

Bengal Solutions

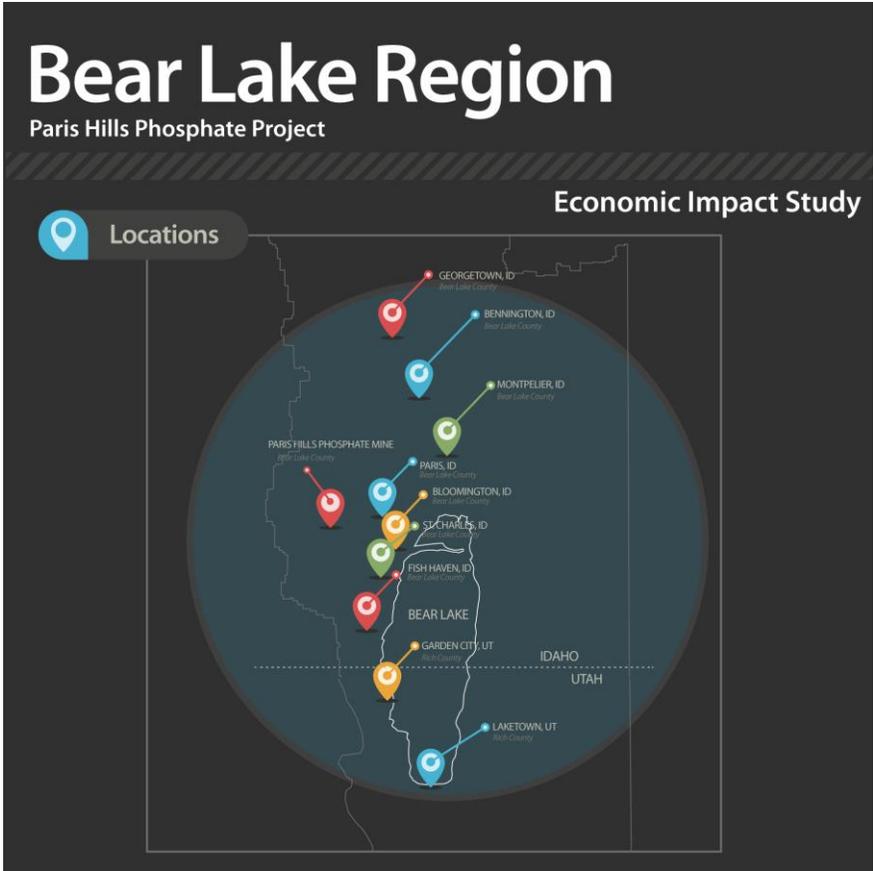
REPORT



Idaho State
UNIVERSITY

Paris Hills Phosphate Project

Economic Impact Study



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Executive Summary

This report is continuing the work presented by the FY13 report on the economic impact of the Paris Hills Phosphate (PHP) Project on Bear Lake County, ID, in which the overall economic effects on the local economy was studied. The report shows significant boost to local business. As the mine grows from the initial hiring in late 2014 to full scale operations mid-2016 it is anticipated to employ just over 350 people. This report continues the work by performing detailed analyses in order to obtain relative and net revenue increases and additional new jobs due to the PHP project for different businesses, such as restaurants, schools, healthcare, grocery and other shopping, transportation, and entertainment.

In order to perform quantitative analysis, statistical and geographic data at local, state, and national levels are widely used. In rare cases, where no data are available, reasonable assumptions are made. In research, different data collection and survey methods for the same study are often utilized. Similar results from different methods can therefore serve to validate the accuracy of the findings of the various methods utilized.

A very rough estimation of all residential related business increase rate at Bear Lake area (mainly at Montpelier, ID) is estimated to be between 21% and 27% according to population increase from the mine operation. However, the mine employees have much higher income than average residents; therefore, this is a conservative estimation of increase rates for restaurants, local shopping, and entertainments business. Further analyses indicate:

- For Montpelier, the level of total money spent in restaurants by the mine employees and their families will be around one half of a million dollars every year (after full production in 2016), which is enough to support a new fast food franchise or two family owned restaurants.
- The Bear Lake area has excellent health care services to serve the mine employees and their families. It is expected that the new mine will bring 9.5% to 12% revenue increase for local healthcare providers.

- For the near term (within 10 years), the middle school and the high school should be able to absorb the newly added students. However, the suddenly increased about 1 / 3 of current student enrollment may be too large for the existing elementary school to handle. This is before considering additional population increase due to the job multiplier effect such as newly added restaurants, new teachers, etc. It may be wise for the school district to plan for a new elementary school. Also, new or expanded daycare facilities may be needed to support the new mine families.
- The total estimated annual expenditures on food by all the miner families will be between 1.14 million to 1.45 million. This will create between 8 to 10 new jobs at local grocery stores. Additionally, 1 to 2 new jobs will be expected at local department or clothing stores.
- The annual transportation spending by all the miner families in the Bear Lake region is estimated to be between \$1.6 million and \$2 million, which contributes to an estimated increase of 4 to 5 new jobs in this industry.
- About one half of a million dollars will be spent by new miner families in the Bear Lake region in entertainment related local business and one new job is estimated to be created.

Bear Lake Region

Paris Hills Phosphate Project

Economic Impact Study

 Discretionary Spending

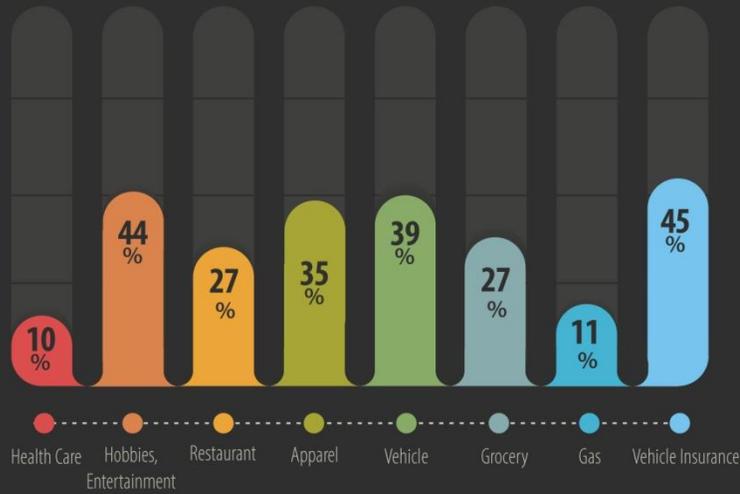


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Calculated Overall Economic Impact Using Multiplier

Direct, Indirect and Induced Figures

This section of the report is the calculated total amount of jobs and dollars that will be created that encompasses the entire footprint of the PHP project whether it be local, regional or national.

Direct jobs/wages: These are jobs and wages that are directly created by the mine (mine employees).

