

The regulatory process is guided by principles established in the U.S. Supreme Court cases, *Bluefield Waterworks and Hope Natural Gas*:

A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. *Bluefield Waterworks & Improvement Company v. Public Service Commission of West Virginia*, 262 U.S. 679, 692-693 (1923).

From the investor or company point of view, it is important that there be enough revenue not only for operating expenses, but also for the capital costs of the business. These include service on the debt and dividends on the stock. By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital. *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944).

In another case, the Supreme Court of Texas stated "the rate of return must be high enough to attract ample capital but need not be beyond that [amount]." *Railroad Commission v. Houston Natural Gas Corporation*, 289 S.W.2d 559 (Tex. 1956), *Southwestern Bell Telephone Company v. Public Utility Commission*, 571 S.W.2d 503 (Tex. 1978).³

³ Natural Gas Rate Review Handbook, Railroad Commission of Texas, June 2007, p. 24.

In my analysis of the test year ending December 31, 2014, I applied observations taken from the current state of the capital markets, which is reflective of investors' current set of investment expectations and risk preferences.

Cost of Equity Models

Four different financial models were considered and used in my study:

1. the Capital Asset Pricing Model (CAPM);
2. the Empirical Capital Asset Pricing Model (ECAPM);
3. the Discounted Cash Flow (DCF) model; and
4. a Risk Premium analysis.

Capital Asset Pricing Model (CAPM)

The capital asset pricing model was originally developed in an article by Nobel-prize winning economist William F. Sharpe, "Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk" (Journal of Finance, 1964). Subsequent academic works further developed the concept. The components of the capital asset pricing model (CAPM) used to determine the cost of equity K_e are as follows:

- The risk-free rate of return, R_f
- An equity market risk premium, designated as MRP in the CAPM equation
- A beta coefficient, β , used as an index of the security's systematic risk.

Combining these factors results in the required rate of return on equity shown in the formula below:

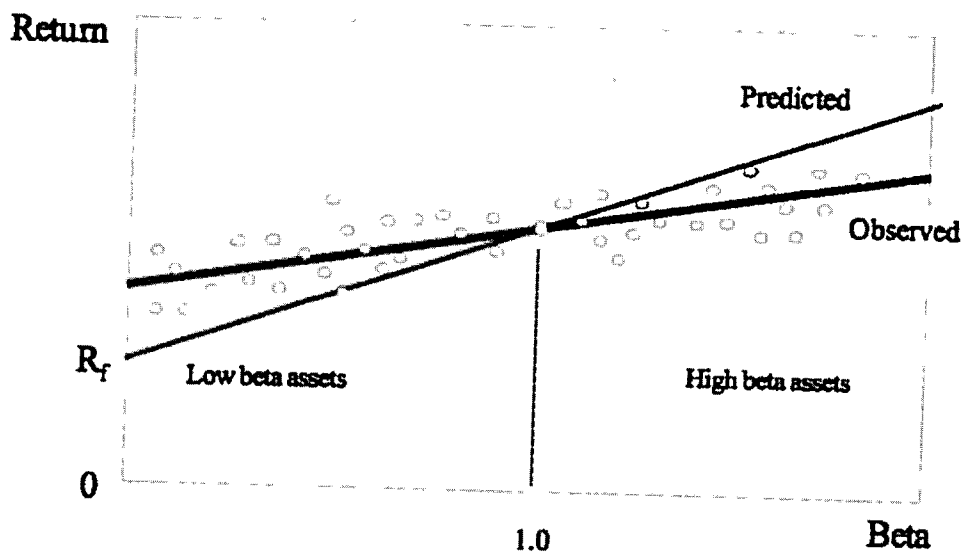
$$K_e = R_f + \beta (\text{MRP})$$

Empirical Capital Asset Pricing Model (ECAPM)

The empirical capital asset pricing model represents a pragmatic solution to the limitations of the standard CAPM model and was originally applied to public utilities in a paper by Litzenberger, Ramaswamy and Sosin, "On the CAPM Approach to the Estimation of a Public Utility's Cost of Equity Capital" (Journal of Finance, 1980).

A CAPM-based estimate of cost of capital underestimates the return required from low-beta securities and overstates the return required from high-beta securities, based on the empirical evidence. This is one of the most well-known results in finance, and it is displayed graphically below.

CAPM: Predicted vs Observed Returns



A number of variations on the original CAPM theory have been proposed to explain this finding. The ECAPM makes use of these empirical findings. The components of the empirical capital asset pricing model (ECAPM) used to determine the cost of equity K_e are as follows:

- The risk-free rate of return, R_f
- An equity market risk premium, designated as MRP in the CAPM equation
- A beta coefficient, β , used as an index of the security's systematic risk.
- A factor to be determined empirically, x

Combining these factors results in the required rate of return on equity shown in the formula below:

$$K_e = R_f + x (\text{MRP}) + (1-x) \beta (\text{MRP})$$

Inserting the long-term risk-free rate as a proxy for the risk-free rate, an alpha in the range of 1% to 2%, and reasonable values of beta and the MRP in the above equation produces results that are indistinguishable from the following more tractable ECAPM expression:

$$K = R_f + 0.25 (\text{MRP}) + 0.75 \beta (\text{MRP})^4$$

Discounted Cash Flow (DCF) Models

There are two general forms of the DCF model – the constant growth⁵ and the non-constant growth versions. Both versions of the DCF model are based on the concept that a stock's price

⁴ See Chapter 6 of *The New Regulatory Finance* by Roger A. Morin, Ph.D.

⁵ Eugene F. Brigham and Joel F. Houston, *Fundamentals of Financial Management*, (11th Edition, South-Western, OH, 2007), p. 299.

represents the present value of the cash flows. In the most general form, the DCF model is expressed in the following formula:

$$P_0 = D_1/(1+k)^1 + D_2/(1+k)^2 + \dots + D_\infty/(1+k)^\infty$$

where P_0 is today's stock price, $D_1, D_2, \dots, D_\infty$ are all expected future dividends, and k is the discount rate or the risk adjusted required rate of return on equity. Under the assumption that dividends are expected to grow at a constant rate g , the equation above can be solved for k and rearranged into the simple form:

$$k = D_1/P_0 + g$$

In this equation, D_1/P_0 is the expected dividend yield and g is the long-term expected growth rate, assumed to be a constant in this form of the model.

When growth rates are not expected to be constant, other forms of this model⁶ are applied that reflect an initial investment in the stock, a holding period, and then a future sale of the stock.

The DCF equation above can then be written in a different form reflecting the purchase of a stock, collecting a dividend for t years, and then selling at the end of year t :

$$P_0 = D_1/(1+k) + D_2/(1+k)^2 + \dots + D_t/(1+k)^t$$

or

$$P_0 = D_1/(1+k) + D_2/(1+k)^2 + \dots + P_t$$

Both constant and non-constant growth forms of the DCF model are presented in my schedules.

⁶ Ibid., p. 300.

In my analysis, I applied several estimates of growth published by analysts, and a calculated sustainable growth rate (SGR).

Sustainable Growth Rate

The sustainable growth rate is described by the formula:

$$SGR = br + sv$$

where:

- b is the earnings retention ratio, equal to $1 - (\text{Dividends}/\text{Earnings})$
- r is the return on equity
- s is the percentage of common equity issued annually to fund growth
- v is the equity accretion rate.

According to financial theory, growth in book equity comes from the reinvestment of company earnings and from sources of external financing. Put another way, the growth in book equity will arise from, and be equal to, the portion of earnings kept by the firm and the rate of return the firm will generate on that equity. If the company's earnings retention ratio and earned rate of return remain stable over time, then the growth in earnings and dividends should be equal to the growth in equity book value. Although perfect earnings stability may be unlikely in current markets, the theoretical value of the approach provides an estimate of growth by the firm, and it is often cited in regulatory proceedings for that purpose.

The br component of the formula above describes the retention ratio and earnings of the firm, and represents the firm's growth created by the reinvestment of earnings. This represents the maximum growth limit for firms that lack access to external capital and must therefore fund all

growth internally. An increase in either the earnings retention ratio (the portion of earnings not distributed as dividends) or the return on equity will increase the firm's sustainable growth rate. All else equal, firms with higher retention ratios will have higher sustainable growth rates due to a greater reinvestment of their earnings.

In my analysis, I calculate return on equity as the dividends per share divided by the price of equity per share, and make an adjustment for the annual growth in common equity as it will affect existing shareholders. In general, as a firm grows, it will require ever-increasing amounts of capital. It will raise equity capital (i.e., sell shares) when it cannot meet those capital needs with earnings generated and retained from operations. When the firm seeks to raise equity capital from external sources, it will sell shares at the price the market will bear, which may lead to premium pricing. The *sv* term of this expression accounts for the gain to existing shareholders when common stock is issued at a premium to its book value per share. The pricing of new common equity by the market has an impact on the existing common equity shareholders, as they see their respective percentage equity ownership rise in value.

To determine the *sv* term, I calculated the annual growth rates in book value of equity from *Value Line*. The common equity expected to be issued, *s*, is the product of the projected market-to-book ratio and the average growth in common shares outstanding from the recent period to the projected period, which is five years in my model. The accretion rate, *v*, represents the equity premium received by equity holders on issuance of new shares, which is the percentage difference between the market value of equity and the book value of equity. It is calculated as 1 minus the inverse of the projected market to book ratio. Shareholders will receive this premium

in the form of dividends as a percentage of return on the now increased value of equity⁷.

The addition of the *br* and *sv* factors results in the SGR for the firm, one of the growth rates considered in my DCF analyses.

Risk Premium Models

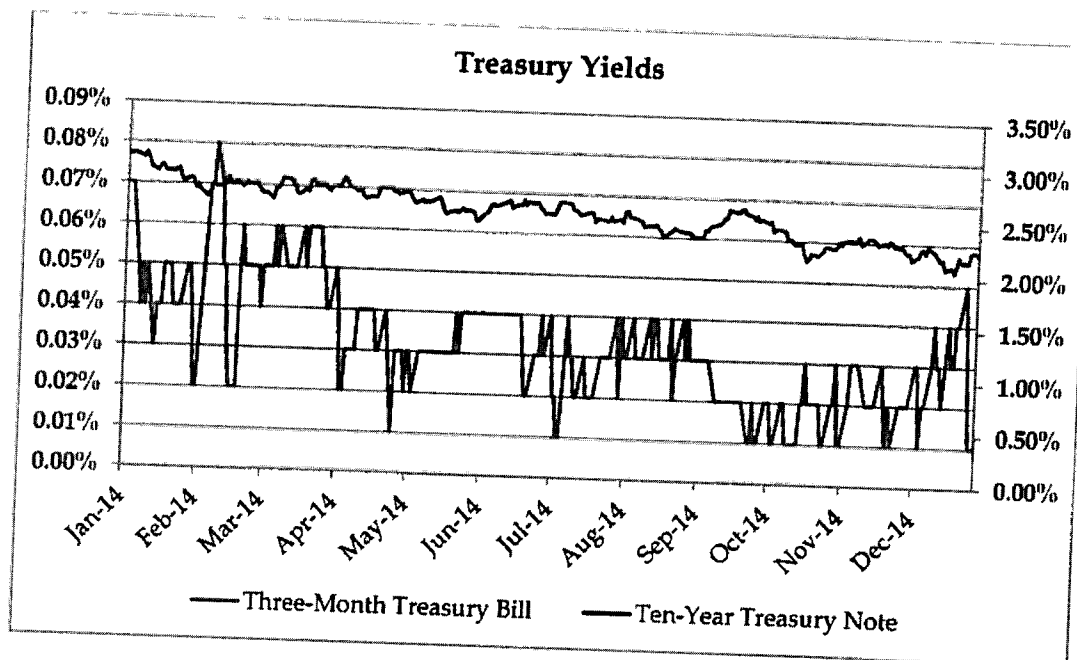
As shown in the capital market line graph, risk premium methods are based on the assumption that equity securities are riskier than debt and, therefore, that equity investors require a higher rate of return. Therefore, an investor can observe the rates of return for debt in the marketplace and then add an additional expected risk premium to calculate a required rate of return on equity.

