



**ECONOMIC IMPACTS OF
THE ROSEMONT COPPER PROJECT
ON PIMA COUNTY, ARIZONA**

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1.0 Introduction

Applied Economics was retained by Tucson Regional Economic Opportunities (TREO) to perform an economic impact analysis of the construction and operations of the Rosemont Copper Project, located in Pima County, Arizona. Applied Economics has been specifically tasked with evaluating the economic impacts that the mine would create through its direct operations, local supplier purchases and employee spending. The potential impacts of the mine on the value of public lands, the tourism industry, air and water quality, wildlife habitat, astronomical observation conditions and recreational and cultural resources are not addressed in this analysis.

The Rosemont project site, located about 30 miles southeast of Tucson, is best described as a 4,400 acre proposed project footprint, within the 15,000 acre Rosemont claim block, within the Helvetia/Rosemont mining district. The ore-body covers about a 700 acre pit. The remaining acres are for ancillary activities including crushing, grinding, mineral processing, and waste rock and tailings management. The Rosemont deposit is primarily a copper deposit but also includes significant amounts of molybdenum and silver. Augusta Resource Corporation projects that the Rosemont Mine would have an active life of about 21 years. This analysis includes the impacts of mine construction as well as the 21 year operations of the open pit mine, the associated processing facilities and general administrative operations.

The capital costs to develop the mine and related processing facilities are estimated at \$897.2 million, a portion of which would be spent in Arizona. Mine construction would take about 3 to 4 years, referred to as the pre-production period. Once the mine was operational, it would be productive for approximately 21 years, producing an estimated 4.077 billion pounds of copper concentrate. Total employment would vary between 351 and 478 people during that period, depending on the projected level of mine production. The company would also make between \$90.4 million and \$158.1 in annual purchases from local vendors. Figures included in the report are based on current information provided by Rosemont Copper Company in 2008 dollars.

The information and observations contained in this report are based on our present knowledge of the components of development, and of the current physical, socioeconomic and fiscal conditions of the affected areas. Estimates made in this analysis are based on hypothetical assumptions, current tax policies, and the current economic structure of the region. However, even if the assumptions outlined in this report were to occur, there will usually be differences between the estimates and the actual results because events and circumstances frequently do not occur as expected. This analysis is based on the best available information and is intended to aid Augusta Resource Corporation in demonstrating the impacts of the Rosemont Copper Project on Pima County. In no way will Applied Economics be held responsible or have any liability or be subject to damages as a result of this analysis. This report may be used only for the purposes that it was intended.

2.0 Impact Summary

The economic benefits resulting from the Rosemont Copper Project include the direct activity created by the mining and processing operation, as well as the impacts created by local supplier purchases and employee spending. Economic impacts measure the effects of economic stimuli, or expenditures, in the local economy. All industries have some kind of economic impact in the rest of the economy. Resource-based industries like Rosemont that pay higher wages and also make a significant amount of local purchases create greater local economic impacts than firms that do not possess these characteristics. Economic impacts shown here include direct and indirect jobs, personal income, and economic activity, or output, that could be generated by the Rosemont Copper Project. Indirect impacts are the result of the multiplier effect and capture supported supplier and consumer businesses and their employees throughout Pima County that could benefit from this project.

The operations of the Rosemont Copper Project detailed in this analysis provide substantial economic benefits to Pima County. These positive impacts include the following:

Economic Impacts

- **Overall Operations Impacts.** All total, the Rosemont Copper Project could create a total impact of \$9.0 billion on the Pima County economy over the 21 year life cycle, or about \$392.4 million per year. The operations of Rosemont directly and indirectly support an average of 1,600 jobs per year and \$75.2 million in annual personal income in Pima County.
- **Jobs and Income.** The project would directly employ 350 to 480 people with a combined payroll of \$19.5 million to \$26.2 million annually. Through the multiplier effect, an additional 900 to 1,600 jobs and \$42.1 million to \$74.0 million in annual payroll are supported at other businesses throughout Pima County. These additional jobs and payroll stem from direct and indirect impacts of supplier demand created by Rosemont and consumer demand created by its employees.
- **Local Vendor Spending.** Rosemont will make an estimated \$90.4 million to \$158.1 million in annual local purchases for various services and supplies throughout the life of the project, representing about 81 percent of total vendor purchases. Based on the share of purchases that are made locally, the economic impact of vendor purchases on Pima County is estimated at \$127.1 million to \$225.2 million per year, or \$3.6 billion over the life of the mine. This impact is included in the overall operations impact above.
- **Employee Spending.** Another component of the operations impact comes from employee spending. The 350 to 480 employees working at the mine and related processing facilities also make a significant amount of local purchases. The effect of employee purchases could generate a total economic impact of \$21.7 million to \$29.2 million on the county each year, or a total of \$576.3 million over the life of the project.