Indirect jobs/wages: These are jobs and wages that are indirectly affected by the mine due to new or increased business with the mine. For example, a company which sells propane expands as a result of selling more propane to the mine.

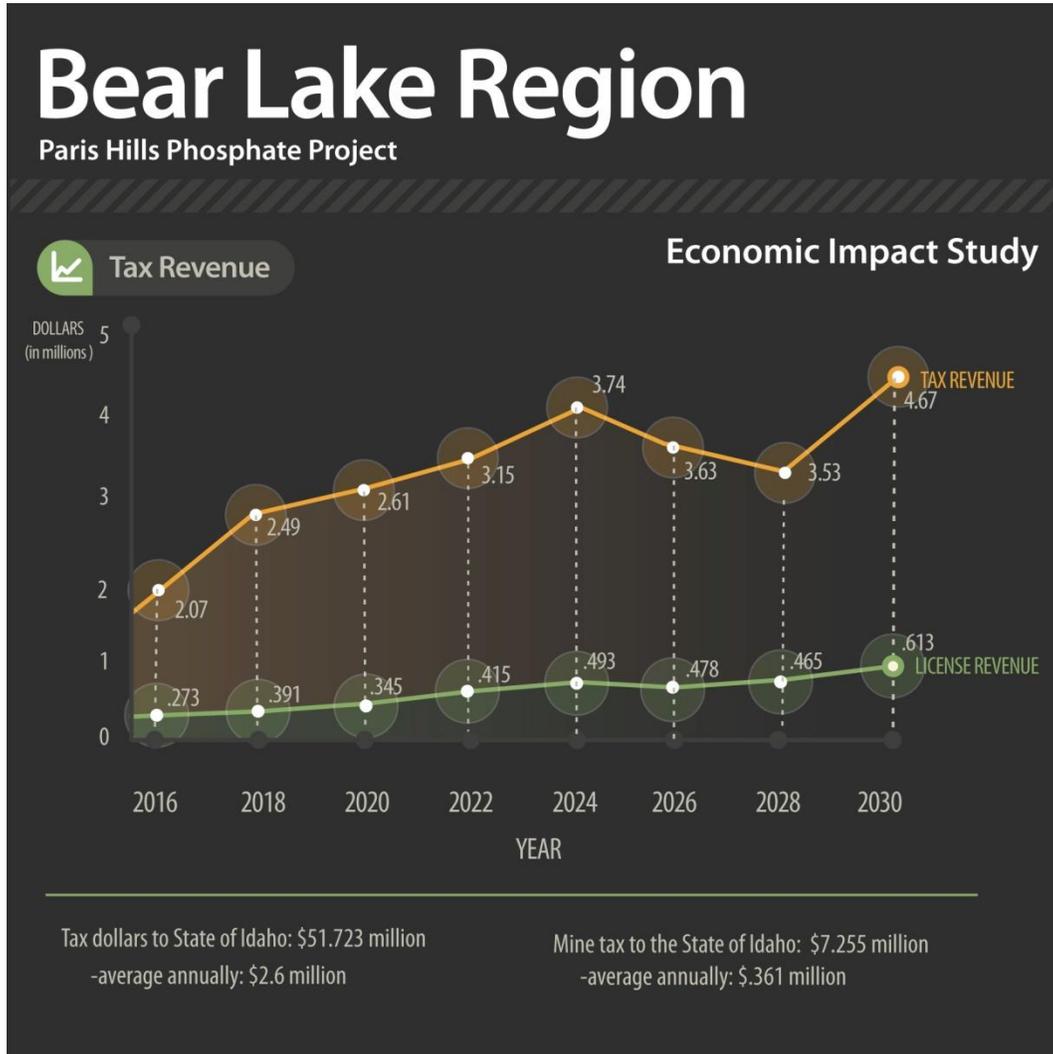
Induced jobs/wages: These are jobs and wages that are created because the economy, as a whole, expands due to increased income and business revenues. Restaurants hire more wait staff to handle increased customer traffic, as a result of an increase in discretionary dining spending.

According to the National Mine Association¹ data the jobs multiplier for economic impact analysis in Idaho regions with a phosphate mine (a mine that is neither a metallic or a coal mine) is 2.2. Thus the total jobs created by the mine (direct, indirect and induced) would be estimated at 788.

Likewise the wages multiplier for Idaho regions with a phosphate mine (a mine that is neither a metallic or coal mine) is 2.13. This indicates an estimated increase in wages to the region of \$66 million annually, representing more than a 40% increase over the region's current annual per capita income.

This data is taken directly from the charts in the National Mine Associations' 2011 report on the state of the mining industry in the United States. The economic impact of mines on regions in the U.S. is based on 3 different mine classification: *Metallic*, *Coal*, and *Non-Metallic or Coal* (i.e. everything else). For their economic impact analyses they used the IMPLANS model for

economic impact. The IMPLANS model is used by official agencies to gauge economic multiplier effects of certain economic and socioeconomic factors.



Introduction and Assumptions of Wage Spending Locally

This report is continuing the work presented by the FY13 report on the economic impact of the Paris Hills Phosphate (PHP) Project on Bear Lake County, ID, in which the overall economic effect on the local economy was studied. However this section of the report will not account for the following things: 1. Jobs and wages that are created outside of the region (leakage) 2. Jobs generated by housing. 3. Indirect jobs that support the industries that are analyzed and 4. Other industries that will benefit from the wages spent locally that have not been identified in this report. Therefore, this section of the report is not intended to further identify all of the jobs that are estimated to have been created using the multiplier method.

This section of the report shows significant boost on local business within the specifically analyzed industries as a result of the mine employees' spending locally. As the mine grows from the initial hiring in late 2014 to full scale operations mid-2016 it is anticipated to employ just over 350 people. This report will continue the previous work by performing detailed analyses to obtain revenue increase and additional new jobs due to the PHP project for different businesses, such as restaurants, schools, healthcare, grocery and other shopping, transportation, and entertainment.

In order to perform quantitative analysis, statistical and geographic data at local, state, and national levels will be widely used. In the rare cases, where no data are available, reasonable assumptions are made. In research, different data collection and survey methods for the same study are often utilized. Similar results from different methods can therefore serve to validate the accuracy of the findings of the various methods utilized.

Assuming the mine is located in Paris, ID, we checked estimated driving time to the mine work site and other important facts such as population and income in surrounding areas:

- **Logan, UT is 59.3 miles to Paris (about 1 hour 15 minutes).** As of the [2010 United States Census](#), the population of Logan was 48,174 and the Logan metropolitan area contained 125,442 people. Logan is the location of the main campus of Utah State University. Logan has a wide diversity of economic sectors with a focus on education, manufacturing and processing, medical services, agriculture, and retail businesses.