⁷ When incremental shares are issued at book value: $1 - \left(\frac{1}{\left(\frac{\text{market value}}{\text{book value}} \right)} \right) = 1 - \left(\frac{1}{1} \right) = 1 - 1 = 0$; There is no premium to book equity, resulting in no change to the book, and *sv* will equal zero.

IV. FACTORS THAT AFFECT THE COST OF EQUITY

U.S. Capital Markets

The domestic bond market has seen the continued trend of low short term interest rates and declining long-term rates. The interest rate on the three-month Treasury bill changed from 0.07% as of January 2, 2014 to 0.04% as of December 31, 2014.⁸ The interest rate on the ten-year Treasury note decreased from 3.00% as of January 2, 2014 to 2.17% as of December 31, 2014.⁹

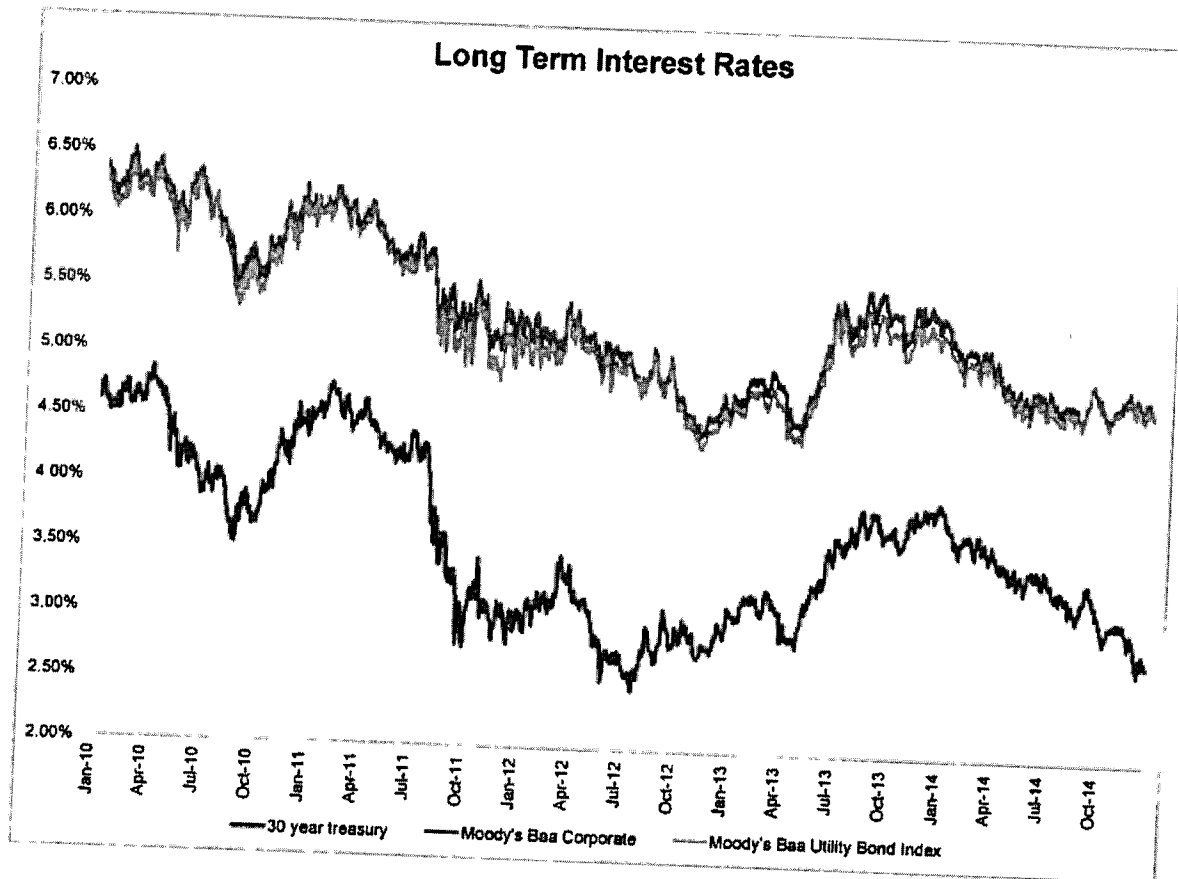


⁸ Federal Reserve Bank of St. Louis, Federal Reserve Economic Data, Series: DTB3, 3-Month Treasury Bill: Secondary Market Rate, last accessed February 26, 2015

⁹ Federal Reserve Bank of St. Louis, Federal Reserve Economic Data, Series: DGS10, 10-Year Treasury Constant Maturity Rate, last accessed February 26, 2015

For the three-month Treasury bill, forecasters surveyed by the Federal Reserve Bank of Philadelphia expected an interest rate of 0.25% by June 2015.¹⁰ For the ten-year Treasury note, the same survey found a 10 year interest rate forecast of 2.72% by June 2015.

I also reviewed long-term debt securities over an approximate 5-year period, beginning in 2010, as shown in the following chart:



Descriptive Statistics	Long Term Interest Rates		
	30 yr. Treasury	Moody's Baa Corporate	Moody's Baa Utility Bond
Min	2.46%	4.42%	4.33%
Median	3.47%	5.22%	5.09%
Max	4.85%	6.51%	6.43%
Mean	3.57%	5.32%	5.23%

¹⁰ Federal Reserve Bank of Philadelphia, *Fourth Quarter 2014 Survey of Professional Forecasters*, December 12, 2014

As shown, Moody's Utility Bond Index yields have ranged from 4.33% to 6.43% between January 2010 and December 2014, with an average of 5.23%. The chart also shows clearly how spreads between long-term treasury securities and corporate bond yields change over time.

State of the Water Utility Industry

According to IBISWorld's industry report, growth in industry revenue is expected to outstrip per capita increases in water consumption over 2015 to 2020, reflecting the focus on water conservation. Growth in water rates is expected to represent part of this policy. As a result, industry revenue is expected to expand by about 2.1% per year.¹¹

IBISWorld notes that the household sector is the major user of water in the United States, accounting for almost 56% of domestic consumption. Water utilities, therefore, are vital to assure the safe delivery of the liquid to millions of Americans daily. With no substitution, demand is likely to continue growing at a healthy pace, driven by population growth.

Water utilities face a stiff headwind due to infrastructure maintenance, as most of the water systems in use are outdated and require significant investment. Also, none of the companies in this industry have the cash coffers to meet the upcoming maintenance costs associated with decaying water systems and pipelines. *Value Line* noted that "chronic underinvestment in the infrastructure of water utilities in the past has resulted in most domestic owned and municipal systems being antiquated and in need of great repair." With costs apparently on the rise, nearly

¹¹ IBISWorld Industry Report 22131, Water Supply & Irrigation Systems in the U.S., January 2015.

all the cash-strapped companies in this space will need to find the means to fund the repairs, close up shop or be acquired by an investor owned water utility.¹²

Capital Structure

As shown in Schedule B, Quadvest's long-term capital structure is comprised of a combination of debt and equity. They have \$12,143,067 of long-term debt from various sources at interest rates ranging from 0.00% to 7.48%, with a weighted average cost of debt of 4.78%. The debt does not include Developer and Customer CIAC debt. Quadvest is showing an equity balance in its capital structure of \$9,092,663.

Small Stock Risk Premium ("SSRP")

A premium required for small stock equity returns is well documented in Morningstar's annual publication, *Stocks, Bonds, Bills and Inflation*.¹³ As explained by Morningstar:

"One of the most remarkable discoveries of modern finance is that of a relationship between firm size and return. The relationship cuts across the entire size spectrum but is most evident among smaller companies, which have higher returns on average than larger ones."

The need for the SSRP arises because differences in investors' required rates of return that are related to firm size are not fully captured by in the models of my study. To account for this, Morningstar has developed size premiums that need to be added to the indicated cost of equity estimates to account for the level of a firm's market capitalization.

¹² *Value Line, Water Utility Industry Commentary*, January 16, 2015.

¹³ Morningstar, Ibbotson SBBi 2013 Valuation Yearbook at p. 85 (2013)

In the last year, Morningstar's report and book has been acquired and published by the investment banking firm, Duff and Phelps. This report extends and updates the analyses created in the Morningstar series. Given its timeliness to this rate proceeding, I relied on the Duff & Phelps study for the estimates of the Small Size Stock Premium for Quadvest.

As shown in the Capital Market Line earlier, smaller company stocks have higher risk and expected returns in the market. The SSRP takes into account that smaller companies are usually less liquid, with private companies like Quadvest being even less liquid. Stocks that are more liquid have higher valuations for the same cash flows, which equate to lower costs of capitals and commensurately lower returns, on average. Stocks that are less liquid have higher observed costs of capital and higher returns, on average.

The *Size Premia Study* by Duff & Phelps¹⁴ examines the Stock Size Premiums of the entire universe of NYSE/AMEX/NASDAQ - listed securities from 1926 to the present. The survey is well regarded and the commonly cited study in utility rate case studies.

Specifically, the risk premium required due to each firm's size is estimated by dividing the universe of securities into portfolios¹⁵ by capitalization and measuring the premium required beyond the risk-free rate and the security's equity risk premium estimate, beta. The study concludes that the required Small Size Stock Premium increases inversely to firm size and is in addition to the required systematic (i.e. market) risk. The summary results are in the following table:

¹⁴ 2014 Valuation Handbook, Duff & Phelps, 2014.

¹⁵ Portfolio data provided by the Center for Research in Security Prices (CRSP).

