



# WV JOBS INVESTMENT TRUST BOARD ANNUAL INVESTMENT ANALYSES JUNE 30, 2016



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## Message from WVJIT Executive Director

To our WVJIT Board of Directors and State Legislators:

Since our inception in 1992, the WVJIT has played an instrumental role in our state's economic development. WVJIT was created to develop, promote and expand our state's economy by direct investment in West Virginia's enterprises to create jobs, sustain growth, and provide new opportunities. Our investments touch major sectors within this state's economy such as manufacturing and energy, yet we have also been able to invest in emerging sectors that will play a role for our state's future growth such as healthcare, biotechnology, software and engineering.

As of 2016, WVJIT has invested a little over \$10 million dollars across 18 companies in a broad array of sectors. Total equity investment and loans provided are \$6.1 million dollars and \$4.4 million dollars, respectively. A total of 361 jobs have been supported from the JIT investments which equates to \$29,085 of WVJIT investment for each job supported. Venture Capital investments have a proven record of providing not only significant financial returns but also high quality, sustainable job creation.

In January 2012, the State of West Virginia received the State Small Business Credit Initiative (SSBCI) funding to give the state's small businesses access to new capital. This new funding has given West Virginia enterprises access to \$13.1 million dollars, all of which is administered through the West Virginia Capital Access Program (WVCAP). We have had the pleasure to partner up with many of our fellow state economic developers to provide capital to small enterprises across West Virginia and create jobs. To date, the WVCAP has had success in attaining the objective of having retained 448 jobs and create 717 projected new jobs. WVCAP has been so successful that it achieved a clean audit from the Office of Inspector General.

While we are aware of the challenges that lay ahead, I could not be more proud of our accomplishments this past year and could not be more optimistic for our state's economic future. On behalf of the WVJIT staff, I thank you for your assistance and continuous support in us to fulfill our economic and entrepreneurial mission to this great state.

Yours Truly,

C. Andrew Zulauf  
Executive Director

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## Methodology of Current Evaluation of the Investment

Factors that may be considered in the evaluation of investments in equity and debt securities of startup companies and other securities for which market quotations are not readily available are:

- the amount that might reasonably be expected to be received upon current sale of the securities;
- the fundamental analytical data relating to the investment;
- the nature and duration of restrictions on disposition of the securities;
- an evaluation of the forces that influence the market in which these securities are purchased and sold;
- type of security;
- cost at date of purchase;
- size of holding;
- discount from market value of unrestricted securities of the same class at the time of purchase;
- financial statements;
- special reports prepared by analysts;
- information as to any transactions or offers with respect to the security;
- existence of merger proposals or tender offers affecting the securities;
- price and extent of public trading in similar securities of the issuer or comparable companies;
- the nature of the business and history of the enterprise from its inception;
- the general economic outlook and the condition of and outlook for the specific industry;
- an evaluation of the securities and economic condition of the portfolio company;
- the portfolio company's capacity for earnings;
- the portfolio company's market position;
- competition;
- the portfolio company's goodwill and other intangible values;
- recent sales of securities by the portfolio company;
- market prices of publicly traded securities of corporations of comparable size and earnings in the, or similar lines of, business;
- likelihood of exercise of conversion privileges of convertible securities;
- actual performance compared to expected performance; and
- other relevant matters.

The American Institute of Certified Public Accountants (AICPA) Audit and Accounting Guide, *Audits of Investment Companies*, requires venture capital companies to record their investment portfolios at quoted market prices or, in the absence of quoted prices, at amounts representing estimates of fair value using methods determined in good faith by the board of directors or general partner.

Financial Accounting Standards Board (FASB) Statement No. 114, *Accounting by Creditors for Impairment of a Loan*, excludes all companies that record investments at fair value, in accordance with specialized practice, from the requirements to report loan loss contingencies. In any event, the FASB requires that loan loss provisions be accrued only when it is *probable* that an asset has been impaired and that the amount of the loss be *reasonably* estimable.

The AICPA Investment Companies Special Committee states in its report, *Accounting for Venture Capital Investment Companies*, that "Startup companies generally do not have a record of earnings or operating information. Startup and other early-stage companies generally report losses in the early years, and portfolio companies seeking second-stage financing may not yet be showing profits. An operating loss reported by a portfolio company does not necessarily mean that the venture capital investment company should reduce the carrying amount of its investment. In determining value, the board of directors should also consider such factors as the cost of the investment, actual performance compared to expected performance, and earning potential."

The Investment Companies Special Committee believes that investments in startup companies should be presented at value. Value is usually assumed to be the same as cost during the early stages of such investments unless there is persuasive evidence of a quantifiable increase or decrease in the value of the investment based on consideration of such factors as those discussed above.



**Snapshot:**

Company: **Aither Chemicals, LLC**  
Website: aitherchem.com  
Location: South Charleston, WV  
Total Employees: FT/0; PT/0  
WV Employees: FT/0; PT/0

**WVJIT Investment: \$550,000**  
**WVJIT Loan reserve \$500,000**  
**WVJIT Ownership: 17.56%**  
**Subject to GASB 62: NO**

**Background**

The genesis of Aither Chemicals began in 2010 as an effort by the Mid-Atlantic Technology, Research & Innovation Center (MATRIC) to evaluate the utilization of unique, demonstrated technologies to create value added chemicals from ethane. Throughout 2010, MATRIC's team of highly experienced technical and management staff worked to evaluate the opportunity created by tremendous supplies of ethane coming from the wet natural gas in shale plays. As a result of this valuation and additional technical work, Aither was officially formed in 2010 by MATRIC. Aither Chemicals technology is based upon a proven, proprietary, patent-pending chemical process that converts a natural gas feedstock (ethane) into higher value chemical products (petrochemicals) in a cost effective manner. Aither's manufacturing process is the lowest cost production method to make petrochemicals. Using Aither's proprietary process, their facilities have advantages over traditional ethane cracking technologies.

**WVJIT Investment History**

**July 2011:**

\$250,000 Convertible Debenture; 10% Interest; Maturity Date of June 26, 2014  
Loan put on non-accrual, 100% reserved against outstanding principal

**June 2012:**

\$300,000 Convertible Debenture; 10% Interest; Maturity date of June 26, 2014

**December 2014:**

MAH granted 1,756,325 shares to WVJIT – resulting in 17.56% ownership

**WVJIT FY2016 Revenue:** \$0

**Total WVJIT Investment:** \$550,000 (\$300,000 funded through WVCAP)

**Warrant Coverage:**

**July 2011:** 200% Warrant Coverage into Preferred A Units, 7-year term, strike price at the initial Series A Preferred Price.

**June 2012:** 100% warrant coverage into Preferred A Units, 7-year term, strike price at a 20% discount of the Series A Preferred price.

**Co-Investors/Lenders:**

INNOVA  
MAH

**Board of Directors**

**Patrick Bond, Mountaineer Capital**

Managing Director of McCabe-Henley Properties LP since 1998, Pat Bond brings a wealth of experience in finance, administration, strategic planning, general management and management information systems. Previously, Mr. Bond owned/operated an independent consulting practice, Growth Management Group that specialized in the areas of Business Environment Assessments, new product development, investment and financial analysis and strategic planning. Prior to that, he was President of a natural gas marketing company and was President and CEO of Atlantic Financial Federal, a \$750 million savings and loan institution and all its business units. He graduated from WVU where he received both Master's and Bachelor's Degrees in Industrial Engineering.

**C. Andrew Zulauf, Executive Director, WV Jobs Investment Trust**

Andy Zulauf has extensive experience in finance and venture capital, having served as Executive Director and Senior Loan Officer for the West Virginia Capital Corporation, as a Partner and Managing Director of West Virginia operations for Adena Ventures, and as Vice President and Upper Middle Market Commercial Relationship Officer for Fifth Third Bank. Mr. Zulauf is a graduate of Marshall University and the University of Charleston's Executive MBA program.

**Guy Peduto, INNOVA Commercialization Group**

Guy Peduto joined the INNOVA Commercialization Group in April 2006. Prior to joining INNOVA, he held the position of Director of Commercial Programs at the Institute for Scientific Research, Inc. While there, he developed strategies for the commercial utilization of ISR's technology and research applications in such areas as biomedical research, education, software development, mining safety and communication, VTOL aerial vehicles, and automotive controls and diagnostics. Mr. Peduto's background includes 20 years of strategic planning experience. Mr. Peduto received a Bachelor's degree in Business Administration with a major in Marketing from West Virginia University. In addition, he is a graduate of the Competitive Strategy program at the Kellogg School, Northwestern University, the Commercialization and Technology Transfer program at Carnegie Mellon University, the National Association of Seed and Venture Funds Professional Development Program and the Venture Capital Institute.

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## Products

Aither Chemicals technology is based upon a proven, proprietary, patent-pending chemical process that converts a natural gas feedstock (ethane) into higher value chemical products (petrochemicals) in a cost effective manner. Aither's manufacturing process is the lowest cost production method to make petrochemicals. Using Aither's proprietary process, their facilities will have the following advantages over traditional ethane cracking technologies:

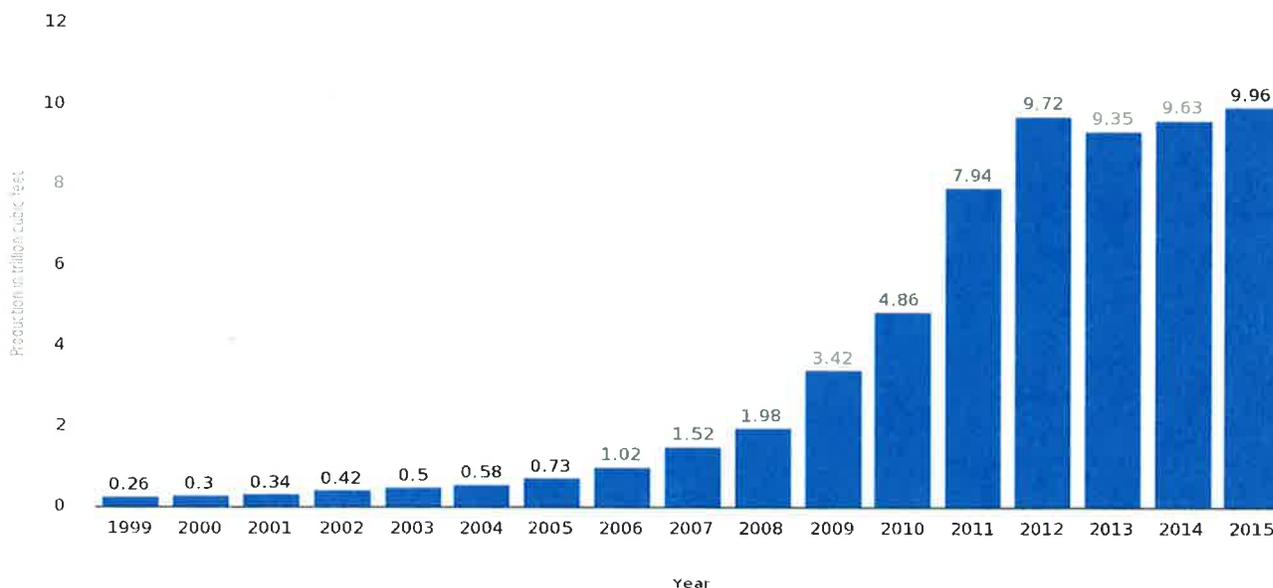
1. Lower capital cost
2. Lower operating cost
3. Shorter time to commercial operations
4. Lower energy input
5. Lower CO2 output
6. Smaller plant footprint
7. Simpler process to product higher-value products

## Market/Industry Summary

Ethane, a feedstock used by the petrochemical industry, is facing stiffer competition from naphtha, a petroleum byproduct, which is cheaper due to falling oil prices.

Since 2010, prices for oil and natural gas liquids have been higher than those for natural gas. This has given drillers an incentive to target liquids-rich shale plays. But the gap between natural gas and NGLs has been shrinking which could pose a challenge for the U.S. petrochemical industry.

**U.S. shale gas production from 1999 to 2015 (in trillion cubic feet)**



Source:  
EIA  
© Statista 2015

Additional Information:  
United States

The chart above shows shale gas production in the U.S. from 1999 through 2015. Although production has remained steady over the past four years with very little increase, companies continue to pursue the idea of constructing cracker plants. According to Tom Gellrich, TopLine Analytics, during the Utica Summit III at Kent State in October 2015, he stated there should be three or four world class cracker plants by 2020 in the Appalachian Basin.

Currently, there are four projects being considered. Royal Dutch, in Beaver County, PA, is the farthest along with its \$4 billion project. Shell could make a decision on its project within the next 24 months. The Thai company, PTT Global Chemical, is completing a feasibility study for a \$5.7 billion project in Belmont County, OH. Braskem/Odebrecht continues to look in the Parkersburg area. A Texas company, Appalachian Resins, Inc. (AR) however, decided to put its project on hold. The company was to build a smaller scale ethane cracker in Monroe County, OH. Due to competition, Bob Mifflin, President, stated the “prospect of finding enough qualified people to build and staff would be very challenging”. A world class cracker requires 1,500 people to construct and staff and AR’s project required an estimated 500-700 people. Mr. Mifflin opted to put the project on hold, unsure if workers would relocate to the area for the project.

It should be noted that currently ethane from the Utica and Marcellus are being piped to the Gulf Coast for processing and then returned back to the Northeast as ethylene. Northeast Ohio is considered the center of the plastics processing industry and is expected to grow over the next 24 months. Given this demand for ethylene, regional crackers will provide a positive impact on the area. This should provide opportunities for smaller “less than world class crackers” to move into the area, creating jobs and ethylene. The completion of at least one cracker plant should encourage current shale producers to increase production as their ethane would no longer be piped to the Gulf Coast, but processed locally.

### **WV Cracker Project**

Odebrecht, the Brazilian company that announced plans for an ethane cracker plant near Parkersburg in 2013, no longer is involved in the long-stalled project, leaving Braskem, the company’s American subsidiary, to weigh the project’s viability on its own. However, there have been plans to move ahead with another investment from Shell Chemical Appalachia. In June 2016, Royal Dutch Shell subsidiary Shell Chemical Appalachia, announced it “has taken the final investment decision to build a major petrochemical complex.” The cracker plant site is in southwestern Pennsylvania, just a few miles from the northern panhandle of West Virginia. The cracker plans to convert ethane from shale gas to make 1.6 million tons annually of polyethylene, a high-demand product that’s used in everything from food packaging and containers to automotive parts.

### **Significant Events**

**June 2016:** WVJIT and INNOVA continue to work with an IP attorney on outstanding filing issues. Additionally, a consultant will review the technology and determine the next steps for the Company.

**June 2016:** Shell announces it will move forward with building a cracker plant in Pennsylvania.

**May 2015:** MATRIC COO, Greg Clutter, resigns from Aither Board.

**January 2015:** MAH holdings received a request from INNOVA and WVJIT for information pertaining to the due diligence process for the evaluation conducted by a new investor.

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**WV JOBS INVESTMENT TRUST BOARD  
ANNUAL INVESTMENT ANALYSES  
JUNE 30, 2016**

**December 2014:** MAH granted 1,756,325 shares to WVJIT. The shares represent 17.56% ownership in Aither.

**September 2014:** RMG has offered to divest its stake in Aither to WVJIT and INNOVA.

**June 2014:** Aither Board of directors submitted a draft agreement to a regional energy holding company for a potential investment into the Company.

**March 2014:** Company had a meeting with a Taiwanese Petrochemical Company looking to negotiate a joint venture/M&A for rights to the catalyst for their cracker plant.

**October 2013:** A mutual confidentiality agreement was signed by a regional energy holding company and the Aither Board of Directors and management team for a potential interest in the Company.

**September 2013:** WVJIT recommended to its board of directors to reserve 100% of the outstanding principal balance on the existing debentures (\$250,000 and \$300,000) and put the loan on non-accrual. The recommendation was approved.

**August 2013:** MATRIC and Aither put together a plan on a small production plant located at the technology park. The budget for the project was \$2.5M; \$1.56M for the commercial tube, \$350K for the catalyst, \$210K for IP, and another \$200+ in soft costs. WVJIT prepared a \$2.5M term sheet for the Company under the condition that the first domestic plant is built in WV. The Aither board voted to pass on the financing proposal.

**May 2013:** Aither submitted a grant application to Tech Connect WV in partnership with the Chemical Alliance Zone for a preliminary study for a potential small scale plant in the Kanawha Valley.

**July 2012:** A late July press release from Aither indicated they were very “pleased” with the responses they received about the products their catalytic ethane cracking technology can deliver. These responses include technology licensors, engineering procurement and construction (EPCs) companies, as well as organizations looking to relocate to the Kanawha Valley.

**January 2012:** Aither closed on a financing transaction with Renewable Manufacturing Gateway (RMG).

**Overall Conclusion**

Based on the foregoing, the WV Jobs Investment Trust Board finds it most appropriate to record its investment in Aither Chemicals, LLC at value, which is currently presumed to be **\$0.00**, due to a one-hundred percent reserve against the loan.

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**Snapshot:**

Company: **American Benefit Corp.**  
 Website: abcwv.com  
 Location: Ona, WV  
 Total Employees: FT/62; PT/0  
 WV Employees: FT/62; PT/0

**WVJIT Investment: \$699,650**  
**WVJIT Ownership: 12.47%**  
**Subject to GASB62: NO**

**Leadership**

C. Ryan Jones, Chief Executive Officer  
 John Galloway Chief Financial Officer  
 Jim Kirk Chief Information Officer  
 Kimberly A. Wood Chief Administration Officer

**Background**

American Benefit Corporation has been in existence for over 60 years having been formed in 1948 as the Raymond Hage Company and was renamed American Benefit Corporation (ABC) in 1976. The Company specializes in managing health plans for hard working Americans and provides best-in-class service to teamsters, plumbers, pipe fitters, steel workers, carpenters, electrical workers, operating engineers, miners and laborers, among others. Following a succession of owner-operators, the Company was purchased by Charles W. (Bill) Eastwood, Jr. in 2007. ABC is the only third party administrator (TPA) in West Virginia that handles Taft Hartley plans. Its principal offices are located in Ona, WV and Charleston, WV with satellite offices in Cincinnati, OH and Chicago, IL. ABC has developed relationships that provide competitive advantages, specifically being able to offer discounts on medical procedures through a relationship with Anthem Blue Cross and Blue Shield. The Company has also established additional advantages such as state of the art information management, wellness program offerings, and consumer-driven healthcare.

**WVJIT Investment History**

**December 2009:**

699,650 Series A Preferred Unit Investment  
 8% Cumulative Monthly Dividend  
 825 Shares  
 Warrants (See below)

<u>Company</u>	<u>Date Iss.</u>	<u>Equity Inv.</u>	<u>Debt Inv.</u>	<u>Coverage%</u>	<u>Type</u>	<u>Term (Yrs)</u>	<u>Exp. Date</u>	<u># Warrants</u>	<u>Cost to Exercise</u>
ABC	Feb - 10	\$700K	-	10%	Pref. A	7	Feb 17	70K	\$63K
ABC	Aug - 11	-	\$100K	10%	Pref. A	7	Aug 18	10K	\$9K

**Dividends Received FY2016: \$55,971.96**

**Co-Investors/Lenders: Fifth Third Bank**

**Management Team**

**Charles W. Eastwood, Board of Directors Chairman**

With more than 25 years of experience in the sales and service of employee benefit programs, Charles Eastwood was appointed as American Benefit Corporation's CEO in 2007. Over his considerable career, he has performed a variety of roles at such notable companies as Prudential and John Hancock Insurance. Mr. Eastwood served 13 years with Blue Cross and Blue Shield of West Virginia prior to becoming a National Account Executive with Cigna. While at Cigna, Mr. Eastwood and his sales team received the Superior Achievement Award for delivering the highest level of sales and service to their client base. After a 10 year stint with Cigna, Mr. Eastwood took the knowledge and expertise he had gained and opened Eastwood Consulting. Mr. Eastwood holds a Bachelor's degree in Political Theory and Philosophy from West Virginia State University.

**C. Ryan Jones, Chief Executive Officer**

Ryan Jones joined American Benefit Corporation in 2007. Mr. Jones is a CPA who has an extensive background in public practice including a regional firm that concentrated its practice in the healthcare field. Mr. Jones works closely with the IT and Sales departments to achieve the financial goals of the organization. Mr. Jones holds a Bachelor's degree in Business Administration with a concentration in Accounting from West Virginia State University.

**Jim Kirk, Chief Information Officer**

Mr. Kirk joined American Benefit in 2008, after spending 20 years with Dow Chemical Company as their International Infrastructure Architect. Mr. Kirk is responsible for the design and implementation of information systems and operations. Mr. Kirk earned his Associate's degree in Chemical Technology from West Virginia State University in 1990 and his Bachelor of Science in Business Information Systems from Bellevue University in 1999. Mr. Kirk also holds a MCSE and numerous other certifications.

**Kimberly A. Wood, Chief Operations Officer**

Ms. Wood joined American Benefit Corporation in 1998 as Assistant Actuary, and was named Director of the Actuarial Department in 2005. She now serves the company as an actuary and consultant. She has extensive experience in working with both health and pension funds, including administration, plan design, benefit studies, and federal compliance.

Ms. Wood's holds a Bachelor of Arts and Master of Arts degrees in Mathematics from Marshall University. She earned the designation of Enrolled Actuary in 2009.

**John D. Galloway, Chief Financial Officer**

Mr. Galloway joined American Benefit Corporation in 2012, bringing over 17 years of experience in public accounting. Mr. Galloway is a Certified Public Accountant licensed in West Virginia. Mr. Galloway is responsible for coordinating accounting and finance functions as well as identifying opportunities to improve financial and operational systems through internal control evaluations.

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Prior to joining American Benefit Corporation, Mr. Galloway served as a Partner at Gibbons & Kawash, A.C. He gained extensive experience addressing complex financial reporting, accounting, internal control, and auditing matters for closely-held businesses, governmental entities, nonprofit organizations, and employee benefit plans.

Mr. Galloway holds a Bachelor's degree in Business Administration from the University of Charleston. Mr. Galloway is a member of the American Institute of Certified Public Accountants and the West Virginia Society of Certified Public Accounts. Additionally, he is a graduate of the 2011 class of Leadership West Virginia Program in conjunction with the West Virginia Chamber of Commerce.

### **Board of Directors**

#### **Charles W. Eastwood, Board of Directors Chairman**

With more than 25 years of experience in the sales and service of employee benefit programs, Charles Eastwood was appointed as American Benefit Corporation's CEO in 2007. (See **Management Team**)

#### **C. Ryan Jones, Chief Executive Officer**

Ryan Jones joined American Benefit Corporation in 2007. Mr. Jones is a CPA who has an extensive background in public practice including a regional firm that concentrated its practice in the healthcare field. (See **Management Team**)

#### **C. Andrew Zulauf, Executive Director, West Virginia Jobs Investment Trust**

Andy Zulauf has extensive experience in finance and venture capital, having served as Executive Director and Senior Loan Officer for the West Virginia Capital Corporation, as a Partner and Managing Director of West Virginia operations for Adena Ventures, and as Vice President and Upper Middle Market Commercial Relationship Officer for Fifth Third Bank. Mr. Zulauf is a graduate of Marshall University and the University of Charleston's Executive MBA program.

### **Products**

American Benefit Corporation provides intelligent planning and management on employee health plans. ABC also provides administrative support to ensure efficiency in the life of the benefit plan. Other services include:

1. Benefit plan design assistance
2. Medical, dental and vision claim processing and adjudication
3. Pharmacy Benefits Manager evaluation, implementation and integration
4. COBRA/HIPAA administration
5. Consumer Directed Health Plans:
  - FSA
  - HRA
  - HAS
  - VEBA
6. Comprehensive care management suite of services
7. Network analysis and optimization
8. Claims re-pricing



9. Disability/loss of time processing
10. Coordination of benefits, including Medicare Part D
11. Claim Subrogation

Over the past year, the Company has not introduced any new products or services into the market.

### **Competition/Market Summary**

#### **Aetna**

Founded in 1853 in Hartford, CT, Aetna is committed to providing individuals, employers, health care professionals, producers and others with innovative benefits, products and services. Aetna is one of the largest healthcare benefit providers in the country and is constantly growing with many M&A's over recent years. The latest acquisition, Humana, is an example of their continued desire to grow. In 2013, Aetna acquired Coventry Health Care, Inc., making the combined organization the third-largest health care benefits company in America, based on membership.

#### **Benefit Assistance Corporation (BAC)**

Established in 1992 in Hurricane, WV, BAC has become one of the largest independent regional TPAs servicing the eastern United States. Their client base ranges from 50 to 3,000 employees and the company prides itself for not being tied to the large "national" claim paying systems, and thereby having the flexibility to customize the claims processing service.

#### **Blue Cross Blue Shield**

The Blue Cross Blue Shield Association (BCBSA) is a federation of 39 separate health insurance organizations and companies in the United States. Combined, they directly or indirectly provide health insurance to over 100 million Americans. The company is headquartered in Chicago, IL.

#### **Cigna**

Cigna is a global health services company providing health care plans as well as administrative services. In addition, Cigna has an expanding international footprint in the health services arena. The company is headquartered in Philadelphia, Pennsylvania.

### **Industry Summary**

In 2016, there are many main points that will continue to keep healthcare in the public eye, ranging from a continued shortage of primary care physicians in the United States, to concerns about the sustainability of Medicare, to the strain that healthcare puts on the budgets of the states as well as employers. Costs are expected to increase in 2016 for many companies, so continuing to explore any and every solution will be critical to managing those costs, while still attracting the key talent every organization needs to be successful.

Some emerging employee benefits trends for 2016 include:

1. Moving from well-being to total population health management
  2. Industry consolidation across the spectrum, from insurers to providers to prescription benefit managers
  3. Overhaul of provider network cost structure and continued moves by insurers to narrower networks
-

- use of technology to help deliver, administer, and enroll employee benefits
4. Rapid shifting of the benefits decision-maker role from the employer to the consumer

According to a Wells Fargo report released earlier this year it states; 35% of companies plan to increase employee benefits budgets in 2016. Employers are making additional changes to medical plans for 2016. For all employers with more than 50 employees, 33% will increase the co-insurance feature, 33% will increase the percentage that employees pay toward medical premiums and 30% will add a high deductible health plan offering. These changes will place additional obligations on the employee to make intelligent healthcare decisions.

### **Affordable Healthcare Act**

The Centers for Medicare and Medicaid Services has released the latest report on the state of enrollment for the Affordable Care Act, better known as Obamacare. The CMS reported Obamacare enrollment as of the end of the 2016 enrollment period to be about 12.7 million. This included more than 9.6 million enrollees via HealthCare.gov, the federally run marketplace exchange covering 38 states. Seeing as how Obamacare ended 2015 with 9.1 million enrollees, this jump of 3.6 million people, equal to about 40%, was viewed as a big win for the program.

### **Union Membership**

The Union Membership rate for 2015 was 11.1% which was the same figure for the previous year. This rate, which is defined as the percent of wage and salary workers who were members of unions by the Bureau of Labor Statistics, has fallen significantly since the first recorded union data in 1983. Around 14.8 million workers belonged to unions in 2015. Of those union members in 2015, around 35% of workers were in the public sector, which was more than 5 times that of the private sector. And of those who belong to a union from private or public, men had a slightly higher rate.



In 2015, Gallup conducted a survey on whether or not people approved of unions. 58% of people approved compared to the 38% who did not approve of labor unions. This rate has fluctuated over the past decade. Americans' approval of labor unions has jumped five percentage points to 58% over the past year and is now at its highest point since 2008, when 59% approved. In the interim, the image of organized labor had suffered, sinking to an all-time low of 48% in 2009.

### **Significant Events**

**February 2016:** ABC is looking to coordinate an investment firm to work with retirees and active employees considering retirement. Currently, ABC is unable to convert on this market and generate ongoing revenue. ABC can sponsor retirement and financial planning workshops at the local union hall.

**December 2015:** ABC loses ones of its biggest clients. The company continues to pursue new business relations in wake of the loss.

**March 2015:** Negotiations between ABCH and its acquirer have been terminated.

**December 2014:** ABC's holding company, ABCH, completed a Letter of Intent to be acquired by an out-of-state strategic partner.

**September 2014:** ABC entered into negotiations with a strategic partner for potential acquisition.

**January 2014:** ABC closes on the acquisition of Stoner & Associates. Company utilizes operational assistance through WVCAP for marketing and website development for the newly formed company.

**December 2013:** WVJIT and WVCAP Board of Directors approve an investment, which is a closely held company similar to ABC to assist in the asset purchase of Stoner & Associates and for working capital.

**September 2013:** ABC announces it will acquire Stoner & Associates, a leading provider of custom benefit plan administration headquartered in Cincinnati. Stoner was founded in 1934 to administer health insurance policies at the local level and has become a sophisticated TPA specializing in complex plans requiring high client and participant levels. The company has 13 employees and administers 14 plans with 100 to 6,000 participants with over \$400 million in assets.

**April 2013:** ABC relocated its Trust Department from Chesapeake, Ohio to their main office in Ona, WV.

**January 2012:** ABC named one of two TPA's that can offer JAA to commercial (non-union) clients in the state of Ohio. The initial scope of the project will be school systems and hospitals.

**September 2011:** ABC successfully renegotiated the employee union contract that allowed ABC to no longer "self-fund" their employee insurance program.

**June 2011:** The Anthem/WellPoint partnership, in selling the VEBA/HRA product, is nearly market ready. The ABC Board of Directors elected Ryan Jones as President. Charles Eastwood remains active with the Company as the CEO.

**March 2010:** ABC launched its Health Reimbursement Accounts (HRAs) to its clients and hired Rodney Napier as Chief Marketing Officer to oversee this launch and other new product development. Funds to launch this program and hiring Mr. Napier were part of the WVJIT equity investment.

**December 2009:** The WVJIT Board of Directors approved an investment in ABC, and the Company issued \$700,000 in convertible preferred stock. As part of the equity financing, ABC secured a loan with Chase Bank, backed by an SBA guarantee. The loan was for \$1,150,000 and the entire proceeds were used for the consolidation of five pre-existing loans with relatively short repayment terms and the Company's current line of credit. The Chase/SBA loan is for 7 years at 5.75% interest. In addition to the SBA guarantee loan, Chase also established a \$200,000 line of credit.

### **Overall Conclusion**

Based on the foregoing, WV Jobs Investment Trust finds it most appropriate to record its investment in American Benefit Corporation at value, which is currently presumed to be the same as cost or **\$699,650**.