Notable business: L.W. Miller Transportation Inc., the 55th largest private employer in Utah.

- **Soda Springs, ID is 40.0 miles to Paris (about 43 minutes).** Soda Springs is a city in nearby Caribou County, Idaho. Its population was 3,058 at the 2010 census. The median income for a household in the city was \$40,690 and the median income for a family was \$46,152.
- **Montpelier, ID is 10 miles to Paris (about 13 minutes).** Montpelier is a city in Bear Lake County, Idaho. The population was 2,597 at the 2010 census, down from 2,785 in 2000. The city is the largest community in the Bear Lake Valley.
- **Paris, ID** - the city's population was 513 at the 2010 census, down from 576 in 2000.
- **Garden City, UT is 20.0 miles to Paris (about 23 minutes).** The population was 562 at the 2010 census. Garden City sits on the shores of Bear Lake and is a popular summer resort destination which seasonally creates marginal additional demand for local services.

According to the above survey, the nearest major town is Montpelier, ID. Soda Springs, ID has similar population but is much further away. Logan, UT is the center of metropolitan area, however it is too far away for the majority of employees to commute. Therefore, we expect the majority of employees (80%)ⁱⁱ will choose to live in Montpelier, ID, Paris, ID, and Garden City, UT. These three towns have combined population of 3,672 (2,597 from Montpelier, 513 from Paris, and 562 from Garden city). Since Montpelier is the largest community in the Bear Lake Valley, We estimate:

$$350 * 80\% * (2,597 / 3,672) = 198 \text{ (57\% of total newly added employees)}$$

or even more by assuming people tend to live in a larger town

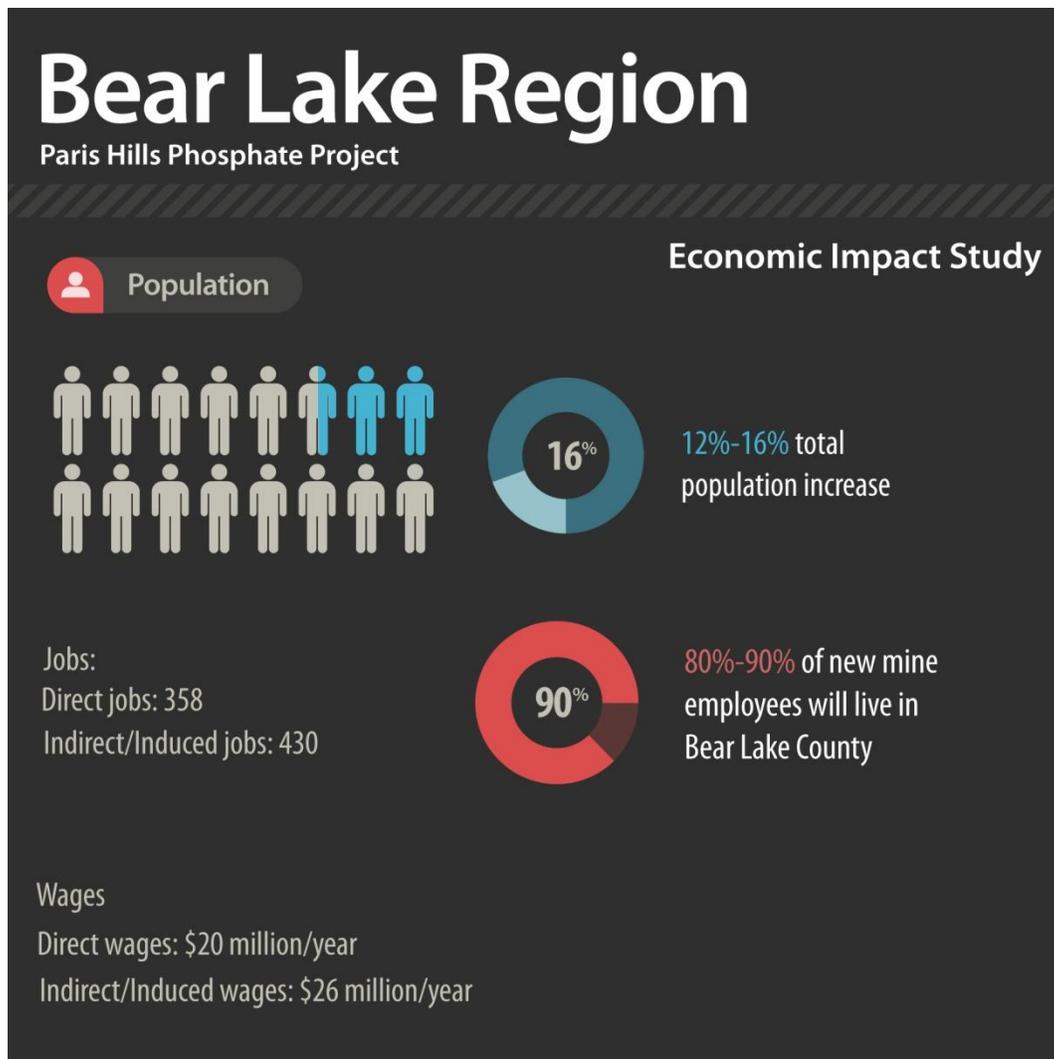
$$\text{i.e., } 350 * 80\% * 90\% = 252 \text{ (72\% of total newly added employees)}$$

employees will live in Montpelier. Therefore, we focused on Montpelier for new business opportunities for new employees while considering the cities of Paris and Garden City as the Montpelier area for completeness.

The average household size at Bear Lake County is 2.81ⁱⁱⁱ. Therefore, new added population to the Montpelier area is expected to be about **557** (198 * 2.81) to **708** (252 * 2.81). Hence, a rough estimation of all life related business increase in Montpelier area is estimated to be:

$$557 / 2,597 = \underline{21\%} \text{ to } 708 / 2,597 = \underline{27\%} \text{ (2,597 is the population of Montpelier)}$$

However, mine employees will have much higher income than average residents; therefore, this is a conservative estimation of increase rates for restaurants, local shopping, and entertainment businesses.