Equity Risk Premium			
Long-horizon expected equity risk premium (historical): large company stock total returns minus long-term government bond income returns			2014 Value
			6.96%
Size Premium			
Decile	Market Capitalization of Smallest Company (in Millions)	Market Capitalization of Largest Company (in Millions)	Size Premium (Return in Excess of CAPM)
Mid-cap, 3-5			
Low-cap, 6-8	2,432.9	9,196.5	1.11%
Micro-cap, 9-10	636.7	2,431.2	1.98%
	2.4	632.8	3.87%
Breakdown of Deciles 1 - 10			
1-Largest			
2	21,753.4	428,699.8	-0.37%
3	9,196.7	21,739.0	0.75%
4	5,572.6	9,196.5	0.86%
5	3,581.5	5,569.8	1.16%
6	2,432.9	3,573.1	1.75%
7	1,626.4	2,431.2	1.86%
8	1,056.2	1,621.8	1.94%
9	636.7	1,055.3	2.36%
10-Smallest	340.0	632.8	2.81%
	2.4	338.8	5.99%
Breakdown of the 10th Decile			
10a			
10w	184.9	338.8	4.40%
10x	250.7	338.8	3.52%
10b			
10y	184.9	250.5	5.67%
10z	2.4	184.9	8.99%
	100.9	184.9	7.55%
	2.4	100.8	12.12%

Source: Duff & Phelps 2014 Valuation Handbook

Based on the Duff & Phelps data for small stock risk premia, Quadvest would require the highest level, Decile 10, of 5.99%. Although Quadvest's current size would qualify it potentially for the 10z category above, I believe it would be inappropriate, however, to apply this full risk premium to Quadvest's equity capital. Some of the risk factors reflected in the study above are offset by the regulated nature of their business. In other words, regulated returns reduce the volatility of the company's earnings and therefore they reduce its risk.

However, it would be incorrect to not include any small stock risk adjustment. It is more difficult for small firms to raise capital, both debt and equity, at reasonable rates which affects their ability to grow and maintain service levels.

In my study, I have considered three separate approaches to conclude a SSRP for Quadvest.

Duff and Phelps's Micro-cap Group

In the table above, the small stock premia are reported in different deciles and sub-decile groups. Duff and Phelps also aggregates the deciles into three separate groups, Mid-cap, Low-cap, and Micro-cap. The Micro-cap comprises groups 9 and 10 of their analyses, based on companies with market capitalizations from \$2.4 million to \$338.8 million. The indicated range of SSRP based on the Micro-Cap group is 3.87%. Although not as high as the 10th decile rate in which Quadvest falls, in my opinion this SSRP properly reflects the additional risk of a small water utility, without unduly penalizing rate payers.

Duff and Phelps's Differential Analysis

I also considered what I will describe as a Differential Analysis to determine an appropriate SSRP for Quadvest. This analysis compares the indicated SSRP for Quadvest from the 10th decile with the indicated SSRP for each of the companies in my selected peer group of water utilities. Since all of these companies operate within the same industry, I believe this differential would capture the additional SSRP required for Quadvest, as compared to that indicated for the companies which serve as the basis for my cost of equity analyses that follow. The results of this analysis are shown in the following table.

Company Name	Ticker Symbol	Market Cap	Duff & Phelps Small Stock Premium	Market Cap Weighting
American Water Works Company, Inc.	AWK	\$9,557,170	0.75%	50.5%
Aqua America Inc.	WTR	\$4,716,128	1.16%	24.9%
American States Water Company	AWR	\$1,446,144	1.94%	7.6%
California Water Service Group	CWT	\$1,176,506	1.94%	6.2%
SJW Corp.	SJW	\$650,045	2.36%	3.4%
Middlesex Water Co.	MSEX	\$371,520	1.16%	2.0%
Connecticut Water Service Inc.	CTWS	\$403,291	2.81%	2.1%
Artesian Resources Corp.	ARTN.A	\$201,087	5.99%	1.1%
The York Water Company	YORW	\$297,297	5.99%	1.6%
Pure Cycle Corporation	PCYO	\$96,152	5.99%	0.5%

	Duff & Phelps Small Stock Premium	Additional Small Stock Premium Required
Quadvest - 10th Decile Small Stock Risk Premium	5.99%	
less Peer Group Small Stock Risk Premia:		
Mean	3.01%	2.98%
Median	2.15%	3.84%
Market Cap Weighted Average	1.29%	4.70%
Concluded Additional Small Stock Risk Premia Required for Quadvest		3.85%

As shown above, this analysis compares Quadvest's indicated SSRP with the Mean, Median and Market-Cap weighted average SSRPs for the group. Based on these three indications, I selected 3.85% as being representative of the required SSRP for Quadvest.

Private Equity Factors Reflected in the SSRP

In addition to the two analyses above, another way to quantify a required small stock risk premium for Quadvest is based on academic studies of private equity rates of return. The first

source that I considered was titled "What Do Private Equity Firms (Say They) Do?"¹⁶ This paper surveyed 79 private equity (buyout) investors with a total of over \$750 billion of assets under management about their practices in firm valuation, capital structure, governance and value creation. This paper points out that investors rely on internal rates of return and multiples of invested capital for investment decisions. Private equity investors typically target a 22% internal rate of return on their investments on average with most firms clustered tightly between 20% and 25%, a rate of return well above that indicated by the Capital Asset Pricing Model.

This paper cites research which indicates that Private Equity funds on average outperform the S&P500 index returns by about 8% before their fees and about 4% after their fees. Therefore, this is one indication of the additional rate of return, or SSRP, required by investors in smaller, more risk private equity investments in private companies.

A second study considered is entitled "Private Equity Performance and Liquidity Risk."¹⁷ This paper discusses the liquid risk of an investment in private equity and their subsequent investments in private companies, as well as the additional compensation required for taking on that risk. This study concludes that the total risk premium for private equity was around 18% per annum, of which there was a "significant" liquidity risk premium for private equity of 3% per annum. This liquidity risk premium is another indication of the SSRP required for smaller companies like Quadvest.

¹⁶ Paul A. Gompers (Harvard Business School and NBER), Steven N. Kaplan (University of Chicago Booth School of Business and NBER) and Vladimir Mukharlyamov (Harvard University), This Draft: February 2014.

¹⁷ Ludovic Phalippou (University of Oxford, Said Business School), co-authors: Francesco Franzoni and Eric Nowak, both at Swiss Finance Institute – University of Lugano

A third study considered was "Private Equity Performance: What Do We Know?" This study considered the excess returns indicated by various other academic studies, as well as the authors' research. Their conclusions regarding the excess returns earned by and expected from private equity investments in smaller, private companies are summarized below:

- The average private equity fund had a return 6.6% greater than the S&P 500, with a median excess return of 3.4%.
- Private equity funds earned a capital-weighted average excess return is 3.7%, with a median of 3.0%, and they conclude that
- The average private equity fund's IRR exceeds that of the S&P 500 by 4% to 5%.¹⁸

Concluded Small Stock Risk Premium for Quadvest

Based on the three approaches considered above, a reasonable range of SSRP required for Quadvest is in the range of 3.0% to 4.0% which must be considered in the following analyses. Per my discussions with Quadvest's management and Counsel, I am selecting the lower end of this range for conservatism, although the higher rates could certainly be justified. Therefore, the following analyses include a small stock risk premium of 3.0%. A summary of this analysis is presented in Schedule C.1.

Unsystematic (company-specific) Risk Premia

In addition to market risk and size risk, investors also consider unsystematic or company-specific risk in determining a required rate of return for an equity investment. Per my

¹⁸ Robert Harris, Tim Jenkinson and Steve Kaplan, The University of Chicago Booth School of Business,

discussions with management, I have determined that for Quadvest, no additional unsystematic risk premium is required at this time.

V. COST OF EQUITY FOR QUADVEST

This section presents the results of my analysis of the cost of equity for the Company followed by a discussion of the methods and details of my analysis.

In the first part of my cost of equity analysis, I develop the CAPM analyses for a group of guideline water utility companies covered by *Value Line* and *CapitalIQ*, considering different sources for beta and market risk premia. In the second part, I develop the ECAPM analyses for a group of guideline water utility companies covered by *Value Line* and *CapitalIQ*, considering different sources for beta and market risk premia. In the third part of my analysis, I apply DCF models to the same group of *Value Line* comparable water utility companies. Lastly, I discuss and develop a cost of equity estimate based on a risk premium approach.

Following this report are my schedules, which are described below:

- Schedule A presents a summary of the results of each methodology, along with my conclusion for the required rate of return
- Schedule B contains my financial statement analysis
- Schedule C contains my capital asset pricing model (CAPM) analysis
- Schedule D contains my ECAPM analysis
- Schedule E contains my discounted cash flow analyses
- Schedule F presents my risk premium analysis

Capital Asset Pricing Model Analyses

The results of my CAPM analyses, as shown on schedules C.2 to C.3, indicate required rates of return on equity in the range of 11.6% to 12.0%, including a small stock risk premium, discussed previously.

I utilize the standard historical market risk premium from Duff & Phelps 2014 Valuation Handbook of 6.0%, which reflects large company stock total returns minus long-term government bond income returns for the period 1926 – 2013, as indicated in Schedules C.2 and C.3. The CAPM is a forward-looking model design to estimate the market's expected (future) rate of return on an equity investment. Studies like the Duff & Phelps study calculate historical returns, which can then be used in the CAPM, based on the assumption that the future return characteristics will match the past.

Empirical Capital Asset Pricing Model Analyses

The results of my ECAPM analyses, as shown on schedules D.1 to D.2, indicate required rates of return on equity in the range of 11.8% to 12.1%, including a small stock risk premium. I utilize the standard historical market risk premium from Duff & Phelps 2014 Valuation Handbook of 6.0%, which reflects large company stock total returns minus long-term government bond income returns for the period 1926 – 2013, as indicated in Schedules D.1 and D.2.

Discounted Cash Flow Analyses

The results of my guideline company DCF analyses are presented in Schedules E.1 through E.4.

The constant growth DCF model indicates an ROE of 12.7%, including a small stock risk premium. My non-constant growth models on schedules E.2 through E.4, indicate a range of 9.4% to 12.2%, depending on the terminal period selected.

This study includes a combination of growth rates to estimate investor's expectations of return on equity. I have relied upon analyst estimates of growth rates from *Value Line*, and the sustainable growth rate derived from the *Value Line* published estimates, as developed in my schedule E.1.

Throughout my analyses, I have used average stock prices for the month ending December 31, 2014 for each company. The cost of equity is a long-term concept and relying upon average prices prevents a single day's market volatility from adversely affecting the analysis.

Risk Premium Analysis

The results of my risk premium study are shown in Schedule F. My analysis compares average ROEs allowed each year for electric and gas utilities by the various state regulatory commissions to average utility debt costs as reflected in Moody's Average Utility Bond Yields. The risk premium study indicates that an ROE in the range of 12.70% to 12.74% is appropriate including a small stock risk premium.

The studies compare electric and gas utility authorized ROEs to long-term utility debt rates. Although Quadvest is a water utility, all regulated utilities must compete for capital and are subject to similar risk factors. The differences between average authorized ROEs and debt costs are used to measure each year's equity risk premium. As part of the study, I implemented a nine-month regulatory lag.

My first analysis considered the time period 1990 through the third quarter of 2014, as shown in the *Rate Case Summary Q3 2014 Financial Update*, published by the Edison Electric Institute, which is based on data compiled by SNL Financial (formerly Regulatory Research Associates). I performed a regression analysis of the allowed annual equity risk premiums relative to Moody's Average Utility Index interest rate levels, as shown on schedule E.1.

