**Company Description:** MEDTOX provides clinical and forensic laboratory services as well as produces diagnostic testing products and devices. The company’s products and services are used by a variety of clientele, including businesses, hospitals, physician practices, health clinics, pharmaceutical/biotechnology companies and research organizations.

**MEDTOX: The Upside of Drug Testing; Initiating with BUY Rating, $20.50 Target (MTOX - $16.00) BUY**

**Key Points**

- MEDTOX (MTOX) is at an important inflection point – we are attracted to consistent new account growth, and even more intrigued by the leverage created by an improved hiring environment.
- The Feltl and Company Placement Intensity Index provides proprietary insight into this transition and has shown great accuracy in the past – 0.82 R-squared and directionally correct 94% of the time.
- Margin expansion potential profound.
- Diversification paying off with more stable base of business, improved profile, and potential for multiple expansion.
- Initiating: BUY rating and $20.50 price target (9.5x 2012 EV/EBITDA).

Consistent new account growth in drugs-of-abuse testing combined with improving employment offers opportunity. MEDTOX averaged 13.8% Y/Y new account growth in 2010, but was hurt by lower drugs-of-abuse (DAU) testing volumes from existing clients, particularly in the first half of the year. Testing volumes from existing clients stabilized and then turned positive by the end of 2010 for the first time since 2007. Improved testing volumes from existing clients and continued new client acquisition should allow MEDTOX to achieve 20%+ Y/Y comps when hiring improves.

We have developed the Feltl and Company Placement Intensity Index which shows a strong correlation to MEDTOX’s top-line results. The Feltl and Company Placement Intensity Index quantifies how serious employers are in their attempts to fill open positions and has shown solid predictive ability (0.82 R-squared) towards MEDTOX’s reported revenues. Additionally, it has been accurate 94% of the time in the past four years in directionally predicting quarterly revenue growth.

Huge operating margin expansion potential as fixed costs are spread over greater volume. Prior to the 2008 financial meltdown, MEDTOX’s gross margins were over 45% versus 40.8% in 2010 and SG&A as a percentage of sales was as low as 28.3% versus 33.5% in 2010. This has the power to drive operating margins back into the 12% range from 2010’s 5% operating margin.

MEDTOX has diversified and moved “up market” since 2008. MEDTOX has been able to grow these new areas more rapidly than the broader lab market, providing a catalyst to achieve a higher valuation multiple. Diversification into clinical trial labs and non-DAU clinical reference lab testing, such as full-service and esoteric toxicology testing, has provided a broader base of business that is growing nicely with non-DAU revenues up over 25% in 2010. This strategy has enabled MEDTOX to improve their perception amongst clients and potential clients while providing a more stable base of business.

Please see important disclosures on pages 21 to 23.
INVESTMENT THESIS
We are initiating MEDTOX Scientific (MTOX) with a Buy rating and a 12-month price target of $20.50 (9.5x 2012 EV/EBITDA). MEDTOX is a provider of drugs-of-abuse testing services and products as well as clinical and forensic lab services. We believe that an improved economic environment over the next several years will drive increased employment drug screening which, in turn, will provide a tailwind to MEDTOX’s results. Additionally, we believe that the diversification efforts MEDTOX has undertaken the past several years will provide them a more stable base of revenue and enable them to compete successfully at the margins on accuracy, service, turnaround time and pricing in the $60 billion clinical lab testing market.

Valuation
We derive our price target of $20.50 based upon an EV/EBITDA valuation methodology as we believe this is the most stable metric historically for both MEDTOX and the diagnostic lab industry. The following table and chart detail the high and low EV/EBITDA multiples in a given year for MEDTOX and other diagnostic labs. Based upon this, it is our belief that a typical trough valuation on an EV/EBITDA basis for the labs during a typical year is 6x EBITDA and a typical peak valuation is 10-12x EBITDA. As such, we estimate that MEDTOX will be able to achieve an EV/EBITDA multiple of 9.5x our 2012 EBITDA estimate of $19.3 million. After adding in projected net cash of $7.0 million we arrive at a market value of $190 million or roughly a $20.50 share price as our 12-month price target.

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Investment Opportunities

**Improving economic environment drives drug-screening volumes.** Workplace drug screening is highly sensitive to economic conditions, as it is driven in large part by increased hiring activity. After a few tough years, the hiring environment has been improving. In Q4 2010, MEDTOX experienced its first year-over-year increase in DAU business from existing clients since 2007. **Our proprietary Feltl and Company Placement Intensity Index has shown strong predictive ability (0.82 R-squared) into MEDTOX’s revenue growth, and current economic data indicates a solid underpinning for MEDTOX’s continued growth.**

**Impressive new account growth poised to continue.** Over the past five quarters, MEDTOX has experienced greater than 10% year-over-year new client growth in DAU testing every quarter. We believe their sales strategy will continue to generate similar growth over the near-to-intermediate-term. When combined with improving volumes from existing business, the potential for 20%+ year-over-year revenue growth is well within the realm of possibilities.

**Diversification paying off with more stable base of business and improved profile.** After growing non-DAU revenues ~15% in 2009 and ~25% in 2010, non-DAU revenues have reached nearly 40% of MEDTOX's business. While these segments of the business are still impacted by the broader economy, they do not have such a heavy reliance on the hiring environment. Additionally, these diversifications have improved MEDTOX's profile amongst existing and potential clients, who no longer see them as just a drug-screening lab.

**Lab volumes will continue to increase.** Despite industry worries about Accountable Care Organizations (ACOs) and electronic health records (EHRs) causing declines in laboratory testing, we believe that testing volumes will continue to increase driven by the baby-boomer generation aging and the rise in chronic conditions amongst the entire population. In face, we believe that worries about the impact of ACOs and EHRs on laboratory testing volume are at best overblown and at worst simply incorrect; we believe the old management adage, “you can’t manage what you can’t measure”, holds true based upon our analysis.

