Economic and tax contributions of the Taylor Development at the Hermosa Project

Prepared for Arizona Minerals Inc. March 2022





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Executive summary

EY was commissioned by Arizona Minerals Inc. ("AMI") to estimate the anticipated economic and tax contributions of the Taylor Development at the Hermosa Project ("Taylor"), a lead, silver, and zinc mine to be developed and owned by AMI in Santa Cruz County, Arizona. This analysis considers the contributions related to the construction of Taylor as well as the operations during a "typical" operating year.

Economic contributions described in this report include:

- Employment: full-time and part-time jobs
- ► Labor income: Salaries, wages, and benefits related to employment
- Value added: Labor income plus indirect business taxes, consumption of fixed capital (depreciation), and mixed income
- ▶ Gross economic output: Sum of value-added and intermediate input (supplier) purchases
- ► Taxes: property, sales, income, severance, and other state and local taxes

The analysis includes three types of economic and tax contributions:

- 1. Direct contribution: Direct contribution includes the total full-time and part-time employees, labor income, and value-added (GDP) generated by Taylor. Economic output is generally measured as revenue from operations.
- 2. Indirect contribution: The indirect economic contribution is attributable to purchases from suppliers. The indirect contribution also captures the additional input purchases from local suppliers by businesses supplying Taylor, hereby creating subsequent rounds of indirect effects.
- 3. Induced contribution: The induced contribution includes the spending by employees of Taylor and the employees of suppliers at local businesses including grocery stores, restaurants, and service providers.

Projected economic and tax contributions of Taylor during the capital investment period

AMI plans to spend \$1.7 billion to develop Taylor between FY22 and FY27. Projected economic and tax contributions of the six-year capital investment period are shown in Table ES-1. Key results include:

- ► Planned capital expenditures will support an estimated 4,213 direct one-year jobs with another 1,990 one-year jobs supported in other industries in Santa Cruz County during the construction period. The statewide impacts include a total 4,576 indirect and induced jobs. Since the construction period spans six years, employment is presented as "one-year" jobs to capture jobs that span multiple years. For example, one construction worker who works three years at the construction site would be counted as three one-year jobs in our analysis. The project will support approximately 700 construction jobs annually during the development period.
- Planned capital expenditures will directly support \$168 million in labor income, \$178 million in value added (GDP), and \$512 million in direct output in Santa Cruz County. Considering the indirect and induced effects, the project will support \$261 million in total labor income, \$310 million in value added (GDP), and \$719 million in gross output during the construction phase in Santa Cruz County.

- Suppliers located outside Santa Cruz County, but within Arizona, will create additional economic contributions of the project. Taylor is estimated to support \$434 million in total labor income, \$482 million in value added (GDP), and nearly \$1.2 billion in gross output during the construction phase in Arizona.
- Planned investments during the capital investment period will contribute \$29 million in local taxes for Santa Cruz County and \$38 million in state taxes. Tax contributions are related to the mine's activities, its employees, and the businesses it will support in Santa Cruz County and throughout Arizona.

Table ES-1. Projected economic and tax contributions during the capital investment period of Taylor FY22 – FY27

		Indirect and	
	Direct	induced	Total
Santa Cruz County, AZ			
Employment (total one-year jobs)	4,213	1,990	6,203
Average annual jobs	702	332	1,034
Labor income	\$168	\$93	\$261
GDP	\$178	\$132	\$310
Economic output	\$512	\$207	\$719
Local taxes in Santa Cruz County	\$24	\$4	\$29
State of Arizona			
Employment (total one-year jobs)	4,213	4,576	8,789
Average annual jobs	702	763	1,465
Labor income	\$168	\$266	\$434
GDP	\$191	\$292	\$482
Economic output	\$691	\$478	\$1,168
State taxes	\$25	\$13	\$38

Actual employment; 2022 dollars in millions

Note: Figures may not appear to sum due to rounding.

Source: EY analysis of projected data from AMI and the IMPLAN 2019 Economic Model of Santa Cruz County, Arizona

Projected economic and tax contributions of Taylor during a typical year of operations

Projected economic and tax contributions of operations during a typical year of the life of the mine are shown in Table ES-2. Key results include:

- ► Once mine construction is complete, Taylor operations are projected to result in the ongoing employment of 625 direct mine workers and support an estimated 1,021 workers in other industries for a total employment impact of 1,646 workers in Santa Cruz County. Indirect and induced employment due to suppliers and expenditures outside of Santa Cruz County will support another 1,112 jobs for a total statewide impact of 2,758 jobs.
- ► Projected operational expenditures will directly support nearly \$75 million in labor income, nearly \$244 million in value added (GDP), and \$463 million in direct economic output in Santa Cruz County. The annual impact will be more than \$126 million in total labor income, \$315 million in value added, and nearly \$640 million in output when indirect and induced effects are also considered in Santa Cruz County. At the state level the annual impact would include \$211 million in total labor income, \$459 million in value added, and \$959 million in economic output statewide.