This regression analysis was then used with the current cost of Moody's Baa Utility debt of 4.70% and the Company's embedded cost of debt of 4.78% to arrive at an indicated cost of equity range of 12.70% to 12.74%. This implies that an equity risk premium of 4.96% to 5.00%, as shown in Schedule E.1, is appropriate at the current level of interest rates.

My second analysis considered the time period 1990 through the 2009, as shown in the *Major Rate Case Decisions – Calendar 2010*, published by Regulatory Research Associates. I performed a regression analysis of the allowed annual equity risk premiums relative to Moody's Average Utility Index interest rate levels, as shown on schedule E.2.

This regression analysis was then used with the current cost of Moody's Baa Utility debt of 4.70% and the Company's embedded cost of debt of 4.78% to arrive at an indicated cost of equity range of 12.53% to 12.58%. This implies that an equity risk premium of 4.80% to 4.83%, as shown in Schedule E.2, is appropriate at the current level of interest rates.

The most widely followed risk premium studies, which are now published annually by Duff & Phelps¹⁹ (formerly by Morningstar (SBBI)) for the period 1926-2013, indicate a long horizon expected equity risk premium of 6.96% for large company common stocks versus long-term

¹⁹ 2014 Valuation Handbook, Duff & Phelps, 2014.

corporate bonds. My risk premium studies indicate a lower risk premium than those found in the Duff & Phelps study.

VI. SYNTHESIS AND CONCLUSION

As summarized in Schedule A and discussed in this report, I developed multiple analyses for estimating the cost of equity for Quadvest. I then reviewed the results and selected the points considered most relevant to determining a fair rate of equity return for Quadvest.

In considering the CAPM and ECAPM, I elected to apply the complete range of estimates from the two approaches considered in each analysis. For the constant growth DCF model, using a selection of different indicated growth rates, the average and median values provided a useful range for consideration. Of the three non-constant growth DCF models considered, the entire range was relied upon. For the risk premium analysis, the two results utilizing the current Moody's Baa Utility cost of debt as well as the Company's embedded cost of debt provided a reasonable range of estimates.

All of the methods considered are for larger public water utility companies and lack any adjustments for size, capital structures or other company-specific factors. As a result I incorporated a small stock risk premium in each one of the aforementioned analyses. For the small stock premium, I relied upon a small stock risk premium of approximately 3%, as discussed previously.

As a result my concluded cost of equity is 12.10% (rounded).

SCHEDULES

Schedule A
Quadwest, L.P.
Summary and Conclusion

Method	Assumptions	Cost of Equity		Cost of Equity - Range	
		Minimum		Minimum	Maximum
CAPM					
ValueLine	Value Line Betas	11.6%			
Bloomberg	Bloomberg Betas	12.0%	11.6%		12.0%
ECAPM					
ValueLine	Value Line Betas	11.8%			
Bloomberg	Bloomberg Betas	12.1%	11.8%		12.1%
DCF Analyses					
Constant Growth	Average	12.7%			
Constant Growth	Median	12.7%	12.7%		12.7%
Nonconstant Growth	5 Years to Attain Terminal Value, Average	9.5%			
Nonconstant Growth	5 Years to Attain Terminal Value, Median	9.4%	9.4%		9.5%
Nonconstant Growth	4 Years to Attain Terminal Value, Average	10.5%			
Nonconstant Growth	4 Years to Attain Terminal Value, Median	10.3%	10.3%		10.5%
Nonconstant Growth	3 Years to Attain Terminal Value, Average	12.2%			
Nonconstant Growth	3 Years to Attain Terminal Value, Median	12.1%	12.1%		12.2%
Risk Premium					
1990-2014	Moody's Baa Electric Utility Debt Cost	12.7%			
	Company's Debt Cost	12.7%	12.7%		12.7%
1990-2009	Moody's Baa Gas Utility Debt Cost	12.5%			
	Company's Debt Cost	12.6%	12.5%		12.6%
Median - Indicated Range		12.0%		12.2%	
Total Rate of Return - Range		12.0%		12.2%	
Requested Rate of Return				12.1%	

Quadvest, L.P. Schedule B-1
 Financial Statement Analysis Test Year Ending December 31, 2014
 Historical Income Statements (Dollar figures in thousands)

For the Year Ended:	
31-Dec-14	

Actual %

Revenue \$9,117 100.0%

Operating expenses 7,347 80.6%

Earnings before interest, taxes, depreciation & amortization (EBITDA) 1,769 19.4%

Depreciation expense 1,182 13.0%

Amortization expense (343) -3.8%

Earnings before interest & taxes (EBIT) 930 10.2%

Other income (expense) 251 2.8%

Interest income (expense) (344) -3.8%

Other income, net (93) -1.0%

Pretax Income (EBT) 838 9.2%

Provision (benefit) for income taxes - 0.0%

Net Income \$838 9.2%

Annualized Growth Rates

Revenue	NA
Gross Profit	NA
EBITDA	NA
EBIT	NA
Net Income	NA



Quadrant 4, LLC
 Financial Statement Analysis
 Historical Balance Sheets

Schedule A.2
 Fed Year Ending December 31, 2014

(Dollar figures in thousands)

	As of:	%
	31-Dec-14	Actual
Current Assets		
Cash & cash equivalents	\$1,212	3.7%
Accounts receivable, net	640	2.0%
Accounts receivable, utility	738	2.3%
Accounts receivable, intercompany	816	2.5%
Inventory	81	0.2%
Prepaid expenses and other current assets	70	0.2%
Total Current Assets	3,557	10.9%
Utility plant:		
Land	227	0.7%
Depreciable plant and equipment	37,919	116.2%
Construction in progress	626	1.9%
Other	352	1.1%
Less: Accumulated depreciation	(12,725)	-39.0%
Accumulated amortization	1,092	3.3%
Utility plant, net	27,491	84.3%
Other assets	1,576	4.8%
Intangible assets, net	-	0.0%
Goodwill	-	0.0%
Total Assets	\$32,625	100.0%
Current Liabilities		
Accounts payable	\$1,652	5.1%
Accrued expenses	445	1.4%
Customer deposits	276	0.8%
Current portion of long-term debt	1,349	4.1%
Total Current Liabilities	3,723	11.4%
Deferred tax liability	427	1.3%
CoBank long term liability	8,572	26.3%
Long-term debt, net of current portion	2,222	6.8%
Developer CIAC Rate, net of amortization	8,265	25.3%
Customer CIAC, net of amortization	323	1.0%
Other long-term liabilities	-	0.0%
Total Liabilities	23,532	72.1%
Common stock	1	0.0%
Shareholder distributions	(544)	-1.7%
Retained earnings	9,526	29.2%
Prior period adjustments	110	0.3%
Total Shareholders' Equity	9,093	27.9%
Total Liabilities & Partners' Capital	\$32,625	100.0%

Quadrant, L.P.
Small Stock Risk Premium Differential Analysis
Peer Group

Schedule C.1

Fiscal Year Ending December 31, 2014

(Dollar figures in thousands, except for per share figures)

Company Name	Ticker Symbol	Market Cap	Duff & Phelps Small Stock Premium	Market Cap Weighting
American Water Works Company, Inc.	AWK	\$9,557,170	0.75%	50.5%
Aqua America Inc.	WTR	\$4,716,128	1.16%	24.9%
American States Water Company	AWR	\$1,446,144	1.94%	7.6%
California Water Service Group	CWT	\$1,176,506	1.94%	6.2%
SJW Corp.	SJW	\$650,045	2.36%	3.4%
Middlesex Water Co.	MSEX	\$371,520	1.16%	2.0%
Connecticut Water Service Inc.	CTWS	\$403,291	2.81%	2.1%
Artesian Resources Corp.	ARTN.A	\$201,087	5.99%	1.1%
The York Water Company	YORW	\$297,297	5.99%	1.6%
Pure Cycle Corporation	PCYO	\$96,152	5.99%	0.5%

	Duff & Phelps Small Stock Premium	Additional Small Stock Premium Required
Quadrant - 10th Decile Small Stock Risk Premium less Peer Group Small Stock Risk Premia:	5.99%	
Mean	3.01%	2.98%
Median	2.15%	3.84%
Market Cap Weighted Average	1.29%	4.70%
Differential Small Stock Risk Premia Required		3.85%
Duff and Phelps Indicators	Low	High
	3.85%	3.87%
Private Equity Liquidity Effects	3.00%	3.00%
Chicago Booth Study	4.00%	5.00%
Minimum Required SSRP		3.00%

Capital IQ peer group Bloomberg betas, water utilities
(Dollar figures in thousands, except for per share figures)

Company Name	Ticker Symbol	Bloomberg Beta*	Shares Out	Share Price	Market Cap	Total Debt Preferred & Min Int.	Debt/Equity	Debt/Total Cap	Effective Tax Rate	Unlevered Beta
American Water Works Company, Inc.	AWK	0.53	179,309	\$53.30	\$9,557,170	\$5,959,336	62.4%	38.4%	39.8%	0.38
Aqua America Inc.	WTR	0.67	176,634	\$26.70	\$4,716,128	\$1,637,668	34.7%	25.8%	26.4%	0.53
American States Water Company	AWR	0.84	38,400	\$37.66	\$1,446,144	\$0	0.0%	0.0%	39.6%	0.84
California Water Service Group	CWT	0.75	47,806	\$24.61	\$1,176,506	\$504,955	42.9%	30.0%	35.3%	0.58
SJW Corp.	SJW	0.89	20,238	\$32.12	\$650,045	\$398,149	61.2%	38.0%	39.1%	0.65
Middlesex Water Co.	MSEX	0.77	16,111	\$23.06	\$371,520	\$167,740	45.1%	31.1%	33.4%	0.60
Connecticut Water Service Inc.	CTWS	0.76	11,113	\$36.29	\$403,291	\$176,406	43.7%	30.4%	28.6%	0.58
Artesian Resources Corp.	ARTN.A	0.63	8,902	\$22.59	\$201,087	\$121,524	60.4%	37.7%	40.4%	0.46
The York Water Company	YORW	0.67	12,809	\$23.21	\$297,297	\$87,105	29.3%	22.7%	37.2%	0.57
Pure Cycle Corporation	PCYO	0.81	24,038	\$4.00	\$96,152	\$5,855	6.1%	5.7%	35.5%	0.78

* Observed Beta is Bloomberg Adjusted Monthly Beta between December 31, 2009 and December 31, 2014

Capital Asset Pricing Model (CAPM) Inputs	
(1) Effective tax rate	35.0%
(2) Risk-free rate [R _f]	2.5%
(3) Market Risk Premium [MRP]	7.0%
(4) Unlevered beta	0.58
(5) Target debt/equity	94.3%
(6) Small Stock Risk Premium [SSRP]	3.0%

High	62.4%	38.4%	40.4%	0.84
Mean	38.6%	26.0%	35.5%	0.60
Median	43.3%	30.2%	36.4%	0.58
CV	0.57	0.51	0.14	0.22

Capital Asset Pricing Model (CAPM) Calculations	
Relevered beta	0.94
$K_e = R_f + (\text{Levered Beta} \times \text{MRP}) + \text{SSRP}$	
CAPM Cost of Equity [K _e]	12.9%

