

**Report to the Pennsylvania General Assembly
on the Research and Development (R&D)
Tax Credit**



The Pennsylvania Department of Revenue

Bureau of Research

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The Pennsylvania R&D Tax Credit Statute

On May 7, 1997, Act 7 of 1997 created the Pennsylvania research and development (R&D) tax credit. The R&D tax credit provision became Article XVII-B of the Tax Reform Code of 1971 (TRC). The intent of the R&D tax credit was to encourage taxpayers to increase R&D expenditures within the Commonwealth in order to enhance economic growth. The terms and concepts used in the calculation of the Commonwealth’s R&D tax credit are based on the federal government’s R&D tax credit definitions for qualified research expense.¹

For R&D tax credits awarded between December 1997 and December 2003, Act 7 of 1997 authorized the Department of Revenue (Department) to approve up to \$15 million in total tax credits per fiscal year. Additionally, \$3 million of the \$15 million was set aside for “small” businesses, where a “small business” is defined as a “for-profit corporation, limited liability company, partnership or proprietorship with net book value of assets totaling...less than five million dollars (\$5,000,000).”

Over the years, several changes have been made to the R&D tax credit statute. Table 1 lists all of the acts that have changed the R&D tax credit statute, along with the applicable award years, the overall tax credit cap and the “small” business set aside.

**Table 1. Pennsylvania Research & Development Tax Credit Program
History of R&D Tax Credit Legislation**

| Legislation | Award Years | Total Tax Credit Cap | Small Business Set Aside |
|-----------------------------|----------------------|----------------------|--------------------------|
| Act 7 of 1997 | 1997 - 2003 | \$15.0 million | \$3.0 million |
| Act 46 of 2003 | 2004 - 2005 | \$30.0 million | \$6.0 million |
| Act 116 of 2006 | 2006 - 2008 | \$40.0 million | \$8.0 million |
| Act 48 of 2009 | 2009 | \$20.0 million | \$4.0 million |
| Act 48 of 2009 | 2010 | \$18.0 million | \$3.6 million |
| Act 26 of 2011 ² | 2011 - 2016 | \$55.0 million | \$11.0 million |
| Act 85 of 2012 ³ | Sunset Date Repealed | Unchanged | Unchanged |

One of the more noteworthy features of the R&D tax credit program is the ability for R&D tax credit recipients to sell unused tax credits to other taxpayers. Act 46 of 2003 allowed R&D tax credit recipients to apply to the Department of Community and Economic Development (DCED) to sell or assign an R&D tax credit if there has been no claim for allowance filed within one year from the date that the Department approved the credit. According to Act 48 of 2009, for R&D tax credits awarded in December 2009 and forward, the one

¹ Public Law 99-514, 26 U.S.C. § 41.

² The prior sunset date was established by Act 116 of 2006.

³ Act 85 of 2012 repealed the sunset date for the R&D tax credit in Section 1712-B, but left Section 1707-B unchanged.

year holding period is no longer in effect; credits awarded in 2009 and forward can be sold immediately. The purchaser or assignee must still use the newly obtained R&D tax credit in the taxable year in which the purchase or assignment of the credit is made. The purchased or assigned R&D credit cannot be used to offset more than 75 percent of a tax liability for a taxable year. The purchased or assigned credit cannot be carried over, carried back, resold or refunded. The provision to sell or assign unused R&D tax credits applies to credits awarded in December 2003 and forward, but the initial sale or assignment could not take place until at least December 2004.

The R&D tax credit may be claimed against the following taxes: the capital stock and franchise tax (CSFT), the corporate net income tax (CNIT) and the personal income tax (PIT). Taxpayers claiming the credit against any of these taxes may not reduce their tax liability for taxable years 2004 and earlier by more than 50 percent. Act 46 of 2003 eliminated this provision starting with tax year 2005; a taxpayer is able to use the awarded R&D tax credit to reduce a given tax liability by up to 100 percent. Taxpayers awarded R&D tax credits by the Department may carry over and apply any unused tax credit for up to fifteen (15) succeeding taxable years.

The Pennsylvania R&D tax credit, which is calculated using the increase over the taxpayer's base year research expenses for qualified R&D conducted within Pennsylvania, originally generated a tentative credit at the rate of 10 percent. However, Act 116 of 2006 increased the rate at which the tentative R&D tax credit is calculated to 20 percent for small businesses only beginning with the credit awarded in December 2006 and forward.

Taxpayers must submit an application to the Department by September 15th to apply for the R&D tax credit. The credit is for qualified Pennsylvania research expenditures made in the taxable year ending in the prior calendar year. The Department has until December 15th to notify taxpayers of their approved tax credit amount.

Act 85 of 2012 repealed the sunset date for the R&D tax credit in Section 1712-B of the law. However, Section 1707-B of current law, which was left unchanged by Act 85 of 2012, states: "A taxpayer is not entitled to a research and development tax credit for Pennsylvania qualified research and development expenses incurred in taxable years ending after December 31, 2015." Hence, the final time that the Department will award the R&D tax credit under current law will be in December 2016.

Act 46 of 2003 mandated that the Department report to the General Assembly the names of all taxpayers awarded R&D tax credits in each year starting in 2004 and for each year thereafter. Appendix A at the end of this report lists the name of each taxpayer receiving the R&D tax credit from the Department in December 2013, 2014 and 2015, along with the amount of credit received and utilized. In an effort to control the size of the document, this report will only list the names of taxpayers who have received the R&D tax credit in the current year and the two preceding years. Reports from earlier years will still be available that retain information on earlier years.

The other major change in the R&D tax credit program made by Act 46 of 2003 was the creation of the R&D Tax Credit Assignment Program. The program, which is primarily administered by DCED, permits taxpayers with unused R&D tax credits to sell them for cash to other taxpayers who can use them. The goal of the program is to "assist the growth and development of technology-oriented businesses, particularly small start-up technology businesses."⁴ These small start-up firms, which often do not have significant tax liabilities

⁴ "Research and Development Tax Credit Assignment Program Guidelines," DCED, September 2004.

in their early years, receive cash for their unused R&D tax credits.⁵ The purchasers of the unused R&D tax credits are then able to partially offset their own tax liabilities with the unused credits.

The earliest that unused R&D tax credits could be sold was December 2004, for credits awarded by the Department in December 2003. Taxpayers can only sell unused amounts of tax credits that exceed any collectible tax liability against which the credit may be offset. S Corporations may not apply to sell or assign any credit that has been passed-through to its shareholders. In order to sell an unused credit, the taxpayer must file an application with DCED. The application identifies the seller and the R&D tax credit that it intends to sell, along with the buyer and the amount for which the credit is being sold or assigned.

The buyer of the unused R&D tax credit can use it to offset up to 75 percent of a qualified tax liability in a tax year. The buyer cannot carry forward, carry back, get a refund for or reassign the purchased credit. Further, the buyer must use the purchased tax credit against a qualified tax liability in the taxable year in which it was transferred. Lastly, the buyer must identify to the Department the taxpayer from which they bought the unused R&D tax credit.

An R&D tax credit will be considered to be unused and, therefore, available for sale as long as it is not applied against a specific tax year liability and the taxpayer does not have a collectible tax liability. As of February 2016, \$81.8 million of the \$453.0 million R&D tax credit awarded between December 2003 and December 2014 (i.e., 18.1 percent of the \$453.0 million) has been sold or assigned. Purchasers of those unused tax credits have paid \$76.6 million for them in total, or 93.5 percent of the value of the unused tax credits.

The complete statistics on sold or assigned unused tax credits by award year are shown in Table 2.

**Table 2. Pennsylvania Research & Development Tax Credit Program
Complete Statistics on the Sale or Assignment of Unused R&D Tax Credits**

(\$millions)

| Credit Awarded In | R&D Credit Awarded | Unused Tax Credits Sold/Assigned | Number of Taxpayers Selling/Assigning Unused Credit | Unused Tax Credits Sold For | Percent of Value Unused Tax Credits Sold For |
|-------------------|--------------------|----------------------------------|---|-----------------------------|--|
| Dec 2003 | \$15.0 | \$ 1.3 | 18 | \$ 1.2 | 91.4% |
| Dec 2004 | \$30.0 | \$ 3.7 | 44 | \$ 3.3 | 90.1% |
| Dec 2005 | \$30.0 | \$ 9.2 | 50 | \$ 8.6 | 93.3% |
| Dec 2006 | \$40.0 | \$ 8.7 | 74 | \$ 8.2 | 94.0% |
| Dec 2007 | \$40.0 | \$ 9.0 | 90 | \$ 8.7 | 95.7% |
| Dec 2008 | \$40.0 | \$10.8 | 122 | \$10.3 | 95.3% |
| Dec 2009 | \$20.0 | \$ 5.0 | 105 | \$ 4.7 | 93.5% |
| Dec 2010 | \$18.0 | \$ 2.8 | 106 | \$ 2.6 | 93.7% |
| Dec 2011 | \$55.0 | \$13.4 | 114 | \$12.5 | 93.0% |
| Dec 2012 | \$55.0 | \$4.5 | 114 | \$4.1 | 92.0% |
| Dec 2013 | \$55.0 | \$7.9 | 140 | \$7.3 | 92.9% |
| Dec 2014 | \$55.0 | \$5.5 | 120 | \$5.1 | 92.0% |
| TOTAL | \$453.0 | \$81.8 | | \$76.6 | 93.5% |

Tax credit sales are often arranged by a broker, who provides a service by bringing together sellers and buyers of credits, and in return takes a portion of the tax credit as their fee. The Department does not have

⁵ “Unused R&D tax credits” means that the taxpayer has not applied the tax credits against a specific tax year liability. Further, the taxpayer cannot sell the tax credit if it has any unpaid liabilities against which the tax credit could be used.

complete data about these arrangements. However, DCED staff has stated that the level of broker fees can vary widely, but the average broker fee is in the range of 5 to 6 percent of the value of the credit.

R&D Tax Credit Claimed and Awarded in Pennsylvania for December 2015

Table 3 shows the amount of R&D tax credit awarded by the Department in 2015 for qualified research expenditures made by taxpayers in Pennsylvania in taxable year 2014. Without the \$55 million cap, \$84.1 million in credit would have been awarded to 790 taxpayers. 74.6 percent of approved taxpayers received an R&D tax credit of less than \$50,000, receiving 14.8 percent of the total amount of approved credit. Taxpayers with an approved R&D tax credit of \$50,000 or more claimed 85.2 percent of the approved credit amount. The 201 taxpayers receiving \$50,000 or more in credit represented 25.4 percent of the total number of applicants.

**Table 3. Pennsylvania Research & Development Tax Credit Program
Tentative and Actual Credit for Tax Year 2015⁶**

| Actual Credit Range | Number of Applicants | Percent of Applicants | Tentative Credit Amount | Actual Credit Amount | Percent of Actual Credit |
|-----------------------|----------------------|-----------------------|-------------------------|----------------------|--------------------------|
| \$0 - \$4,999 | 178 | 22.5% | \$594,660 | \$442,994 | 0.8% |
| \$5,000 - \$19,999 | 255 | 32.3% | \$3,837,244 | \$2,827,941 | 5.1% |
| \$20,000 - \$49,999 | 156 | 19.7% | \$6,723,061 | \$4,855,343 | 8.8% |
| \$50,000 - \$99,999 | 104 | 13.2% | \$10,446,985 | \$7,507,723 | 13.7% |
| \$100,000 - \$499,999 | 74 | 9.4% | \$20,899,003 | \$14,158,308 | 25.7% |
| \$500,000 - \$999,999 | 14 | 1.8% | \$15,913,268 | \$9,622,801 | 17.5% |
| \$1,000,000 & greater | 9 | 1.1% | \$25,696,314 | \$15,584,891 | 28.3% |
| TOTAL | 790 | 100% | \$84,110,535 | \$55,000,000 | 100% |

Table 4 details the tentative amount of R&D tax credit awarded by the Department for each year through December 2015.

**Table 4. Pennsylvania Research and Development Tax Credit Program
Total Tentative Tax Credit Awarded By Year, 1997-2015**

| Credit Awarded In | Number of Applicants | Tentative Credit Amount | Credit Awarded In | Number of Applicants | Tentative Credit Amount |
|-------------------|----------------------|-------------------------|-------------------|----------------------|-------------------------|
| Dec 1997 | 292 | \$66,371,038 | Dec 2007 | 439 | \$94,732,918 |
| Dec 1998 | 270 | \$56,572,339 | Dec 2008 | 466 | \$90,712,865 |
| Dec 1999 | 275 | \$53,456,489 | Dec 2009 | 507 | \$80,208,000 |
| Dec 2000 | 284 | \$59,207,493 | Dec 2010 | 488 | \$94,419,561 |
| Dec 2001 | 293 | \$71,407,604 | Dec 2011 | 537 | \$130,551,357 |
| Dec 2002 | 254 | \$74,255,800 | Dec 2012 | 569 | \$106,966,882 |
| Dec 2003 | 242 | \$70,191,922 | Dec 2013 | 631 | \$94,468,310 |
| Dec 2004 | 274 | \$70,932,913 | Dec 2014 | 765 | \$87,511,431 |
| Dec 2005 | 291 | \$65,806,128 | Dec 2015 | 790 | \$84,110,535 |
| Dec 2006 | 379 | \$78,640,025 | | | |

⁶ Detail may not add up due to rounding; 123 other applicants were rejected and did not receive any credit.

From its inception through December 2015, the R&D tax credit program has awarded a total of \$598 million in tax credit to 2,461 different taxpayers. In December 2015, 790 taxpayers were awarded the R&D tax credit, the highest number of applicants awarded the tax credit in one year in the history of the program. Without any caps on annual awards, \$1,530.5 million in R&D tax credit would have been awarded to those same 2,461 taxpayers. Over the years, the varying annual credit caps have reduced the amount of R&D tax credit that would have been awarded to 39.1 percent of what was requested.

Table 5 presents the R&D tax credit awarded in December 2015 by business type.

**Table 5. Pennsylvania Research and Development Tax Credit Program
Actual Credits by Business Type in 2015**

| Business Type | Number of Taxpayers | Percent of Taxpayers | Actual Credit Amount | Percent of Actual Credit |
|--------------------|---------------------|----------------------|----------------------|--------------------------|
| Manufacturing | 402 | 50.9% | \$34,621,160 | 62.9% |
| Services | 273 | 34.6% | \$15,476,409 | 28.1% |
| Misc. ⁷ | 115 | 14.6% | \$4,902,431 | 8.9% |
| TOTAL | 790 | 100% | \$55,000,000 | 100% |

Manufacturers represented 50.9 percent of the taxpayers receiving the tax credit in 2015, claiming 62.9 percent of the total amount of approved credit. Pharmaceutical manufacturers continue to claim the largest single share for manufacturers receiving the R&D tax credit; 32 pharmaceutical manufacturers requesting credit were awarded \$8.8 million in credit. In the Services sector, the largest group of credit recipients was designers of computer system services, with 77 recipients receiving \$4.7 million in credit. In the Misc. sector, there was not one particular type of business among tax credit recipients that was more prevalent.

Table 6 provides a breakdown of the R&D tax credit claimed by “small” and “not small” businesses in December 2015. As noted earlier, “small” businesses are those with net book assets of less than \$5 million.

**Table 6. Pennsylvania Research and Development Tax Credit Program
Small and Not Small Businesses in 2015**

| Business Size | Number of Applicants | Percent of Applicants | Tentative Credit Amount | Actual Credit Amount | Percent of Actual Credit |
|---------------|----------------------|-----------------------|-------------------------|----------------------|--------------------------|
| Small | 348 | 44.1% | \$11,512,830 | \$11,000,000 | 20.0% |
| Not Small | 442 | 55.9% | \$72,597,705 | \$44,000,000 | 80.0% |
| TOTAL | 790 | 100% | \$84,110,535 | \$55,000,000 | 100% |

In December 2015, “small” businesses filed for awards totaling more than the \$11.0 million in R&D tax credit set aside for them, hence their awards had to be pro-rated in 2015. Even with the pro-ration, it was the most amount of tax credit ever claimed by “small” businesses in one year in the history of the R&D tax credit program. Last year, “small” businesses received the entire \$10.8 million in R&D tax credit for which they applied. The \$55 million program cap reduced the amount of credit approved for the “not small” businesses to 60.6 percent of the requested amount in December of 2015. Last year, the “not small” businesses received 57.6 percent of the amount of credit they requested in December 2014.

⁷ Misc. business type includes business activities associated with individuals or corporations with North American Industry Classification System (NAICS) codes for the agriculture, construction, mining, wholesale trade, retail trade, and financial sectors.

Table 7 shows the history of the R&D tax credit for the “small” business set aside awarded by the Department for each year through December 2015.

**Table 7. Pennsylvania Research and Development Tax Credit Program
Small Business Set Aside By Year, 1997-2015**

| Credit Awarded In | Number of Applicants | Tentative Credit Amount | Actual Credit Amount |
|-------------------|----------------------|-------------------------|----------------------|
| Dec 1997 | 67 | \$889,054 | \$889,054 |
| Dec 1998 | 85 | \$1,821,354 | \$1,821,354 |
| Dec 1999 | 82 | \$3,001,986 | \$3,000,000 |
| Dec 2000 | 83 | \$1,545,359 | \$1,545,359 |
| Dec 2001 | 75 | \$1,373,382 | \$1,373,382 |
| Dec 2002 | 79 | \$1,615,602 | \$1,615,602 |
| Dec 2003 | 81 | \$1,082,263 | \$1,082,263 |
| Dec 2004 | 94 | \$1,419,845 | \$1,419,845 |
| Dec 2005 | 108 | \$2,268,046 | \$2,268,046 |
| Dec 2006 | 173 | \$7,081,079 | \$7,081,079 |
| Dec 2007 | 193 | \$6,845,879 | \$6,845,879 |
| Dec 2008 | 205 | \$8,052,975 | \$8,000,000 |
| Dec 2009 | 211 | \$8,688,383 | \$4,000,000 |
| Dec 2010 | 213 | \$8,487,767 | \$3,600,000 |
| Dec 2011 | 217 | \$7,632,711 | \$7,632,711 |
| Dec 2012 | 242 | \$7,085,229 | \$7,085,229 |
| Dec 2013 | 276 | \$9,405,048 | \$9,405,048 |
| Dec 2014 | 332 | \$10,801,901 | \$10,801,094 |
| Dec 2015 | 348 | \$11,512,830 | \$11,000,000 |

“Small businesses” have been awarded \$90.5 million of the \$100.6 million in R&D tax credits that they have applied for since the inception of the R&D tax credit program; they have received 89.9 percent of the total amount of tax credits for which they applied. A total of \$119.6 million in tax credit was set aside for them over this period.

Five times in the history of the R&D tax credit program the “small” business set aside has been awarded in total: 1999, 2008, 2009, 2010 and 2015. Most years, the “small businesses” have received the total amount of tax credit for which they applied. When “small” businesses claim less than the R&D credit set aside for them, the “not small” businesses receive a pro-rated amount of the excess R&D tax credit not claimed by the “small” businesses.

Table 8 shows the amount of R&D tax credit that has been applied against the CNIT, CSFT and PIT for taxable years 1997 through 2013. The data in Table 8 are for taxpayers that have directly received the tax credit from the Department, as well as those taxpayers that have purchased unused R&D tax credits.

The first taxable year against which the credit could be used was 1997. For PIT, individuals who received the credit directly are included, as are any individual owners of S corporations or limited liability companies (LLCs) who received the pass-through benefit. All credit amounts are as of February 2015.

Table 8 shows the distribution of the R&D tax credits that have been applied to specific tax years. As of February 2015, 82.6 percent of the \$488 million in R&D tax credit that has been awarded for 1997 through 2013 has been applied to specific tax periods. 42.0 percent of the credit awarded has been applied against the CSFT; 52.6 percent has been applied against the CNIT; 5.4 percent has been applied against the PIT. It is important to note that the amount of tax credit applied to a particular taxable year can vary over time as a taxpayer’s taxable year liability may change due to assessment or the application of other credits.

