



UNIVERSITY OF  
**SOUTH DAKOTA**  
BEACOM SCHOOL OF BUSINESS



**DAKOTA GOLD**

# Economic Impact of Dakota Gold Corp. in South Dakota

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## Executive Summary

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

The modeled mining project (the “Project”) has a time horizon of 19 years and would produce up to 2.4 million ounces of gold. 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 the first 19-year mining project and all dollar values are reported in current dollars unless otherwise noted.



## **Highlights of the modeled impact to the state economy include:**

- A total of \$4.0 billion dollars of impact on economic output
  - Direct Impacts: \$1.7 billion
  - Indirect Impacts: \$2.3 billion
- Nearly 3,000 jobs during Construction and an average of 1,160 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 827 additional jobs during Production
- Increased total disposable personal income<sup>1</sup> for South Dakota families by \$1.7 billion.
- A total of \$350-\$400 million in tax revenue, excluding payroll taxes, generated for the State of South Dakota
  - \$150 million in sales, property, and other taxes
  - \$200-\$250 million in severance taxes (based on a gold price range of \$1600-\$1800)
- Potential for reinvestment of free cash flow to develop other mining projects within South Dakota.

<sup>1</sup> Defined by the Bureau of Economic Analysis as, “the amount that U.S. residents have left to spend or save after paying taxes.”

# Economic Impact Highlights

Dakota Gold Corp. is committed to revitalizing the Homestake District and creating a substantial positive economic impact in the State of South Dakota.

## Financial



### \$4 Billion in Economic Impact on Output

- \$1.7 Billion in Direct Impacts
- \$2.3 Billion in Indirect Impacts

**PLUS:** \$1.7 Billion Increase in Disposable Income for South Dakota families

## Jobs

### 1,160 Jobs Created during Production

- 333 Dakota Gold Direct Hire Jobs Created
- 827 Additional Indirect Jobs Created

**PLUS:** Nearly 3,000 Jobs Created During Construction



## Tax Revenue

### South Dakota



### \$350-\$400 Million in State Tax Revenue

- \$150 Million in Sales, Property, and Other Taxes
- \$200-\$250 Million in Severance Taxes

**PLUS:** Potential for reinvestment in future mining projects within South Dakota

## 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 43 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 at the time of this report is in excess of \$1900 per ounce of gold – more than six times higher than when the Homestake Mine suspended operations in 2002.

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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 the successful discovery of a new ledge<sup>2</sup> in the Maitland area with a resource of 2.4 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 \$4.0 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.



2 A “ledge” as used in this context refers to a deposit of mineralized rock containing mineable concentrations of gold, embedded within layers of rock that would not be economic to mine.

Once a ledge is discovered, 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 a 14-year period of 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 two 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.



## Input Data and Methodology

All data on Project spending comes from the projected budgets and mining cash flow models as provided by Dakota Gold.

We project the initial impact of the Project in two scenarios. The first assumes that for a period of five years, Dakota Gold engages only in Exploration. Dakota Gold believes that this is an unlikely scenario, as its Exploration activities to date have been very encouraging; however, even an Exploration only scenario that does not result in eventual Construction and Production has a significant positive impact on the South Dakota economy.

The second scenario includes a two-year Exploration Phase followed by three years of Construction and ramp up, with full scale production beginning in year 8 of the Project. Dakota Gold believes this is a very realistic scenario, assuming continued success during Exploration and that construction is not met with delays in permitting or similar administrative processes.

The Exploration phase represents what is happening now and is expected to continue for two additional years before Construction begins. Table 1 provides two estimates of expected annual spending related to the Exploration Phase. The Current In-State Spending figures represent the current proportion of in-state spending based on the availability of in-state personnel, goods and services, and machinery/durable goods. Dakota Gold is committed to moving as much of this spending in-State as practicable, assuming availability of resources and a competitive bidding process. The All Spending In-State figure in Table 1 represents what expected spending would be if all exploration spending can be moved in-State and represents the upper limit on expected exploration spending. In addition to spending, expected direct employment numbers are also reported; these represent the number of expected individuals employed by Dakota Gold.