- **Construction Impacts.** In addition to the operations impacts described above, the Rosemont Copper Project will also result in a total capital investment of \$897.2 million. This figure includes \$355.7 million in local construction spending including labor, materials, subcontractors, engineering and project management and equipment rentals that create economic impacts in Pima County. The total economic impact during the three to four year construction period is estimated at \$563.6 million, supporting about 4,100 direct and indirect jobs and \$194.0 million in personal income.

Revenue Impacts

- **Direct Revenue Impacts.** The Rosemont Copper Project could generate a significant amount of direct tax revenues to state and local governments, in addition to the economic impacts described above. Annual property taxes paid by the company are estimated at \$3.5 million per year. Rosemont is also subject to severance taxes in Arizona that are estimated at an average of \$2.8 million per year. Finally, the project could generate an estimated \$11.0 million in one-time construction sales tax during the pre-production period. Total direct revenues over the life of the mine are estimated at \$136.7 million, based on a copper price of \$1.85 per pound.
- **Indirect Revenue Impacts.** In addition to direct revenues, the direct and indirect employees supported by the Rosemont Copper Project could generate a significant amount of indirect property, sales and personal income tax revenues through employee spending and property ownership. Indirect revenues are estimated at an average of \$4.7 million per year to state and local governments, or a total of \$107.6 million over the life of the mine.

FIGURE 1
SUMMARY OF RESULTS
(millions of dollars)

	Annual Average	Total
Rosemont Profile		
Copper Production (billion pounds)	201.6	4,232.8
Cost of Production	\$303.08	\$6,123.67
Employment*	434	na
Payroll*	\$23.27	\$516.05
Local Vendor Purchases*	\$120.84	\$2,569.82
Economic Impacts		
Total Output	\$392.40	\$9,025.26
Total Personal Income	\$75.22	\$1,730.10
Total Jobs	1,593	na
State and Local Revenue Impacts (dollars)		
Property	\$6.19	\$124.69
Severance	\$2.82	\$59.22
Sales	\$1.81	\$41.66
Personal Income	\$0.34	\$7.72
Total	\$11.16	\$244.26
Construction Impacts		
Direct Construction Expenditures		\$355.66
Total Economic Impacts		
Output		\$563.57
Personal Income		\$193.97
Jobs		4,148

Source: Applied Economics, 2011.

* Annual average excludes pre-production period.

3.0 Economic Impacts

Economic impact analysis is a means for identifying the nature of changes in jobs, personal income and business activity that can occur in a given area as a result of a project or program. Economic impacts shown here include both the one-time construction impacts and on-going operations impacts. They are expressed in terms of direct and indirect jobs, personal income, and economic activity or output that are generated by the mine through its operations. Indirect and induced impacts are the result of the multiplier effect, and capture supported supplier and consumer businesses and employees in Pima County that could benefit from the Rosemont Copper Project. Multiplier effects are a way of representing the larger economic effects on the local economy.

Construction Impacts

The Rosemont Copper Project will result in significant construction expenditures during the three to four year capital investment phase. As a result, a large number of direct and indirect jobs, payroll and supplier purchases will be generated in Pima County. Total construction impacts in Pima County will include:

- 4,100 jobs
- \$194.0 million in payroll
- \$563.6 million in demand for additional products and services

A detailed listing of capital expenditures by type is shown in Figure 2. A large share of the activity will occur at the site, but there are some expenditures such as plant equipment that will occur outside Pima County. Over the three to four year period, expenditures in Pima County are estimated at \$355.7 million. This includes actual construction activity such as labor, materials and subcontractors, as well as construction equipment rentals, engineering and project management, and commissioning and spare parts that would all be procured from local vendors.

FIGURE 2
CAPITAL COST ESTIMATES
ROSEMONT COPPER PROJECT

Description	Oxide Plant	Sulfide Plant	Combined Plants
Site General	\$0	\$8,245,459	\$8,245,459
Modifications to Highway 83	\$0	\$211,743	\$211,743
Mine	\$0	\$214,550,649	\$214,550,649
Heap Leach Pad	\$25,621,961	\$0	\$25,621,961
Primary Crushing and Storage	\$0	\$19,282,614	\$19,282,614
Overland Conveyor	\$0	\$15,864,799	\$15,864,799
SAG Feed Conveyor	\$0	\$15,763,261	\$15,763,261
Grinding & Classification	\$0	\$131,755,808	\$131,755,808
Cu Flotation & Regrind	\$0	\$35,591,578	\$35,591,578
Mo Flotation & Regrind	\$0	\$2,169,157	\$2,169,157
Cu Concentrate Thickening/Filtration	\$0	\$15,872,385	\$15,872,385
Mo Concentrate Thickening/Filtration	\$0	\$1,222,889	\$1,222,889
Solvent Extraction	\$6,088,340	\$0	\$6,088,340
Tank Farm	\$6,549,245	\$0	\$6,549,245
Electrowinning	\$13,617,320	\$0	\$13,617,320
Tailing Disposal	\$0	\$83,750,667	\$83,750,667
Water Systems	\$0	\$46,257,350	\$46,257,350
Main Substation	\$0	\$8,779,345	\$8,779,345
Power Transmission Line	\$0	\$26,946,322	\$26,946,322
Reagents	\$1,740,487	\$5,994,560	\$7,735,047
Ancillary Facilities	\$0	\$26,859,424	\$26,859,424
Total Direct incl Construction Equip	\$53,617,353	\$659,118,010	\$712,735,363
Field Mobilization	\$0	\$500,000	\$500,000
State sales tax @ 6.1%	\$763,037	\$9,380,007	\$10,143,044
Engineering, Project Mgmt	451,385	\$50,998,143	\$55,512,000
Commissioning & Spare Parts	\$685,868	\$18,366,012	\$19,051,880
Contingency	\$5,096,712	\$63,777,773	\$68,874,485
Owner's Cost	\$0	\$30,355,000	\$30,355,000
Total Direct and Indirect			\$897,171,772