Investment Risks

**Economy can have disproportionate impact on results.** Should the US experience a double-dip recession, MEDTOX’s results will suffer. Even though MEDTOX has done a good job of diversifying its business away from its reliance on workplace drug screening, a poorly performing economy will impact MEDTOX negatively. **Consolidating industry may present competitive challenges in the future.** Over the past several years, the diagnostic lab industry has been consolidating and the trend looks to continue. We believe MEDTOX competes most effectively on attributes other than strictly price. Should clients begin gravitating to the larger lower-cost labs or choose to test in-house to save money, MEDTOX may have a tough time competing effectively.

**Increasing third-party billing may increase working capital needs.** Thanks to the diversification efforts, MEDTOX’s third-party payor revenues have increased to over 11% of total revenues from under 5% in 2008. If MEDTOX is not able to effectively collect from these payors, they may face increasing DSOs and bad debt expenses.

**The clinical trial services business, poor weather, and fuel prices can cause choppy results.** The clinical trial services business still has a relatively small number of clients and delays or cancellations of trials can impact results. In Q4 2009 and Q1 2010, this area of the business was cut in half versus its prior run rate, and although it subsequently returned to previous levels, investors may not all have the same patience. Similarly, poor weather can impact quarterly results as samples that aren’t delivered to MEDTOX’s lab cannot be processed. MEDTOX could also suffer temporarily from sharply higher fuel prices squeezing margins before these higher expenses could be passed along to customers through higher prices.

**Feltl and Company Placement Intensity Index Overview**

The **Feltl and Company Placement Intensity Index (FPII)** measures how “seriously” employers intend to fill open positions. This proprietary index takes into account measures of the current employment market. As can be seen below, its movement strongly correlates with MEDTOX’s year-over-year revenue growth. Since 2007, the R-squared value between the two measures has been greater than 0.82 and it has been directionally accurate in ~94% (16 out of 17) quarters.
Historical Valuation Analysis

Our evaluation of historical valuation metrics indicates that the Street tends to value MEDTOX based upon a EV/EBITDA ratio based on estimated forward 12-month EBITDA. This is illustrated in the following charts, showing the quarterly high and low valuations on each metric; EV/EBITDA appears to be the most “stable” metric on which MEDTOX trades.

MEDTOX currently trades at the lower end of historical valuations on nearly all valuation metrics shown below. While it has moved up slightly on EV/Sales, we view this as a return to pre-financial crisis valuation levels, prior to which the market was willing to assign higher multiples for a similar growth rate.

We have placed our 9.5 times target valuation EV/EBITDA ratio on the EV/EBITDA chart below for comparison purposes. MEDTOX regularly traded at or above this multiple before 2010. We believe that the market will value MEDTOX at a slightly higher EV/EBITDA than its larger and slower-growing competitors, LabCorp (8.2x 2011 EV/EBITDA) and Quest Diagnostics (7.4x 2011 EV/EBITDA).

![MTOX Y/Y Revenue Growth versus Y/Y Change in Feltl Placement Intensity Index](chart1)

![MTOX Y/Y Revenue Growth versus Y/Y Change in Feltl Placement Intensity Index](chart2)
Business Description

MEDTOX operates two segments, MEDTOX Laboratories and MEDTOX Diagnostics. The laboratories segment provides drugs-of-abuse testing, clinical and other laboratory services, and clinical trial services. The diagnostics segment provides products, mostly point-of-collection testing (POCT) products for drugs-of-abuse. In addition, the diagnostics segment also provides contract manufacturing and other diagnostics products. MEDTOX plans to phase out their contract manufacturing business in 2011 as they transition their last remaining customer to in-house production.

MEDTOX Laboratories

Drugs-of-Abuse Testing Services

MEDTOX's drugs-of-abuse testing services comprise slightly over 50% of lab services and approximately 41% of all revenue. Revenue from this area is heavily influenced by the economy as workplace drug screening programs fluctuate with hiring activity. Drug-testing revenues have a seasonal component as pre-employment screening tends to decline during holiday periods with the decline being particularly pronounced in Q4. Poor weather conditions can also negatively affect testing volume.

Workplace drug-testing services are estimated to be a $500+ million market, implying a ~6% market share for MEDTOX. In addition to providing drug-testing services to public and private companies, MEDTOX also services drug treatment counseling centers, criminal justice facilities, occupational health clinics and hospitals.

Drug testing is subject to a number of government regulations. MEDTOX has maintained Substance Abuse and Mental Health Services Administration (SAMHSA) certification of its laboratories since 1988 and is one of only 38 certified labs in the US and Canada. SAMHSA certification is required for Federal Workplace Drug Testing Programs and this type of testing makes up 25-30% of MEDTOX’s DAU revenues. Further, they have received 510(k) clearance on 22 products from the FDA, all in vitro diagnostic products, and a Clinical Laboratory Improvement Act (CLIA) “moderately complex” categorization for their PROFILE, PROFILE-II, PROFILE-III, PROFILE-IV, PROFILE-V, VERDICT, VERDICT-II, AND MEDTOXScan drug tests. MEDTOX must also abide by the Heath Insurance Portability and Accountability Act (HiPAA), safeguarding the privacy of patient records.

Clinical and Other Laboratory Services

MEDTOX’s fully certified clinical toxicology reference lab specializes in esoteric (highly complex) therapeutic drug monitoring and emergency toxicology. These services are provided to occupational health clinics, physician offices, hospitals, companies required to comply with OSHA and other laboratories. Numerous types of tests are conducted in their lab, including urinalysis, microbiological, molecular diagnostics, hematologic, immunohematologic and heavy metal, trace element and solvent analysis. The latter is required by OSHA for monitoring job-related exposure to hazardous materials and is also required by the Centers for Medicare and Medicaid Services (CMS) for all children on Medicaid at 12 and 24 months of age to test for lead exposure.
MEDTOX has expanded their pain management product line over the past couple of years, developing a comprehensive testing program branded as ToxAssure. In addition, MEDTOX provides other services such as courier services for medical specimens, chain-of-custody/donor tracking systems, as well as data collection and reporting through its WEBTOX Internet-based reporting system.

Combined, clinical lab services provided 38.8% of laboratory services revenues and 30.8% of all revenues in 2010.