Impact on Restaurant Revenue Analysis

In this section and subsequent sections, more detailed methods are used to study miner family spending effect on local businesses. According to the figure of Employee Spending by Category^{iv}, about \$4,000 per employee will be spent annually on food at restaurants. However, this number should also include vacation dining expense, which is not locally spent. If we assume the average family will have a 2-week vacation and a one-day trip every 1 month to Salt Lake City, Pocatello or Logan areas, we can estimate the total annual cost for non-local food at dining:

$$14(\text{days}) * 2.81 * \$41 (\text{per diem rate})^v + 12 (\text{out of town day trip}) * 2.81 * \$11 (\text{avg. lunch cost}) = \$1984 \text{ (This is the leakage).}$$

So the local spent money on dining will be $\$4,000 - \$1,984 = \$2,016$. This number is close to the data (\$2,678) for average American family spent on food away from home in 2012 published by Bureau of Labor Statistics (<http://www.bls.gov/news.release/cesan.nr0.htm>). For Montpelier, the total money spent in restaurants by the mine employees' families will be between:

$$\$2,016 * 198 = \underline{\$399,200} \text{ to } \$2,016 * 252 = \underline{\$508,000}$$

To understand what this amount money means, let's compare what a fast food store's typical annual revenue in U.S.^{vi}:

- **SUBWAY - U.S. sales per store, 2010: \$452,000**
- **PIZZA HUT - U.S. sales per store, 2010: \$855,000**
- **KFC - U.S. sales per store, 2010 (KFC): \$933,000**

Considering the lower living cost and potential lower business operating cost, the increased spending on local restaurants is more than enough to justify a new fast food franchise given that 100% of that increase goes to an additional one restaurant. Montpelier currently only has 7 restaurants including 2 fast food stores and 5 family owned small restaurants (according to

google map). If we assume the revenue from 2 family owned small restaurants are equivalent to that of one fast food store, the potential increase revenue rate is about:

$$1 / (2 + (5 / 2)) = 22\%$$

this estimation is very close to the increase rate estimated with population increase method in previous pages.

To summarize: if there are no new restaurants to be established in the Bear Lake City region, the existing restaurants' revenue will increase 21% to 27% because of the increased population brought by the mine. Otherwise if the current restaurants cannot serve more customers, at least one new fast food or two family owned restaurants would be sustainable.



Impact on Healthcare Revenue Analysis

For this analysis we conducted research on healthcare and developed the following facts and information:

Fact 1: Small town, big city hospital located at Montpelier, ID

Bear Lake Memorial Hospital and Skilled Nursing Facility serves the Bear Lake valley region. It has been described as a small town, big city hospital by the Idaho State Journal^{vii}. There are two operating rooms, a CT scanner, 24 hour emergency room services, Life Flight helicopter services, and over 220 employees. There are 7 medical doctors and 6 additional visiting specialists.

Fact 2: More physicians per capita than national average

From yellowpages.com, 16 physicians and surgeons are listed to serve this area. The population of Bear Lake County was 5986 (2010 Census). The physicians per 1000 population for the county are:

$$(16 / 5986) * 1000 = 2.7$$

This number is higher than the average physicians for 1000 population in Idaho. According to a report from the University of Idaho^{viii}:

“There were 1.6 physicians per 1,000 population in 2011 in Idaho, compared to 2.5 per 1,000 in the U.S.”

Fact 3: Logan and Salt Lake City area provide additional medical service

Logan, UT, 73 mi from Montpelier – about 1 hour 15 minutes, is the nearest metropolitan area with a complete supply of medical services. University Hospital at Salt Lake City is ranked as one of top 100 hospitals in the U.S.

Based on above three facts, the new mine employees and their families will find excellent health care service within the area. Special medical needs can be met within two-hour drive.

The total number of mine employees expected to live in the Bear Lake area is $350 * 80\% = 280$.

The total added population to the area is: $350 * 2.81 = 787$.

The combined population from two counties in the area is:

$5,986$ (Bear Lake County) + $2,267$ (Rich County, UT) = $8,253$.

The net increased revenue for the region health care industry will be:

$787/8,253 = 9.5\%$.

In 2010 the uninsured rate in Idaho was 19% ^{ix}. The new mine employees have high pay rate and will receive health care by the company. Therefore, we can assume that they have good medical insurance while about 20% of the general population do not have health insurance and cannot afford average medical service. More realistic revenue rate for the region health care industry can be estimated as:

$787 / (8,253 * (1 - 19\%)) = 12\%$.

To summarize, (1) the Bear Lake area has excellent health care service to serve the mine employees and their families. (2) It is estimated that the new mine will bring 9.5% to 12% revenue increase for local healthcare providers serving the area.

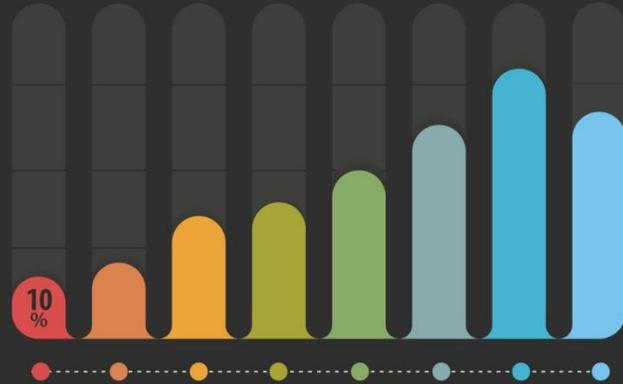
Bear Lake Region

Paris Hills Phosphate Project



Discretionary Spending

Economic Impact Study



Health Care

Healthcare revenues increase:
9.5%-12% annually

Impact Analysis on School Capacity

For this analysis we conducted research on schools and developed the following facts and information:

The Bear Lake County School District #33^x is a countywide school district located in the southeastern corner of Idaho and encompasses approximately 791 square miles. The total enrollment is 1102^{xi}.

The district has one high school - Bear Lake High School, located at Montpelier, with an enrollment of about 338 students in grades 9-12 according to greatschools.org^{xii}. There is another alternative high school serving 15 students.

The district has one middle school - Bear Lake Middle School, located at Montpelier, with 243 students in grades 6-8^{xiii}.

The district has three elementary schools:

A J Winters Elementary School, located at Montpelier, with 345 students^{xiv}. Paris Elementary School, located at Paris, ID, with 87 students. Driving distance from Paris to Montpelier is 10 miles, about 13 minutes^{xv}. Georgetown Elementary school, located at Georgetown, ID, with 74 students. Driving distance from Georgetown to Montpelier is 12 miles, about 13 minutes^{xvi}.

Garden City, UT (the largest town in Rich County, UT) has only one private preschool with 34 students and has no other public schools^{xvii}. The nearest public school is a middle/elementary school in Rich County, UT at Laketown, UT, which is 36 minutes away from the mine.

Analysis of Impact of the New Mine on Schools

From the above research, except for the two small rural elementary schools at Paris and Georgetown, all the major schools at Bear Lake County are located at Montpelier.