Source: Augusta Resource Corporation, 2011.

The multiplier effect of this \$355.7 million in local construction spending on the county would result in a total increase in economic activity of about \$563.6 million during the construction period. The total economic impact shown in Figure 3 reflects direct construction activity as well as local supplier purchases and consumer purchases made by construction employees. The approximately 2,400 direct and 1,800 indirect jobs created by the construction project could result in approximately \$194.0 million in personal income generated in Pima County over the construction period. Due to the large number of workers involved in this type of construction, the project would result in significant potential for additional consumer spending in the county during this phase.

**FIGURE 3
CONSTRUCTION IMPACT OF THE ROSEMONT COPPER PROJECT
ON PIMA COUNTY**

	Direct			Total		
	Construction Expenditures	Jobs	Personal Income	Output	Jobs	Personal Income
Labor, Materials, Subcontractors	\$261,076,702	1,708	\$84,055,211	\$400,009,713	2,862	\$130,822,141
Construction Equipment Rental	\$20,022,583	67	\$3,987,097	\$34,494,065	195	\$8,954,560
Engineering, Project Management	\$55,512,000	465	\$29,750,380	\$101,396,165	881	\$45,308,617
Commissioning & Spare Parts	\$19,051,880	136	\$6,115,234	\$27,666,969	210	\$8,886,540
Total	\$355,663,165	2,376	\$123,907,922	\$563,566,912	4,148	\$193,971,858

Source: Augusta Resources, 2011; Applied Economics.

Note: Total excludes contingency, owner's cost and plant equipment which do not create local impacts.

Operations Impacts

Direct impacts include employees and payroll at Rosemont as well as the value of production. Total jobs include local vendors from whom Rosemont makes purchases and local establishments where employees shop. These local vendors and their employees in turn make additional local purchases that are captured in the total impact estimates. The total impact includes both the direct impacts and the secondary impacts created by other local businesses and their employees. Additional purchases by both Rosemont and its employees will also occur outside the region and are not represented here.

The Rosemont Copper Project will employ between 350 and 480 people in Pima County throughout its 21 year lifecycle including mine workers as well as process workers and general administrative employees. Their total annual payroll will range from \$19.5 million to \$26.2 million dollars (Figure 4). This results in an average wage per employee of \$55,200 in 2008 dollars, which is well above the all-industry average wage for Pima County. In addition, Rosemont would provide a substantial employee benefit package including health insurance and retirement benefits. On average, employee benefits add an additional 34 percent to total employee compensation.

**FIGURE 4
EMPLOYMENT AND PAYROLL
ROSEMONT COPPER PROJECT**

Year	Employees						Total	Total Payroll
	Mine		Lab		Process			
	Craft	Admin	Gen Admin	Gen Admin	Craft	Admin		
PP2	94	28	32	8	0	34	196	\$6,650,552
PP1	184	45	32	8	59	34	362	\$20,655,597
1	229	45	32	8	106	34	454	\$25,093,579
2	229	45	32	8	106	34	454	\$25,079,788
3	236	45	32	8	106	34	461	\$25,319,220
4	236	45	32	8	106	34	461	\$25,376,657
5	236	45	32	8	106	34	461	\$25,416,635
6	236	45	32	8	106	34	461	\$25,376,173
7	236	45	32	8	106	34	461	\$25,376,173
8	236	45	32	8	106	34	461	\$25,376,173
9	236	45	32	8	106	34	461	\$25,416,392
10	236	45	32	8	106	34	461	\$25,376,173
11	253	45	32	8	106	34	478	\$26,161,679
12	253	45	32	8	106	34	478	\$26,099,594
13	253	45	32	8	106	34	478	\$26,142,457
14	253	45	32	8	106	34	478	\$26,098,930
15	253	45	32	8	106	34	478	\$26,096,053
16	163	36	32	8	106	34	379	\$21,108,433
17	135	36	32	8	106	34	351	\$19,632,243
18	135	36	32	8	106	34	351	\$19,541,456
19	135	36	32	8	106	34	351	\$19,475,702
20	135	36	32	8	106	34	351	\$19,640,410
21	135	36	32	8	106	34	351	\$5,537,863
Total								\$516,047,932

Source: Augusta Resource Corporation, 2011.