During a typical year of operation, Taylor is projected to contribute \$15 million annually in Santa Cruz County taxes and \$23 million in state taxes. The largest component of local taxes is property taxes while the largest state taxes are state corporate income and severance taxes paid by the mine.

Table ES-2. Projected economic and tax contributions from a typical year of mining operations at Taylor Actual employment; 2022 dollars in millions

		Indirect and	
	Direct	induced	Total
Santa Cruz County, AZ			
Employment*	625	1,021	1,646
Labor income	\$75	\$51	\$126
GDP	\$244	\$71	\$315
Economic output	\$463	\$177	\$640
Local taxes in Santa Cruz County	\$13	\$2	\$15
State of Arizona			
Employment	625	2,133	2,758
Labor income	\$75	\$136	\$211
GDP	\$246	\$213	\$459
Economic output	\$538	\$422	\$959
State tax contributions	\$16	\$7	\$23

Note:*A portion of the Taylor employees may not be located at the mining site. Numbers may not appear to sum due to rounding.

Source: EY analysis of projected data from AMI and the IMPLAN 2019 Economic Model of Santa Cruz County, Arizona

1. Overview

This section of the report provides an overview of the Taylor Development at the Hermosa Project in Santa Cruz County, AZ, a mine to be developed and owned by Arizona Minerals Inc.

1.1 The Taylor Development at the Hermosa Project in Santa Cruz County, AZ

Located near the town of Patagonia in southern Arizona, the Taylor development at the Hermosa Project ("Taylor") consists of a plan to develop an underground zinc, lead and silver mine. With a commute of approximately an hour from Tucson, the mine would attract workers from within Santa Cruz County, but also the neighboring counties of Pima and Cochise, and would contribute significantly to the regional economy during construction and subsequent operation.

The mine's planned development is over a six-year period and is projected to employ 625 workers once fully operational. Of these workers, 556 are anticipated to be working at the mine site with 80% living in Santa Cruz County. The mine itself is projected to have a useful life between 20 and 30 years.

1.2 About Santa Cruz County, Arizona

Taylor is located in the Patagonia Mountains, a region that has been mined dating back to 1875. Figure 1 shows the location of Santa Cruz County in Arizona. As a percentage of Arizona's total state population of 7.1 million residents, Santa Cruz County represents less than 1% or 54,000 residents. Neighboring Cochise County has around 125,000 residents or around 2% of the state's population while Pima County holds 15% or about 1 million residents driven largely by the population of Tucson.



Figure 1. Location of Project Hermosa in Arizona

High-level demographic information about Santa Cruz County's population is shown in Figure 2. The County's population is mostly Hispanic (83%), with 15% white non-Hispanic. Nearly 55% of its population is between the ages of 19-65 years with a median age of about 37 years.

Figure 2. Demographics in Santa Cruz County, 2020





Santa Cruz County's average per capita income is 36%, or approximately \$18,000 lower than the statewide per capita income of \$51,500 in Arizona. Similar differences exist when comparing the state's unemployment and poverty rates to Santa Cruz County. The County's unemployment rate is about twice as high as the average in the state at 13.6%, while the poverty rate is about four percentage points higher at 16.8%.



Source: EY analysis of 2020 US Census data

Figure 4. Unemployment and poverty rate: Santa Cruz County versus Arizona, 2020



Source: EY analysis of data from the Bureau of Labor Statistics and the US Census

2. Methodology and data

2.1 Economic contribution methodology

The data provided by AMI includes details on the capital investment required to make the mine operational over a six-year period including a breakdown of capital expenditure categories such as labor, materials, and equipment. Additionally, information regarding headcount and payroll in a typical operating year was provided. The capital expenditure and operational activities of Taylor support employment, income, and economic output in the state of Arizona, which are described below and shown in Figure 5. In addition to statewide economic impacts, the approach described in Figure 5 was performed for economic impacts specific to Santa Cruz County.

- Direct contribution. Direct contribution includes the total full-time and part-time employees, labor income, and GDP generated from the mine. Economic output is generally measured as revenue from operations.
- Indirect contribution. The indirect economic contribution is attributable to purchases from suppliers within Arizona. The indirect contribution also captures the additional input purchases from local suppliers by businesses supplying the mine, hereby creating subsequent rounds of indirect effects.
- Induced contribution. The induced contribution in Arizona includes the spending by employees of the mine and the employees of suppliers at local businesses including grocery stores, restaurants, and service providers.



Figure 5. Overview of the components of economic contributions

Note: The same approach for economic impacts was performed for Santa Cruz County, Arizona

The economic impacts increase when performing a statewide analysis over a county analysis since the indirect and induced economic effects become larger as the geographic region is expanded.