**Table 8. Pennsylvania Research and Development Tax Credit Program
Application by Tax Type and Taxable Year, 1997-2013**

| Taxable Year | Corporate Net Income Tax | Number of Taxpayers | Capital Stock & Franchise Tax | Number of Taxpayers | Personal Income Tax | Number of Taxpayers |
|--------------|--------------------------|---------------------|-------------------------------|---------------------|---------------------|---------------------|
| 1997 | \$4,808,403 | 93 | \$3,654,425 | 192 | \$187,863 | 91 |
| 1998 | \$2,669,951 | 84 | \$5,262,915 | 199 | \$791,636 | 195 |
| 1999 | \$3,129,320 | 91 | \$6,317,818 | 233 | \$439,671 | 162 |
| 2000 | \$4,495,931 | 77 | \$6,465,943 | 213 | \$523,087 | 201 |
| 2001 | \$6,364,344 | 82 | \$7,141,332 | 217 | \$534,126 | 173 |
| 2002 | \$7,925,753 | 49 | \$5,354,747 | 219 | \$487,586 | 169 |
| 2003 | \$8,733,454 | 62 | \$8,086,269 | 217 | \$337,985 | 154 |
| 2004 | \$14,874,207 | 67 | \$8,438,619 | 262 | \$713,456 | 169 |
| 2005 | \$12,645,586 | 65 | \$13,164,167 | 291 | \$1,389,912 | 179 |
| 2006 | \$16,262,792 | 95 | \$15,888,858 | 326 | \$2,679,623 | 235 |
| 2007 | \$15,221,106 | 104 | \$12,722,143 | 355 | \$1,799,924 | 236 |
| 2008 | \$18,151,421 | 103 | \$11,792,443 | 407 | \$1,327,515 | 306 |
| 2009 | \$8,414,374 | 91 | \$12,364,902 | 480 | \$1,460,930 | 211 |
| 2010 | \$20,594,531 | 110 | \$12,878,861 | 505 | \$1,334,225 | 187 |
| 2011 | \$19,812,175 | 109 | \$20,518,212 | 536 | \$1,888,433 | 256 |
| 2012 | \$16,819,253 | 142 | \$12,902,370 | 523 | \$3,076,379 | 322 |
| 2013 | \$30,990,809 | 147 | \$6,193,015 | 551 | \$2,912,354 | 408 |
| TOTAL | \$211,913,408 | | \$169,147,038 | | \$21,884,705 | |

It should be noted that it is possible that some portion of the R&D tax credit awarded by the Department might never be used against a tax year liability, particularly those credits not affected by the provisions of Act 46 of 2003. R&D tax credits awarded in December 1997, the first credits awarded under the program, will expire and cannot be used beyond tax year 2012. As of February 2016, of the \$15.0 million awarded to 292 taxpayers in December 1997, approximately \$250,000 has not yet been used. This amounts to 1.7 percent of the total amount of R&D tax credits awarded. It is still possible that this amount of tax credit could be used, against tax years 1997 through 2012 if certain tax liabilities for those taxpayers were to change.

One possible reason for non-use of the tax credit is a reorganization in which a taxpayer claiming the credit goes out of existence or merges with another business before applying the credit against a tax liability. Another observation about usage of the tax credit is that, for taxable years prior to 2005, the amount of credit a

taxpayer could claim against a tax type in one tax year was limited to 50 percent of the tax liability. This provision had ensured that a taxpayer could not totally eliminate a tax liability using only the R&D tax credit. However, Act 46 of 2003 eliminated the 50 percent limit. This fact, combined with the 15-year carryover, should allow taxpayers to receive most, if not all, of the tax benefit of the credit. Further, the provision in Act 46 of 2003 allowing the sale or assignment of any unused R&D tax credit awarded in December 2003 and after should minimize how much R&D tax credit is not utilized.

As of January 1, 2016, the CSFT has been eliminated, and the R&D tax credit can no longer be claimed against it for tax year 2016 and forward. This is important for S corporations and LLCs that are primarily subject to the CSFT, not the CNIT. S corporations and LLCs may pass the tax credit through to shareholders who can claim it against their PIT. Therefore, S corporations and LLCs, in order to use the R&D tax credit after 2016, will have to either apply it against PIT or sell their unused tax credits. They will be able to carry it forward for up to 15 taxable years.

Taxes Paid by R&D Tax Credit Recipients

Table 9 shows the CNIT and CSFT liabilities for taxable year 2013 (the latest year for which reports are available for all taxpayers) for taxpayers receiving the R&D tax credit in 2015. Table 9 and Table 5 have a similar structure in order to provide comparability. Please note that taxpayers claiming the credit against the personal income tax are not included in these data. Also, taxpayers who purchased unused R&D tax credit are not included in these data.

**Table 9. Pennsylvania Research and Development Tax Credit Program
Taxable Year 2013 Tax Liabilities by Business Type**

| Business Type | 2013 CSFT Liability | 2013 CNIT Liability |
|---------------|---------------------|---------------------|
| Manufacturing | \$6,175,997 | \$51,650,667 |
| Services | \$2,069,003 | \$17,625,420 |
| Misc. | \$1,087,710 | \$7,950,687 |
| TOTAL | \$9,332,710 | \$77,226,774 |

In order to provide an idea of the relative value of the R&D tax credit to recipients, an analysis was conducted comparing the R&D tax credit awarded in 2015 to the total tax year 2013 self-assessed CNIT and CSFT liabilities⁸. Of the 790 taxpayers receiving the R&D tax credit in 2015 that are subject to the CNIT or CSFT, their total self-assessed 2013 tax year CNIT and CSFT liabilities totaled \$86.6 million. Though there are obviously varied ratios per individual taxpayer, the \$55 million in tax credit awarded in 2015 represented 63.5 percent of the total self-assessed tax amount for tax year 2013, while the \$84.1 million in tax credit requested represented 97.2 percent of the total self-assessed tax amount for tax year 2013.

The total 2013 CSFT liability for the 208 S corporations and LLCs receiving the R&D tax credit in 2015 was \$1.3 million. Out of the 208 Pennsylvania S corporations or LLCs, 73 had a CSFT liability of zero for 2013. The total 2013 CSFT liability for the 582 C corporations receiving the R&D tax credit in 2015 was \$8.0 million. Out of the 582 C corporations, 187 had a CSFT liability of zero for 2013.

The 582 C corporations receiving the tax credit in 2015 and subject to the CNIT had a total taxable year 2013 CNIT liability of \$75.3 million. Of these companies, 425 were C corporations with a taxable year 2013 CNIT liability equal to zero, due to negative net income in taxable year 2013. In most cases, the income of

⁸ In some cases, the tax liability may have been self-assessed and settled.

Pennsylvania S corporations and LLCs is passed through to the individual owners and subject to the personal income tax.

Federal R&D Tax Credit Program

The federal government first adopted the R&D tax credit as a temporary credit in 1981. The federal government does not cap the total credit amount that can be claimed in a taxable year. Since its enactment the credit was temporary and was routinely extended through legislation. On December 18, 2015, the credit was made permanent and enhanced with the enactment of the Protecting Americans from Tax Hikes (PATH) Act of 2015 (H.R. 2029; P.L. 114-113).

The public policy goal of the R&D tax credit is to encourage the private sector to increase R&D spending, which in turn serves as a catalyst to economic growth by increasing productivity through the utilization of new technology. The credit is justified in economic theory on the basis of market failure, which occurs because firms may under-invest in R&D when they tend to not recoup all associated costs of investing in R&D. Hence, less R&D occurs than would be economically optimal for the economy as a whole. The R&D tax credit is a method for lowering the cost of R&D to private firms and increasing the return on investment. By increasing the rate of return on investment, the R&D tax credit encourages more R&D than would occur if the credit did not exist.

R&D Expenditures in Pennsylvania and the United States

In 1995, according to the National Science Foundation (NSF), private industry in Pennsylvania spent \$5,331 million of its own funds on R&D expenditures. This was 4.0 percent of the total R&D expenditures by private industry in 1995 in the United States (\$132,103 million).

By 2012⁹, the total amount of R&D expenditures in Pennsylvania by private industry had risen to \$9,318 million. This was an increase over the 18 year period of 74.8 percent. Over the same period, total R&D expenditures by private industry in the United States had risen by 121.6 percent to a level of \$292,675 million. For 2012, R&D expenditures in Pennsylvania by private industry were 3.2 percent of total R&D expenditures by private industry in the United States. Pennsylvania ranked 9th in the entire US in R&D spending by private industry in 2012.

The Pennsylvania R&D expenditures reported on the 2013 tax credit applications for businesses receiving the R&D tax credit, which were based on research expenditures in 2012, represented 35 percent of the total R&D performed in Pennsylvania by private industry as estimated by the NSF in 2012.

For comparison, the 790 R&D tax credit applicants in 2015 had total Pennsylvania R&D expenditures in 2014 of \$3,551.3 million. Not all R&D done by industry in Pennsylvania is performed by R&D tax credit applicants.

A study released in September 2011¹⁰ by the R&D Credit Coalition, an organization of trade associations and companies dedicated to the permanent establishment of the federal R&D tax credit, examined the economic impact of the existing R&D tax credit and the potential impact of strengthening certain provisions of the R&D tax credit. The study found that the existing federal R&D tax credit “is estimated to have increased annual private research spending by \$10 billion in the short-term and by \$22 billion in the long-term.” It was noted that these annual figures compare very favorably with the \$6 to \$8 billion annual federal revenue loss attributed to the credit.

⁹The most recent year for which estimated state-level R&D spending is available from the National Science Foundation is 2012.

¹⁰ “The R&D Credit: An Effective Policy for Promoting Research Spending,” Prepared by Ernst and Young LLP for the R&D Credit Coalition, September 2011.

R&D Tax Credit Programs in Other States

A majority of states that have a corporate net income tax have sought to capture the potential benefits of encouraging R&D within their state by enacting an R&D tax credit. There are 41 other states besides Pennsylvania that have provided for R&D tax credits in recent law, although, for a few of those states, the credits may have lapsed pending renewal. Most incorporate provisions of current or former R&D credits under the Internal Revenue Code.¹¹

New Jersey's R&D tax credit is like Pennsylvania's in that it mirrors the federal R&D tax credit. However, New Jersey's R&D tax credit statute does not cap the total amount of credit that can be awarded in a year. Like the Pennsylvania R&D tax credit prior to Act 46 of 2003, there is a 50 percent cap on the amount of credit that a taxpayer can apply against its tax year liability. In fiscal year 2015, \$54.5 million in R&D tax credit was claimed in New Jersey. Additionally, the New Jersey R&D tax credit statute allows certain biotech and emerging technology companies to sell unused R&D tax credits to any company paying the corporate net income tax.¹² After Act 46 of 2003, all companies receiving the Pennsylvania R&D tax credit, regardless of their business sector, can sell or assign any unused R&D tax credits awarded beginning in December 2003.

Effectiveness of the Pennsylvania R&D Tax Credit Program

The time frame for R&D projects in the private sector can be lengthy. It is not uncommon for businesses to have R&D projects extend for 10 to 15 years or more. The Pennsylvania R&D tax credit has thus far had a potential impact on increasing research expenses in seventeen years, 1997 through 2014. Although 1996 Pennsylvania research expenses were used to calculate the credit in 1997, the taxpayer's R&D decisions could not have been affected by the credit prior to enactment of Act 7 in May 1997. Also, the changes made by Act 46 of 2003 altered several parameters of the program that could impact the effectiveness of the R&D tax credit. Some observations can be made about the effectiveness of the Pennsylvania R&D tax credit over the life of its existence.

The most recent economic recession did have an impact on R&D spending in Pennsylvania by private industry. Overall, R&D spending in Pennsylvania by industry fell by 13.2 percent in 2008 but recovered strongly in 2009 to grow by 13.7 percent according to NSF data.

Over the lifetime of the R&D tax credit program, 2,461 different taxpayers have been awarded some amount of the total \$598 million in tax credit awarded between 1997 and 2015. The number of taxpayers qualifying for the tax credit due to increased Pennsylvania research expenditures is still expanding, though there is some volatility from year to year regarding Pennsylvania research expenditure amounts.

Of the 790 taxpayers receiving the R&D tax credit in 2015, 208 were either Pennsylvania S corporations, LLCs, LLPs (limited liability partnerships) or individuals and 582 were C corporations. The S corporations, LLCs, LLPs or individuals received \$9.7 million in R&D tax credit, while the C corporations received \$45.3 million.

The 790 taxpayers claiming the R&D tax credit in 2015 had total Pennsylvania research expenditures in taxable year 2014 of \$3,551.3 million. This was 14.9 percent increase compared to their total Pennsylvania research expenditures in taxable year 2013 of \$3,090.1 million.

While there is not a study measuring the effects of the R&D tax credit in Pennsylvania, a study released by the Milken Institute¹³ in December 2015 could be used to gauge the effectiveness of the R&D tax credit programs in a general sense. The study measures the impact of a proposal to double the existing rate of

¹¹ CCH Incorporated, Multistate Charts, ¶680-200 Credits for Investment/Research Activities.

¹² Companies with 225 employees or less may sell unused R&D tax credits in New Jersey.

¹³ "California's Innovation-Based Economy: Policies to Maintain and Enhance It," The Milken Institute, December 2015.

calculation in the California R&D tax credit from 15 percent to 30 percent of the increase in California R&D expenses over the base year. The report concluded that, in the tenth year after adopting the change, the \$700 million in additional R&D credits would stimulate between \$4.5 billion and \$6.8 billion in additional R&D activity in California, with a multiplier between 6.4 and 9.7. Further, the report found that that, in the tenth year after adopting the change, the gross domestic product (GDP) of California would be higher by between \$7.7 billion and \$10.5 billion. For comparison's sake, in 2014, California's GDP was \$2.31 trillion, so the additional growth of between \$7.7 billion and \$10.5 billion in ten years time would not be a significant share of the California economy. Even so, the report does conclude that while doubling the tax credit could be seen as an unfair tax giveaway, it concludes that the action is worth the cost. It is worth pointing out that Pennsylvania is a very different business environment than California, and it's unclear that the same conclusion can be drawn here.

Impact on Not Small Businesses

Out of the 790 taxpayers receiving the tax credit in 2015, 442 did not qualify as "small" businesses. Their total Pennsylvania research expenditures in taxable year 2014 were \$3,380.3 million, a 14.2 percent increase over their taxable year 2013 Pennsylvania research expenditures of \$2,960.3 million. They received \$44 million in R&D tax credit in December 2015.

Of the 442 "not small" businesses, 355 increased their Pennsylvania research expenditures in taxable year 2014 over taxable year 2013 by 30.2 percent in the aggregate. Their Pennsylvania research expenditures in taxable year 2014 rose to \$2,010.4 million from \$1,544.4 million in taxable year 2013. Only 87 of these businesses reduced their Pennsylvania research expenditures over the same period. Their Pennsylvania research expenditures in taxable year 2014 declined by 3.3 percent to \$1,369.9 million from \$1,415.9 million in taxable year 2013.

Impact on Small Businesses

Out of the 790 taxpayers receiving the tax credit in 2015, 348 were "small" businesses. Their total Pennsylvania research expenditures in taxable year 2014 were \$171.0 million, a 31.8 percent increase over their taxable year 2013 Pennsylvania research expenditures of \$129.7 million. The 348 "small" businesses received all of the \$11.0 million set aside for them in December 2015.

Of the 348 "small" businesses, 277 increased their Pennsylvania research expenditures in taxable year 2014 over taxable year 2013 by 50.5 percent in the aggregate. Their Pennsylvania research expenditures in taxable year 2014 rose to \$140.7 million from \$93.5 million in taxable year 2013. Only 71 "small" businesses reduced their Pennsylvania research expenditures over the same period. Their Pennsylvania research expenditures in taxable year 2014 declined by 16.4 percent to \$30.3 million from \$36.2 million in taxable year 2013.

Impact on First Time Claimants and New Companies

In 2015, 198 taxpayers were awarded the tax credit for the first time, claiming \$7.0 million in credit. Their Pennsylvania research expenditures totaled \$248.8 million for taxable year 2014. Conversely, 299 taxpayers that claimed the tax credit in 2014 did not receive any credit in 2015. These 299 taxpayers had Pennsylvania research expenditures in taxable year 2013 of \$1,267.3 million and claimed \$22.3 million in tax credit in 2013.

Of all the 790 taxpayers claiming the R&D tax credit in 2015, 418 were companies incorporated in Pennsylvania after the passage of Act 7 of 1997. It is possible that not all of these newly incorporated companies are start-ups, but may be newly formed subsidiaries of a parent corporation. These companies claimed \$24.6 million in tax credit in 2015 and had total Pennsylvania research expenditures in taxable year

2014 of \$1,777.1 million, a 9.5 percent increase from their Pennsylvania research expenditures in taxable year 2013 of \$1,622.8 million.

The 418 more recently incorporated companies had a total taxable year 2013 CSFT liability of \$4.3 million; 165 taxpayers had zero tax liability. The 418 companies had a total taxable year 2013 CNIT liability of \$17.7 million; 353 taxpayers had zero tax liability.

Impact on Established Companies

In order to provide more insight into the companies that regularly claim the R&D tax credit, this report will examine 168 taxpayers for which the Department has tracked Pennsylvania research expenditures for the last ten taxable years, from 2005 through 2014. This group of credit recipients has received \$124.8 million in total tax credit from 1997 through 2015, or 20.9 percent of the total \$598 million awarded over nineteen years. These 168 companies represent 57.5 percent of the number of companies that received the R&D tax credit in its first year, 1997. As a group, these taxpayers are a representative cross-section of the type of companies that have come to consistently claim the R&D tax credit.

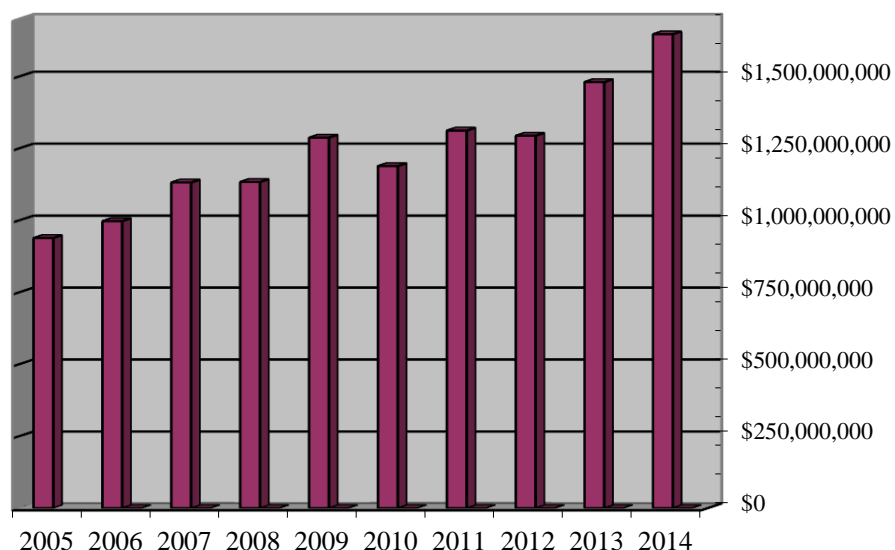
For these 168 taxpayers, their 2014 Pennsylvania R&D expenditures totaled \$1,647.0 million. This is an aggregate growth rate of 75.4 percent over their 2005 Pennsylvania R&D expenditures of \$938.9 million; between 2005 and 2014, the Pennsylvania R&D expenditures for these 168 taxpayers grew at a compound annual growth rate of 6.4 percent.

These 168 taxpayers were awarded \$21.3 million in R&D tax credit in 2015, 38.7 percent of the total amount of R&D tax credit awarded in December 2015. This credit amount was 1.3 percent of their total amount of Pennsylvania research expenditures in taxable year 2014. Overall, it is important to note that the R&D tax credit awarded remains relatively small when compared to the amount of money spent by the taxpayers to conduct their research activities in the Commonwealth.

The 168 established taxpayers had a total CSFT liability for taxable year 2013 of \$2.4 million and a total CNIT liability for taxable year 2013 of \$31.7 million.

Chart 1 graphically shows the Pennsylvania R&D expenditures for the 168 established taxpayers for the last ten taxable years, 2005 through 2014.

Chart 1. Pennsylvania R&D Expenditures by Year for 168 Established Companies With PA Expenditure Data Between 2005 and 2014



This chart graphically demonstrates the effect of the most recent economic recession on R&D expenditures in Pennsylvania for the 168 taxpayers included in the data. The R&D expenditures in Pennsylvania for these 168 taxpayers grew by 13.6 percent in 2009. However, possibly due in part to the lingering effect of the recession, the growth in their Pennsylvania R&D expenditures in 2010 dropped by 7.7%, when compared to 2009. Their Pennsylvania R&D expenditures bounced back in 2011, growing by 10.4 percent, and resumed steady growth in 2013 and 2014, expanding by 14.4 percent and 11.2 percent respectively.

Small versus Not “Small”

Of the 168 taxpayers, 106 did not qualify as “small” businesses. They received \$113.1 million in tax credit over the nineteen years of the program. Their 2014 Pennsylvania R&D expenditures totaled \$1,559.1 million. This is an aggregate growth rate of 72.2 percent over their 2005 Pennsylvania R&D expenditures of \$928.5 million; between 2005 and 2014, the Pennsylvania R&D expenditures for these 106 taxpayers grew at a compound annual growth rate of 6.2 percent.

Of the 168 taxpayers, there were 62 “small” businesses that received \$11.7 million in tax credit over the nineteen years of the program. Their 2014 Pennsylvania R&D expenditures totaled \$47.8 million. This is an aggregate growth rate of 358.9 percent over their 2005 Pennsylvania R&D expenditures of \$10.4 million; between 2005 and 2014, the Pennsylvania R&D expenditures for these 62 taxpayers grew at a compound annual growth rate of 18.4 percent.