**Clinical Trials**

MEDTOX provides an array of central lab services for Phase I-IV clinical trials, including assay development, bio-analytical, bio-equivalence and pharmacokinetic testing. Clients include pharmaceutical and biotech companies, clinical research organizations and trial management investigators.

Depending on the phase of the trial, different services are available that have vastly different scopes. For example, Phase I testing is often used to determine safety and generally has a smaller patient population. In contrast, Phase III trials usually involve thousands of patients. Importantly, clinical trial services clients seldom switch laboratories between trial phases.

MEDTOX’s Clinical trial business generated 9.7% of laboratory services revenues and 7.7% of total revenues in 2010. However, given the differences in project size, timing, nature and relatively smaller base of clients, revenues from this part of MEDTOX’s business fluctuates a great deal from quarter-to-quarter. By way of example, the best quarter for clinical trials in 2010 had revenues that were nearly three times higher than that of the lowest revenue quarter.

**MEDTOX Diagnostics**

**Product Sales**

Around 90% of MEDTOX’s product sales segment consists of point-of-collection testing (POCT) products for drugs-of-abuse testing. The primary POCT markets are businesses, hospitals, rehab centers, and the criminal justice system to which MEDTOX sells its PROFILE-II, PROFILE II A, PROFILE III and PROFILE III A POCT products. For hospital markets MEDTOX also distributes the PROFILE II ER, PROFILE III ER, PROFILE IV and PROFILE V devices, which are all FDA-cleared one-step qualitative screening assays for the detection of drugs-of-abuse. In addition, MEDTOX markets the MEDTOXScan Reader (seen below) – an electronic reader for use with the PROFILE V – to the hospital lab and emergency room market. Additionally, MEDTOX sells the VERDICT-II and SURE-SCREEN product lines to the criminal justice and drug rehabilitation markets. Cardinal Health (CAH – not rated) distributes MEDTOX’s PROFILE products into the hospital lab market.

MEDTOXScan Reader (source: MEDTOX.com)

**Competition**

MEDTOX faces competition at the margins from approximately 4,300 independent labs in the US. It also faces marginal competition from about 33,000 other accredited or compliant labs that are able to do moderate and high complexity tests under CLIA. However, MEDTOX and its DAU-focused model largely competes with Quest Diagnostics (DGX – not rated), Laboratory Corporation of America (LH – not rated), and Alere (ALR – not rated), which combined control approximately 75% of the workplace drugs-of-abuse testing market.
As noted above, there are 38 SAMHSA-certified labs in the US and Canada, including MEDTOX. Of these, four are administered by Laboratory Corporation of America and four are administered by Quest Diagnostics. Since 2005, the number of SAMHSA-certified labs has declined from 49 due to industry consolidation.

MEDTOX’s competition varies in the other business segments. In the clinical labs area, they compete regionally for full-service labs (largely against Quest), but on the esoteric toxicology reference lab side, they actually receive business from other labs and do not see much competition. In clinical trial services, MEDTOX competes with firms such as Pharmaceutical Product Development (PPDI – not rated) and Covance (CVD – not rated). In POCT products, MEDTOX competes with Alere (ALR – not rated), American Bio Medica (ABMC – not rated) and Pharmatech, amongst others.

Management

Richard J. Braun, MBA, JD - Chairman/President/CEO

Richard J. Braun, MBA, JD, was named Chairman of the Board of Directors and President on October 26, 2000. Mr. Braun was named a director and elected as Chief Executive Officer in July 1996. From 1994 until joining the Company, Mr. Braun acted as a private investor and provided management consulting services to the health care and technology industries. From 1992 until 1994, he served as Chief Operating Officer and as a director of EBP, Inc., a NYSE company engaged in managed care.
Kevin J. Wiersma - Vice President, Chief Administrative Officer, and CFO of MEDTOX Scientific, Inc., and COO - Forensic Laboratory Operations

Kevin J. Wiersma, was appointed Chief Administrative Officer on June 15, 2010. He was named Chief Financial Officer on May 22, 2002 and Chief Operating Officer on July 17, 2000. He was named Vice President on July 20, 1998. Mr. Wiersma joined MEDTOX Laboratories in 1992 and continued with the company following its acquisition by MEDTOX Scientific, Inc. Mr. Wiersma has served in various positions relating to finance and operations management within the Company.

James A. Schoonover, MBA - Vice President, Sales & Marketing and CMO

James A. Schoonover, MBA, was named Vice President of Sales and Marketing and Chief Marketing Officer on July 17, 2000. Mr. Schoonover joined the Company in August 1997 and has more than 25 years of experience in sales, public relations and sales management for a variety of service companies. Prior to joining MEDTOX Scientific, Inc., Mr. Schoonover was a Division Vice President for the medical services subsidiary of Olsten Corporation.

Diagnostic Laboratories Industry Overview

Opportunities

- Aging population and associated chronic conditions – Over half of Medicare beneficiaries have five or more chronic conditions and over 87% have at least one.
- Lab test usage is expanding – Over the past decade, the number of lab tests the average person has in a given year has expanded and should continue to do so.
- New molecular and genetic tests – The market for new types of tests to diagnose and treat disease is growing rapidly.
- Possible FDA regulation – The FDA may decide to require 510(k) approval for prognostic indicator tests and pre-market approval (PMA) for tests that directly impact treatment decisions. The ultimate result would likely be a more rapid reimbursement decision by payors, similar to what occurs in pharmaceuticals.
- Health care provider consolidation – As health care providers consolidate in response to changing laws and economics, labs that do not have sufficient scale will be forced to exit the business, allowing those that remain to gain share, although perhaps at lower margins.