Detailed data describing projected capital and operational expenditures were provided by AMI. The data included a detailed breakdown of the projected \$1.7 billion in capital expenditures. The operational data provided similar detail regarding projected non-payroll and payroll expenses in a typical operating year. This information was used to model the jobs, labor income, and output supported during construction and the subsequent operation of the mine. Indirect and induced economic contributions were then estimated using the 2019 IMPLAN economic model for Arizona and a customized model for Santa Cruz County. The magnitude of the economic contribution of the mine in Arizona was determined by several factors, including supplier relationships with businesses in the region. This impact can be expressed using

an "economic multiplier" which is equal to the total economic impact per unit of direct impact. For each good and service purchased by the mine, the model predicts the portion that will be supplied by regional businesses using trade flow data from the US Department of Commerce and the US Department of Transportation. The IMPLAN model estimates the spending impacts of direct and indirect employees, reflecting typical consumption expenditure profiles and the estimated proportion of consumption goods that are imported from outside Arizona.

The economic benefits shown in this report reflect the projected impact of the mine during the six-year capital expenditure period and during a typical year of operations. The statewide (Arizona) and countywide (Santa Cruz County) total economic benefits are shown in this report.

2.2 Key parameters used in the analysis

Table 1 shows the key assumptions behind the economic and fiscal benefits for the countywide and statewide analysis during the capital investment and operating period calculated in the subsequent sections. Tax rate assumptions are generally consistent across the operating and capital investment periods but may vary depending on geographic area. AMI estimates that 21% of capital purchases and eventually 50% of operating purchases will be sourced from suppliers in Santa Cruz County. AMI estimates that 80% of on-site mine workers will live in Santa Cruz County by 2036. These parameters reflect estimates at the date of this report.

Category	Santa Cruz County, AZ	State of Arizona
Development period	6 years	6 years
Percentage of purchases from suppliers within the area	21%	33%
Operational expenditures purchased within the area	50%	83%
Percentage of workers living in the area during operations	80%	100%
Property tax rate for the mine	6.2%	/
Effective property tax rate of residential property for mine workers (Statutory property tax rate times the assessment ratio of 10%)	1.0%	/
Santa Cruz County sales tax rate	1.0%	/
Ratio of local taxes as a share of personal income (2019 Census)	4.7%	3.3%
Ratio of state taxes as a share of personal income (2019 Census)	/	4.8%
Average household size during operations	3	/
Percentage of families with school-age children during operations	25%	/

Table 1. Key assumptions used in the economic and tax impact analysis

Notes: "/" denotes not applicable

Source: EY analysis of data from Arizona Minerals and county tax websites for other tax rates and US Census of Governments State and Local Finance Survey for tax ratios

2.3 Tax impact methodology

The economic activity associated with the mine will generate new state and local tax revenue. State and local taxes include income, sales, property, severance, and other taxes which were estimated using data provided by AMI on the mine's capital investments and operations, outputs of the IMPLAN model, relevant tax parameters and publicly available tax data. For some taxes, the company provided estimates

of the projected tax payments or provided data on the relevant tax bases so that tax payments could be calculated by EY. Santa Cruz County taxes consist primarily of operating and debt property taxes and county sales taxes, while Arizona state taxes consist of individual income, state sales and severance taxes. Our analysis includes:

- Direct county and state taxes paid by the mine and its employees. EY estimated property taxes during the life of the mine using data provided by AMI. EY also estimated property and sales taxes paid by mine employees in Santa Cruz County and Arizona using information about their wages, likely housing costs, and the historical relationship between sales taxes and income earned.
- Indirect and induced county and state tax contributions. Taxes generated through indirect and induced activity were estimated by multiplying the predicted change in labor income within Santa Cruz County and Arizona by the current ratio of tax collections to personal income for the relevant tax. In 2020, State of Arizona tax collections were 4.8% of statewide personal income and taxes collected by local jurisdictions (including schools) was 4.7% of county personal income.¹

2.4 Local government fiscal impact methodology

Taylor will generate tax revenue to support public expenditures while also increasing public service and infrastructure costs to accommodate new residents and facilities. This analysis estimates high-level potential incremental service costs and revenue borne by Santa Cruz County local government and school districts resulting from the mine.

Santa Cruz County government fiscal impact: To estimate the additional public sector cost placed on Santa Cruz County government, the provision of general government, public safety, health, education, and recreational services were estimated on a per-person basis for new county residents and non-residents working at the mine. Expenditures by the County during the past nine years were analyzed to calculate the average county government expenditures per resident and for persons only working (i.e., not residing) in the county.

Using parameters provided by AZ Minerals, the operating analysis assumes that 80% of the onsite workers at the mine site will live in Santa Cruz county. This translates into 445 mine employees living in the county along with their families. We have assumed that these are new residents to the county and that an average household size is 3 people for a total of 1,335 potential new residents to Santa Cruz County. This cost is then netted against the increase in tax revenue received by the County to pay for public services. Since some of the mine's workforce will already be living in the county, this approach estimates an upper bound of operating costs of for the county government.