Notes:

- (1) Reflects a C Corporation status for valuation purposes
- (2) 20-Year United States Treasury rate as of December 31, 2014
- (3) Duff & Phelps 2014 Valuation Handbook, from 1926 - present
- (4) Unlevered and relevered using Hamada method
- (5) Median debt-to-equity of the guideline companies
- (6) Rounded Micro-Cap Size Premium - Duff & Phelps 2014 Valuation Handbook, from 1926 - present

ValueLine peer group and betas, water utilities

(Dollar figures in thousands, except for per share figures)

Company Name	Ticker Symbol	Value Line Beta	Shares Out	Share Price	Market Cap	Total Debt Preferred & Min Int.	Debt / Equity	Debt / Total Cap	Effective Pay Rate	Unlevered Beta
American Water Works Company, Inc.	AWK	0.70	179,309	\$53.30	\$9,557,170	\$5,959,336	62.4%	38.4%	39.8%	0.51
Aqua America Inc.	WTR	0.70	176,634	\$26.70	\$4,716,128	\$1,637,668	34.7%	25.8%	26.4%	0.56
American States Water Company	AWR	0.70	38,400	\$37.66	\$1,446,144	\$0	0.0%	0.0%	39.6%	0.70
California Water Service Group	CWT	0.70	47,806	\$24.61	\$1,176,506	\$504,955	42.9%	30.0%	35.3%	0.55
SIW Corp.	SIW	0.85	20,238	\$32.12	\$650,045	\$398,149	61.2%	38.0%	39.1%	0.62
Middlesex Water Co.	MSEX	0.70	16,111	\$23.06	\$371,520	\$167,740	45.1%	31.1%	33.4%	0.54
The York Water Company	YORW	0.65	12,809	\$23.21	\$297,297	\$87,105	29.3%	22.7%	37.2%	0.55

Capital Asset Pricing Model (CAPM) Inputs

(1) Effective tax rate	35.0%
(2) Risk-free rate [R _f]	2.5%
(3) Market Risk Premium [MRP]	7.0%
(4) Unlevered beta	0.55
(5) Target debt/equity	94.3%
(6) Small Stock Risk Premium [SSRP]	3.0%

High 62.4% 38.4% 39.8% 0.70
Mean 39.4% 26.6% 35.8% 0.57
Median 42.9% 30.0% 37.2% 0.55
CV 0.54 0.49 0.13 0.11

Capital Asset Pricing Model (CAPM) Calculations

Relevered beta

$$K_e = R_f + (\text{Levered Beta} \times \text{MRP}) + \text{SSRP}$$

0.89

CAPM Cost of Equity (K_e)

11.6%

Notes:

- (1) Reflects a C Corporation status for valuation purposes
- (2) 20-Year United States Treasury rate as of December 31, 2014
- (3) Duff & Phelps 2014 Valuation Handbook, from 1926 - present
- (4) Unlevered and relevered using Hamada method
- (5) Median debt-to-equity of the guideline companies
- (6) Rounded Micro-Cap Size Premium - Duff & Phelps 2014 Valuation Handbook, from 1926 - present

Capital IQ peer group Bloomberg betas, water utilities

(Dollar figures in thousands, except for per share figures)

Company Name	Ticker Symbol	Bloomberg Beta *	Shares Out	Share Price	Market Cap	Total Debt Preferred & Min Int.	Debt/Equity	Debt/Total Cap	Effective Tax Rate	Unlevered Beta
American Water Works Company, Inc.	AWK	0.53	179,309	\$53.30	\$9,557,170	\$5,959,336	62.4%	38.4%	39.8%	0.38
Aqua America Inc.	WTR	0.67	176,634	\$26.70	\$4,716,128	\$1,637,668	34.7%	25.8%	26.4%	0.53
American States Water Company	AWR	0.84	38,400	\$37.66	\$1,446,144	\$0	0.0%	0.0%	39.6%	0.84
California Water Service Group	CWT	0.75	47,806	\$24.61	\$1,176,506	\$504,955	42.9%	30.0%	35.3%	0.58
SJW Corp.	SJW	0.89	20,238	\$32.12	\$650,045	\$398,149	61.2%	38.0%	39.1%	0.65
Middlesex Water Co.	MSEX	0.77	16,111	\$23.06	\$371,520	\$167,740	45.1%	31.1%	33.4%	0.60
Connecticut Water Service Inc.	CTWS	0.76	11,113	\$36.29	\$403,291	\$176,406	43.7%	30.4%	28.6%	0.58
Artesian Resources Corp.	ARTN.A	0.63	8,902	\$22.59	\$201,087	\$121,524	60.4%	37.7%	40.4%	0.46
The York Water Company	YORW	0.67	12,809	\$23.21	\$297,297	\$87,105	29.3%	22.7%	37.2%	0.57
Pure Cycle Corporation	PCYO	0.81	24,038	\$4.00	\$96,152	\$5,855	6.1%	5.7%	35.5%	0.78

* Observed Beta is Bloomberg Adjusted Monthly Beta between December 31, 2009 and December 31, 2014

Capital Asset Pricing Model (CAPM) Inputs	
(1) Effective tax rate	35.0%
(2) Risk-free rate [R _f]	2.5%
(3) Market Risk Premium [MRP]	7.0%
(4) Unlevered beta	0.58
(5) Target debt/equity	94.3%
(6) Empirical Factor [x]	0.25
(7) Small Stock Risk Premium [SSRP]	3.0%

High	62.4%	38.4%	40.4%	0.84
Mean	38.6%	26.0%	35.5%	0.60
Median	43.3%	30.2%	36.4%	0.58
CV	0.57	0.51	0.14	0.22

Capital Asset Pricing Model (CAPM) Calculations	
Relevered beta	0.94
$K_e = R_f + x (MRP) + (1-x) * (\text{Levered Beta} \times MRP) + SSRP$	
CAPM Cost of Equity (%)	
12.1%	

Notes:

- (1) Reflects a C Corporation status for valuation purposes
- (2) 20-Year United States Treasury rate as of December 31, 2014
- (3) Duff & Phelps 2014 Valuation Handbook, from 1926 - present
- (4) Unlevered and relevered using Hamada method
- (5) Median debt-to-equity of the guideline companies
- (6) Empirical Factor estimated at 0.25, see Chapter 6 of The New Regulatory Finance by Roger A. Morin, Ph.D.

(Dollar figures in thousands, except for per share figures)

ValueLine peer group and betas, water utilities

Company Name	Ticker Symbol	ValueLine Beta *	Shares Out	Share Price	Market Cap	Total Debt Preferred & Min Int.	Debt/Equity	Debt/Total Cap	Effective Tax Rate	Unlevered Beta
American Water Works Company, Inc.	AWK	0.70	179,309	\$53.30	\$9,557,170	\$5,959,336	62.4%	38.4%	39.8%	0.51
Aqua America Inc.	WTR	0.70	176,634	\$26.70	\$4,716,128	\$1,637,668	34.7%	25.8%	26.4%	0.56
American States Water Company	AWR	0.70	38,400	\$37.66	\$1,446,144	\$0	0.0%	0.0%	39.6%	0.70
California Water Service Group	CWT	0.70	47,806	\$24.61	\$1,176,506	\$504,955	42.9%	30.0%	35.3%	0.55
SJW Corp.	SJW	0.85	20,238	\$32.12	\$650,045	\$398,149	61.2%	38.0%	39.1%	0.62
Middlesex Water Co.	MSEX	0.70	16,111	\$23.06	\$371,520	\$167,740	45.1%	31.1%	33.4%	0.54
The York Water Company	YORW	0.65	12,809	\$23.21	\$297,297	\$87,105	29.3%	22.7%	37.2%	0.55

Capital Asset Pricing Model (CAPM) Inputs	
(1) Effective tax rate	35.0%
(2) Risk-free rate [R _f]	2.5%
(3) Market Risk Premium [MRP]	7.0%
(4) Unlevered beta	0.55
(5) Target debt/equity	94.3%
(6) Empirical Factor [x]	0.25
(7) Small Stock Risk Premium [SSRP]	3.0%

High	62.4%	38.4%	39.8%	0.70
Mean	39.4%	26.6%	35.8%	0.57
Median	42.9%	30.0%	37.2%	0.55
CV	0.54	0.49	0.13	0.11

Capital Asset Pricing Model (CAPM) Calculations	
Relevered beta	0.89
$K_e = R_f + x (MRP) + (1-x) * (\text{Levered Beta} \times MRP) + SSRP$	
CAPM Cost of Equity (WACC)	

- Notes:
- (1) Reflects a C Corporation status for valuation purposes
 - (2) 20-Year United States Treasury rate as of December 31, 2014
 - (3) Duff & Phelps 2014 Valuation Handbook, from 1926 - present
 - (4) Unlevered and relevered using Hamada method
 - (5) Median debt-to-equity of the guideline companies
 - (6) Empirical Factor estimated at 0.25, see Chapter 6 of The New Regulatory Finance by Roger A. Morin, Ph.D.

Schedule E-1

Quadvest, L.P.

Discounted Cash Flow Method

Constant Growth DCF Model

Company	Recent Price(P0) (1)	Next Year's Div(D1)	Dividend Yield	Value Line Earnings	Small Stock Premium (2)	ROE K=Div Yld+G
American Water Works Company, Inc.	52.85	1.33	2.52%	7.50%	3.00%	13.0%
Aqua America Inc.	26.36	0.69	2.62%	8.50%	3.00%	14.1%
American States Water Company	35.46	0.90	2.54%	6.50%	3.00%	12.0%
California Water Service Group	24.39	0.67	2.75%	7.50%	3.00%	13.2%
SJW Corp.	31.15	0.79	2.54%	7.00%	3.00%	12.5%
Middlesex Water Co.	22.31	0.77	3.45%	5.00%	3.00%	11.5%
The York Water Company	22.12	0.60	2.71%	7.00%	3.00%	12.7%
GROUP AVERAGE			2.73%	7.00%		12.7%
GROUP MEDIAN			2.62%	7.00%		12.7%

Sources: Value Line Investment Survey, Thompson, and Zacks Estimates

Notes:

(1) Recent price calculated as average of daily closing prices for most recent month

(2) Rounded Micro-Cap Size Premium - Duff & Phelps 2014 Valuation Handbook, from 1926 - present

Schedule 4.2

Quadrant L.P.