Note: PP2 and year 21 reflect partial year operations and payroll levels.

Employee Spending

These workers represent a substantial amount of purchasing power that supports additional jobs and payroll at local retail and service establishments throughout the region. Based on the Census Consumer Expenditure Survey, it is estimated that employees at this wage level spend approximately 83 percent of their income on goods and services. Most of this spending occurs locally.

Employee spending could generate an estimated economic impact of \$21.7 million to \$29.2 million per year in Pima County during the 21 year operational life of the mine, or about \$576.3 million over the entire period (Figure 5). Through this spending, the Rosemont Copper Project indirectly supports an average of 160 jobs and \$5.7 million in annual payroll in Pima County. This includes jobs and payroll at the establishments where employees shop as well as additional jobs and payroll at the local suppliers to those establishments.

FIGURE 5
ROSEMONT COPPER PROJECT
EMPLOYEE SPENDING IMPACTS ON PIMA COUNTY

Year	Direct			Total		
	Local Expenditures	Supported Jobs	Personal Income	Output	Supported Jobs	Personal Income
PP2	\$5,519,958	31	\$1,065,425	\$7,424,855	47	\$1,671,454
PP1	\$17,144,145	96	\$3,321,133	\$23,069,023	147	\$5,206,222
1	\$20,827,670	117	\$4,035,324	\$28,025,988	179	\$6,325,584
2	\$20,816,224	117	\$4,033,108	\$28,010,586	179	\$6,322,110
3	\$21,014,953	118	\$4,071,897	\$28,278,201	181	\$6,382,819
4	\$21,062,625	118	\$4,081,202	\$28,342,398	181	\$6,397,382
5	\$21,095,807	118	\$4,087,661	\$28,387,068	181	\$6,407,496
6	\$21,062,224	118	\$4,081,124	\$28,341,858	181	\$6,397,260
7	\$21,062,224	118	\$4,081,124	\$28,341,858	181	\$6,397,260
8	\$21,062,224	118	\$4,081,124	\$28,341,858	181	\$6,397,260
9	\$21,095,605	118	\$4,087,621	\$28,386,797	181	\$6,407,435
10	\$21,062,224	118	\$4,081,124	\$28,341,858	181	\$6,397,260
11	\$21,714,193	122	\$4,208,378	\$29,219,820	187	\$6,596,428
12	\$21,662,663	121	\$4,198,320	\$29,150,428	186	\$6,580,686
13	\$21,698,239	122	\$4,205,246	\$29,198,322	187	\$6,591,532
14	\$21,662,112	121	\$4,198,213	\$29,149,686	186	\$6,580,518
15	\$21,659,724	121	\$4,197,747	\$29,146,470	186	\$6,579,788
16	\$17,519,999	98	\$3,391,183	\$23,572,814	151	\$5,316,947
17	\$16,294,762	91	\$3,152,021	\$21,922,861	140	\$4,942,635
18	\$16,219,408	91	\$3,137,327	\$21,821,398	139	\$4,919,633
19	\$16,164,833	91	\$3,126,675	\$21,747,905	139	\$4,902,961
20	\$16,301,540	91	\$3,153,358	\$21,931,999	140	\$4,944,723
21	\$4,596,427	26	\$887,440	\$6,182,810	40	\$1,392,139
Total	\$428,319,784	104	\$82,963,776	\$576,336,858	160	\$130,057,529

Note: Totals for output and personal income represent a summation of impacts over 23 years, while job totals represent the average number of annual jobs supported.

Vendor Spending

A significant component of the Rosemont Copper Project's impact is from local vendor purchases. Approximately 81 percent of total vendor spending is from local vendors, which is very high even for a resource-based company. This is due in part to the fact that many of the purchases made by Rosemont are commodities such as utilities and fuel that are more likely to be available locally. However, they are also able to source their equipment parts, repair and maintenance through local vendors for both the mine and the processing facility, which make up a significant portion of total vendor spending (Figure 6). The high share of purchases from local vendors results in a much higher indirect economic impact than would occur from a similar type company with limited local procurement.