► Santa Cruz County School District fiscal impact: EY estimated the property tax revenue generated each year during the life of the mine using current tax parameters, such as assessment ratio, tax rate by jurisdiction, and the projected taxable value of the mine. Per-pupil operating expenses incurred by Santa Cruz County schools to educate students was obtained from state

¹ State tax collections by state are provided by the US Census State and Local Finance Survey and state and county personal income amounts are provided by the US Bureau of Economic Analysis.

reports.² The cost of educating a student in the county was then compared to the incremental increase in per pupil revenue generated directly by the mine through property taxes and to total levels of funding provided for students from all sources, which includes state per pupil revenue.

² Data obtained from Arizona Auditor General School District Spending Reports.

3. Projected Economic benefits during Taylor's capital investment period

3.1 Capital investment period details

According to data provided by AMI, the company plans to spend \$1.7 billion to develop Taylor between FY22 and FY27. Figure 6 shows planned expenditures by broad category. Labor and materials are included in each category. EY reviewed planned expenditures and the share of materials and labor that may be supplied locally (i.e. from workers or vendors located in the County). We have modeled that construction labor would be supplied locally while equipment would be imported into the County and State.





Source: South32 Hermosa Project Update presentation, category totals are approximate

3.2 Economic contributions during construction period

Projected economic contribution results are shown in Table 2 for the construction period. During the sixyear capital investment period, the average number of total jobs supported per year is projected to be over 1,000 in Santa Cruz County and just under 1,500 statewide. Jobs directly related to the mine development average 700 per year in the County between FY22 and FY27. Other findings include:

- ► Total labor income supported by the mine development is estimated to be \$262 million, \$310 million in value-added (GDP) and economic output of \$719 million in Santa Cruz County.
- Statewide the economic contributions of Taylor include total labor income of \$434 million, GDP contributions of \$482 million to the state's economy, and economic output of nearly \$1.2 billion.

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Capital investments	Direct (Mine)	Indirect (Suppliers)	Induced (Consumption)	Total Impact
Santa Cruz County				
Total one-year jobs	4,213	1,457	533	6,203
Average annual jobs	702	243	89	1,034
Labor income	\$168	\$72	\$21	\$261
Value added (GDP)	\$178	\$87	\$45	\$310
Economic output	\$512	\$146	\$61	\$719
State of Arizona				
Total one-year jobs	4,213	2,374	2,202	8,789
Average annual jobs	702	396	367	1,465
Labor income	\$168	\$145	\$120	\$434
Value added (GDP)	\$191	\$146	\$146	\$482
Economic output	\$691	\$334	\$143	\$1,168

 Table 2. Projected economic contributions of Taylor during the capital investment period

 Actual employment; 2022 dollars in millions

Source: EY analysis of data from AMI and the IMPLAN 2019 Economic Model of Santa Cruz County, Arizona and state model of Arizona

3.3 One-time tax contributions

During the capital investment period, the estimated total local direct tax contributions are \$24 million for Santa Cruz County. The largest component of direct taxes are the local property taxes associated with the mine with an estimated \$13 million paid in FY27. Local property taxes paid by workers at the mine are the second largest category with \$4.2 million in property taxes during the investment period. Sales and use tax paid by the mine is the third largest category, with an anticipated impact of \$3.8 million generated through mine construction material purchases that are taxable. Santa Cruz County has a 1% sales tax while cities and towns within Santa Cruz County levy additional taxes, which are captured in the local sales and use tax estimates paid by mine workers making purchases throughout the county.

During the total capital investment period, the total estimated indirect and induced tax impact is over \$4 million, with most taxes coming from local property taxes (\$2.7 million) paid by businesses and workers in other industries supported by the mine. Total Santa Cruz tax contributions reach \$28.6 million. See Table 3.

(2022 dollars in millions)							
Direct impact	FY22	FY23	FY24	FY25	FY26	FY27	Total
Property tax - mine*	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$13.3	\$13.3
Property tax - workers	\$0.2	\$0.2	\$0.4	\$1.0	\$1.2	\$1.3	\$4.2
Local sales and use taxes - mine	\$0.0	\$0.1	\$0.6	\$0.6	\$1.8	\$0.8	\$3.8
Local sales and use tax - workers	\$0.1	\$0.1	\$0.3	\$0.6	\$0.7	\$0.7	\$2.5
Other county taxes	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.1	\$0.4
Total direct taxes	\$0.3	\$0.4	\$1.3	\$2.2	\$3.8	\$16.2	\$24.3
Indirect and induced impact							
Local property tax	\$0.1	\$0.1	\$0.2	\$0.5	\$0.6	\$1.1	\$2.7
Local sales and use taxes	\$0.1	\$0.1	\$0.1	\$0.3	\$0.3	\$0.6	\$1.4
Other county taxes	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.2
Total indirect and induced taxes	\$0.2	\$0.2	\$0.4	\$0.8	\$1.0	\$1.8	\$4.3
Total Santa Cruz County taxes	\$0.5	\$0.7	\$1.7	\$3.0	\$4.8	\$18.0	\$28.6

Table 3. Projected direct, indirect, and induced local tax contributions to Santa Cruz County governments from Taylor during the capital investment period (2022 dollars in millions)

"Direct" tax contributions are the tax payments from the mining business and jobs supported building the mine Source: EY analysis of data from AMI and US Census of Governments State and Local Finance Survey for tax ratios.