Risks

- Health care provider consolidation – As the healthcare industry becomes less fragmented, whether through mergers and acquisitions or self-organization into ACOs, current independent lab clients may choose to handle a greater share of their own testing. Additionally, their increased scale may enable them to potentially compete more effectively in hospital lab outreach programs and give them bargaining power when negotiating with independent labs.
- Shortage of qualified lab personnel – It is projected that the lab industry will continue to experience a shortage of personnel driven by the current baby-boomer lab workforce retiring and many educational institutions dropping their laboratory science programs (lab science is an expensive degree from the schools’ standpoint).
- Possible FDA regulation – The FDA may decide to require 510(k) approval for prognostic indicator tests and pre-market approval (PMA) for tests that directly impact treatment decisions. This would likely stifle the development of new diagnostic tests, those most likely to be higher-margin.
- Tort reform – Should Republicans take control of the federal government in 2012, there is a potential that a tort reform bill passes, which may reduce the volume of lab tests that result from physicians practicing “defensive medicine”.

Outlook

We view the outlook for diagnostic labs as having several important drivers. The aging of the baby-boomer generation combined with the chronic conditions that age exacerbates will cause a growing volume of lab testing, benefiting the diagnostic labs. Further, contrary to popular belief, we believe that government incentives to adopt health care models that encourage the avoidance of high-cost care (such as hospitalization) and health IT systems should result in increased testing based upon our analysis. Further, new diagnostic tests, while taking time to receive payor coverage and adoption, should increase the medical community’s reliance on diagnostic tests to diagnose and treat patients. Currently, 60-80% of medical decisions are influenced by lab tests. Thus, we believe diagnostic lab testing volume will grow. However, the
larger questions are where will testing be done – in hospital-based labs, physician office labs, independent labs, or elsewhere – and what sort of pricing pressures will the lab industry face?

The US has now entered into the baby boomer era of health care spending, with the first baby boomers beginning to retire this year. For the next 20 years, 10,000 baby boomers will turn 65 every day. When it comes to US health care spending, the baby boomers have become the elephant in the room.

Chronic conditions, such as diabetes, heart disease, hypertension, cancer and arthritis, have affected an increasing percentage of the population, especially the elderly. Nearly half of the US population has at least one chronic condition, with over 87% of those over 65 having at least one, and more than half of the elderly having five or more chronic conditions. We believe the old management adage, you can't manage what you can't measure, is imperative when it comes to successfully treating chronic conditions. It would appear the health care system realizes this as well, as those with chronic conditions utilize lab tests far more than the healthier segments of the population. A 2006 paper, “Trends in Medicare Carrier-Paid Laboratory Testing Services”, determined that 44% of the growth in lab tests and 39% of the growth in lab test spending by Medicare carriers from 2001-2004 were attributable to just three chronic conditions – hypertension, hyperlipidemia, and diabetes. Over the past decade, the prevalence amongst every age group for all chronic conditions has increased. For example, the chart below depicts the increase in diabetes prevalence over a 10-year period.

The number of lab tests run on an average person per year increases as populations age, overall health declines, and new tests are developed. The chart below depicts the trend towards increased lab tests per year for every age group from 2002-2007.
The growth in the number of lab tests run per year has largely been driven by increased tests run in each health care encounter, as seen below. We expect testing volumes to increase as additional tests are developed, defensive medicine continues to be practiced, and more physicians turn to lab tests to aid diagnosis and treatment. Studies show that it takes over 15 years for half of physicians to adopt a new procedure after a landmark trial, and we view the increase in lab usage over the past decade as still in the "early majority"-portion of the adoption curve.
Since the Human Genome Project completed its work in 2003, the number of genetic and molecular lab tests has increased rapidly (see below) and the rate of new test introduction appears to be accelerating. Currently, there are over 2,300 diseases for which genetic testing is available. While these tests may not be high-volume, they are, in most cases, high-priced, high-margin tests. We estimate that, on average, ~5 years elapse from the time that a new genetic test is developed and large payors begin reimbursement for the test. Further, we estimate it takes ~3-5 years once reimbursement by large payors begins until a test is broadly reimbursed.

The “heat map” graphic below illustrates the current and projected future for genetic/molecular applied knowledge. We have already seen diagnostic lab tests that improve the effectiveness of care, such as Genomic Health’s Oncotype DX. We believe that, as this applied genomic knowledge expands, reimbursement decisions will happen more rapidly. Perhaps more importantly from an investment standpoint, our belief is that this knowledge will scale, leading to an increased number of tests at reduced pricing, vastly expanding lab testing volume. Scale has long been absent in the health care industry. Our view is that scale, in spite of its requisite declining prices, is a powerful investment driver (see semiconductors).

Source: Green, Eric D., Mark S. Guyer, and National Human Genome Research Institute. “Charting a course for genomic medicine from base pairs to bedside” Nature February 10, 2011 204-213
We believe that as pressure is placed upon government and other payors as the baby boomers retire and further stress the health care system, pricing pressure will be apparent across the entire health care landscape, diagnostic labs included. This pricing pressure will likely result in increased industry consolidation through both acquisitions and smaller labs ceasing operations. As such, we believe the winners will be the labs that have achieved sufficient economies of scale, have proprietary tests that command higher prices, or are recognized leaders in a specific sub-segment of lab testing. The independent lab industry has already recognized the coming state of affairs and has been both consolidating and developing lab-developed tests (LDTs) over the past several years.

Background

Diagnostic labs conduct clinical testing for a variety of customers, including medical practitioners, businesses, pharmaceutical companies, government agencies and research organizations. Generally, clinical testing is classified as either clinical laboratory testing or anatomic pathology services, depending on whether it is conducted on fluid or tissue.

Clinical laboratory testing is performed on bodily fluids, such as blood, plasma, urine and serum and is utilized in routine testing, patient diagnosis, and in monitoring disease treatment. The most frequently used clinical lab tests are urinalysis, blood chemistry, blood cell count, Pap tests, HIV tests, thyroid tests, microbiology cultures and substance abuse tests. Esoteric clinical lab tests require more sophisticated equipment and more highly skilled personnel. Most diagnostic industry groups classify genetic, molecular diagnostics, and other advanced microbiological tests with esoteric tests under the clinical labs umbrella.

Anatomic pathology services are performed on histologic (tissue) or cytologic (cells) samples, in many cases to diagnose and stage cancers.