**FIGURE 6
LOCAL SUPPLIER PURCHASES
ROSEMONT COPPER PROJECT**

Year	Mining	Process	General	Total
PP2	\$2,736,616	\$0	\$0	\$2,736,616
PP1	\$29,415,449	\$0	\$0	\$29,415,449
1	\$45,166,973	\$58,125,048	\$3,833,627	\$107,125,648
2	\$56,730,869	\$68,847,952	\$3,833,627	\$129,412,448
3	\$60,094,297	\$68,800,650	\$5,833,627	\$134,728,574
4	\$58,817,214	\$69,227,543	\$5,833,627	\$133,878,384
5	\$82,993,259	\$69,318,942	\$5,833,627	\$158,145,828
6	\$71,631,944	\$69,338,776	\$5,833,627	\$146,804,347
7	\$56,815,464	\$69,331,129	\$5,833,627	\$131,980,220
8	\$58,017,889	\$66,434,606	\$3,833,627	\$128,286,122
9	\$70,018,226	\$63,464,035	\$3,833,627	\$137,315,888
10	\$55,146,879	\$62,963,276	\$3,833,627	\$121,943,782
11	\$83,879,726	\$62,565,962	\$3,833,627	\$150,279,315
12	\$74,020,769	\$62,565,962	\$3,833,627	\$140,420,358
13	\$70,142,637	\$62,565,962	\$3,833,627	\$136,542,226
14	\$64,583,435	\$61,378,979	\$3,833,627	\$129,796,041
15	\$54,004,639	\$61,378,979	\$3,833,627	\$119,217,245
16	\$50,290,062	\$61,378,979	\$3,833,627	\$115,502,668
17	\$36,186,711	\$61,378,979	\$3,833,627	\$101,399,317
18	\$34,436,960	\$61,378,979	\$3,833,627	\$99,649,566
19	\$22,685,362	\$61,378,979	\$6,333,627	\$90,397,968
20	\$33,202,198	\$60,214,515	\$6,333,627	\$99,750,340
21	\$7,025,174	\$11,737,438	\$6,333,627	\$25,096,239
Total	\$1,178,042,752	\$1,293,775,669	\$98,006,167	\$2,569,824,588

Source: Augusta Resource Corporation, 2011.

Through the 21 year operational cycle, the Rosemont Copper Project is projected to make between \$90.4 million and \$158.1 million per year in purchases from local vendors. As purchases are made from local vendors they, in turn, support jobs and payroll in Pima County. There is also additional local spending that may take place on behalf of the local vendors that supports additional jobs and payroll. Local vendor purchases generate an annual economic impact of \$127.1 million to \$225.2 million in Pima County, or \$3.6 billion over the life of the mine (Figure 7). This activity supports about 770 to 1,500 jobs each year at local vendors and their suppliers.

**FIGURE 7
ROSEMONT COPPER PROJECT LOCAL VENDOR PURCHASING
IMPACTS ON PIMA COUNTY**

Year	Direct			Total		
	Local Expenditures	Supported Jobs	Personal Income	Output	Supported Jobs	Personal Income
PP2	\$2,736,616	21	\$868,294	\$3,999,488	32	\$1,272,420
PP1	\$29,415,449	170	\$8,771,042	\$43,353,417	282	\$13,137,403
1	\$107,125,648	569	\$30,507,814	\$151,687,005	938	\$44,613,608
2	\$129,412,448	701	\$37,053,846	\$183,136,459	1,148	\$54,082,972
3	\$134,728,574	737	\$38,884,104	\$191,089,852	1,208	\$56,779,539
4	\$133,878,384	731	\$38,572,107	\$189,800,383	1,197	\$56,324,352
5	\$158,145,828	910	\$46,301,104	\$225,155,932	1,472	\$67,608,967
6	\$146,804,347	824	\$42,699,165	\$208,584,071	1,340	\$62,332,814
7	\$131,980,220	719	\$37,942,772	\$187,062,304	1,178	\$55,422,035
8	\$128,286,122	698	\$36,875,005	\$181,620,808	1,142	\$53,792,784
9	\$137,315,888	777	\$39,915,110	\$195,087,563	1,260	\$58,258,769
10	\$121,943,782	671	\$35,005,478	\$172,815,126	1,095	\$51,129,770
11	\$150,279,315	883	\$44,099,476	\$214,086,981	1,418	\$64,380,364
12	\$140,420,358	816	\$40,927,113	\$199,822,994	1,313	\$59,787,949
13	\$136,542,226	784	\$39,701,382	\$194,106,544	1,266	\$57,976,495
14	\$129,796,041	742	\$37,665,040	\$184,373,449	1,199	\$54,991,708
15	\$119,217,245	674	\$34,320,370	\$169,044,099	1,090	\$50,124,416
16	\$115,502,668	654	\$33,220,036	\$163,583,272	1,056	\$48,477,577
17	\$101,399,317	541	\$28,928,664	\$142,798,906	888	\$42,076,926
18	\$99,649,566	529	\$28,386,483	\$140,239,149	868	\$41,277,313
19	\$90,397,968	461	\$25,536,364	\$127,126,539	767	\$37,201,920
20	\$99,750,340	541	\$28,609,336	\$140,832,381	886	\$41,679,527
21	\$25,096,239	146	\$7,652,690	\$36,296,870	241	\$11,265,532
Total	\$2,569,824,588	622	\$742,442,796	\$3,645,703,591	1,012	\$1,083,995,158

Note: Totals for output and personal income represent a summation of impacts over 23 years, while job totals represent the average number of annual jobs supported.