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Company: **ABC Holding Company**  
Website: abcwv.com  
Location: Ona, WV  
Total Employees: FT/15; PT/0  
WV Employees: FT/1; PT/0

**WVJIT Investment: \$499,230**  
**WVJIT Ownership: 8.20%**  
**Subject to GASB 62: NO**

### Leadership

Charles W. Eastwood, Board Chairman  
C. Ryan Jones, Chief Executive Officer  
Jim Kirk, Chief Information Officer  
Kimberly A. Wood, Chief Compliance Officer  
John D. Galloway, Chief Financial Officer

### Background

ABC Holding Company formed in December 2013 following ABC's acquisition of Cincinnati-based TPA, Stoner & Associates. The \$500,000 transaction allowed ABC to have an entry into the Ohio market. Stoner & Associates in comparison to ABC is much smaller in headcount as well as clientele. Stoner provides administration solutions for benefit plan management for defined contribution and defined retirement plans, long-term and short-term disability plans, medical, dental, cafeteria, and medical reimbursement plans.

### WVJIT Investment History

#### January 2014

\$299,404 Convertible Debenture Investment, 8% interest rate. (\$199,826 from WVCAP)  
Converted in April 2014  
517 shares of Common Stock

**Dividends FY2016: \$16,408.80**

### Products

American Benefit Corporation provides intelligent planning and management on employee health plans. The Company also provides administrative support to ensure efficiency in the life of the benefit plan. Other services include:

1. Benefit plan design assistance
  2. Medical, dental and vision claim processing and adjudication
-

3. Pharmacy Benefits Manager evaluation, implementation and integration
4. COBRA/HIPAA administration
5. Consumer directed health plans:
  - FSA
  - HRA
  - HAS
  - VEBA
6. Comprehensive care management suite of services
7. Network analysis and optimization
8. Claims repricing
9. Disability/loss of time processing
10. Coordination of benefits, including Medicare Part D
11. Claim Subrogation



Over the past year, the Company has not introduced any new products or services into the market.

### **Management Team**

#### **Charles W. Eastwood, Board of Directors Chairman**

With more than 25 years of experience in the sales and service of employee benefit programs, Charles Eastwood was appointed as American Benefit Corporation's CEO in 2007. Over his considerable career, he has performed a variety of roles at such notable companies as Prudential and John Hancock Insurance. Mr. Eastwood served 13 years with Blue Cross and Blue Shield of West Virginia prior to becoming a National Account Executive with Cigna. While at Cigna, Mr. Eastwood and his sales team received the Superior Achievement Award for delivering the highest level of sales and service to their client base. After a 10 year stint with Cigna, Mr. Eastwood took the knowledge and expertise he had gained and opened Eastwood Consulting. Mr. Eastwood holds a Bachelor's degree in Political Theory and Philosophy from West Virginia State University.

#### **C. Ryan Jones, Chief Executive Officer**

Ryan Jones joined American Benefit Corporation in 2007. Mr. Jones is a CPA who has an extensive background in public practice including a regional firm that concentrated its practice in the healthcare field. Mr. Jones works closely with the IT and Sales departments to achieve the financial goals of the organization. Mr. Jones holds a Bachelor's degree in Business Administration with a concentration in Accounting from West Virginia State University.

#### **Jim Kirk, Chief Information Officer**

Mr. Kirk joined American Benefit in 2008, after spending 20 years with Dow Chemical Company as their International Infrastructure Architect. Mr. Kirk is responsible for the design and implementation of information systems and operations. Mr. Kirk earned his Associate's degree in Chemical Technology from West Virginia State University in 1990 and his Bachelor of Science in Business Information Systems from Bellevue University in 1999. Mr. Kirk also holds a MCSE and numerous other certifications.

**Kimberly A. Wood, Chief Compliance Officer**

Ms. Wood joined American Benefit Corporation in 1998 as Assistant Actuary, and was named Director of the Actuarial Department in 2005. She now also serves the Company as an actuary and consultant. She has extensive experience in working with both health and pension funds, including administration, plan design, benefit studies, and federal compliance. Ms. Wood holds a Bachelor of Arts and Master of Arts degree in Mathematics from Marshall University. She earned the designation of Enrolled Actuary in 2009.

**John D. Galloway, Chief Financial Officer**

Mr. Galloway joined American Benefit Corporation in 2012, bringing over 17 years of experience in public accounting. Mr. Galloway is a Certified Public Accountant licensed in West Virginia. Mr. Galloway is responsible for coordinating accounting and finance functions as well as identifying opportunities to improve financial and operational systems through internal control evaluations. Prior to joining American Benefit Corporation, Mr. Galloway served as a Partner at Gibbons & Kawash, A.C. He gained extensive experience addressing complex financial reporting, accounting, internal control, and auditing matters for closely-held businesses, governmental entities, nonprofit organizations, and employee benefit plans. Mr. Galloway holds a Bachelor's degree in Business Administration from the University of Charleston. Mr. Galloway is a member of the American Institute of Certified Public Accountants and the West Virginia Society of Certified Public Accounts. Additionally, he is a graduate of the 2011 class of Leadership West Virginia Program in conjunction with the West Virginia Chamber of Commerce.

**Board of Directors**

**Charles W. Eastwood, Board of Directors Chairman** (See Management Team)

**C. Ryan Jones, Chief Executive Officer** (See Management Team)

**C. Andrew Zulauf, Executive Director, West Virginia Jobs Investment Trust**

Andy Zulauf has extensive experience in finance and venture capital, having served as Executive Director and Senior Loan Officer for the West Virginia Capital Corporation, as a Partner and Managing Director of West Virginia operations for Adena Ventures and, as Vice President and Upper Middle Market Commercial Relationship Officer for Fifth Third Bank. Mr. Zulauf is a graduate of Marshall University and the University of Charleston's Executive MBA program.

**Healthcare Payment Outlook**

The U.S. healthcare payments market is growing at a rapid pace, estimated at \$3.3 trillion in 2015. During Open Enrollment 2016 alone, 12.7 million consumers enrolled in a health plan through public and private exchanges – an increase of one million enrollees over 2015. As of 2015 to date, 67% of Americans are satisfied, compared with 66% in November 2014. Gallup began tracking Americans' satisfaction with the healthcare system in March 2014, at the end of the first Affordable Care Act (ACA) enrollment period.

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Americans' satisfaction appears to be influenced by the nature of their health plans, particularly how much they have to contribute to the cost. Those who receive health insurance through a union are slightly more likely to be satisfied than those who receive it through an employer, while those who pay for their own plan are the least satisfied of those who have some type of insurance. This last group includes Americans who purchased their own health insurance through the exchanges set up as part of the ACA.

### **Industry Summary**

The Union membership rate for 2015 was 11.1% which was the same figure for the previous year. This rate, which is defined as the percent of wage and salary workers who were members of unions by the Bureau of Labor Statistics, has fallen significantly since the first recorded union data in 1983. Around 14.8 million workers belonged to unions in 2015. Of those union members in 2015, around 35% of workers were in the public sector, which was more than 5 times that of the private sector. And of those who belong to a union from private or public, men had a slightly higher rate.

In 2015, Gallup conducted a survey on whether or not people approved of unions. 58% of people approved compared to the 38% who did not approve of labor unions. This rate has fluctuated over the past decade as shown below. Americans approval of labor unions has jumped five percentage points to 58% over the past year and is now at its highest point since 2008, when 59% approved. In the interim, the image of organized labor had suffered, sinking to an all-time low of 48% in 2009.

#### *Do you approve or disapprove of labor unions?*

	<b>% Approve</b>	<b>% Disapprove</b>	<b>% No opinion</b>
<b>2015 Aug 5-9</b>	<b>58</b>	<b>36</b>	<b>7</b>
<b>2014 Aug 7-10</b>	<b>53</b>	<b>38</b>	<b>10</b>
<b>2013 Aug 7-11</b>	<b>54</b>	<b>39</b>	<b>7</b>
<b>2012 Aug 9-12</b>	<b>52</b>	<b>42</b>	<b>6</b>
<b>2011 Aug 11-14</b>	<b>52</b>	<b>42</b>	<b>6</b>
<b>2010 Aug 5-8</b>	<b>52</b>	<b>41</b>	<b>7</b>
<b>2009 Aug 6-9</b>	<b>48</b>	<b>45</b>	<b>7</b>
<b>2008 Aug 7-10</b>	<b>59</b>	<b>31</b>	<b>10</b>
<b>2007 Aug 13-16</b>	<b>60</b>	<b>32</b>	<b>8</b>
<b>2006 Aug 7-10</b>	<b>59</b>	<b>29</b>	<b>12</b>

### **Significant Events**

**March 2016:** ABCH closed on the agreement and acquired the full service management information systems company.

**February 2016:** ABCH entered into agreement to acquire a full service management information systems company located in Chicago, IL providing total software solutions.

**April 2015:** ABCH was in discussions to acquire and add a local business consulting company within ABCH. The consulting company specializes in healthcare and insurance.

**March 2015:** ABCH and its strategic partner terminated acquisition negotiations.

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**WV JOBS INVESTMENT TRUST BOARD  
ANNUAL INVESTMENT ANALYSES  
JUNE 30, 2016**

**December 2014:** ABCH signed LOI for acquisition by a strategic partner. Terms of the agreement were undisclosed and negotiations continued.

**May 2014:** ABCH reported strong financial 1Q14 performance following the acquisition of Stoner & Associates. Management team announced several prospects the Company was hoping to close by mid-year.

**March 2014:** ABCH engaged Malone Consulting, Kick-it, LLC and Wolfe Design for marketing and website development. Funds were provided through WVCAP's Operational Assistance Fund.

**December 2013:** WVJIT Board of Directors approved an investment of up to \$500,000 in ABC Holding Company.

**Overall Conclusion**

Based on the foregoing, WV Jobs Investment Trust finds it most appropriate to record its investment in American Benefit Holding Company at value, which is currently presumed to be the same as cost or \$499,230.

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**Snapshot:**

Company: **Berkeley Springs Instruments**  
Website: bsientry.com  
Location: Berkeley Springs, WV  
Total Employees: FT/7; PT/3  
WV Employees: FT/3; PT/0

**WVJIT Investment: \$0.00**  
**WVJIT Ownership: 0.0%**  
**Subject to GASB 62: NO**

**Leadership**

**Eugene Silverman, Ph.D., President**  
**Rob Leary, Vice President of Sales**

**Background**

Berkeley Springs Instruments, LLC (BSI) located in Berkeley Springs, WV, has pioneered the development of innovative remote sensing and remote controlled and robotic technology for over 30 years. BSI and their legacy companies have designed and fabricated remotely controlled inspection systems, robotic machines and unique monitoring systems for the real-time assessment of mechanical structures worldwide. BSI specializes in the fabrication of innovative ultrasonic sensors and multi-parameter sensor networks for monitoring the mechanical integrity of tanks, pressure vessels and pipelines. BSI develops proprietary software and hardware that provides a positive environmental benefit, protects personnel, and enhances current and future energy resources while helping customers perform in a competitive environment. BSI serves a broad range of industries including petroleum, petrochemical, electric utilities, pharmaceuticals and municipalities.

**WVJIT Investment History**

**April 2013**

\$500,000 Convertible Note accruing 8% interest due at maturity (March 19, 2015). The Convertible was disbursed in two tranches upon meeting pre-determined milestones. The second tranche matures December 2015. No Warrant Coverage

**Total WVJIT Investment:** \$500,000 (\$250,000 funded through WVCAP)

**Interest Income FY 2016:** 86,451

**Co-Investors/Lenders:**

Eugene Silverman  
Pamela Silverman  
Michael O'Connell  
Phil Sturman

**Board of Directors/Management**

**Eugene Silverman, Ph.D., President**

Dr. Eugene Silverman received a Bachelor of Science degree in Physiology and Human Factor Engineering from the University of Maryland at College Park in 1969 and his doctorate in Human Factors, Mechanical Engineering and Acoustics from The Catholic University of America in 1976. Dr. Silverman is an industrial technologist with over 35 years of experience in the design and fabrication of smart sensors and remotely controlled/mobile robotic systems for tank inspection, pipeline inspection and mechanical integrity assessment. His work includes equipment concept design, product development and product manufacturing. Dr. Silverman has pioneered the application of a range of mechanical integrity assessment techniques for storage tank, piping and pipeline management programs. Dr. Silverman managed the development, fabrication and commercialization of over 12 unique robotic systems used for the cleaning and inspection of over 1,500 storage tanks worldwide. In addition, he has over 20 years of experience in the operation and maintenance of commercial nuclear reactors. He also has been granted six patents and has two additional patents pending.

**Rob Leary, Vice President of Sales**

Rob Leary is COO and Sales Manager of BSI. Mr. Leary has a deep knowledge of the oil and gas industry and the water and wastewater market. Mr. Leary lists the following experiences and specialties: direct sales, international sales, business development, set up and management of manufacturer's representative network, negotiating multi-year contracts, launching new products, relationship building with key customers, relationship management with alliance partners, and Six Sigma. From 2003 to 2005, Mr. Leary was a Core Account Manager at Praxair, Inc., covering a \$5 million territory in Alabama, Tennessee, Missouri, Arkansas and Georgia. From 2005 through 2007, Mr. Leary covered the northern United States and Canada. In January of 2008, he became the Midwest Sales Manager for HMT Inc., covering a \$13.5 million territory ranging from North Dakota and South Dakota to Kentucky and Ohio. In July 2009, Mr. Leary served as HMT's National Sales Manager of Water and Wastewater, which covers the United States and Canada.

**General Richard I. Neal, Board Member**

General Neal is currently serving as Director of Audio MPEG and Sisvel U.S. patent licensing company located in Alexandria, VA. General Neal is a four-star general whose career spans nearly three decades. Since retiring in 1988, he has gained extensive private sector experience in the areas of intellectual property and in working with defense-related companies while serving on the Boards of several companies.

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### Products

The BSI Eagle Array merges Ultrasonic Testing with wireless cellular technology.

#### Wireless Remote Mechanical Integrity Monitoring System for Infrastructure Management Features:

- Low-power ultrasound material evaluation
- Wireless communication (cellular service provided by Sprint®)
- Solar-powered option
- Installed on wide variety of mechanical structures
- Expandable sensor inputs to accommodate vibration, moisture and atmospheric monitoring
- Inexpensive to manufacture
- Internet-accessible: Sensor gateway through a portal onto the customers desktop

#### Advantages:

- Proprietary and patented (software)/patent pending technology (system)
- Provisional system utility and method patent
- Prototype system operational: existing remote monitoring sensor (corrosion monitoring and seismic) gateway established
- Oil industry endorsement and collaboration

#### Development:

- 7 Commercial (beta) units in the field
- Validation program near completion for one customer (AERA, Bakersfield, CA)
- Collecting monthly monitoring revenue
- Currently working on 2nd generation electronic packaging
- Initiated guided wave development to expand capability
- Underground installation complete and monitoring underway
- Beta solar unit completed and operational
- Joint testing program underway with major global mechanical testing and inspection organization

### Competition/Market Summary

The Global Smart Sensors Market is expected to reach at \$9.22 billion in 2018, growing at a CAGR of 11.53% over the period 2014 to 2020. The growth of the market is fueled by increasing adoption of smart sensors in the automobile sector. It has emerged as one of the top contributors in the overall market size due to increase in the number of vehicles by emerging economies. The increasing market demand for smart sensors is being driven by the growing need for energy saving devices. The changing scenario demands energy efficient equipment and products considering the fact that the businesses are on energy saving mode. Also, the demand for sensors across various industries has also increased leading to increased traction in the overall market.

The competitive environment in this market is expected to intensify with an increase in R&D innovations and M&A in the coming years. The market is also likely to witness a growing trend of local acquisitions and M&A by the leading players. The key players in this market are expected to diversify their geographical presence with a focus on the Americas until 2020.

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A key driver for market growth is the adoption of sensor technology in smart factories - with digitization across industries, demand for smart factories, along with technologies such as ultrasonic sensors and wireless networks, is rising. Smart factories reduce human involvement, product defects, machine downtime and operational costs; enhance information sharing and operational control; and avoid major factory accidents. Industrial manufacturers tend to automate end-to-end processes using sensors, robots, wireless systems, enterprise software, and automation solutions. This helps them identify best industry practices, share information, retrieve data, and maintain documents.

The big players who provide the different level sensor technologies for end user applications and customized services are: Baumer, Honeywell International, Pepperl+Fuchs, Rockwell Automation, and Siemens. Other prominent vendors in the market are: Acuson, APC International, Balluff, Blatek, Banner Engineering, BeStar Electronics Industry, Esaote, GE, KEYENCE, Maxbotix, Microsonic, Migatron, Murata Manufacturing, Omron, Philips, Precision Acoustics and Vermon.

### **Significant Events**

**January 2016:** Loan paid in full.

**June 2015:** BSI provided a reorganizing plan to organize the Company and prepare for the next round of funding. Both lenders (WVJIT and INNOVA) are reviewing the proposal. The BSI membership voted a new member to the Board (replacing Mr. O'Connell), General Richard Neal, who serves as Director of Audio MPEG and Sisvel US patent licensing company located in Alexandria, VA. General Neal is a four-star general whose career spans nearly three decades.

**June 2014:** The second quarter 2014 sales and marketing report reflected several items in the pipeline. A prospective client engaged BSI in a plug-n-play modification of the Eagle array. Comparing 2014 to 2013 (same time period), Array customers were 9 and 2 respectively. The Company worked on IMPACT, an ultrasound pulse acquired process system which can be used outside of the Array.

**March 2014:** BSI indicated sales and development were ahead of schedule and looked for next round of financing. Projections were on track. In June 2014, the Company continued to look for the next phase of funding. Additionally, the Company finalized a partnership with major prospective clients.

**February 2014:** BSI was honored and awarded the Governor's Award at the IOF-WV Innovation Day for Leadership in Advanced Green Manufacturing for "development and production of solar powered Eagle Array Wireless Sensors that monitors pipeline integrity."

**December 2013:** BSI had several projects for 1Q 2014, with an anticipated revenue of over \$100,000. The Company was working with Tulsa University Sand Management Projects (TUSMP) on erosion tests on the Eagle Array. The findings of this test will be shared with the TUSMP advisory board.

BSI was working to obtain Metlab Certification. This certification will allow the Company to sell its Array to those refineries who require such certifications. BSI was also working on a "Hockey Puck" transducer product. It mimics the Eagle Array, but on a smaller scale. It uses the same hardware and software as the Eagle Array.

**September 2013:** BSI shifted to a multi-layered sales strategy, aggressively targeting upstream, midstream and down-stream clients for the petroleum, energy and chemical industries. The Company provided a very strong pipeline of prospective customers.

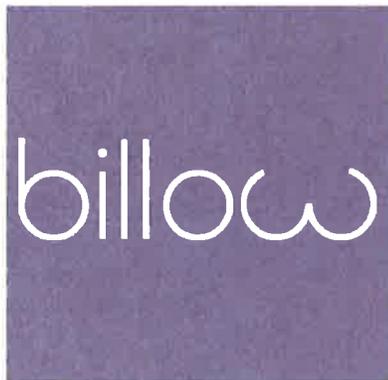
**April 2013:** BSI closed on funding transactions with WVJIT and INNOVA.

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Overall Conclusion

Based on the foregoing, the WV Jobs Investment Trust finds it most appropriate to record its investment in Berkeley Springs Instruments, LLC at value, which is **\$0.00**.

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**Snapshot:**

Company: **Billow Global, Inc.**  
Website: [BillowGlobal.com](http://BillowGlobal.com)  
Location: Charleston, WV  
Total Employees: FT/1; PT/1  
WV Employees: FT/1; PT/1

**WVJIT Investment: \$50,000**  
**WVJIT Ownership: 0.0%**  
**Subject to GASB 62: NO**

**Leadership**

**Marnie Rustemeyer**

**Background**

Billow Global, Inc. ("BGI") is the first premium breast support pillow company for women who have trouble sleeping due to discomfort resulting from surgery, nursing and breast size. It has a patent-pending ergonomic design that can embrace the individual and assist with comfortable sleep. The pillow addresses each element of a woman's need for perfect breast, back, underarm and neck support.

**WVJIT Investment History**

**February 2016**

\$50,000 Promissory Note; 6% Interest Rate  
Warrants: 10% coverage; expiring in seven years.  
Maturity: August 2017

**FY2016 Accrued Interest:** \$1,152.69

**Co-Investors/Lenders/Board Members**

INNOVA  
Michael Kalogris

**Products and Services**

The main product produced by BGI is the high quality pillow. The Billow Pillow is an all-natural breast support pillow for women who have trouble lying on their stomach due to breast pain and discomfort resulting from surgery, nursing, breast size or mastalgia. The Billow Pillow is ergonomically designed to fit to each woman's body shape resulting in an enhanced experience whether she is resting or sleeping. The product is 100% organic, chemical and cruelty free. The outer shell is organic cotton and the Billow is filled with eco-pure wool, which is naturally lightweight, breathable, flame, dust mite and bug resistant. The Billow Pillow retails for \$200. The manufacturer holds the inventory and ships the order directly from their location.

### Competition/Market Summary

In 2015, there were more than 2.8 million women with a history of breast cancer in the United States. Breast Surgeons report around 80% (or 2,240,000) of these women will elect to have reconstructive surgery and subsequently experience pain and discomfort.

Women also have breast surgery for cosmetic reasons. Breast surgery has been reported to be number one in all plastic surgeries with over 300,000 surgeries and \$3 billion spent in the U.S. in 2014. The demand for a higher specialty pillow is very apparent within this group, along with mothers with newborn babies who breast-feed and can also experience extreme sensitivities, especially while lying on their stomach during sleep or a massage. Over one and half million cosmetic surgeries were carried out in 2014 in the U.S. Of these surgeries, 27% were related mainly to breast augmentation. Breast augmentation was in fact the most popular procedure carried out during that year with over 250,000 procedures being granted.

Post diagnosis, cancer treatment involves various methods depending upon type and severity of cancer. The cancer treatment market is growing at a significant rate due to increase in the incidence of cancer cases with the growing awareness among people about various stages and availability of treatment of cancer. In addition, government initiatives and improvement in the healthcare facilities is driving the global market for cancer treatment. Breast cancer refers to the uncontrolled growth of malignant cells in the breast tissue. Rising prevalence of breast cancer and growing number of awareness programs such as the Breast Reconstructive Awareness Campaign, are expected to encourage women to undergo reconstructive surgeries. Lack of appropriate reimbursement policies supporting cosmetic surgical procedures is expected to impede market growth over the next six years. The breast cancer therapeutics market in the eight major markets is expected to increase in value at a CAGR of 7.3%, from \$10.4 billion to over \$17.2 billion.

The physical therapy industry is also a targeted industry for the Company. In 2014, around 18% of women in the U.S. received at least one massage. Billow Global has sold several pillows to the Greenbrier Spa as well as Nemocoln Spa in PA. Being able to sell the Billow Pillow to therapy clinics will provide the Company with another target market as well as developing a strong link within this industry. In 2014, research carried out by the American Massage Therapy Association showed that in the U.S. the massage therapy industry stood at \$11.7 billion.

### Competitors

BGI offers several advantages over the competing companies that offer similar products. The three main competitors identified are Descansa, Comfy Breasts and Core Products Ladies Comfort Cushion.

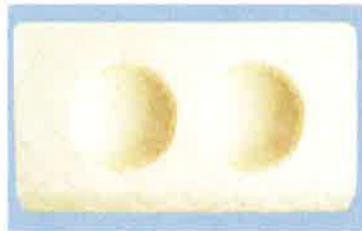
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Descansa



Located in LA, California, Descansa produces a breast pillow that supports an individual while lying on their stomach. It claims to reduce strain on the neck, shoulder and back. At \$58 this product is considerably inexpensive when compared to Billow, however, the quality of product and design cannot compare. Some issues with this product are that it is designed with two circular holes in the pillow that are supposed to comfort the individual. The pillow comes in sizes small through large for women with varying breast sizes. The lack of specificity with this product does not allow for each customer to experience the level of comfort the Billow Pillow can offer. Descansa only has this one product currently on the market. The Descansa products are part of a larger company called Feminnova that sell various innovative products for women. Feminnova has patents for each new product and their products can be bought online or in selected shops, mainly on the west coast. Ola-la is an example of a different product sold under the Feminnova umbrella. Ola-la is a set of unique pads designed especially for women. Labeled the 'Ultimate sanitary napkin protection' that is available in a range of fashionable styles and colors.

Comfy Breasts



Comfy Breasts, who operate out of San Diego, CA claims to offer a professional relaxation system through their pillow and offers relief not only for women's breasts, but also for their lower back and other body parts. Their main product is a full body pillow that offers support for the lower back as well as offering an opening for your breasts to rest in without being squashed. The full body pillow is large and is heavier than a regular pillow. The product line offered is larger than that of Descansa. Comfy Breasts currently have five products on the market that appeal to a similar target market to that of Billow. In addition to selling a body pillow, Comfy Breasts also provides a carry bag as well as different styles of their full body pillow that are tailored towards men and pregnant women. The Company sells its products via its website. The full body pillow is more of a relaxation pillow than a health-orientated product. The price range for these products are anywhere from \$79 to over \$120.

Core Products Ladies Comfort Cushion



Core Products International, Inc. was founded in 1988 with the idea that therapeutic products should be comfortable to wear and use. CPI, Inc. is by far the largest of the competitors as it offers different therapeutic relief for virtually every body part. In addition to offering pillows or comforters, the Company also offers braces and hot and cold therapies. Phil Mattison created CPI, Inc. 28 years ago and today is president of the Company. The Tri-Core pillow, one product CPI sells nationwide, is widely recommended by chiropractors. The ladies comfort cushion is the product that is most aligned with the Billow Pillow and other competitors in this area. This product provides facedown comfort for large breasted patients. The standard option features a layer of resilient foam. Deluxe option features an additional layer of memory foam for added comfort. CPI has a series of products on the market that targets men and women. They have well over twenty products for all parts of the body. This product is sold via Amazon and Wal-Mart, as well as online at CPI. The price range for this product is \$90-\$130 depending on the style or quality of the product that it offers in a variety of colors.

Significant Events

**June 2016:** Billow Global continues its marketing effort to medical and spa customers. It has received solid press from Vogue, Vanity Fair, Self and WV Living. The Company is seeking a new manufacturer and has hired a part-time employee.

**February 2016:** Billow Global receives funding from WVJIT and other investors.

Conclusion

Based on the foregoing, the WV Jobs Investment Trust finds it most appropriate to record its investment in Billow Global, Inc. at value, which is currently presumed to be the same as cost or **\$50,000**.

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**Snapshot:**

Company: CampaignR, LLC  
Website: omnipledge.com  
Location: Morgantown, WV  
Total Employees: FT/0; PT/0  
WV Employees: FT/0; PT/0

WVJIT Investment: \$55,000  
WVJIT Ownership: 0.0%  
Subject to GASB 62: NO

**Leadership**

Ricky Kirkendall, Co-President  
Sam McLaughlin, Co-President

**Background**

CampaignR, LLC is a newly formed application Software Company set to launch its initial software product called Raisin. Raisin provides cloud-based software solutions for non-profit organizations, family foundations, religious institutions and political campaigns. These solutions include donor registry, database management and predictive analytics. Though in its infancy, the CampaignR plans to expand its solution capability to connect to social media networks such as Facebook and Twitter. In addition, they offer professional services, including consulting, support and training services to its customers to facilitate the adoption of its cloud solutions. CampaignR sells and markets its services on subscription basis. The Company was founded in 2013 by West Virginia natives Ricky Kirkendall and Sam McLaughlin. It is headquartered in Morgantown, WV.

**WVJIT Investment History**

**October 2013**

\$110,000 Promissory Note; 7% Interest Rate

Initial disbursement: \$55,000; Follow-on Disbursement to occur after Company achieved \$10,000 in gross sales in six months following initial disbursement. Company failed to achieve gross sales milestone. WVJIT ownership changed from 5% to 10%.

**Warrants:** 10% priced at \$10.00 with no expiration date.

**Maturity:** May 30, 2016

**FY2016 Accrued Interest:** \$6,647.74

**Co-Investors/Lenders/Board Members**

Lawrence Fine	Andrew Zulauf
Mike Green	Paul Gabriel

**Products and Services**

**Raisin** - Cloud-based fundraising CRM platform for non-profits primarily leading through its mobile application for both the iPhone and the Android devices.

**OmniPledge** – SMS based donation service that can be used by individuals, organizations and politicians to take donations. This will be the Company’s primary operating product line.

**Legacy**- Nonprofit Social Media platform for nonprofit organizations and donors

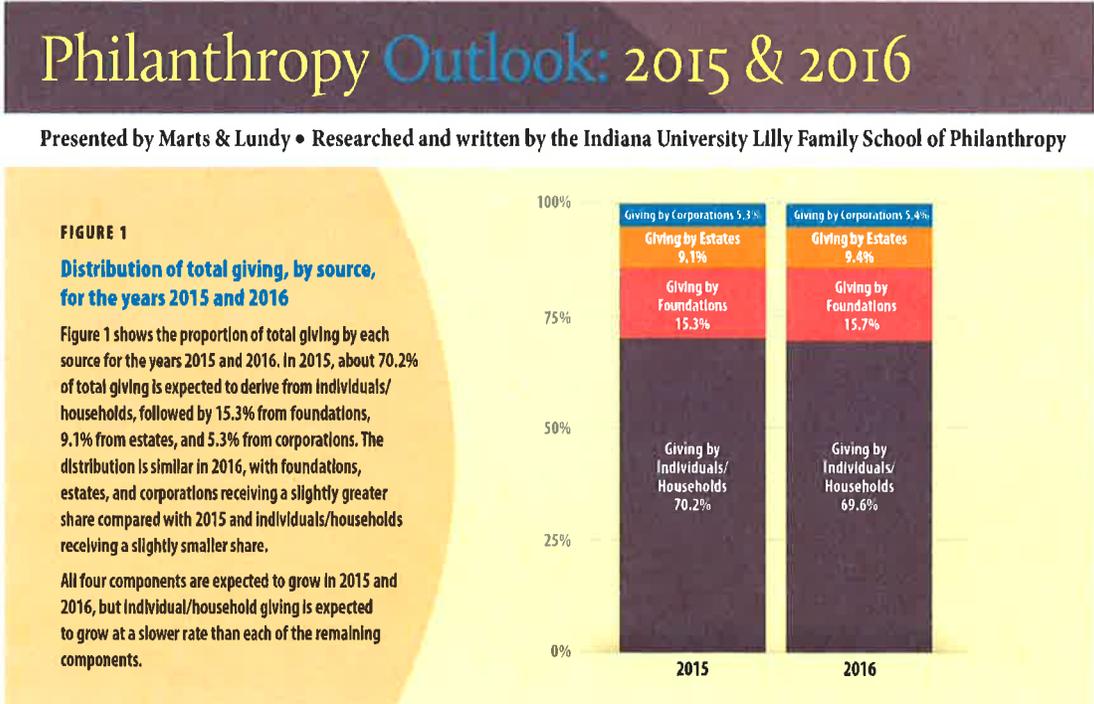
**Competition**

**Mobile Cause** – Mobile Cause is an integrated fundraising and communication platform designed to do three things: 1—Gain New Donors, 2—Increase Recurring Gifts and 3—Engage Supporters. This cloud based platform works to transform charities, churches, universities, nonprofit organizations, political groups, socially responsible corporations and philanthropists into mobile fundraising experts. Customers gain access to powerful and easy to use tools for compelling mobile and social campaigns.