Regulation

Diagnostic labs in the US are largely regulated under the Clinical Laboratory Improvement Amendments (CLIA), passed by Congress in 1988. The final CLIA regulations, published in 1992, categorize testing based upon the complexity of the test - waived complexity (encompassing 117 tests for specific analytes), moderate complexity, and high complexity. Under CLIA, the Centers for Medicare and Medicaid Services (CMS) is charged with implementing CLIA, the Centers for Disease Control and Prevention (CDC) with CLIA studies and technical consultation, and the Food and Drug Administration (FDA) with test categorization.

Depending on the complexity categorization of the tests a laboratory performs, the facility may register under CLIA in four different ways. For those of waived complexity, a lab is only required to enroll in the CLIA program, follow manufacturers' test instructions, and pay certificate fees biennially. Tests categorized as moderate complexity have an additional subcategory known as provider-performed microscopy (PPM) which encompasses a dozen lab procedures such as urinalysis in addition to those included under waived complexity. Labs performing tests beyond those requiring a certificate of waiver or PPM certification, or those of moderate or high complexity, must have their facilities surveyed routinely by CMS or private accrediting association, and are issued a certificate of compliance or certificate of accreditation after registering with CMS and being surveyed.

In addition to the CLIA regulations, drugs-of-abuse testing labs that wish to engage in Federal Workplace Drug Testing Programs testing must be certified by the Substance Abuse and Mental Health Services Administration (SAMHSA). Labs are additionally regulated by HIPAA and are required to safeguard patient records.

Last year, the FDA signaled that it may begin regulating lab-developed tests (LDTs). Concern grew once certain labs began offering direct-to-consumer genetic tests and the government realized that the only oversight over LDTs were through CLIA. The expected outcome is that the FDA classifies tests into multiple categories based upon risk level, then requires those above a certain risk level to go through either the 510(k) or PMA approval process.

Market Characteristics

As of year-end 2010, there were approximately 222,000 labs in the US, including 113,000 physician office labs (POLs). However, the vast majority of these conduct only waived tests. As of April 2011, we estimate that slightly over 37,000 of these labs are able to perform test of moderate or high complexity. Further, we estimate that 4,300 of these are independent labs. The breakdown by lab type is shown below.
While physician office labs represent about half of all lab locations, they conduct only ~10% of all tests and receive ~4% of all lab revenue. Hospital labs and independent labs make up the bulk of lab test volume and revenues, largely due to the tests they conduct being of the higher-priced moderately and highly complex varieties.

Based upon NAICS data and industry reports, clinical diagnostic labs have grown revenue at a 5.5-7.0% CAGR over the past decade, growing from ~$30 billion in 2000 to a little over $60 billion in 2010. Total health care spending grew faster than lab spending through 2006. However, since 2006, lab spending has grown from 0.5% to 2.5% faster than total health care spending, likely due to the increased incidence of chronic conditions and the growth in molecular and genetic testing. We anticipate that over the next several years, lab spending will grow at a similar annual rate as total health care spending, or 5-7%, reflecting the continued growth of testing, new molecular and genetic tests, and the aging of the US population, but offset by pricing pressure inflicted by payors of all types. Our lab industry revenue estimates, shown in the chart below, reflect the National Health Expenditure’s projected total health care spending growth to 2020.
Certain segments of the lab testing market are growing faster than others, with esoteric and anatomic pathology growing the fastest. Routine testing has grown at a much slower rate, approximating the population growth rate adjusted for level of testing by age, or 1-2% per year. Cytology should grow at two to three times the rate of routine testing growth as the population ages and the need for cancer diagnoses for the elderly increases. Drugs-of-abuse testing tends to follow economic growth rates. Below are snapshots of all segments of the lab market.

**Reimbursement**

Independent diagnostic labs do not face the same level of government reimbursement challenges as other areas of health care, or even other diagnostic labs. While the independent labs’ share of government reimbursement has moved higher over the 2006 to 2009 time period, as seen below, it still amounts to less than 25% of revenues. In contrast, hospital-based labs receive 50-55% of their revenues from Medicare, Medicaid and other government programs.
For routine lab testing, The Centers for Medicare and Medicaid Services’ (CMS) Clinical Laboratory Fee Schedule (CLFS) largely determines the reimbursement rate for diagnostic clinical lab tests. Although private payors are free to contract with labs at any rate they so choose, in practice, private payor rates tend to cluster around the CMS fee schedule.

The CLFS varies depending on geographic location with the Medicare Administrative Contractor determining the allowed amount and paying for services based upon rates set by lab charges in their geography. The contractor reimburses at a rate which is the lesser of the amount billed, the local fee for a geographic area, or the national limitation amount (NLA) for a given HCPCS code. Whether an NLA was established before or after January 1, 2001 changes the process by which the NLA is set. For those established prior to 2001, the NLA is calculated as 74% of the median of all local fee schedule amounts. For those established after, the NLA is set at 100% of the median of local fee schedule amounts. Reimbursement occurs at the NLA rate over 80% of the time.

The CLFS may be updated for inflation by Congress based on the CPI-U (CPI for all urban consumers) index through legislation. For 2009 and 2010, Congress set the CLFS update at +4.5% and -1.9%, respectively. In 2011 through 2015, the Patient Protection and Affordable Care Act (PPACA, Obamacare) applies a new adjustment factor of -1.75% each year plus the difference between the increase in the CPI-U and the increase in the “10-year moving average of changes in annual economy-wide private non-farm business multi-factor productivity” (MFP) metric, but only if the difference is greater than zero and the change in the CPI-U is not negative. By way of example, for 2011, the CMS-determined CPI-U adjuster was set at 1.2% and the MFP adjuster at 1.3%. Due to the fact that the CPI-U adjuster less the MFP adjuster is less than zero, 2011’s adjustment is set at -1.75%. In other words, PPACA stops out the clinical labs at a maximum of a 1.75% decrease in reimbursement through 2015, assuming the CPI-U adjuster does not become negative. After 2015, reimbursement to clinical labs shall only be allowed to increase under PPACA based upon the difference between CPI-U and MFP as previously mentioned, similarly assuming the CPI-U adjuster stays in positive territory.