By Industry Type

Of the 168 taxpayers, 104 were classified as manufacturers. They received \$108.8 million in tax credit over the nineteen years of the program. Their 2014 Pennsylvania R&D expenditures totaled \$1,478.3 million. This is an aggregate growth rate of 62.4 percent over their 2005 Pennsylvania R&D expenditures of \$910.5 million; between 2005 and 2014, the Pennsylvania R&D expenditures for these 104 taxpayers grew at a compound annual growth rate of 5.5 percent.

Of the 168 taxpayers, there were 64 non-manufacturing businesses that received \$16.0 million in tax credit over the nineteen years of the program. Their 2014 Pennsylvania R&D expenditures totaled \$168.7 million. This is an aggregate growth rate of 494.9 percent over their 2005 Pennsylvania R&D expenditures of \$28.4 million; between 2005 and 2014, the Pennsylvania R&D expenditures for these 64 taxpayers grew at a compound annual growth rate of 21.9 percent.

Conclusions on the Impact of the R&D Tax Credit in Pennsylvania

When all 790 taxpayers receiving the R&D tax credit in 2015 were examined, “small” businesses increased their Pennsylvania research expenditures in taxable year 2014 more than “not small” businesses. However, the Pennsylvania research expenditures for “small” businesses were only 4.8 percent of the total Pennsylvania research expenditures in taxable year 2014 for all businesses receiving the tax credit. The overwhelming majority of Pennsylvania research expenditures continue to be made by taxpayers not classified as “small” businesses.

Of the 168 taxpayers examined for whom the Department has tracked Pennsylvania research expenditures for the last ten taxable years, for 2005 through 2014, manufacturers were the primary beneficiaries. Across all of the business types, the R&D tax credit remains a small percentage of Pennsylvania research expenditures. Hence, many other factors are likely to affect a company’s R&D spending decisions.

Report Conclusion

The R&D tax credit has existed in Pennsylvania for nineteen years. Literature evaluating the effectiveness of the federal R&D tax credit and state R&D tax credits has shown mixed results regarding the effectiveness of the programs. Many factors other than the R&D tax credit influence a company’s R&D investment decisions. This report’s other observations can be summarized as:

- In December 2015, 790 companies were awarded credits, receiving the capped amount of \$55 million, or 65.4 percent of the amount requested.
- In the absence of a cap, \$84.1 million in tax credits would have been awarded.
- In 2015, the 790 companies awarded the R&D tax credit had total Pennsylvania research expenditures of \$3,551.3 million in 2014.
- Manufacturing firms, particularly pharmaceutical manufacturers, continue to be the primary beneficiaries of the R&D tax credit.
- “Small” businesses claimed all of the \$11.0 million in R&D tax credit set aside for them in December 2015.
- As of February 2015, a total of \$81.8 million in unused R&D tax credits have been sold or assigned from tax credits awarded from December 2003 through December 2014; \$76.6 million was paid for the unused credit, or 93.5 percent of the value of the unused credits.
- The R&D tax credit program has awarded a total of \$598 million in tax credit to 2,461 different taxpayers over the life of the program thus far. Without the caps on annual awards, a total of \$1,530.5 million in requested R&D tax credit would have been awarded. The effect of the annual cap on awards reduced the aggregate amount of R&D tax credits awarded to 39.1 percent of the requested amount.
- Under current law, unless the expiration date is repealed or extended, the credit will expire after tax year 2015. The final time that the Department will award the R&D tax credit will be in December 2016.

APPENDIX A

**Table 1. Pennsylvania Research & Development Tax Credit Program
Taxpayers Receiving Credit in December 2015, 2014 and 2013 in Dollars
Sorted by 2015 Credit Awarded (Largest to Smallest)**

| <i>Taxpayer Name</i> | <i>2015 Credit Awarded</i> | <i>2015 Credit Utilized¹</i> | <i>2014 & 2013 Credit Awarded</i> | <i>2014 & 2013 Credit Utilized¹</i> |
|---|----------------------------|---|---------------------------------------|--|
| Lockheed Martin Corporation | \$2,942,111 | \$0 | \$600,273 | \$600,273 |
| General Electric Company | \$2,478,966 | \$0 | \$2,125,894 | \$243,101 |
| GlaxoSmithKline, LLC (f/k/a SmithKline Beecham Corporation) | \$2,269,398 | \$0 | \$5,710,383 | \$1,712,703 |
| PPG Industries, Inc. | \$1,764,139 | \$0 | \$2,934,412 | \$2,915,512 |
| Mack Trucks, Inc. | \$1,304,254 | \$0 | \$1,000,321 | \$0 |
| Carpenter Technology Corporation | \$1,290,084 | \$0 | \$0 | \$0 |
| Shire Holdings US, AG | \$1,223,167 | \$0 | \$0 | \$0 |
| Endo Pharmaceuticals, Inc. | \$1,170,852 | \$0 | \$973,073 | \$973,073 |
| General Instrument Corporation | \$1,141,920 | \$0 | \$0 | \$0 |
| SEI Global Services, Inc. | \$954,166 | \$0 | \$642,392 | \$0 |
| International Business Machines Corporation | \$910,796 | \$0 | \$864,680 | \$864,680 |
| The Vanguard Group, Inc. | \$789,254 | \$0 | \$0 | \$0 |
| Seneca Resources Corporation | \$768,903 | \$0 | \$1,808,288 | \$0 |
| Google, Inc. | \$766,536 | \$0 | \$1,426,583 | \$1,426,583 |
| Alcoa, Inc. | \$721,819 | \$0 | \$1,225,355 | \$901,193 |
| Trevena, Inc. (f/k/a Parallax, Inc.) | \$707,861 | \$0 | \$456,825 | \$456,825 |
| NetApp, Inc. (f/k/a Network Appliance, Inc.) | \$677,954 | \$0 | \$253,927 | \$0 |
| SAP America Subcon (f/k/a SAP America, Inc.) | \$611,721 | \$0 | \$382,186 | \$382,186 |
| Cisco Systems, Inc. | \$592,845 | \$0 | \$995,024 | \$0 |
| CSLB Holdings, Inc. | \$568,385 | \$0 | \$0 | \$0 |
| Janssen Research & Development, LLC (f/k/a J&J Pharmaceutical Research & Development LLC) | \$539,632 | \$0 | \$5,676,375 | \$0 |
| JLG Industries, Inc. | \$511,756 | \$0 | \$344,482 | \$0 |
| The Boeing Company | \$501,173 | \$0 | \$0 | \$0 |
| Lord Corporation | \$498,784 | \$0 | \$446,184 | \$0 |
| Respironics, Inc. | \$490,401 | \$0 | \$738,361 | \$157,152 |
| Discovery Laboratories, Inc. | \$429,252 | \$0 | \$773,246 | \$768,565 |
| Victaulic Company | \$429,078 | \$0 | \$236,443 | \$236,443 |
| Janssen Biotech, Inc. (f/k/a CentroOrthoBiotech, Inc.) | \$417,304 | \$0 | \$0 | \$0 |
| Cobham Advanced Electronic Solutions, Inc. (f/k/a Sensor and Antenna Systems, Lansdale, Inc.) | \$384,416 | \$0 | \$208,714 | \$2,821 |
| CE Citycom | \$324,143 | \$0 | \$378,984 | \$222,630 |
| Kennametal, Inc. | \$317,503 | \$0 | \$508,932 | \$25,339 |
| Shire ViroPharma Incorporated (f/k/a ViroPharma Incorporated) | \$312,596 | \$0 | \$0 | \$0 |
| Cognition Therapeutics, Inc. | \$302,732 | \$0 | \$421,308 | \$421,268 |
| Netronome Systems, Inc. | \$292,998 | \$0 | \$232,976 | \$232,210 |
| Innovative Solutions & Support, Inc. | \$291,803 | \$0 | \$120,382 | \$0 |
| Domtar Corporation | \$289,930 | \$0 | \$0 | \$0 |
| Lehigh Cement Company, LLC | \$283,622 | \$0 | \$0 | \$0 |
| Fidelity Flight Simulation Incorporated | \$276,694 | \$0 | \$0 | \$0 |
| Trifecta Technologies, Inc. | \$261,906 | \$0 | \$0 | \$0 |
| ATI Operating Holdings, LLC | \$259,793 | \$0 | \$136,222 | \$31,509 |

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|--|-----------|-----|-----------|-----------|
| The Hershey Company | \$238,573 | \$0 | \$556,361 | \$556,361 |
| Knopp Biosciences, LLC | \$227,906 | \$0 | \$168,087 | \$168,087 |
| Accu Measurement Testing, Inc. | \$221,655 | \$0 | \$321,192 | \$321,192 |
| eDigital Data Center, Inc. | \$209,186 | \$0 | \$253,449 | \$253,449 |
| QVC, Inc. | \$206,192 | \$0 | \$0 | \$0 |
| Dick's Sporting Goods, Inc. | \$202,688 | \$0 | \$156,788 | \$0 |
| Greene, Tweed & Co., Inc. | \$198,844 | \$0 | \$341,071 | \$0 |
| Advanced Research Systems, Inc. | \$190,892 | \$0 | \$293,863 | \$293,863 |
| Globus Medical, Inc. | \$182,424 | \$0 | \$553,429 | \$479,278 |
| TetraLogic Pharmaceuticals Corporation | \$181,634 | \$0 | \$3,426 | \$3,426 |
| Solvay USA, Inc. (f/k/a Rhodia, Inc.) | \$181,084 | \$0 | \$175,527 | \$10,069 |
| NCC Automated Systems, Inc. | \$177,828 | \$0 | \$254,366 | \$254,366 |
| Cutanea Life Sciences, Inc. | \$164,192 | \$0 | \$62,849 | \$0 |
| Laminated Materials Corporation | \$163,317 | \$0 | \$42,452 | \$31,959 |
| John Bean Technologies Corporation | \$162,008 | \$0 | \$131,536 | \$29,703 |
| Synergy Advanced Pharmaceuticals, Inc. | \$161,562 | \$0 | \$91,651 | \$91,651 |
| Jazz Pharmaceuticals, Inc. | \$160,237 | \$0 | \$48,945 | \$14,203 |
| Hireku, Inc. | \$159,436 | \$0 | \$0 | \$0 |
| VenatoRx Pharmaceuticals, Inc. | \$159,428 | \$0 | \$0 | \$0 |
| Johnson Matthey, Inc. | \$156,704 | \$0 | \$289,962 | \$0 |
| Aquion Energy, Inc. | \$154,558 | \$0 | \$253,897 | \$253,897 |
| Manley Holdings, Inc. | \$150,068 | \$0 | \$86,955 | \$86,955 |
| First Insight, Inc. | \$146,698 | \$0 | \$52,586 | \$52,586 |
| Caterpillar, Inc. | \$146,151 | \$0 | \$395,204 | \$0 |
| Phoenix Contact Development & Manufacturing, Inc. | \$144,770 | \$0 | \$110,242 | \$0 |
| Microsemi SoC Corporation (f/k/a Actel Corporation) | \$143,680 | \$0 | \$220,947 | \$78,510 |
| Advanced Cooling Technologies, Inc. | \$141,945 | \$0 | \$82,310 | \$10,895 |
| Wheelhouse Analytics, LLC (f/k/a Coates Solutions, LLC) | \$137,034 | \$0 | \$143,170 | \$143,170 |
| Tyco Electronics Corporation | \$134,634 | \$0 | \$347,351 | \$97,255 |
| Sungard Data Systems, Inc. | \$133,389 | \$0 | \$114,371 | \$40,840 |
| Thorley Industries, LLC | \$132,534 | \$0 | \$0 | \$0 |
| Penn Manufacturing Industries, Inc. | \$132,457 | \$0 | \$173,657 | \$118,458 |
| Future POS, Inc. (f/k/a Cutting Edge Solutions, Inc.) | \$131,370 | \$0 | \$168,631 | \$168,631 |
| Lehigh Valley Technologies, Inc. | \$129,502 | \$0 | \$81,023 | \$65,914 |
| Sapa Extrusions, Inc. | \$124,834 | \$0 | \$0 | \$0 |
| The ExOne Company | \$123,999 | \$0 | \$73,420 | \$73,420 |
| Synchronoss Technologies, Inc. | \$123,085 | \$0 | \$173,032 | \$142,935 |
| Caterpillar Global Mining America, LLC (f/k/a Bucyrus America, Inc.) | \$121,685 | \$0 | \$213,703 | \$134,351 |
| GE Energy Power Conversion USA, Inc. (f/k/a Converteam, Inc.) | \$121,671 | \$0 | \$166,022 | \$0 |
| Allan Myers, Inc. (f/k/a American Infrastructure, Inc.) | \$120,550 | \$0 | \$43,904 | \$10,785 |
| Renmatix, Inc. | \$119,896 | \$0 | \$176,495 | \$176,495 |
| Blue Belt Technologies, Inc. | \$119,437 | \$0 | \$387,308 | \$387,308 |
| Almac Clinical Technologies, LLC | \$119,410 | \$0 | \$62,985 | \$0 |
| Walking Thumbs, LLC | \$118,824 | \$0 | \$141,229 | \$7,855 |
| Rajant Corporation | \$116,768 | \$0 | \$114,347 | \$58,064 |
| DT Davis Enterprises, Ltd. Hovortech International | \$113,702 | \$0 | \$52,053 | \$52,053 |
| DGI-Menard, Inc. | \$112,373 | \$0 | \$0 | \$0 |
| Recro Pharma, Inc. | \$111,806 | \$0 | \$0 | \$0 |

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|--|-----------|-----|-----------|-----------|
| Fairchild Semiconductor Corporation | \$111,316 | \$0 | \$0 | \$0 |
| NoWait, Inc. | \$110,708 | \$0 | \$91,750 | \$91,750 |
| Standard Steel, Inc. | \$109,190 | \$0 | \$0 | \$0 |
| Snipi, Inc. (d/b/a Sidecar Technologies) | \$108,373 | \$0 | \$106,292 | \$106,292 |
| Magnesita Refractories Company | \$107,810 | \$0 | \$90,865 | \$18,947 |
| Cernostics, Inc. | \$105,790 | \$0 | \$85,598 | \$85,598 |
| Turn 5, Inc. (f/k/a Xoxide, Inc.) | \$104,618 | \$0 | \$46,547 | \$46,547 |
| K'NEX Brands LP | \$104,128 | \$0 | \$105,311 | \$7,818 |
| Clayton H. Landis Company, Inc. (c/o James D. Landis) | \$100,797 | \$0 | \$0 | \$0 |
| Industrial Scientific Corporation | \$99,860 | \$0 | \$248,804 | \$225,216 |
| FMC Technologies, Inc. | \$99,007 | \$0 | \$0 | \$0 |
| 3GTMS, Inc. | \$98,055 | \$0 | \$0 | \$0 |
| Advanced Technology Services Group, LLC | \$97,338 | \$0 | \$0 | \$0 |
| Heraeus Incorporated | \$96,973 | \$0 | \$0 | \$0 |
| NuTec Tooling Systems, Inc. | \$96,229 | \$0 | \$123,437 | \$0 |
| RB Distribution, Inc. | \$96,013 | \$0 | \$297,256 | \$297,256 |
| Techniserv, Inc. | \$95,813 | \$0 | \$70,924 | \$70,924 |
| Intertek USA, Inc. | \$94,581 | \$0 | \$71,602 | \$71,602 |
| Global Technology Enterprise Corp. | \$94,429 | \$0 | \$107,734 | \$107,734 |
| Pharmaceutical Manufacturing Research Services, Inc. | \$94,130 | \$0 | \$70,313 | \$70,313 |
| Toll Bros., Inc. | \$92,636 | \$0 | \$32,958 | \$0 |
| Analytical Graphics, Inc. | \$90,337 | \$0 | \$3,763 | \$0 |
| Astrorobotic Technology, Inc. | \$89,781 | \$0 | \$102,739 | \$102,739 |
| Pine Hill Manufacturing, LLC | \$89,749 | \$0 | \$42,508 | \$21,021 |
| Language Services Associates, Inc. | \$89,251 | \$0 | \$0 | \$0 |
| TELA Bio, Inc. | \$89,024 | \$0 | \$0 | \$0 |
| Oberg Industries, Inc. | \$88,449 | \$0 | \$119,303 | \$119,302 |
| Applied Systems Associates, Inc. | \$87,790 | \$0 | \$49,495 | \$49,495 |
| New Way Machine Components, Inc. (d/b/a New Way Precision) | \$87,027 | \$0 | \$49,316 | \$49,316 |
| Intel Americas, Inc. | \$86,811 | \$0 | \$365,107 | \$229,161 |
| II-VI Incorporated | \$86,050 | \$0 | \$125,832 | \$3,957 |
| Plastek Industries, Inc. | \$85,946 | \$0 | \$64,348 | \$0 |
| Shire Human Genetic Therapies, Inc. | \$85,593 | \$0 | \$0 | \$0 |
| FARO Technologies, Inc. | \$85,016 | \$0 | \$0 | \$0 |
| Airolution, LLC | \$84,288 | \$0 | \$79,420 | \$79,420 |
| RJMetrics, Inc. | \$83,149 | \$0 | \$107,139 | \$107,139 |
| Finisar Corporation | \$82,486 | \$0 | \$158,742 | \$0 |
| Fleetwood Industries, Inc. | \$82,353 | \$0 | \$154,196 | \$154,196 |
| InfoMC, Inc. | \$80,590 | \$0 | \$87,344 | \$0 |
| Vitae Pharmaceuticals, Inc. (f/k/a Concurrent Pharmaceuticals, Inc.) | \$80,382 | \$0 | \$120,742 | \$38,414 |
| Mine Safety Appliances Company | \$79,944 | \$0 | \$0 | \$0 |
| Datacap Systems, Inc. | \$79,380 | \$0 | \$9,445 | \$0 |
| Seakeeper, Inc. | \$78,921 | \$0 | \$0 | \$0 |
| Sciquest, Inc. | \$78,269 | \$0 | \$80,530 | \$1,393 |
| Avere Systems, Inc. | \$77,901 | \$0 | \$235,970 | \$56 |
| Abella, Inc. | \$77,532 | \$0 | \$44,855 | \$44,855 |
| H.B. Frazer Company - Pennsylvania | \$77,085 | \$0 | \$0 | \$0 |
| CSD Engineers, LLC | \$76,842 | \$0 | \$0 | \$0 |
| WebpageFX, Inc. | \$76,414 | \$0 | \$66,022 | \$61,604 |
| Coldlight Solutions, LLC | \$74,673 | \$0 | \$329,107 | \$65,394 |
| Duolingo, Inc. | \$73,845 | \$0 | \$176,139 | \$176,139 |
| Novira Therapeutics, Inc. | \$73,815 | \$0 | \$0 | \$0 |

