



Three Month Billing Comparison Summary



located at

**Asphalt Plant
4001 Bradshaw Rd.
Sacramento, CA 95827**

February 1, 2013

**Prepared by:
John D. Knapp
President**



Granite Construction Inc. Hot Plant Three month Billing Comparison Summary
for the period of 8-10-12 to 11-07-12 against the same period in 2011.

4291 Bradshaw Rd., MR Unit: 0882, Sacramento, CA 95827

SMUD account: 73796 Meter: 625375

All information concerning billing days, hours of operation and tonnage produced is adjusted to align with the SMUD utility billing dates to create a comparable baseline. All time of use totals from 2012 were adjusted to 2011 percentages. All KW Demands were also adjusted to 2011 levels.

Per the information provided within, in 2012 the asphalt plant produced 20,019.01 more tons of product, consumed 44,802 fewer kWh, ran 46.89 fewer hours and the cost for electricity was decreased by \$3,247.39 for this period.

The total average cost per ton produced was reduced by .0282384¢, 11.65%. The total average kWh consumed to produce a ton was reduced by .30414938 kWh, 14.33%, resulting in a 3 month average **cost reduction of 24.60%**. The utility rate charges and structure remained the same throughout both years.

	2011	2012	Difference	%
Total Cost of Power	\$64,789.84	\$61,542.45	-\$3,247.39	-5.01%
Total kWh	566,800	521,998.6	-44,801	-7.90%
Total Tons	267,004.38	287,023.39	20,019.01	7.50%
Average Cost per kWh	\$0.1144761	\$0.1149930	\$0.0005169	0.45%
Average kWh per Ton	2.12281161830	1.81866223516	-0.30414938314	-14.33%
Average Cost per Ton	0.24265459615	0.21441614915	-0.02823844700	-11.64%

In order to realize the full benefit, both financial and in consumption reduction between the 2 years, we must first make even the production, usage and cost baselines to the level of 2011 and then add in the verified value of efficiency increase provided by our system. Upon completion, we see that for the same tonnage production and using the same amount of kWh, the total cost of production in 2012 was \$17,821.71, 27.5% less than in 2011, as follows:

Tonnage Reduction for Baseline

1. Increased tonnage production value

20,019.01 more tons produced in 2012 multiplied by the 2011 average cost per ton of .2426545¢ = \$4,857.70.

2. Cost per ton reduction value

The reduced average cost to produce a ton in 2012 multiplied by the 2012 tonnage total. .0282384¢ x 287,023.39 = \$8,105.08

Baseline reductions from 2012 electrical cost: \$12,962.78

Add backs to 2012 cost

Increased average cost per kWh in 2012 over 2011. .0005169¢ x 521,998 = \$269.82. (attributable to un-reconciled taxes)

Total baseline reductions from the 2012 electrical costs: \$12,692.96

Summation of information

The total financial benefit resulting from the installation of the Power Shaver Energy Saving System at the Granite Construction Inc. Asphalt Plant:

2012 total electrical cost	\$61,542.45
Total Baseline reductions	<u>-\$12,692.96</u>
2012 actual cost of electricity	\$48,849.49

Compared to the same billing period in 2011, this 2012 adjusted utility invoice of \$48,849.49 is \$15,940.35 or **24.60% less**.

As you will see in the monthly breakdowns, the KW Peak Demands increase and decrease between the billing periods but the Power Factor is always higher. You will also notice that in some months the kWh consumption per hour and ton are higher than 2011. These irregularities are due to operational variations such as Demands being higher because more motors are running to produce more tonnage per hour and/or the run hours are the same, but the tonnage produced per hour is much lower and requires fewer motors, thus less KW Demand. These irregularities are due to the customer demands.

In addition to the verified reductions, the SMUD Billed Demand verses Measured Demand will begin to be reduced further due to the KW Demand billing formula of averaging that is currently implemented by SMUD. After cycling out of the prior 12 months of Demand without the Power Shaver System, the new formula will only include the lower Demand and increased efficiency provided by Power Shaver to be considered for the Billed Peak KW Demand.