In addition to local tax impacts in Santa Cruz County, there are additional indirect and induced tax impacts across the other local governments outside of Santa Cruz County in which supplier businesses reside or mine employees spend their paycheck. This mainly includes local property tax and sales and use tax. The indirect and induced tax contributions for local governments within Arizona but outside Santa Cruz County total \$5.7 million during the development period. See Table 4 below.

Table 4. Projected indirect and induced local tax contributions for other local governments outside of Santa Cruz County in Arizona from Taylor during the capital investment period (2022 dollars in millions)

Indirect and induced impact	FY22	FY23	FY24	FY25	FY26	FY27	Total
Local property tax	\$0.2	\$0.4	\$0.6	\$0.7	\$0.9	\$0.8	\$3.5
Local sales and use taxes	\$0.1	\$0.2	\$0.3	\$0.3	\$0.4	\$0.4	\$1.8
Other county taxes	\$0.0	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.4
Total indirect and induced taxes	\$0.3	\$0.6	\$1.0	\$1.1	\$1.4	\$1.3	\$5.7

Source: EY analysis of data from AMI and US Census of Governments State and Local Finance Survey for tax ratios.

Table 5 shows the direct, indirect and induced Arizona state taxes that are estimated during the capital investment period. Direct tax contributions are the main driver of state sales and use taxes due to taxation of construction materials (less contractor labor), which contribute \$21 million across the six-year period. Total direct taxes add up to \$26 million and total indirect and induced taxes total nearly \$13 million, bringing the total state tax contributions to \$38 million over the capital investment period.

	(2022 dollars in millions)							
Tax categories	FY22	FY23	FY24	FY25	FY26	FY27	Total	
Direct taxes								
Income taxes	\$0.1	\$0.1	\$0.2	\$0.5	\$0.7	\$0.7	\$2.3	
State sales and use	\$0.1	\$0.3	\$3.4	\$3.4	\$10.0	\$4.2	\$21.4	
Other state taxes	\$0.1	\$0.1	\$0.2	\$0.4	\$0.5	\$0.5	\$1.8	
Total direct taxes	\$0.2	\$0.5	\$3.8	\$4.3	\$11.2	\$5.4	\$25.5	
Indirect and induced taxes								
Income taxes	\$0.2	\$0.3	\$0.5	\$0.7	\$0.9	\$1.1	\$3.6	
State sales and use	\$0.3	\$0.6	\$0.9	\$1.2	\$1.5	\$1.9	\$6.4	
Other state taxes	\$0.1	\$0.3	\$0.4	\$0.5	\$0.7	\$0.8	\$2.8	
Total indirect and induced taxes	\$0.6	\$1.2	\$1.8	\$2.4	\$3.1	\$3.7	\$12.8	
Total state tax contributions	\$0.9	\$1.7	\$5.6	\$6.7	\$14.3	\$9.2	\$38.3	

Table 5. Projected direct, indirect, and induced state tax contributions from Taylor during the capital investment period in Arizona (2022 dollars in millions)

Source: EY analysis of data from AMI, relevant tax parameters, and US Census of Governments State and Local Finance Survey for tax ratios

4. Projected Economic benefits of Taylor's operations

4.1 Operational expenditures for a representative year

Once Taylor is operational the company plans to employ 625 workers in a typical year. The parameters used in the operational economic impact modeling are shown in Table 6. The 625 workers receive annual wages and benefits of nearly \$75 million. Non-payroll expenditures for items like cement, metal mining services, equipment, and repair services total \$220 million annually.

Table 6. Assumptions for a typical operational year at Taylor (2022 dollars)

Operational assumptions	
Number of Taylor employees	625
Payroll expenditures for Taylor employees	\$75 million
Non-payroll operating expenditures	\$220 million
Share of non-payroll expenditures by category (%)	
Cement	14%
Metal mining services	21%
Electricity transmission and distribution	10%
Machinery and equipment repair and maintenance	18%
Other expenses	37%
Source, EV analysis of data from AMI and the IMPLAN 2019 Economic Me	del of Santa Cruz County Arizona

Source: EY analysis of data from AMI and the IMPLAN 2019 Economic Model of Santa Cruz County, Arizona

4.2 Economic contributions during operations

In a typical year, Taylor plans to employ 625 workers directly with payroll of \$75 million and direct economic output of \$463 million in Santa Cruz County. AMI expects some suppliers within Arizona but outside the county. Jobs will be supported in other industries as purchases are made from regional suppliers and workers spend money at restaurants, grocery stores, and other businesses in Arizona.