**Give By Cell**- Launched in 2008, Give by Cell is a trusted Mobile Fundraising solution provider with more than four years of experience in providing unique, affordable and effective mobile technology services to more than 2,000 organizations. It offers three main Mobile Fundraising platforms: Mobile Give, Mobile Donate and Mobile Pledge, all of which allow organizations to accept donations via text message and expand fundraising capabilities through mobile technology.

**Philanthropic Market Summary**

A new report from the Lilly school of Philanthropy projects a healthy increase in giving over 2015 and 2016. This first report projects an increase in charitable giving of 4.8% in 2015 and of 4.9% in 2016, spread in the manner exhibited below:



The amount the average American gives per year is predicted to increase by 4.4% in 2015 and by 4.1% in 2016. The way this is classified is by the giving standards. Giving by individuals/households includes cash and non-cash donations contributed by all U.S. individuals and households— including those who itemize their charitable contributions on their income taxes and those who do not—to U.S. charities. Personal income is directly related to how much individuals/households have at their disposal to give. Because of this linkage, increases in personal income in both years will positively influence total giving in 2015 and 2016. Giving by foundations that is defined as and includes grants made by all U.S. foundations to U.S. charities. The foundation types included in this prediction include community, private (including family), and corporate foundations is predicted to increase by 7.2% in 2015 and by 6.7% in 2016. Giving by corporations that includes all IRS itemized cash and non-cash donations contributed by all U.S. corporations to U.S. charities is predicted to increase by 6.0% in 2015 and by 4.8% in 2016.

The Philanthropy Outlook 2016 and 2017 projects that the changes in total giving for 2016 and 2017 will exceed the 5-year, 10-year and 25-year annualized average rates of growth in total giving and will be just slightly below the 40-year average growth rate of 4.4 percent. Giving by all source types is expected to rise in 2016 and 2017, the report projects. In each of the two years, growth in giving by foundations will be the largest, followed by growth in giving by estates and corporations. Individuals/households will give more in 2016 and 2017 as compared with prior one-year periods, but growth in giving by this source will be a bit more modest than the growth from the other sources, reflecting the unevenness of economic trends that shape households' giving. Individuals/households represent the vast majority of charitable giving in the U.S.

Giving to education includes support for higher education, private K-12 schools, public school foundations, libraries and many other types of educational organizations. Historically, giving to education at all levels has represented about one-sixth of all U.S. giving. According to the report, economic factors that are expected to have the most significant, positive impact on U.S. charitable giving in 2016 and 2017 include projected growth in the S&P 500 Index, personal income, and the net worth of households and nonprofits, among others. However, the report stresses certain conditions, such as changes in tax policy or significant changes in the world or U.S. economy, could affect the predictions for giving.

### **Significant Events**

**June 2016:** CampaignR is in negotiations with an interested management team to take over the operations of the Company.

**May 2015:** CampaignR was set to launch Legacy platform in Summer of 2015.

**March 2015:** CampaignR continued to work on the Software development of the Legacy Platform and provided the Board of Directors a 2015 Budget forecast.

**December 2014:** CampaignR provided user-based milestones for its Legacy product. To obtain \$27.5K of the second disbursement, the Company needed to achieve 5,000 users. The second half of the disbursement was to be triggered upon the Company achieving a total revenue milestone determined by the Company and the Board of Directors.

**June 2014:** CampaignR introduced Omnipledge, the SMS donation platform to work in conjunction with existing online platforms.

**March 2014:** CampaignR continued business development for the Raisin Platform and met with nonprofit and political organizations within WV. The Company also participated in Innovation Day at the State Capital.

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**WV JOBS INVESTMENT TRUST BOARD  
ANNUAL INVESTMENT ANALYSES  
JUNE 30, 2016**

**December 2013:** CampaignR developed the mobile application software for both iPhone and Android devices. The Company also became one of the first tenants at WVU's Launchpad, the University's entrepreneurial incubator.

**October 2013:** CampaignR closed a \$110,000 promissory note investment from WVJIT with only 50%, or \$55,000 advanced at closing.

**Conclusion**

Based on the foregoing, the WV Jobs Investment Trust finds it most appropriate to record its investment in CampaignR, LLC at value, which is currently presumed to be the same as cost or **\$55,000**; however, WVJIT placed the loan on non-accrual.

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**Snapshot:**

Company: **CereDx, Inc**  
Website: <http://ceredx.com>  
Location: Morgantown, WV  
Total Employees: FT/3; PT/3  
WV Employees: FT/3; PT/3

**WVJIT Investment: \$250,000**  
**WVJIT Ownership: 0.00%**  
**Subject to GASB 62:**

**Leadership**

Tara L. Barr, PhD, RN, FAHA, Co-Founder & Chief Scientific Officer  
Richard Giersch MS, Co-Founder & Chief Executive Officer  
Valerie M. Gionis, Co-Founder & Chief Operating Officer  
Dietrich A. Stephan, PhD, Board & SAB Member

**Background Information**

CereDx, Inc is focused on advancing the treatment of stroke through the development of next-generation precision diagnostics and therapeutics. Currently, there is no simple test to diagnose stroke or time of onset. Patients rely on physician/patient assessment and neuroimaging. Approximately 2.2 million people each year are having unnecessary stroke workups, costing the U.S. Healthcare system at least \$5.5 billion a year. More serious are the patients being misdiagnosed with other conditions that mimic a stroke. Time of stroke is important. Hospitals take, on average, 60-80 minutes to diagnoses a stroke. Delay decreases or eliminates a patient's chance to receive lifesaving clot-busting drugs as they cannot be administered past 4 ½ hours of onset. It is estimated only 3-8% of eligible patients receive these drugs due to physicians being unable to determine the time of onset.

**WVJIT Investment History**

In 2016, WVJIT invested \$250,000 as a senior secured convertible note at a fixed 8% interest rate. The note will accrue simple interest and the maturity date of the note is 24 months from disbursement. CereDx does have the option to extend the note for an additional 12 months, but the interest rate will increase to 10% during the extension period beyond the maturity date. The Company is currently in negotiation for the matching funds to trigger the initial investment from WVJIT.

**Warrants:** 20% Warrant coverage, redeemable at 20% discount of preferred shares in a qualified financing, expiring in five years.

**Total WVJIT Investment:** \$250,000 investment from WVJIT through the WVCAP.

**Accrued Interest 2016:** \$54.76

**Co-Investors/Lenders:** INNOVA, WVU Research Group, WV Growth Investment Fund

**Board of Directors**

**Richard F. Giersch** (See Bio Below)

**Tara L. Barr** (See Bio Below)

**Valerie M. Gionis** (See Bio Below)

**Dietrich A. Stephen** (See Bio Below)

**Guy Peduto (Innova Commercialization Group)**

Guy Peduto joined the INNOVA Commercialization Group in April 2006. Prior to joining INNOVA, he held the position of Director, Commercial Programs at the Institute for Scientific Research, Inc. While there, he developed strategies for the commercial utilization of ISR's technology and research applications in such areas as biomedical research, education, software development, mining safety and communication, VTOL aerial vehicles, and automotive controls and diagnostics. Mr. Peduto's background includes 20 years of strategic planning experience with an emphasis on product introduction, leadership for early stage and start-up companies as well as market and business development. This experience includes business formation, product development, go-to-market and market development strategies for industrial and commercial manufacturers, consumer goods, advanced research and development, healthcare, financial institutions, Internet start-ups and retail chains. Mr. Peduto received a Bachelor's degree in Business Administration with a major in Marketing from West Virginia University.

**Michele O'Connor (WVJIT)**

Michele O'Connor has more than 25 years of experience in the finance and banking industry. She attained her Certified Financial Planner designation along with the Accredited Investment Fiduciary Manager designation. She was the Portfolio Manager for the Trust Department at First United Bank and managed over \$600 million for the department. Currently, Ms. O'Connor is the Investment Manager for the West Virginia Jobs Investment Trust, a leading venture capital firm focused on turning the innovation of new ideas into successful world-class companies. Ms. O'Connor graduated Magna Cum Laude with a BA in Finance from the University of Maryland College.

**Management Team**

**Tara L. Barr, PhD, RN, FAHA, Co-Founder & Chief Scientific Officer**



Dr. Barr is CereDx's Chief Scientific Officer and has an adjunct appointment at the University Of Pittsburgh School Of Nursing. She is a 2012 inductee to the Robert Wood Johnson Foundation Faculty Nurse Scholars Program and serves on the Chair of the American Heart Associations' Cardiovascular and Stroke Nursing Council. Dr. Barr's work has spanned from basic preclinical models of neurological disease mechanism to qualitative research methods to understand the human response to disease and the application of genetics and genomics in clinical research. Her program of research is centered on the use of genomic methodologies to identify biomarkers of cardiovascular disease, understand their relationship with post-stroke inflammation and immunity, and define the contributing environmental factors related to health disparity in underserved populations. Dr. Barr began her career as a neuro-trauma nurse at the University of Pittsburgh. She received her PhD in Translational Neuroscience Nursing Research from the University of Pittsburgh and

the Graduate Partnership Program of the National Institutes of Nursing Research. Her doctoral work established the use of gene expression profiling as a novel method for the study of ischemic stroke recovery. She discovered a novel genomic profile that can be used for triaging stroke in the acute care setting. As a post-doctoral fellow and Nurse Specialist in the intramural programs of the National Institute of Nursing Research (NINR) and the National Institute of Neurological Disorders and Stroke (NINDS), she developed and established a study examining novel biomarkers and the effects of traumatic brain injury and post-traumatic stress disorder on post-deployment military personnel.

**Richard Giersch MS, Co-Founder & Chief Executive Officer**



Mr. Giersch currently serves as the Director of Venture Development for West Virginia University. He graduated with a BS from WVU and a received a graduate degree from UNC Chapel Hill. He is a seasoned biotechnology and venture capital executive. After attending UNC Chapel Hill, he became Director of Information at Fusion Ventures, a venture capital firm where he led technology evaluation and due diligence. He then accepted the Chief Operating Officer position with ZenBio, a regenerative medicine company and research tool provider. In that role, he led licensing, manufacturing operations, university partnerships, grant development and sales operations. He then became Director of Grants and Development for 21 Ventures, at the time the third largest green and renewable energy venture firm in the world. In that position, he ran a team that secured over \$65M dollars in funding and assisted with investment portfolio evaluation. Just prior to joining WVU, Giersch was the Chief Science Officer and corporate liaison for the New Jersey Center for Biomaterials and served on the Rutgers/Cleveland Clinic Executive Committee of the Armed Forces Institute for Regenerative Medicine, a \$50-million-dollar initiative to develop advanced treatment options for wounded warriors. In his career he has taught classes and seminars on entrepreneurship and technology evaluation at UNC Chapel Hill, NY Academy of Sciences, the NYU Stern School of Business, and TechCoire, a Sacramento Entrepreneur's group.

**Valerie M. Gionis, Co-Founder & Chief Operating Officer**



Ms. Gionis has served a broad range of leadership roles in multiple disciplines, including marketing, operations, and grant administration. As most of her career has been spent with small innovation firms in technology and biotechnology spaces, the challenges she faced demanded cross-functional expertise and an ability to do more with less. Ms. Gionis currently serves as the Marketing Programs Manager for Optivia Biotechnology, where she has revamped the firm's brand, market presence, and go-to-market strategy. Her work has resulted in Optivia now being the most widely-recognized brand in molecular transporters. Ms. Gionis previously served as VP of Marketing and Corporate Communications for TV Magic where she positioned this video systems integrator into its most successful new vertical market. Her previous biotech experience includes Director of Operations for Vala Sciences Inc., a biotechnology company in San Diego, CA that develops and markets cell-based image analysis software and reagents to researchers and pharmaceutical companies. Prior to her role with Vala Sciences, Ms. Gionis served as Marketing Communications and Patent Manager at Q3DM Inc., a life -sciences start-up that brought to market a high content imaging and analysis systems for life science research and diagnostics before it was sold to Beckman Coulter, Inc. in 2003.

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**Dietrich A. Stephan, PhD, Board & SAB Member**



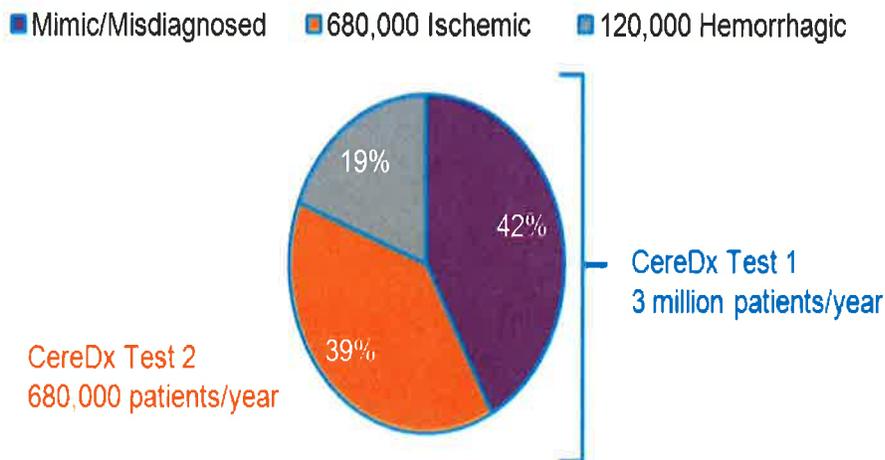
Dr. Stephan has been involved with over 10 start-up companies, two of which had successful exits totaling \$460M. Dr. Stephan has helped these companies raise over \$80M with his involvement. He is a CereDx shareholder committed to the success of bringing its highly innovative stroke diagnostics to market. Dr. Stephan is a human geneticist and entrepreneur who works to positively disrupt the health care system to improve patient outcomes. He is credited with being one of the fathers of the field of Personalized Medicine based on both his work in deeply sub-classifying common diseases using molecular scanning technologies and subsequently putting in place the diagnostic testing infrastructure and paradigms to enable personalization. Dr. Stephan's academic career includes his current role as Professor and Chairman of Human Genetics at the University of Pittsburgh. He previously served as the founding Chairman of the Neurogenomics Department at the Translational Genomics Research Institute. Dr. Stephan has been featured twice on the front page of the Wall Street Journal for his game-changing contributions to healthcare and publishes on the business of science in journals such as the Harvard Business Review.

**Products**

CereDx's first product will focus on stroke vs. no-stroke diagnostic test. The test has the potential to serve over 3 million people annually, significantly improve patient outcomes, and save billions of dollars in healthcare system costs. The Company's second product will focus on time of stroke onset test. These diagnostic tests should easily be integrated into current diagnostic treatment paths in ER's, EMS vehicles, urgent cares and primary care offices. These tests are expected to provide a clear diagnosis in 20 minutes or less.

In the U.S. market alone, 3 million people are treated to determine if they are having a stroke. Of those patients, 680,000 test positive. The first test being developed by CereDx would specifically assist medical personnel to determine if the patient was having a stroke without waiting for neuroimaging results. Worldwide, this number is closer to 15 million annually.

**US Market – Patients/year**



Preliminary data indicates that the CereDx stroke profile performs better than the current standard of care.

	<b>CURRENT STANDARD</b>	<b>CereDx PRELIMINARY DATA</b>
<b>Sensitivity</b> true positive- STROKE	83%	93%
<b>Specificity</b> true negative - NO STROKE	44%	96%

The first step towards commercialization is an expanded trial. The University of Cincinnati will be the contract research partner for the validation study. CereDx will file an FDA molecular diagnostic pre-submission in parallel with the start of its validation study to optimize the approval process.

The University of Cincinnati will provide the following for the expanded trial:

<u>Project Management</u>	<u>Regulatory Oversight</u>	<u>Monitoring</u>	<u>Data Coordinating Center</u>	<u>Site Management</u>	<u>Site Costs</u>
PI Scientific advisory committee/publication (CereDx already has an SAB established) Project manager Clinicaltrials.gov Manual of Procedure Development Investigator meetings	FDA submission and maintain IND AE/SAE tracking and reporting IRB packet preparation (protocol, forms etc.)	Monitoring Plan Site initiation visits Verification of data Site closeout	Statistical analysis plan Source document development Case report form creation Randomization (CereDx's SAB members Drs. Huang & Halperin will manage the biostatistical analysis) Data collection system Cleaning and coding analysis Implementation and reporting Site training and setup	Site selection Performance tracking Accounting and payment Contracting and budget negotiation	Start up Care costs PI Coordinator IRB

The data collected through this UC validation study will be used to raise Series A funds of \$9M - \$11M. The Series A round will fund a larger clinical trial and FDA clearance. CereDx is already in discussions with VC firms to fund the Series A.

### Industry and Market Size

Stroke is the third most frequent cause of mortality after ischemic heart disease and cancer, and the first cause of disability in adults worldwide. In 2005, there were an estimated 15 million strokes per year. One third of these strokes were fatal and another one third of these patients were permanently disabled. Care for stroke survivors in the United States cost an estimated \$18.6 billion in 2008, and lost productivity and premature mortality cost an additional \$15.5 billion. In 2003, only 4% of ischemic stroke patients received TPA. In 2011, this had increased only to 7%. Therefore, there is a significant market need for a biomarker or other additional test that would identify more patients that could benefit from treatment. Although a biomarker for ischemic stroke is currently not used in clinical practice, efforts to develop diagnostic and prognostic indicators for stroke are ongoing.

Each year, around 795,000 Americans experience a stroke and there are approximately 610,000 new stroke cases. The American Heart Association has predicted that the prevalence of strokes is expected to increase by 20.5% by 2030. Around 85% of those patients will suffer an acute ischemic stroke, in which bleeding does not occur and treatment can substantially alter disease prognosis. Increases in the number of cases of acute ischemic stroke and technical advancements in medical devices have led to the growth of the global acute ischemic stroke diagnosis and treatment market. The major factor for this is that more patients are surviving the initial injury following stroke and are living with significant disabilities. According to a recent report, the global acute ischemic stroke diagnosis and treatment market will grow at a 6.3% CAGR for the period 2014-2020. The report states that the global acute ischemic stroke diagnosis and treatment market was valued at \$1.2 billion in 2013, and is estimated to hit \$1.9 billion by 2020.

### **Competitive Analysis**

CereDx indicates there are no competing products on the market or in development. According to the Company “diagnosis of stroke depends upon expert clinical evaluation and neuroimaging. These resources are rarely available in the field and are both time consuming and expensive. Even skilled stroke certified centers have difficulty making a definitive diagnosis. In resource-poor geographic areas, diagnosis and treatment times are much longer.”

There have been a number of companies who have tried to develop a similar technology. No company as of yet has been able to effectively and accurately identify the time of stroke onset. A clinical trial at the University of Geneva found that they could only produce an accurate diagnosis 50% of the time using their technology. The current data available from clinical trials is only from a small number of patients. The average time of the first measurement was only within the first 10 hours of the reported onset of symptoms. Further research, specifically for the period within the first 4.5 hours of the onset of symptoms, will be necessary to establish efficacy. The competitive advantage from this technology being developed is a more accurate and thorough assessment of patients who experience a stroke. This technology is also a much lower cost compared to current treatment systems and therefore a more viable effective option for healthcare institutions. This technology requires minimally invasive techniques which involve only a very small sample size. And finally, point-of-care information can be obtained quickly and used to triage treatment and monitor recovery in stroke patients.

### **Significant Events**

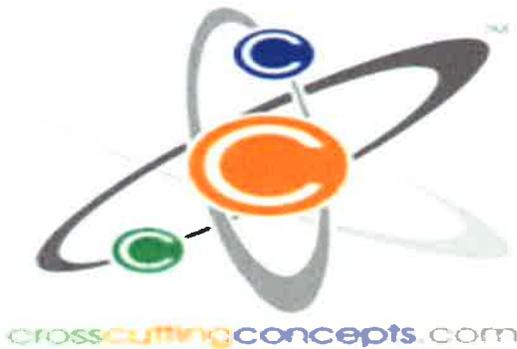
**June 2016:** CereDx, Inc. achieved \$250,000 in matching funds from INNOVA. WVJIT matched the \$250,000 with WVCAP funds. On June 30, 2016 funds were deployed to CereDx.

**May 2016:** WVCAP Committee and WVJIT Board of Directors approved an investment in CereDx Inc. for up to \$250,000 with a 20% warrant coverage pending achievement of matching funds.

### **Overall Conclusion**

Based on the foregoing, WV Jobs Investment Trust finds it most appropriate to record its investment in CereDx, Inc. at value, which is currently presumed to be the same as cost or **\$250,000**.

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**Snapshot:**

Company: **Cross Cutting Concepts, LLC**  
Website: CrosscuttingConcepts.com  
Location: Huntington, WV  
Total Employees: FT/2; PT/0  
WV Employees: FT/2; PT/0

**WVJIT Investment: \$150,000**  
**WVJIT Ownership: 9.38%**  
**Subject to GASB 62: NO**

**Leadership**

**Derek Gregg, Chief Executive Officer**

**Background Information**

Crosscutting Concepts, LLC formerly known as Vandalia Science Education, was founded as a division of Vandalia Research in 2006. It started with one hands-on laboratory kit on DNA typing. Through a distribution partnership with Fisher, the product line grew to six kits on forensic science and launched in January 2007. In January 2010, an additional six kits were slated for development and were launched in January 2011. Also in 2011, distribution was dramatically expanded, resulting in substantial sales growth. The final two Lyle & Louise modules were launched in the fall of 2011. In 2013, the Company partnered up with EMC Publishing to develop a series of engaging, hands-on laboratory kits.

**WVJIT Investment History**

**October 2012**

WVJIT invested \$150,000, following the Company achieving matching funds from First Sentry Bank and a private investor. (\$150,000 funded through WVCAP).

**Warrants:** 10% Warrant Coverage (50,000 units: Series A Preferred Units). Warrants shall be good for 7 years and exercised at a \$1.00 per unit strike price.

**Total WVJIT Investment:** \$150,000 (\$150,000 funded through WVCAP)

**Co-Investors/Lenders:**

First Sentry Bank  
Joan Weisburg

### Management Team

#### **Derek Gregg, Chief Executive Officer**

Derek Gregg is the primary day-to-day manager of Vandalia Research. He is responsible for the financial and personnel resources of the Company, purchasing, communications, and other management duties. He plays a large role in writing grants, patents, and developing strategic partnerships. He is also currently directing the sales and marketing activities of the Company. Mr. Gregg is a graduate of Marshall University and serves as Chair of the BioScience Association of WV.

### Board of Directors

#### **Derek Gregg, Chief Executive Officer (See Management Team)**

#### **Patrick Bond, Mountaineer Capital**

Managing Director of McCabe-Henley Properties LP since 1998, Pat Bond brings a wealth of experience in finance, administration, strategic planning, general management and management information systems. Previously, Mr. Bond owned/operated an independent consulting practice, Growth Management Group that specialized in the areas of Business Environment Assessments, new product development, investment and financial analysis and strategic planning. Prior to that, he was President of a natural gas marketing company and was President and CEO of Atlantic Financial Federal, a \$750 million savings and loan institution and all its business units. He graduated from WVU where he received both Master's and Bachelor's Degrees in Industrial Engineering.

#### **C. Andrew Zulauf, Executive Director, WV Jobs Investment Trust,**

Andy Zulauf is the Executive Director of the West Virginia Jobs Investment Trust, a public seed investment fund. He has extensive experience in finance and venture capital, having served as Executive Director and Senior Loan Officer for the West Virginia Capital Corporation, as a Partner and Managing Director of West Virginia operations for Adena Ventures, and as Vice President and Upper Middle Market Commercial Relationship Officer for Fifth Third Bank.

### Products

**The Mystery of Lyle and Louis** - Premier forensic science curriculum designed for high school and introductory undergraduate education. Comprised of independent hands-on laboratory modules, Lyle and Louise introduces students to a broad range of techniques in forensic analysis, including DNA Typing, Questioned Document Examination, Forensic Entomology, Bite Mark Analysis, Blood Spatter Analysis, Hair and Fiber Analysis, and more.

**Desolation: STEM** - The latest product from Crosscutting that compels students to solve problems involving design, development, evaluation and improvement. Students are exposed to the subjects of astronomy, engineering, chemistry, and physics in this unique four-moduled product.

**Biotech by Ellyn** - Crosscutting has partnered with EMC Publishing and author Ellyn Daugherty to develop and market Biotechnology by Ellyn Daugherty™, a series of engaging, hands-on laboratory kits to accompany the best-selling textbook and laboratory manual *Biotechnology: Science for the New Millennium*. Designed for introductory courses, this program teaches the concepts and hands-on lab procedures required for entry-level careers in the rapidly growing biotechnology industry.

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### Competition/Market Summary

Carolina Biological Supply Company (Burlington, NC): Supplier of hands-on science and math education products and services that help students of all ages learn and understand science and math.

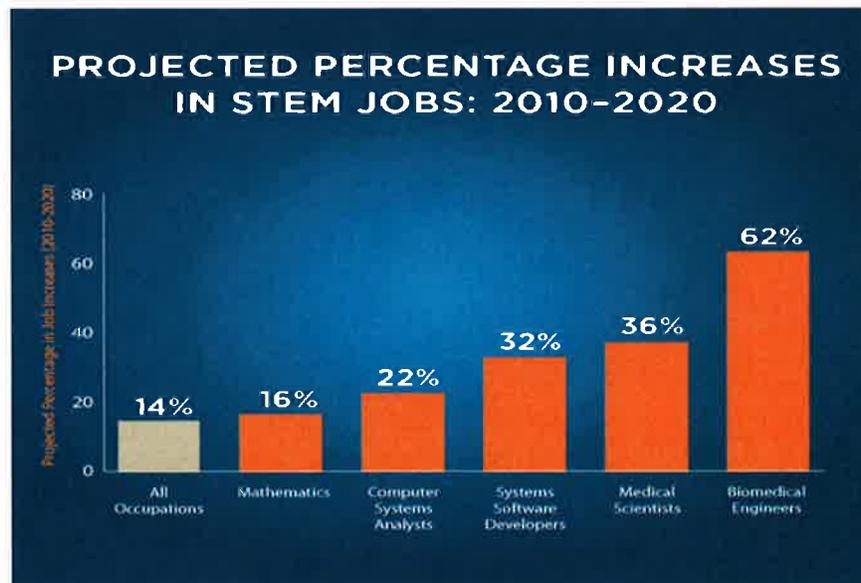
Edvotek (Washington, D.C.): Supplier of biotechnology kits and equipment designed specifically for education.

Aldon (Hanover Park, IL): Manufactures educational kits for its own Innovating Science brand. Aldon is a subsidiary of Thermo Fisher Scientific.

### Industry

The United States has developed as a global leader, in large part, through the genius and hard work of its scientists, engineers, and innovators. In a world that's becoming increasingly complex, where success is driven not only by *what* you know, but by what you *can do* with what you know, it's more important than ever for our youth to be equipped with the knowledge and skills to solve tough problems, gather and evaluate evidence, and make sense of information. These are the types of skills that students learn by studying science, technology, engineering, and math—subjects collectively known as STEM.

Yet today, few American students pursue expertise in STEM fields—and we have an inadequate pipeline of teachers skilled in those subjects. That's why President Obama set a priority of increasing the number of students and teachers who are proficient in these vital fields.



### **STEM Equality and Diversity**

The development of world-class talent in science, technology, engineering, and mathematics (STEM) is critical to America's global leadership. The Obama administration understands that fostering an open and diverse scientific community that draws from an array of unique experiences and viewpoints is a necessary step to realizing this goal.

Supporting women STEM students and researchers is not only an essential part of America's strategy to out-innovate, out-educate, and out-build the rest of the world; it is also important to women themselves. Women in STEM jobs earn 33 percent more than those in non-STEM occupations and experience a smaller wage gap relative to men. And STEM careers offer women the opportunity to engage in some of the most exciting realms of discovery and technological innovation. Increasing opportunities for women in these fields is an important step towards realizing greater economic success and equality for women across the board.

### **STEM Funding in the U.S. and WV**

The White House and Department of Education are positioning early STEM education as a key to the administration's goal of elevating the nation's competitive position, both by measure of student achievement and, in the longer view, by the economic and social benefits that follow from a workforce with a solid foundation in the subjects that are increasingly critical to the 21st century U.S. economy. In West Virginia, Senators Joe Manchin (D-WV) and Shelley Moore Capito (R-WV) announced in April 2016, nearly \$300,000 will be awarded to West Virginia University (WVU) from the National Science Foundation (NSF) to support research and education programs in the environmental engineering and health chemistry fields. These grants will allow WVU to continue making advancements in science and engineering and developing the knowledge and cutting edge technologies necessary to grow the state's economy and address our challenges. STEM schools in West Virginia are set to receive \$1 million in funding.

STEM Network schools will receive resources, including a \$30,000 grant over three years and a STEM Coordinator Volunteer in Service to America to become demonstration sites for innovative STEM practices. The aim is to boost student achievement.

The STEM Network consists of eight secondary schools, middle and high schools, identified through a rigorous selection process. Each school will develop and implement a school-based STEM plan over three years. The Schools include Edison Middle in Wood County, George Washington High School, Greenbrier East High School, Sherrard Middle in Marshall County, Spring Mills High School, Tucker County High School, Warwood School in Ohio County and Wheeling Park High.

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# ROBOTICS IN STEM EDUCATION

## What is STEM Education?

**SCIENCE** **TECHNOLOGY** **ENGINEERING** **MATH**  
STEM fields are considered the core technological underpinnings of an advanced society by the United States National Research Council and the National Science Foundation.



**KUKA** Robotics has helped advance both teachers and students in STEM education through trainings and advanced **KORE** packages.

## The Importance of STEM Education



**16%** of American high school seniors are proficient in mathematics and integrated in a STEM career.  
US Department of Education

**30%** of high school seniors who took the ACT test were cleared for college-level sciences.



**GROWING JOBS IN STEM CAREERS**  
The government has seen a growing number of jobs in STEM careers with a limited number of qualified individuals to fill the positions.

## The STEM Plan

The President's Fiscal Year 2016 Budget Proposal was designed to include improvements in the teaching and learning of STEM subjects.

## Robotics in STEM

**ROBOTICS INTEGRATES ALL OF THE STEM FIELDS IN A WAY NO OTHER SUBJECT CAN COMPARE**

Workers in the robotics field are highly trained engineers.



**10.3% BY 2020**  
The expected job growth for the engineering field by 2020 is 10.3%.

## Life in Robotics After Graduation



By **2020** the demand for STEM professionals will add **OVER 1 MILLION** new STEM jobs within the United States workforce.