**Table 1. Estimated Annual Spending for Dakota Gold During Exploration Phase**

	<b>Current In-State Spending</b>	<b>All Spending In-State</b>
Labor/Payroll	\$17,158,668	\$20,992,906
Goods and Services	\$1,993,768	\$3,519,641
Machinery/Durable Goods	\$9,535,136	\$9,535,137
<b>TOTAL</b>	<b>\$28,687,572</b>	<b>\$34,047,683</b>
<b>Direct Employment (FTE)</b>	<b>97</b>	<b>152</b>

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 6-17. For the purposes of modeling economic impact, we assume the mine stops at the end of year 17, although there are many scenarios where Production could continue as additional ledges are discovered and developed. Table 2 shows the spending (in thousands of dollars) related to Construction and Production costs assuming a medium-sized, underground mine with a 17-year life. In years where expected spending was not delineated by detailed category, aggregate numbers were prorated to the levels of years with more detailed information. As with Table 1, Table 2 also includes estimates for Dakota Gold's direct employment of Project personnel.

**Table 2. Estimated Annual Project Spending during Construction and Production Phases (in thousands of dollars)**

Year	Labor/ Payroll	Good/ Services	Machinery/ Durable Goods	TOTAL	Direct Employment (FTE)
1	\$15,597	\$65,196	\$14,776	\$95,568	110
2	\$15,597	\$117,766	\$59,736	\$193,099	110
3	\$8,859	\$113,870	\$102,321	\$225,050	62
4	\$23,626	\$64,972	\$52,159	\$140,757	167
5	\$42,526	\$64,038	\$39,855	\$146,419	300
6	\$47,251	\$47,984	\$30,652	\$125,887	333
7	\$47,251	\$49,934	\$30,960	\$128,146	333
8	\$47,251	\$53,942	\$33,348	\$134,541	333
9	\$47,251	\$51,575	\$31,938	\$130,765	333
10	\$47,251	\$48,295	\$29,984	\$125,530	333
11	\$47,251	\$48,776	\$29,866	\$125,893	333
12	\$47,251	\$47,269	\$28,968	\$123,489	333
13	\$47,251	\$46,047	\$28,240	\$121,539	333
14	\$47,251	\$44,501	\$26,511	\$118,262	333
15	\$47,251	\$47,881	\$28,525	\$123,657	333
16	\$47,251	\$40,764	\$24,285	\$112,300	333
17	\$47,251	\$33,901	\$20,196	\$101,348	333
<b>TOTALS</b>	<b>\$673,219</b>	<b>\$986,709</b>	<b>\$612,320</b>	<b>\$2,272,248</b>	

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)**

	<b>Compensation</b>			
	<b>\$70,000+</b>	<b>\$80,000+</b>	<b>\$90,000+</b>	<b>\$100,000+</b>
Dakota Gold Jobs	273	258	192	156

In addition to these high-paying jobs not requiring four-year degrees, during Production 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. 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 GDP, 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.

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## Full Impact of Dakota Gold on the State Economy

In addition to the direct spending and job creation discussed 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 in three scenarios. The first two consider scenarios where the Project never reaches Construction:

- A 5-year Exploration phase with no Construction or Production and not increasing the proportion spent in state. This is the “worst-case” scenario. Table 4.1 provides a breakdown of Dakota Gold's expected average direct and indirect impact on output and employment, and Table 4.2 provides the total impact on employment, economic output, disposable personal income, population, and state revenue in this scenario.
  - A 5-year Exploration phase with no Construction or Production but shifting all exploration spending in state. Table 5.1 provides a breakdown of Dakota Gold's expected average direct and indirect impact on economic output and employment, and Table 5.2 provides total impact on employment, economic output, disposable personal income, population, and state revenue in this scenario.
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**Table 4.1 Average Direct and Indirect Impact of 5-year Exploration Phase at Current In-State Spending Levels**

	Average Employment (FTE)	Average Output (millions)
Direct	97	\$28.69
Indirect	126	\$10.15
<b>Overall</b>	<b>223</b>	<b>\$38.84</b>

**Table 4.2 Total Impact of 5-year Exploration Phase at Current In-State Spending Levels**

	2023	2024	2025	2026	2027
Employment	204	222	229	230	228
Output (Millions)	\$35.23	\$38.19	\$39.72	\$40.42	\$40.61
Disposable Personal Income (Millions)	\$9.51	\$10.96	\$11.86	\$12.44	\$12.69
Population	22	43	62	80	94
State Revenues (Thousands)	\$689.62	\$851.02	\$968.41	\$1,071.12	\$1,159.15