- The Santa Cruz County operational annual impact is estimated at 1,646 total jobs supported, \$126 million of labor income, \$315 million in GDP contributions and nearly \$640 million of annual economic output.
- Statewide the estimated economic contributions include total employment of 2,758, labor income of \$211 million, GDP contributions of \$459 million, and output of \$959 million for the state.

operations							
Actual employment; 2022 dollars in millions							
Operational investment	Direct	Indirect	Induced	Total			
Operational investment	(Mine)	(Suppliers)	(Consumption)	Impact	% of Area		
Santa Cruz County impacts							
Employment	625	757	264	1,646	8%		
Labor income	\$75	\$40	\$11	\$126	6%		
GDP	\$244	\$50	\$21	\$315	19%		
Economic output	\$463	\$139	\$38	\$640	21%		
Arizona impacts							
Employment	625	1,171	962	2,758	0.1%		
Labor income	\$75	\$86	\$50	\$211	O.1%		
GDP	\$246	\$121	\$91	\$459	O.1%		
Economic output	\$538	\$264	\$158	\$959	0.1%		

Table 7. Projected county and statewide economic contributions of Taylor during a typical year of operations

Source: EY analysis of data from AMI and the IMPLAN 2019 Economic Model of Santa Cruz County, Arizona

Figure 7 shows the anticipated number of indirect and induced jobs supported by the mine during a typical operational year. Service jobs, such as commercial and industrial machinery and equipment repair and maintenance that make up "other service sectors", was the largest category of indirect and induced jobs supported with a total of 399 jobs. Mining, construction, and utilities was the second largest category, accounting for 172 jobs. In total, it is projected that 757 indirect and 264 induced jobs will be supported by Taylor during a typical year of operation in Santa Cruz County.

Figure 7. Projected indirect and induced jobs because of Taylor during a typical year of operations in Santa Cruz County Actual employment



Source: EY analysis of data from AMI and the IMPLAN 2019 Economic Model of Santa Cruz County, Arizona

4.3 Annual operational tax contributions

Table 8 shows the estimated local taxes broken out for Santa Cruz County, other local jurisdictions in Arizona and statewide supported by Taylor. During a typical year of operations, local taxes in Santa Cruz County are estimated to total \$13.5 million with property taxes providing most of the tax revenue. Additional local government taxes outside of Santa Cruz County are estimated to receive \$3.4 million due to the workers and businesses located outside of Santa Cruz County.

State taxes are estimated to total \$22.9 million with corporate income and severance taxes the largest two categories. Total state and local tax contributions are estimated to be \$40 million annually due to Taylor's operations.

		Indirect and	
Tax categories	Direct	induced	Total
Santa Cruz County taxes			
Property tax*	\$11.0	\$1.5	\$12.5
Sales and use tax	\$1.3	\$0.8	\$2.1
Other local taxes	\$0.2	\$0.1	\$0.3
Santa Cruz local taxes	\$12.5	\$2.4	\$14.9
Other local governments			
Property tax	\$0.0	\$1.7	\$1.7
Sales and use tax	\$0.2	\$0.9	\$1.1
Other local taxes	\$0.03	\$0.2	\$0.2
Total other local government taxes	\$0.2	\$2.8	\$3.0
Total Statewide local taxes	\$12.7	\$5.2	\$17.9
State taxes**			
State corporate income	\$9.4	\$0.2	\$9.6
Severance tax***	\$3.4	\$0.0	\$3.4
Individual income	\$1.5	\$1.7	\$3.1
State sales and use	\$1.2	\$3.3	\$4.5
Other state taxes	\$0.8	\$1.4	\$2.2
Total state taxes	\$16.3	\$6.6	\$22.9
Total state and local tax contributions	\$29.0	\$11.7	\$40.7

 Table 8. Projected annual state and local tax contributions due to Taylor operations

 Direct, indirect, and induced contributions, 2022 dollars in millions

*The direct property tax for Santa Cruz County includes \$9.1 million in average annual property taxes generated by the mine during its first 15 years of operations and \$1.9 million in property taxes generated by employees on their residences.

State taxes are taxes paid by the mine, its employees, and by businesses and jobs supported in Arizona *Severance taxes are calculated based on value of production (\$670 million), which assumes annual production of nearly 4.3 million metric tons

Note: Numbers may not appear to sum due to rounding

Source: EY analysis using data provided by AMI, state and local tax rates, and US Census State and Local Finance Survey data

5. Projected Government fiscal impacts of the mine

5.1 Fiscal overview of Santa Cruz County, Arizona

In FY20, Santa Cruz County government received tax revenue from property taxes, county general excise sales tax, and county jail excise sales tax. At \$16.5 million or 73%, property taxes were the main driver of county government tax revenue. These taxes were predominantly levied for general County purposes as well as the County's flood control district. The remaining \$6.2 million or 28% in taxes were levied through general and County jail excise taxes.



Figure 8. FY20 Santa Cruz County tax collections totaled \$22.7 million (2022 dollars in millions)

Source: EY analysis of Santa Cruz County CAFR 2020

Taylor will have a fiscal impact on local governments in Santa Cruz County and the mine will generate additional property tax revenue that will support County services and public schools. However, Taylor will also increase the number of people living and working in the County which creates new demand on public services and infrastructure to accommodate the mine's employees.