STEM careers have higher job security and average a higher yearly income than most other fields.

**\$77,800/YEAR**



## The KORE of STEM



**Benefits of Using KUKA KORE in STEM Education**

Curriculum and project-centered activities prepare students for working with real world industrial **ROBOTS**.

Students can receive Manufacturer Training Certification from **KUKA**.



Educators are trained and certified by **KUKA** professionals to use the **KORE** program.

**KUKA** © 2014 KUKA ROBOTICS. KUKA ROBOTICS IS A TRADEMARK OF KUKA ROBOTICS.

### Significant Events

**June 2016:** Crosscutting Concepts has relocated to a new office in Huntington and is currently being managed by Derek Gregg under a management contract negotiated and approved by the company Board of Directors.

**December 2014:** Executive team introduced 2015 budget to the Board. Revenues were expected to rise compared to the year ago period based upon more projects by existing customers. Company discussed possible new products to be developed. Derek Gregg announced to the board his departure to pursue business school. His expected departure was during 3Q of 2015. Justin Swick also departed from the Company.

**December 2013:** Crosscutting Concepts was in preliminary collaboration discussions with NASA Outreach, AquaPhoenix and Texas Instruments.

**September 2013:** Crosscutting Concepts partnered with EMC Publishing and author Ellyn Daugherty to develop and market, "*Biotechnology by Ellyn Daugherty*," a series of engaging, hands-on laboratory kits.

**August 2013:** Crosscutting Concepts announces new bundles available for its *Desolation: STEM Series*. The new bundles are Earthbound and Down Mass Driver (astronomy) and High and Dry Solar Water Heating (geology and environment).

**February 2013:** Two new desolation kits launched; Larry Nitardy was hired as part-time marketing consultant to assist with business marketing. Crosscutting Concepts also hired its first salesperson for business development.

**October 2012:** Crosscutting Concepts achieved \$150,000 in matching funds from First Sentry Bank and a private investor. WVJIT matched the \$150,000 with WVCAP funds.

**July 2012:** WVCAP Committee and WVJIT Board of Directors approved an investment in Crosscutting Concepts for up to \$300,000 with a 10% warrant coverage pending achievement of matching funds.

### Overall Conclusion

Based on the foregoing, WV Jobs Investment Trust finds it most appropriate to record its investment in Crosscutting Concepts, LLC at value, which is currently presumed to be the same as cost or **\$150,000**.

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**Snapshot:**

Company: **Greenbrier Tech. Services, Inc.**  
Website: <http://www.greenbrier-tech.com/>  
Location: Ronceverte, WV  
Total Employees: FT/18; PT/3  
WV Employees: FT/18; PT/3

**WVJIT Investment: \$250,000**  
**WVJIT Ownership: 0%**  
**Subject to GASB 62: NO**

**Leadership**

Joe McGraw, President/CEO  
Tawana Martin, VP, CFO  
David Canterbury, VP of Sales and New Development

**Background**

Founded in 1989, Greenbrier Technical Services (GTS) provides engineering solutions to the banking, elevator equipment and mining industries. The Company has two major components: manufacturing and repair. GTS manufactures replacement parts, repairs printed circuit boards and modules, provides parts sourcing services, engineering and reverse engineering services. GTS has a flexible manufacturing facility capable of fulfilling orders in quantities from one to thousands. The Company is headquartered in Ronceverte, WV.

**WVJIT Investment History**

**May 2015**

\$250,000, 8% Convertible Note. The Convertible disbursed in two tranches upon meeting pre-determined milestones.

**Warrant Coverage:** 10% priced at \$.01 expiring in five years (April 2020).

**Total WVJIT Investment as of June 30, 2016:** \$250,000 (\$250,000 funded through WVCAP)

**Accrued Interest Balance:** \$3,344

**Co-Investors**

Joesph and Susan McGraw  
Edward Knight  
Vissac, LLC  
Angus Peyton

Patrick McGraw  
INNOVA Commercialization  
Bonnie Brae Farm, LLC

### **Management Team**

#### **Joe McGraw, President/Chief Executive Officer**

Joe McGraw began his career as a software engineer for Bendix Corporation, immersing himself in the development of microprocessor software and continuous analyzers to monitor the exposure of toxic substances and control gas chromatographs. He oversaw many projects related to those developments from research and development to execution. In 1983, Mr. McGraw recruited several engineers and raised approximately \$2M to establish Greenbrier Electronics to manufacture and develop the 4400 Portable Universal Tester (PUT) portable electronic tester to troubleshoot technical issues related to industrial electronics. In 1986, the assets were acquired by Temco Instruments, Inc. and Mr. McGraw held roles in Marketing, Sales, and Product Definition for Temco, where he participated in many trade shows and seminars showcasing the company's products to prospective end-market users.

In 1989, Mr. McGraw left Temco to start GTS where he currently serves as President/Chief Executive Officer for the company. Mr. McGraw is also 100% owner of Greenbrier River Trading company, which is a dormant company since 2011, and a 90% owner of Greenbrier Floor Care, LLC, which is a ServiceMaster Franchise run by his son, Jonathan McGraw. Mr. McGraw received his B.S. Magna Cum Laude in Electrical Engineering from WVU and M.S. in Electrical Engineering from Virginia Tech.

#### **David Canterbury, VP of Sales/New Product Development**

Mr. Canterbury started his career with Appalachian Electronic Instruments as a draftsman and later promoted to Head Mechanical Designer for textile defect detection equipment, where he worked closely with internal engineers to enhance the mechanical aspect of the design process. In 2003, Mr. Canterbury accepted a Mechanical Engineering role with GTS handling all engineering related responsibilities within the company and eventually promoted to Engineering Manager. During his initial role with GTS, the company's product line doubled.

After several years with an engineering role at America in Motion (AIM) in Charlotte, Mr. Canterbury returned to GTS in August 2010 where he currently serves as VP of Sales/New Product Development. Mr. Canterbury received his Associate of Science in Mechanical Engineering Technology from WVU of Technology and a B.S. in Mechanical Engineering from Kennedy Western University.

#### **Tawana Martin, VP/Chief Financial Officer**

Ms. Martin began her career with GTS in 1999 serving as the Marketing and Public Relations Director. In 2004, she was promoted to General Manager where she oversaw both business development as well as business operations. In 2009, Ms. Martin was promoted to VP and Chief Financial Officer, where she implements and defines the long/short-term company objectives, policy implementation, and strategic direction. Ms. Martin also administers the company budget and internal cost controls for the company. Ms. Martin received her B.S. in Health Care Administration and Business Administration from the College of WV as well as an MBA from WVU concentrating in Management and Technology.

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**Board of Directors**

**Guy Peduto, INNOVA Commercialization Group**

Guy Peduto joined the INNOVA Commercialization Group in April 2006. Prior to joining INNOVA, he held the position of Director, Commercial Programs at the Institute for Scientific Research, Inc. While there, he developed strategies for the commercial utilization of ISR's technology and research applications in such areas as biomedical research, education, software development, mining safety and communication, VTOL aerial vehicles, and automotive controls and diagnostics. Mr. Peduto's background includes 20 years of strategic planning experience with an emphasis on product introduction, leadership for early stage and start-up companies as well as market and business development. This experience includes business formation, product development, go-to-market and market development strategies for industrial and commercial manufacturers, consumer goods, advanced research and development, healthcare, financial institutions, Internet start-ups and retail chains. Mr. Peduto received a Bachelor's degree in Business Administration with a major in Marketing from West Virginia University.

**Michele O'Connor, West Virginia Jobs Investment Trust**

Michele O'Connor has more than 25 years of experience in the finance and banking industry. She attained her Certified Financial Planner designation along with the Accredited Investment Fiduciary Manager designation. She was the Portfolio Manager for the Trust Department at First United Bank and managed over \$600 million for the department. Currently, Ms. O'Connor is the Investment Manager for the West Virginia Jobs Investment Trust, a leading venture capital firm focused on turning the innovation of new ideas into successful world-class companies. Ms. O'Connor graduated Magna Cum Laude with a BA in Finance from the University of Maryland College.

**Joe McGraw, President/ CEO**

(See Bio Above)

**Ron Magruder**

Ron Magruder spent his entire career in the hospitality business. His first job was as a dishwasher in a Big Boy restaurant while in high school. After a number of jobs managing different types of restaurants he joined the Darden group as an Assistant Manager for Red Lobster. He worked his way up to the position of Vice President of Operations for that brand and was sent to Japan to develop the brand there. In 1985, he was appointed President of The Olive Garden. At that time there were 4 restaurants. During the next 10 years he led the team in growing the chain to over 500 restaurants. His last position with Darden was Vice Chairman and in 1995 he changed categories and joined Cracker Barrel as its President. In 1999, he was named Chairman of the National Restaurant Association. He then moved to Canada and was President of the Swiss Chalet And Harvey's brands for Cara Operations. Ron retired 2 years ago and has happily chosen Greenbrier County, West Virginia as his home. He has served on a number of University and Community Boards over the years. He currently is President of the Greenbrier Valley Theatre in Lewisburg, WV.

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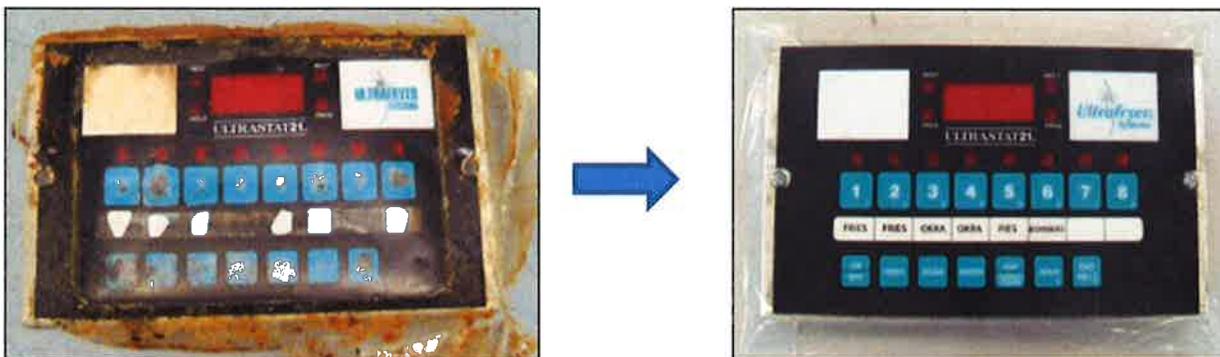
### Product/Services

GTS manufactures parts and components for companies within the defense/military, elevator/escalator, financial, HVAC, instrumentation, pharmacy, petroleum, mining, food service and vending. Examples of OEM replacement parts include the electronic components found in ATMs, freight elevators and industrial machinery. GTS has staff engineers and technicians to develop OEM microelectronic parts such as card readers, industrial printers, blower assemblies and printed circuit boards (PCBs) that are more durable and offer a longer useful life.



The second operating segment for GTS is in repair and support. Currently, the Company provides depot repair, electronic/electromechanical repair services, end of life machinery support services and other custom services. The Company commenced its penetration in the commercial food equipment market in 2013. Soon after forming relationships with notable restaurant operators and food equipment providers, the Company pursued and was later awarded the ISO 9001-2008 quality system management certification.

GTS prides itself on being the only ISO 9001-2008 certified commercial food service repair Company in the country. The ISO 9001 is a policy that assures proper and safe quality controls and tests those products upon its completion for accuracy and excellence. The management team stresses the importance of holding a high standard of quality and accountability on all its new and senior employees. Unlike its competitors, the Company's 14,000 square foot facility gives the capacity to handle both the repairing of circuit boards as well as the manufacturing of overlays and membrane switches typically used in commercial food equipment. GTS utilized the funds it received from the Newtek loan to purchase additional equipment to expand its operating repair capacity. The picture below shows the before-and-after repair of malfunctioned and poorly maintained circuit boards for QSRs and commercial equipment companies. Turnaround time for the Company is usually two weeks upon receipt. The Company can minimize that time upon the hiring of additional employees.



GTS worked in conjunction with Stan Muschweck of StandOut Marketing and Advertising as well as Red House Consulting to develop a marketing plan to enter the Commercial Restaurant repair market. GTS team has attended numerous trade shows and conferences showcasing their solutions and services. Through this collaboration, the Company identified 15 initial prospective client targets and once funding is obtained, will pursue the larger accounts with restaurant chains such as McDonalds, Wendy's, Burger King, Taco Bell, and Ecolab. Given the large number of locations of these restaurant chains, the projected market opportunity for equipment replacement and/or repair is over \$73M.

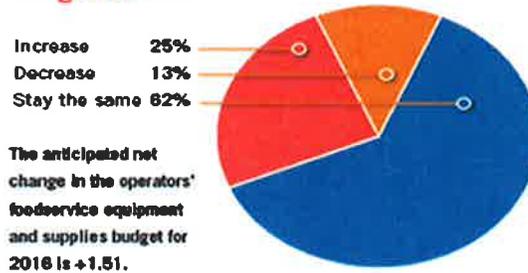
### **Competition**

12. **Positran** – Norristown, PA  
Full-Service Electronics Contract Manufacturer that specializes in printed circuit board assembly, cable and harness assembly, electro-mechanical assembly, and box build assembly.  
Founded in 1989.  
Positran owns tooling for legacy Mosler and Lefebure parts, which allows them to provide parts that GTS does not have available.
  13. **Audio Authority** – Lexington, KY  
Specializing in audio/video solutions for the financial industry.  
Founded in 1976.  
Company has shared design data with GTS to aid in repairs.
  14. **Greyfield Industries** – Hamilton, OH  
Manufacturer of drive-thru audio systems for the banking industry.  
Founded in 1975.  
Company does not offer in-house repair services. Company receives the broken equipment and ships the repairs to Finetech.
  15. **Finetech** – Manchester, NH  
Company is a repair service center for Greyfield Industries and for finance industry.  
Founded in 1992 in Berlin, Germany.  
Company has multiple service locations both domestically and internationally.
  16. **Meyers Custom Electronics** – Olean, NY  
Food Service repair company specializing in Point of Sale, Kitchen Equipment and Order Confirmation System repairs.  
Founded in 1994 and currently has less than 10 employees.  
Works primarily with McDonalds in the Pittsburgh region.
  17. **Arapahoe Technologies** – Fort Collins, CO  
Food Service Competitor that offers “low cost” replacement parts, but not repair services.  
Customers mention company’s poor customer service quality.  
Company has small market share.
  18. **Monitor Enterprises** – Blaine, WA  
Food Service Competitor that offers a large number of repairs to McDonald’s and restaurant\ equipment. Founded in 1979.
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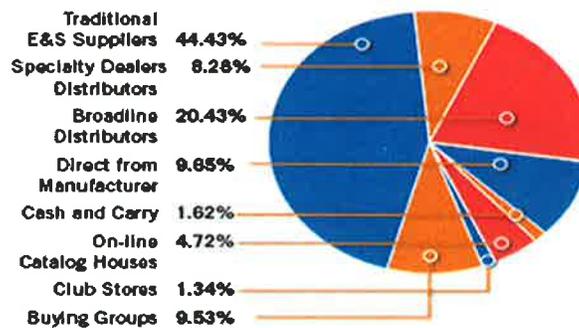
**Industry/Market Summary**

Driving growth was a challenge for the food industry in 2015, according to multiple reports coming out of the food sector. Manufacturers and retailers had to deal with the ebbs and flows of the economy and its impact on consumer spending as well as the increased demands of digital-savvy shoppers. The trends for 2016 include keeping a pulse on ethnic diversity, harnessing insights on consumers' online shopping habits and focusing on quality versus quantity of marketing messages. The food industry strived for growth in the past several years due to the challenging economy and conservative shopper spending. Last year was no exception, the report finds. Volume sales continued to slide and dollar sales growth was fed largely by inflationary pricing trends.

**Operators' Foodservice Equipment and Supplies Budget for 2016**



**Operators' Purchases by Distribution Channel**



There are a number of key concerns that face the food industry in 2016. Some of these concerns are fresh and issues that may never have been attributed to the food industry before. The reason for these new concerns is the increase in technology that is changing the business world and everyone involved. Social media has become mainstream and its' saturation means that consumers are empowered to group together, circulate information and start viral campaigns much more quickly and effectively than ever before. This brings risks as well as opportunity for food companies. If a company does not have a dedicated social media policy which also dovetails into their complaints handling process, crisis management and communications policy they are exposed to significant risk.

Increasing food costs has been a concern for many operators for a number of years. In 2016, the ERS (Environmental Research Service) predicts food-at-home (supermarket) prices to rise 2.0 to 3.0 percent—a rate of inflation that remains in line with the 20-year historical average of 2.5 percent. These forecasts are based on an assumption of normal weather conditions.

Growth is expected across all regions of North America, and across all product segments. For foodservice equipment and supplies, the percentage growth number across North America reflects the positive trend. Geographically, the Midwest and West are the leaders with over 5% growth followed by the South at 4.4% and the northeast at just under 4%. These numbers show greater balance between regions than has been reported over the last several years. The U.S. economy is particularly strong with a steady decline in the unemployment rate to 5% from a staggering 10% in 2009. The Fed Reserve predicts that number will shrink to 4.8% in 2016. Many of those jobs are being created in the retail foodservice sector, and crude oil is sitting at around 40\$ a barrel due to an increase in oil production.

### **Significant Events**

**June 2016:** GTS Sales Manager has shifted to more outside sales efforts and with the new push has increased sales in the restaurant sector. Additionally, the sales mix continues to shift to more repair versus manufacturing.

**December 2015:** GTS sold a condo and net sale proceeds were used to pay down the Newtek loan.

**June 2015:** GTS closed on its loan from WVJIT and INNOVA to expand its commercial food equipment service repair segment.

### **Overall Conclusion**

Based on the foregoing, the WV Jobs Investment Trust finds it most appropriate to record its investment in Greenbrier Technical Services, Inc., at value, which is currently presumed to be the same as cost or **\$250,000.**

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**Snapshot:**

Company: **Liberty Hydro, Inc.**

Website: libertyhydro.com

Location: South Charleston, WV

Total Employees: FT/3; PT/0

WV Employees: FT/3; PT/0

**WVJIT Investment: \$0**

**WVJIT Inv. write down: \$514,500**

**WVJIT Loan: \$425,000**

**WVJIT Ownership: 35.9%**

**Subject to GASB 62: YES**

**Leadership**

Mark Kropilak, Chief Executive Officer

Dr. John Taylor, Chief Technology Officer

Phil Farina, Sales Executive

**Background**

Liberty Hydro, Inc. is a Delaware C Corporation formed in 2009 based on the application of technology developed by MATRIC that was engineered to remove selenium and other contaminants from coal mine discharge water. The Company also engaged in additional product developments, the most promising of which is an aspect of the ZVI technology that involves the brine concentrator, which is based on a new technology that the Company calls the CounterFlow ROTM Process. In addition, the Company has made progress on its pH Controller for acid mine drainage and its Dissolved Air Floatation (DAF) units. Liberty Hydro has developed additional products for contaminant removal in water supply and has completed several case studies both domestically and internationally such as the John Amos Power Plant in West Virginia, the Ambatovy Mine in Madagascar and the Tannery Market in India. The Company has several strategic partnerships with Meidlinger Partners, LLP, and MATRIC .

**WVJIT Investment History**

**2011:**

\$500,000 Series A-2 Preferred Units Investment.

**February 2012:**

Exercised Warrants for 400,000 shares of common equity at \$0.01 per share.

**June 2012:**

\$100,000 Convertible Debenture; WVCAP; Maturity Date: June 30, 2016.

\$250,000 Convertible Debenture; WVCAP; 14% interest; Maturity Date: June 30, 2016

**WV JOBS INVESTMENT TRUST BOARD  
ANNUAL INVESTMENT ANALYSES  
JUNE 30, 2016**

**October 2012**

Exercised Warrants for 1,050,000 shares of common equity at \$0.01 per share

**July 2013:**

\$75,000 investment, convertible debenture, 10% interest rate

Maturity date: June 30, 2016/ Funded using WVCAP Seed Co-Investment Fund

**Warrant Coverage:**

75,000 shares of common equity at \$0.01 per share

**Total WVJIT Investment: \$425,000 (\$425,000 from WVCAP) Due to GASB adjustment**

**Valuation based on GASB 62: \$0**

**Equity Investment Balance: \$0.00**

**Accrued Interest Balance as of June 30, 2016: \$231,796**

**Co-Investors/Lenders**

Meidlinger Partners  
Kennington  
MAH  
John Sawyer  
Mark Kropilak  
Marty Weirick  
Vic Sprouse  
Jon Pauley  
Marc Weintraub  
Germaine Kropilak  
Robert & Carlene West

**Board of Directors**

**Mark Kropilak, Chief Executive Officer**

Mark Kropilak holds degrees in Economics and Accounting from Saint Vincent College, a JD from Columbia University and an Executive MBA from Villanova University and is a lecturer at their business school. He worked for Aqua America (a publicly-traded water utility holding company) for 23 years serving in various roles, including Senior VP of Corporate Development for the entire company and General Counsel for the regulated water and wastewater division. Mr. Kropilak was a consultant and one of Meidlinger Partners part-time Principals. He was on assignment to fill the CEO vacancy at Liberty and stabilize the Company, prior to becoming CEO at the end of March 2012.

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**Karen Meidlinger, Meidlinger Partners**

Dr. Meidlinger is a Founder and Managing Principal of Meidlinger Partners, LLC. Based on her advanced scientific training, along with her ten years of experience sourcing deals, assessing technology and advising high growth companies, Dr. Meidlinger brings a strong and diverse skill set to Meidlinger Partners. She shares responsibility for all major functional operations of the firm, which include transaction sourcing, structuring, negotiating and divesting, working with Portfolio Companies and handling relationships with Limited Partners. Her deep innovation management and business development experience, combined with her passion for the development and protection of the planet's limited resources, brings a strong sustainable investment focus to Meidlinger Partners. Dr. Meidlinger received both her BSc and Ph.D. in the UK and her MBA from South Africa.

**Bill Goode, Representative of Mid-Atlantic Holdings**

Bill Goode currently occupies a Common Shareholder seat. He is Vice President for the Jacobs Financial Group of Charleston, WV where his primary responsibility is with two subsidiaries that specialize in underwriting surety bonds for regulated industries. The Jacobs Financial Group also includes Jacobs & Company, an SEC registered investment advisory firm. He previously served as President of the Charleston Area Alliance. Mr. Goode holds a BS in Accounting from the University of Kentucky.

**C. Andrew Zulauf, Executive Director, WV Jobs Investment Trust**

Andy Zulauf has extensive experience in finance and venture capital, having served as Executive Director and Senior Loan Officer for the West Virginia Capital Corporation, as a Partner and Managing Director of West Virginia operations for Adena Ventures, and as Vice President and Upper Middle Market Commercial Relationship Officer for Fifth Third Bank. Mr. Zulauf is a graduate of Marshall University and the University of Charleston's Executive MBA program.

**Products**

**pH2O Controller**

The pH2O Controller works very similarly to the way a thermostat does. Liberty describes this product as perfect for acid mine drainage in a number of ways. Some of which are:

1. Eliminates overfeeding (wasting chemicals)
2. Eliminates underfeeding which can cause permit violations
3. Ability to store data and read it remotely via satellite

**Zero Valent Iron Technology (ZVI)**

This technology allows the selenium (and arsenic) to adhere to the media in the container units which thereby is removed. There are several industrial and rural applications for ZVI media such as being placed in large tanks and constructed drum systems. Additional market applications for the ZVI media include municipal systems, point-of-use devices, agriculture, and other areas of the development world. The media can effectively remove more than 90% of minerals such as selenium, mercury, thallium, lead, cadmium and chromium. In addition, the product is highly cost-effective relative to other products by competitors in the market.

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### **Competition/Market Summary**

The market industry for global water treatment equipment is going through a growth stage in the early part of 2016 and 2015. Last year, the global residential water treatment market was valued at over \$11 billion in 2014. The market is expected to see a growth rate of over 9 percent over the next 5 to 7 years. Some of the largest markets in 2014 were China, India, the U.S. and South Korea. The reason for this growth includes rising customer awareness, growing health concerns, rising disposable incomes and the rise in China's middle class and evolving technologies. As corporate sustainability initiatives and energy efficiency become more important, intelligent building solutions vendors are beginning to showcase more comprehensive tools, including those created especially for water conservation and management. According to a report from Navigant Research, global investment in water management technologies and solutions is expected to grow from \$2 Billion in 2016 to \$2.8 Billion in 2025.

Produced water treatment systems are expected to account for a market worth \$2.6B in North America by 2020. North America is also the clear leader in the global produced water treatment systems market. With crude oil production in North America projected to rise steadily through 2020, the demand for produced water treatment systems in the region is projected to remain strong. With Asia Pacific and Europe trailing North America, the two regions collectively comprised 43% of the global produced water treatment systems market in 2014. The demand for produced water treatment systems in Latin America is expected to grow substantially through the forecasting horizon.

### **Industry Summary**

The water treatment equipment market is projected to reach \$87,861 million by 2022, with a CAGR of 6.0% from 2016 to 2022. Industrial water is the fastest growing sector of the global water market, according to the Food and Agriculture Organization. The market for industrial water treatment technologies is set to expand by more than 50% over the next five years from an estimated \$7 billion in 2015 to more than \$11 billion in 2020. There will also be strong growth in technologies that allow industrial users to make use of marginal sources of water, such as reused wastewater and which benefit companies facing tough discharge regulations, such as miners.

The new report, Global Residential Water Treatment Equipment Industry 2015-2019 says many countries, such as the U.S., China, and those in the Middle East, are developing standards and codes for water treatment to aid water conservation efforts. Some European countries have implemented advanced infrastructure, use sophisticated equipment for industrial water treatment, and are likely to invest in municipal water treatment equipment. In the year 2015, Asia-Pacific and Europe collectively accounted for more than half of the total water treatment equipment market and are expected to maintain their lead position throughout the forecast period. This, in turn, is expected to result in higher demand for residential water treatment equipment in the next few years. The rapid expansion of human populations and the depletion of water resources are major factors driving the market. The constantly diminishing water resources and a rising demand for portable water are major factors affecting global residential water treatment equipment market growth. There is a growing demand for water treatment equipment owing to the rising contamination of natural resources. The contaminants present in various water sources include mud, silt, algae and bacteria. The quality of freshwater resources is degrading due to the emission of harmful pollutants and effluents from industries. The contaminated drinking water leads to health hazards, propelling the demand for water treatment products and leading to market growth.

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### Significant Events

**June 2016:** Liberty projects converting four pilot units into revenue producing projects by year-end.

**January 2016:** Liberty pilot unit doing well at solar panel manufacturing company. Liberty anticipates converting it to a paying pilot unit within the year.

**December 2015:** Liberty continues with pilot unit testing at TVA power plants.

**October 2015:** Liberty explored environmental remediation relationships with coal companies.

**September 2015:** The LOI submitted by the regional energy company was pulled and did not result in an acquisition. Pilot unit placed with a large solar panel manufacturing company. A test unit was also sent to a large energy company to remediate coal ash pond.

**March 2015:** Regional energy company submitted an LOI to Liberty with contingencies to be met by Liberty. The Company continued to maintain its current projects and technology development.

**September 2014:** Liberty continued to build its pipeline and gathered interest from several companies. The pilot plant at John Amos planned to proceed. It will be part of an EPRI contract extension. In addition, another pilot project was underway at Wateree, SC. The Company was also in discussions with a regional energy company to acquire Liberty.

**February 2014:** Liberty was awarded a \$20,000 CAM Grant for a portable water-filtration pilot unit needed for customer-site demonstrations of Liberty Hydro's clean-water technology.

**December 2013:** Liberty received a notice of allowance for the ZVI product/technology from the U.S. Patent and trademark office.

**July 2013:** WVJIT Board of Directors approved a \$75,000 convertible debenture investment in Liberty Hydro with a 10% interest rate. The Government Accounting Standards Board ("GASB") came out with a ruling in 2012 – GASB 62 – which requires state or federal venture capital funds that have 20% or more of the total voting stock in a portfolio to value its holdings according to the equity method. This applied to Liberty Hydro, where WVJIT has 36% of the voting stock. Therefore, WVJIT recognized its proportionate share of operating losses of the Liberty Hydro and reflected the adjusted value on its internal and external financial statements.

**June 2013:** The Patent Security Agreement was amended. The Secured Creditors were given a security interest in any patents currently owned and any acquired in the future.

**June 2013:** ZVI Blue pilot unit installed at ATI and John Amos power plant in West Virginia arranged for a pilot unit to be installed. Company also received a grant from CAM to build a trailer unit.

**December 2012:** Liberty had a successful micro-pilot unit installed at Ambatovy mine in Madagascar.

**May 2012:** Liberty hired Mark Kropilak as new CEO.

**December 2011:** Liberty and GE were joint testing to determine the increased viability of both processes when coupled together. Liberty developed new technology addressing the water contamination issues resulting from the "fracking" process for natural gas production. The prototype was successfully tested in a controlled environment and to be field tested in the 4th quarter of 2011.

### Overall Conclusion

The equity investment in Liberty was written down to zero two years ago to comply with GASB 62 requirements. The WVJIT Board approved the outstanding principal balance of \$425,000 and the outstanding accrued interest of \$231,796 to be fully reserved and the loan placed on non-accrual.

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**Snapshot:**

Company: **MATRIC**  
Website: [Matricinnovates.com](http://Matricinnovates.com)  
Location: South Charleston, WV  
Total Employees: FT/48; PT/45  
WV Employees: FT/48; PT/39

**WVJIT Investment Balance: \$1,500,000**  
**WVJIT Ownership: 0.0%**  
**Subject to GASB 62: NO**

**Leadership**

Steve Hedrick, President and CEO  
Greg Clutter, Chief Operating Officer  
Dr. John P. “Jack” Dever, Vice President & Chief Technical Officer  
Jane Copely, VP Operations/ HR  
Parvez Wadia, VP of Strategic Initiatives  
Dr. George Keller, Director Chief Engineer  
Dr. B. Duane Dombek, Director of Process and Product R&D  
Mark Dehlin, Director of Advanced Software Technologies

**Background**

MATRIC is a West Virginia non-profit organization headquartered in South Charleston, West Virginia. MATRIC has three wholly owned subsidiaries performing various services. Mid-Atlantic Commercial Research, LLC (MCR), which provides for-profit commercial R&D; Mid-Atlantic Technical Engineering, LLC, which is a full service professional engineering firm; and, Mid-Atlantic Technical Consulting, LLC, (MATC). MATRIC also has a majority interest in Mid-Atlantic Holding, Inc. (MAH) which holds and commercializes the intellectual property portfolio of MATRIC through licensing and the creation of technology-based companies.