**Table 5.1 Average Direct and Indirect Impact of 5-year Exploration Phase at Current In-State Spending Levels**

	Average Employment (FTE)	Average Output (millions)
Direct	152	\$34.05
Indirect	230	\$31.29
<b>Overall</b>	<b>382</b>	<b>\$65.34</b>

**Table 5.2 Total Impact of 5-year Exploration Phase at 100% In-State Spending Levels**

	2023	2024	2025	2026	2027
<b>Employment</b>	352	381	392	394	390
<b>Output (Millions)</b>	\$59.54	\$64.34	\$66.81	\$67.89	\$68.14
<b>Disposable Personal Income (Millions)</b>	\$16.43	\$18.91	\$20.51	\$21.47	\$21.98
<b>Population</b>	40	78	113	143	170
<b>State Revenues (Thousands)</b>	\$1,085.79	\$1,349.90	\$1,569.99	\$1,746.07	\$1,892.79

The economic impact of the Project is much higher to the South Dakota Economy under the more desirable, and likely, scenario where Exploration successes result in Construction and Production. We model a scenario where two years of Exploration (years 1 and 2) lead to Construction in years 3 through 6, with mining beginning in year 6, reaching full capacity in year 8, and continuing Production through year 19. Table 6.1 provides a breakdown of the Project's annual direct and indirect impacts<sup>3</sup> on economic output and employment spending under this scenario. Table 6.2 provides a breakdown of the Project's expected average direct and indirect impacts between capital spending and spending on operations on employment, output, disposable income, population, and state revenue. Table 6.3 provides a breakdown of expected annual direct and indirect impacts on employment, economic output, disposable personal income, population, and State revenue.



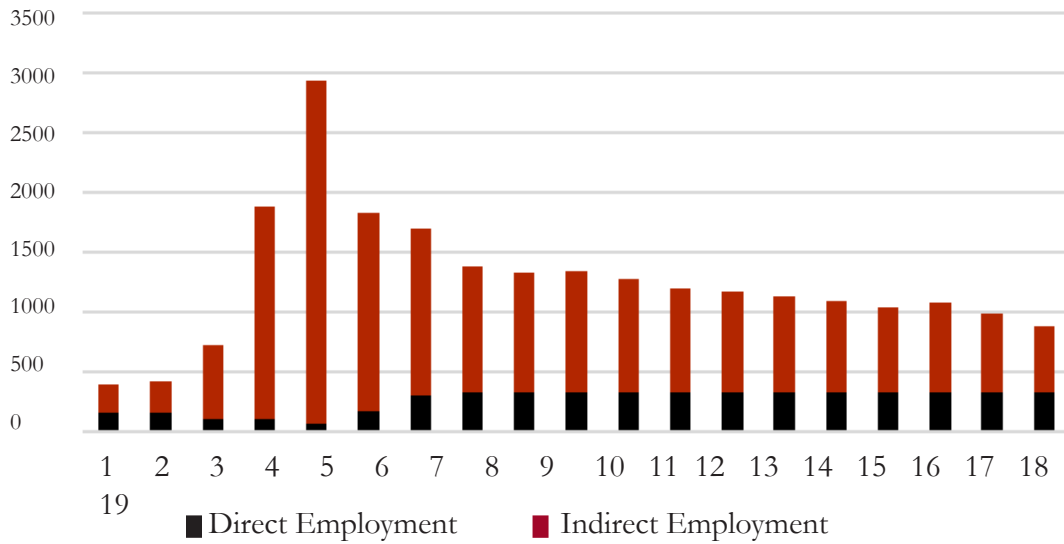
3 Total impact includes the direct impact of Dakota Gold's direct activities, and the indirect impacts from businesses contracting with Dakota Gold and providing support services, as well as the additional impacts from the increased economic activity supported by those jobs and spending.