Overall Economic Impacts

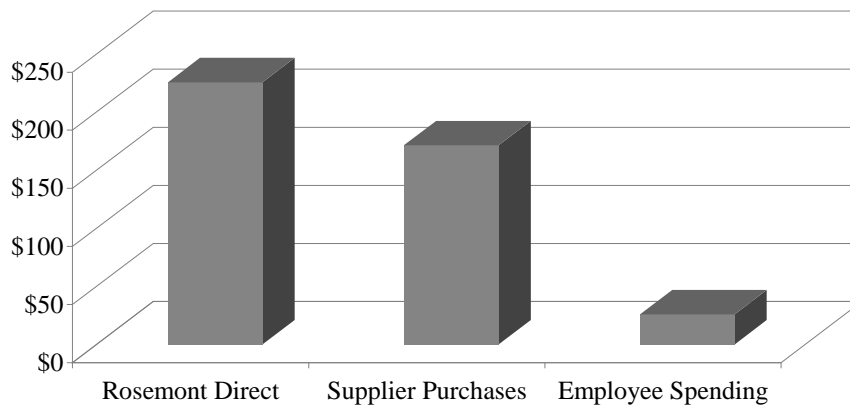
The composite operations impact results presented here are broken down in terms of direct impacts, indirect impacts (vendor purchases), induced impacts (employee spending) and total impacts. All total, the operations of the Rosemont Copper Project could create a total economic impact of \$339.3 million to \$524.5 million in Pima County's economy each year. This represents about a 1 percent increase in overall county GDP. Rosemont could directly and indirectly support an average of 1,600 jobs and \$75.2 million in average annual personal income over the next 21 years (Figures 8 and 9).

FIGURE 8
ANNUAL DIRECT AND TOTAL OPERATIONS IMPACT OF THE ROSEMONT COPPER PROJECT
ON PIMA COUNTY
(millions of dollars)

Year	Direct			Local Purchases			Employee Spending			Total		
	Output	Jobs	Personal Income	Output	Jobs	Personal Income	Output	Jobs	Personal Income	Output	Jobs	Personal Income
PP2	\$9.90	196	\$6.65	\$4.00	32	\$1.27	\$7.42	47	\$1.67	\$21.32	275	\$9.59
PP1	\$53.77	362	\$20.66	\$43.35	282	\$13.14	\$23.07	147	\$5.21	\$120.19	792	\$39.00
1	\$212.19	454	\$25.09	\$151.69	938	\$44.61	\$28.03	179	\$6.33	\$391.90	1,572	\$76.03
2	\$256.74	454	\$25.08	\$183.14	1,148	\$54.08	\$28.01	179	\$6.32	\$467.89	1,781	\$85.48
3	\$245.50	461	\$25.32	\$191.09	1,208	\$56.78	\$28.28	181	\$6.38	\$464.87	1,849	\$88.48
4	\$253.45	461	\$25.38	\$189.80	1,197	\$56.32	\$28.34	181	\$6.40	\$471.59	1,839	\$88.10
5	\$270.93	461	\$25.42	\$225.16	1,472	\$67.61	\$28.39	181	\$6.41	\$524.48	2,115	\$99.43
6	\$264.28	461	\$25.38	\$208.58	1,340	\$62.33	\$28.34	181	\$6.40	\$501.21	1,983	\$94.11
7	\$250.89	461	\$25.38	\$187.06	1,178	\$55.42	\$28.34	181	\$6.40	\$466.29	1,820	\$87.20
8	\$246.32	461	\$25.38	\$181.62	1,142	\$53.79	\$28.34	181	\$6.40	\$456.28	1,784	\$85.57
9	\$246.98	461	\$25.42	\$195.09	1,260	\$58.26	\$28.39	181	\$6.41	\$470.46	1,903	\$90.08
10	\$234.23	461	\$25.38	\$172.82	1,095	\$51.13	\$28.34	181	\$6.40	\$435.38	1,737	\$82.90
11	\$259.75	478	\$26.16	\$214.09	1,418	\$64.38	\$29.22	187	\$6.60	\$503.05	2,083	\$97.14
12	\$237.62	478	\$26.10	\$199.82	1,313	\$59.79	\$29.15	186	\$6.58	\$466.59	1,977	\$92.47
13	\$242.66	478	\$26.14	\$194.11	1,266	\$57.98	\$29.20	187	\$6.59	\$465.97	1,930	\$90.71
14	\$240.06	478	\$26.10	\$184.37	1,199	\$54.99	\$29.15	186	\$6.58	\$453.59	1,863	\$87.67
15	\$229.91	478	\$26.10	\$169.04	1,090	\$50.12	\$29.15	186	\$6.58	\$428.10	1,754	\$82.80
16	\$217.56	379	\$21.11	\$163.58	1,056	\$48.48	\$23.57	151	\$5.32	\$404.72	1,586	\$74.90
17	\$203.70	351	\$19.63	\$142.80	888	\$42.08	\$21.92	140	\$4.94	\$368.42	1,379	\$66.65
18	\$203.52	351	\$19.54	\$140.24	868	\$41.28	\$21.82	139	\$4.92	\$365.58	1,358	\$65.74
19	\$190.45	351	\$19.48	\$127.13	767	\$37.20	\$21.75	139	\$4.90	\$339.32	1,257	\$61.58
20	\$190.52	351	\$19.64	\$140.83	886	\$41.68	\$21.93	140	\$4.94	\$353.28	1,377	\$66.26
21	\$42.30	351	\$5.54	\$36.30	241	\$11.27	\$6.18	40	\$1.39	\$84.78	631	\$18.20
Total	\$4,803.22	421	\$516.05	\$3,645.70	1,012	\$1,084.00	\$576.34	160	\$130.06	\$9,025.26	1,593	\$1,730.10

Note: Totals for output and personal income represent a summation of impacts over 23 years, while job totals represent the average number of annual jobs supported. Direct output is based on production costs but excludes depreciation, equipment salvage, bond fees, severance taxes and royalties.