As Granite Construction Inc. continues production through the year into the busier months when longer, more consistent hours of operation are required, the average savings per month will increase. In this time period comparison, most of the savings is realized in the busier months.

Power Shaver looks forward to partnering with and assisting Granite Construction Inc. in reducing their kWh consumption, cost to operate and carbon footprint in a green responsible manner.

Thank you,

John D. Knapp

President/CEO

Power Shaver

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Granite Construction Inc. Hot Plant Billing Comparison #1

For the period of 8/10/2012 - 9/10/2012 Days 32

Account: 73796

Meter: 625375

	2011	2012	Difference	%	
Total Cost of Power	\$24,339.43	\$26,446.61	\$2,107.18	8.66%	
Total Operational Hours	348.35673	373.148	24.7912651	7.12%	
Total kWh	181,600	189,200.0	7,600	4.19%	
Total Tons	101,651.69720	119,977.98630	18,326.28910	18.03%	
Total Cost per kWh	\$0.13402769824	\$0.13978123679	0.00575353855	4.29%	
kWh per Operational Hour	521.30469087136	507.03742214885	-14.2673	-2.74%	
Operational Hour per kWh	0.00191826396	0.00197224101	0.00005397706	2.81%	
kWh per Day	5,675.00000	5,912.50000	237.5	4.19%	
kWh per Ton	1.78649255253	1.57695595529	-0.20953659724	-11.73%	
Ton per Operational Hour	291.80345036010	321.52922245329	29.7257721	10.19%	
Ton per Day	3,176.615538	3,749.312071875	572.69653	18.03%	
Ton per kWh	0.55975604185	0.63413311998	0.07437707813	13.29%	
Operational Hours per Ton	0.00342696428	0.00311013721	-0.00031682706	-9.25%	
Total Cost per Ton	0.23943948473	0.22042885379	-0.01901063095	-7.94%	
Max KW	560	574	-\$35.70	14	2.50%
Max Super	488	536	\$300.00	48	9.84%
KV	480	393		-87	-18.13%
Site Infrastructure KW	565	574	-\$22.95	9	1.59%
Power Factor	0.7593	0.8251		0.0658	8.67%
Summer Off Peak	140,400	132,400		-8,000	-5.70%
Summer On Peak	25,200	30,000		4,800	19.05%
Summer Super Peak	16,000	26,800		10,800	67.50%
Winter Off Peak	0	0		0	0.00%
Winter On Peak	0	0		0	0.00%
kWh Time of Use Adjustment					
KW Demand Adjustment					
Total Cost of Power Adjusted		\$25,271.77	\$932.34		3.83%
Total Cost per Ton Adjusted		\$0.21063672411	-\$0.02880276062		-12.03%
Total Cost per kWh Adjusted		\$0.13357172304	-\$0.00045597520		-0.34%