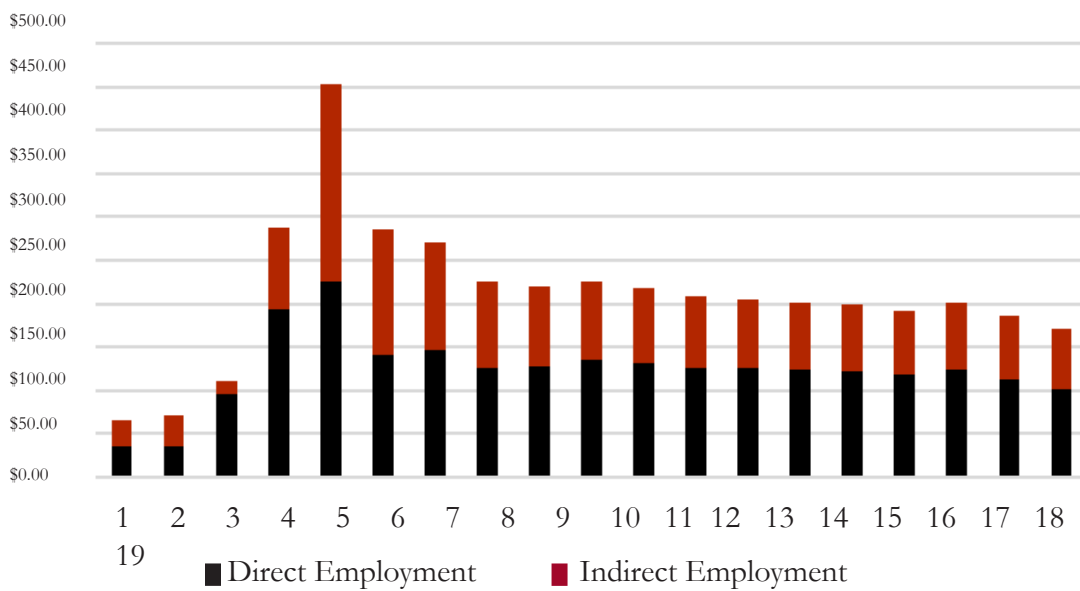
**Table 6.1 Annual Direct and Indirect Impact 2-year Exploration Phase Plus Mine Development and Operations on Employment and Output**

<b>Year</b>	<b>Activity</b>	<b>Direct Employment</b>	<b>Indirect Employment</b>	<b>Direct Output (Millions)</b>	<b>Indirect Output (Millions)</b>	
1	Exploration	152	243	\$34.60	\$30.96	
2	Exploration	152	271	\$34.60	\$35.92	
3	Construction	110	611	\$95.57	\$14.36	
4	Construction	110	1772	\$193.10	\$95.43	
5	Construction	62	2869	\$225.05	\$228.16	
6	Const. + Production (50% Capacity)	167	1657	\$140.76	\$144.56	
7	Const. + Production (90% Capacity)	300	1391	\$146.42	\$123.53	
8	Production	333	1048	\$125.89	\$99.37	
9	Production	333	1000	\$128.15	\$92.56	
10	Production	333	1015	\$134.54	\$91.96	
11	Production	333	944	\$130.76	\$87.21	
12	Production	333	867	\$125.53	\$82.37	
13	Production	333	835	\$125.89	\$79.72	
14	Production	333	795	\$123.49	\$78.09	
15	Production	333	764	\$121.54	\$77.47	
16	Production	333	708	\$118.26	\$73.35	
17	Production	333	743	\$123.66	\$77.59	
18	Production	333	647	\$112.30	\$73.31	
19	Production	333	554	\$101.35	\$68.74	
				<b>Totals:</b>	<b>\$2,341.44</b>	<b>\$1,654.68</b>
<b>Average:</b>		<b>266</b>	<b>986</b>			
<b>Average: Years 8-19 (Full Production)</b>		<b>333</b>	<b>827</b>			

### Direct and Indirect Impact on State Employment



### Direct and Indirect Impact on State Output



**Table 6.2 Average Annual Impact of 2-year Exploration Phase Plus Construction and Production Between Capital and Operations**

Category	Employment	Output (Millions)	Disposable Income (Millions)	Population
Capital Spending	358	\$58.11	\$28.38	369
Operations Spending	894	\$152.21	\$60.88	731
<b>TOTAL</b>	<b>1252</b>	<b>\$210.32</b>	<b>\$89.26</b>	<b>1100</b>