The following table shows the projected CLFS updates as if PPACA had been in place since 2001. It appears that the new system imposes quite a hurdle in order to receive a positive adjustment to the fee schedule, as evidenced by only one year, 2008, showing a positive adjustment under the current law. However, the -1.75% per year PPACA adjustment over 2011-2015 may not be the best clinical laboratories can achieve; if inflation exceeds productivity growth, the full reduction may not be imposed.
Anatomic pathology tests as well as certain genetic, molecular, and other tests are reimbursed in a different manner. These types of tests are reimbursed under the Medicare Physician Fee Schedule, which includes both a technical component and a professional component. The technical component applies to the processing of the test and the professional component the interpretation of the test results.

Medicare forces labs to accept assignment, meaning the lab must accept the Medicare-allowed amount as payment in full for their services. This presents a risk to the lab; if a physician incorrectly orders a test and the lab is consequently denied reimbursement, the lab must seek payment from the patient. As a result, this type of billing results in a large portion of a labs’ bad debt expense, which larger labs generally manage better than smaller labs.

When a new test is introduced, CMS has two different methods available to set the reimbursement rates, known as “cross walking” and “gap filling”. Under cross walking, CMS identifies one or multiple tests or components of tests that are similar to the new test and uses the existing fee schedule to set the rate. This is sometimes referred to as “code stacking”. Under gap filling, CMS establishes an NLA after allowing the individual local contractors to set their own rate for one year.

Medicare Part B paid $8.4 billion in reimbursement under the CLFS in 2010, representing 4.0% of all Part B payments, up from $4.3 billion in 2001, representing a CAGR of 6.9% over the past decade.

### Lab Test Overuse – Fact or Fiction?

Many commentators have suggested that were the US health care system able to reduce unnecessary lab tests, a great deal of costs could be avoided. To determine whether there is rampant overuse of lab tests, we reviewed published academic and industry research papers. Based upon our review, we estimate that medically unnecessary lab use ranges from 10-20% of all tests. However, the literature offers a wide range of estimated overuse. For instance, it has been estimated that urine screens and microbiological tests are over-utilized 5-95% of the time.

In addition to medically unnecessary lab use, there is also the question of whether lab tests are unnecessarily duplicated. While duplicate tests are also medically unnecessary, their duplication is generally more clerical in nature. In our review, we found that 18% of those with chronic conditions reported duplicate testing, although we believe a large portion of that, an estimated 30-60%, to have been medically necessary. Therefore, we estimate unnecessarily duplicated lab testing occurs 5-15% of the time.

Consequently, we estimate that unnecessary lab tests amount to 15-35% of testing volume. This appears a potentially large negative for the lab industry, but looking only at unnecessary lab tests is half of the story. The table below details the possible errors that may happen when ordering a lab test. We have dealt with the Type I error, running a test when it’s not necessary, but we must also look at the Type II error - a situation when a test is not conducted but should have been.
Reviewing the literature on under-use of lab tests that are widely considered “standards of care”, we found that appropriate tests were run 35-75% of the time for common chronic conditions. This implies that 25-65% of appropriate tests are not conducted. Other studies on quality of care indicators have found that standards for lab testing and radiography were adhered to in slightly over 60% of cases.

On balance, we believe that were all unnecessary tests eliminated and all necessary tests conducted, lab testing volumes would increase slightly. In other words, it is true that unnecessary lab tests are commonplace. But, we believe one needs to consider the impact of appropriate tests that fail to be conducted when evaluating appropriate lab usage.

The Coming Laboratory Personnel Shortage

Over the next five years, approximately 1 in 7 lab employees will retire. The average age of lab personnel is 50 years old and around one-third of schools have discontinued their lab science programs over the last decade, which points to the potential for a shortage in lab personnel. We believe this will impact the lab industry in several ways. First, it will make it more difficult for labs to contain payroll costs. Second, it will put pressure on small independent labs that may not have the scale to spread increased payroll costs over enough testing volume to continue operations. Third, it will likely accelerate the adoption of automation technology in the lab industry. The following charts show the current state of affairs based upon a recent survey by the American Society for Clinical Pathology.

Vacancy Rates by Department

Health IT and Lab Usage

As previously mentioned, many commentators believe that the key to driving down health care costs is eliminating wasted efforts, such as medically unnecessary and duplicate lab tests. We have noted that the health care system does conduct medically unnecessary lab tests at an estimated 15-35% rate, which many proponents of health IT point to as “low-hanging
fruit” where savings could be realized immediately. We agree that many such unnecessary tests could be reduced, however based upon the experience of Kaiser Permanente and others, it appears that lab testing actually increases when electronic health records (EHRs) are adopted.  In a 2009 Health Affairs study, Kaiser’s Healthcare Effectiveness Data and Information Set (HEDIS) scores increased for every metric that dealt with lab testing over the 2004-2007 period by an average of 4.4% per year, strongly implying increased testing.  In the same study, Kaiser saw total office visits, primary and specialty, decline by 8% per year after adopting an EHR system.  Less recent studies have found conflicting results, the worst of which, from a lab perspective, found that lab test ordering immediately declined ~15% then worked its way back up by about 3% per year over the course of several years. However, the object of that study was largely geared to reducing lab tests by presenting test ordering options in differing ways.

Implications of Accountable Care Organizations (ACOs)

On March 31, 2011, the Department of Health and Human Services released a draft proposal on Accountable Care Organizations. The goal for ACOs is to better coordinate care for Medicare patients and share in the savings as a result. The high number of Medicare beneficiaries that have chronic conditions appears to be a main driver in the establishment of ACOs. The idea is that the better patient care is coordinated, patients receive less duplicated care and have fewer chances for substandard care and medical mistakes, which should result in better outcomes and financial savings.

To form an ACO, an organization must take responsibility for at least 5,000 beneficiaries for a period of three years. The organization must be made up of physicians and hospitals in group practice arrangements, networks of individual practices, partnerships between hospitals and practices, hospitals, or other Medicare providers and suppliers (labs included) as determined by the Secretary of Health and Human Services. The ACO shared savings program will commence on January 1, 2012.