Discounted Cash Flow Method

Nonconstant Growth Model - 5 Years to Attain Terminal Value

Company	Next Year's Div	2017-19 Div	Annual Change to 2020	CASH FLOWS										Small Stock		ROE=Internal Rate of Return	
				Recent Price	Year 1		Year 2		Year 3		Year 4		Year 5		Price		Premium
					Div	Div	Div	Div	Div	Div	Div	Div	Div	Div			
American Water Works Company, Inc.	1.33	1.55	0.06	-52.85	1.33	1.39	1.44	1.50	1.55			62.50	3.00%	9.0%			
Aqua America Inc.	0.69	0.90	0.05	-26.36	0.69	0.74	0.80	0.85	0.90			35.00	3.00%	11.5%			
American States Water Company	0.90	1.15	0.06	-35.46	0.90	0.96	1.03	1.09	1.15			42.50	3.00%	9.4%			
California Water Service Group	0.67	0.95	0.07	-24.39	0.67	0.74	0.81	0.88	0.95			30.00	3.00%	10.3%			
SJW Corp.	0.79	1.00	0.05	-31.15	0.79	0.84	0.90	0.95	1.00			37.50	3.00%	9.4%			
Middlesex Water Co.	0.77	0.83	0.02	-22.31	0.77	0.79	0.80	0.82	0.83			25.00	3.00%	8.7%			
The York Water Company	0.60	0.75	0.04	-22.12	0.60	0.64	0.68	0.71	0.75			25.00	3.00%	8.4%			
GROUP AVERAGE														9.5%			
GROUP MEDIAN														9.4%			

Sources: Value Line Investment Survey

Notes:

- (1) Recent price calculated as average of daily closing prices for most recent month
 (2) Annual change and cash flows rounded
 (3) Rounded Micro-Cap Size Premium - Duff & Phelps 2014 Valuation Handbook, from 1926 present

Nonconstant Growth Model - 4 Years to Attain Terminal Value

Company	Next Year's Div	2017-19 Div	Annual Change to 2019	CASH FLOWS								Small Stock Premium	ROE=Internal Rate of Return
				Recent Price	Year 1 Div	Year 2 Div	Year 3 Div	Year 4 Div	Year 4 Price				
American Water Works Company, Inc.	1.33	1.55	0.07	-52.85	1.33	1.40	1.48	1.55	62.50	3.00%	9.8%		
Aqua America Inc.	0.69	0.90	0.07	-26.36	0.69	0.76	0.83	0.90	35.00	3.00%	13.0%		
American States Water Company	0.90	1.15	0.08	-35.46	0.90	0.98	1.07	1.15	42.50	3.00%	10.3%		
California Water Service Group	0.67	0.95	0.09	-24.39	0.67	0.76	0.86	0.95	30.00	3.00%	11.4%		
SJW Corp.	0.79	1.00	0.07	-31.15	0.79	0.86	0.93	1.00	37.50	3.00%	10.4%		
Middlesex Water Co.	0.77	0.83	0.02	-22.31	0.77	0.79	0.81	0.83	25.00	3.00%	9.3%		
The York Water Company	0.60	0.75	0.05	-22.12	0.60	0.65	0.70	0.75	25.00	3.00%	9.0%		
GROUP AVERAGE											10.5%		
GROUP MEDIAN											10.3%		

Sources: Value Line Investment Survey

Notes:

- (1) Recent price calculated as average of daily closing prices for most recent month
 (2) Annual change and cash flows rounded
 (3) Rounded Micro-Cap Size Premium - Duff & Phelps 2014 Valuation Handbook, from 1926 - present

Schedule E-4

Quadrant, L.P.

Discounted Cash Flow Method

Nonconstant Growth Model - 3 Years to Attain Terminal Value

Company	Next Year's Div	2017-19 Div	Annual Change to 2018	CASH FLOWS						Small Stock Premium	ROE=Internal Rate of Return	
				Recent Price	Year 1		Year 2		Year 3			
					Div	Div	Div	Div	Price			Price
American Water Works Company, Inc.	1.33	1.55	0.11	-52.85	1.33	1.44	1.55	62.50	3.00%	11.4%		
Aqua America Inc.	0.69	0.90	0.11	-26.36	0.69	0.80	0.90	35.00	3.00%	15.8%		
American States Water Company	0.90	1.15	0.13	-35.46	0.90	1.03	1.15	42.50	3.00%	12.1%		
California Water Service Group	0.67	0.95	0.14	-24.39	0.67	0.81	0.95	30.00	3.00%	13.5%		
SJW Corp.	0.79	1.00	0.11	-31.15	0.79	0.90	1.00	37.50	3.00%	12.2%		
Middlesex Water Co.	0.77	0.83	0.03	-22.31	0.77	0.80	0.83	25.00	3.00%	10.4%		
The York Water Company	0.60	0.75	0.08	-22.12	0.60	0.68	0.75	25.00	3.00%	10.2%		
GROUP AVERAGE										12.2%		
GROUP MEDIAN										12.1%		

Sources: Value Line Investment Survey

Notes

(1) Recent price calculated as average of daily closing prices for most recent month

(2) Annual change and cash flows rounded

(3) Rounded Micro-Cap Size Premium - Duff & Phelps 2014 Valuation Handbook, from 1926 - present

	Moody's Average Public Utility Bond Yield (%)	Authorized Electric Utility Returns	Indicated Risk Premiums
1990	9.55%	12.67%	3.13%
1991	9.71%	12.56%	2.85%
1992	9.05%	12.10%	3.05%
1993	8.39%	11.42%	3.03%
1994	7.43%	11.55%	4.12%
1995	8.56%	11.56%	2.99%
1996	7.62%	11.31%	3.69%
1997	7.84%	11.44%	3.61%
1998	7.46%	11.87%	4.41%
1999	6.98%	10.80%	3.82%
2000	7.84%	11.57%	3.73%
2001	8.02%	11.15%	3.13%
2002	7.72%	11.07%	3.35%
2003	7.34%	10.92%	3.59%
2004	6.41%	10.83%	4.42%
2005	6.11%	10.52%	4.42%
2006	5.70%	10.30%	4.61%
2007	6.09%	10.26%	4.17%
2008	6.19%	10.34%	4.15%
2009	6.79%	10.47%	3.67%
2010	6.14%	10.29%	4.15%
2011	5.92%	10.25%	4.33%
2012	5.32%	10.15%	4.83%
2013	4.76%	9.99%	5.23%
2014 (3)	5.07%	9.98%	4.92%
Averages	7.12%	11.01%	3.89%

Indicated Cost of Equity Bond Yields (4)	Moody's Baa Utility 4.70%	Company 4.78%
Indicated Equity Return		
Intercept	0.0713	0.0713
Variable	0.545	0.545
Intercept	4.70%	4.78%
Equity Return	9.70%	9.74%
Equity Risk Premium	5.00%	4.96%
Bond Yields (4)	4.70%	4.78%
Small Stock Risk Premium (5)	3.00%	3.00%
Indicated Equity Return	12.70%	12.74%

(1) 12 Mo. Avg Yield From Bloomberg Professional Service - Adjusted 9 Mo. Reg. Lag

(2) Rate Case Summary Q3 2014 Financial Update, Edison Electric Institute

(3) Represents data through Q3 2014

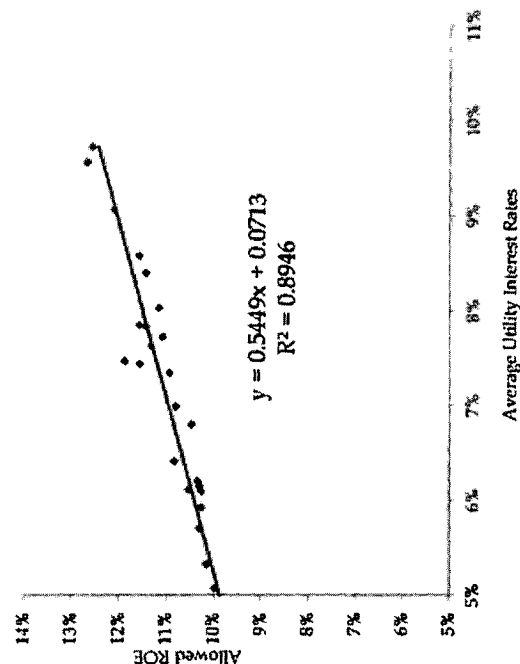
(4) Reflects Moody's Baa Utility Debt Cost as of 12/31/14 and the interest rate from the Company's weighted average cost of debt

(5) Rounded Micro-Cap Size Premium - Duff & Phelps 2014 Valuation Handbook, from 1926 - present

SUMMARY OUTPUT

Regression Statistics						
Multiple R	0.946					
R Square	0.895					
Adjusted R Square	0.890					
Standard Error	0.003					
Observations	25					
ANOVA						
	df	SS	MS	F	Significance F	
Regression	1	0.001	0.001	195.273	0.000	
Residual	23	0.000	0.000			
Total	24	0.001				
Coefficients						
Intercept	0.0713	0.003	25.269	0.000	0.066	0.077
X Variable 1	0.5449	0.039	13.974	0.000	0.464	0.626

Authorized ROE vs. Electric Utility Interest Rates (1990 - 2014)



	Moody's Average Public Utility Bond Yield (1)	Authorized Gas Utility Returns	Indicated Risk Premium
1990	9.55%	12.67%	3.12%
1991	9.71%	12.46%	2.75%
1992	9.05%	12.01%	2.96%
1993	8.39%	11.35%	2.96%
1994	7.43%	11.35%	3.92%
1995	8.56%	11.43%	2.87%
1996	7.62%	11.19%	3.57%
1997	7.84%	11.29%	3.46%
1998	7.46%	11.51%	4.05%
1999	6.98%	10.66%	3.68%
2000	7.84%	11.39%	3.56%
2001	8.02%	10.95%	2.93%
2002	7.72%	11.03%	3.31%
2003	7.34%	10.99%	3.65%
2004	6.41%	10.59%	4.19%
2005	6.11%	10.46%	4.36%
2006	5.70%	10.43%	4.73%
2007	6.09%	10.24%	4.15%
2008	6.19%	10.37%	4.18%
2009	6.79%	10.19%	3.40%
Averages	7.54%	11.13%	3.59%

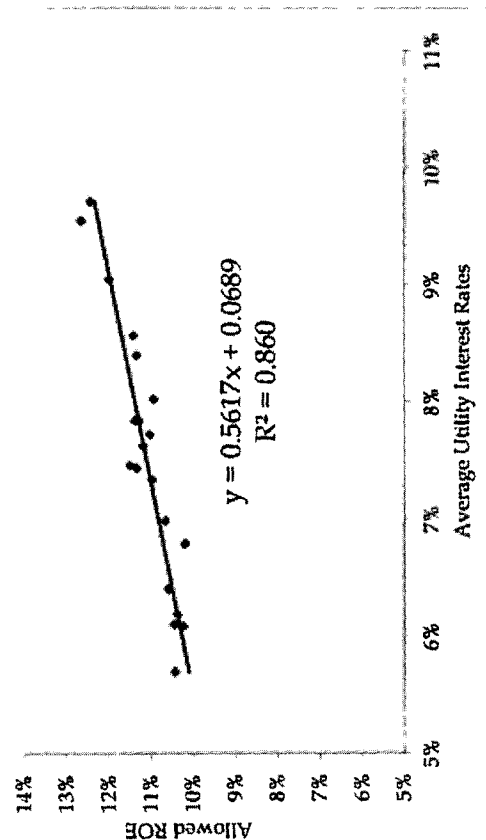
Indicated Cost of Equity Bond Yields (3)	Moody's Baa Utility	Company
	4.70%	4.78%
Indicated Equity Return		
Intercept	0.0689	0.0689
Variable	0.562	0.562
Intercept	4.70%	4.78%
Equity Return	9.53%	9.58%
Equity Risk Premium	4.83%	4.80%
Bond Yields (3)		
Small Stock Risk Premium (4)	4.70%	4.78%
Indicated Equity Return	12.53%	12.58%