MATRIC is focused on conducting life-changing research and development and commercializing related products and services. MATRIC currently employs over 40 people, a bulk of whom have doctorates in the fields of science and technology. MATRIC’s scientific staff performs research and development in chemical and environmental technologies, advanced engineering and health and life sciences.

MATRIC develops its own intellectual property through internally funded research as well as pre-negotiates “field of use” agreements with customers to allow MATRIC to advance discoveries in domains that are not of interest to the customer organization and further exploring commercialization opportunities.

MATRIC is managed by individuals with extensive research and development experience. MATRIC is headquartered within a 650-acre site that includes research and development buildings, engineering buildings, a data center, and laboratories that house other companies such as Dow Chemical, Bayer, and the laboratories of West Virginia State University. The location and experience of the Company’s scientists and engineers provide a substantial long term-term competitive advantage.

**Investment/Loan History**

The Legislature authorized \$2 million in funds to be made available to MATRIC. It was determined that the most appropriate method to invest those funds was through WVJIT. WVJIT negotiated with MATRIC a transaction whereby WVJIT would loan \$2 million to MATRIC. In turn, WVJIT secured its loan with accounts receivable, inventory, fixtures and equipment.

**May 2009:**

Convertible Loan: \$2,000,000

Current Loan Balance: \$1,500,000

**Warrant Coverage:**

None

**FY2015 WVJIT Interest Received: \$86,451.73**

**Board of Directors**

**Gregory Babe, Chairman**

Liquid X Printed Materials

**Stephen A. Kawash, Treasurer**

Gibbons & Kawash

**William B. Goode**

Jacobs Financial Group, Inc.

**Dr. George Keller**

MATRIC, Chief Engineer

**Kevin DiGregorio**

Chemical Alliance Zone

**Joe W. Gollehon**

TSG Solutions

**Thomas A. Heywood**

Bowles Rice, LLP (retired)

**Dr. John Dever**

CTO

**Greg Clutter**

MATRIC, COO

**John Miesner**

MATRIC, General Counsel,

**Bob Welty**

Fifth Third Bank

**Steve Hedrick**

President, CEO

**Parvez Wadia**

MATRIC

**L.Newton Thomas Jr.**

ITT Carbon Industries, SVP

**Products**

MATRIC offers research and development support and services in the following specialties: Chemical Process Technologies, Technical Engineering and Software Technologies.

**Chemical Process Technologies:** Provides R&D support as well as Catalysis, Scale-up and Technology Verification, Solids Processing, Green Technologies, Techno-Economic Assessments and Emerging Technology Evaluations, Safety Engineering Services, Environmental Services, and other strategic programs.

**Technical Engineering:** Provides mechanical, civil, electrical engineering, instrumentation control systems design and programming personnel, as well as other project services areas of expertise including:

project management, detailed engineering, procurement and operations training. The staff specializes in Natural Gas, Water, and Chemical Industry.

**Advanced Software Technologies:** Provides customers with unique offerings such as GIS Applications, Modeling Simulation, Software Engineering and Development Servers to specifically meet their needs to their market offerings.

### **Industry Summary**

Global Health and Life Sciences Research in 2016:

1. **Navigating Market Dynamics:** Fluctuating economic conditions continue to challenge many of the regions in which life sciences companies operate. Sanctions and falling oil prices; stagnating economies; significant growth slow-down, rising debt levels, and currency devaluation; recession and inflation; and political uncertainty may impact parts of the world. At the same time, Aging populations, the growing prevalence of chronic diseases, rising consumer wealth, and other changing demographics are expected to boost health care spending and the demand for life sciences products in 2016 and beyond.
2. **Countering Pricing and Cost Pressures:** Amid the reform-driven shift to outcomes-focused, value-based payment and reimbursement systems, pharma companies may continue to bear the brunt of efforts to control costs. Companion diagnostics should continue to rapidly increase in number and application though. Organizations of all sizes are also struggling with issues that span development, manufacturing, and distribution – pressure to reduce the cost of early-stage research and development without reducing output; reduce clinical development risks while also producing high-quality data; need to reduce asset bases; optimization of outsourcing strategies; difficulty operationalizing and optimizing acquisitions; talent and leadership issues; and, supply chain risks.
3. **Promoting Innovation:** Companies are facing dual imperatives to deliver innovative therapies that address unmet patient needs and treat life-threatening conditions but also deliver profitable growth. Achieving these often-conflicting objectives is likely to require that companies transform their business and operating models and embrace disruptive technology advancements that can concurrently reduce costs and speed time to market for new products and services. From product development through manufacturing and distribution, life sciences companies are evolving their business models to engage more fully with providers and patients. Personalized medicine also continues to drive business model transformation.

### **Competition/ Market Summary**

Switzerland, the United Kingdom, Sweden, the Netherlands and the United States of America are the world's five most innovative nations, according to the Global Innovation Index 2015, while China, Malaysia, Vietnam, India, Jordan, Kenya and Uganda are among a group of countries outperforming their economic peers.

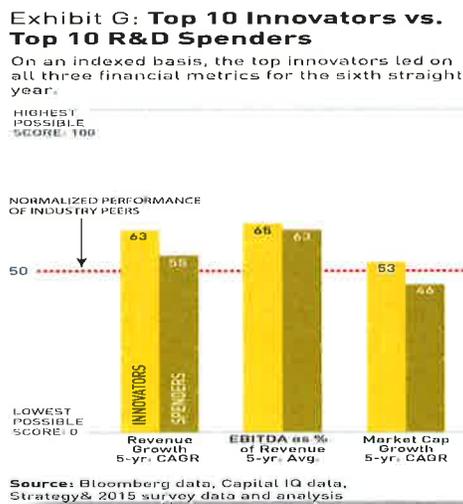
Predictably, investment in research and innovation was badly hit by recession. At 1.6%, yearly growth in total R&D expenditure in OECD countries over 2008-12 was half the rate for the years 2001-08. Both public and private investments have suffered. In the UK for example, total investment in R&D declined in recent years to the current level of 1.72% of GDP, well below the OECD median. In both absolute and relative terms, the UK invests in research less than similar-sized European economies such as France and

Germany. Globally, the balance of research and innovation is shifting away from traditional leaders to emerging economies, especially in Asia. Measured on R&D spend, patents and scientific publications the US, EU and Japan's share of scientific research is diminishing, slowly giving way to emerging economies, led by China.

At 2%, the percentage of China's GDP devoted to R&D is now on par with that of the EU 28, albeit it still invests less in absolute terms as its economy is currently smaller than that of the EU. If recent trends continue, China is poised to become the top performer of R&D in the world by the end of the decade. Its Medium and Long-term National Plan for S&T Development (2006-2020) fixes a target for R&D spending of 2.5% of GDP by 2020. Perhaps more unexpectedly, innovation spending in the U.S. has held relatively steady as a share of global innovation spending, despite increases in the amount of R&D that U.S. firms conduct in Asia. This is due in part to companies from other countries increasing their R&D activity in the United States; Silicon Valley, in particular, has been a powerful draw. Innovation spending in Europe, in contrast, grew more modestly and unevenly with some countries such as France and the U.K. showing net decreases in domestic R&D spending from 2007 to 2015.

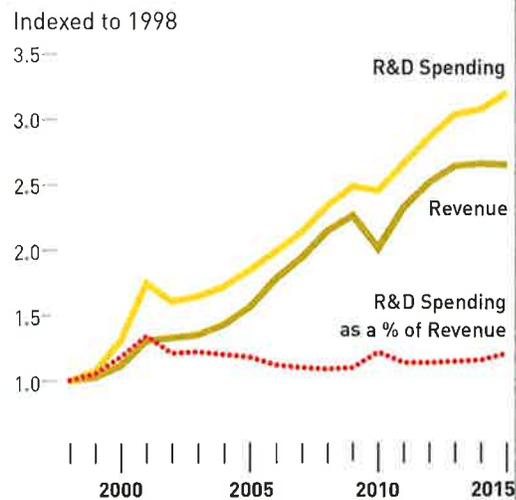
Worldwide, R&D spending by the Global Innovation 1000 companies — the 1,000 public corporations worldwide that spent the most on researching and developing products and services for their markets — rose 5.1 percent to \$680 billion in 2015, the strongest increase in the last three years. Companies headquartered in the U.S., Europe, and Japan continued to account for a large majority of innovation spending: 86 percent in 2015. Revenues for the Global Innovation 1000 would have increased as well, had it not been for the effects of collapsing oil prices on top-line growth in energy firms, which edged overall revenue down by 1 percent. This phenomenon also contributed to a slight rise in R&D intensity, or innovation spending as a percentage of revenue, from 3.5 percent in 2014 to 3.7 percent in 2015. Companies tend to stick with their innovation programs despite cyclical revenue fluctuations: R&D spending growth has often outpaced revenue growth for the Global Innovation 1000.

As in all previous years, the 10 most innovative companies outperformed the 10 biggest R&D spenders on revenue growth, EBITDA as a percentage of revenue, and market-cap growth.



**Exhibit A: R&D and Revenue**

R&D spending in 2015 rose an impressive 5.1 percent from last year.



Source: Bloomberg data, Capital IQ data, Strategy& analysis

### Significant Events

**June 2016:** The WVJIT Board approved a MATRIC loan extension from June 30, 2016 to June 30, 2017.

**May 2016:** MATRIC has expanded its social media targeting campaign to lift its brand. Business development continues to bring in new customers and expand existing relationships.

**November 2015:** MATRIC University is created. Recruitment of team members resulted in three new hires at the Morgantown location.

**April 2014:** Chemical Alliance Zone would launch Chemception, the nation's only incubator focused solely on commercializing chemistry-based technologies and helping entrepreneurs, start-ups, and small companies launch their businesses. MATRIC is a strategic partner for the incubator and hopes to attract entrepreneurs in starting their chemistry-based businesses in Charleston. Tenants included Liberty Hydro and Polyplexx, LLC.

**February 2014:** MATRIC announced Gregory S. Babe replaced Paul E. Arbogast as Chairman of the Board of Directors. Mr. Babe brings more than 30 years of experience in the chemical and manufacturing industries.

**November 2013:** Charleston Area Alliance announced MATRIC to be the recipient of the "Forward to the Future" award. The award is presented monthly to a business, individual, or community group, whose innovative work is propelling the Alliance's vision 2030 plan forward.

**February 2013:** Steven Hedrick joins MATRIC as President and CEO.

**August 2012:** Board of Directors approved a motion to enter into a \$350K 60 month-term loan at a rate not greater than 4.75% for the purchase of boilers for the pilot plant activities. MAH fully divested from Europa ownership with projected final expense approximating \$143,500. Expense treated as a note from MAH to MATRIC and as 2013 WVJIT seed fund obligation payment.

**July 2012:** MATRIC executives authorized the dissolving of a European subsidiary, MATRIC Europa, at a cost of €68,500 which translates to about \$84,000.

**June 2012:** President and CEO of MATRIC, Keith Pauley, resigned from his position to take a job overseas with ChemChina. Greg Clutter is named interim-CEO.

**June 2011:** MATRIC constructed its first large pilot plant for a mid-size industrial company. MATRIC saw increased interest from Chinese companies in the coal and chemical industries for research projects. Domestically, the Company engaged in discussions with companies in the energy and chemical business.

**June 2009:** During the 2008 West Virginia Legislative session, specific funds were allocated for furthering research and commercialization efforts at MATRIC. Those efforts were greatly enhanced by the additional hiring of scientists and professionals following the announced workforce reduction by Dow that took place in 2009.

### Overall Conclusion

Based on the foregoing, WV Jobs Investment Trust finds it most appropriate to record its investment in MATRIC, Inc. at value, which is currently presumed to be the same as cost or **\$1,500,000**.

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**Snapshot:**

Company: **MightyTykes, LLC**  
Website: [mightytykes.com](http://mightytykes.com)  
Location: Berkeley Springs, WV  
Total Employees: FT/1; PT/0  
WV Employees: FT/1; PT/0

WVJIT Investment: \$100,000  
WVJIT Ownership: 0.0%  
Subject to GASB 62: NO

**Leadership**

Isabella Yosuico, President

**Background**

Poor muscle tone (hypotonia) or muscle weakness are impairments common to several physical conditions found in children, including Down Syndrome, prematurity, Autism-spectrum disorders, Cerebral Palsy and Muscular Dystrophy. These physical limitations impair a child's timely mobility and the ability to fully explore their environment and in turn, learn and socialize. With input from parents, physical therapists and occupational therapists from some of the nation's leading children's hospitals, Down Syndrome mom Isabella Yosuico, developed MightyTykes™ Infant and Child Weights to meet this important unmet need. MightyTykes, LLC estimates that nearly three million children from birth to age five in the United States alone are affected by these conditions, many of which are on the rise. Worldwide, the incidence and prevalence of these conditions is comparable.

Carefully and thoroughly researched, MightyTykes™ weights are designed to be visually aesthetic, affordable, user-friendly and easy to manufacture. They are made in the USA from high quality materials, meeting the high standards of institutional settings while still being affordable to parents, caregivers and independent therapists in a home setting.

For children with Down Syndrome, a weight training program using ankle weights in progressive resistance exercises for lower limbs and balance training is an effective treatment to improve strength and balance. In addition, children with certain conditions may also have other impediments that can be effectively treated by ankle or wrist weights including tremors, poor coordination, or simple sensory issues. According to the Company and INNOVA's research, there is currently not a wrist or ankle weight designed for the early intervention market, and the Company's product— MightyTykes™ Infant and Child Weights—fill that gap.

### **WVJIT Investment History**

#### **March 2014**

\$100,000 - 9% Convertible Note accruing 9%. The Convertible Note will be disbursed in two tranches upon meeting pre-determined milestones. No Warrant Coverage.

**Total WVJIT Investment as of June 30, 2016:** \$100,000 (\$50,000 funded through WVCAP)

**FY2016 Interest Accrued:** \$15,552.73

#### **Co-Investors/Lenders:**

Isabella Yosuico

Raymond Yosuico

INNOVA Commercialization

### **Board of Directors**

#### **Guy Peduto, INNOVA Commercialization Group**

Guy Peduto joined INNOVA Commercialization Group in April 2006. Prior to joining INNOVA, he held the position of Director of Commercial Programs at the Institute for Scientific Research, Inc. While there, he developed strategies for the commercial utilization of ISR's technology and research applications in such areas as biomedical research, education, software development, mining safety and communication, VTOL aerial vehicles, and automotive controls and diagnostics. Mr. Peduto's background includes 20 years of strategic planning experience with an emphasis on product introduction, leadership for early stage and start-up companies as well as market and business development. This experience includes business formation, product development, go-to-market and market development strategies for industrial and commercial manufacturers, consumer goods, advanced research and development, healthcare, financial institutions, Internet start-ups and retail chains. Mr. Peduto received a Bachelor's degree in Business Administration with a major in Marketing from West Virginia University.

#### **Michele O'Connor, West Virginia Jobs Investment Trust**

Michele O'Connor has more than 25 years of experience in the finance and banking industry. She attained her Certified Financial Planner designation along with the Accredited Investment Fiduciary Manager designation. She was the Portfolio Manager for the Trust Department at First United Bank and managed over \$600 million for the department. Currently, Ms. O'Connor is the Investment Manager for the West Virginia Jobs Investment Trust, a leading venture capital firm focused on turning the innovation of new ideas into successful world-class companies. Ms. O'Connor graduated Magna Cum Laude with a BA in Finance from the University of Maryland College.

#### **Isabella Yosuico, Founder**

Isabella Yosuico is the mother of six-year-old Pierce and three-year-old Isaac, who has Down Syndrome. Isabella is an accomplished communications professional with an extensive background in healthcare-related marketing and communications in a variety of settings including Fortune 1000 healthcare companies, hospital systems, biotech companies, management consulting firms and non-profits.

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At different times in her career, Isabella has also played a key role in organizational development and administration. Isabella is currently a communications consultant for MedImmune, Inc. and Bon Secours Health System.

### Products and Services

MightyTykes, LLC, based on feedback, developed a  $\frac{3}{4}$  and 1lb. weight.



### Industry/Market Overview

Noninvasive prenatal testing (NIPT) is used for screening pregnant women at high risk of giving birth to a child who may suffer from Down syndrome. The NIPT market is growing due to rising healthcare expenditure. The common maternal age is rising in high-income countries, owing to varying pattern of employment, education and marriage and growing price of raising a child. The increase in common maternal age is resulting in the development of the global NIPT market. The exponential growth of the NIPT market is supported by factors such as high birth rate with Down syndrome.

World Down Syndrome Day is celebrated globally every March to raise awareness about the genetic disorder that affects approximately 1 in 700 babies born in the United States each year. To honor this day, the APTA has created resources for parents of children with Down Syndrome (DS), explaining the importance of physical therapy in facilitating their child's growth and development to enable them to function at their best throughout all the stages of life. "Low muscle tone, decreased strength, increased movement at the joints, poor balance, posture difficulties, feeding problems, and poor hand use often delay natural development in children with DS," explained APTA member and board-certified pediatric physical therapist Venita Lovelace-Chandler, PT, PhD, PCS. Therapists help children with DS develop gross motor skills in order to achieve important developmental milestones. These skills can include, but are not limited to, head control, sitting, crawling, postural control, standing, and walking.

Treatment for DS is still evolving but recent research suggests that strength, balance, and cognitive function are three factors that influence physical development. Physical therapy focuses on motor development. Since most children with Down syndrome have hypotonia or low muscle tone, the goal of physical therapy is to teach the children with Down syndrome to move their bodies in appropriate ways and to improve their muscle tone. Working with their muscles and movements will help children reach some of their motor milestones and will prevent them from developing problems, such as bad posture, that can accompany low muscle tone.

### Market for DNA-Sequencing-based Downs Syndrome Tests

The New England Journal of Medicine published a study showing that a new DNA-sequencing based blood test provides a dramatic improvement in accuracy at screening for Down syndrome and a second, deadly disorder. That could open up a \$6 billion market to the biotechnology companies that are already marketing these tests.

Each year in the U.S. there are 6.6 million pregnancies and 4 million births, according the Centers for Disease Control & Prevention. The list prices of the tests which are sold by four different companies range from \$700 to \$2,500. Assuming that pricing settles in the middle of that range and that there are five million women who choose to have the test, it would be an \$8 billion market.

### Significant Events

**June 2016:** MightyTykes and Lenders are currently exploring options on how to move the Company forward; including conversion of debt.

**January 2016:** Dario Campolattaro steps down from the Board. MightyTykes launches on Amazon International which includes five European markets. The Company has been approved to sell on WalMart.com.

**November 2015:** MightyTykes signed an agreement with its first reseller “Explore Your Senses” (sensamart.com)

**October 2015:** With input from a media consultant, MightyTykes expanded its social media campaign and updated its website.

**June 2015:** MightyTykes used all of its cash and started exploring potential investment options with a WWSBDC coach. As such, the Company stopped all new paid marketing campaigns until the cash flow situation could be addressed.

**March 2015:** MightyTykes received funding from INNOVA to solicit consultants for marketing and social media campaigns. Company updated its products on Amazon to offer free shipping. With the change, Company tripled its sales. Comparing May, June and July of 2014 with the first quarter of 2015, MightyTykes sold 175 units versus 358 respectively.

**December 2014:** MightyTykes received its second disbursement of funding.

**September 2014:** MightyTykes reviewed SEO campaign by marketing consultant as well as potential application to “Shark Tank.” WVJIT finalized the second tranche distribution and loan modification. The Company, based on feedback, was developing a ¾ and 1lb. weight. Sales doubled as of September 2014 and the Company continued to push with an aggressive marketing campaign and approved the Phase 2 textile and manufacturing prototype.

**June 2014:** MightyTykes products were sold directly through its website as well as Amazon.com and another separate distributor. The Company completed most of Phase 1 of production and began the process of Phase 2. A significant cost savings was created during Phase 1 that helped offset any unexpected costs which the Company encountered during Phase 2.

**May 2014:** MightyTykes was featured in the WV State Journal. The Company also received a \$3K in grant funding from TechConnect to attend the New York Metro Abilities EXPO.

**March 2014:** WVJIT Board of Directors approved a \$100,000 convertible debenture investment in MightyTykes.

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Conclusion

Based on the foregoing, the WV Jobs Investment Trust finds it most appropriate to record its investment in MightyTykes, LLC at value, which is currently presumed to be the same as cost or **\$100,000**.

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## **MOUNTAINEER TROUT FARM**

### **Snapshot:**

**Company:** Mountaineer Trout Farm, LLC  
**Website:** N/A  
**Location:** Josephine, WV  
**Total Employees:** FT/3; PT/0  
**WV Employees:** FT/3; PT/0

**WVJIT Investment:** N/A  
**WVJIT Ownership:** 0.0%  
**Subject to GASB 62:** NO

### **Leadership**

S.E. Thompson, Owner  
Colleen Miller, Owner  
Wesley Grose, Operator

### **Background**

Mountaineer Trout Farm, LLC is an aquaculture business formed in March 2007 as a joint partnership run by the late Ted Miller of Birch Creek Deer Farms located in Pennsylvania and S.E. Thompson, Jr., of Gainesville, Florida. Operations are located at the Lillybrook Aquafarm site located in Josephine, West Virginia. The site uses water from the former Lillybrook Mine. The water is ideal in temperature, chemistry, and is free of water-borne disease. The site is gravity-fed, thus eliminating redundant pumping systems, which significantly reduces operating costs and gives the Company a major cost advantage. Mountaineer Trout Farm leases the property by Lillybrook Mine and pays a leasehold payment based on a percentage of gross sales. The lease began after the assets reverted back to WVJIT in 2007.

Mountaineer Trout Farm was formed to take advantage of a natural resource – mine water used to supply an aquaculture project. The Company now has two parallel raceways each measuring 100 feet by 20 feet width. The raceways were constructed with Company funds and borrowed funds from Farm Credit. The raceways are estimated to have a maximum capacity of 400,000 in future years. The lease gives Mountaineer Trout Farm the right of first refusal on any future lease for the McAlpin Farm site.

The project was initially funded as Minaqua in 1995, with the goal of becoming a major supplier of Arctic Char to the Mid-Atlantic and South Central regions of the United States. At the date of the formation of Mountaineer Trout Farm, WVJIT has a depreciated value of \$573,387 to its lease household interest in the facility which in turn is subleased to Mountaineer Trout. WVJIT also wrote off the 2007 investment in Mountaineer Trout Farm.

### **WVJIT Investment History**

#### **2007:**

\$1,573,794 Debt Investment  
\$ 280,000 Equity Investment

**Royalty:** 5% on gross sales

**FY2016 WVJIT Dividends Revenue:** \$39,929.71

### **Board of Directors/ Management**

**Wesley Grose** – Plant/Farm Manager

**Paul Rowe** - Plant/Farm Assistant Manager

### **Products**

Mountaineer Trout sells a variety of trout on their trout farm in Josephine, WV. During the past year, no new products or services were created by Mountaineer Trout. Their continued growth and sales numbers continue to retain unprecedented status and Mountaineer Trout will continue on their same path as their future looks bright.

### **Competition/Market Summary**

The global aquaculture market is estimated to generate revenues worth USD \$202.96 Billion by 2020, and also grow at a CAGR of around 6% by 2020. Aquaculture is the breeding, rearing and harvesting of aquatic organisms under controlled conditions. It includes fish, aquatic plants, mollusk, and crustaceans. The primary function of aquaculture is to produce seafood. It uses a host of techniques and technologies to rear aquatic plants and animals. Apart from producing seafood, it also helps restore the population and habitat of aquatic organisms, and increase the population of wild fish. It can be carried out in either a natural or a man-made environment. Aquaculture is one of the fastest growing food production sectors in the modern world and the production of fish, shellfish, and aquatic plants in a controlled environment is the fastest growing segment of agriculture in America.

The market is highly segmented and comprises a vast number of big and mid-sized competitors. It is projected to experience a sharp rise in the production capacity as the market players are embracing advanced technological methods of production. Several vendors are developing new production plants or acquiring existing players to increase their production capacity which will allow them to meet the growing demands of seafood. The market is extremely competitive because of the growing population and demand for aquatic food. The leading vendors dominating the landscape in the aquaculture market are: Blue Ridge Aquaculture, Cermaq, Cooke Aquaculture, Nireus Aquaculture and Tassal.

### **Industry Summary**

The Global Aquaculture Market is estimated at \$160.8 Billion in 2015 and expected to reach \$242.9 Billion by 2022 growing at a CAGR of 6.0% during the forecast period. Rising practice of fish farming and rice, which aims at growing yields of rice grains and fishes is likely to open new opportunities for the development of the market in the future. Increasing awareness of physical condition is the major opportunity, whereas unfavorable climatic conditions are hampering the market growth.

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### Significant Events

**June 2016:** Fiscal year 2016, Mountaineer Trout sold 439,878 pounds of trout, an increase of over 9% year over year.

**December 2015:** During 2015, Mountaineer Trout changed oxygen distributors which decreased their cost by 50%. The Company also bought a new stocking truck. Their local trout processor continued to increase orders which they provide to Tamarack, The Greenbrier and other local restaurants. The Company is in the planning stage of expanding production capacity with additional raceways.

**December 2014:** During 2014, Mountaineer Trout Farm sold 400,599 pounds of rainbow trout with the overall production cost remaining constant at \$1.42 per pound. These costs were expected to increase during 2015. The lease payment percentage reverted back to the original 5%. The Company planned to expand its production capabilities during the Spring/Summer of 2015, maybe looking for funding for the project.

**June 2014:** Mountaineer Trout Farms requested the lease be amended to reflect the 3% royalty lease payment which it has been sending in lieu of the 5% royalty lease payment. Also, the Company planned to add two new raceways and requested a \$35,000 loan to cover the costs of the expansion.

**April 2013:** Mountaineer Trout Farm planned to upgrade the property by installing a new roof to the feed room and various other leasehold improvements.

**June 2011:** Over the past ten months Mountaineer Trout Farm caught up on the royalty payments that were in sums unpaid by as much as \$31,000 in September 2010. As of the end of June, the Company was current in its royalty obligation. Current royalty payments were based on 5% (3.75% to WVJIT/ 1.25% to Piney Land Company) of fish sales. Following several discussions and predicated on the royalty payments being brought current, the Company and WVJIT started negotiating a new royalty rate, which would allow the Company to capture funds to meet their debt obligations for the construction of raceways. A new proposal was sent to the Company, however, there was not a finalized agreement.

**February 2011:** WVJIT received an insurance settlement from the WV Board of Risk & Insurance for the collapse of the main structure at the McAlpin Farm site which was under option to Mountaineer Trout. The loss of the structure would have minimal effect on the interest of Mountaineer Trout in exercising their option on the McAlpin site.

**June 2010:** Mountaineer Trout was delinquent on its obligated royalty payments to WVJIT for 2009 and 2010.

**2008:** WVJIT agreed to collect 5% of the "gate price" of the fish sold. Gate price is the selling price of live fish when they are transported from the fish farm. Sales may be made for stocking purposes or processed for consumption. The percentage is applied to sales resulting from an arms-length transaction. Any sales made to close associates, family or otherwise at a favorable price not consistent with market prices is based on an assumed sales price of \$1.40 per pound. WVJIT in turn, pays a royalty of 1.25% to the landowner, Piney Land.

**2007:** Mountaineer Trout Farm, LLC was formed and entered into a sub-lease agreement with WVJIT for a period of 30 years with two ten-year renewal periods.

### Conclusion

Based on the foregoing, the WV Jobs Investment Trust finds it most appropriate to record its investment in Mountaineer Trout Farm, LLC at value, which is currently presumed to be \$121,591 which is the net asset value of the property per the JIT financial reports as of 6/30/16.



Company: **PolyPlexx, LLC**  
Website: PolyPlexx.biz  
Location: South Charleston, WV  
Total Employees: FT/2; PT/1  
WV Employees: FT/2; PT/1

**WVJIT Investment: \$271,560**  
**WVJIT Ownership: 11.37%**  
**Subject to GASB 62: NO**

### Leadership

Jon C. Pauley, President/Chief Commercialization Officer  
Dr. Edmond J. Derderian, Chief Technology Officer  
Dr. Richard M. Gerkin, Sr. Technical Advisor

### Company

Formerly known as Transparent Armor, LLC (a MATRIC spin-off), it was renamed PolyPlexx, LLC in 2005. The Company was founded by former Union Carbide scientists: Jon C. Pauley, Edmond J. Derderian and Richard Gerkin. Scientists are developing new chemistry for making high-performance polyurethane and/or urethane hybrid polymers which are easier to process relative to the existing polymers such as polycarbonate. In addition, these polymers are well-known for their extremely broad formulation latitude and can be designed to meet a wide variety of application needs in industries such as Ophthalmic, Safety and Defense. The Company is located at the Research Technology Park in South Charleston, WV.

### Investment History

#### May 2014

\$271,560 Series C Equity Investment. (Funded through WVCAP).  
No Warrant Coverage

#### Co-Investors/ Lenders in Series C Round

Crimson Hill  
INNOVA Commercialization Group

### Management Team

#### Jon C. Pauley, President and Chief Commercialization Officer

Jon Pauley's responsibilities focus on leading the commercialization efforts of the organization. Mr. Pauley also provides the interface between commercial activities and the Research and Development activities. He received B.S. degrees in Biology and Chemistry from West Virginia State College in 1983 and has spent the largest portion of his career working as a small business start-up specialist.

**Dr. Edmond J. Derderian, Chief Technology Officer**

Dr. Derderian is responsible for the definition of the R&D program and its technical focus. He received an A.B. degree in Chemistry from Colby College (Waterville, Maine) in 1966 and a Ph.D. in Chemistry from Pennsylvania State University in 1974. After two years as a Post-Doctoral Fellow in the Ames Laboratory at Iowa State University, Dr. Derderian joined Union Carbide Corporation at the South Charleston Technical Center in 1976. He continued in research and development activities for OSi Specialties, Witco, and Crompton Corporation, attaining the position of Senior Research Scientist/Global Technology Manager. Dr. Derderian's responsibilities over his career have included new product and process development, global technology management and new business development. His technical expertise includes polyurethane technology, structure-property relationships of polymers, fuel and lubricating oil additives, micro emulsions, and interfacial chemistry and physics. He has numerous publications and patents.

**Dr. Richard M. Gerkin, Sr. Technical Adviser**

Dr. Gerkin is the co-inventor (with Dr. Derderian) of the technology. Dr. Gerkin received a Ph.D. in Chemistry from the University of California at Santa Barbara in 1968 and a B.S. in Chemistry from Wheeling Jesuit College in 1965. He began his technical career in industrial research with Union Carbide Corporation at the South Charleston Technical Center in 1969. His work continued with OSi Specialties when it was spun off from Union Carbide in 1993, and with the successor companies Witco Corporation and Crompton Corporation. He retired in June of 2002 as a Corporate Research Fellow. Dr. Gerkin's technical focus throughout his career has been in the development of new products for use in polyurethane systems, including polyols, catalysts and silicone surfactants. He has authored numerous technical papers and holds 22 patents.