**Table 6.3 Total Annual Impact 2-year Exploration Phase Plus Construction and Production**

Year	Activity	Employment	Population	Output (Millions)	Disposable Personal Income (Millions)
1	Exploration	395	48	\$65.56	\$18.93
2	Exploration	423	92	\$70.52	\$21.58
3	Construction	721	206	\$109.93	\$40.61
4	Construction	1882	517	\$288.53	\$114.77
5	Construction	2931	977	\$453.21	\$185.76
6	Const. + Production (50% Capacity)	1823	1150	\$285.31	\$121.01
7	Const. + Production (90% Capacity)	1691	1275	\$269.95	\$112.76
8	Production	1381	1323	\$225.26	\$96.87
9	Production	1333	1363	\$220.71	\$95.48
10	Production	1348	1403	\$226.50	\$97.93
11	Production	1277	1426	\$217.50	\$94.80
12	Production	1200	1433	\$207.90	\$91.19
13	Production	1168	1433	\$205.61	\$90.31
14	Production	1128	1427	\$201.58	\$88.74
15	Production	1097	1415	\$199.01	\$88.01
16	Production	1041	1393	\$191.61	\$85.65
17	Production	1076	1381	\$201.25	\$89.28
18	Production	980	1350	\$185.61	\$83.96
19	Production	887	1304	\$170.09	\$78.31
<b>Totals:</b>				<b>\$3,996.11</b>	<b>\$1,695.94</b>

We estimate 52-57% of indirect jobs created will not require a 4-year degree.

The Project's direct and indirect economic impact on state sales and property tax revenues are listed previously in Table 6.3. However, Dakota Gold would also pay State severance tax on gold. The 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 here do not include any tax revenue from royalty interests.)

Severance tax revenue estimates were derived using Dakota Gold's conservative estimates regarding the amount of gold extracted annually from a medium-sized, underground mine. We selected two possible gold prices: \$1600 per ounce and \$1800 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 \$1600 per ounce. Assuming the trend of gold prices continues a similar average trajectory as that from 2010 until 2022, the average simulated gold price during the mine's expected operations is approximately \$1840 per ounce. Using \$1600 as a conservative estimate and \$1800 as a higher estimate is in-line with both Dakota Gold's expectations and historical gold price trends. We note that on the date of this report, gold is currently trading in excess of \$1900 per ounce.

Table 7 provides estimates of the severance tax under the \$1600 per ounce and \$1800 per ounce prices. These taxes will start once mining operations begin in year 6. The average expected impact of Dakota Gold relative to the state budget equates to 1.0 to 1.1% of state General Fund tax receipts based on South Dakota's FY22 budget.

**Table 7. Expected Total State Revenue Impacts Including Severance Tax Payments to the State of South Dakota (Millions)**

Year	Severance Tax Gold Price = \$1600	Severance Tax Gold Price = \$1800	State Revenue Impact	Total State Revenue (Gold at \$1600)	Total State Revenue (Gold at \$1800)
1	N/A	N/A	\$1.16	\$1.16	\$1.16
2	N/A	N/A	\$1.44	\$1.44	\$1.44
3	N/A	N/A	\$2.79	\$2.79	\$2.79
4	N/A	N/A	\$7.76	\$7.76	\$7.76
5	N/A	N/A	\$12.78	\$12.78	\$12.78
6	\$0.77	\$2.29	\$9.32	\$10.09	\$11.61
7	\$9.24	\$12.56	\$9.17	\$18.41	\$21.73
8	\$13.73	\$17.55	\$8.57	\$22.30	\$26.12
9	\$14.20	\$18.13	\$8.73	\$22.93	\$26.86
10	\$13.61	\$17.53	\$9.08	\$22.70	\$26.61
11	\$13.72	\$17.52	\$9.07	\$22.79	\$26.58
12	\$13.94	\$17.52	\$8.97	\$22.91	\$26.49
13	\$16.58	\$20.37	\$8.98	\$25.56	\$29.35
14	\$17.80	\$21.56	\$8.94	\$26.73	\$30.49
15	\$18.10	\$21.76	\$8.89	\$26.99	\$30.65
16	\$18.61	\$22.29	\$8.73	\$27.34	\$31.02
17	\$19.31	\$23.12	\$8.89	\$28.20	\$32.01
18	\$16.52	\$19.86	\$8.54	\$25.06	\$28.40
19	\$14.66	\$17.63	\$8.14	\$22.80	\$25.77
<b>TOTALS</b>	<b>\$200.79</b>	<b>\$249.68</b>	<b>\$149.94</b>	<b>\$350.73</b>	<b>\$399.62</b>

## Conclusion

Based on the data provided by Dakota Gold and our analysis, successful Exploration that results in a Project reaching full Production would increase average annual employment within the State by 1,160 jobs and increasing disposable personal income within the State by \$1.7 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: \$350-\$400 million dollars based on the assumed gold price range of \$1600/oz to \$1800/oz.

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





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