FIGURE 9
AVERAGE ANNUAL ECONOMIC IMPACTS BY TYPE
(millions of dollars)



The total economic impact includes \$190.5 million to \$270.9 million per year in direct output by Rosemont. Total annual production costs are used as a proxy for direct output. Direct jobs represent employees at the mine and related processing facilities, whereas total jobs include local vendors where Rosemont makes purchases and local establishments where employees spend their income. These supported local businesses and their employees in turn make additional local purchases that are captured in the total impact estimates. The total impact includes both the direct impacts and the secondary impacts created by other local businesses and their employees.

The secondary, or indirect and induced, impacts presented here are called multiplier effects. Multiplier effects are a way of representing the larger economic effects on the local economy. Multiplier effects translate an increase in output (loosely defined as sales, less profits) into a corresponding increase in jobs and personal income. In essence, the multiplier effect represents the recycling of local spending. This recycling process creates new business opportunities.

The multipliers used in this analysis are from IMPLAN, a national vendor of economic impact software, and are specific to Pima County. Industry-specific multipliers were used for each category of vendor purchases, and income-specific household consumption multipliers were used to model employee spending. On average, the output multiplier for the Rosemont Copper Project is 1.88. This means that for every \$1 million of output created by Rosemont Copper, an additional \$880,000 in economic activity is generated in the county's economy along with 8 jobs and \$360,000 of payroll. Typically, economic multipliers for resource-based industries such as mining are higher than multipliers for other types of industries, particularly in areas like Southern Arizona where there is a well-developed supplier base to support the mining industry.

4.0 Revenue Impacts

In addition to supporting jobs and income at related businesses in the area through multiplier effects, the Rosemont Copper Project will generate significant state and local tax revenues. Rosemont directly generates property and severance taxes as well as construction sales tax through its own operations. It also indirectly supports additional revenues through employee spending and property ownership. All total, Rosemont could generate \$7.0 million to \$12.9 million per year in direct and indirect revenues to the state, county and local cities.

Direct Revenues

Based on estimates from Augusta Resource Corporation, the Rosemont Project would generate about \$3.5 million in local property taxes each year. In addition, they would pay an estimated \$1.2 million to \$3.9 million per year in state severance taxes (Figure 10). They may also pay state corporate income tax which is not included here. Finally, the project could generate an estimated \$11.0 million in construction sales tax during the pre-production period. Total direct revenues over the life of the mine are estimated at \$136.7 million.