**Board of Directors**

Tim Appleberry	Crimson Hill, LLC
Jon Pauley	PolyPlexx
Doug Malcolm	Board Member
Eric Nelson Jr.	Nelson Enterprises
Michele O'Connor	WVJIT
Dr. Richard Gerkin	Polyplexx
Tim Fogarty	Crimson Hill, LLC

**Products**



*Viziplxxx* is a developed and patented net urethane-based technology platform that provides industries with new high-performance optical/impact resistant materials.

PolyPlexx has developed and patented three products through the technology platform. Primary business model will be through licensing the technologies with private and public entities and institutions.

### Competition

<u>Company</u>	<u>Public/Private</u>	<u>Location</u>	<u>Most Recent Revenue</u>
Chemtura Corp.	Public (NYSE: CHMT)	Philadelphia, PA	\$414M (3/31/16)
PPG Industries	Public (NYSE: PPG)	Pittsburgh, PA	\$3.67B (3/31/16)
Dow Chemical	Public (NYSE: DOW)	Midland, MI	\$10.7B (3/31/16)

### Market Summary

The global eyewear market is expected to grow at a CAGR of 7.18% during the period 2016-2020. The market is driven by the high prevalence of eyesight disorders and increase in demand for discretionary eyewear. Approximately 75% of the population in Asia Pacific and 35% in Europe have some form of visual impairment. Changing dietary habits and increased amounts of time spent playing video games, watching television, and in front of computers at work can affect eyesight. In developed markets such as the U.S., Germany, the UK, France, Italy, Spain, and Japan, the consumption of discretionary items is increasing because of the availability of a wide variety of styles, colors, and features in products, and the influence of celebrity styles. Based on the product offerings of the major global eyewear retail players, the products in the market can be categorized into three: eyeglasses, sunglasses and contact lenses. Eyeglasses can be categorized into the following sub-segments: frames and lenses.

### Ophthalmic Instrumentation

The value of the global market for ophthalmic devices, diagnostics, and surgical equipment was an estimated \$15.2B in 2011. It is expected to increase to more than \$19B in 2016, for a five-year compound annual growth rate CAGR of 4.6%. The aging of the population worldwide will result in a rapid increase in the 65-and-over population by 2030, a population that accounts for the highest incidence and prevalence of eye conditions and diseases. According to the report, this sets the stage for increased research and development activities, speedy market approvals and higher awareness through education. The industry is likely to experience a burst of new products and heavy competition as the ophthalmic market advances. Consolidation in the eye care industry highlights the trend towards vertical and horizontal integration at manufacturing, distribution, and managed care levels. One of the major factors driving consolidation trend is mounting price competitiveness. Key players profiled in the report include Abbott Medical Optics, Inc., Alcon, Inc., Bausch & Lomb, Inc., Carl Zeiss Meditec AG, Ellex Medical Lasers Limited, Iridex Corp., Lumenis Ltd., Nidek Co. Ltd., Topcon Corp., and Topcon Medical Systems, Inc.

### Significant Events

**June 2016:** Updates to the Board indicate sample manufacturing capabilities have been expanded by engaging a contract-casting partner. PolyPlexx continues to close the expanded Series C round. The second tranche of funding has been secured with only the third tranche left. Each tranche was milestone based; either sales revenue or additional capital injection. The Company is in the final negotiating rounds of its first commercial order of 50,000 pounds of ViziPlexx II with shipments of product beginning in September 2016.

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**WV JOBS INVESTMENT TRUST BOARD  
ANNUAL INVESTMENT ANALYSES  
JUNE 30, 2016**

**June 2015:** Jon Pauley provided the Board with updates relating to the business development evaluations with major companies the Company has been in negotiations with for the past few months. PolyPlexx also gained the interest of a potential outside investment as well.

**December 2014:** PolyPlexx was working with Crimson Hill and INNOVA to transfer financials to an accounting firm and were working with the South Charleston Technology Park to secure a build out to begin manufacturing.

**September 2014:** PolyPlexx satisfied the requirements for the third closing of the Series C round. WVJIT and INNOVA finalized the documents to close and disburse.

**June 2014:** PolyPlexx updated their Board on recent developments surrounding ViziPlexx I and ViziPlexx II Formulation, laboratory operations, and its opportunities with several Japanese companies.

**April 2014:** PolyPlexx closes Series C investment Round.

**December 2013:** WVJIT Board of Directors approves \$271,500 Series C investment in PolyPlexx, LLC.

**Conclusion**

Based on the foregoing, the WV Jobs Investment Trust finds it most appropriate to record its investment in PolyPlexx, LLC at value, which is currently presumed to be the same as cost or **\$271,560**.

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### Leadership

Steve Turner, Chairman & CEO  
Stan Hostler, Vice President/Secretary  
Matthew Powell, Chief Science Officer/ Head of R&D  
Gregory W. Kilby, Ph.D., Chief Bioanalytics Officer

### Snapshot:

Company: **Protea BioSciences Inc.**  
Website: proteabio.com  
Location: Morgantown, WV  
Total Employees: FT/35; PT/1  
WV Employees: FT/35; PT/1

**WVJIT Investment: \$3,583,438**  
**WVJIT Ownership: 1.56%**  
**Subject to GASB 62: NO**

### Background

Protea Biosciences, Inc., located in Morgantown, West Virginia, began as a Delaware corporation in July 2001 and has become an emerging biotechnology Company. Protea is engaged in developing and commercializing proprietary life science technologies, products and services that are used to recover and identify proteins in biological samples. Protea applies its expertise to the development of products, instruments and services that seek to improve the discovery and identification of proteins, metabolites and other biomolecules. The Company's products and services are purchased primarily by pharmaceutical and academic/clinical research laboratories.

Protea's commercial focus is on its LAESI Instrument platform and proprietary software. The focus remains on either the sale of the LAESI Instrument to the end user or providing access to the LAESI technology through a services unit lab recently opened. The LAESI unit allows the researcher to study the biochemical landscape of a sample without destroying the sample. The sample is studied in its natural form. In addition, the Company offers an expanding line of consumable products that are used in bio-analytical mass spectrometry. These consumable products include Progenta surfactants that can rapidly remove proteins out of samples to prepare them for analysis by mass spectrometry; single use products including pipette tips; and, an extensive line of protein mass spectrometry standards.

### WVJIT Investment History

#### September 2011

Outstanding Convertible Debt Converted

#### January 2012

\$100,000 investment in Common Stock. (Funded through WVCAP)

#### March 2012

\$290,000 Convertible Debenture, 6% monthly payment maturing 8/29/14. Loan has been extended to 12/31/15.

**WV JOBS INVESTMENT TRUST BOARD  
ANNUAL INVESTMENT ANALYSES  
JUNE 30, 2016**

**April 2012:**

\$400,000 Convertible Debenture (\$200,000 was funded through WVCAP), 10% Interest, monthly payments maturing 5/15/13. The maturity date was extended to 12/31/15.

**Warrants/Warrant Coverage**

<b>Date Issued</b>	<b>Expiration Date</b>	<b>Type</b>	<b>Price</b>
1/31/2012	1/31/2017	Common	\$2.25
3/15/2012	3/15/2017	Common	\$2.25
4/18/2012	4/18/2017	Common	\$2.25
2/3/2016	2/3/2021	Common	\$.40

**Total WVJIT Investment:** \$3,583,438 (\$200,000 Funded from WVCAP)

**WVJIT FY2016 Revenue:** \$15, 800.00

**Accrued Interest FY2016:** \$47,400

**Total Outside Investment:** \$71,489,476 (Paid-in Capital – Common Stock)

**Sales and Issuances of Securities:** As of May 13, 2016 Protea has 133,720,519 shares of Common Stock outstanding.

**Management Team**

**Stephen Turner, Chief Executive Officer and Chairman of the Board**

Mr. Turner has held executive positions since founding Protea in July, 2001. From 1999 to 2001, he served as President and CEO of Quorum Sciences, Inc. From 1984 to 1997 he was President and CEO of Oncor, Inc. He founded Bethesda Research Laboratories, Inc. in 1975 and served as its Chairman and CEO from 1975 to 1983, at which time BRL became the molecular biology division of Life Technologies, Inc. Prior to commencing his career in biotechnology, Mr. Turner held the position of Director of Marketing for the Clinical Microbiology Division of Becton, Dickinson & Co. He received his B.A. from Stanford University in 1967. In 1994 he received the Ernst & Young Entrepreneur of the Year Award in Life Sciences for the Washington D.C. Region.

**Matthew Powell, Ph.D. Research & Development and Chief Science Officer.**

Dr. Powell received his Ph.D. in Analytical Chemistry from West Virginia University in 2005. Dr. Powell's expertise is in the field of biological mass spectrometry and is co-inventor of certain technologies developed by Protea. Dr. Powell has presented several scientific talks and seminars to international audiences.

**Greg W. Kilby, Ph.D., Chief Bioanalytics Officer.**

Dr. Kilby has over 18 years of experience in applying advanced biological mass spectrometry to areas of research including structural biology, protein characterization and proteomics to support drug discovery and development and to support the sales of liquid chromatography mass spectrometry (LCMS) analytical equipment into the life sciences, government, academic, and applied markets in the Americas. Prior to joining Protea, Dr. Kilby held a position as Director in Thermo Fisher Scientific, North America Life

Sciences Mass Spectrometry Application and Demonstration Laboratories, leading a team responsible for providing product demonstrations and application services to support quota performance and business growth of the Thermo Scientific life sciences mass spectrometry portfolio in North America. Before joining Thermo Fisher Scientific in 2012, Dr. Kilby held several positions in Agilent Technologies, starting as a senior Proteomics and BioPharma applications scientist as well as being responsible for developing and implementing two state of the art Demonstration Centers of Excellences (COE) in Wilmington DE and Santa Clara CA, showcasing Agilent's entire breadth of analytical technologies portfolio. In 2007, Dr. Kilby moved to a management position within Agilent responsible for managing the two COE facilities and two satellite laboratories across North America and the respective mass spectrometry applications scientist, administrative and logistics staff. Prior to his work at Agilent, Dr. Kilby held, from 1998 to 2004, several senior positions in the Discovery Technologies Department with Pfizer Global Research & Development, culminating in Research Associate, responsible for leading a team of scientists to provide advanced mass spectrometry support for structural biology and therapeutic area projects and as part of Pfizer's global proteomics center of emphasis (COE). Dr. Kilby received his Ph.D. in Analytical Chemistry from the University of Wollongong, Australia in 1996.

### **Board of Directors**

**Stephen Turner, CEO and Chairman of the Board of Directors**  
(See Management Team)

**Stan Hostler, Vice President and Secretary**

Stan Hostler has been the Director of Protea since January 2006 and Vice President and Secretary since June 2006. He is an attorney with a career practice in the field of labor and employment law. From 2000 to 2010 he served as Special Assistant to the Governor of the State of West Virginia. From 2002 to 2004 he served as Counsel to Prim Law Firm. From 2000 to 2010 he served on the West Virginia University Foundation Board of Directors and from 1995 to 2010 on the Advisory Committee of the WVU School of Medicine. He is a graduate of West Virginia University School of Law (1965). Mr. Hostler was appointed to serve based on his legal experience and business contacts and relationships with WVU and the State of West Virginia, which has proven to be an asset to the Company.

**Leonard Harris**

Leonard Harris has been on Protea's Board of Directors since April 2003. Since 1977, he has been the founder and CEO of Southern Computer Consultants, Inc., located in Frederick, Maryland. This company provides products and services to the United States government and Fortune 500 corporations. Mr. Harris was appointed to serve based on his extensive experience in technology-based corporate development.

**Ed Roberson**

Ed Roberson has been on Protea's Board of Directors since September 2009. From July 2006 to June 2010, Mr. Roberson served as Chairman of the Board of Directors of Methodist Healthcare System. He received his MBA in accounting in 1972 from the University of Georgia. From 2006 to 2011 he was President of Beacon Financial, in Memphis, Tennessee, and from 2006 to 2007 he was President of Conwood, LLC. He has been Director of Paragon National Bank from 2004 to present. From 1972 to 1992, Mr. Roberson was employed by KPMG, most recently as a partner. Mr. Roberson was asked to serve based on his experience with KPMG, as a partner and then CEO.

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**Scott Segal**

Scott Segal has been on Protea's Board of Directors since February 2008. Mr. Segal is a practicing attorney, specializing in the fields of personal injury, product liability and related matters, and is the President of the Segal Law Firm in Charleston, West Virginia. He received his JD from the West Virginia University School of Law in 1981, and has been a member of the American Bar Association since that date. Mr. Segal was asked to serve based on his relationships within the State of West Virginia, and is considered, by the Company, to be an expert in several areas, including forensics and occupational health.

**Maged Shenouda**

Mr. Shenouda has over 25 years of experience in the pharmaceutical and securities industries. Most recently, Mr. Shenouda was the Head of Business Development and Licensing at Retrophin, Inc. Prior to that, he served as the Head of East Coast Operations at Blueprint Life Science Group, a strategic investor relations consultancy. Mr. Shenouda spent the bulk of his career as an equity analyst with senior level positions at Stifel Nicolaus, UBS and JP Morgan, covering a broad range of small and large cap biotechnology companies. Mr. Shenouda started his sell-side career with Citigroup and Bear Stearns where his coverage universe focused on U.S and European pharmaceutical companies. Before entering Wall Street, Mr. Shenouda was a management consultant with PricewaterhouseCoopers' Pharmaceutical Consulting practice and also spent time in pharmaceutical sales, having worked as a hospital representative and managed care specialist for Abbott Laboratories' Pharmaceutical Products Division. Mr. Shenouda earned a B.S. in pharmacy from St. John's University and is a registered pharmacist in New Jersey and California. He also received an M.B.A. from Rutgers University Graduate School of Management.

**Patrick Gallagher, CFA**

Mr. Gallagher is an accomplished Capital Markets executive, advisor and investor with a distinguished record of success in both the public and private markets with a focus on healthcare, agriculture and industrials. He has over two decades of experience on Wall Street and extensive experience in alternative investments, research and marketing. He is a Managing Director and Head of Institutional Sales for Laidlaw & Company (UK) Ltd., a healthcare focused investment bank. Mr. Gallagher co-founded Black Diamond Research, LLC ("BDR"), an independent sell-side research firm specializing in healthcare and industrial investing, financing and operations, serving the institutional investing community at large. As Chief Executive Officer of BDR, Mr. Gallagher oversaw institutional research and sales. Prior, he held various sales positions at Kidder Peabody, PaineWebber, New Vernon Associates and Concept Capital. Mr. Gallagher served as VP of Business Development and Investor Relations as well as a strategic consultant for Kinex Pharmaceuticals, a biotechnology firm focused on next-generation therapies in oncology and immunology. He also serves as an advisor to CHD Biosciences, a novel antimicrobial company. Mr. Gallagher sits on the board of directors for BioSig Technologies, Inc., a medical technology company that is developing a proprietary platform in the electrophysiology space. Mr. Gallagher received his B.S. from the University of Vermont, his M.B.A. from Pennsylvania State University and is a CFA charter holder.

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**Josiah T. Austin**

Josiah Austin has been on Protea's Board of Directors since 2013. Mr. Austin serves as the managing member of El Coronado Holdings, LLC. He and his family own and operate agricultural properties in the states of Arizona, Montana, and northern Sonora, Mexico through El Coronado Ranch & Cattle Company, LLC and other entities. Mr. Austin previously served on the Board of Directors of New York Bancorp, Inc. and North Fork Bancorporation. He has served as Director of Goodrich Petroleum, Inc. since April 2002 and Novogen Limited since September 2010. Mr. Austin serves as trustee of the Cuenca Los Ojos Foundation Trust. Mr. Austin graduated from the University of Denver with a Bachelor of Science in Finance in 1971.

**Steven Antoline**

Mr. Antoline joined the Board of Directors in April 2010. He is a successful owner, developer and manager of coal and natural resource properties and inventor of new equipment for coal mining. From 1996 to 2006, he was President and owner of Superior Highwall Mining, Inc., which was sold to a partnership comprised of Lehman Bros. (60%) and Tennessee Valley Ventures (40%). Mr. Antoline was appointed to serve as a director of the company because of his prior experience in the development and sale of companies, and in working with investment bankers.

**Products/Services**

Protea's principal product is a bio-analytical instrument platform known as, "LAESI" (laser ablation electrospray ionization). This technology enables the direct identification of proteins, lipids and metabolites in tissue, cells and bio-fluids, such as serum and urine, without any sample preparation prior to analysis. LAESI is intended to meet the broad need of the biologist for the direct, unbiased identification and characterization of biomolecules in biological samples, which can remain untouched prior to their analysis.



Protea also has a bio-analytical services unit that specializes in services including biomarker discovery, absolute quantitation of large molecules, MRM-based assays, and global proteome characterization. In March 2012, the Company expanded its facility into an 11,000 square foot state-of-the-art facility. In October 2012, Protea opened a mass spectrometry imaging center, which offers access to the most advanced bio-molecular imaging capabilities including ultra-high resolution mass spectrometry coupled with Protea's LAESI Platform.

Recently, Protea entered into a MOU with Agilent Technologies to develop new bioanalytical workflows in order to meet the emerging needs of the growing biopharmaceutical industry. The Company has also announced new workflows to support the bioanalytical needs of immuno-oncology, an emerging frontier of cancer treatment that utilizes the body's own immune system to fight diseases. The Company has commercialized a consumable product out of the DARPA research grant that is currently being sold to research labs performing small molecule analysis. This product, called REDIchip, enables researchers to rapidly profile small molecules and metabolites utilizing a MALDI platform. This product does not require the addition of a traditional chemical matrix, but is able to detect and quantitate small molecules due to the highly structured nanopost array. These products are being used with researchers investigating metabolites and small molecule drugs, and they have potential application within clinical mass spectrometry pain panel management operations.

### Competition/Market Summary

Eurofins Scientific, the global leader in bio-analytical testing, and one of the world leaders in genomic services, has opened a new \$12.5 million state-of-the-art manufacturing and services facility in Louisville that will include up to 110 new employees, including lab technicians, chemists and biologists as well as positions in customer service, logistics, information technology, administration, finance and accounting.

The 65,800 square foot facility functions as the Eurofin's central genomics laboratory in North America, focusing on the custom production of DNA and RNA oligonucleotides synthetic gene synthesis, and genomics services including DNA sequencing, synthetic biology, and next generation sequencing.

1. *Life Technologies (Carlsbad, CA)* – Life Technologies is a publicly traded company and a broad-based supplier of products for protein research.
2. *Advion (Ithaca, NY)* – Advion is a private company, a supplier of mass spectrometry-related instrumentation.
3. *Bruker Corporation (Billerica, MA)* – Publicly traded company focused on mass spectrometry and magnetic resonance technology. The company has strong business focus on molecular mapping done with mass spectrometry.
4. *JEOL Ltd (Tokyo, Japan)* – Public company that developed mass spectrometry systems for direct analysis of samples.
5. *Prosolia (Indianapolis, IN)* – Private Company and a supplier of mass spectrometry-related instrumentation.

### Industry Summary

The global healthcare analytical testing services market is estimated to grow at a CAGR of 11.3% from 2016 to 2021, to reach USD \$4.13B by 2021 from USD \$2.42B in 2016. Growth in this market is mainly attributed to the growing demand for analytical services for biologics and large-molecule drugs, increasing outsourcing of analytical testing by pharmaceutical companies. In 2015, bio analytical testing services accounted for the largest share of the global healthcare analytical testing services market.

Key players in the global healthcare analytical testing services market are Abbott laboratories, Alere Inc., Bayer Healthcare, Becton Dickinson, Bio-Rad Laboratories, bioMerieux, Cepheid, Dako, Hologic (Gen probe), Danaher Corporation, Novartis, Johnson and Johnson, Qiagen N.V, Siemens Healthcare, Roche Diagnostics, and Sysmex Corporation.

New product development, mergers and acquisitions along with venture capital investments owing to challenging economic conditions of the developed and developing nations are some major strategies adopted by these players. The global molecular diagnostics market is projected to grow at a CAGR of 10.38% during the period 2016-2020. Factors such as high prevalence of infectious diseases and various types of cancer; increasing awareness and acceptance of personalized medicine and companion diagnostics; development of biomarkers; and, advancements in molecular techniques, proteomics, and reformations in the reimbursement system are driving the growth of the market. However, increased cost of molecular diagnostics tools, dearth of skilled labor to handle new and complex platforms, and the complex regulatory framework are the major factors restraining the growth of the molecular diagnostics market.

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Molecular diagnostics (MDx) has emerged as one of the largest and fastest growing segments in the In Vitro Diagnostic (IVD) industry. In the span of few years, molecular diagnostics has prospered from a non-existent market to a significant market. PCR tests such as the one from Roche for CT/NG and other tests such as HIV qualitative and HIV quantitative (viral load) are the key factors driving the expansion of the molecular diagnostics market. The private reference laboratories developed tests for infectious diseases and cancer mutations due to the rising incidences and the non-availability of FDA approved assays. The market began to expand due to the existence of different diagnostic kits for genetic diseases and the blood screening for various infectious diseases. The demand for molecular testing increased and the FDA approved molecular diagnostic tests for determining genetic variation responses against cancer drugs. As a result, molecular diagnostic testing is growing at a rapid rate due to the rising adoption of rapid and quick diagnosis. Major players operating in the molecular diagnostics market are Roche Diagnostics (U.S.), QIAGEN N.V. (Netherlands), Hologic Inc. (U.S.), Grifols (Spain), Abbott Laboratories (U.S.), Siemens Healthcare (Germany), Becton, Dickinson and Company (U.S.), Beckman Coulter Inc. (U.S.), bioMérieux SA (France), and Cepheid Inc. (U.S.).

### Significant Events

**April 2016:** Protea announced that it had entered into an exclusive license agreement with Yale University for new technology to improve the differential diagnosis of malignant melanoma. The Company announced the use of its proprietary bioanalytical technology to achieve the molecular profiling of live tumor cells while they are under treatment. A common problem in the treatment of cancer is that the tumors become resistant to the drug with which they are being treated. The earlier the resistance is detected, the sooner the patient can be switched to a different therapy, thus increasing their chances of treatment success and cure.

**February 2016:** Protea collaborated with a premier provider of software solutions for the comprehensive characterization of proteins, to advance new analytical capabilities for use in the development of protein biotherapeutics.

**December 2015:** Protea obtained shareholder approval to seek discretionary authority to effect a reverse stock split of the outstanding Common Shares within a range of between 1:15 to 1:25.

**May 2015:** Steven O' Loughlin resigned as VP of Corporate Finance.

**April 2015:** Maged Shenouda and Patrick Gallagher were appointed to the Protea Board of Directors, replacing Andy Zulauf and Thjis Spoor. In addition, Protea entered into an employment agreement with Stephen Turner for a three year term.

**March 2015:** Protea entered into a share repurchase agreement to acquire VivoPharm Pty. Ltd., an Australian company. The purchase price for the shares were \$11,153,000.

**January 2015:** Protea announced it had developed a new software platform called the "Histology Guided Mass Spec Imaging (HG-MSI)" which enables pathologists to combine traditional microscopy and histology with high resolution mass spectrometry molecular imaging.

**December 2014:** A loan modification agreement was submitted to Protea for signature to extend their loans to December 2015.

**June 2014:** Protea announced that it would be expanding its existing mass spectrometry based molecular imaging by offering Ion Mobility on a Waters Synapt® G2S High Definition Mass Spectrometer as a powerful extension to Protea's portfolio of mass spectrometry based molecular imaging services. In addition, the Company would also offer High Resolution and Accurate Mass Analysis as well as a service to enhance the ability for rapid processing of microbial samples with the LAESI DP-1000 system,

coupled with new software that enables the processing of large, complex LAESI-MS data files with downstream statistics programs, provided by Gubbs, Inc.

**May 2014:** Protea announced that it had received approval from the Depository Trust Corporation (DTC), providing the Company with DTC eligibility, permitting stockholders to hold Company securities in electronic form on the books of its transfer agent. In addition, the DTC approved its Common Stock for DWAC/FAST transfer through Island Stock Transfer, the Company's transfer agent.

**April 2014:** Greg Kilby, Ph.D. joined Protea as its Chief Bio-analytics Officer (CBO) and Director of Bio-molecular Information Services.

**March 2014:** Protea entered into an Option Agreement among ProteaBio Europe and BioPharma d'Azur, Inc. in which BioPharma was granted a 90 day option to acquire the business of Protea Europe in exchange for a non-refundable fee of \$300,000. BioPharma was to provide evidence of raising an additional \$300,000.

**January 2014:** Protea announced that it is a part of a team led by George Washington University (GWU) that was awarded up to \$14.6 million for a cooperative agreement spanning five years from the Defense Advanced Research Projects Agency (DARPA).

**September 2013:** University of Oklahoma's Institute for Natural Products Applications and Research Technologies (INPART) acquired the LAESI DP1000 bio-molecular imaging system. The instrument will be used for the Institute's natural products-based drug discovery operations. It entered into a Collaborative Research Agreement with Virginia Commonwealth University ("VCU") and its Center for Molecular Imaging. Focusing on the combination of LAESI, Protea's ex vivo molecular imaging mass spectrometry technology platform, with VCU's in vivo molecular PET, SPECT and MRI/MRS imaging capabilities, in hopes of developing new methods to better elucidate the molecular basis of cancer, Alzheimer's and other human disease. The Company planned on marketing and selling additional LAESI units to pharmaceuticals as well as educational institutions throughout North America in the fourth quarter as well as 1Q14. The Company had a LAESI backlog for 1Q14, with pending LAESI sales with Dow Agrosciences, George Washington University, Monsanto and University of Prince Edward Island.

**July 2013:** Protea received issuance of two patents. The first patent is titled "Laser Ablation Electrospray Ionization (LAESI) for Atmospheric Pressure, In Vivo, and Imaging Mass Spectrometry" (U.S. Patent #8,487,244) and the second patent is titled "Three-Dimensional Molecular Imaging By Infrared Laser Ablation Electrospray Ionization Mass Spectrometry" (U.S. Patent # 8,487,246).

**March 2013:** LAESI production started. Two units were completed. Four additional units were in production. The first unit shipped in March.

**February 2013:** Protea adds Thijs Spoor and Josiah T. Austin to its Board of Directors.

**January 2013:** Daniel Flynn resigned as Board Director of the Company.

**November 2012:** Protea entered into a Patent License Agreement with George Washington University.

**June 2012:** Protea Biosciences LAESI DP-1000 product received an R&D 100 Award and was recognized as one of the most technologically significant products for the year.

**June 2012:** The LAESI instrument was showcased at Analytical in Munich (April) and at the American Society of Mass Spectrometry (ASMS) Conference in Vancouver (May). Protea noted at their June 1<sup>st</sup> Board of Directors meeting that there was interest and contact from between 15-18 dealers after these conferences.

**May 2012:** The Lipase Valuation Report was published by Protea with the end of Phase I being valued at \$64 Million.

**March 2012:** Protea received the PittCon Editors' 2012 Bronze Award for their new LAESI DP-1000 Instrument.

**September 2012:** Protea completed a reverse merger and became a publically reporting company.

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**January 2012:** Awarded by “The Scientist” publication as a “Top Ten” Technology Award for 2011 for their LAESI-1000 Instrument. Protea expanded to a new facility. WVJIT used money to fund the leasehold improvement. Also, a second WVCAP program participant used funds for the purchase of a mass spectrometer for the facility.

**February 2011:** Protea began collaboration with WVU Cancer Center on various research projects.

**December 2010:** ProteaBio Europe SAS (a wholly owned subsidiary) successfully completed Phase I/II human clinical trials for the MS18189 recombinant biopharmaceutical for the treatment of pancreatic disease which ProteaBio had been co-developing with Mayoly-Spindler. Protea has exclusive North American marketing rights to the product.

**June 2010:** Protea announced the formation of the French subsidiary, which completed a clinical trial for their recombinant lipase therapeutic, which they were developing in partnership with Maylor-Spindler, the European pharmaceutical company. Under terms of partnership agreement, Protea receives from Maylor-Spindler the exclusive marketing rights for the recombinant lipase in North America. This first clinical trial required a significant amount of resources to put in place the regulatory infrastructure that is necessary for a company to engage in clinical trials and submit data for FDA approval.

**July 2009:** The WVJIT Board of Directors approved a 7-year, \$1.2 million convertible note with 6% interest only in the first 2 years. At year three, the note would be amortized and WVJIT would begin receiving P&I payments. Additionally, as part of the closing, WVJIT was to receive 50% warrant coverage for Class A common shares exercisable at \$2 per share with a five-year term.

**June 2009:** Protea completed a work plan for the construction of a medical instrument furthering the technology known as Laser Ablation Electrospray Ionization (LAESI). The prototype was developed at George Washington University and will enable the use of a laser to ionize materials for a mass spectrometer analysis, thus preserving the sample in place without destruction.

**May 2009:** Protea announced a partnership with French based Mayoly-Spindler, which specializes in Gastroenterology therapeutics. Mayoly has developed a recombinant Lipase, an enzyme for the treatment of exocrine pancreatic insufficiency (EPI). According to a press release, Protea would receive the exclusive marketing rights for the Lipase for North America.

**June 2008:** Protea raised \$2,874,829 in equity in the previous 12 months, bringing the Company’s total paid in capital amount to \$8,271,182.

**September 2007:** WVJIT converted \$133,208 worth of accrued interest and paid, in addition to the interest, \$2,500, for a total of \$135,708 for 194,322 shares of common stock in Protea. The \$2,500 was to exercise a warrant that was about to expire for 25,000 shares at \$0.10 per share.

**March 2007:** Protea repaid the October 1, 2002 convertible note of \$250,000 including the accumulated interest of \$47,945. The note included warrants to purchase common shares of the Company. These warrants survive pre-payment of the note. Protea also opened its new facility at 955 Hartman Run Road in Morgantown. The 7,500 square foot corporate facility houses a state of the art Protein Research Lab, which features the ABI 4800 MALDI TOF/TOF and Thermo Finnigan LTQ XL mass spectrometers.

**November 2004:** The WVJIT Board of Directors approved an additional \$250,000 investment in Protea. The investment was a two-year 10% convertible debenture with 50% warrant coverage for notes purchased. In addition to the convertible loan by the WVJIT for \$250,000, the Company closed a \$250,000 common stock round with previous investors. This brought the total equity capital to \$980,743.

**Overall Conclusion**

Based on the foregoing, the WV Jobs Investment Trust finds it most appropriate to record its investment in Protea Biosciences, Inc. at value, which is currently presumed to be the same as cost or **\$3,583,438**.