As stated earlier, the total number of new employees living at Bear Lake area is expected to be:

$$350 * 80\% = 280.$$

$$\text{The total added population to the area is: } 280 * 2.81 = 787.$$

Since Garden City is a small town (562 in 2010) with no public school, new employees' families living there will send their children to Laketown, UT for school. Assuming about $\frac{1}{3}$ of population in Rich County, UT (with population of 2,264) is within half an hour driving distance to the mine (therefore, new mine family may choose to live), the population base for the Rich County is reduced to:

$$2,264 * \frac{1}{3} = 755.$$

The Bear Lake County's population is 5,986. The new mine employees live at Rich County can be estimated as:

$$280 * (755 / (5,986 + 755)) = 31 \text{ and new population added is } 31 * 2.81 = 88$$

The new population from the mine living at Bear Lake County will be $787 - 88 = 699$. The relative net population increase for the county due to the mine employment is

$$699/5,986 = 12\%.$$

This is a conservative increase rate for all the schools at the county. 33% of county population is under 18 years old. The newly added school-age population is

$$699 * 33\% = 231.$$

If the age distribution of all the children is assumed to be uniform, we can estimate new student numbers for daycare, elementary school (including kindergarten), middle school, and high school:

- daycare age (year 2 to 5): $231 * (4 / 18) = 51$
- elementary school age (year 6 to 11): $231 * (6 / 18) = 77$
- middle school age (year 12 to 14): $231 * (3 / 18) = 39$
- high school age (year 15 to 18): $231 * (4 / 18) = 51$

Note from previous analysis, almost all the new population will live at Montpelier, the relative increase at three Montpelier schools will be:

- elementary school: $77 / 345 = 22\%$,

- middle school: $39 / 243 = 16\%$,
- high school: $51 / 338 = 15\%$.

Considering the mine will hire more young workers than middle age workers, the younger families will have more young children attending elementary schools than older children attending middle and high schools. The immediate impact on capacity will be for the elementary schools. If we reduce the new middle and high school students by half and add those to lower age groups evenly:

- daycare age (year 2 to 5): $51 + (20 + 26) * (4 / 11) = 68$
- elementary school age (year 6 to 11): $77 + (20 + 26) * (6 / 11) = 102$
- middle school age (year 12 to 14): $39 * 50\% = 20$
- high school age (year 15 to 18): $51 * 50\% = 26$

The relative increase at three Montpelier schools will be:

- elementary school: $102 / 345 = 30\%$,
- middle school: $20 / 243 = 8\%$,
- high school: $26 / 338 = 7\%$.

For the near term (within 10 years), the middle school and the high school should be able to absorb the newly added students. However, the suddenly increased about 1 / 3 of current student enrollment may be too large for the existing elementary school to handle. This is even before we consider additional population increase due to the job multiplier effect such as newly added restaurants, new teachers, etc. It may be wise for the district to seriously consider the implications of this potential population increase and add additional capacity or even possibly plan a new elementary school. One or more new daycare facilities may also be needed to support the new mine families.

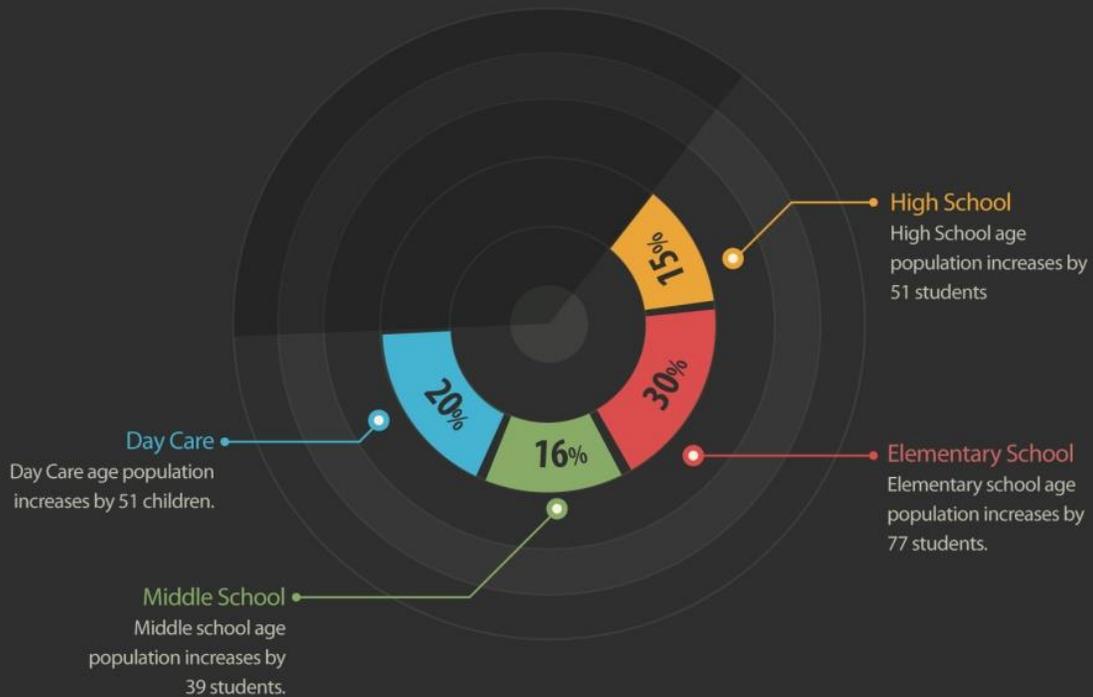
Bear Lake Region

Paris Hills Phosphate Project



Schools

Economic Impact Study



Shopping and other Services

Information of local stores

There are 41 stores serving Montpelier^{xviii}. There are two grocery stores: Broulim's Supermarket and Jensen's A G Market. There are three department stores: Alco Discount Store, M H King Company and J C Penney Catalog Center.

It seems that there are quite enough types of stores serving the Montpelier area. Within 2-hr driving distance to Logan and the Salt Lake City area, new employee families can have satisfying shopping experiences.

Analysis of Impact of New Mine on Shopping Businesses

As stated earlier, the average household size at Bear Lake County is 2.81. Therefore, newly added population to the Montpelier is about 557 ($198 * 2.81$) to 708 ($252 * 2.81$). A rough estimation of all life related business increase rate is,

$$557/2,597 = 21\% \text{ to } 708/2,597 = 27\%.$$

However, mine employees have higher income than average residents; therefore, this is a conservative estimation of increase rates for local shopping, and entertainment businesses.

The 2012 national average expenditures on food at home is \$3,921, on apparel is \$1,736, on transportation is \$8,998, and on entertainment is \$2,605^{xix}. According to last year's report on miner spending by category, the average spending on food at home is \$7,200, on apparel is \$2,100, on transportation is \$13,700, and on entertainment is \$3,700. Note that miner families have much higher household income (average miner income at \$71,000 plus potential bonus income) than national average (\$51,371 in 2012^{xx}). Therefore, it is still conservative to use miners spending data to estimate the total spent dollars on local business. The median income for a household in the county was \$32,162^{xxi}. The cost of living index in Bear Lake County is 84.0 relative to the national average 100^{xxii}. We use this ratio (84%) to adjust the county household average expenditures:

- food at home: $3,921 * 84\% = 3,294$
- apparel: $1,736 * 84\% = 1,458$
- transportation: $8,998 * 84\% = 7,558$
- entertainment: $2,605 * 84\% = 2,188$.