**FIGURE 10
STATE AND LOCAL REVENUE IMPACTS
ROSEMONT COPPER PROJECT**

	Rosemont Direct				Supported Employee Impacts				Total	
	City and County Taxes			State Taxes	City and County Taxes		State Taxes		City &	State
	Property	Severance	Sales	Sales	Property	Sales	Sales	Pers. Income	County	State
PP2	\$0	\$0	\$831,397	\$10,143,044	\$437,226	\$67,161	\$163,873	\$131,068	\$1,335,784	\$10,437,985
PP1	\$0	\$0	\$0	\$0	\$1,256,911	\$272,995	\$666,107	\$463,025	\$1,529,905	\$1,129,132
1	\$3,500,000	\$2,013,000	\$0	\$0	\$2,495,475	\$532,229	\$1,298,640	\$425,133	\$8,540,705	\$1,723,773
2	\$3,500,000	\$2,779,000	\$0	\$0	\$2,828,062	\$598,394	\$1,460,082	\$378,550	\$9,705,456	\$1,838,632
3	\$3,500,000	\$1,341,000	\$0	\$0	\$2,936,492	\$619,371	\$1,511,265	\$369,113	\$8,396,863	\$1,880,378
4	\$3,500,000	\$2,452,000	\$0	\$0	\$2,920,349	\$616,689	\$1,504,721	\$373,844	\$9,489,037	\$1,878,565
5	\$3,500,000	\$1,242,000	\$0	\$0	\$3,357,641	\$696,032	\$1,698,317	\$311,192	\$8,795,673	\$2,009,509
6	\$3,500,000	\$1,994,000	\$0	\$0	\$3,148,176	\$658,744	\$1,607,335	\$340,715	\$9,300,920	\$1,948,050
7	\$3,500,000	\$2,151,000	\$0	\$0	\$2,890,654	\$610,368	\$1,489,299	\$377,738	\$9,152,023	\$1,867,037
8	\$3,500,000	\$3,219,000	\$0	\$0	\$2,833,179	\$598,964	\$1,461,471	\$385,709	\$10,151,143	\$1,847,180
9	\$3,500,000	\$3,812,000	\$0	\$0	\$3,021,082	\$630,578	\$1,538,611	\$358,498	\$10,963,660	\$1,897,108
10	\$3,500,000	\$3,933,000	\$0	\$0	\$2,758,576	\$580,322	\$1,415,987	\$394,214	\$10,771,898	\$1,810,201
11	\$3,500,000	\$3,231,000	\$0	\$0	\$3,307,729	\$679,969	\$1,659,125	\$335,774	\$10,718,698	\$1,994,899
12	\$3,500,000	\$2,054,000	\$0	\$0	\$3,139,468	\$647,278	\$1,579,357	\$357,020	\$9,340,745	\$1,936,378
13	\$3,500,000	\$2,949,000	\$0	\$0	\$3,064,888	\$634,973	\$1,549,335	\$370,235	\$10,148,862	\$1,919,570
14	\$3,500,000	\$3,521,000	\$0	\$0	\$2,958,827	\$613,698	\$1,497,423	\$383,134	\$10,593,525	\$1,880,558
15	\$3,500,000	\$3,703,000	\$0	\$0	\$2,785,646	\$579,602	\$1,414,228	\$407,169	\$10,568,247	\$1,821,397
16	\$3,500,000	\$3,572,000	\$0	\$0	\$2,517,862	\$524,321	\$1,279,342	\$297,889	\$10,114,183	\$1,577,232
17	\$3,500,000	\$4,096,000	\$0	\$0	\$2,189,186	\$466,563	\$1,138,413	\$303,375	\$10,251,749	\$1,441,788
18	\$3,500,000	\$4,311,000	\$0	\$0	\$2,157,162	\$460,169	\$1,122,812	\$304,253	\$10,428,331	\$1,427,065
19	\$3,500,000	\$3,815,000	\$0	\$0	\$1,996,167	\$431,064	\$1,051,796	\$325,379	\$9,742,231	\$1,377,175
20	\$0	\$2,877,000	\$0	\$0	\$2,186,456	\$463,853	\$1,131,800	\$303,032	\$5,527,309	\$1,434,832
21	\$0	\$158,000	\$0	\$0	\$1,002,740	\$127,369	\$310,780	\$20,720	\$1,288,109	\$331,499
Total	\$66,500,000	\$59,223,000	\$831,397	\$10,143,044	\$58,189,955	\$12,110,704	\$29,550,119	\$7,716,780	\$196,855,056	\$47,409,943

Indirect Revenues

In addition to direct taxes paid by Rosemont, the direct and indirect employees that are supported by the project generate indirect revenues including property, sales and personal income taxes.

Using the results from the economic impact analysis, it is possible to estimate these indirect tax impacts.

Direct and indirect employees could generate estimated \$2.0 million to \$3.4 million annually in indirect property tax revenues in Pima County. Indirect property tax revenues were estimated using average residential assessed per capita, times the annual supported population, times the countywide average property tax rate for Pima County.¹

Based on employee payroll at Rosemont plus personal income for indirectly supported employees, the project could support approximately \$1.5 million to \$2.4 million in indirect sales tax revenues each year to the state, county and local cities. This estimate assumes that households spend approximately 28 percent of their wages on goods that are subject to sales tax, based on data from the Census Consumer Expenditure Survey. Applying this assumption to the personal income of employees and applying an average local (city and county) sales tax rate of 2.5 percent and a state rate of 6.1 percent yields state and local sales tax revenues from employee spending.

In terms of state personal income tax, direct and indirect employees could generate approximately \$298,000 to \$425,000 in annual revenues throughout the life of the project. State income tax revenues are calculated using average income per employee for direct and indirect employees times the state tax rate schedule times the number of supported employees.

In total, the Rosemont Copper Project could generate approximately \$196.9 million in direct and indirect local revenues and \$47.4 million in state revenues over the life of the mine. This would be a significant increase in revenues, particularly for local governments.

¹ Supported population is equal to total employment divided by workers per household in Pima County times population per household.

5.0 Summary

A new copper mining operation of the magnitude proposed by Augusta Resources Corporation will clearly create large economic impacts in Pima County. In addition to significantly increasing the output of copper in Pima County, Rosemont would provide high paying jobs to hundreds of workers as well as supporting the local economy with millions of dollars each year in local vendor purchases. The fact that Rosemont would make a sizeable share of vendor purchases from local companies greatly increases the multiplier effect in terms of the share of economic benefits that stay in the region. These local vendors, in turn, are also more likely to make purchases locally, resulting in a cascade of economic benefits to the region.

In addition, Rosemont's employees create additional local economic impacts through their consumer spending. The combined economic impacts lead to increases in local and state tax revenues that will create returns for the public sector along with the increase in economic activity in the private sector. This project continues the long-standing tradition of mining in Southern Arizona, capitalizing on mineral resources to create significant long-term economic gains for the region.