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# SIOX

## Snapshot:

Company: Siox, LLC  
Website:  
Location: Morgantown, WV  
Total Employees: FT/1; PT/0  
WV Employees: FT/1; PT/0

WVJIT Investment: \$100,000  
WVJIT Ownership: NA  
Subject to GASB 62: NO

## Leadership Team

Tim Fogarty, Crimson Hill  
Tim Appleberry, Crimson Hill

## Background

SIOX, LLC is a newly formed Delaware Limited Liability Corp. that is developing a simple low cost process for acquiring manufacturing high purity synthetic magnetite. Magnetite is one three common naturally occurring iron oxides and is the most magnetic of all the naturally occurring minerals on earth. Applications for magnetite include, but are not limited to, automotive brakes, batteries, fertilizer and paints. The Company will be working closely with the National Energy Technology Laboratory (NETL) in Morgantown to develop the manufacturing process.

## WVJIT Investment History

**April 2016:** \$200,000 Investment

\$100,000 disbursed on the first tranche; second \$100,000 tranche is milestone-based.  
Convertible Debenture, 8% interest maturing March 2019.

**Warrant Coverage:** Up to 10% of the Company at \$.01 a unit.

**Total WVJIT Loan Balance:** \$100,000 (\$50,000 from WVCAP)

**Accrued Interest FY2016:** 2,013.37

## **Co-Investors/Lenders:**

INNOVA Commercialization

### **Board of Directors**

#### **Tim Fogarty**

Tim Fogarty was the Vice President of Energy Programs at Innovation Works (“IW”) in Pittsburgh, PA where he managed a pool of over \$10M dedicated to energy technology investments. There he reviewed over 150 opportunities over a three year period and closed on over 30 investments across a broad cross-section of energy sectors. Those investments include existing seed stage companies and newly formed entities. Mr. Fogarty was a managing director of MHI Energy Partners, a venture capital firm focused on energy technology seed stage investing in North America. While at MHI, Mr. Fogarty was involved in deal flow generation and investment decision making, and held management positions at portfolio companies. For example, in 2004, Mr. Fogarty founded and was co-CEO of Phoenix Coal Corporation, a coal technology and mining company based on technology licensed from the University of Illinois at Urbana-Champaign. Phoenix completed an IPO in July 2008, raising over \$100M and garnering a market capitalization of over \$260M. Mr. Fogarty also served as Vice President of Finance for INI Power Systems, a fuel cell company in Cary, North Carolina developing portable power solutions for military applications. Previously, Mr. Fogarty was the Power Technologies Equity Research Analyst at Thomas Weisel Partners, LLC in New York City. As the Senior Analyst covering the sector, he was responsible for the launch of the firm’s Power Technology coverage, publishing over 40 reports for the investment community, including an industry White Paper. Prior to entering the financial sector, Mr. Fogarty spent four years in the U.S. Marine Corps as an infantry officer. Mr. Fogarty received an A.B. from Harvard University.

#### **Tim Appleberry**

Tim Appleberry founded Omega Holding Company, a company that specializes in industrial facilities decommissioning and commercial recycling. The company does business under the name Omega Industrial Decommissioning and Recycling and in its first year of operation is expected to generate nearly \$5M in sales revenue. Mr. Appleberry is responsible for sourcing, negotiating and capitalizing the company’s opportunities. Prior to Omega, Mr. Appleberry served as Executive Vice-President and member of the Senior Leadership Committee of Clover Technologies LLC, a \$500M privately held office products company. Under Mr. Appleberry’s direction, the inkjet division expanded manufacturing operations to three continents, was one of the company’s leading growth sectors, and led the industry in product development and quality. During that period of growth, the division created a team of over 30 engineers, inside and outside counsel, and robotics specialists that set the industry standard in quality, technology and intellectual property review. During Mr. Appleberry’s tenure, the company was twice named to INC. Magazine’s 500 fastest growing companies.

Prior to Clover Technologies, Mr. Appleberry was the COO, CEO, co-founder of Thoroughbred Technologies, a recycling and remanufacturing company. Thoroughbred Technologies was twice named to Entrepreneur Magazine’s “Hot 100” fastest-growing companies in the U.S. Under Mr. Appleberry’s direction, the company quickly became the industry leader in quality and reliability. Mr. Appleberry was responsible for much of the design of the production equipment and processes and built a product/engineering team that initiated industry-changing processes and proprietary intellectual property and was a regular contributor to industry publications and standardization committees. Thoroughbred Technologies was acquired by Clover Technologies as a result of the company’s dynamic growth and reputation for quality. Mr. Appleberry holds a M.A. from the University of Wisconsin – Madison.

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**Guy Peduto, INNOVA Commercialization Group**

Guy Peduto joined the INNOVA Commercialization Group in April 2006. Prior to joining INNOVA, he held the position of Director, Commercial Programs at the Institute for Scientific Research, Inc. While there, he developed strategies for the commercial utilization of ISR's technology and research applications in such areas as biomedical research, education, software development, mining safety and communication, VTOL aerial vehicles, and automotive controls and diagnostics. Mr. Peduto's background includes 20 years of strategic planning experience with an emphasis on product introduction, leadership for early stage and start-up companies as well as market and business development. This experience includes business formation, product development, go-to-market and market development strategies for industrial and commercial manufacturers, consumer goods, advanced research and development, healthcare, financial institutions, Internet start-ups and retail chains. Mr. Peduto received a Bachelor's degree in Business Administration with a major in Marketing from West Virginia University.

**Michele O'Connor, West Virginia Jobs Investment Trust**

Michele O'Connor has more than 25 years of experience in the finance and banking industry. She attained her Certified Financial Planner designation along with the Accredited Investment Fiduciary Manager designation. She was the Portfolio Manager for the Trust Department at First United Bank and managed over \$600 million for the department. Currently, Ms. O'Connor is the Investment Manager for the West Virginia Jobs Investment Trust, a leading venture capital firm focused on turning the innovation of new ideas into successful world-class companies. Ms. O'Connor graduated Magna Cum Laude with a BA in Finance from the University of Maryland College.

**Products**

Magnetite is a common mineral that is also one of the three common naturally occurring iron oxides and a member of the spinel group. It is a black, opaque, submetallic to metallic mineral. Magnetite is sometimes found in large quantities in beach sands in various places ranging from the West Coast of the United States to the North Island of New Zealand. Most recently, larger deposits have been found in Chile, Sweden, and Western Australia.

**Applications**

Magnetite is a leading material used in scrubbing of H<sub>2</sub>S (Sulfur) removal from streams near the Marcellus Shale gas reserve. Magnetite (iron oxide) is a leading material used in the scrubbing of H<sub>2</sub>S from these streams. The Company's discussion with one customer has indicated that their demand alone for the H<sub>2</sub>S application should grow to 4,000 tons per year by 2020. Magnetite also offers several consumer applications as well such as paints, coatings, water filtration, iron phosphates, semi-metallic brakes, food additives and fertilizer. Magnetite is also a compound found in the manufacturing of audio recording tapes and is a catalyst for the industrial synthesis of ammonia. Its properties have been able to serve as a sorbent to remove arsenic from drinking water.

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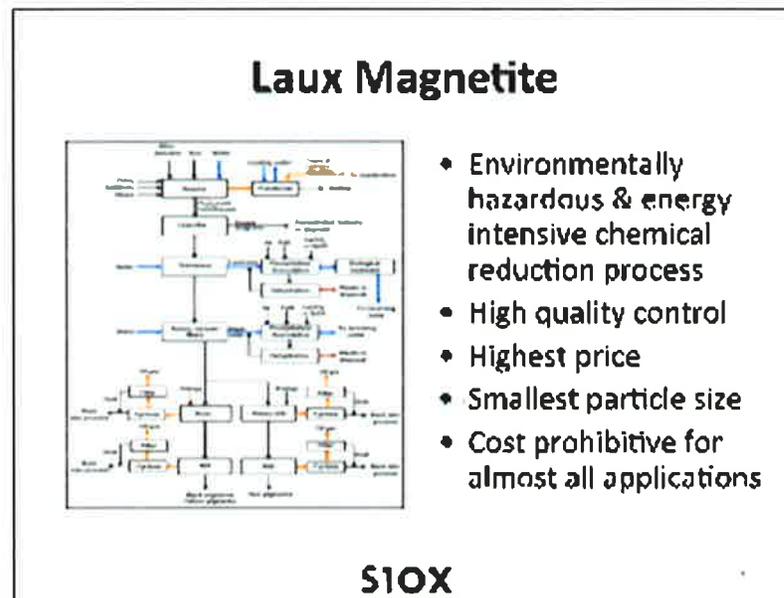
### Competition/Market Summary

#### PIROX-Pittsburgh, PA

PIROX, who was founded in 2005, is a manufacturer of high purity synthetic magnetite as Pirox LLC, a distributor of natural mined magnetite and synthetic red iron oxides. Synthetic iron oxides are produced in the facility in New Brighton, PA. while the natural magnetite sources are located in various places throughout the U.S.A.

Competition stems from three sources:

1. Synthetic manufacturers using a chemical process: The biggest player in this market is *Lanxess*. This company manufactures material that has high purity and small particle size though their product is sold at about \$1.50/lbs., which is roughly four times the projected price sold to SIOX's customers. The Laux Magnetite process has been known to be environmentally destructive with low quality control.



2. Mined Magnetite: Magnetite is naturally occurring in nature and is mined by many mining companies. Reiss Viking is an example of a mined magnetite supplier. Mined Magnetite is typically of lower purity compared to SIOX material and as a result it is sold at between \$0.20 and \$0.50/lbs. Mined Magnetite is not suitable for all applications due to the presence of mineral impurities and the generally coarser product size.

**Natural Magnetite**



- Environmentally destructive mining process
- Low quality control
- Low cost
- Unusable in many applications

**SIOX**

3. Synthetic manufacturers using a heat treatment process: There are some magnetite manufacturers that use a heat treatment process to manufacture synthetic magnetite. However, it's believed that those processes use higher heat which can result in courser particles and are more expensive than the proposed SIOX process. The Pirox magnetite process, though environmentally sound, at producing a refined byproduct of steel manufacturing, it can be quite cost prohibitive for some applications.

Key purchasing decisions vary by market, yet in general the most common factors are the purity, particle size in choice of materials, and cost. SIOX is developing a simple low cost process for manufacturing high-purity synthetic magnetite. This process compares extremely favorably with the traditional Laux process that is used to manufacture synthetic magnetite that's both cost effective and environmentally friendly. There are three distinct advantages that SIOX have over its competition:

1. SIOX's manufacturing process is simple and relative manageable versus the current process used by its competitors.
2. SIOX's magnetite is as pure or of higher purity than the synthetic magnetite manufactured by its competition.
3. SIOX's low manufacturing costs allow it to sell its product at a price that meets the market demand.

### Industry Summary

The consumption of synthetic magnetite in the paints and coatings industry is projected to grow at a CAGR of 3.7% during the forecast period from 2015 to 2021. Synthetic magnetite is a ferromagnetic pigment which opposes magnetic movements. Growth in the construction sector and increase in the number of infrastructure projects is resulting in higher consumption of synthetic magnetite. In 2015, around 98% of the total synthetic magnetite powder used by toner manufacturers in India was imported from countries such as Germany, China, Japan and South Korea. The India synthetic magnetite market has been segmented into four regions, namely, North, West, South, and East.

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Major players operating in this market are Lanxess AG (Germany), Huntsman Corporation (U.S), LKAB Minerals (Sweden), and Alpha Chemical (U.S), among others.

**Significant Events**

**June 2016:** SIOX is currently in negotiations with the WV Tech Park about moving into the complex. Although nothing has been signed, they are looking to transition from their Morgantown location to the TechPark within the year.

**May 2016:** NETL is progressing with the cold flow unit. SIOX is seeking additional space to manufacture once the unit has been finalized by NETL.

**April 2016:** WVJIT closed its Convertible Debenture and disbursed first tranche of funding to SIOX.

**Overall Conclusion**

Based on the foregoing, WV Jobs Investment Trust finds it most appropriate to record its investment in SIOX, LLC at value, which is currently presumed to be the same as cost or **\$100,000**.

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# Spectrum Radio Group

### Snapshot:

Company: Spectrum Radio, LLC  
Website: spectrumradiogroup.com  
Location: Fairmont, WV  
Total Employees: FT/8; PT/9  
WV Employees: FT/8; PT/9

WVJIT Loan - \$160,000  
WVJIT Investment: \$142,500  
(Write-Down of \$142,500)  
WVJIT Total: \$302,500  
WVJIT Ownership: 19.03%  
Subject to GASB 62: NO

### Leadership

Alan J. Michaels, Managing Partner  
Robert A. Woodward, Managing Partner  
Nick Fantasia, Operator

### Background

Spectrum Radio Group (SRG) is a media holding Company founded in 2012 to acquire four radio stations within the Morgantown/Fairmont/Clarksburg area. The radio stations looking to be acquired were: WZST (100.9 FM) Westover, WV; WRLF (94.3 FM) Fairmont, WV; WTCS (1490 AM); WMMN (920 AM). SRG strongly believed these radio stations would significantly benefit by new ownership that had experience in a variety of radio markets to bring new sales, promotion and programming techniques to these respective stations.

### WVJIT Investment History

#### September 2013:

\$285,000 equity investment (all from WVCAP)  
9% Quarterly Dividend; No Warrants; 1x Redemption; 1:1 Conversion Rate

#### April 2015:

\$200,000 Convertible Debenture  
Interest payable monthly at 9%

#### August 2015

Write-down of 50% of the amount invested in Spectrum Radio, \$142,500 (Outstanding balance:\$160,000)

### Debt/Equity Structure

Newtek Loan/Seller Note/WVJIT/MCDA

WVJIT FY2016 Dividend Revenue Accrued: \$26,650.00

WVJIT FY2016 Dividend Revenue Cash Rec: \$0

Accrued Interest FY2016: \$10,637.76

Products and Services

WZST-FM: Variety 101



The West Virginia University Flagship station, WZST-FM, is an Adult Contemporary radio station licensed to Westover, West Virginia, serving the Morgantown/Fairmont/Clarksburg market area. Except when delivering pre-game, game and post-game shows for WVU Sports. Go Mountaineers!

Variety 101 targets Women 18-49 as part of its core demographic audience. Variety 101 airs Elvis Duran in the mornings and Ryan Seacrest in the afternoons.

WRLF-FM: Rock 94



WRLF is a Classic Rock formatted broadcast radio station licensed to Fairmont, West Virginia, serving the North-Central West Virginia area.

WRLF simulcasts WVU Sports and targets men 35-64 with its music play lists.

WRLF-FM, Fairmont, WV is its heritage station and its genesis is two generations of the Nick Fantasia family with the third generation being paid homage as RLF stand for Rose and Lou Fantasia, the family patriarchs.

WTCS-AM: News-Talk 1490



WTCS-AM is a News/Talk/Sports formatted broadcast radio station licensed to Fairmont, West Virginia, serving the Fairmont/Grafton area.

WTCS airs America in the Morning with Jim Bohannon, Imus in the Morning, Dennis Miller, Clark Howard, and Ed Schultz. WTCS is also an affiliate of Bloomberg Business Radio.



### WMMN-AM: Sports-Talk 920

WMMN is a News/Talk/Sports formatted broadcast radio station licensed to Fairmont, West Virginia, serving North-Central West Virginia.

### Market Summary

Over the past five years, the Radio Broadcasting industry has battled to maintain its relevance and audience because of competition from digital media platforms. In particular, the industry has suffered because of its limited interaction with listeners and heavy reliance on advertising. Prior to the recession, radio stations benefited from being a long-standing part of most advertising budgets. As a result of the recession and its aftermath, companies in many sectors slashed advertising budgets early on in the five years to 2015. The economy is projected to recover over the next five years, with advertising budgets set to follow.

While costs to start a station are relatively low, they can vary depending on the type of radio station. Listeners typically are loyal to preexisting stations and most U.S. markets already benefit from a wide variety of radio content. Many stations, however, broadcast programming that they purchase from a national provider. This syndicated content often helps local stations enter the market and instantly establish a programming schedule that features personalities and shows that local audiences may wish to hear.

According to the Radio Advertising Bureau, 2015 ad revenue declined 1% from 2014. Spot revenue was down 3%, network revenue was up 1%, digital was up 5%, and off-air revenue gained 11%. Off-air sales now represent nearly 12% of radio's total revenue.

### Industry Summary

#### 2016 Radio Trends – Media Post

#### Advertising will drive growth in radio revenue.

The continued recovery of advertiser confidence since the economic downturn will see radio-advertising revenue extend its share of global total radio revenue from 75.3% in 2014 to 75.8% in 2019. With public radio license fees progressively contributing relatively less, advertising will be the key driver of global growth.

#### The U.S. remains dominant, but fast-growing international markets are gaining ground.

The U.S. dominates the global radio market with 44.6% of all revenue, but growth is now occurring more quickly in other markets. The combined effect of the continued maturation of the U.S. market and the accelerating growth of large markets in other regions will see the U.S. lose further global share, dropping to 43.2% by 2019.

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**Connected devices emerge as a mixed blessing.**

By 2019, smartphone connections will have risen to 3.85bn from 1.92bn in 2014, accounting for 56.0% of all mobile phone connections. Such devices will give more consumers greater opportunity to listen to radio on the go, but simultaneously expand opportunity and drive competitor services.

**The digital radio platform will transition to listening on mobile Internet devices.**

Only a handful of radio markets have an established dedicated digital radio platform though some progress is being made and trials are in advanced stages in many markets. But competition from the accelerating use of portable Internet devices—mobile Internet subscribers are forecast to comprise 58.5% of the population in 2019—will give consumers greater access to streaming audio alternatives to radio, as well as more choice in accessing available radio content. Broadcasters must ensure they are making new digital radio platforms available to address changes in audience behavior.

**China and India will surge, but Japan falls back.**

Markets such as China and India will be some of the most significant revenue growth contributors in the five years to come, with total radio revenue CAGRs of 8.7% and 8.9%, respectively. The growing middle classes in these markets and their spending power will be key drivers of radio advertising revenue. By contrast, Japan, known for pioneering technology and one of the most significant music markets in the world, will suffer a -3.5% CAGR fall in total radio revenue to 2019. Key to Japan's decline is a shrinking, aging radio audience, with younger consumers quickly turning to Web and app alternatives such as streaming music services.

**Significant Events**

**June 2016:** Spectrum Radio continues to increase cash flow and is reviewing a proposed offer to purchase.

**December 2015:** A third tranche of \$30,000 was disbursed on the WVJIT Convertible Debenture.

**October 2015:** A second tranche of \$30,000 was disbursed on the WVJIT Convertible Debenture.

**August 2015:** The Convertible Debenture closed. First tranche of \$100,000 was disbursed.

**June 2015:** A Convertible Debenture was approved by the WVJIT Board in the amount of \$200,000. The Debenture is structured with two tranches, each at \$100,000. The proceeds are to purchase a CD at First Exchange Bank to collateralize a line of credit. The repayment of the Debenture needed to be adjusted to coincide with Newtek's loan conditions. At that time, the loan had not closed.

**March 2015:** Nick Fantasia stepped into the role of acting General Manager of Spectrum Radio Group. Company continued to pursue a LOI with several buyers.

**December 2014:** Mark Thompson resigned as manager of Spectrum Radio Group.

**June 2014:** Spectrum Radio entered into an LOI to explore a buyer's interest in acquiring the assets of Spectrum Radio. A meeting was held the week of July 21, 2014 where the Board met with the Buyer to discuss purchase price and timing of an APA and LMA.

**September 2013:** Spectrum Radio closed a \$285,000 equity investment from WVJIT.

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**Overall Conclusion**

Based on the foregoing, the WV Jobs Investment Trust finds it most appropriate to record its investment in Spectrum Radio Group, LLC at value, which is currently at \$302,500.

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**Snapshot:**

Company: Troy, LLC  
Website: troylcww.com  
Location: Harrisville, WV  
Total Employees: FT/65; PT/0  
WV Employees: FT/65; PT/0

**WVJIT Investment: \$736,495**  
**WVJIT Ownership: 16.67%**  
**Subject to GASB 62: NO**

**Leadership Team**

Martin Ballen, CEO/ Director of Sales  
Richard Kerns, Chief Operating Officer/Chairman BOD  
Linda Golden, Materials Control Manager

**Background**

Troy Mills, Inc., a New Hampshire based Company, was established in 1865. It owns an 85,000 square foot facility located in Harrisville, West Virginia and supplies needle punched textile products to niche markets. The Harrisville facility is a Tier-One and Tier-Two supplier to the automotive industry and is also a supplier to the apparel industry. The facility produces automotive interior fabrics and apparel linings. The Company filed for bankruptcy protection in 2001. Mountaineer Capital, WVJIT, and two individuals purchased the West Virginia operation in March 2002. The Company has been organized as a Limited Liability Company known as Troy, LLC.

**WVJIT Investment History**

**February 2002: \$500,000 Investment**

\$60,000 in Series A Convertible Preferred Membership Units  
\$440,000 in Convertible Subordinated Term Loan

**September 2009:**

Loan was modified and principal increased by the amount of past due interest.

**May 2013: \$840,000 Investment**

Closed June 2013 convertible 5.5% loan. WVCAP Seed Capital Co-Investment funds accessed for \$420,000 of loan. WVCAP portion was repaid in 2014.

**Total WVJIT Loan Balance:** \$676,495

**Total WVJIT Equity Balance:** \$60,000

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**WVJIT FY2016 Interest Revenue Received:** \$93,577.20

**Co-Investors/Lenders**

WVEDA: \$252,737 – Debt  
MOVRC: \$197,631 – Debt  
WUB: \$358,177 Term Loan; \$515,003.78 LOC

**Warrants**

<b>Date</b>	<b>Equity</b>	<b>Debt</b>	<b>Covg.</b>	<b>Type</b>	<b>Price</b>	<b>Term</b>	<b>Exp.</b>	<b># Warrants</b>	<b>Exer. Cost</b>
May-11	-	\$400K	10%	Pref. A	\$1,000	7	May-18	36	\$36K

**Board of Directors**

**Richard Kerns, Chief Operating Officer, Chairman of the Board of Directors**

Richard Kerns is a military veteran having served from 1965 to 1967. He was the Production Supervisor of FMC Corporation located in Parkersburg, West Virginia from 1968 to 1974. Mr. Kerns has been with Troy since 1974 where he has served in such positions as Production Supervisor and Manager of the Harrisville facility. Since March of 2002, Mr. Kerns has been COO and part owner.

**Martin Ballen, Chief Executive Officer**

Martin Ballen completed a four-year materials engineering program at General Motors Institute. After completion of the program, he joined GM's engineering department staff. Later, he would continue in the automotive field and join Chrysler Corporations' engineering staff. Through the years, Mr. Ballen has held various management positions with both GM and Chrysler. In 1970, he joined Troy Mills Inc. as a sales engineer. Since then, Mr. Ballen helped develop new applications for Troy's capabilities for various automotive customers at OEM, Tier One and Tier Two levels. In 1990, he became the VP of Automotive Business Group with responsibility for marketing, sales, and R&D, customer service and manufacturing. In 2000, he started the Prestwick Group, LLC, a representative for several manufacturers of materials for the automotive industry. In 2002, with Richard Kerns and an investment group, the purchase of Troy Mills was made and the name was changed to Troy, LLC. Mr. Ballen currently serves as CEO.

**Patrick Bond, Mountaineer Capital**

Pat Bond joined McCabe-Henley Properties LP as Managing Director in early 1998, Mr. Bond brings a wealth of experience in finance, administration, strategic planning, general management, and management information systems. Previously, Mr. Bond owned/operated an independent consulting practice, Growth Management Group that specialized in the areas of Business Environment Assessments, new product development, investment and financial analysis and strategic planning. Prior to that, he was President of a natural gas marketing company and was President and CEO of Atlantic Financial Federal, a \$750 million savings and loan institution and all its business units. He graduated from WVU where he received both Master's and Bachelor's Degrees in Industrial Engineering.

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**Sam Sommerville, CPA**

Sam Sommerville is currently VP of Northeast Natural Energy and a former partner of the Simpson & Osborne Accounting firm. He is a graduate of Glenville State College, a certified public accountant (CPA), and is active in various professional, trade, and civic organizations.

**C. Andrew Zulauf, Executive Director, WV Jobs Investment Trust**

Andy Zulauf is the Executive Director of the West Virginia Jobs Investment Trust, a public seed investment fund. He has extensive experience in finance and venture capital, having served as Executive Director and Senior Loan officer for the West Virginia Capital Corporation, as a Partner and Managing Director of West Virginia operations for Adena Ventures, and as Vice President and Upper Middle Market Commercial Relationship Officer for Fifth Third Bank.

**Products**

<b>Automotive</b>	Produces needle punch synthetic fabrics for applications that include seating trim, luggage compartments, molded door carpets and inserts, package trays and headliners.
<b>Apparel</b>	Recycle fibers for printed lining materials for work jackets and western theme clothing, saddle pads, gun cases, custom luggage and baseball caps.
<b>Industrial</b>	Produces felts, absorbency and shoddy materials using fine and coarse denier polyester, polypropylene and nylon fibers, coupled with a wide variety of support scrims and backings.



**Competition/Market Summary**

**Formed Fibers (Auburn, Maine)**

Specializes in Polyester Fiber, Fabric, Substrates, and Custom formed parts. The Company has three locations (Auburn, ME; Sydney, OH; Sumter, SC). FFT is the only auto supply Company that is vertically integrated from fiber to fabric to finished part. Each product they manufacture is custom designed for its intended use.

**Foss Manufacturing (Hampton, New Hampshire)**

Established in 1954, and has six business units (Automotive, Specialty Fibers, Kunin Group, Technical Products, Eco-Fi, and Ozite). They are a vertically integrated producer of engineered, non-woven fabrics and specialty synthetic fibers.

**IAC (Troy, NC)**

Specializes in plastics, fibers and other manufacturing components.

**Oxco Incorporated (Charlotte, NC)**

Since 1994, Oxco has built a reliable reputation for delivering quality nonwoven products with the most reliable service in the industry.

**Industry Summary**

The global textile chemicals market was valued at USD \$20.5B in 2014 and is expected to reach USD \$25.5B in 2020, growing at a CAGR of around 4% between 2015 and 2020. In terms of volume, the global textile chemicals market stood at above 9,500 kilo tons in 2014. Textile industry requires various chemicals right from pretreatment to finishing of textile. Thus, textile chemicals are an indispensable part of the textile industry. The global apparel industry will be the primary driver of the global textile chemicals market over report's forecast period. Growth of the global technical textiles industry is also expected to propel the market for textile chemicals over the report's forecast period.

Growing environment concern regarding the adverse effects of these chemicals may emerge as a major barrier to the overall market development. Contaminated water and water shortages caused by an intensive fabric industry may have extensive local consequences in the manufacturing countries. The key players in textile chemical market that stood as most promising industries which use to give the strategic activities includes Huntsman Corporation (Singapore), BASF SE (Germany), The Dow Chemical Company (U.S.), Bayer Material Science AG (Germany), and Lubrizol Corporation (U.S.), Lonsen (China), Archroma (Switzerland).

**Significant Events**

**June 2016:** Comptroller resigned. Troy is actively seeking a replacement.

**May 2016:** WVJIT modified existing loan. New maturity date moved to June 2017.

**March 2016:** New labor contract approved.

**February 2016:** Existing labor contract extended until month-end.

**October 2015:** Troy began to renegotiate labor contract expiring January 2016.

**July 2015:** Troy working with two major automotive manufacturers on trunk and other components.

**April 2015:** Troy picked up a new customer with automotive customer, Lear Corporation.

**April 2014:** Mr. Kerns noted the refinancing of the WVJIT loan was complete. The annual interest rate was fixed at 5.5% with a 10 year amortization and a 3–5 year balloon.

**March 2014:** Troy entered into discussions with a Charlotte-based textile manufacturer looking to expand its exposure to the automotive market.

**December 2013:** During a Board of Directors meeting, Mr. Kerns provided an update on the refinancing of Troy's debt with West Union Bank. Troy had hoped to close the loan by December 31, 2013; however, the loan closed mid- January 2014. Mr. Kerns communicated this to the WVJIT. There were no expected issues with closing the loan.

**September 2013:** West Union Bank approved a loan of \$680K (\$420K to pay down the WVJIT loan and \$260K to refinance the equipment loan). The proposed loan is amortized over 9 years, bears interest at 5.25% for 4 years, and thereafter at prime plus 2.5%, but not less than 5.25%. WVEDA will guarantee the loan for four years and there is a 1% fee on new funds, pending an affirmative at its meeting on September 2013. Mr. Kerns mentioned that United Bank will try to utilize an SBA or some other type of guarantee for the Company's request of a \$1.3M line of credit and a \$680K term loan.

**May 2013:** WVJIT and WVCAP approved an \$840,000 investment into Troy, LLC. Use of Proceeds were used for working capital as well as payment of outstanding debt held by Mountaineer Capital.

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**July 2012:** Troy, LLC was featured in the July edition of “55 Good Things About West Virginia,” which is a supplement to the “West Virginia State Journal.” This article entailed Troy’s continued success with car manufacturers and Carhartt apparel.

**June 2011:** Troy was in the midst of a year in which the auto industry initially saw considerable growth, recovering from the recession of 2008. The recession forced two domestic auto manufacturers to obtain federal financial assistance, shut down their dealerships, and to discontinue automobile brands. Troy, like other tier one and tier two suppliers, who did survive the recession, enjoyed a strong recovery until the Japanese economy, including much of the automotive industry was devastated by the 2011 earthquake, tsunami and nuclear power plant destruction. Troy temporarily lost a significant portion of their (indirect) business with Honda. It was anticipated, and appeared to be on track, that Honda and the rest of the Japanese auto industry would recover soon. However, in the meantime, Troy needed additional security for its loan covenants (see May 2011).

**May 2011:** The WVJIT Board of Directors approved a \$400,000 demand note due in twelve (12) months. Troy used the proceeds to purchase a certificate of deposit to secure the Company’s existing credit line. Note was paid in full on May 2012.

**June 2010:** Troy’s \$975,000 revolving line of credit with Huntington Bank was set to expire on December 31, 2009. Huntington Bank informed Troy, at least 6 months prior, that they would not renew the credit line.

**September 2009:** Troy requested a modification to the current loan they had with WVJIT and with Mountaineer Capital. Both lenders agreed to modify the loan to provide interest only payments from October 2009 until maturity of the loan, which was April 2011. In conjunction with the modification, the interest rate on each loan was changed from 8% to 6% fixed for the remaining term of the loan.