The multiplier of miner household spending relative to county average household:

- food at home: $7,200 / 3,294 = 2.19$
- apparel: $2,100 / 1,458 = 1.44$

- transportation: $13,700 / 7,558 = 1.81$
- entertainment: $3,700 / 2,188 = 1.69$

Therefore we can estimate more realistic relative increase rate to the corresponding businesses:

- food at home: $2.19 * (21\% \text{ to } 27\%) = 46\% \text{ to } 59\%$
- apparel: $1.44 * (21\% \text{ to } 27\%) = 30\% \text{ to } 39\%$
- transportation: $1.81 * (21\% \text{ to } 27\%) = 38\% \text{ to } 49\%$
- entertainment: $1.69 * (21\% \text{ to } 27\%) = 35\% \text{ to } 46\%$

We can also perform net revenue increase analysis.

(1) Food at home:

Majority of food should be purchased at local grocery stores. We assume 80% at local and 20% at Salt Lake City (SLC) or other larger cities near the Bear Lake region. The average miner family spending at local grocery stores is:

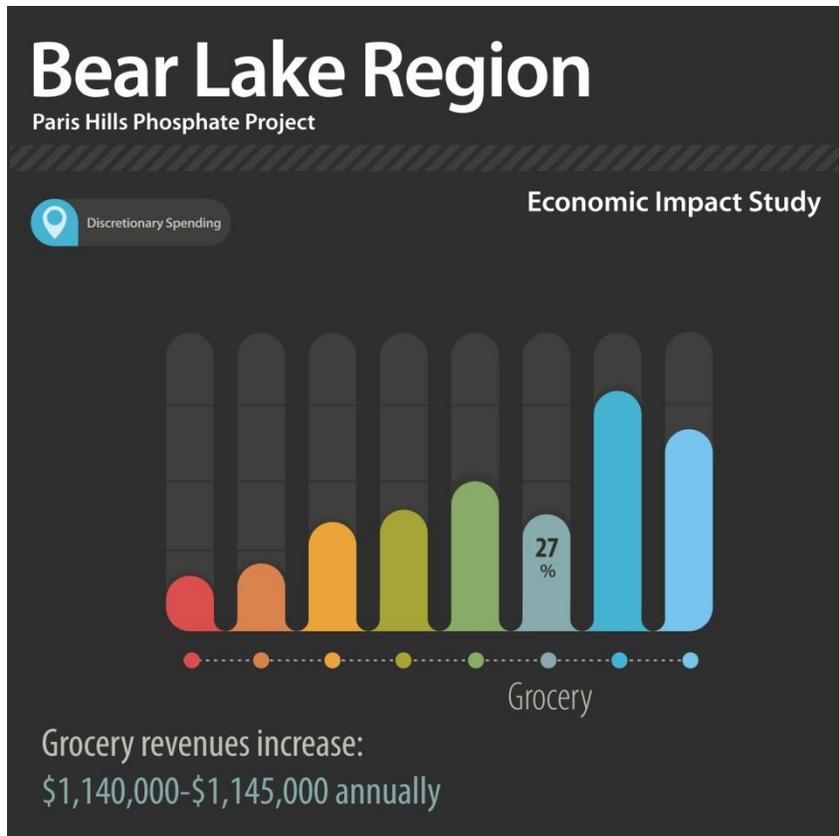
$$7,200 * 80\% = 5,760.$$

The total annual food spending by all the miner families will be between

$$(198 \text{ to } 252) * 5,760 = 1.14 \text{ million to } 1.45 \text{ million.}$$

For the larger grocery chains, revenue per employee is about \$150,000. For the smaller stores, it is about \$130,000^{xxiii}. Therefore, we can expect the number of new jobs created at grocery stores:

$$(198 \text{ to } 252) * 5,760 / ((150,000 + 130,000) / 2) = 8 \text{ to } 10 \text{ jobs}$$



(2) Apparel:

This is difficult to estimate since clothing shopping in SLC area can be more competitive than a small town. Assuming only 30% of apparel purchases will happen at local stores, the total annual apparel spending by all miner families will be

$$(198 \text{ to } 252) * (2,100 * 30\%) = 124,740 \text{ to } 158,760.$$

For retail apparel industry, the average revenue per employee is about 103,555^{xxiv}. So the number of new jobs created at local stores selling clothing is:

$124,740 / 103,555 = 1.2$ to $158,760 / 103,555 = 1.5$. Or 1 to 2 new jobs will be expected at local department or clothing stores.

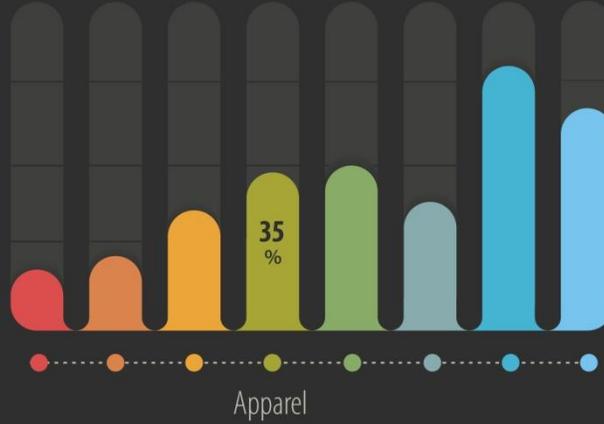
Bear Lake Region

Paris Hills Phosphate Project



Discretionary Spending

Economic Impact Study



Apparel spending increase:
\$124,740 - \$158,760 annually

Transportation:

According to the department of transportation's report from 2010^{xxv}, Average Household Transportation Expenditures 2004-2009 in US Dollar:

	Vehicle purchases	Gasoline and motor oil	Other vehicle expenses	Public transportation	Total
2004	3,397	1,598	2,365	441	7,801
2005	3,544	2,013	2,339	448	8,344
2006	3,421	2,227	2,355	505	8,508
2007	3,244	2,384	2,592	538	8,758
2008	2,755	2,715	2,621	513	8,604
2009	2,657	1,986	2,536	479	7,658
5-year average	3,804	2,585	2,962	585	9,935
relative pct	38%	26%	30%	6%	
Miner household	5,245	3,564	4,084	806	13,700
Total expenditures from new miner households - lower end (198 household)	1,038,557	705,714	808,652	1,59,677	2,712,600
Total expenditures from new miner households - higher end (252 household)	1,321,799	898,181	1,029,194	203,225	3,452,400

In the above table, we assume that the ratios of different transportation categories for the miner household are same as the national average values.