- (1) 12 Mo. Avg Yield From Bloomberg Professional Service - Adjusted 9 Mo. Reg. Lag
(2) Major Rate Case Decisions- Calendar 2010, Regulatory Research Associates
(3) Reflects Moody's Baa Utility Debt Cost as of 12/31/14 and the interest rate from the Company's weighted average cost of debt
(4) Rounded Micro-Cap Size Premium - Duff & Phelps 2014 Valuation Handbook, from 1926 - present

SUMMARY OUTPUT

Regression Statistics				
Multiple R	0.927			
R Square	0.860			
Adj. R Square	0.852			
Standard Error	0.003			
Observations	20			
ANOVA				
	df	SS	MS	F
Regression	1	0.001	0.001	110.131
Residual	18	0.000	0.000	0.000
Total	19	0.001		
	Coefficients	Standard Error	t Stat	P-value
Intercept	0.0689	0.004	16.903	0.000
X Variable 1	0.5617	0.054	10.494	0.000
			Lower 95%	Upper 95%
			0.060	0.078
			0.449	0.674

Authorized ROE vs. Gas Utility Interest Rates (1990 - 2009)



APPENDIX B



Gregory E. Scheig, CPA/ABV/CFF/CGMA, CFA
Principal, Energy Practice Leader

817-481-4997
gscheig@valuescopeinc.com

Greg Scheig has more than 25 years of consulting and valuation experience in a broad range of sectors. Working with domestic and international clients, Mr. Scheig has performed hundreds of valuations involving common and preferred stock, real estate projects, financial derivatives and debt instruments.

As an expert witness, Mr. Scheig has provided deposition and courtroom testimony in matters relating to appraisal values, bankruptcy analyses and economic damages in a variety of legal settings.

EMPLOYMENT HISTORY

September 2008 – Present
Principal

ValueScope, Inc.

Joined the company as a principal to provide valuation, expert testimony and financial advisory services.

July 2008 – September 2008
Principal

Present Value Advisors, LLC

Formed Present Value Advisors to provide valuation, litigation support and financial advisory services. Projects included being a consulting expert in a bankruptcy matter and a contract arrangement with Vitale, Caturano & Company, LTD (a Boston-based accounting firm) to provide valuation-related financial review (SAS73 & SAS101) services primarily for bio-tech, high-tech and other development-stage businesses.

July 2005 – June 2008
Senior Director

Kroll Associates, Inc., Dallas, Texas

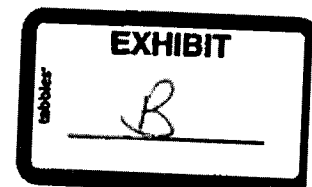
Performed valuation analyses for transactions, financial reporting, tax and other management requirements, and provided expert testimony for litigation support. Key focus was in Energy sector with larger clients.

2002 – July 2005

CBIZ Valuation Group, LLC, Dallas, Texas

Managing Director – Southwest Region

Ran the southwest region's valuation practice for approximately three and a half years. In that role, valued many types of businesses, business interests and professional practices.



1997 – 2002

Senior Manager: Strategy Competency

Deloitte Consulting, Austin, Texas

Led projects dealing with valuations, mergers and acquisition synergy analyses, real option analyses, strategic assessments, and complex regulatory issues. Served a wide variety of domestic and international clients, including companies in Canada, England, Republic of South Africa, Italy, Scotland and Singapore.

1988 – 1997

Managing Associate

FINANCO, Inc., Austin, Texas

Specialized in the financial modeling of electric, telecommunication, and gas utility systems. Additionally, developed utility merger and acquisition analyses, bankruptcy filings, regulatory testimony and litigation support.

1987 - 1988

Real Estate Analyst

Lamar Real Estate Services, Austin, Texas

Concurrent with MBA program, worked for Lamar Savings and Loan developing cash flow analyses for their real estate owned (REO) portfolio.

Summer 1985

Summer Engineer

Conoco, Lafayette, Louisiana

Developed production cash flow analyses.

Summer 1984

Offshore Production Roustabout

Getty Oil, Cameron Louisiana

Summer 1983

Production Roustabout

Getty Oil, Bay City, Texas

Summer 1982

Roustabout

Curtis Well Servicing, Pampa, Texas

FORMAL EDUCATION

Master of Business Administration, Finance and Accounting
The University of Texas Graduate School of Business, Austin, Texas

- Sord Scholar
- Dean's Award for Academic Excellence

Bachelor of Science, Petroleum Engineering
The University of Texas, Austin, Texas

- Pi Epsilon Tau (College of Engineering Honor Society)

ACCREDITATIONS AND DESIGNATIONS

CFA – Chartered Financial Analyst (CFA Institute)
CPA – Certified Public Accountant (State Board of Public Accountancy, Texas)
ABV – Accredited in Business Valuation (AICPA)
CFF – Certified in Financial Forensics (AICPA)
CGMA – Chartered Global Management Accountant (AICPA)

ORGANIZATIONS AND PROFESSIONAL ASSOCIATIONS

American Institute of Certified Public Accountants (AICPA)
Texas Society of Certified Public Accountants - Energy Conference Committee
CFA Institute
CFA Society of Dallas/Fort Worth
Appraisal Issues Task Force Member (AITF)
American Society of Appraisers
Society of Petroleum Engineers (SPE)

LITIGATION SUPPORT / EXPERT WITNESS TESTIMONY

Utility Matters

Quadvest, LP rate case before the Texas Public Utilities Commission. Provided rate of return analysis and an expert report for the company's cost of equity capital.

SWWC Utilities, Inc. rate case before the Texas Commission on Environmental Quality. Provided rate of return analysis and testimony for this division of Southwest Water Company, a regulated water company.

Hughes Natural Gas, Inc. rate case before the Texas Railroad Commission in Gas Utilities Docket No. 10083/10093. Provided rate of return analysis and direct testimony for Hughes Natural Gas, Inc., a regulated gas company. Testified at the Texas Railroad Commission hearing.

Monarch Utilities I, LP. rate case before the Texas Commission on Environmental Quality. Provided rate of return analysis and testimony for Monarch Utilities I, LP., a regulated water company. Rate case settled.

Canyon Lake Water Service Company, SOAH Docket No. 582-11-1468, TCEQ No. 2010-1841-UCR. Prepared rate of return testimony for Canyon Lake Water Service Company's rate case before the Texas Commission on Environmental Quality. Testified for the company, a regulated water company, in a SOAH proceeding.

Global Water Resources, Inc. vs. Sierra Negra Ranch, LLC, AAA Case No. 76 198 Y 00104 11. Retained to develop a solvency analysis and scenario analyses to assess Global Water Resources, Inc.'s future financial performance versus their need for capital and scheduled debt retirements. Expert and rebuttal reports submitted.

City of Blue Mound vs. Monarch Utilities I, LP. Retained to consult Monarch's legal counsel on rebuttal arguments to the City's appraisal of the water system. The City's appraisal was to be considered by a panel in formulating an FMV offer to the utility for the water assets. Provided expert testimony at the proceeding and the panel subsequently recommended a value approximately twice the value suggested by the City's appraiser.

Oil and Gas Matters

Michael O. Pickens v T. Boone Pickens, Jr., Dallas County District Court Cause No. DC-14-13103. Retained to calculate the value of shares of Primexx Energy Partners and NeoFirma Software in support of mediation. Subsequently requested to develop an expert and supplemental reports.

Gregory Imbruce, Giddings Investments LLC, Giddings GENPAR LLC, Hunton Oil, Asym Capital III LLC, Glenrose Holdings LLC and Asym Energy Investments LLC v. Charles Henry III, et al., American Arbitration Association Case No: 12 198 0058 13, Commercial Division. In this matter, I valued the common shares of Starboard Resources as of 2011, 2012, and 2014. The analysis also included determining the fair market value of Starboard's oil and gas reserves in a Stamford, CT trial. Three expert reports and a rebuttal report submitted, trial testimony provided.

Crimson Exploration, Inc. and Crimson Exploration Operating, Inc. v. Allen Drilling Acquisition Company and ADAC II, Inc. Reviewed and rebutted an accounting firm's adjustments made to Operator's invoices in a joint interest billing dispute in a Texas District Court matter. Rebuttal report submitted.

Diamond Offshore Company v. Survival Systems International, Inc. Retained to develop an analysis of the economic damages to Diamond Offshore Company resulting from the installation of defective lifeboat hooks by Survival Systems, Inc. on certain offshore drilling rigs. Damage categories considered included original insurance settlement payments and prejudgment interest. Expert and rebuttal reports submitted, deposition testimony provided.

Noble Drilling Services, Inc. vs. Certex USA, Inc., Bridon-American Corp., and Bridon International, Ltd., Civil Case No. 4:09-cv-022825. Retained to calculate the economic damages related to anchor ropes that failed during a hurricane. Expert and rebuttal reports submitted, deposition testimony provided. Case settled.

Anadarko Petroleum Corporation vs. Noble Drilling (U.S.) LLC, Civil Case No. 4:10-cv-02185. Retained to develop an expert report on the economic damages related to an offshore drilling rig contract termination for a claimed *force majeure* event after a moratorium on drilling was declared in the Gulf of Mexico. Expert and rebuttal reports submitted, deposition testimony provided. Case settled.

613 Agro Holdings, LLC v. Renick et al. Retained to develop an expert report and rebuttal report on the value of oil and gas royalties in a Kansas District Court matter. Expert and rebuttal reports submitted, case settled.

Ringo Drilling I, L.P. v. Victory Drilling, Inc. and Ira Glasser. Cause No. 11-1489. Retained to develop an expert report on rebuttal arguments to Ringo Drilling's claimed damages in a lease transaction. Expert report submitted, case settled.

Joint Resources Company v. Banc of America Investment Services. FINRA Dispute Resolution. Retained to develop an analysis of the lost profits incurred by Joint Resources Company when they invested in auction rate securities in 2008, preventing access to investment capital. Analysis included documentation of Joint Resources Company's investment model and the calculation of the lost profits from the missed opportunity. Expert report submitted, case settled.

Patriot Exploration LLC and Patriot Land LLC d/b/a JF Patriot Land, LLC v. Thompson & Knight LLP. Retained to calculate the economic damages to Patriot resulting from not being able complete the sale of certain mineral interests due to alleged legal malpractice and defective title. Expert report submitted, deposition and courtroom testimony provided.

HighMount Exploration and Production, LLC vs. Helmerich and Payne, Inc. Retained to quantify the damages from a drilling rig contract dispute regarding lower "well cycle times" and cost savings not achieved. Expert and rebuttal reports submitted, deposition testimony provided. Case settled.

Macquarie Bank Limited, Plaintiff vs. Bradley D. Knickel, LexMac Energy, LP. Retained to provide an affidavit to the court on SEC PV-10 Reserve Reporting and the risks associated with different classifications of hydrocarbon reserves.