Granite Construction Inc. Hot Plant Billing Comparison #2

For the period of 9/11/2012 - 10/9/2012 Days 29

Account: 73796

Meter: 625375

	2011	2012	Difference	%
Total Cost of Power	\$23,411.96	\$25,106.09	\$1,694.13	7.24%
Total Operational Hours	319.8146013	283.882	-35.9327047	-11.24%
Total kWh	196,800	208,000	11,200	5.69%
Total Tons	90,171.5945	94,018.9702	3,847.3757	4.27%
Total Cost per kWh	\$0.11896321138	\$0.12070235577	0.00173914439	1.46%
kWh per Operational Hour	615.35651969910	732.69906439196	117.3425	19.07%
Operational Hour per kWh	0.00162507419	0.00136481681	-0.00026025738	-16.02%
kWh per Day	6,786.2068966	7,172.4137931	386.2	5.69%
kWh per Ton	2.18250548958	2.21231948784	0.02981399826	1.37%
Ton per Operational Hour	281.94958621564	331.19043990690	49.2408537	17.46%
Ton per Day	3,109.36533	3,242.03345517	132.66813	4.27%
Ton per kWh	0.45818899644	0.45201427981	-0.00617471664	-1.35%
Operational Hours per Ton	0.00354673335	0.00301941083	-0.00052732252	-14.87%
Total Cost per Ton	0.25963786190	0.26703217390	0.00739431200	2.85%
Max KW	573	574 \$2.55	1	0.17%
Max Super	510	536 26 x 6.25	26	5.10%
KV	480	393 \$162.50	-87	-18.13%
Site Infrastructure KW	573	574 \$2.55	1	0.17%
Power Factor	0.7666	0.8251 \$167.60	0.0585	7.63%
Summer Off Peak	99,200 50.400%	106,000	6,800	6.85%
Summer On Peak	23,600 12.00%	24,000	400	1.69%
Summer Super Peak	13,200 6.71%	15,200	2,000	15.15%
Winter Off Peak	51,200 26.025%	46,400	-4,800	-9.38%
Winter On Peak	9,600 4.88%	16,400	6,800	70.83%
kWh Time of Use Adjustment			-\$220.8899	
KW Demand Adjustment			-\$167.60	
Total Cost of Power Adjusted		\$24,717.60	\$1,305.64	5.58%
Total Cost per Ton Adjusted		\$0.26290013544	\$0.00326227354	1.26%
Total Cost per kWh Adjusted		\$0.11883461538	-\$0.00012859600	-0.11%



Granite Construction Inc. Hot Plant Billing Comparison #3

For the period of 10/10/2012 - 11/7/2012 Days 29

Account: 73796

Meter: 625375

	2011	2012	Difference	%
Total Cost of Power	\$17,038.45	\$11,792.65	-\$5,245.80	-30.79%
Total Operational Hours	273.92595	238.171	-35.7552603	-13.05%
Total kWh	188,400	124,798.6	-63,601	-33.76%
Total Tons	75,181.10815	73,026.44625	-2,154.66190	-2.87%
Total Cost per kWh	\$0.09043763270	\$0.09449344784	0.00405581515	4.48%
kWh per Operational Hour	687.77711640683	523.98806999006	-163.7890	-23.81%
Operational Hour per kWh	0.00145395939	0.00190844040	0.00045448100	31.26%
kWh per Day	6,496.55172	4,303.40000	-2,193.2	-33.76%
kWh per Ton	2.50594869690	1.70895074878	-0.79699794812	-31.80%
Ton per Operational Hour	274.45778010444	306.61390936092	32.1561293	11.72%
Ton per Day	2,592.452005	2,518.153318966	-74.29869	-2.87%
Ton per kWh	0.39905046789	0.58515437072	0.18610390283	46.64%
Operational Hours per Ton	0.00364354765	0.00326143064	-0.00038211701	-10.49%
Total Cost per Ton	0.22663206781	0.16148464845	-0.06514741936	-28.75%
Max KW	562	539	-\$58.65	-4.09%
Max Super	0	0	0	0.00%
KV	517	310	-207	-40.04%
Site Infrastructure KW	573	574	\$2.55	0.17%
Power Factor	0.736	0.8669	0.1309	17.79%
Summer Off Peak	0	0	0	0.00%
Summer On Peak	0	0	0	0.00%
Summer Super Peak	0	0	0	0.00%
Winter Off Peak	137,600 73.040%	94,400 75.64%	-43,200	-31.40%
Winter On Peak	50,800 26.96%	30,400 24.36%	-20,400	-40.16%
kWh Time of Use Adjustment			-\$298.2200	
KW Demand Adjustment			\$58.65	
Total Cost of Power Adjusted		\$11,553.08	-\$5,485.37	-32.19%
Total Cost per Ton Adjusted		\$0.15820405610	-\$0.06842801171	-30.19%
Total Cost per kWh Adjusted		\$0.09257275641	\$0.00213512371	2.36%