scenarios (in Millions)

Year	Severance Tax (Price = $1800)	Severance Tax (Price = $2000)	Severance Tax (Price = $2200)	State Revenue Impact[4]	Total[5] State Revenue (Price = $1800)	Total[5] State Revenue (Price = $2000)	Total[5] State Revenue (Price = $2200)
1	N/A	N/A	N/A	$1.48	$1.48	$1.48	$1.48
2	N/A	N/A	N/A	$1.83	$1.83	$1.83	$1.83
3	N/A	N/A	N/A	$2.55	$2.55	$2.55	$2.55
4	N/A	N/A	N/A	$5.59	$5.59	$5.59	$5.59
5	N/A	N/A	N/A	$7.48	$7.48	$7.48	$7.48
6	$2.29	$3.81	$5.34	$5.62	$7.91	$9.43	$10.95
7	$12.56	$15.87	$19.19	$6.16	$18.72	$22.03	$25.35
8	$17.55	$21.37	$25.19	$6.25	$23.80	$27.62	$31.45
9	$18.13	$22.05	$25.98	$6.64	$24.77	$28.69	$32.62
10	$17.53	$21.45	$25.37	$7.08	$24.61	$28.53	$32.45
11	$17.52	$21.31	$25.10	$7.23	$24.75	$28.54	$32.33
12	$17.52	$21.10	$24.69	$7.29	$24.81	$28.39	$31.98
13	$20.37	$24.16	$27.95	$7.44	$27.81	$31.60	$35.39
14	$21.56	$25.32	$29.08	$7.50	$29.06	$32.82	$36.58
15	$21.76	$25.42	$29.08	$7.55	$29.31	$32.98	$36.64
16	$22.29	$25.97	$29.66	$7.56	$29.85	$33.53	$37.22
17	$23.12	$26.93	$30.74	$7.75	$30.87	$34.68	$38.49
18	$19.86	$23.19	$26.53	$7.56	$27.42	$30.75	$34.09
19	$17.63	$20.60	$23.57	$7.35	$24.98	$27.95	$30.92
TOTALS 2.4 M	**$249.68**	**$298.57**	**$347.47**	**$117.92**	**$367.60**	**$416.49**	**$465.38**
TOTALS 3 M	**$318.18**	**$379.92**	**$441.66**	**$148.06**	**$466.24**	**$527.98**	**$589.72**
TOTALS 4 M	**$425.81**	**$507.74**	**$589.67**	**$191.69**	**$617.50**	**$699.43**	**$781.36**

[4] Does not include severance tax; this is reverse beyond the severance tax; this is the only tax revenue the state would recieve from similar sized firms in other industries.
[5] Includes severance tax and other state revenue impacts

Conclusion

Based on the data provided by Dakota Gold and our analysis, Dakota Gold has already provided $122 million of economic impact to South Dakota, including $2.7 million dollars to state revenues, and 264 additional jobs.

Looking forward, successful exploration that results in a project reaching full production would increase average annual employment within the State by 1,100 jobs and increase disposable personal income within the State by $2.6 to $5.7 billion. The project would create both high-paying professional jobs, as well as hundreds of other jobs with average compensation greater than $100,000 per year. Notably, more than 150 jobs not requiring a four-year degree would be estimated to receive compensation in excess of $100,000 per year, creating an outstanding base for blue-collar, middle-class employment within the State.

The project would also create significant tax revenue for the State of South Dakota: $368 to $781 million dollars based on the assumed gold price range of $1800/oz to $2200/oz.

Perhaps most excitingly, the discovery of additional deposits within the Homestake District could replicate the results of this economic impact multiple times over.

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