Questar Gas Management Company vs. Waukesha Engine Division of Dresser, Inc.; Stewart & Stevenson Power Products, LLC; Stewart & Stevenson Power, File No. 71 198 Y 00749 07, before the American Arbitration Association, Dallas Texas. Retained to develop lost profits and economic damages analyses in a matter related to natural gas compression in the midstream sector. Analyses developed, deposition testimony provided. Case settled.

The Arbitration of Anthony Abernethy vs. J. Bryan Sutherlin, Brad Sutherlin, Kevin Sutherlin, Culebra Oil & Gas Co., Culebra Oil & Gas, LLC. Retained to value economic damages related to a minority ownership interest in an E&P company. Deposition and arbitration testimony provided.

Real Estate Matters

Clay Partners FG Deerword Glen, LP vs. the Flexitallic Group S.A.S. and Flexitallic, LP Retained to develop an analysis of the economic damages to Clay Partners following Flexitallic's repudiation of a lease agreement for three buildings in Deer Park, Texas. Expert report submitted and deposition testimony provided.

Sharpstown Mall Texas, LLC vs. CCW, LLC. Retained to develop an analysis of the economic damages to Sharpstown Mall given CCW's nonpayment of shared common area maintenance expenses. Expert report submitted.

Avalon Construction - Ruidoso, LLC vs. Mueller Company, Inc. and HD Supply Waterworks, Ltd. Retained to develop an analysis of the economic damages to Avalon Construction related to foundation damage for a retail center caused by plumbing defects. Expert report submitted.

John W. Clanton, Fibertown DC, LLC and Managed Network Solutions, Inc. vs. Vance Swaggerty. Retained to develop a valuation of three data centers located in Bryan-College Station Texas and Houston Texas. Appraisal report submitted, deposition and trial testimony provided.

Contract/Partnership Disputes

Highland Capital Management, LP. and Cornerstone Healthcare Group Holding, Inc. v. Patrick Daugherty, Defendant and Counter-Plaintiff. Retained to develop an analysis of the economic damages to Patrick Daugherty in relation to his equity compensation at the time of his resignation from Highland Capital. Expert and rebuttal reports submitted. Deposition and trial testimony provided.

Charles E. Simmons and H. Kenneth Barrett, et. al. vs. Dan M. Moody, Jr. and John S. Moody, Jr., et. al. Retained to develop an analysis of the economic damages to Dan Moody and the Moody Simmons Fund I, Ltd. in relation to a real estate development in Katy Texas. Expert report submitted and deposition testimony provided.

Circle Zebra Fabricators, Ltd., David Croft, and Monte Guiles vs. Hydro-X, LLC and Stonehenge Capital Company, LLC. Retained to develop an analysis of the economic damages to Circle Zebra resulting from the termination of a merger agreement. Expert report submitted, deposition testimony provided. Case settled in mediation.

Precision Dialing Services, Inc. vs. Clear Channel Communications, Inc., Cause No. 02-01782, Critical Mass Media, Inc., Clear Channel Broadcasting, Inc., and Clear Channel Radio, Inc. The District Court of Dallas County, Texas, 68th Judicial District. Retained to calculate economic damages related to the dissolution of a joint venture. Report submitted, deposition testimony provided. Case settled.

Transaction Disputes

In the Matter of the Application of John C. Wright for the Dissolution of Hudson Valley Clean Energy, Inc., Supreme Court of the State of New York, County of Dutchess. Retained to determine the fair value of a minority interest in Hudson Valley Clean Energy for a shareholder oppression matter. Filed expert report and provided courtroom testimony in the Supreme Court of the State of New York.

Robert L. Kovar, Plaintiff vs. Platinum Energy Resources, Inc., Defendant. Retained to quantify the damages related to a transaction dispute which required a valuation of Platinum Energy's stock and cash flow notes. Deposition and trial testimony provided.

Matthew Van Steenwyk, The Matthew Van Steenwyk GST Trust, and the Matthew Van Steenwyk Issue Trust v. Scientific Drilling International, Inc., Donald Van Steenwyk Gene Durocher, Gordon Thomson, Barbara Helbach, Denis Bandera, and Van Steenwyk Holdings, LLC. Retained to develop a valuation of an interest in Scientific Drilling International stock, a company that developed MWD (measurement while drilling) technologies. Expert report prepared for mediation. Case settled.

Bankruptcy Matters

College Media Corporation v. Digital River, Inc., Digital River Education Services, Inc. and Journey Education Marketing, Inc. The United States Bankruptcy Court for the Eastern District of Texas. Developed an analysis of the economic damages to College Media Corporation related to their allegations against Digital River and Journey Education Marketing. Expert report submitted.

In Re Camp Cooley, Ltd., Case No. 0961311, Chapter 11. The United States Bankruptcy Court for the Western District of Texas, Waco Division. Prepared a natural gas reserve valuation report for the debtor and developed a rebuttal report against the bank's expert. Deposition and court room testimony provided.

Bankruptcy Valuation for Senior Lenders: Synventive Molding Solutions. Retained to determine the enterprise values of the global operations and the European operations of Synventive, a company focused on automobile molding equipment. Analyses and draft reports prepared for counsel.

The IT Group, Inc., et al vs. Acres of Diamonds, Case No. 02-10118, Adv. Proc. No. 04-51311-PBL, et al. The United States Bankruptcy Court for the District of Delaware. Retained to value a minority interest deemed a fraudulent transfer of a bankruptcy proceeding. Expert report submitted, deposition testimony provided. Case settled.

Lodestar Energy, Inc., Lodestar Holdings, Inc. Debtors Chapter 11 Proceeding Case Nos. 01-50969 and 01-50972, Jointly Administered Under Case No. 01-50969. The United States Bankruptcy Court, Eastern District of Kentucky, Lexington Division. Developed a solvency opinion of a coal mining by company considering the balance sheet, capital adequacy and cash flow tests.

Einstein/Noah Bagel Corp. and Einstein/Noah Bagel Partners, Case No. 00-04447-ECF-CGC and 00-04448-ECF-CGC. The United States Bankruptcy Court for the District of Arizona. Deposition and trial testimony on a valuation analysis of the respective interests of Einstein/Noah Bagel Corp. and Einstein/Noah Bagel Partners based on their relative market values.

Leesburg Asphalt Company, LLC, Case No. 01-39902-SAF-1. The United States Bankruptcy Court for the Northern District of Texas, Dallas Division. Developed analyses of the debtor's workout plan and reasonableness of an alternative source of financing.

SEC Receivership Matter

Defendants Civil Action No. 5:09CV0087-C; Securities and Exchange Commission vs. Benny L. Judah and Excel Lease Fund, Inc. The United States District Court for the Northern District of Texas, Lubbock Division. Retained to work with an SEC receiver to provide valuations to the court in support of asset sales at fair values. Assets appraised included casual and fine dining restaurants, bars, notes receivable, stock in community banks, hotels and a health club facility.

Family Law, Employment Law and Other

In the Matter of the Marriage of Rebecca L. Ginn and Lonnie James Ginn, Cause No. 325-520240-12. The District Court of Tarrant County, Texas, 325th Judicial District. Retained to develop a valuation of interests in Aspen Scientific I, LP, Aspen Scientific, Inc., Physician Assistant Services of Texas, LLP, and Texas Physician Assistant Surgical Service, PC. Expert report submitted.

Progressive Child Care Systems, Inc. vs. Legacy Village Limited Partnership; Legacy Village One, L.C.; Spy, Inc.; Legacy Village Associates, Ltd., Texas Family Fitness 2, LLC, SC Legacy Independence, Ltd., SC Legacy Independence One, LLC, and L&B Realty Acquisitions, LLC., Cause No. 401-01220-2012. Retained to develop a valuation of Texas Family Fitness center in Plano, TX. Expert report submitted, case settled.

In the Matter of the Marriage of Patricia A. Bliss and David P. Bliss, Jr., Cause No. 324-444231-08. The District Court of Tarrant County, Texas, 324th Judicial District. Retained to develop a valuation of an interest in Pediatric Surgical Associates of Fort Worth, P.A. Expert report submitted, direct testimony provided.

Deirdre Worley, Individually and as Representative of the Estate of Richard Dale Worley, Dr. and Richard Dale Worley, II, Individually vs. Contract Transportation Systems Co., The Sherwin Williams Company, and Francisco Sanchez, Jr., Individually. Retained to develop an analysis and expert report on the loss of inheritance for Mr. Worley's estate. Deposition and jury trial testimony provided.

Charles Pankey vs. Texas Department of Health, Civil Action No. A 02 CA 284 H. The United States District Court, Western District of Texas, Austin Division. Case dealt with issue of wrongful termination. Prepared a rebuttal analysis of opposing expert's damage report. Case was settled.

Jack Holmes vs. Frank Mayborn Enterprises, Inc. d/b/a Killeen Daily Herald, Case No. 188041-C. The District Court of Bell County, Texas, 169th Judicial District. Developed an economic damage analysis and report for an attorney that the newspaper incorrectly reported as being a pedophile. Deposition testimony provided. Case settled.

Tax Matters

TranSupport, Inc. vs. Commissioner of Internal Revenue, Tax Court Docket No. 12152-13, U.S. Tax Court, Boston, Mass. Developed a reasonable compensation analysis, expert and rebuttal reports for company personnel in the aircraft industry.

Salty Brine I, Ltd. by and through, Salty Brine, Inc., Tax Matters Partner, vs. United States of America, United States District Court, Northern District of Texas, Abilene Division, Case No.: 5:10-CV-00108-C. Developed an expert report on an off-shore royalty transfer and the use of business protection insurance policies for tax avoidance. Provided deposition and trial testimony.

Mason & Mason Technology Insurance Services, Inc. vs. Commissioner, Tax Court Docket No. 12045-09. Developed an analysis of reasonable compensation for the owner of an insurance brokerage.

Garwood Irrigation Company vs. Commissioner, Tax Court Docket No. 001459-03. U.S. Tax Court, Houston, Texas. Developed a valuation and rebuttal report and provided testimony on valuation of an irrigation company and its water rights.

LECTURES AND APPEARANCES

"Oil and Gas Reserves: What are they worth?" Presentation to the Dallas Bar Association's Energy Section, December 2015.

"Reasonable Compensation Analyses: Insights and Guidance from the Reasonable Compensation Job Aid for IRS Valuation Professionals dated October 29, 2014." Presentation to the Texas Society of CPA's, Fort Worth Chapter, June 2015

"Tools of the Trade, "Northeast Tarrant County Bar Association, September 2014

"What's It Worth?" "Financial Executives International (FEI Fort Worth Chapter), with Mark Rambin, CPA, CFF of Travis Wolff, January 2012

"Rate of Return Analysis: Why Smart People Can Get Different Answers" "Texas Society of CPA's 2011 Energy Conference, May 2011

"Reserve Valuations" – Texas Wesleyan School of Law Energy Symposium, Fort Worth, Texas – March 2011.

"Got Gas? A panel discussion about the Barnett Shale" – Southlake Executive Forum, Southlake, Texas – November 2010.

"Current Trends in Business Valuation" – Flower Mound Bar Association CLE Presentation, Dallas, Texas – November 2010.