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|---|----------|-----|-----------|-----------|
| Sabic Innovative Plastics US, LLC | \$73,350 | \$0 | \$22,497 | \$22,497 |
| Schell Games, LLC | \$72,418 | \$0 | \$41,850 | \$41,850 |
| Orange Innovation, Inc. | \$71,987 | \$0 | \$0 | \$0 |
| Complexa, Inc. | \$71,966 | \$0 | \$0 | \$0 |
| Flexicon Corporation | \$71,136 | \$0 | \$78,558 | \$14,837 |
| Curry Supply Co. | \$70,154 | \$0 | \$0 | \$0 |
| Rieker, Inc. | \$69,865 | \$0 | \$0 | \$0 |
| VideoRay, LLC | \$69,790 | \$0 | \$95,268 | \$95,268 |
| Online Store Builder, Inc. | \$69,081 | \$0 | \$0 | \$0 |
| North American Hoganas, Inc. | \$68,931 | \$0 | \$74,568 | \$74,568 |
| Go Carlson, Inc. | \$68,407 | \$0 | \$0 | \$0 |
| SKF USA, Inc. | \$68,217 | \$0 | \$90,724 | \$0 |
| Fire Engine Red, Inc. | \$67,757 | \$0 | \$0 | \$0 |
| Cellco Partnership, LLP | \$67,037 | \$0 | \$92,868 | \$23,794 |
| Auxilium Pharmaceuticals, Inc. | \$66,990 | \$0 | \$892,478 | \$22,314 |
| Delta Health Technologies, LLC | \$66,957 | \$0 | \$0 | \$0 |
| ANSYS, Inc. | \$66,872 | \$0 | \$191,177 | \$191,177 |
| Touchtown, Inc. | \$66,812 | \$0 | \$0 | \$0 |
| Optinose US, Inc. | \$66,328 | \$0 | \$88,909 | \$0 |
| Tonic Design Co. | \$66,252 | \$0 | \$0 | \$0 |
| Magnetic Windings Co., Inc. | \$66,110 | \$0 | \$30,524 | \$30,524 |
| Wampole Miller, Inc. | \$65,919 | \$0 | \$0 | \$0 |
| Camber Spine Technologies, LLC (f/k/a NUUCO MedTech, LLC) | \$65,778 | \$0 | \$60,566 | \$2,316 |
| Clutch Holdings, LLC | \$65,419 | \$0 | \$157,278 | \$157,278 |
| Ecotech Marine, LLC | \$65,257 | \$0 | \$256,548 | \$236,548 |
| Entech Engineering, Inc. | \$65,169 | \$0 | \$0 | \$0 |
| Akustica, Inc. | \$64,465 | \$0 | \$173,061 | \$130,000 |
| Gamry Instruments, Inc. | \$63,905 | \$0 | \$98,066 | \$98,066 |
| ZSX Medical, LLC | \$63,543 | \$0 | \$57,560 | \$57,560 |
| Chant Engineering Co., Inc. | \$62,522 | \$0 | \$206,965 | \$125,362 |
| Amphenol Intercon Systems, Inc. | \$62,506 | \$0 | \$42,448 | \$3,519 |
| Melior Discovery, Inc. | \$62,482 | \$0 | \$0 | \$0 |
| Express Dynamics, LLC | \$61,624 | \$0 | \$57,187 | \$57,187 |
| Dataforma Incorporated | \$61,477 | \$0 | \$93,624 | \$93,624 |
| Think Through Learning, Inc. (f/k/a Apangea Learning, Inc.) | \$61,439 | \$0 | \$173,250 | \$0 |
| Phonetics, Inc. (d/b/a Sensaphone) | \$60,770 | \$0 | \$31,464 | \$2,661 |
| National Medical Services, Inc. | \$60,721 | \$0 | \$96,433 | \$92,479 |
| Autodesk, Inc. | \$60,322 | \$0 | \$108,928 | \$75,395 |
| American High Frequency Trading Company | \$60,311 | \$0 | \$0 | \$0 |
| Control Concepts Corporation | \$59,931 | \$0 | \$137,495 | \$114,916 |
| American Measurement and Quantitative Method, Inc. | \$59,564 | \$0 | \$0 | \$0 |
| K-Fab, Inc. | \$58,986 | \$0 | \$89,316 | \$89,315 |
| Strategic Development Solutions, LLC | \$58,669 | \$0 | \$0 | \$0 |
| NTVI Fed, LLC | \$58,569 | \$0 | \$45,512 | \$5,071 |
| Radius Corporation | \$58,021 | \$0 | \$57,662 | \$57,662 |
| Branding Brand, Inc. | \$57,988 | \$0 | \$0 | \$0 |
| NewLink Genetics Corporation | \$57,669 | \$0 | \$0 | \$0 |
| QSI Management, LLC | \$57,453 | \$0 | \$0 | \$0 |
| Diversified Coatings, Inc. | \$57,072 | \$0 | \$27,832 | \$27,830 |
| Superior Forge & Steel Corporation | \$56,804 | \$0 | \$0 | \$0 |
| Audience Partners, LLC | \$53,770 | \$0 | \$0 | \$0 |
| Amphenol Thermometrics, Inc. | \$53,709 | \$0 | \$0 | \$0 |
| Follett Corporation | \$53,298 | \$0 | \$49,561 | \$47,531 |

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|---|----------|-----|-----------|-----------|
| Lasko Products, Inc. | \$53,014 | \$0 | \$120,293 | \$91,145 |
| Camco Manufacturing, Inc. | \$52,340 | \$0 | \$0 | \$0 |
| GlobalSubmit, Inc. | \$52,222 | \$0 | \$196,634 | \$196,588 |
| Directworks, Inc. | \$51,835 | \$0 | \$0 | \$0 |
| Epiphany Solar Water Systems, LLC | \$51,346 | \$0 | \$110,835 | \$110,835 |
| Graybills Tool & Die, Inc. | \$50,913 | \$0 | \$84,244 | \$9,026 |
| Crayola, LLC | \$50,414 | \$0 | \$53,414 | \$11,379 |
| Conduit Technology, LLC | \$50,333 | \$0 | \$25,578 | \$25,578 |
| Algorithm Expert, Inc. | \$49,841 | \$0 | \$0 | \$0 |
| SofterWare, Inc. | \$49,511 | \$0 | \$31,701 | \$31,701 |
| Area Tool & Manufacturing, Inc. | \$49,490 | \$0 | \$0 | \$0 |
| Dun and Bradstreet, Inc. | \$49,261 | \$0 | \$240,717 | \$240,717 |
| PennTecQ, Inc. | \$49,027 | \$0 | \$1,640 | \$495 |
| Frontline Technologies, Inc. | \$48,318 | \$0 | \$112,551 | \$112,551 |
| Lamtec Corporation | \$47,772 | \$0 | \$64,141 | \$64,141 |
| Keystone Compliance, LLC | \$47,542 | \$0 | \$0 | \$0 |
| Global Data Management Systems, LLC | \$47,416 | \$0 | \$0 | \$0 |
| Metaphase Technologies, Inc. | \$46,667 | \$0 | \$27,926 | \$14,980 |
| Listrak, Inc. (f/k/a Remark Internet, Inc.) | \$46,583 | \$0 | \$241,131 | \$241,131 |
| US Boiler Company, Inc. | \$46,549 | \$0 | \$0 | \$0 |
| Saladax Biomedical, Inc | \$46,457 | \$0 | \$28,620 | \$28,620 |
| RightCare Solutions, Inc. | \$46,027 | \$0 | \$0 | \$0 |
| Maguire Products, Inc. | \$46,015 | \$0 | \$22,876 | \$7,287 |
| The Proud Company | \$45,571 | \$0 | \$41,238 | \$41,238 |
| J.B. Poindexter & Co., Inc. | \$45,571 | \$0 | \$0 | \$0 |
| BioSpectra, Inc. | \$45,169 | \$0 | \$151,994 | \$149,732 |
| Swank Construction Company, LLC | \$44,048 | \$0 | \$79,186 | \$11,009 |
| Oberon, Inc. | \$43,143 | \$0 | \$50,700 | \$41,482 |
| Neuro Kinetics, Inc. | \$42,964 | \$0 | \$5,878 | \$0 |
| EnerSys Advanced Systems, Inc. | \$42,578 | \$0 | \$0 | \$0 |
| Psychology Software Tools, Inc. | \$42,421 | \$0 | \$59,222 | \$59,222 |
| Quantum Vortex, Inc. | \$42,226 | \$0 | \$28,310 | \$28,310 |
| Sweet Street Desserts, Inc. | \$41,951 | \$0 | \$58,286 | \$13,670 |
| Dart Container Corporation of Pennsylvania | \$41,784 | \$0 | \$47,283 | \$0 |
| AssetWorks, Inc. | \$41,339 | \$0 | \$19,761 | \$0 |
| Keystone Machinery Corporation | \$41,148 | \$0 | \$20,355 | \$20,355 |
| Bore Tech, Inc. | \$40,580 | \$0 | \$25,399 | \$2,989 |
| Ratex Business Solutions, Inc. | \$40,467 | \$0 | \$96,320 | \$254 |
| Tech Molded Plastics, Inc. | \$40,385 | \$0 | \$123,410 | \$123,410 |
| Sicom Systems, Inc. | \$40,273 | \$0 | \$59,955 | \$54,934 |
| American Computing, Inc. | \$40,268 | \$0 | \$0 | \$0 |
| Genco Distribution System, Inc. | \$39,992 | \$0 | \$0 | \$0 |
| Joy Global, Inc. | \$39,645 | \$0 | \$151,894 | \$0 |
| Anholt Technologies, Inc. | \$39,124 | \$0 | \$28,670 | \$28,670 |
| Ashley Furniture Industries, Inc. | \$38,700 | \$0 | \$0 | \$0 |
| VoIPstreet, Inc. | \$38,102 | \$0 | \$6,362 | \$2,915 |
| Biomeme, Inc. | \$37,874 | \$0 | \$0 | \$0 |
| Diamond Kinetics, Inc. | \$37,697 | \$0 | \$0 | \$0 |
| BASF Corporation | \$37,504 | \$0 | \$0 | \$0 |
| TEK Construction Services, LLC | \$37,129 | \$0 | \$0 | \$0 |
| Competition Tire East, Inc. | \$36,938 | \$0 | \$18,550 | \$5,987 |
| Highpoint Tool and Machine, Inc. | \$36,783 | \$0 | \$0 | \$0 |
| Mars Fishcare North America, Inc. | \$36,502 | \$0 | \$24,257 | \$10,150 |
| Shoefitr, Inc. | \$36,195 | \$0 | \$92,358 | \$92,358 |
| Dontech, Inc. | \$35,918 | \$0 | \$5,485 | \$5,485 |
| Target Precision, LLC | \$35,678 | \$0 | \$33,086 | \$33,086 |

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|---|----------|-----|-----------|-----------|
| QBC Diagnostics, Inc. | \$35,480 | \$0 | \$25,621 | \$25,621 |
| St. Marys Tool and Die, Inc. | \$35,479 | \$0 | \$0 | \$0 |
| WFE Holdings, LLC | \$35,249 | \$0 | \$0 | \$0 |
| Clear-Coat Holding Company | \$35,079 | \$0 | \$31,807 | \$0 |
| Richter Precision, Inc. | \$34,626 | \$0 | \$52,103 | \$52,103 |
| Velano Vascular, Inc. (f/k/a Creative Vascular, Inc.) | \$34,576 | \$0 | \$0 | \$0 |
| Youbill, Inc. | \$33,113 | \$0 | \$0 | \$0 |
| Cummins-Allison Corp. | \$32,468 | \$0 | \$54,511 | \$54,511 |
| KW, Inc. | \$32,388 | \$0 | \$60,620 | \$60,620 |
| AGC Chemicals Americas, Inc. | \$32,168 | \$0 | \$0 | \$0 |
| Industry Weapon, Inc. | \$32,056 | \$0 | \$0 | \$0 |
| Crestwood Membranes, Inc. | \$31,968 | \$0 | \$27,406 | \$27,406 |
| Packaging Progressions, Inc. | \$31,881 | \$0 | \$28,902 | \$28,902 |
| Golden Brothers, Inc. (t/a Golden Technologies) | \$31,547 | \$0 | \$46,284 | \$46,284 |
| SpiralGen, Inc. | \$31,516 | \$0 | \$20,631 | \$20,361 |
| Corle Building Systems, Inc. | \$31,508 | \$0 | \$46,139 | \$46,139 |
| Sarris Candies, Inc. | \$31,365 | \$0 | \$0 | \$0 |
| American Financial Trading Research, Inc. | \$31,023 | \$0 | \$0 | \$0 |
| Cornell Iron Works, Inc. | \$30,698 | \$0 | \$0 | \$0 |
| UTZ Quality Foods, Inc. | \$30,560 | \$0 | \$0 | \$0 |
| GlobalPOPS, Inc. | \$30,204 | \$0 | \$0 | \$0 |
| VMWARE, Inc. | \$30,171 | \$0 | \$44,899 | \$44,899 |
| Stoner, Inc. | \$30,106 | \$0 | \$44,170 | \$44,170 |
| Starlite Diversified, Inc. | \$30,094 | \$0 | \$70,451 | \$70,451 |
| TSE, Inc. | \$30,040 | \$0 | \$0 | \$0 |
| Premier Dental Products Company | \$29,807 | \$0 | \$20,796 | \$0 |
| Miller Welding and Machine Company, Inc. | \$29,324 | \$0 | \$34,681 | \$262 |
| ASI Technologies, Inc. | \$29,293 | \$0 | \$0 | \$0 |
| Micromechatronics, Inc. | \$29,178 | \$0 | \$39,050 | \$39,050 |
| Seegrid Corporation | \$29,075 | \$0 | \$228,660 | \$208,944 |
| Pasco Tool & Plastics, Inc. | \$28,816 | \$0 | \$180,671 | \$53,476 |
| InvestEdge, Inc. | \$28,735 | \$0 | \$74,834 | \$55,198 |
| MicroMold Co., Inc. | \$28,612 | \$0 | \$0 | \$0 |
| Inolex Chemical Company | \$28,456 | \$0 | \$18,742 | \$0 |
| CMT Laboratories, Inc. | \$28,399 | \$0 | \$0 | \$0 |
| Process Combustion Corporation | \$28,272 | \$0 | \$417,830 | \$417,830 |
| New Era Orthopaedics, LLC | \$28,181 | \$0 | \$0 | \$0 |
| KCF Technologies, Inc. | \$27,981 | \$0 | \$85,453 | \$85,453 |
| USSC, LLC | \$27,904 | \$0 | \$39,113 | \$4,122 |
| Rhiza Labs, LLC | \$27,888 | \$0 | \$0 | \$0 |
| Amplifier Research Corp. | \$27,761 | \$0 | \$49,406 | \$2,147 |
| Navarro & Wright Consulting Engineers, Inc. | \$27,564 | \$0 | \$0 | \$0 |
| CryoConcepts, LP | \$27,463 | \$0 | \$0 | \$0 |
| Blair Roofing, Inc. | \$27,147 | \$0 | \$23,792 | \$23,792 |
| ThreeRivers 3D, Inc. | \$26,643 | \$0 | \$11,880 | \$11,880 |
| Superior Tire Rubber Corp. | \$26,427 | \$0 | \$24,336 | \$7 |
| Ellwood Investment Corp. | \$26,414 | \$0 | \$48,859 | \$21,180 |
| Caliber Therapeutics, Inc. | \$26,357 | \$0 | \$155,198 | \$155,198 |
| E.A. Fischione Instruments, Inc. | \$25,989 | \$0 | \$15,562 | \$15,562 |
| Minteq International, Inc. | \$25,912 | \$0 | \$11,889 | \$4,395 |
| Olympic Steel, Inc. | \$25,886 | \$0 | \$0 | \$0 |
| CytoVas, LLC | \$25,832 | \$0 | \$0 | \$0 |
| Power Conversion Technologies, Inc. | \$25,425 | \$0 | \$22,660 | \$4,309 |
| Team Ten, LLC (American Eagle Paper Mills) | \$25,368 | \$0 | \$67,444 | \$67,444 |

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|--|----------|-----|----------|----------|
| Scheerer Bearing Corporation | \$25,295 | \$0 | \$6,648 | \$1,149 |
| Emphasys Technologies | \$25,258 | \$0 | \$14 | \$14 |
| Alpha Aromatics, Inc. | \$24,957 | \$0 | \$0 | \$0 |
| Perficient, Inc. | \$24,948 | \$0 | \$0 | \$0 |
| Durawood Products, Inc. | \$24,499 | \$0 | \$0 | \$0 |
| Reynolds & Reynolds Electronics, Inc. | \$24,429 | \$0 | \$94,067 | \$32,878 |
| Pyrotecnico Fireworks, Inc. (f/k/a S. Vitale Pyrotechnic Industries, Inc.) | \$24,224 | \$0 | \$2,147 | \$2,147 |
| Global Metal Powders, LLC | \$24,211 | \$0 | \$0 | \$0 |
| Beiler Hydraulics, Inc. | \$24,183 | \$0 | \$1,819 | \$0 |
| CloudMine, LLC | \$24,062 | \$0 | \$17,581 | \$17,581 |
| MyNetwork, LLC | \$23,657 | \$0 | \$0 | \$0 |
| SAS Institute, Inc. | \$23,632 | \$0 | \$11,878 | \$11,878 |
| Neutronics, Inc. | \$23,578 | \$0 | \$0 | \$0 |
| Quintech Electronics Communications, Inc. | \$23,495 | \$0 | \$11,391 | \$1,584 |
| FTS Holding Corporation | \$23,486 | \$0 | \$54,642 | \$22,036 |
| Qortek, Inc. | \$23,312 | \$0 | \$76,874 | \$30,074 |
| Martins Famous Pastry Shoppe, Inc. | \$23,218 | \$0 | \$3,581 | \$0 |
| Amuneal Manufacturing Corp. | \$23,179 | \$0 | \$43,052 | \$43,052 |
| CSE Corporation | \$23,144 | \$0 | \$4,609 | \$0 |
| Printmail Systems, Inc. | \$23,088 | \$0 | \$63,130 | \$11,057 |
| Branch Medical Group, Inc. | \$23,034 | \$0 | \$43,311 | \$43,311 |
| Weaver Companies, Inc. | \$22,703 | \$0 | \$0 | \$0 |
| National Magnetics Group, Inc. | \$22,645 | \$0 | \$6,701 | \$410 |
| PSI Pumping Solutions, Inc. | \$22,538 | \$0 | \$55,091 | \$50,880 |
| Near-Miss Management, LLC | \$22,460 | \$0 | \$0 | \$0 |
| American Bridge Company | \$22,294 | \$0 | \$0 | \$0 |
| Ascent Bio-Nano Technologies, Inc. | \$22,187 | \$0 | \$4,073 | \$4,073 |
| Straight Arrow Products, Inc. | \$22,132 | \$0 | \$0 | \$0 |
| Lobar Associates, Inc. | \$22,127 | \$0 | \$0 | \$0 |
| Polysciences, Inc. | \$22,096 | \$0 | \$0 | \$0 |
| Universal Electric Corporation | \$21,873 | \$0 | \$44,501 | \$14,596 |
| Trigon, Inc. | \$21,807 | \$0 | \$0 | \$0 |
| Southco, Inc. | \$21,636 | \$0 | \$0 | \$0 |
| Stantec Consulting Services, Inc. | \$21,473 | \$0 | \$33,642 | \$33,642 |
| Doutt Tool, Inc. | \$21,455 | \$0 | \$8,152 | \$0 |
| Uni-Tec Consulting Engineers, Inc. | \$21,333 | \$0 | \$0 | \$0 |
| Johnstown Tube Laser, LLC (d/b/a Environmental Tank & Container) | \$21,282 | \$0 | \$0 | \$0 |
| Eriez Manufacturing Co. | \$21,198 | \$0 | \$48,433 | \$0 |
| Control Analytics, Inc. | \$21,138 | \$0 | \$0 | \$0 |
| Lincoln Contracting & Equipment Co., Inc. | \$21,098 | \$0 | \$0 | \$0 |
| BCL Manufacturing, Inc. | \$21,064 | \$0 | \$0 | \$0 |
| Horizon Signal Technologies, Inc. | \$21,062 | \$0 | \$0 | \$0 |
| Schindler Elevator Corporation | \$20,945 | \$0 | \$0 | \$0 |
| Adobe Systems Incorporated | \$20,892 | \$0 | \$15,807 | \$0 |
| Tyndale Enterprises, Inc. | \$20,767 | \$0 | \$0 | \$0 |
| General Polymeric Corporation | \$20,758 | \$0 | \$0 | \$0 |
| Community Light and Sound, Inc. | \$20,710 | \$0 | \$26,047 | \$26,047 |
| American International Forwarding, Inc. | \$20,699 | \$0 | \$39,455 | \$39,455 |
| Harry Miller Corporation | \$20,619 | \$0 | \$3,680 | \$0 |
| WEI Holding, Inc. | \$20,586 | \$0 | \$0 | \$0 |
| AH Sportswear Co., Inc. | \$20,563 | \$0 | \$25,091 | \$0 |
| EzeFlow USA, Inc. | \$20,342 | \$0 | \$3,328 | \$14 |
| ProSoft Technologies, Inc. | \$20,233 | \$0 | \$12,731 | \$12,446 |
| The Lackner Group, Inc. | \$20,128 | \$0 | \$0 | \$0 |