As previously noted, we believe that successfully managing chronic conditions requires lab tests and, as a result, long-term lab testing volume will increase. Of the 65 quality metrics ACOs are required to report to CMS, approximately 12 or 18.5% deal with clinical lab tests in one fashion or another, or about half the 37% of clinical practice guidelines that focus on or involve lab tests according to the Lewin Group. However, we anticipate that many of ACOs will be created by hospitals in partnership with physician practices, which will provide a strong incentive for many of their “in-network” lab tests to be run in hospital labs. As such, small independent labs without the scale and/or that do not have the ability to run complex molecular, genetic, or esoteric tests will face severe pressure to remain going concerns. We believe this will benefit independent labs that do meet these criteria. After an adjustment period, the remaining independent labs may, in fact, be in a stronger margin position as the tests they conduct will likely be proprietary laboratory-developed tests that the hospital labs are unable to in-source. As it stands today, these tests are generally lower volume, higher margin tests. We believe that the volume of these tests will increase greatly and the margins will largely be retained at similar levels to today.

Financials

We have modeled our MEDTOX financial estimates based upon several key assumptions:

- The economy, particularly employment levels, maintains the trend currently in place. This takes shape in the form of the Feltl Placement Intensity Index, which drives our revenue model and shall be updated monthly.
- We believe MEDTOX has the capacity available to expand operations to a relatively large degree without major investment and without expenses growing faster than sales. As such, we assume that as revenues increase, gross margins and SG&A expenses decline slightly as a percentage of revenues. That said, we have chosen to be cautious in our estimates of operating leverage versus the potential upside.
- No large cancellations or delays of clinical trial services, as happened in Q4 2009 and Q1 2010, occur over the next couple of years.
- Due to the increase in third-party payors, we anticipate that MEDTOX will require greater working capital as non-DAU revenues grow.

FY2011 Income Statement Overview

We expect MEDTOX to generate $112.5 million in revenues and $0.65 EPS (diluted) in 2011. This compares to current analyst consensus of $110.0 million and $0.70. We have chosen a cautious approach regarding operating leverage available for the remainder of 2011. Our assumptions are for gross margins of 42.0% versus 40.8% last year and SG&A expenses of 31.6% of revenue versus 33.6%. Additionally, we have chosen to model SG&A spend in a “ratchet” manner, consistent with how this expense has behaved in the past. Each 20bps improvement in operating margin corresponds to ~$0.01 of upside to our 2011 numbers. We have the most confidence in our model for the next quarter that is to be reported, thanks to the Feltl Placement Intensity Index, with lesser confidence in the second half of 2011.
FY2012 Income Statement Overview

We estimate MEDTOX will generate $0.93 EPS (diluted) on $125.6 million in revenue in 2012. Again, we have tempered our operating leverage assumptions versus what we believe MEDTOX to be capable of achieving. Further, although we believe MEDTOX will grow more rapidly as the economy improves, we have chosen to reduce our projected growth rates in 2012 for all areas of their business versus 2011 to discount the scenario whereby inflation hinders economic growth. For sake of illustration, should MEDTOX be able to grow at a 100bps greater rate than our 2012 estimates and expand their operating margins by 100bps as well, our model would provide diluted earnings of $1.06 per share.

Cash Flow

We estimate that MEDTOX will generate approximately $5.2 million in free cash flow (FCF) in 2011, growing to $6.2 million in 2012. These FCF estimates are largely driven by earnings, as MEDTOX does not have a large capital expenditure need. We have estimated cap ex at $6.5 million in 2011 and $7.2 million in 2012. Further, we anticipate that their working capital needs will increase slightly as a larger percentage of revenues come from third-party payors which will likely increase DSOs.

Balance Sheet

MEDTOX has a clean balance sheet, with no long-term debt. However, they do have a line of credit of $3.7 million, which we anticipate they will have paid off by the end of Q3 2011, as per management's intentions.

Note: MEDTOX's 10-Q filing for the most recent quarter was not available at the time of publishing, please look for full balance sheet and cash flow models in our next MEDTOX note.
### Income Statement (in millions) 2009

<table>
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<tr>
<th></th>
<th>2009A</th>
<th>Q1A</th>
<th>Q2A</th>
<th>Q3A</th>
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<th>2010A</th>
<th>Q1A</th>
<th>Q2E</th>
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<th>Q4E</th>
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<td>Gross margin (products)</td>
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<td>1.3</td>
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<tr>
<td>Operating margin</td>
<td>2.3%</td>
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<td>7.1%</td>
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<td>9.2%</td>
<td>8.2%</td>
<td>10.8%</td>
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<td>(0.0)</td>
<td>(0.0)</td>
<td>(0.0)</td>
<td>(0.0)</td>
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<td>(0.0)</td>
<td>(0.0)</td>
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<td>Other income (expense)</td>
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<td>0.0</td>
<td>0.1</td>
<td>(0.0)</td>
<td>-</td>
<td>0.0</td>
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<td>-</td>
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<td><strong>Income before taxes</strong></td>
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<td>4.8</td>
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<td>2.9</td>
<td>2.6</td>
<td>9.2</td>
<td>13.3</td>
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<td>Income taxes</td>
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<td>(0.5)</td>
<td>(1.8)</td>
<td>(0.4)</td>
<td>(0.9)</td>
<td>(1.1)</td>
<td>(1.0)</td>
<td>(3.4)</td>
<td>(4.9)</td>
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<td>36.5%</td>
<td>36.5%</td>
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<td>37.7%</td>
<td>36.5%</td>
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<tr>
<td><strong>Net income</strong></td>
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<td>1.1</td>
<td>0.8</td>
<td>3.0</td>
<td>0.8</td>
<td>1.6</td>
<td>1.8</td>
<td>1.7</td>
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<td><strong>Basic EPS</strong></td>
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<td>$0.01</td>
<td>$0.12</td>
<td>$0.13</td>
<td>$0.09</td>
<td>$0.35</td>
<td>$0.09</td>
<td>$0.18</td>
<td>$0.21</td>
<td>$0.19</td>
<td>$0.66</td>
<td>$0.94</td>
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<td><strong>Diluted EPS</strong></td>
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<td>$0.01</td>
<td>$0.11</td>
<td>$0.13</td>
<td>$0.09</td>
<td>$0.34</td>
<td>$0.09</td>
<td>$0.17</td>
<td>$0.20</td>
<td>$0.18</td>
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<td>$0.93</td>
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<td><strong>Basic shares outstanding</strong></td>
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<td>8.70</td>
<td>8.72</td>
<td>8.80</td>
<td>8.72</td>
<td>8.85</td>
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<td>8.88</td>
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<td><strong>Diluted shares outstanding</strong></td>
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<td>8.96</td>
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<td>9.05</td>
<td>9.07</td>
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Analyst Certification