The mine would fall into several property tax levying jurisdictions that include the local Patagonia school districts, Santa Cruz County and Santa Cruz County Community College. Most property tax revenue generated by Taylor will go to the school district and the county government. Figure 9 illustrates this breakout further by showing the projected property tax revenue from Taylor by each taxing jurisdiction.



Figure 9. Projected average annual property taxes by taxing jurisdiction for Taylor during first 15 years of operation

Note: Numbers may not appear to sum due to rounding Source: EY analysis using county property tax millage information

On average, Taylor would generate \$9 million annually in property tax revenue during the first fifteen years with \$5 million annually for the school district, \$0.3 for the Santa Cruz County Community College, and the remaining \$3.6 million for Santa Cruz County government.

5.2 Fiscal Impact on Santa Cruz County

The economic activity associated with the mine generates tax revenue for Santa Cruz County government through taxes paid by the mine and by workers paying taxes on their homes, purchases, and incomes. At the same time, the County incurs public sector costs to accommodate the provision of government services, including legal, public safety, infrastructure, health and human, and library services, for its residents and businesses in the County–all of which should be considered when estimating the net fiscal impact of the mine.

The estimated Santa Cruz County public expenditures are based on actual expenditures and employment, which were used to estimate the average cost to the Santa Cruz County government for providing services. These services are provided either to Taylor' workers (direct effect) or workers at suppliers and local businesses (indirect and induced effect) supporting Taylor. The result is that each additional worker added directly or indirectly to the county requires \$740 of County expenditures (in 2022 dollars).

In addition, the household members of workers that reside within Santa Cruz County place an additional cost on public expenditures. At an average household size of three members, each direct worker in Santa Cruz County has two additional family members that live in the County.³ Since 80% of site based Taylor workers are estimated to reside in Santa Cruz County, this brings the increase in direct employment to 1,335 (445 mine workers and 890 household members). EY estimates that the total Santa Cruz County government cost due to workers at Taylor and their household members would be just under \$1 million in a typical operating year.

³ Please see the US Census Current Population Survey, 2020.

Taylor is projected to support additional employment in other industries in Santa Cruz County. If 1,021 jobs are added to the county with 70% residing in Santa Cruz with two family members, an upper bound on new county residents is an additional 2,147 people.⁴ Including indirect and induced employment, potential costs for government services total \$2.5 million annually. See Table 9.

	Potential new additions to County (Upper bound)	Average county government cost per person*	Estimated county government cost
Resident related to direct workers Indirect and induced	1,335	\$740	\$1.0M
residents	2,147	\$740	\$1.5M
Total	3,482	\$740	\$2.5M

Table 9. Estimated Santa Cruz County government costs due to Taylor Estimated cost is in 2022 dollars

*Average county government cost per resident and non-worker was calculated using county financial statements for the period 2012-2020. Government per-person costs were then inflated 3% per year to 2022 dollars. Source: EY analysis of AMI data, Santa Cruz County CAFR for FY 2020 and Census on the Map.

Public sector costs are less than the estimated new tax revenue for the Santa Cruz County government during a typical operating year of the mine. The 445 mine workers⁵, 890 household members and 2, indirect and induced workers and their families require an estimated \$2.5 million annually of county government expenditures. The mine activity supports an estimated \$6.0 million annually in Santa Cruz County government revenue from direct and indirect county property taxes and sales tax. This activity creates an annual fiscal surplus of \$3.5 million and provides the opportunity for the County to invest in services and infrastructure projects that otherwise might not be possible.

Table 10. Estimated net fiscal impact of Taylor on Santa Cruz county government in a typical operating year

Annual impact; 2022 dollars in millions	

	Total revenue	Calculation Flow
Direct County taxes	\$4.6	(d) = (a) + (b) + (c)
Mine county property tax	\$3.6	(a)
Mine workers county property tax	\$0.8	(b)
Mine county sales tax	\$0.2	(C)
Indirect and induced County taxes	\$1.5	(e)
Total county tax revenue due to the mine	\$6.1	(f) = (d) + (e)
Public expenditure cost	(\$2.6)	(g)
Net fiscal impact	+\$3.5	(f) – (g)

Source: EY analysis of AMI data, Santa Cruz County CAFR for FY 2020.

Note: Figures may not sum due to rounding. The property tax above represents the mine county property tax only. This estimate is part of the \$10.6 million in property tax listed in Table 8.

⁴ 70 percent of indirect and induced workers living and working in Santa Cruz County is from Census on the Map data.

⁵ The 556 mine workers are the on-site workers and a subset of the total 625 employed in a typical year by the mine.

5.3 Fiscal impact on Schools in Santa Cruz County

Like the county government, the mine has a fiscal impact on County school districts. This analysis compares the potential number of school-aged children requiring public education in Santa Cruz County, the cost of educating these students, and the School District property tax revenue the mine will provide to pay for these students.