For vehicle purchase, Salt Lake City has dominant advantage over a small town with only 4 car dealers. Assume that only 30% purchases will be from local dealers. The total annual increased spending at the local car dealers will between $1,038,557 * 0.3 \approx 0.31$ million to $1,321,799 * 0.3 \approx 0.40$ million. According to a 2013 report from the National Automobile Dealer Association, there

is on average \$0.6 million in car sales revenue per employee (calculated according to info from 2013 NADA data^{xxvi}). Therefore, with an estimated \$300,000-\$400,000 in new vehicle purchases from mining employees about 0.5 car sales jobs will be sustained.

For gas and motor oil spending, we assumed 80% of purchases would be local. The total annual increased spending at the local gas stations will between $705,714 * 0.8 = 0.56$ million to $898,181 * 0.8 = 0.72$ million. According to the US Census Bureau the average revenue per employee at gas station is about^{xxvii} \$ 249 Billion (Total Revenue of All the Gas Stations) / 926792 (Total Employees at Gas Stations) = \$0.27 million per employee.

Therefore, new jobs created at local gas stations will between 2 to 3 ($0.56/0.27 = 2$ to $0.72/0.27 = 3$).

For “other vehicle expenses”, these mainly include auto insurance and maintenance. The Idaho average car insurance is \$1,053 per car per year in 2014^{xxviii}. Assuming two cars per mine employee household, the total insurance premium per household will be $1,053 * 2 = \$2,106$.

The maintenance cost is $4,084 - 2,106 = \$1,978$ total per year and about $1,978 / 2 = \$989$ per car. This is roughly consistent with the assumed average car maintenance costs \$1,200 per year per vehicle from ask.com. This breaks down to \$100 per month. The age of the car and number of miles will also play a factor^{xxix}.

To simplify the analysis, assume that 50% spending in this category goes to insurance and 50% goes to maintenance. We will also assume all the maintenance costs are at local auto shops and $\frac{3}{4}$ of all car insurances policies will go through local insurance agents.

According to CNN Money^{xxx}, revenue per employee in properties insurance industry is \$594,994 per employee; revenue per employee in Automotive Retailing Services is \$684,942 per employee.

The local insurance agents could expect to collect between

$\frac{3}{4} * (808,652/2) = 0.3$ million to $\frac{3}{4} * (1,029,194/2) = 0.39$ million.

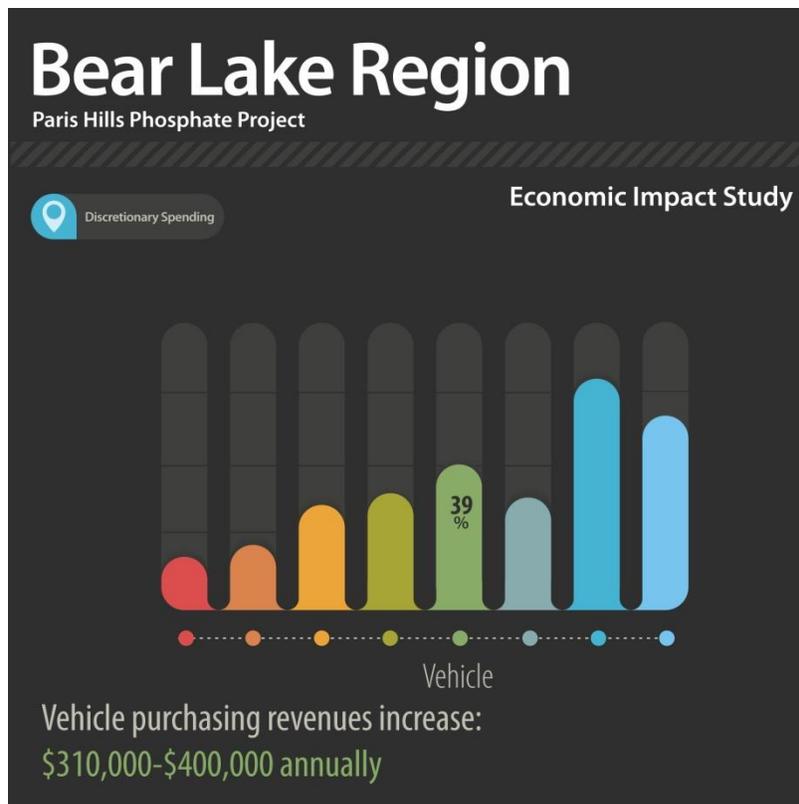
The equivalent number of jobs is about 0.5 to 0.7.

The local auto shops will have increased revenue

$808,652/2 = 0.4$ million to $1,029,194/2 = 0.51$ million

The equivalent number of jobs is about 0.6 to 0.7.

For the Public Transportation, this includes airplane, bus, taxi, etc. Therefore, all the money in this subcategory is not relevant for the local economy as the large majority will be spent outside of the Bear Lake region.

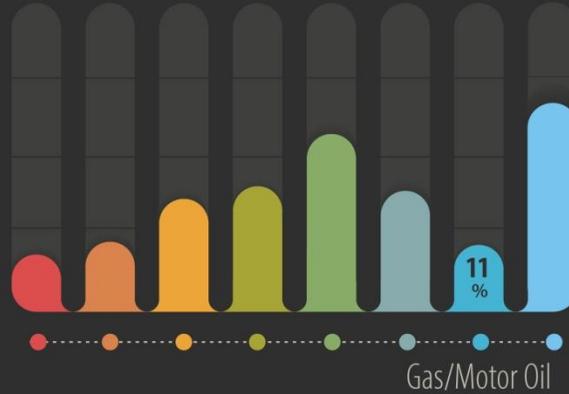


Bear Lake Region

Paris Hills Phosphate Project

Discretionary Spending

Economic Impact Study



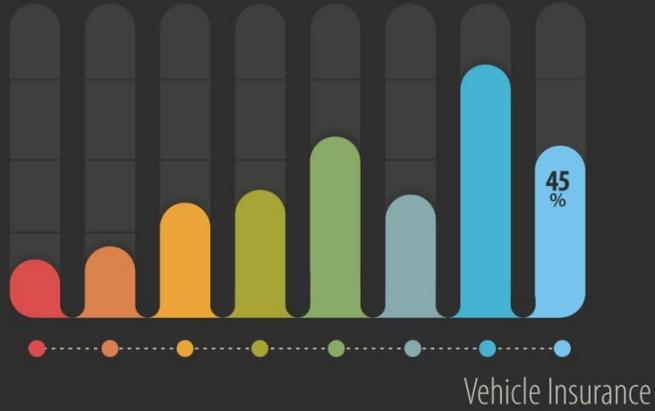
Gas/Motor Oil revenues increase:
\$650,000 annually