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|---|----------|-----|-----------|-----------|
| PeopleLinx, Inc. | \$19,920 | \$0 | \$0 | \$0 |
| Huston, Inc. | \$19,876 | \$0 | \$48,004 | \$48,004 |
| Laboratory Testing, Inc. | \$19,768 | \$0 | \$0 | \$0 |
| American Made, LLC | \$19,739 | \$0 | \$0 | \$0 |
| Channellock, Inc. | \$19,573 | \$0 | \$35,619 | \$868 |
| Mapquest PA, Inc. | \$19,559 | \$0 | \$3,604 | \$0 |
| Suntex International, Inc. | \$19,490 | \$0 | \$44,029 | \$43,384 |
| EnerSys Delaware, Inc. | \$19,443 | \$0 | \$0 | \$0 |
| Lake Tool, Inc. | \$19,352 | \$0 | \$36,522 | \$28,305 |
| Artskills, Inc. | \$19,227 | \$0 | \$30,887 | \$4,368 |
| VT Graphics, Inc. | \$19,197 | \$0 | \$28,691 | \$13,954 |
| A&A Construction Co., Inc. | \$19,105 | \$0 | \$19,072 | \$16,997 |
| Go Green APU, LLC | \$18,987 | \$0 | \$22,165 | \$22,165 |
| Eagle Brass Company | \$18,880 | \$0 | \$108 | \$108 |
| Optofluidics, Inc. | \$18,596 | \$0 | \$45,004 | \$45,004 |
| Reclamere, Inc. | \$18,407 | \$0 | \$28,937 | \$28,937 |
| The Stork Ib2C, Inc. (f/k/a Rinovum Womens Health, Inc.) | \$18,281 | \$0 | \$55,633 | \$55,633 |
| ShowClix, Inc. | \$18,080 | \$0 | \$44,517 | \$44,517 |
| Compunetix, Inc. | \$17,911 | \$0 | \$114,035 | \$53,438 |
| K&H Technologies, Inc. | \$17,904 | \$0 | \$133,573 | \$133,573 |
| NewAge Industries, Inc. | \$17,888 | \$0 | \$0 | \$0 |
| JK Tool, Inc. (f/k/a JK Tool & Die, Inc.) | \$17,871 | \$0 | \$0 | \$0 |
| Philadelphia Tramrail Enterprises, Inc. | \$17,815 | \$0 | \$23,255 | \$23,255 |
| Supelco, Inc. | \$17,786 | \$0 | \$25,992 | \$25,992 |
| Leidos, Inc. (f/k/a Science Applications International Corp.) | \$17,490 | \$0 | \$29,902 | \$23,218 |
| Solo Laboratories, Inc. | \$17,359 | \$0 | \$20,022 | \$20,022 |
| Crestline Software, LLC | \$17,325 | \$0 | \$6,025 | \$6,025 |
| Advanced Textile Composites, Inc. | \$17,187 | \$0 | \$10,197 | \$10,197 |
| AFP Advanced Food Products, LLC | \$17,056 | \$0 | \$4,682 | \$4,682 |
| Wavefront Research, Inc. | \$17,004 | \$0 | \$156,879 | \$156,879 |
| Solar Technology, Inc. | \$16,993 | \$0 | \$0 | \$0 |
| Puratec, LLC | \$16,956 | \$0 | \$0 | \$0 |
| Positek RFID, LP | \$16,889 | \$0 | \$0 | \$0 |
| Guardian Protection Services, Inc. | \$16,815 | \$0 | \$0 | \$0 |
| Centroid Corporation | \$16,782 | \$0 | \$51,340 | \$51,340 |
| Blair Strip Steel Co. | \$16,679 | \$0 | \$37,000 | \$22,666 |
| TowerStar Pets, LLC | \$16,334 | \$0 | \$0 | \$0 |
| Innovative Control Systems, Inc. | \$16,303 | \$0 | \$38,937 | \$13,783 |
| Galera Therapeutics, Inc. | \$16,300 | \$0 | \$11,148 | \$728 |
| T&M Associates | \$16,199 | \$0 | \$0 | \$0 |
| HindlePower, Inc. | \$16,181 | \$0 | \$108,820 | \$108,800 |
| Sentient Investment Corporation | \$16,161 | \$0 | \$30,759 | \$29,621 |
| Berwind Corporation | \$16,021 | \$0 | \$14,375 | \$11,196 |
| Beaver Steel Services, Inc. | \$15,940 | \$0 | \$24,619 | \$14,652 |
| Lindy Paving, Inc. | \$15,786 | \$0 | \$0 | \$0 |
| Solenoid Solutions, Inc. | \$15,714 | \$0 | \$18,404 | \$18,404 |
| VaxForm, LLC | \$15,506 | \$0 | \$11,562 | \$11,562 |
| O'Neal Steel, Inc. | \$15,315 | \$0 | \$0 | \$0 |
| Sekisui Polymer Innovations, LLC | \$15,263 | \$0 | \$28,250 | \$9,223 |
| Triumph Controls, LLC | \$15,249 | \$0 | \$44,635 | \$409 |
| Max Levy Autograph, Inc. | \$15,190 | \$0 | \$10,600 | \$1,055 |
| Eastern Manufacturing, Inc. | \$15,162 | \$0 | \$6,549 | \$2,271 |
| Parker Hannifin Corporation | \$15,129 | \$0 | \$0 | \$0 |
| Thermal Solutions Products, LLC | \$15,001 | \$0 | \$0 | \$0 |

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|--|----------|-----|-----------|-----------|
| Mosebach Manufacturing Company | \$14,777 | \$0 | \$0 | \$0 |
| Robinson Fans Holdings, Inc. | \$14,657 | \$0 | \$0 | \$0 |
| Bettwy Electric, Inc. | \$14,600 | \$0 | \$23,790 | \$23,750 |
| Piezo Energy, Inc. | \$14,489 | \$0 | \$13,750 | \$13,750 |
| Solar Innovations, Inc. | \$14,410 | \$0 | \$12,245 | \$12,245 |
| Custom Laminating Corporation | \$14,285 | \$0 | \$21,602 | \$21,602 |
| Predictive Solutions Corporation | \$14,216 | \$0 | \$9,956 | \$6,719 |
| Chromalox, Inc. | \$14,184 | \$0 | \$18,068 | \$0 |
| BioMagnetic Solutions, LLC | \$14,150 | \$0 | \$8,694 | \$8,694 |
| Flight Systems Automotive Group, LLC | \$14,131 | \$0 | \$0 | \$0 |
| Ensinger, Inc. | \$13,974 | \$0 | \$0 | \$0 |
| Professional Staffing Solutions, LLC | \$13,923 | \$0 | \$6,722 | \$6,722 |
| Bio Med Sciences, Inc. | \$13,921 | \$0 | \$0 | \$0 |
| Schlouch Incorporated | \$13,857 | \$0 | \$2,380 | \$2,380 |
| Superior Plastic Products, Inc. | \$13,851 | \$0 | \$25,143 | \$25,138 |
| Dossier Systems, Inc. (f/k/a Charles J. Arsenault, Inc.) | \$13,787 | \$0 | \$53,310 | \$18,503 |
| ANRO, Inc. | \$13,721 | \$0 | \$0 | \$0 |
| Effort Enterprises, Inc. | \$13,682 | \$0 | \$31,483 | \$9,080 |
| C.U.E., Inc. | \$13,670 | \$0 | \$22,005 | \$22,005 |
| Momentum Dynamics Corporation, Inc. | \$13,630 | \$0 | \$181,757 | \$181,757 |
| Decora Industries, Inc. (t/a Data Display Systems) | \$13,593 | \$0 | \$0 | \$0 |
| Jako Enterprises, Ltd. | \$13,494 | \$0 | \$0 | \$0 |
| Frontline Fabrics, Inc. | \$13,471 | \$0 | \$0 | \$0 |
| Noble Medical, LLC | \$13,402 | \$0 | \$0 | \$0 |
| Koppers, Inc. | \$13,382 | \$0 | \$23,053 | \$0 |
| Cover Crop Solutions, LLC | \$13,378 | \$0 | \$7,277 | \$7,277 |
| Lebanon Tool Company, Inc. | \$13,008 | \$0 | \$7,328 | \$2,550 |
| Epic Web Studios | \$12,986 | \$0 | \$22,952 | \$22,952 |
| Aclaris Therapeutics, Inc. | \$12,925 | \$0 | \$20,248 | \$2,177 |
| Soft Genetics, LLC | \$12,913 | \$0 | \$42,118 | \$42,118 |
| Tipton Medical & Diagnostic Center | \$12,868 | \$0 | \$68,543 | \$68,543 |
| Euthanex Corp. | \$12,854 | \$0 | \$0 | \$0 |
| Clair Bros. Audio Enterprises, Inc. | \$12,772 | \$0 | \$0 | \$0 |
| Multi-Plastics Extrusion, Inc. | \$12,683 | \$0 | \$0 | \$0 |
| Custom Processing Services, Inc. | \$12,570 | \$0 | \$32,081 | \$32,081 |
| Union Carbide Corporation | \$12,516 | \$0 | \$151,247 | \$138,131 |
| Right Start Factory, LLC | \$12,441 | \$0 | \$0 | \$0 |
| Gray Skies Blue, LLC | \$12,428 | \$0 | \$0 | \$0 |
| Nielsen-Kellerman, Co. | \$12,408 | \$0 | \$12,834 | \$364 |
| Fairmount Foundry, Inc. | \$12,253 | \$0 | \$8,813 | \$8,813 |
| Akzo Nobel Coatings, Inc. | \$12,186 | \$0 | \$0 | \$0 |
| SKC, Inc. | \$12,180 | \$0 | \$12,835 | \$12,835 |
| Community Elf, LLC (f/k/a Rent Jungle, LLC) | \$12,168 | \$0 | \$61,535 | \$61,535 |
| RD Coatings, Inc. | \$12,164 | \$0 | \$1,610 | \$1,610 |
| Luxtech, LLC | \$11,826 | \$0 | \$9,386 | \$9,386 |
| Warners Innovations Solutions | \$11,794 | \$0 | \$35,750 | \$35,750 |
| Progeny Systems Corporation | \$11,794 | \$0 | \$0 | \$0 |
| ExecutivePulse, Inc. | \$11,762 | \$0 | \$30,124 | \$30,124 |
| ChemImage Corporation | \$11,715 | \$0 | \$8,642 | \$0 |
| Marine Acquistion US Incorporated | \$11,695 | \$0 | \$0 | \$0 |
| Center Hardwood, LLC | \$11,634 | \$0 | \$11,666 | \$11,666 |
| Climatech Holding Company, Inc. | \$11,573 | \$0 | \$6,144 | \$6,144 |
| Brentwood Industries, Inc. | \$11,536 | \$0 | \$0 | \$0 |
| Nascent Devices, LLC | \$11,370 | \$0 | \$0 | \$0 |

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|---|----------|-----|-----------|-----------|
| Custom Processing Services, LLC | \$11,322 | \$0 | \$7,730 | \$0 |
| Medical Products Laboratories, Inc. | \$11,224 | \$0 | \$14,327 | \$698 |
| Himes Diversified, LLC | \$11,224 | \$0 | \$0 | \$0 |
| Shorts Tool and Manufacturing, Inc. | \$11,215 | \$0 | \$29,883 | \$19,752 |
| Viddler, Inc. | \$11,194 | \$0 | \$0 | \$0 |
| Integrated Fabrication & Machine, Inc. | \$11,134 | \$0 | \$1,166 | \$20 |
| E.K. Bare & Sons, Inc. | \$11,133 | \$0 | \$0 | \$0 |
| Raven Industries, Inc. | \$11,054 | \$0 | \$34,152 | \$34,152 |
| NRG Controls, Inc. | \$11,052 | \$0 | \$39,271 | \$39,271 |
| Stock, Garber and Associates, Inc. | \$11,045 | \$0 | \$57,371 | \$55,858 |
| Boyesen, Inc. | \$11,010 | \$0 | \$0 | \$0 |
| Flowmetric Diagnostics, Inc. | \$10,980 | \$0 | \$0 | \$0 |
| Powerlytics, Inc. | \$10,937 | \$0 | \$14,389 | \$14,389 |
| Henry Molded Products, Inc. | \$10,911 | \$0 | \$5,298 | \$5,298 |
| Iagnosis, Inc. | \$10,850 | \$0 | \$121,295 | \$121,295 |
| Document Solutions Group, Inc. | \$10,831 | \$0 | \$97,087 | \$43,774 |
| Kermitool Acquisition Company, Inc. | \$10,762 | \$0 | \$4,375 | \$4,375 |
| Corcept Therapeutics, Inc. | \$10,708 | \$0 | \$0 | \$0 |
| Polytek Development Corp. | \$10,628 | \$0 | \$8,019 | \$8,019 |
| Learning Sciences International, LLC | \$10,603 | \$0 | \$9,852 | \$8,975 |
| Savage Visual Effects, LLC | \$10,460 | \$0 | \$5,719 | \$5,719 |
| PDC Machines, Inc. | \$10,394 | \$0 | \$22,087 | \$0 |
| Forms and Surfaces, Inc. | \$10,342 | \$0 | \$18,042 | \$15,819 |
| Omega Flex, Inc. | \$10,141 | \$0 | \$4,812 | \$4,812 |
| Appcove, Inc. | \$10,133 | \$0 | \$9,651 | \$9,651 |
| Hydro-Spray Wash Systems, Inc. | \$10,123 | \$0 | \$12,183 | \$8,439 |
| Combined Conditional Access Development | \$10,101 | \$0 | \$128,606 | \$115 |
| Brookville Equipment Corporation | \$9,999 | \$0 | \$66,455 | \$0 |
| Godshalls Quality Meats, Inc. | \$9,998 | \$0 | \$13,157 | \$13,157 |
| Saucon Technologies | \$9,952 | \$0 | \$64,157 | \$6,570 |
| Novotech Construction, Inc. | \$9,947 | \$0 | \$11,552 | \$11,552 |
| Orbweaver Sourcing, LLC | \$9,942 | \$0 | \$0 | \$0 |
| Penn Color, Inc. | \$9,927 | \$0 | \$1,549 | \$1,549 |
| Biocoat, Inc. | \$9,715 | \$0 | \$18,183 | \$18,183 |
| Bettwy Systems, Inc. | \$9,681 | \$0 | \$37,944 | \$37,944 |
| Milnes Engineering, Inc. | \$9,667 | \$0 | \$60,649 | \$60,649 |
| The Drucker Company, Inc. | \$9,568 | \$0 | \$27,337 | \$11,212 |
| Social Media Information, LLC | \$9,534 | \$0 | \$8,644 | \$8,644 |
| French Creek Production, Inc. | \$9,482 | \$0 | \$0 | \$0 |
| R-V Industries, Inc. | \$9,396 | \$0 | \$4,248 | \$4,248 |
| Pennlake Corporation (d/b/a R Conrader Company) | \$9,355 | \$0 | \$0 | \$0 |
| Aethon, Inc. | \$9,324 | \$0 | \$0 | \$0 |
| Scientific Systems, Inc. | \$9,322 | \$0 | \$37,390 | \$32,738 |
| Bitronics, LLC | \$9,288 | \$0 | \$54,989 | \$54,989 |
| Rosenberger of North America, LLC | \$9,256 | \$0 | \$22,246 | \$13,757 |
| Innovative Sintered Metals, Inc. | \$9,170 | \$0 | \$64,920 | \$64,920 |
| Stein Seal Company | \$9,145 | \$0 | \$15,166 | \$356 |
| Sussex Wire, Inc. | \$9,123 | \$0 | \$10,165 | \$10,164 |
| Bracalentes Manufacturing Co., Inc. | \$9,044 | \$0 | \$0 | \$0 |
| Amity Industries, Inc. | \$9,023 | \$0 | \$951 | \$20 |
| Aerzen USA Corporation | \$8,963 | \$0 | \$0 | \$0 |
| Talencea Corporation | \$8,916 | \$0 | \$14,441 | \$14,441 |
| Fluitron, Inc. | \$8,779 | \$0 | \$43,483 | \$43,483 |
| Problem Solutions, LLC | \$8,776 | \$0 | \$15,919 | \$15,919 |
| Armstrong Utilities, Inc. | \$8,685 | \$0 | \$0 | \$0 |

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|---|---------|-----|-----------|----------|
| TIW Technology, Inc. | \$8,632 | \$0 | \$6,386 | \$1,177 |
| Ernst Biomass, LLC | \$8,621 | \$0 | \$19,116 | \$0 |
| Mainstream Swimsuits, Inc. | \$8,614 | \$0 | \$8,145 | \$0 |
| Deeplocal, Inc. | \$8,556 | \$0 | \$0 | \$0 |
| Odessa Technologies, inc. | \$8,531 | \$0 | \$0 | \$0 |
| GE Betz, Inc. | \$8,497 | \$0 | \$307,799 | \$10,281 |
| Institute for Musculoskeletal Science and Education, LLC | \$8,474 | \$0 | \$21,502 | \$0 |
| DBI Holdings, LLC | \$8,472 | \$0 | \$0 | \$0 |
| Genossis, LLC | \$8,454 | \$0 | \$8,281 | \$0 |
| Acopian Technical Company | \$8,445 | \$0 | \$1,679 | \$1,679 |
| Penn Wood Products, Inc. | \$8,433 | \$0 | \$0 | \$0 |
| Project Execution Network, LLC (f/k/a Controls Fusion Group, LP) | \$8,399 | \$0 | \$6,785 | \$0 |
| Lancaster Oil Company | \$8,233 | \$0 | \$6,648 | \$6,648 |
| Castle Mold and Tool, Inc. | \$8,198 | \$0 | \$41,555 | \$28,053 |
| Qmac - Quality Machining, Inc. | \$8,180 | \$0 | \$47,979 | \$47,979 |
| C&R Directional Boring, LLC | \$8,126 | \$0 | \$0 | \$0 |
| Dyco, Inc. | \$8,077 | \$0 | \$9,555 | \$9,555 |
| Bosch Security Systems, Inc. | \$8,071 | \$0 | \$0 | \$0 |
| Jay Fulkroad and Sons, Inc. | \$7,911 | \$0 | \$12,064 | \$12,064 |
| NetBeez, Inc. | \$7,891 | \$0 | \$0 | \$0 |
| Better Bowls, LLC | \$7,870 | \$0 | \$0 | \$0 |
| Train Control Systems, Inc. | \$7,831 | \$0 | \$25,464 | \$25,464 |
| Structural Services, Inc. | \$7,781 | \$0 | \$0 | \$0 |
| M-Mech Defense, Inc. | \$7,744 | \$0 | \$89,242 | \$89,242 |
| Health Sciences Construction Group, Ltd. (d/b/a HSC Builders & Construction Managers) | \$7,726 | \$0 | \$11,636 | \$11,636 |
| DmgCtrl | \$7,652 | \$0 | \$0 | \$0 |
| Basic Carbide Corporation | \$7,604 | \$0 | \$26,738 | \$26,738 |
| Sinterfire, Inc. | \$7,596 | \$0 | \$0 | \$0 |
| Infrascan, Inc. | \$7,574 | \$0 | \$15,077 | \$15,077 |
| Precision Medical Products, Inc. | \$7,567 | \$0 | \$18,545 | \$18,545 |
| Creative Bending Systems, Inc. | \$7,516 | \$0 | \$4,108 | \$4,108 |
| Wolf Technologies, LLC | \$7,515 | \$0 | \$4,847 | \$111 |
| EUS Labs, Inc. | \$7,453 | \$0 | \$0 | \$0 |
| Baldwin Publishing, Inc. | \$7,319 | \$0 | \$0 | \$0 |
| Dental Design Labs, Inc. | \$7,266 | \$0 | \$6,536 | \$6,536 |
| BoardBookit, Inc. | \$7,255 | \$0 | \$0 | \$0 |
| Whitford Corporation | \$7,183 | \$0 | \$13,393 | \$4,923 |
| Indeck Keystone Energy, LLC | \$7,102 | \$0 | \$0 | \$0 |
| Harold Beck & Sons, Inc. | \$7,058 | \$0 | \$17,349 | \$3,151 |
| RKI Apps, Inc. | \$7,056 | \$0 | \$0 | \$0 |
| Plastikos, Inc. | \$6,955 | \$0 | \$0 | \$0 |
| American Manufacturing & Engineering Corporation | \$6,832 | \$0 | \$0 | \$0 |
| Flexible Compensators, Inc. (t/a Flex Com) | \$6,800 | \$0 | \$8,814 | \$8,814 |
| Reaxis, Inc. | \$6,758 | \$0 | \$12,561 | \$9,065 |
| Embedded Energy Technology, LLC | \$6,665 | \$0 | \$8,310 | \$8,310 |
| InspiraFS, Inc. | \$6,618 | \$0 | \$2,381 | \$0 |
| Gonnella Baking Company | \$6,616 | \$0 | \$14,380 | \$14,380 |
| J.R. Peters, Inc. | \$6,583 | \$0 | \$0 | \$0 |
| Innovative Office Products, LLC | \$6,538 | \$0 | \$0 | \$0 |
| M.H. Eby, Inc. | \$6,538 | \$0 | \$2,042 | \$1,923 |
| Laminar Flow, Inc. | \$6,486 | \$0 | \$25,719 | \$9,777 |