I, Ben Haynor, CFA, certify that the views expressed in this research report accurately reflect my personal views about the subject company and its securities. I also certify that I have not been, am not, and will not be receiving direct or indirect compensation related to the specific recommendations expressed in this report.

Important Disclosures:

The analyst or a member of his/her household does not hold a long or short position, options, warrants, rights or futures of this security in their personal account(s).

As of the end of the month preceding the date of publication of this report, Feltl and Company did not beneficially own 1% or more of any class of common equity securities of the subject company.

There is not any actual material conflict of interest that either the analyst or Feltl and Company is aware of.

The analyst has not received any compensation for any investment banking business with this company in the past twelve months and does not expect to receive any in the next three months.

Feltl and Company has not been engaged for investment banking services with the subject company during the past twelve months and does not anticipate receiving compensation for such services in the next three months.

Feltl and Company has not served as a broker, either as agent or principal, buying back stock for the subject company’s account as part of the company’s authorized stock buy-back program in the last twelve months.

No director, officer or employee of Feltl and Company serves as a director, officer or advisory board member to the subject company.

Feltl and Company Rating System: Feltl and Company utilizes a four tier rating system for potential total returns over the next 12 months.

- **Strong Buy**: The stock is expected to have total return potential of at least 30%. Catalysts exist to generate higher valuations, and positions should be initiated at current levels.
- **Buy**: The stock is expected to have total return potential of at least 15%. Near term catalysts may not exist and the common stock needs further time to develop. Investors requiring time to build positions may consider current levels attractive.
- **Hold**: The stock is expected to have total return potential of less than 15%. Fundamental events are not present to make it either a Buy or a Sell. The stock is an acceptable longer-term holding.
- **Sell**: Expect a negative total return. Current positions may be used as a source of funds.

<table>
<thead>
<tr>
<th>Rating</th>
<th>Number of Stocks</th>
<th>Percent of Total</th>
<th>Number of Stocks</th>
<th>Percent of Rating Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>SB/Buy</td>
<td>38</td>
<td>68%</td>
<td>2</td>
<td>5%</td>
</tr>
<tr>
<td>Hold</td>
<td>18</td>
<td>32%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Sell</td>
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<td>0%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>56</td>
<td>100%</td>
<td>2</td>
<td>4%</td>
</tr>
</tbody>
</table>

The above represents our ratings distribution on the stocks in the Feltl and Company research universe, together with the number in (and percentage of) each category for which Feltl and Company provided investment-banking services in the previous twelve months.
Feltl and Company does make a market in the subject security at the date of publication of this report. As a market maker, Feltl and Company could act as principal or agent with respect to the purchase or sale of those securities.

**Valuation and Price Target Methodology:**

We derive our $20.50 price target for MEDTOX using an EV/EBITDA valuation methodology as we believe this methodology has a historical basis given MEDTOX and other diagnostic lab companies’ past valuations. This metric has shown the greatest stability of those we evaluated for MEDTOX. Typical EV/EBITDA (ntm) multiples in the diagnostic labs sector have ranged from 6x times at trough valuations to over 12x at peak valuations over the past six years. Over the same time period, the average high EV/EBITDA multiple has been approximately 9.9x the next twelve months’ EBITDA. Thus, we believe that MEDTOX will attain a 9.5x EV/EBITDA ratio on an estimated $19.3M EBITDA for FY2012, which gives us an enterprise value of 183M. Adding in $7.0M in net cash we expect MEDTOX to have in Q2 2011, we arrive at a $190M market value or approximately $20.50 per share.
Risks to Achievement of Estimates and Price Target:

- MEDTOX’s DAU business is strongly influenced by general economic conditions; should the US experience a double-dip recession or slowdown in hiring, MEDTOX’s growth from existing DAU clients would be negatively impacted and new client acquisitions may be more competitive.
- MEDTOX currently targets smaller businesses in DAU testing than its larger competitors, should these competitors go after MEDTOX’s business niche and existing clients may choose to switch providers, new customers may be harder to win, and margins may be negatively impacted.
- MEDTOX has seen an increasing portion of its revenues billed to third-party payers as its clinical labs business has grown. If MEDTOX is not successful in collecting these billings, their DSOs may increase to the point where they see higher bad debt expenses and have greater working capital needs.
- Should MEDTOX fail to comply with various government regulations or keep customer-related information confidential, they could be subject to fines, litigation, and/or loss of business.

Other Disclosures:

The information contained in this report is based on sources considered to be reliable, but not guaranteed, to be accurate or complete. Any opinions or estimates expressed herein reflect a judgment made as of this date, and are subject to change without notice. This report has been prepared solely for informative purposes and is not a solicitation or an offer to buy or sell any security. The securities described may not be qualified for purchase in all jurisdictions. Because of individual requirements, advice regarding securities mentioned in this report should not be construed as suitable for all accounts. This report does not take into account the investment objectives, financial situation and needs of any particular client of Feltl and Company. Some securities mentioned herein relate to small speculative companies that may not be suitable for some accounts. Feltl and Company suggests that prior to acting on any of the recommendations herein, the recipient should consider whether such a recommendation is appropriate given their investment objectives and current financial circumstances. Past performance does not guarantee future results. Additional information is available upon request.
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