Bear Lake Region

Paris Hills Phosphate Project

Economic Impact Study

Discretionary Spending



Vehicle purchasing revenues increase:
\$390,000 annually

Entertainment:

According to the bureau of labor statistics in 2011^{xxxi}, we obtain the average entertainment spending for urban household listed in the following table and calculated miner families spending:

Average annual entertainment expenditures of urban households, 2011, shown in blue color

Item	Urban (\$)	Percent of total annual expenditures on entertainment	Miner household equivalent spending (based off miner annual income) (\$)	Total expenditures from all new miner households - lower end (198 households) (\$)	Total expenditures from all new miner households - higher end (252 households) (\$)
Fees and admissions	621	24%	895	177,297	225,651
Audio and visual equipment and services	986	38%	1422	281,506	358,280
Pets	484	19%	698	138,183	175,870
Toys, hobbies, and playground equipment	123	5%	177	35,117	44,694
Other entertainment supplies, equipment, and services	352	14%	508	100,497	127,905
Total	2,566		3,700	732,600	932,400

*Once the mine is fully staffed

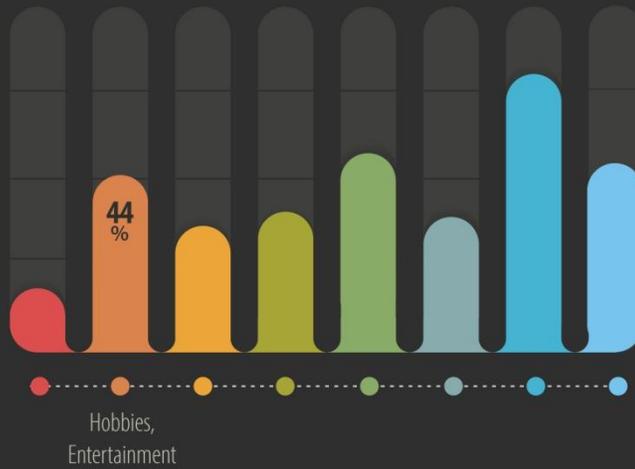
Assuming all the spending on pets is local, and other categories are 50% in local area, the total spending is estimated to be between 0.44 million to 0.55 million. The average revenue per employee in Entertainment industry is about 0.5 million. Therefore, the net increased number of jobs is about 1.

Bear Lake Region

Paris Hills Phosphate Project

Discretionary Spending

Economic Impact Study



Entertainment revenues increase:
\$440,000-\$550,000 annually

Bear Lake Region Business Opportunities for Mine Operations Support:

This section of the report is to analyze some of the opportunities to support the mine itself by providing needed materials and supplies that are necessary for mining. The difficult aspect of a local company who might provide support for the mine is two-fold. First, the majority of the equipment, and supplies that will be needed by the mine are very specialized and are not currently provided on a local level. Second, the volume of the materials that the mine requires, even if currently provided locally, might far exceed the current capabilities of local companies to consistently deliver according to the mine's demand.

According to the feasibility study conducted by Agricom^{xxxii} the Paris Hills phosphate mine may provide local businesses with opportunities for increased business revenue (based on the operational expenditures forecasted by the mine). However, it is likely to be a very competitive environment. According to the summarized data in the study from the Agricom report, local companies may be able to provide a variety of goods and services which support the mining operations. A complete list of materials required by the mine for operations is provided in the feasibility study, pages 174-198, Tables 21-1 through 21-22. All materials anticipated to be used for daily operations are itemized and projected as annual expenditures. Provided below is a summary of some of these expenditures.

Mining Equipment

Currently, the Green River Mining Equipment & Supplies Company (Green River, Utah) supplies the Paris Hills Phosphate Project (PHPP) with its underground mining equipment. However, David Kramer, head of Operations at the PHPP indicated that he would certainly encourage local vendors to compete for PHPP's business. Furthermore, Mr. Kramer stated he would meet with local businesses to discuss potential opportunities.

Operational Expenditures

There are several major categories of operational expenditures that have specific itemization. These are related to the materials that will be used and exhausted as the mine goes deeper into the mountain and ultimately reverses back out of the mountain. This process involves filling in

the mine and reclaiming the land as it back fills the mine at the end of the project life cycle. Some of these categories include: hand tools, drill bits, screws, bolts pipes, wire, wire mesh, etc. Trucking and subcontracted phosphate transportation services will also be required. There will also be opportunities for providing such products such as propane, gasoline, diesel fuel, motor oil and lubricating oils

There are several categories that do not have specific itemization, but rather pertain to broader project specifications. Businesses will need to use inference to determine potential business opportunities. Some of these categories include roadway construction and transportation, building/office construction, computer/server purchases and maintenance, power and lighting expenditures, food and beverage supplies and truck repairs.

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- ⁱ http://www.nma.org/pdf/economic_contributions.pdf
- ⁱⁱ Economic Impact Study of the Paris Hills Mining Project on Bear Lake County v1.04: Figure “Mile Employee Distribution”. Rounded to 80% from the original number of 78%
- ⁱⁱⁱ http://en.wikipedia.org/wiki/Bear_Lake_County,_Idaho
- ^{iv} Economic Impact Study of the Paris Hills Mining Project on Bear Lake County v1.04: Figure “Employee Spending by Category”
- ^v <http://www.gsa.gov/portal/content/142071> for per diem rate (\$46 total - \$ 5 incidental expense = \$41, \$ 11 lunch)
- ^{vi} <http://finance.yahoo.com/news/what-it-takes-to-start-a-fast-food-franchise-222831956.html>
- ^{vii} <http://www.blmhospital.com/about-us/hospital-administrator.html>
- ^{viii} <http://www.indicatorsnorthwest.org/DrawRegion.aspx?IndicatorID=29&RegionID=16000>
- ^{ix} <http://www.pnhp.org/sites/default/files/docs/2011/Uninsured-by-state-2007-2010.pdf>
- ^x <http://blsd.net/index.html>
- ^{xi} <http://www.greatschools.org/idaho/paris/Bear-Lake-County-District/>
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- ^{xiv} <http://www.greatschools.org/idaho/montpelier/11-A-J-Winters-Elementary-School/>
- ^{xv} <http://www.greatschools.org/idaho/paris/14-Paris-Elementary-School/>
- ^{xvi} <http://www.greatschools.org/idaho/georgetown/16-Georgetown-Elementary-School/>
- ^{xvii} <http://pk.greatschools.org/utah/garden-city/preschools/Snuggle-Bunny-Lake-View-DC/1296/>
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- ^{xxxi} <http://www.bls.gov/opub/btn/volume-2/expenditures-of-urban-and-rural-households-in-2011.htm>
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