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|---|---------|-----|-----------|-----------|
| Orthos Enterprises, Inc. | \$6,470 | \$0 | \$0 | \$0 |
| Jarus Technologies Incorporated | \$6,434 | \$0 | \$24,561 | \$24,561 |
| Regal Cast, Inc. | \$6,397 | \$0 | \$1,898 | \$160 |
| TLC North, LLC | \$6,326 | \$0 | \$7,860 | \$7,860 |
| Arrow International, Inc. | \$6,325 | \$0 | \$0 | \$0 |
| Rushabh Instruments, LLC | \$6,228 | \$0 | \$6,616 | \$6,616 |
| The Lane Construction Corporation | \$6,209 | \$0 | \$0 | \$0 |
| Z-Band, Inc. | \$6,168 | \$0 | \$29,476 | \$29,476 |
| Lighthouse Electric Company, Inc. | \$6,163 | \$0 | \$0 | \$0 |
| Bulk Chemicals, Inc. | \$6,137 | \$0 | \$16,859 | \$16,859 |
| Universal Refractories, Inc. | \$6,123 | \$0 | \$0 | \$0 |
| Thompsons Candle Co. | \$6,093 | \$0 | \$44,043 | \$18,451 |
| Impact Applications, Inc. | \$6,084 | \$0 | \$56,685 | \$52,922 |
| Lokadot, LLC | \$6,056 | \$0 | \$0 | \$0 |
| PBM, Inc. | \$6,031 | \$0 | \$656 | \$656 |
| NovaProbe Incorporated | \$6,020 | \$0 | \$0 | \$0 |
| Lucas Systems, Inc. | \$6,020 | \$0 | \$0 | \$0 |
| Frontier Research Ltd. | \$5,999 | \$0 | \$0 | \$0 |
| Penn State Construction J&D, LLC | \$5,982 | \$0 | \$7,881 | \$7,881 |
| New Metro Design, LLC | \$5,975 | \$0 | \$0 | \$0 |
| Trapeze Software Group, Inc. | \$5,921 | \$0 | \$0 | \$0 |
| Accel Diagnostics, LLC | \$5,911 | \$0 | \$0 | \$0 |
| American Textile Company, Inc. | \$5,810 | \$0 | \$1,759 | \$1,750 |
| Mouse Trap Design, LLC | \$5,810 | \$0 | \$0 | \$0 |
| School Gate Guardian, Inc. | \$5,800 | \$0 | \$4,843 | \$4,843 |
| Neville Chemical Company | \$5,766 | \$0 | \$62 | \$62 |
| Tiversa Holding Corp. (f/k/a Tiversa, Inc.) | \$5,628 | \$0 | \$72,591 | \$72,591 |
| NCA Technologies, Inc. | \$5,613 | \$0 | \$0 | \$0 |
| W.W. Patterson Company | \$5,557 | \$0 | \$909 | \$909 |
| Hadco Metal Trading Co., LLC | \$5,536 | \$0 | \$0 | \$0 |
| Z Band Video, Inc. | \$5,490 | \$0 | \$0 | \$0 |
| Graham Packaging Holdings Company, LLP | \$5,355 | \$0 | \$0 | \$0 |
| Havis, Inc. | \$5,336 | \$0 | \$11,962 | \$11,962 |
| WebKite, Inc. | \$5,277 | \$0 | \$0 | \$0 |
| Levolta Pharmaceuticals, Inc. | \$5,257 | \$0 | \$0 | \$0 |
| Pilot Air Freight Corp. and Subsidiary | \$5,167 | \$0 | \$34,222 | \$34,222 |
| Sweet Note Bakery, Inc. | \$5,146 | \$0 | \$0 | \$0 |
| LCR Embedded Systems, Inc. | \$5,142 | \$0 | \$0 | \$0 |
| PSG Controls, Inc. | \$5,123 | \$0 | \$3,191 | \$3,191 |
| Rebco, Inc. | \$5,058 | \$0 | \$20,734 | \$20,734 |
| S&S Processing, Inc. | \$5,038 | \$0 | \$0 | \$0 |
| East Coast Erosion Blankets, LLC (d/b/a East Coast Erosion Control) | \$4,997 | \$0 | \$4,715 | \$4,705 |
| BirdBrain Technologies, LLC | \$4,977 | \$0 | \$7,248 | \$7,248 |
| Spring City Electrical Mfg. Co. | \$4,969 | \$0 | \$10,462 | \$10,461 |
| Hosler Corp. | \$4,958 | \$0 | \$11,406 | \$11,406 |
| Ernst Conservation Seeds, Inc. | \$4,894 | \$0 | \$12,398 | \$6,525 |
| Artsana USA, Inc. | \$4,882 | \$0 | \$0 | \$0 |
| The Dow Chemical Company | \$4,879 | \$0 | \$154,235 | \$123,832 |
| Aberdeen Road Company | \$4,875 | \$0 | \$5,822 | \$5,822 |
| ActivAided Orthotics, LLC | \$4,874 | \$0 | \$2,371 | \$2,371 |
| VascularStrategies, LLC | \$4,858 | \$0 | \$13,626 | \$13,626 |
| Skaffl, LLC | \$4,821 | \$0 | \$0 | \$0 |
| Ashland Foundry Machine Works, Inc. | \$4,805 | \$0 | \$0 | \$0 |
| Pelletron Corporation | \$4,735 | \$0 | \$29,852 | \$29,852 |
| Frog Switch & Manufacturing Company, Inc. | \$4,669 | \$0 | \$0 | \$0 |

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| General Transervice, Inc. | \$4,608 | \$0 | \$9,072 | \$2,861 |
| PRL Industries, Inc. | \$4,589 | \$0 | \$1,051 | \$1,051 |
| Datagrove, Inc. | \$4,562 | \$0 | \$29,050 | \$10,403 |
| Resco Products, Inc. | \$4,427 | \$0 | \$4,568 | \$4,568 |
| Finish Thompson, Inc. | \$4,420 | \$0 | \$0 | \$0 |
| Interstate Holding, Inc. | \$4,346 | \$0 | \$0 | \$0 |
| CorkGuru.com, LLC | \$4,333 | \$0 | \$0 | \$0 |
| Mason Jars Company | \$4,331 | \$0 | \$0 | \$0 |
| Boose Aluminum Foundry Co., Inc. | \$4,298 | \$0 | \$2,334 | \$50 |
| Laminators Incorporated | \$4,284 | \$0 | \$0 | \$0 |
| Frewmill Die Crafts, Inc. | \$4,245 | \$0 | \$2,040 | \$2,040 |
| Delmont Laboratories, Inc. | \$4,220 | \$0 | \$8,613 | \$4 |
| Blair Companies | \$4,202 | \$0 | \$1,418 | \$794 |
| Circadiance, LLC | \$4,193 | \$0 | \$14,352 | \$0 |
| Boulden Energy Systems, Inc. | \$4,152 | \$0 | \$64,274 | \$64,274 |
| Crystalplex Corporation | \$4,129 | \$0 | \$4,942 | \$4,942 |
| Kenco Corporation | \$4,062 | \$0 | \$3,361 | \$0 |
| Kovatch Mobile Equipment Corp. | \$4,012 | \$0 | \$30,203 | \$30,203 |
| Logimax, Inc. | \$3,993 | \$0 | \$0 | \$0 |
| Tyrone Milling | \$3,984 | \$0 | \$9,014 | \$8,957 |
| X-F Enterprises, Inc. | \$3,970 | \$0 | \$6,364 | \$293 |
| Edge Robotics, Inc. | \$3,967 | \$0 | \$0 | \$0 |
| Contec Systems Industrial Corp. | \$3,908 | \$0 | \$0 | \$0 |
| Bliley Technologies Incorporated (Bliley Electric Corporation) | \$3,888 | \$0 | \$13,733 | \$0 |
| YCC Holdings, Inc. | \$3,802 | \$0 | \$0 | \$0 |
| Rubitection, Inc. | \$3,795 | \$0 | \$10,911 | \$10,911 |
| Reading Precast, Inc. | \$3,775 | \$0 | \$20,117 | \$13,581 |
| Diamond MT, Inc. | \$3,772 | \$0 | \$0 | \$0 |
| NE Foods, Inc. | \$3,761 | \$0 | \$0 | \$0 |
| Jonas Software USA, LLC | \$3,747 | \$0 | \$0 | \$0 |
| CDC Integrated Technologies, LLC | \$3,653 | \$0 | \$0 | \$0 |
| Hanna Transfer Company North | \$3,629 | \$0 | \$0 | \$0 |
| Terry Miles Bald Eagle Precision | \$3,616 | \$0 | \$0 | \$0 |
| Chelsea Building Products, Inc. | \$3,584 | \$0 | \$15,521 | \$15,521 |
| Cavanaugh Marketing Network, Inc. (d/b/a Cavanaugh) | \$3,527 | \$0 | \$29,961 | \$2,049 |
| AP Thermoforming, LLC | \$3,524 | \$0 | \$0 | \$0 |
| Teletracking Technologies, Inc. | \$3,449 | \$0 | \$22,632 | \$0 |
| Hermance Strouse, Inc. | \$3,434 | \$0 | \$23,885 | \$23,885 |
| Backflips, Inc. | \$3,421 | \$0 | \$1,581 | \$1,581 |
| Receivers Unlimited, LLC | \$3,350 | \$0 | \$0 | \$0 |
| QuadraMed Affinity Corporation | \$3,328 | \$0 | \$0 | \$0 |
| Delserro Engineering Solutions, Inc. | \$3,317 | \$0 | \$4,691 | \$4,691 |
| Dynamic Manufacturing, LLC | \$3,309 | \$0 | \$0 | \$0 |
| Kieran Timberlake Associates, LLP | \$3,279 | \$0 | \$27,080 | \$14,489 |
| Proxicast, LLC | \$3,265 | \$0 | \$15,304 | \$15,304 |
| DecisionVis, LLC | \$3,217 | \$0 | \$0 | \$0 |
| Inno-Pak, LLC | \$3,207 | \$0 | \$0 | \$0 |
| Knoll, Inc. | \$3,198 | \$0 | \$21,518 | \$21,518 |
| Blue Ridge Pressure Castings, Inc. | \$3,197 | \$0 | \$5,720 | \$0 |
| Optimus Technologies, LLC | \$3,146 | \$0 | \$0 | \$0 |
| Magnatech International, Inc. | \$3,133 | \$0 | \$8,091 | \$8,091 |
| Map Decisions, LLC | \$3,100 | \$0 | \$930 | \$919 |
| Lockhouse Network, Inc. | \$3,095 | \$0 | \$0 | \$0 |
| Seco/Warwick Corporation | \$3,082 | \$0 | \$8,468 | \$0 |

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|---|---------|-----|----------|----------|
| Matric Limited | \$3,076 | \$0 | \$17,523 | \$4,628 |
| Turning Edge Solutions, LLC | \$3,073 | \$0 | \$15,525 | \$15,525 |
| Port Erie Plastics, Inc. | \$3,041 | \$0 | \$12,137 | \$12,137 |
| LTL Wholesale, Inc. | \$3,014 | \$0 | \$0 | \$0 |
| EAM-Mosca Corp. | \$3,012 | \$0 | \$2,615 | \$2,615 |
| Big B Manufacturing, Inc. | \$3,002 | \$0 | \$21,992 | \$0 |
| Qrono, Inc. | \$2,976 | \$0 | \$0 | \$0 |
| Preferred Security Components, Inc. | \$2,939 | \$0 | \$5,907 | \$5,907 |
| JCR Sales Mfg., LLC | \$2,889 | \$0 | \$0 | \$0 |
| Sealstrip Corporation | \$2,885 | \$0 | \$32,357 | \$32,357 |
| Z-Axis Connector Company | \$2,827 | \$0 | \$16,111 | \$6,088 |
| Paul B. Zimmerman, Inc. | \$2,794 | \$0 | \$0 | \$0 |
| Gardners Candies, Inc. | \$2,724 | \$0 | \$0 | \$0 |
| MGS, Inc. | \$2,713 | \$0 | \$4,404 | \$4,404 |
| Prescient Weather, Ltd. | \$2,700 | \$0 | \$5,402 | \$5,402 |
| Instamour, Inc. | \$2,676 | \$0 | \$0 | \$0 |
| Zausner Foods Corp and Subsidiaries, Inc. | \$2,659 | \$0 | \$13,855 | \$0 |
| McAdoo & Allen, Inc. | \$2,656 | \$0 | \$2,752 | \$1,476 |
| DecisionPro, Inc. | \$2,653 | \$0 | \$298 | \$298 |
| Diamond Drinks, Inc. | \$2,530 | \$0 | \$0 | \$0 |
| Montgomery Bros. Plumbing & Heating, LLC | \$2,432 | \$0 | \$6,921 | \$6,921 |
| Caledonian Dye Works, Inc. | \$2,416 | \$0 | \$2,722 | \$0 |
| Melior Pharmaceuticals I, Inc. | \$2,302 | \$0 | \$0 | \$0 |
| Huntingdon Fiberglass Products, LLC | \$2,230 | \$0 | \$0 | \$0 |
| ParaCoat Technologies, Inc. | \$2,218 | \$0 | \$3,037 | \$0 |
| JMG Systems, LLC | \$2,191 | \$0 | \$0 | \$0 |
| BSC Technologies, Inc. | \$2,142 | \$0 | \$0 | \$0 |
| Crystal, Inc. - PMC | \$2,128 | \$0 | \$7,441 | \$7,441 |
| TekResults, Ltd. | \$2,120 | \$0 | \$1,984 | \$1,689 |
| Birdbrain Labs, LLC | \$2,080 | \$0 | \$0 | \$0 |
| Orion Security LSP, LLC | \$2,071 | \$0 | \$0 | \$0 |
| Havaco Technologies Incorporated | \$2,040 | \$0 | \$38,302 | \$0 |
| JUDCO Management, Inc. | \$2,026 | \$0 | \$0 | \$0 |
| Torchlight Technology Group, LLC | \$2,010 | \$0 | \$0 | \$0 |
| Chemcut Holdings, LLC | \$1,973 | \$0 | \$43,773 | \$43,773 |
| FITBIT, Inc. | \$1,943 | \$0 | \$5,019 | \$5,019 |
| Viking Tool & Gage, Inc. | \$1,918 | \$0 | \$9,849 | \$4,207 |
| Parker White Metal Company | \$1,917 | \$0 | \$0 | \$0 |
| AkzoNobel Services, Inc. | \$1,846 | \$0 | \$0 | \$0 |
| Innovesca, LLC | \$1,842 | \$0 | \$0 | \$0 |
| Grantek Systems Integration, Inc. | \$1,824 | \$0 | \$0 | \$0 |
| Rearick Tooling, Inc. | \$1,778 | \$0 | \$10,673 | \$1,411 |
| Press Tech Enterprises, Inc. | \$1,773 | \$0 | \$1,935 | \$0 |
| Go Green IT, Inc. | \$1,770 | \$0 | \$0 | \$0 |
| Weaver Industries, Inc. | \$1,742 | \$0 | \$0 | \$0 |
| Burrell Scientific, LLC | \$1,729 | \$0 | \$0 | \$0 |
| Triumph Interiors, LLC | \$1,721 | \$0 | \$8,330 | \$1,745 |
| Warfel Construction Company | \$1,704 | \$0 | \$79,224 | \$79,224 |
| Easthill Specialty, Inc. | \$1,693 | \$0 | \$7,803 | \$7,803 |
| CESO, Inc. | \$1,673 | \$0 | \$0 | \$0 |
| Supreme Mid-Atlantic Corp. | \$1,655 | \$0 | \$1,245 | \$822 |
| Environmental Monitoring Technical | \$1,644 | \$0 | \$0 | \$0 |
| Red Lion Controls, Inc. | \$1,644 | \$0 | \$0 | \$0 |
| Panelshop.com, LLC | \$1,638 | \$0 | \$6,001 | \$6,001 |
| Greenleaf Corporation | \$1,634 | \$0 | \$11,535 | \$1,335 |
| Worldwide Refractories, Inc. | \$1,606 | \$0 | \$5,127 | \$104 |

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|--|---------|-----|----------|----------|
| Rapid Reaction, Inc. | \$1,533 | \$0 | \$2,003 | \$2,003 |
| Pure Fishing, Inc. | \$1,530 | \$0 | \$5,872 | \$5,872 |
| Curotec, LLC | \$1,525 | \$0 | \$0 | \$0 |
| EZ Facility, Inc. | \$1,486 | \$0 | \$0 | \$0 |
| Jeannette Shade and Novelty Company (d/b/a JSG Oceana) | \$1,448 | \$0 | \$17,253 | \$6,849 |
| Glen Carbide, Inc. | \$1,418 | \$0 | \$7,223 | \$7,223 |
| Innov Form Therapeutics, LLC | \$1,411 | \$0 | \$0 | \$0 |
| CS Trucking, LLC | \$1,408 | \$0 | \$0 | \$0 |
| Sylvin Technologies, Inc. | \$1,387 | \$0 | \$1,305 | \$1,305 |
| In The Stix Broadband, LLC | \$1,347 | \$0 | \$0 | \$0 |
| Runabout Media Group, LLC | \$1,286 | \$0 | \$5,276 | \$0 |
| Salar, Inc. | \$1,248 | \$0 | \$0 | \$0 |
| Ludo Mechanica, LLC | \$1,243 | \$0 | \$0 | \$0 |
| Robert Bosch, LLC | \$1,208 | \$0 | \$31,280 | \$21,930 |
| Salsgiver, Inc. | \$1,203 | \$0 | \$0 | \$0 |
| Penn-Century, Inc. | \$1,188 | \$0 | \$3,843 | \$97 |
| Peacock Laboratories | \$1,157 | \$0 | \$3,565 | \$3,565 |
| Mashup Technologies, LLC | \$1,152 | \$0 | \$0 | \$0 |
| Instrumentation Industries, Inc. | \$1,074 | \$0 | \$9,516 | \$300 |
| Valley Instrument Co., Inc. | \$1,065 | \$0 | \$3,068 | \$0 |
| The Beistle Company | \$1,046 | \$0 | \$0 | \$0 |
| SunStream Earth, LLC | \$1,037 | \$0 | \$0 | \$0 |
| Columbia Northwest, Inc. | \$990 | \$0 | \$0 | \$0 |
| Briar Valley Vineyards and Winery, Inc. | \$955 | \$0 | \$3,672 | \$3,672 |
| David Michael & Co., Inc. | \$909 | \$0 | \$8,671 | \$4,950 |
| Materion Brush, Inc. (f/k/a Brush Wellman, Inc.) | \$869 | \$0 | \$2,789 | \$643 |
| Chick Workholding Solutions, Inc. | \$860 | \$0 | \$52,025 | \$12,295 |
| FusionMarx, Inc. (f/k/a Intelmarx, LLC) | \$841 | \$0 | \$17,880 | \$17,880 |
| State of the Art, Inc. | \$776 | \$0 | \$518 | \$518 |
| PTR Group, LP | \$705 | \$0 | \$23,487 | \$23,487 |
| Graymont Dolime (PA), Inc. | \$678 | \$0 | \$0 | \$0 |
| L.F. Lambert Spawn Company, Inc. | \$653 | \$0 | \$25,874 | \$14,592 |
| Lobar Site Development Corporation | \$623 | \$0 | \$0 | \$0 |
| Interstate Building Materials, Inc. | \$623 | \$0 | \$1,800 | \$1,571 |
| Levan Machine Co., Inc. | \$611 | \$0 | \$4,365 | \$4,365 |
| Samtec, Inc. | \$607 | \$0 | \$0 | \$0 |
| Matreya, LLC | \$596 | \$0 | \$1,498 | \$1,498 |
| Shaw Industries, Inc. | \$582 | \$0 | \$20,879 | \$223 |
| Kiewit Engineering & Design, Co. | \$547 | \$0 | \$0 | \$0 |
| Lozier Corporation | \$528 | \$0 | \$359 | \$359 |
| Leech Industries, Inc. | \$449 | \$0 | \$6,353 | \$6,353 |
| Institute of Consultative Bioethics | \$430 | \$0 | \$14,989 | \$14,989 |
| Tri-City Marble, LLC | \$392 | \$0 | \$2,351 | \$2,351 |
| Wesanda Design, Inc. | \$383 | \$0 | \$0 | \$0 |
| Bosch Rexroth Corporation | \$337 | \$0 | \$0 | \$0 |
| Clair Global Corporation (d/b/a Showco) | \$310 | \$0 | \$0 | \$0 |
| Keystone Abrasives Co. | \$292 | \$0 | \$0 | \$0 |
| S&S X-Ray Products, Inc. | \$249 | \$0 | \$2,168 | \$200 |
| PRL, Inc. | \$209 | \$0 | \$2,650 | \$2,650 |
| Thomas Erie, Inc. | \$202 | \$0 | \$1,491 | \$1,491 |
| Campus Door Holdings, Inc. | \$136 | \$0 | \$8,121 | \$8,121 |
| Advanced Controls & Distribution, LLC | \$118 | \$0 | \$19,727 | \$19,727 |
| R.G. Steel Corp. | \$116 | \$0 | \$12,808 | \$12,808 |
| NVIDIA Corporation | \$81 | \$0 | \$0 | \$0 |