Assuming a typical year operating headcount of 556 mine workers, of which 80% are estimated to reside within Santa Cruz County, an estimated 445 employees would live within the County. Using US Census data, approximately 25 percent of family households have children between the ages of 6 and 17, and the average adjusted number of school age children per household in the United States is about 1.45. Using these parameters, we estimate an additional 160 school-age children associated with workers at the mine that would potentially attend Patagonia or other Santa Cruz County schools. See Table 11.

	Estimate	Calculation Flow
Headcount in typical operating year	556	(a)
Percent of workers living in Santa Cruz County	80%	(b)
Employees living in Santa Cruz County	445	$(c) = (a)^{*}(b)$
Share of family households with children between ages 6-17	25%	(d)
Average number of school-age children per household	1.45	(e)
Additional children to attend the Santa Cruz school districts	~ 160	$(f) = (c)^{*}(d)^{*}(e)$
Source: EY analysis of data from AMI and the US Census.		

Table 11. Estimate of increase in children attending Santa Cruz County schools

The 160 additional school children added to the County represent only 2.0% of Santa Cruz County's current population of public-school students. Given the size of the County, it is likely that new students and families will be distributed throughout the County, meaning that existing public schools could likely absorb the additional 160 students without having to add classrooms or a new school. However, if families are concentrated in a community, such as Patagonia, this would likely not be correct and new classrooms would have to be added.

As shown in Figure 9, the average amount of property taxes generated by Taylor for public schools over the first 15-years of operation is \$5.3 million. This increase in the amount of property taxes equates to just under \$33,000 in operating funding for each new student (160 students). If the new tax revenue were spread across all existing plus potential new students in only Patagonia, per people funding in the Patagonia school districts would increase by about \$16,000 a student.

Data on the annual operating costs to educate school-aged children is readily available in the annual budget of each school district. Within Santa Cruz County per pupil operating expenses are approximately \$6,500. State per pupil funding provides most of the student operating funding (~\$5,000 per student), but property tax funding per pupil (~\$1,800) is also a significant revenue source. The property taxes paid by the mine for schools amounts to \$600 per student across all public-school students in the county (not just new), or an increase of 33% in property tax support per student. See Figure 10 below.

Figure 10. Average per pupil operating costs and revenue in Santa County School Districts FY 21 - Actual Dollars



Note: Per pupil revenue and operating expenses were assembled for all school districts in Santa Cruz County. Source: EY analysis of data from AMI and the 2021 Annual Financial reports of each Santa Cruz County school district.

Figure 11 below shows the comparison between the average annual school district taxes collected from the mine and the total cost of the 160 additional students associated with mining operations. Over the first 15 years of operation, the mine will provide on average over \$5.2 million in annual school district taxes, while the annual average operating cost of the additional students in Santa Cruz County will total approximately \$1.0 million (160 new students multiplied by \$6,500).

Figure 11. Projected annual Santa Cruz County school district total operating costs and revenue due to Taylor Dollars in millions



Source: EY analysis of data from AMI and Arizona Auditor General School District Spending Reports

5.4 Fiscal impact conclusion

Taylor is projected to generate a significant surplus to both Santa Cruz County and the schools through an increase in property, sales and use, and other tax revenue. For the County government, Taylor is projected to generate a net fiscal surplus of \$3.5 million during a typical operating year. This estimate considers the additional public expenditure cost associated with residents and non-residents requiring County services.

For Santa Cruz County schools, the addition of 160 students creates an incremental cost of approximately \$1.0 million to cover average school operating expenses in the county. Given that the mine is projected to contribute \$5.2 million in school property tax revenue annually, the annual net fiscal impact would be \$4.2 million. Looking at this surplus on a per student basis for all public-school children in the county, the mine is projected to generate approximately \$600 of additional funding per student.

Appendix: Economic contribution model using IMPLAN

This analysis uses an input-output model to estimate the economic contributions of projects receiving tax incentives in Santa Cruz County. The regional economic multipliers in this study were estimated using the 2019 IMPLAN input-output model of Santa Cruz County. IMPLAN is used by more than 500 universities and government agencies. Unlike other economic models, IMPLAN includes the interaction of 546 industry sectors, thus identifying the interaction of specific industries that relate to the projects studied in this report.

To estimate the capital expenditure portion of the analysis, the following IMPLAN industries were used: mining machinery, metal mining services, newly constructed manufacturing structures, water, sewage and other systems, electricity, newly constructed highways and streets, newly constructed power and communication structures and architectural, engineering, and related services. The estimates for a typical year of operation were calculated using an Industry Impact analysis which used the number of employees, employee compensation, and customized edits to SAM (Regional Social Accounting Matrices) to reflect AMI's activities.

Total contributions presented in this report include direct, indirect, and induced effects. Direct effects include employment and spending by companies receiving incentives. Indirect effects are attributable to active incentive companies' input purchases from local suppliers. Induced effects are attributable to spending by active incentive companies and supplier employees, based on regional household spending patterns for different levels of income.

Indirect and induced effects are driven by (1) input purchases by active incentive businesses and their suppliers; (2) the percentage of each type of commodity that is purchased from within the County; and (3) household consumption profiles for employees of active incentive businesses and their suppliers.