**June 2009:** The credit crisis that struck in the fall of 2008 resulted in the plummeting of vehicle sales. In response, OEMs slashed production at unprecedented rates in an attempt to combat expanding inventories. Adding to the problems, General Motors and Chrysler extended scheduled plant shutdowns as they entered bankruptcy, depriving many North American suppliers, including Troy, of their main revenue sources. Both large, tier 1 suppliers, along with numerous smaller suppliers filed for bankruptcy. Troy continued to look for ways to reduce cost and conserve cash. Additionally, in April 2009, Troy secured funding from the Mid-Ohio Valley Regional Council. The working capital loan was used to bridge the Company in anticipation of increased sales activity in the fall of 2009. The economic hardship caused the Company to fall behind (4 months, \$13K) on the interest-only loan payment to WVJIT.

**February 2002:** Investment of \$500,000 was made to Troy, LLC and funded as follows: \$60,000 in Series A convertible preferred membership units and \$440,000 in a convertible subordinated term loan that was used to acquire the assets of the Harrisville, West Virginia facility and to properly capitalize the facility to ensure necessary working capital.

### **Overall Conclusion**

Based on the foregoing, WV Jobs Investment Trust finds it most appropriate to record its investment in Troy, LLC at value, which is currently presumed to be the same as cost or **\$736,495**.

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**Snapshot:**

Company: **USGlass, Inc.**  
Website: **Usglss.com**  
Location: **Williamstown, WV**  
Total Employees: **FT/0; PT:0**  
WV Employees: **FT/0; PT:0**

**WVJIT Investment: \$20,000**  
**WVJIT Write down of \$80,000**  
**WVJIT Ownership: 40.0%**

**Leadership**

Gene Bem, Chief Executive Officer

**Background**

USGlass, Inc. formed in 2012, acquired the 107 year-old Fenton Art Glass Company. As part of the acquisition, USGlass acquired the intellectual property, molds, color formulas, and name. The goal for USGlass is to produce new, modern design functional tableware in the “Made in America” tradition that cannot be replicated in China or anywhere else in the world.

**WVJIT Investment History**

**March 2013**

Provided an initial investment of \$100,000 in Series AA Preferred Units.

**Total WVJIT Investment:** \$100,000 funded through WVCA

**GASB 62 Valuation:** \$20,000

**Co-Investors (Shares)**

Interactivity Foundation  
Parimal Patel/Kinequity Group  
Ed White  
Peter Walsh  
Guillame Gauthereau  
Jeff Rich  
Robert Tanko  
Callann Wolff  
Bill Maloney

### Management Team

#### **Gene Bem, Chief Executive Officer**

With over 20 years of experience as a Management Consultant and Investment Advisor to senior executives, Gene Bem has worked with clients of all sizes from the Fortune 500 to start-ups. He has held senior partner positions in two Boston based boutique strategy firms and Oliver Wyman (formerly Mercer Management Consulting), one of the largest consultancies in the world. His expertise is primarily in crafting and implementing winning strategies for corporations using sound customer analysis combined with innovative portfolio valuation.

### Board of Directors

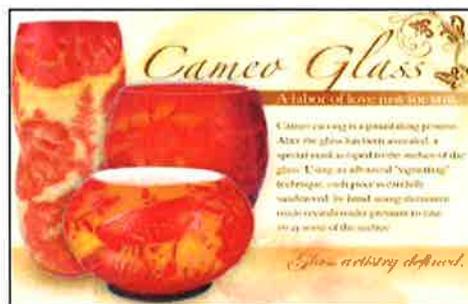
#### **Gene Bem, Chief Executive Officer**

#### **Parimal Patel**

With multi-industry experience as a management and operations strategy consultant and operations leader for Fortune 500 companies, Parimal Patel has deep operational performance and supply chain expertise allowing companies to grow effectively and improve profitability. Mr. Patel has held positions on the management team of a Big 4 firm focused on Strategy and Operations and Program management roles for Fortune 100 firms, and also published thought leadership around operational effectiveness and scaled growth.

### Products

USGlass plans to manufacture housewares, figurines and tabletop items utilizing the Fenton molds with some updated designs from local and national artisans. The Company will distribute the items to major retail outlets such as Williams-Sonoma, Bed Bath & Beyond, Neiman-Marcus, among others. USGlass hopes to be part of the strong consumer trend of being one of the few “Made In America” glass manufacturers.



### **Competition/Market Summary**

Competitors for USGlass range from local West Virginia glassware companies such as Blenko and Homer-Laughlin to global manufacturers such as Lalique, Baccarat, and Daum. The firm's competitors in the ultra-high-end crystal and glass functional and decorative items are a variety of general home décor manufacturers and distributors for whom handmade glass specialty items are either a minor entry in their product lines or miss altogether. Those ultra-high-end manufacturers are Waterford Wedgwood, Swarovski, and Rogaska.

### **Industry Summary**

Domestic glass manufacturers will continue to feel the pressure from substitute products replacing glass in many functions, particularly for food packaging. Furthermore, despite economic recovery, demand for glass used in automobiles will be limited by strong import competition in the next five years. On the bright side, a rebound in the residential housing market will boost demand for glass products used in windows, doors and furniture

Crystalware and glassware are part of the houseware industry, which has a multi-billion dollar market. As demand of crystalware and glassware is dependent on high volume market, its price is expected to be at lower side, especially from Chinese manufacturers. In price sensitive regions such as Asia Pacific and Middle East where demand of crystalware and glassware is on higher side due to already existing and expanding glass and plastic industries, lower price may act as a significant driver of its demand. The crystalware and glassware market has experienced decline in demand in developed regions such as North America and Europe. The market is expected to decline further in the future because of economic crisis combined with increase in market share of cheap imported products from the Asia Pacific region.

In developed regions such as Europe and North America, due to an influx of cheap products from China, retailers are being forced to lower their prices to survive in a competing market. In addition to this, economic crisis resulting in slowing wages and rising living cost has forced European and North American markets to saturate. On the other hand, European and North American manufacturers are more focused on emerging markets such as Asia Pacific and Middle East region where fast growing middle class want to invest in quality crystalware and glassware products from renowned brands. Because of this, in the future, the market is expected to be driven by Asia Pacific and Middle East regions but existing ceramic and plastic products in those regions will hinder its growth.

Some of the major companies involved in the Potassium Formate market are Lenox Corporation (U.S.), Lifetime Brands, Inc. (U.S.), Guy Degrenne SA (France), The Denby Pottery Company Ltd. (UK), Libbey, Inc. (U.S.), Villeroy & Boch AG (Germany), Noritake Co., Ltd. (Japan), World Kitchen, LLC. (U.S.), The Zrike Company, Inc. (U.S.), WWRD Holdings Ltd. (UK), WMF Wurttembergische Metallwarenfabrik AG (Germany), and Oneida Ltd. (U.S.).

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### Significant Events

**June 2016:** USGlass continues to negotiate with a major retailer for an order of vases to be shipped mid-2017.

**May 2016:** Bill Maloney resigns from the Board.

**February 2016:** Bill Maloney was elected to the Board.

**December 2015:** Michele O'Connor, as the WVJIT representative, resigns from the Board.

**November 2015:** Ed White resigns from the Board and sells his shares to a new investor.

**June 2015:** USGlass presented its samples at the Walmart "Made in the USA" Summit Presentation in Bentonville, AR.

**March 2015:** In the Company's March Annual report to shareholders, USGlass was able to develop its product line for 2015, develop sample pieces for road and tradeshow, as well as start relationships with several target customers including Walmart.

**December 2014:** Baceline Investments, the Denver-based real estate investment firm, dropped out from potentially investing in the Williamstown facility. In a conference call, Mr. Bem updated the shareholders and the Board of the notice and requested the hire of Troy Smith to serve as consultant to manage the 12 property and environmental issues needing to be resolved.

**September 2014:** USGlass hired Elizabeth Haggarty as VP of Sales. The Company also continued to work through the Uranium issues at the Fenton Facility. Mr. Bem was in negotiations with the WVDEP to resolve the outstanding issues.

**June 2014:** USGlass Board met to vote the hiring of Jaci Volles, marketing and retail consultant. Ms. Volles laid out in the June board meeting the revised marketing plan for the Company, which the Board decided to implement. USGlass was notified of signed LOI by George Fenton for the Williamstown facility.

**May 2014:** USGlass met with Walmart to discuss product orders, sourcing, and appropriate product positioning as well as discussions with manufacturers for production.

**March 2014:** It was discovered that the facility contained a number of issues relating to the corrosive natural gas line, storm water permit compliance, landfill and depleted uranium permits compliance. Given the environmental concerns related to the facility site, the Wood County Board of Education voted not to consider the site.

**February 2014:** Wood County Board of Education meets to discuss proposed site for the new elementary school at the Fenton Facility. The Board of Education voted to enter into talks to buy the Fenton Glass property.

**January 2014:** Baceline Investments provided a letter of intent to George Fenton for the acquisition of the Williamstown facility. The investment firm, along with Kinequity Group and US Glass, were in negotiations with George Fenton and his advisors.

**November 2013:** USGlass, in collaboration with Kinequity group and Baceline Investments, started the process to acquire the Williamstown Facility under a new company.

**September 2013:** US Glass was in negotiations with Everware Global Inc., to potentially license the brand for the Company's table top tier chain. This joint venture also contains the possibility of Everware making a Series A investment. Everware Global is partially owned by Monomoy Capital Partners, a NY-based private equity firm specializing in Consumer Retail companies.

**July 2013:** Fenton Glass Society Convention gathered at the Williamstown facility. Mr. Bem updated the collectors on the status of USGlass efforts to rebuild the Fenton brand and to restart full scale glass production at the factory in Williamstown.

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**June 2013:** USGlass terminated its relationship with iGNTIATE and continued to solicit investors for the Series A Common Round.

**March 2013:** WVJIT invested \$100,000 through WVCAP for 100,000 Series AA Preferred Units in US Glass.

**November 2012:** USGlass investment approved by WVJIT Board of Directors and WVCAP Committee following term sheet signature and completion of due diligence.

**Overall Conclusion**

Based on the foregoing, WV Jobs Investment Trust finds it most appropriate to record its investment in USGlass, Inc., at **\$0.00**, per GASB 62 adjustment.

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**Snapshot:**

Company: Vandalia Research, Inc.  
Website: Vandaliaresearch.com  
Location: Huntington, WV  
Total Employees: FT/4; PT/1  
WV Employees: FT/4; PT/1

**WVJIT Investment: \$559,376**  
**WVJIT Ownership: 10.71%**  
**Subject to GASB 62: NO**

**Leadership**

Derek Gregg, Chief Executive Officer

**Background**

Vandalia Research, Inc., was founded in 2004 and is a life sciences Company based in Huntington, West Virginia. Vandalia is the first biotechnology Company based upon Marshall University research, specializing in DNA production by polymerase chain reaction (PCR). Vandalia holds an exclusive license to the proprietary Triathlon technology. This technology is capable of providing milligram and gram quantities of custom PCR-amplified DNA for a variety of applications, such as DNA vaccines, diagnostic standards, genetic therapy research and custom probes.

**WVJIT Investment History**

**February 2008:**

\$275,000 in Series A Preferred Stock

**May 2009:**

\$325,000 LOC bridge loan convertible into Series A preferred Shares  
\$200,000 was drawn from LOC

**April 2010:**

Conversion of \$200,000 convertible debt, plus interest into Series A Preferred Units

**August 2010:**

\$75,000 Series A Preferred Investment  
8% Quarterly Dividend

**Warrant Coverage:** None

**Co-Investors:** Mountaineer Capital

**Dividends Received FY2016:** \$290,915.27

**Total Outside Capital:** \$1,865,000

### **Management Team**

#### **Derek Gregg, CEO**

Derek Gregg is a founder and CEO of Vandalia Research, Inc. He has held primary responsibility at Vandalia Research since its founding in 2004 for product development, manufacturing, quality control, business development, sales and marketing, and government relations (including grants and contracts). He is an inventor on two patent applications and is an author on one peer-reviewed publication. In 2007, he and co-founder Justin Swick were featured in *Entrepreneurship: Successfully Launching New Ventures* (2nd Edition). He holds a BS in Integrated Science and Technology from Marshall University. Mr. Gregg also currently serves as Chair of the Biosciences Association of West Virginia, a new trade association devoted to promoting the biosciences industry within the state.

### **Board of Directors**

#### **Derek Gregg, CEO (See Management Team)**

#### **Liz Murray, Ph.D.**

Dr. Liz Murray received her Ph.D. in Genetics from the University of Kansas in 1986. She is employed by Agrigenetics, a company helping in the process of developing insect resistant plants. She also worked for Promega Corporation for eight years, where she headed manufacturing for DNA typing products. Dr. Murray holds three U.S. patents for her inventions and maintains many active contacts in molecular biology reagent businesses.

#### **Patrick Bond, Mountaineer Capital**

Managing Director of McCabe-Henley Properties LP since 1998, Pat Bond brings a wealth of experience in finance, administration, strategic planning, general management and management information systems. Previously, Mr. Bond owned/operated an independent consulting practice, Growth Management Group that specialized in the areas of Business Environment Assessments, new product development, investment and financial analysis and strategic planning. Prior to that, he was President of a natural gas marketing company and was President and CEO of Atlantic Financial Federal, a \$750 million savings and loan institution and all its business units. He graduated from WVU where he received both Master's and Bachelor's Degrees in Industrial Engineering.

#### **Lee C. Haikal, M.D.**

Dr. Lee Haikal is a native of South Charleston, West Virginia, and a graduate of Marshall University School of Medicine. He completed a residency in diagnostic radiology at the University of Louisville Hospital and a fellowship in vascular and interventional radiology at Methodist Hospital in Indianapolis, Indiana. Dr. Haikal primarily performs interventional radiology procedures and is also proficient in plain film radiology, CT, ultrasound, nuclear medicine and mammography exams. He is Board of Directors certified in diagnostic radiology and has been with Radiology, Inc. since March 2003.

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**C. Andrew Zulauf, Executive Director, WV Jobs Investment Trust**

Andy Zulauf is the Executive Director of the West Virginia Jobs Investment Trust, a public seed investment fund. He has extensive experience in finance and venture capital, having served as Executive Director and Senior Loan Officer for the West Virginia Capital Corporation, as a partner and Managing Director of West Virginia operations for Adena Ventures, and as Vice President and Upper Middle Market Commercial Relationship Officer for Fifth Third Bank.

**Products**

The Triathlon is the first system and process to enable the polymerase chain reaction (PCR) to be used for the large-scale manufacturing of DNA Sequences. Its primary advantage is a continuous method for heating and cooling the PCR reagents, which facilitate processing unlimited volume without having to pool the products from multiple test tubes. The result is reduced labor, decreased turnaround time and reduction in opportunities for contamination.

**Competition/Market Summary**

Custom manufactured DNA is a very limited market with few identified competitors. The two most significant competitors identified are Takara Bio and SeqWright Genomics Services.

**Takara Bio**

Takara Bio is part of Takara Holding Company, Inc., and represents the biomedical business interests of its parent company. Takara Bio is committed to improving the human condition through biotechnology through three primary areas of focus; developing research tools for the life sciences, gene therapy, and nutraceuticals. Takara has been focusing on biomedical research since it launched the Bio group in 1967. From its start in manufacture and supply of restriction enzymes in 1979, Takara Bio has positioned itself as a leading company in the Japanese life science market. Takara's acquisition of Clontech is one of many steps the company is taking to continue to provide innovative tools that allow customers to access technological advancements in the life sciences.

**SeqWright Genomic Services**

SeqWright Genomic Services is a Contract Research Organization (CRO) specializing in providing a wide variety of genomic services, including the full-service nucleic acid technology CRO, molecular biology, to microarray and next generation genomics. Founded in 1994 by John W. Belmont, M.D., Ph.D. and Richard Gibbs, Ph.D., of the Human Genome Sequencing Center, SeqWright was acquired by Clariant Diagnostic Services, Inc., a GE healthcare company in 2012.

**Aldeveron**

Aldeveron is a privately-held biotechnology company that is providing contract manufacturing and scientific services. The company specializes in Plasmid DNA, Protein Production and Antibody generation. The company was founded in 1998 and is headquartered in Fargo, ND, with affiliate offices in Madison, Wisconsin and Freiburg, Germany. Aldeveron has 70 employees and close to 50 written patent publications.

### Industry Summary

The global genomics market is expected to reach USD \$19.99B by 2020 from USD \$12.5B in 2015, at a CAGR of 9.9%. This market is segmented on the basis of product, technology, process, end user, application and region. Based on products, the genomics market is categorized into instruments/systems, consumables, and services. In 2015, the consumables accounted for the larger share of the genomics market and expected to grow at the fastest rate during the forecast period. The genomics end user market is categorized into academic institutes, research centers, government institutes, hospitals and clinics, pharmaceutical and biotechnology companies, agrigenomic companies, forensic agencies, and fishery and aquaculture firms, among others. The academic institutes, research centers and government institutes accounted for major share of the genomics end users market in 2015. The diagnostics segment accounted for the largest share of the genomics market in 2015 and is projected to grow at the highest CAGR from 2015 to 2020.

On the basis of regions, the global market is divided into North America, Europe, Asia-Pacific, and the Rest of the World (Latin America, Middle East, and Africa). In 2015, North America was poised to account for the largest share of the genomics market, followed by Europe and Asia-Pacific. The North American market is slated to grow at the highest CAGR during the forecast period and serve as a revenue pocket for companies offering genomics products. A boost in demand for genomic products is anticipated in North America due to the passage of Personalized Medicine Initiative in 2015. The new healthcare initiative will increase the adaptation of genomics in personalized medicine and provide better treatment to the patients.

The factors driving the growth of the global genomics market include increasing investments, grants and funds by the government, increasing research in the field of genomics, increasing number of start-up companies, and increasing application of genomic sequencing in the diagnostics. Despite the large number of benefits like detection of genetic variations in a diseased condition, high costs of genomic sequencing instruments/systems are restraining the genomics market. Some major players in the global genomics market include Illumina, Inc. (U.S.), Affymetrix, Inc. (U.S.), Agilent Technologies, Inc. (U.S.), BGI (China), Thermo Fisher Scientific, Inc. (U.S.), Bio Rad Laboratories, Inc. (U.S.), Cepheid, Inc. (U.S.), GE Healthcare (U.K.), QIAGEN (Germany), and Roche Diagnostics (Switzerland).

### Significant Events

**June 2016:** Vandalia has undergone a transition phase after being bought in December of 2015. Now known as Applied DNA Sciences, they have a new management team and Board of Directors in place.

**December 2015:** Vandalia Board of Directors accepts the offer to sell the Company to Applied DNA for \$1.2M.

**September 2015:** Vandalia receives an offer from Applied DNA, a Boston based, publicly traded life science company.

**June 2015:** Vandalia Board of Directors to evaluate the current management, operational, and financial conditions of the Company and explore options to sell Vandalia to interested buyers.

**March 2015:** Derek Gregg announces his departure from Vandalia to pursue his graduate studies.

**September 2014:** Acquisition negotiations discontinued between Vandalia and the acquirer. Mr. Swick announces his departure from Vandalia.

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**February 2014:** Vandalia Research was awarded an \$18,220 grant via CAM/TechConnect for an analytical system that would help the Company commercialize a key product and achieve important industry certification and compliance. The Company also ran an upgraded triathlon sidewinder and achieved clearer results and views of DNA Gels.

**September 2013:** Vandalia Research was in negotiations with a publicly traded biotechnology company to be acquired. Company also had preliminary discussions with larger-cap biotechnology companies.

**January 2013:** Vandalia announced it won the approval for a no-cost extension for the Pandemic Influenza Vaccine Program. Vandalia also announced several proposed investments for 2013 including a New Triathlon Lab, ISO 9001 Certification, and reconfiguring the Vandalia offices. Also planned to attend several conferences for the purposes of business development such as the BIO2013 conference in Chicago, Bio-Tech Japan, and TradeWinds Asia in Korea.

**July 2012:** Vandalia announced a spinoff company called Crosscutting Concepts, LLC. This Company will develop, manufacture, and market hands-on science products for high school and post-secondary education students.

**July 2012:** WVJIT Board of Directors approved \$300,000 in equity financing through WVCAP and matched by Crosscutting Concepts, LLC.

**June 2012:** Vandalia Research was scheduled to present at the Global Technology Community's 10th Vaccines Research and Development: All Things Considered conference in mid-July.

**May 2012:** Vandalia Research received a U.S. Patent covering their process that involves large-scale DNA production using polymerase chain reaction (PCR).

**June 2011:** Vandalia Research announced significant progress on several recent efforts. The Company followed the four recent additions to the Lyle & Louise educational modules with two new modules planned for January 2012. Vandalia announced that they received a U.S. Department of Defense (DOD) contract for \$1.049 million for the Flu Vaccine Technology Program, which is a pre-clinical development of a pandemic flu vaccine manufactured by Vandalia's Triathlon bioreactor.

**June 2010:** Vandalia Research expects to be the recipient of the DOD contract in collaboration with Innovio Biomedical, with work starting after October 2010. Of the \$325K line of credit approved in April 2009, \$200K was funded. In April 2010, WVJIT converted the \$200K plus accrued interest to Series A preferred equity.

**June 2009:** Rep. Nick J. Rahall announced that he secured \$1.5 million for the Department of Defense (DOD) technology development by Vandalia Research in the Fiscal Year (FY) 2010 Department of Defense Appropriations Act (H.R. 3326). The \$1.5M in funding secured by Rep. Rahall for Vandalia Research, Inc. would be used to collaborate with Innovio Biomedical in San Diego, CA to work with the U.S. Army on applications for their technology. This technology would allow for the development of vaccines and medicines to prevent or cure severe viral pandemic diseases based on Vandalia's linear DNA fragments that will expedite and enhance the quality of vaccines.

**May 2009:** WVJIT committed to a \$325,000 line of credit bridge loan convertible into Series A preferred shares as part of a \$650K new round of financing. The funding was to be released periodically, based on milestones accomplished. A portion of the WVJIT investment (\$125K) was reserved for construction and equipment costs necessary for a GMP facility, assuming the Company was not able to gain funding from alternative sources.

**March 2008:** Vandalia Research raised the initial half of a \$1.5M Series A preferred stock sale with WVJIT and Mountaineer Capital. The funding was used to accomplish the following milestones:

- Continue to fund and expand the Company's intellectual property coverage.
  - Enhance physical infrastructure and institutional processes to support cGMP and ISO-certified manufacturing of DNA products (critical for entry into regulated markets).
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- Further develop corporate partnership efforts.
- Continue further product development and technology improvements on the Triathlon system.

**February 2008:** WVJIT Board of Directors approved an investment of \$275,000 in Series A preferred stock to Vandalia Research to be used for working capital as part of a \$750,000 round with participation from Mountaineer Capital as well as existing shareholders.

**Overall Conclusion**

Based on the sale of Vandalia to Applied DNA for \$1.2M, which the WV Jobs Investment Trust has received ~\$290K in the initial distribution and expects to receive ~\$120K in the final distribution, the WVJIT Board approved a write off of the remaining equity investment in Vandalia Research of <\$150,000> which would reflect a value as of June 30, 2016 of **\$0.00**.



**Snapshot:**

Company: WV Potato Chip, LLC  
Website: Buymisterbee.com  
Location: Parkersburg, WV  
Total Employees: FT/16; PT/1  
WV Employees: FT/16; PT/1

WVJIT Investment: \$0.00  
WVJIT Ownership: 0%  
Subject to GASB 62: No

**Leadership**

Rick Barton, Chief Executive Officer  
Greg Reed, President  
April Hymen, Finance/Accounting Manager

**Background**

The WV Potato Chip Company, LLC was established in 2012 by Rick Barton and Randall Holden to manufacture potato chips under the Mister Bee brand. The assets to Mister Bee Potato Chips were purchased after the Company filed for bankruptcy protection in November of 2011. The Company owns and operates a plant in Parkersburg, WV capable of processing 3,600 pounds of potatoes per hour in various sizes. The original Mister Bee brand was started in 1951 by Leo and Sara Klein. The Company grew to be a million dollar business in 1972 serving West Virginia and parts of Ohio and eastern Kentucky.

**WVJIT Investment History**

**April 2013**

**\$250,000** Series A Preferred Units; 7% Quarterly Dividend

**Warrants/Warrant Coverage:** 100% at 50% discount with a 7 year time frame.

**Total WVJIT Investment:** \$250,000 (\$125,000 funded through WVCAP)

**GASB 62 Valuation :** \$312,012

**FY2016 Dividend Revenue:** \$2,916.66

**Co-Investors/Lenders**

Rick Barton

### Board of Directors

#### Rick Barton, Chief Executive Officer

Rick Barton purchased the assets to Mister Bee in the beginning of 2012 and assumed the role of CEO. He has a large amount of business experience previously serving as an executive with Simonton Windows. After leaving Simonton, he founded Wincore Windows, a massive success story in West Virginia business. He serves as the CEO of Wincore, whose logistics have been widely praised and the company boasts a week turnaround on orders. The company opened with 50 employees and now has over 300. Under Mr. Barton's guidance, Wincore has become one of the fastest growing companies in the region.

### Products

WV Potato Chip's core business is the manufacturing and sale of potato chips. It purchases potatoes from Wisconsin-based Highland Lake Farms and Oneida Potato Exchange, and uses a brokerage firm to purchase potatoes from a co-op in Pennsylvania. When the Company receives potatoes, they clean them and slice them before cooking them in oil.



### Competition/Market Summary

The potato chip industry is currently dominated by the brands under PepsiCo, collectively known as Frito Lay North America, Inc. These brands include well known chips like Lay's, Ruffles, Fritos, Doritos and many others. Frito Lay North America generated \$14.1B in revenue during 2013 and reported a profit of more than \$3.8B. The next largest potato chip brand is Pringles, which is owned by Kellogg. The Utz brand of chips are currently in third place followed by Cape Cod, Kettle, Herr Foods, Wise Foods, Snyder's of Hanover, Old Dutch Foods and Snyder of Berlin. Frito Lay North America has a commanding hold over the market and there are no real large challengers among major corporations. Instead, most challengers to Frito Lay come in the form of small regional companies.

These small regional companies are all located outside of the State of West Virginia. However, for the most part, they are located very close to Parkersburg. Utz, a top-5 potato chip brand, is located 5 hours from the Mr. Bee's factory. Other brands like Herr's, Wise Snacks, Snyder's of Hanover and Snyder of Berlin are all located in Pennsylvania. These companies are seen as the most direct challengers to the WV Potato Chip Company. Due to the size of Frito Lay North America's operations, there is very little chance that the Company could compete on the same level. Pennsylvania is home to 24 potato chip plants and Ohio is home to 10. In comparison, there are only 60 potato chip plants nationwide not owned by Frito Lay.

**Utz Quality Food, Inc.**

Utz was founded in 1921 by Bill and Salie Utz and is currently operated by the third generation of the Company, Mike and Jane Rice. According to their corporate website, Utz is the biggest independent privately held snack company in America. They make over a million pounds of chips each week and ship their products from Maine to North Carolina. In 2011, Utz's main line of potato chips had sales of \$137.6 M. Utz owns a distribution center in Fairmont and Parkersburg and can be found in stores throughout WV. It is the most successful of the smaller group of companies, narrowly edging out Cape Cod and Kettle in terms of sales in 2012 with over \$170 million in revenue. This number is still more than nine times less than what Frito Lay North America made in 2012.

**Herr's Food**

Herr's food was founded by James Stauffer Herr in 1946 when he was only 21 years old. His grandson, James M. Herr has been running the Company since 2005. Herr has an office in Ona, West Virginia as well as Chillicothe, Ohio. Their main line of chips had revenues of \$61.1M in 2011, putting it behind brands like Utz, Kettle and Cape Cod. Like Utz, Herr's is also distributed throughout the State of West Virginia and has been a very successful brand.

**Conn's Potato Chips**

Conn's Potato Chips is located nearby in Zanesville, Ohio, which is only an hour and a half drive from Parkersburg. It was founded in 1935 by the Conn family. They focus on their brand of chips as well as private label branding. Owners Montie Hunter and Tom George, Sr. have recently built a new 100,000 square foot facility. Conn's was recently featured in a video segment for AOL.

**Industry Summary**

The FDA plans to ban foods with artificial trans-fat by June 18, 2018. Doctors say trans-fat is the worst kind of fat and is a major contributor to heart disease, the leading cause of death in both men and women. That's why the FDA announced in June 2015 a nationwide phasing out of processed trans-fat. Manufacturers will have three years to remove partially hydrogenated oils from products. The agency estimates the elimination of artificial trans-fat will prevent 20,000 heart attacks and 7,000 deaths attributed to heart disease. FDA isn't the first to limit trans-fats. New York City, in 2006 under Mayor Michael Bloomberg, passed a ban that applied to restaurants and California followed suit in 2008. Cooking times and recipes had to be changed but doughnut makers and other restaurants reported making the adjustment.

The local bans set the precedent for the FDA's move, but the federal government's decision has much broader implications, especially if it can be interpreted to mean there is no safe level of trans fat, said Michael Reese, an attorney and partner at Reese LLP, a firm that regularly sues food companies for misleading consumers.

The food industry has been preparing for the trans-fat crackdown for months. As POLITICO reported, the Grocery Manufacturers Association has led a behind-the-scenes effort to craft a petition asking FDA to allow "very limited" uses of partially hydrogenated oils going forward. The details of the industry's food additive petition have not yet been released. FDA officials told reporters they expect to be able to review the petition within the three-year compliance window. In the meantime, food companies are bracing for lawsuits.

### Significant Events

**August 2015:** WVJIT equity investment was purchased.

**June 2015:** WV Potato Chip attracted new investors who offered to purchase WVJIT's Series A Preferred Units and warrants. The transaction expected to close mid-July 2015. The Series A Preferred Units and Warrants will be purchased for \$325,000.

**December 2014:** WV Potato Chip was approved to engage StandOut Marketing, using OA funds to assist the marketing and branding of Mister Bee.

**March 2014:** WV Potato Chip worked with WVJIT's legal counsel to correct/update membership issues discovered at the December 2013 board meeting.

**December 2013:** Sales were down compared to previous year (same period), but due to a cooker fire, WV Potato Chip was not able to offer specials. In addition, the Company was working through the set-up of a new distribution contract with Snyder's. Those two issues contributed to the lower sales. The Company and its accountant were working with the insurance company to settle its claim and to determine what the insurance company would pay on the lost sales. The Company's sales mix continued to reflect Walmart and Kroger taking a lion share of the distribution with 30% and 12%, respectively, followed by GoMart, Foodland, and Snyder's.

**September 2013:** The chips were being made in the WV plant. The cooker was replaced and up and running. Snyder's picked up several routes and planned to expand the sales territory. Management expected the Snyder's distribution contract to double their current production. Production would increase from its current 2 days to 4 days.

**June 2013:** WV Potato Chip, LLC closed on funding transaction with WVJIT. Company experienced a cooker fire in their Parkersburg plant location.

### Overall Conclusion

Based on the foregoing, the WV Jobs Investment Trust finds it most appropriate to record its investment in WV Potato Chip Company, LLC at **\$0.00**.

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