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|--|-----|-----|-----------|-----------|
| ABB, Inc. | \$0 | \$0 | \$250,541 | \$250,541 |
| Abbott Furnace Company, Inc. | \$0 | \$0 | \$21,013 | \$21,013 |
| AcademyOne, Inc. | \$0 | \$0 | \$9,611 | \$9,611 |
| Actco Tool & Manufacturing Company, Inc. | \$0 | \$0 | \$11,562 | \$11,562 |
| Ad Base Group, Inc. | \$0 | \$0 | \$101,160 | \$88,899 |
| Adaptive Resources, Inc. | \$0 | \$0 | \$1,784 | \$1,784 |
| Adelphi Kitchens, Inc. | \$0 | \$0 | \$6,203 | \$6,203 |
| Enterprise Cloudworks Corporation (f/k/a Adminovate, Inc.) | \$0 | \$0 | \$257,846 | \$257,846 |
| Advanced Fabrication Services, Inc. | \$0 | \$0 | \$18,963 | \$0 |
| Adventus Technology, Inc. | \$0 | \$0 | \$705 | \$0 |
| Aero Tech Designs, Inc. | \$0 | \$0 | \$11,652 | \$11,486 |
| Aerotech, Inc. | \$0 | \$0 | \$149,907 | \$18,794 |
| Agricultural Systems International | \$0 | \$0 | \$1,184 | \$161 |
| Agrofresh, Inc. | \$0 | \$0 | \$60,131 | \$60,131 |
| Alcoil USA, LLC | \$0 | \$0 | \$20,498 | \$10,137 |
| Alertek, LLC | \$0 | \$0 | \$10,713 | \$1,414 |
| All-American Hose, LLC | \$0 | \$0 | \$10,049 | \$271 |
| AllFill, Inc. | \$0 | \$0 | \$16,248 | \$16,247 |
| Allomet Corporation | \$0 | \$0 | \$34,234 | \$14,544 |
| Allpoint Systems, LLC | \$0 | \$0 | \$6,124 | \$3,664 |
| Alpine Thermal Technologies, Inc. | \$0 | \$0 | \$1,751 | \$0 |
| Altra Power Transmission, Inc. (f/k/a Altra Industrial Motion, Inc.) | \$0 | \$0 | \$7,740 | \$0 |
| American Hydro Corporation | \$0 | \$0 | \$2,723 | \$2,723 |
| American Turned Products, Inc. | \$0 | \$0 | \$17,129 | \$13,414 |
| AMETEK Technical & Industrial Products, Inc. | \$0 | \$0 | \$1,000 | \$1,000 |
| AMETEK, Inc. | \$0 | \$0 | \$359,966 | \$138,482 |
| Amgen USA, Inc. | \$0 | \$0 | \$3,556 | \$3,556 |
| Amgen, Inc. | \$0 | \$0 | \$608,537 | \$3,829 |
| Ansaldo STS USA International, Co. | \$0 | \$0 | \$273,546 | \$273,546 |
| API Technologies Corp. | \$0 | \$0 | \$21,484 | \$0 |
| Applied Clinical Intelligence, LLC | \$0 | \$0 | \$10,781 | \$0 |
| Applied Geology and Environmental Sciences, Inc. | \$0 | \$0 | \$155,153 | \$7,276 |
| Apprise Software, Inc. | \$0 | \$0 | \$35,904 | \$4,254 |
| Aprecia Pharmaceuticals Company, Inc. | \$0 | \$0 | \$141,091 | \$0 |
| Aptagen, LLC | \$0 | \$0 | \$18,731 | \$18,731 |
| Aquatech International Corporation | \$0 | \$0 | \$82,186 | \$82,186 |
| ARCCA Incorporated | \$0 | \$0 | \$11,488 | \$11,488 |
| ASC Group, Inc. | \$0 | \$0 | \$7,397 | \$0 |
| Ashland, Inc. | \$0 | \$0 | \$24,909 | \$0 |
| Assistive Technology Products, Inc. | \$0 | \$0 | \$41,055 | \$40,335 |
| AT&T Services, Inc. | \$0 | \$0 | \$105,751 | \$0 |
| Atlas Minerals & Chemicals, Inc. | \$0 | \$0 | \$3,609 | \$1,117 |
| Atrin Pharmaceuticals, LLC | \$0 | \$0 | \$9,145 | \$9,145 |
| Auto Soft, Inc. | \$0 | \$0 | \$245,225 | \$21,849 |
| Automated Financial System, Inc. | \$0 | \$0 | \$18,151 | \$18,151 |
| Avianna Molecular Technologies, LLC | \$0 | \$0 | \$20,034 | \$20,034 |
| Axalta Coating Systems, LLC | \$0 | \$0 | \$1,422 | \$0 |
| Beaumont Development, LLC | \$0 | \$0 | \$18,430 | \$18,430 |
| Bellefield Systems, LLC | \$0 | \$0 | \$13,237 | \$10,575 |
| Benjamin Obdyke, Inc. | \$0 | \$0 | \$2,173 | \$0 |
| Bentley Systems Incorporated | \$0 | \$0 | \$157,689 | \$0 |
| Berry Plastics SP, Inc. | \$0 | \$0 | \$63,918 | \$0 |
| BioConnect Systems, Inc. | \$0 | \$0 | \$57,408 | \$393 |

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|--|-----|-----|-------------|-------------|
| Bio-Pharm Incorporated | \$0 | \$0 | \$14,412 | \$14,412 |
| Bloom Engineering Company, Inc. | \$0 | \$0 | \$93,543 | \$45,281 |
| BlueSwarf, LLC | \$0 | \$0 | \$3,322 | \$0 |
| Boehringer Ingelheim Pharmaceuticals, Inc. | \$0 | \$0 | \$38,246 | \$13,670 |
| Boose at Cornwall, Inc. | \$0 | \$0 | \$18,443 | \$17,677 |
| Bostik, Inc. | \$0 | \$0 | \$8,334 | \$8,334 |
| Braskem America, Inc. | \$0 | \$0 | \$212,566 | \$4,230 |
| Bra-Vor Tool & Die Company, Inc. | \$0 | \$0 | \$50,727 | \$33,511 |
| Bridge Semiconductor Corporation | \$0 | \$0 | \$52,788 | \$52,788 |
| C&J Industries, Inc. | \$0 | \$0 | \$81,897 | \$0 |
| Callidus Biopharma, Inc. | \$0 | \$0 | \$98,490 | \$0 |
| Calumet Specialty Product Partners, LP | \$0 | \$0 | \$12,839 | \$12,839 |
| Canto Tool Corporation | \$0 | \$0 | \$200 | \$100 |
| Cardinal Systems, Inc. | \$0 | \$0 | \$5,399 | \$5,399 |
| Carlisle Construction Materials, Inc. | \$0 | \$0 | \$89,006 | \$89,006 |
| Carlisle Engineered Products, Inc. | \$0 | \$0 | \$19,297 | \$19,297 |
| Carnegie Robotics, LLC | \$0 | \$0 | \$128,767 | \$62,323 |
| CD Diagnostics, Inc. | \$0 | \$0 | \$131,027 | \$131,027 |
| CDG Environmental, LLC | \$0 | \$0 | \$1,008 | \$0 |
| Cellular Tracking Technologies, LLC | \$0 | \$0 | \$6,869 | \$6,869 |
| Cent, LLC | \$0 | \$0 | \$7,341 | \$0 |
| Ceptaris Therapeutics, Inc. | \$0 | \$0 | \$117,630 | \$12,014 |
| Certainteed Corporation | \$0 | \$0 | \$38,925 | \$38,925 |
| Certes Networks, Inc. (f/k/a Cipheroptics, Inc.) | \$0 | \$0 | \$52,796 | \$52,796 |
| CFS Holding Corp. | \$0 | \$0 | \$66,475 | \$0 |
| ChromaTan, Inc. | \$0 | \$0 | \$42,832 | \$42,832 |
| CIW Enterprises, Inc. | \$0 | \$0 | \$20,659 | \$11 |
| Clarion Sintered Metals, Inc. | \$0 | \$0 | \$35,736 | \$15,816 |
| Claritee Group, LLC | \$0 | \$0 | \$89,509 | \$88,724 |
| C-Leveled Associates Holdings, Inc. | \$0 | \$0 | \$9,017 | \$9,017 |
| Clinical Financial Services, LLC | \$0 | \$0 | \$4,175 | \$4,175 |
| Cloud Computing Technologies, LLC | \$0 | \$0 | \$14,370 | \$14,370 |
| CM3 Building Solutions, Inc. | \$0 | \$0 | \$27,049 | \$27,049 |
| CMR USA, Inc. | \$0 | \$0 | \$57,311 | \$3,295 |
| CNH Industrial America, LLC (f/k/a CNH America, LLC) | \$0 | \$0 | \$2,126,371 | \$1,221,471 |
| Coating and Converting Technologies Corporation | \$0 | \$0 | \$10,260 | \$10,260 |
| Code Organa, LLC | \$0 | \$0 | \$36,527 | \$34,558 |
| Co-eXprise, Inc. | \$0 | \$0 | \$18,830 | \$438 |
| Cohera Medical, Inc. | \$0 | \$0 | \$79,299 | \$79,299 |
| Collegiate Furnishing, Inc. | \$0 | \$0 | \$44,550 | \$44,550 |
| Columbia Research Laboratories, Inc. | \$0 | \$0 | \$218 | \$0 |
| Combined Systems, Inc. | \$0 | \$0 | \$31,585 | \$2,547 |
| Comcast Corporation | \$0 | \$0 | \$183,052 | \$0 |
| Compu-Craft Fabricator, Inc. | \$0 | \$0 | \$4,563 | \$0 |
| ConAgra Foods Enterprise Services, Inc. | \$0 | \$0 | \$19,218 | \$16,871 |
| Connecticut General Life Insurance Co. | \$0 | \$0 | \$155,914 | \$155,914 |
| Controlled Molding, Inc. | \$0 | \$0 | \$35,885 | \$35,885 |
| Cook Vascular Corporation | \$0 | \$0 | \$22,442 | \$3,600 |
| Crane Payment Innovations, Inc. (f/k/a MEI, Inc.) | \$0 | \$0 | \$164,161 | \$2,823 |
| Creative Engineers, Inc. | \$0 | \$0 | \$3,878 | \$523 |
| Crescent Industries, Inc. | \$0 | \$0 | \$10,361 | \$10,361 |
| Crown Cork & Seal USA, Inc. | \$0 | \$0 | \$15,379 | \$0 |
| CSL Behring, LLC | \$0 | \$0 | \$920,390 | \$0 |

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|--|-----|-----|-------------|-----------|
| CTR Systems Parking, Inc. | \$0 | \$0 | \$9,347 | \$9,347 |
| Custom Milling & Consulting, Inc. | \$0 | \$0 | \$7,284 | \$7,284 |
| Cybergenetics Corp. | \$0 | \$0 | \$3,915 | \$388 |
| Cyoptics, Inc. | \$0 | \$0 | \$1,150,663 | \$1,137 |
| David Horn, LLC | \$0 | \$0 | \$32,134 | \$32,134 |
| Dean Technology, Inc. | \$0 | \$0 | \$1,219 | \$931 |
| Deasey Machine Tool & Die Works, Inc. | \$0 | \$0 | \$3,220 | \$3,220 |
| Devine Brothers, Inc. | \$0 | \$0 | \$4,094 | \$3,145 |
| Diamondback Automative Accessories | \$0 | \$0 | \$43,097 | \$36,105 |
| Die-Tech, Inc. | \$0 | \$0 | \$7,363 | \$0 |
| Diversified Machine, Inc. | \$0 | \$0 | \$23,093 | \$0 |
| DME Alliance, Inc. | \$0 | \$0 | \$1,880 | \$1,880 |
| Dobil Laboratories, Inc. | \$0 | \$0 | \$44,400 | \$34,556 |
| Drakontas, LLC | \$0 | \$0 | \$14,431 | \$14,431 |
| DynAccess, Ltd. | \$0 | \$0 | \$1,114 | \$1,114 |
| Dynalene, Inc. | \$0 | \$0 | \$56,321 | \$56,321 |
| Dynamic Materials Corporation | \$0 | \$0 | \$15,825 | \$0 |
| Dynamis Pharmaceuticals, Inc. | \$0 | \$0 | \$49,017 | \$0 |
| Eagle Spinco, Inc. | \$0 | \$0 | \$3,265 | \$3,265 |
| Eaton Corporation | \$0 | \$0 | \$47,157 | \$47,157 |
| eBay, Inc. | \$0 | \$0 | \$622,707 | \$622,707 |
| Ecore International, Inc. | \$0 | \$0 | \$4,915 | \$521 |
| Edgemate, Inc. | \$0 | \$0 | \$4,929 | \$4,929 |
| Education Management Solutions Holdings, Inc. | \$0 | \$0 | \$134,602 | \$134,602 |
| EF Precision, Inc. | \$0 | \$0 | \$7,464 | \$4,625 |
| EFCO, Inc. | \$0 | \$0 | \$112,574 | \$20,320 |
| Effort Foundry, Inc. | \$0 | \$0 | \$20,775 | \$0 |
| Eitel Presses, Inc. | \$0 | \$0 | \$41,832 | \$41,832 |
| EKL Machine, Inc. | \$0 | \$0 | \$9,016 | \$143 |
| Electronics for Imaging, Inc. | \$0 | \$0 | \$31,840 | \$5,304 |
| Electro-Science Laboratories, Inc. | \$0 | \$0 | \$99,772 | \$99,772 |
| Element ID, Inc. | \$0 | \$0 | \$8,453 | \$8,453 |
| Eli Lilly and Company | \$0 | \$0 | \$5,019,493 | \$0 |
| EMD Serono, Inc. | \$0 | \$0 | \$380 | \$0 |
| EMS Charts, Inc. | \$0 | \$0 | \$66,181 | \$66,181 |
| Encentiv Energy, LLC (f/k/a All Facilities Energy Corp.) | \$0 | \$0 | \$7,409 | \$7,409 |
| Erdman Anthony Associates, Inc. | \$0 | \$0 | \$9,945 | \$9,945 |
| Essent Corporation | \$0 | \$0 | \$45,516 | \$13,252 |
| Evolution Products, LLC | \$0 | \$0 | \$18,742 | \$18,742 |
| Expert Data Labs, LLC | \$0 | \$0 | \$33,284 | \$33,284 |
| Fabri-Kal Corporation | \$0 | \$0 | \$6,656 | \$1,356 |
| FedEx Corporate Services, Inc. | \$0 | \$0 | \$145,204 | \$35,946 |
| FirstEnergy Corp. | \$0 | \$0 | \$189,124 | \$0 |
| Flexcut Tool Co., Inc. | \$0 | \$0 | \$16,411 | \$5,715 |
| Flexicath, Inc. | \$0 | \$0 | \$11,331 | \$0 |
| FLSmith, Inc. | \$0 | \$0 | \$5,145 | \$5,145 |
| Flyer City Media, LLC (d/b/a MetroMe) | \$0 | \$0 | \$14,639 | \$0 |
| FMC Technologies Measurement Solutions, Inc. | \$0 | \$0 | \$78,117 | \$0 |
| Fogmaker North America, LLC | \$0 | \$0 | \$14,186 | \$14,186 |
| Forest Research Institute, Inc. | \$0 | \$0 | \$369,915 | \$29,675 |
| Forge Life Sciences, LLC | \$0 | \$0 | \$7,959 | \$7,959 |
| Fortna, Inc. | \$0 | \$0 | \$22,814 | \$11,231 |
| FS-Elliott Co., LLC | \$0 | \$0 | \$70,306 | \$35,506 |

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| Furman Foods, Inc. | \$0 | \$0 | \$6,150 | \$1,869 |
| FutureWei Technologies, Inc. | \$0 | \$0 | \$16,478 | \$124 |
| GAI Consultants, Inc. | \$0 | \$0 | \$8,853 | \$8,853 |
| GAI-Tronics Corporation | \$0 | \$0 | \$149,178 | \$149,178 |
| GanaLila, LLC | \$0 | \$0 | \$201 | \$163 |
| Gap Holding Company, Inc. | \$0 | \$0 | \$29,923 | \$10,688 |
| GasBreaker, Inc. | \$0 | \$0 | \$2,253 | \$730 |
| Gautier Steel, Ltd. | \$0 | \$0 | \$20,901 | \$1,601 |
| Gelest, Inc. | \$0 | \$0 | \$73,403 | \$60,349 |
| Gemini Plastics, Inc. | \$0 | \$0 | \$169,108 | \$420 |
| General Carbide Corporation | \$0 | \$0 | \$27,526 | \$0 |
| Georgeko Industries, Inc. | \$0 | \$0 | \$41,774 | \$41,774 |
| Georgia Pacific Consumer Products, LP | \$0 | \$0 | \$3,024 | \$0 |
| Georgia Pacific Corrugated II, LLC | \$0 | \$0 | \$2,254 | \$192 |
| Georgia Pacific Corrugated, LLC | \$0 | \$0 | \$294 | \$219 |
| GES Automation Technology, Inc. | \$0 | \$0 | \$266,825 | \$86,712 |
| GrafTech International, Ltd. | \$0 | \$0 | \$111,779 | \$0 |
| Gravic, Inc. | \$0 | \$0 | \$102,810 | \$341 |
| Great Lakes Automation Services, Inc. | \$0 | \$0 | \$11,863 | \$11,863 |
| Greenwich Terminals, LLC | \$0 | \$0 | \$1,897 | \$1,896 |
| Griffith, Inc. (t/a Alpha Systems) | \$0 | \$0 | \$13,297 | \$1,063 |
| Grove US, LLC | \$0 | \$0 | \$328,430 | \$75,285 |
| Hamill Manufacturing Company | \$0 | \$0 | \$24,020 | \$15,125 |
| Hamilton Precision Metals, Inc. | \$0 | \$0 | \$7,010 | \$1 |
| Harsco Corporation | \$0 | \$0 | \$30,187 | \$28,758 |
| Heinz Management, LLC | \$0 | \$0 | \$90,467 | \$0 |
| Herkules USA Corporation | \$0 | \$0 | \$13,720 | \$5,431 |
| Heyl and Patterson, Inc. | \$0 | \$0 | \$31,556 | \$1,918 |
| Highwood USA, LLC | \$0 | \$0 | \$7,027 | \$90 |
| Hodge Tool Company, Inc. | \$0 | \$0 | \$30,045 | \$0 |
| Holtec Power Plant Components Division | \$0 | \$0 | \$52,407 | \$0 |
| Honeywell Electronic Materials, Inc. | \$0 | \$0 | \$1,634 | \$1,634 |
| Hunsicker Emissions Services, LLC | \$0 | \$0 | \$5,492 | \$0 |
| Hybrid Integration, LLC | \$0 | \$0 | \$108,641 | \$108,501 |
| Hydac Technology Corp. | \$0 | \$0 | \$6,564 | \$4,465 |
| Hydro-Pac, Inc. | \$0 | \$0 | \$253,839 | \$253,839 |
| Immunex Corporation | \$0 | \$0 | \$393,873 | \$35,429 |
| Imperial Carbide, Inc. | \$0 | \$0 | \$22,246 | \$220 |
| Implementation Consulting Service | \$0 | \$0 | \$2,152 | \$2,152 |
| Industrial Vision Systems, Inc. | \$0 | \$0 | \$5,124 | \$178 |
| Ingmar Medical, Ltd. | \$0 | \$0 | \$13,629 | \$13,629 |
| Insinger Machine Company | \$0 | \$0 | \$17,538 | \$17,298 |
| Intact Vascular, Inc. | \$0 | \$0 | \$17,464 | \$0 |
| Integration Technology Systems, Inc. | \$0 | \$0 | \$6,192 | \$5,205 |
| Intel Mobile Communications North America, Inc. | \$0 | \$0 | \$20,445 | \$18,424 |
| Intellectual Property Enterprises, LLC (d/b/a Neuralware) | \$0 | \$0 | \$2,672 | \$2,672 |
| Interbots, LLC | \$0 | \$0 | \$2,054 | \$2,054 |
| Interpace Diagnostics Corporation (f/k/a Redpath Integrated Pathology, Inc.) | \$0 | \$0 | \$43,245 | \$11,117 |
| Intertek Testing Services NA, Inc. | \$0 | \$0 | \$4,551 | \$4,551 |
| Invisible Sentinel, Inc. | \$0 | \$0 | \$54,904 | \$54,904 |
| IPEG, Inc. | \$0 | \$0 | \$10,825 | \$788 |
| Ismael J. Hidalgo | \$0 | \$0 | \$13,189 | \$13,189 |
| Itrco, LP | \$0 | \$0 | \$89,751 | \$89,751 |

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|--|-----|-----|-------------|-----------|
| J Baur Machining, Inc. | \$0 | \$0 | \$8,383 | \$8,383 |
| Jamestown Paint Company | \$0 | \$0 | \$13,571 | \$13,571 |
| Jennison Corporation | \$0 | \$0 | \$46,777 | \$46,777 |
| Jenrin Discovery, LLC | \$0 | \$0 | \$43,188 | \$43,188 |
| JetAir, Inc. | \$0 | \$0 | \$45,537 | \$7,217 |
| Jetbolt Games, Inc. | \$0 | \$0 | \$155 | \$0 |
| JIT Prototyping, LLC | \$0 | \$0 | \$8,615 | \$738 |
| Jordan Acquisition Group, LLC (d/b/a American Auto Matrix) | \$0 | \$0 | \$45,840 | \$43,452 |
| Joseph Barbato Associates, LLC | \$0 | \$0 | \$20,113 | \$20,113 |
| Joy Technologies, Inc. | \$0 | \$0 | \$272,199 | \$0 |
| Just Born, Inc. | \$0 | \$0 | \$40,745 | \$27 |
| Kaolin Mushroom Farms, Inc. | \$0 | \$0 | \$17,348 | \$17,348 |
| Keystone Manufacturing, Inc. | \$0 | \$0 | \$1,740 | \$1,740 |
| Kiewit Power Constructors Co. | \$0 | \$0 | \$24,901 | \$24,901 |
| Koryak Consulting, Inc. | \$0 | \$0 | \$12,413 | \$12,413 |
| KPGW Holding Company, LLC | \$0 | \$0 | \$463,119 | \$27,748 |
| Kroff Chemical Company | \$0 | \$0 | \$51,171 | \$6,693 |
| Kwantera Incorporated | \$0 | \$0 | \$29,170 | \$323 |
| LaBarge Electronics, Inc. | \$0 | \$0 | \$10,300 | \$0 |
| Langan Engineering and Environmental Services, Inc. | \$0 | \$0 | \$22,180 | \$21,121 |
| Lazarus Therapeutics, Inc. | \$0 | \$0 | \$259 | \$0 |
| LCR Electronics, Inc. | \$0 | \$0 | \$16,345 | \$5,170 |
| LD Astorino & Associates, Ltd. | \$0 | \$0 | \$108,129 | \$108,129 |
| Lee Industries, Inc. | \$0 | \$0 | \$9,930 | \$0 |
| Liberty Electronics, Inc. | \$0 | \$0 | \$13,742 | \$0 |
| LifeSensors, Inc. | \$0 | \$0 | \$60,573 | \$33,222 |
| Lignolink, Inc. | \$0 | \$0 | \$4,824 | \$4,816 |
| Linear Acoustic, Inc. | \$0 | \$0 | \$7,158 | \$0 |
| Liquid X Printed Metals, Inc. | \$0 | \$0 | \$29,210 | \$0 |
| Lloyd Industries, Inc. | \$0 | \$0 | \$11,790 | \$11,790 |
| Loridian, LLC | \$0 | \$0 | \$2,337 | \$0 |
| LRT Sensors, LLC | \$0 | \$0 | \$889 | \$889 |
| LSI Corporation | \$0 | \$0 | \$1,596,429 | \$118,702 |
| Lunchtime Software, LLC | \$0 | \$0 | \$35,438 | \$26,336 |
| Lutron Electronics Co., Inc. | \$0 | \$0 | \$97,047 | \$2,101 |
| LWI & Associates, Inc. | \$0 | \$0 | \$2,553 | \$2,553 |
| Macron Dynamics, LLC | \$0 | \$0 | \$7,214 | \$0 |
| Markel Corporation | \$0 | \$0 | \$9,285 | \$9,285 |
| Markovitz Enterprises, Inc. | \$0 | \$0 | \$23,074 | \$19,465 |
| Mars Incorporated | \$0 | \$0 | \$610 | \$610 |
| Martin Technology, Inc. | \$0 | \$0 | \$44,504 | \$33,056 |
| Matrix Operations, LLC | \$0 | \$0 | \$6,419 | \$0 |
| Maxim Integrated Products, Inc. | \$0 | \$0 | \$10,399 | \$0 |
| Maya Design, Inc. | \$0 | \$0 | \$59,514 | \$354 |
| MCI Communications Services, Inc. | \$0 | \$0 | \$25,157 | \$14,704 |
| McKamish, Inc. | \$0 | \$0 | \$66,362 | \$33,701 |
| Metalor Electrotechnics USA Corp. | \$0 | \$0 | \$12,000 | \$569 |
| Michael & Associates, Inc. | \$0 | \$0 | \$44,190 | \$44,190 |
| Minitab, Inc. | \$0 | \$0 | \$156,521 | \$34,681 |
| Minnotte Contracting Corporation | \$0 | \$0 | \$6,246 | \$6,246 |
| Minus 100, LLC | \$0 | \$0 | \$1,766 | \$0 |
| MISCO Products Corporation | \$0 | \$0 | \$4,002 | \$4,002 |
| MoJo Active, Inc. | \$0 | \$0 | \$18,815 | \$15,714 |
| Motors, Drives & Controls, Inc. | \$0 | \$0 | \$31,623 | \$22,131 |

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|--|-----|-----|-------------|-------------|
| MPD Holdings, LLC | \$0 | \$0 | \$111,556 | \$67,211 |
| N.A. Water Systems, LLC | \$0 | \$0 | \$1,146,495 | \$0 |
| NABCO, Inc | \$0 | \$0 | \$11,201 | \$0 |
| Nalco Company | \$0 | \$0 | \$58,932 | \$0 |
| Nazareth Industrial Corporation | \$0 | \$0 | \$11,678 | \$8,734 |
| NESTEC, Inc. | \$0 | \$0 | \$114,745 | \$114,745 |
| NeuroDx Development, LLC | \$0 | \$0 | \$4,561 | \$4,561 |
| New Berry, Inc. Berry Metal Company | \$0 | \$0 | \$24,724 | \$4,320 |
| New Standard Corporation | \$0 | \$0 | \$6,489 | \$6,489 |
| NewCare Solutions, LLC | \$0 | \$0 | \$31,907 | \$29,749 |
| Newman & Company, Inc. | \$0 | \$0 | \$12,946 | \$817 |
| NextGen Healthcare Information Systems, Inc. | \$0 | \$0 | \$223,611 | \$223,611 |
| Nitromega Corporation | \$0 | \$0 | \$1,117 | \$0 |
| Noble MD, Inc. | \$0 | \$0 | \$1,947 | \$1,947 |
| Norquay Technology Incorporated | \$0 | \$0 | \$13,519 | \$1,166 |
| North American Drillers, LLC (f/k/a Shaft Drillers International, LLP) | \$0 | \$0 | \$46,370 | \$46,370 |
| Northport Distribution, LLC | \$0 | \$0 | \$165 | \$87 |
| Novartis Pharmaceuticals Corporation | \$0 | \$0 | \$1,144,884 | \$1,144,884 |
| Novo Nordisk, Inc. | \$0 | \$0 | \$325,741 | \$325,741 |
| O.F. Zurn Company | \$0 | \$0 | \$7,736 | \$7,736 |
| Okna Windows Corp. | \$0 | \$0 | \$6,918 | \$6,918 |
| Omega Design Corporation | \$0 | \$0 | \$2,229 | \$0 |
| Omnyx, LLC | \$0 | \$0 | \$920,665 | \$920,665 |
| OptiXtal, Inc. | \$0 | \$0 | \$22,875 | \$11,713 |
| Packworld USA, Ltd. | \$0 | \$0 | \$10,087 | \$3,829 |
| Parametric Dining, LLC | \$0 | \$0 | \$19,858 | \$0 |
| Patrick M. Dentinger | \$0 | \$0 | \$13,189 | \$13,189 |
| PDQ Industries, Inc. | \$0 | \$0 | \$13,815 | \$2,134 |
| Pellegrino Food Products Co., Inc. | \$0 | \$0 | \$17,923 | \$17,923 |
| Penn Engineering and Manufacturing Corp. | \$0 | \$0 | \$45,115 | \$4,023 |
| Pennoni Associates, Inc. | \$0 | \$0 | \$168,296 | \$133,862 |
| Pennsy Corporation | \$0 | \$0 | \$79,606 | \$39,392 |
| Pennsylvania-American Water Company | \$0 | \$0 | \$9,677 | \$9,677 |
| PhaseBio Pharmaceuticals, Inc. | \$0 | \$0 | \$50,529 | \$34,743 |
| PhotoMedex, Inc. | \$0 | \$0 | \$7,916 | \$2,661 |
| Pikimal, LLC (d/b/a WebKite) | \$0 | \$0 | \$52,116 | \$52,116 |
| Pittsburgh Logistics System, Inc. | \$0 | \$0 | \$13,851 | \$0 |
| Pittsburgh Plastics Mfg, Inc. | \$0 | \$0 | \$9,996 | \$4,450 |
| Pivitec, LLC | \$0 | \$0 | \$26,575 | \$26,575 |
| PJ Dick Incorporated | \$0 | \$0 | \$41,714 | \$41,714 |
| Plextronics, Inc. | \$0 | \$0 | \$16,420 | \$0 |
| PMC-Sierra US, Inc. | \$0 | \$0 | \$188,585 | \$11,176 |
| Polymer Molding, Inc. | \$0 | \$0 | \$968 | \$968 |
| Polymer Products Company, Inc. | \$0 | \$0 | \$724 | \$0 |
| PoolPak International, LLC | \$0 | \$0 | \$28,542 | \$25,688 |
| Power Industrial Srv Corp. Donora Industrial Park | \$0 | \$0 | \$45,913 | \$45,913 |
| PoweredAnalytics, Inc. | \$0 | \$0 | \$7,239 | \$7,239 |
| Powerex, Inc. | \$0 | \$0 | \$3,548 | \$3,548 |
| Precision Defense Services, Inc. | \$0 | \$0 | \$1,419 | \$0 |
| Premier Automation Holdings, Inc. | \$0 | \$0 | \$19,185 | \$19,071 |
| Premier Automation, LLC | \$0 | \$0 | \$36,061 | \$36,061 |
| PrimBio Research Institute, LLC | \$0 | \$0 | \$25,271 | \$25,271 |
| Production Systems Technologies, Inc. | \$0 | \$0 | \$15,044 | \$8,443 |
| Progenra, Inc. | \$0 | \$0 | \$239,639 | \$110,074 |

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|---|-----|-----|-------------|-------------|
| ProMinent Fluid Controls, Inc. | \$0 | \$0 | \$34,809 | \$25,226 |
| Prova Systems and Technologies, Inc. | \$0 | \$0 | \$4,473 | \$4,473 |
| PSB Industries, Inc. | \$0 | \$0 | \$75 | \$75 |
| Puritan Products, Inc. | \$0 | \$0 | \$105,090 | \$33,431 |
| QR Pharma, Inc. | \$0 | \$0 | \$22,414 | \$22,414 |
| R.M. Palmer Company | \$0 | \$0 | \$8,158 | \$0 |
| Ranbar Electrical Materials, Inc. | \$0 | \$0 | \$24,306 | \$24,306 |
| Raytheon Company | \$0 | \$0 | \$67,472 | \$64,472 |
| Relay Network, LLC | \$0 | \$0 | \$33,644 | \$0 |
| Renick Brothers Construction Company | \$0 | \$0 | \$120,964 | \$120,964 |
| Rexmet Corporation | \$0 | \$0 | \$1,188 | \$1,188 |
| RichardsApex, Inc. | \$0 | \$0 | \$1,238 | \$1,238 |
| Richardson Cooling Packages, LLC | \$0 | \$0 | \$28,915 | \$20,712 |
| RJM Manufacturing, Inc. | \$0 | \$0 | \$2,369 | \$2,369 |
| Rockland, Inc. | \$0 | \$0 | \$3,523 | \$4 |
| Royal Window & Door Profiles Plant 13, Inc. | \$0 | \$0 | \$2,294 | \$0 |
| rue21, Inc. | \$0 | \$0 | \$75,429 | \$0 |
| Salimetrics, LLC | \$0 | \$0 | \$72,065 | \$72,065 |
| Sanofi Pasteur, Inc. | \$0 | \$0 | \$1,614,166 | \$1,614,166 |
| Sanofi US Services, Inc. | \$0 | \$0 | \$314,989 | \$0 |
| Sargent Electric Company | \$0 | \$0 | \$72,393 | \$72,393 |
| Savana, Inc. | \$0 | \$0 | \$111,084 | \$851 |
| Schramm, Inc. | \$0 | \$0 | \$172,044 | \$2,293 |
| Schulmerich Carillons, LLC | \$0 | \$0 | \$9,078 | \$27 |
| SDLC Management, Inc. | \$0 | \$0 | \$2,445 | \$0 |
| Sensible Machines, Inc. | \$0 | \$0 | \$422 | \$0 |
| Sentric, Inc. | \$0 | \$0 | \$9,649 | \$9,649 |
| Sentry Data Systems, Inc. | \$0 | \$0 | \$4,681 | \$4,612 |
| SFS Intec Incorporated | \$0 | \$0 | \$4,535 | \$77 |
| Shanks Extracts, Inc. | \$0 | \$0 | \$7,062 | \$7,062 |
| Shifa Biomedical Corporation | \$0 | \$0 | \$74,159 | \$74,159 |
| Shire US Holdings, Inc. | \$0 | \$0 | \$1,170,421 | \$0 |
| Siemens Medical Solutions USA, Inc. | \$0 | \$0 | \$304,466 | \$0 |
| Siemens PLM Software II US, Inc. | \$0 | \$0 | \$134,593 | \$0 |
| SJ Consulting Group, Inc. | \$0 | \$0 | \$11,269 | \$633 |
| Skid Pipe Insulation, LLC | \$0 | \$0 | \$5,025 | \$5,025 |
| SparkNET Technologies, LLC | \$0 | \$0 | \$3,800 | \$3,800 |
| SPD Electrical Systems, Inc. | \$0 | \$0 | \$20,476 | \$20,476 |
| Special Pathogens Laboratory, LLC | \$0 | \$0 | \$77,865 | \$0 |
| Speciality Tires of America, Inc. | \$0 | \$0 | \$18,713 | \$1,640 |
| Specialty Minerals, Inc. | \$0 | \$0 | \$57,354 | \$13,417 |
| Spectragenetics, LLC | \$0 | \$0 | \$16,405 | \$0 |
| Standard Precision Manufacturing Incorporated | \$0 | \$0 | \$18,906 | \$10,775 |
| Standing Stone Consulting, Inc. | \$0 | \$0 | \$21,078 | \$21,078 |
| Streamlight, Inc. | \$0 | \$0 | \$56,366 | \$38,560 |
| Sun Star, Inc. | \$0 | \$0 | \$5,651 | \$647 |
| SupplyOne, Inc. | \$0 | \$0 | \$5,180 | \$0 |
| Susquehanna International Group, LLP | \$0 | \$0 | \$557,464 | \$557,464 |
| Sustrana, LLC (f/k/a Resonate, LLC) | \$0 | \$0 | \$3,894 | \$0 |
| Synopsys, Inc. | \$0 | \$0 | \$17,793 | \$0 |
| Talbar, Inc. | \$0 | \$0 | \$26,781 | \$5,668 |
| Tarsa Therapeutics, Inc. | \$0 | \$0 | \$113,690 | \$113,690 |
| TB Woods Incorporated | \$0 | \$0 | \$1,648 | \$1,648 |
| Tekgard, Inc. | \$0 | \$0 | \$2,140 | \$997 |
| Terra Group Corporation | \$0 | \$0 | \$12,649 | \$11,823 |

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|---|-----|-----|--------------|--------------|
| Teva Branded Pharmaceutical Products R&D, Inc. | \$0 | \$0 | \$11,604,435 | \$11,604,435 |
| Texas Instruments Incorporated | \$0 | \$0 | \$493,311 | \$493,311 |
| The APAK Group | \$0 | \$0 | \$10,558 | \$10,558 |
| The Efficiency Network, Inc. | \$0 | \$0 | \$10,712 | \$10,712 |
| The Milnes Co., Inc. | \$0 | \$0 | \$28,855 | \$28,855 |
| The Valspar Corporation | \$0 | \$0 | \$165,747 | \$30,450 |
| The Warrell Corporation | \$0 | \$0 | \$7,170 | \$114 |
| Thermo Fisher Scientific, Inc. | \$0 | \$0 | \$28,232 | \$0 |
| Therm-Omega-Tech, Inc. | \$0 | \$0 | \$25,904 | \$8,186 |
| ThingWorx, Inc. | \$0 | \$0 | \$265,102 | \$66,660 |
| Third Eye Diagnostics, Inc. | \$0 | \$0 | \$18,910 | \$18,910 |
| Thread, LLC | \$0 | \$0 | \$14,601 | \$14,601 |
| TicketLeap, Inc. | \$0 | \$0 | \$90,364 | \$0 |
| Tiger Optics, Inc. | \$0 | \$0 | \$37,330 | \$0 |
| TMG Health, Inc. | \$0 | \$0 | \$81,482 | \$30,291 |
| Treehouse Foods, Inc. | \$0 | \$0 | \$13,627 | \$0 |
| Trice Medical, Inc. (f/k/a Trice Orthopedics, Inc.) | \$0 | \$0 | \$71,327 | \$203 |
| Trinity Industries, Inc. | \$0 | \$0 | \$40,957 | \$0 |
| Try Tek Machine Works Incorporated | \$0 | \$0 | \$34,279 | \$0 |
| Turgeon Engineering, Inc. | \$0 | \$0 | \$4,992 | \$4,992 |
| Unicast Company | \$0 | \$0 | \$17,533 | \$17,533 |
| United Bank Card, Inc. (d/b/a Harbortouch) | \$0 | \$0 | \$8,834 | \$2,126 |
| United Metal Fabricators, Inc. | \$0 | \$0 | \$9,907 | \$25 |
| United States Steel Corporation | \$0 | \$0 | \$1,049,759 | \$646,858 |
| Universal Stainless and Alloy Products, Inc. | \$0 | \$0 | \$166,921 | \$2,779 |
| Urban Engineers, Inc. | \$0 | \$0 | \$48,040 | \$7,340 |
| US Silica Company | \$0 | \$0 | \$19,728 | \$19,728 |
| USA Technologies, Inc. | \$0 | \$0 | \$24,685 | \$0 |
| USSC Group, Inc. | \$0 | \$0 | \$14,425 | \$12,067 |
| Valtech Corporation | \$0 | \$0 | \$4,712 | \$4,712 |
| Vamco International, Inc. | \$0 | \$0 | \$17,328 | \$17,328 |
| Ventana USA | \$0 | \$0 | \$12,320 | \$12,320 |
| Venture 3 Systems, LLC | \$0 | \$0 | \$57,402 | \$57,402 |
| Verizon Business Network Services, Inc. | \$0 | \$0 | \$141,363 | \$141,363 |
| Verizon Data Services, LLC | \$0 | \$0 | \$79,272 | \$79,272 |
| Vertex, Inc. | \$0 | \$0 | \$22,238 | \$22,238 |
| Vertical Screen, Inc. | \$0 | \$0 | \$26,354 | \$34 |
| Vesuvius USA Corporation | \$0 | \$0 | \$32,804 | \$9,392 |
| Videomining Corporation | \$0 | \$0 | \$322 | \$322 |
| Viridity Energy, Inc. | \$0 | \$0 | \$1,289 | \$1,289 |
| Vista Auctions, LLC (d/b/a Procurex, Inc.) | \$0 | \$0 | \$1,002 | \$850 |
| Vitrius Technologies, LLC | \$0 | \$0 | \$3,157 | \$3,157 |
| Voci Technologies Incorporated | \$0 | \$0 | \$19,353 | \$100 |
| Vulcan Spring & Mfg., Co. | \$0 | \$0 | \$14,204 | \$3,967 |
| W.L. Gore & Associates, Inc. | \$0 | \$0 | \$60,799 | \$0 |
| Wacker Chemical Corporation | \$0 | \$0 | \$82,735 | \$82,735 |
| Wagman, Inc. (f/k/a Wagman Companies, Inc.) | \$0 | \$0 | \$25,959 | \$1,040 |
| Walsh Construction Company | \$0 | \$0 | \$17,449 | \$16,061 |
| Wampum Hardware Co. | \$0 | \$0 | \$29,641 | \$19,539 |
| Webber/Smith Associates, Inc. | \$0 | \$0 | \$45,041 | \$37,195 |
| Weir Hazleton, Inc. | \$0 | \$0 | \$28,444 | \$23,585 |
| Weld Tooling Corporation | \$0 | \$0 | \$5,999 | \$0 |
| West Pharmaceutical Services, Inc. (PA) | \$0 | \$0 | \$177,811 | \$6,196 |
| White Oak Mills, Inc. | \$0 | \$0 | \$4,385 | \$4,384 |

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|--------------------------------|--------------|-----|---------------|--------------|
| Whitewater International, LLC | \$0 | \$0 | \$18,507 | \$18,507 |
| Woodward McCoach, Inc. | \$0 | \$0 | \$52,455 | \$8,101 |
| Woodward, Inc. | \$0 | \$0 | \$112,210 | \$0 |
| York International Corporation | \$0 | \$0 | \$303,643 | \$119,861 |
| Z3 Concepts | \$0 | \$0 | \$1,342 | \$1,342 |
| Zivtech, LLC | \$0 | \$0 | \$23,867 | \$23,867 |
| TOTAL | \$55,000,000 | | \$110,000,000 | \$57,900,167 |

Footnote:

“Utilized” means that the tax credit has been applied in full or partial payment of a tax liability according to the records of the Department. If no tax liability exists for the tax and period where the credit has been applied or if previous tax credits exceed the tax liability, the utilized amount is shown as zero. Until a tax year has been closed, it is possible that the tax credits indicated as being utilized may still be transferred, sold or assigned at the option of the taxpayer. Pass through credits and unused credits that were sold or assigned are also included as utilized.