

**IN THE TENNESSEE REGULATORY AUTHORITY
AT NASHVILLE, TENNESSEE**

IN RE:

**JOINT PETITION OF CARTWRIGHT)
CREEK, LLC. AND TRA STAFF)
(AS A PARTY) TO INCREASE RATES)
AND CHARGES)**

DOCKET NO. 16-00127

PRE-FILED DIRECT TESTIMONY

OF

DANIEL RAY

1 **Q. Please state your name, position and business address.**

2 A. My name is Daniel Ray. I am a Utility Rate Specialist for the Tennessee Regulatory
3 Authority. My business address is 502 Deaderick Street, Fourth Floor, Nashville,
4 Tennessee 37243.

5 **Q. Please provide a summary of your educational background and professional**
6 **experience.**

7 A. I have a B.S. in Accounting from Tennessee Technological University. I have been with
8 the TRA since June 2015 working on various rate cases and audits for natural gas, water
9 and wastewater public utilities.

10 **Q. What is the purpose of your testimony in this proceeding?**

11 A. The purpose of my testimony is to present (1) a summary of Party Staff's forecast of the
12 cost of service and related revenue deficiency for Cartwright Creek, LLC ("Cartwright"
13 or "Company"); (2) the recommended utility rates and charges that will generate
14 sufficient revenues to cover those forecasted costs and eliminate the projected revenue
15 deficiency; (3) the recommended Capital Improvements Surcharge for the purpose of
16 establishing a monthly charge to fund a capital improvements account for long-term
17 maintenance and repair projects and emergencies; and (4) the calculation of the
18 Company's forecast of operating revenues. Party Staff witness Patsy Fulton will
19 present testimony regarding the calculation of the Company's forecast of operating
20 expenses, and Party Staff witness Joe Shirley will present testimony regarding the
21 calculation of the Company's forecast of rate base and taxes. Further, Company
22 witness Bruce Meyer will present testimony regarding a general overview of
23 Cartwright's operations and capital improvement requirements.

1 Attached to my testimony are the TRA Party Staff Exhibits and Workpapers that
2 document the cost of service study and rate recommendation for Cartwright.

3 **Q. Please describe briefly the rate-setting methodologies used to forecast Cartwright's**
4 **cost of service in this case.**

5 A For ratemaking purposes, utility rates are designed to generate enough revenues to
6 cover the utility's reasonable operating expenses, depreciation on utility plant and
7 equipment, taxes and a fair profit to shareholders or owners. Revenues generated from
8 all sources allowed by the rate-setting authority (e.g., service rates, late payment
9 charges, reconnection fees, etc.) are referred to as the utility's "Revenue Requirement."

10 This ratemaking concept can be expressed through the following basic formula:

11 ***Revenue Requirement = Operating Expenses + Depreciation + Taxes + Fair Profit***

12 "Operating Expenses" include items such as salaries and wages, purchase power and
13 sludge removal, chemical and contractor services, administrative and office expenses,
14 maintenance and repairs. "Depreciation" recognizes the expense of consuming utility
15 property, plant and equipment over their economical-useful lives. "Taxes" may include
16 payroll taxes, property taxes, franchise, and excise taxes, regulatory fees, and income
17 taxes. In Tennessee, a "Fair Profit" for regulated wastewater companies may be
18 determined under two methods-the "Rate Base Model" and the "Operating Margin
19 Method." Under the Rate Base Model, a Fair Profit is deemed to be a reasonable rate of
20 return on the owners' investment in the utility system (e.g., net utility plant that is used
21 and useful in providing utility service.) Under the Operating Margin Method, a Fair
22 Profit is deemed to be a reasonable return on operating expenses requiring a return
23 factor (e.g., operation and maintenance expenses, purchased power, depreciation and

1 certain taxes.) In this case, I computed the Fair Profit component of the Company's
2 Revenue Requirement under the Operating Margin Method to establish Cartwright's
3 rates.

4 **Q. What operating margin are you recommending in this case to compute the Fair**
5 **Profit component of the Company's Revenue Requirement?**

6 A. I am recommending an operating margin of 6.5%. This is the same operating margin
7 approved in the following dockets: Docket No. 15-00130, Joint Petition between
8 Integrated Resource Management, Inc. and TRA Party Staff; Docket No. 15-00044,
9 Joint Petition between Aqua Utilities Company and TRA Party Staff; and Docket No.
10 08-00202, Authority approval of settlement between Tennessee Wastewater Systems,
11 Inc. and the Consumer Protection and Advocate Division. Further, in Docket 09-00056,
12 Cartwright's last rate case proceeding, the TRA approved a 6.5% operating margin for
13 the Company. I therefore recommend using a 6.5% operating margin for Cartwright in
14 this case, for which the Company has agreed.

15 **Q. Briefly describe the procedure used to determine the other components of the**
16 **Revenue Requirement in this case.**

17 A. In Tennessee, utility rates are based on a utility's projected Revenue Requirement in a
18 forward-looking period of time known as the "Attrition Period." The Attrition Period is
19 generally the first year during which the new rates will be in effect. In this case, the
20 parties have selected the Twelve Months Ending December 31, 2017 as the Attrition
21 Period.

22 One of the first steps in projecting the various components of the Revenue Requirement
23 is to identify an historical study period to be used as the foundation of the Attrition

1 Period forecast. This twelve-month historical period is known as the “Test Period.” In
2 this case, the parties used the Twelve Months ended December 31, 2015 as the Test
3 Period. The Test Period’s financial and operational data are studied and adjusted to
4 reflect a “normal year” by removing non-recurring items that are not expected to repeat
5 in the future, out-of-period items that are not attributable to the utility’s operations
6 during the Test Period, or items that are disallowed for ratemaking purposes (e.g.,
7 lobbying expenses, contributions, advertising, fines and penalties, etc.) Once the Test
8 Period has been normalized, the operational and financial data are adjusted further to
9 account for “known and measurable changes” that are likely to occur through the
10 Attrition Period. In order to develop a sound Attrition Period forecast, it is essential to
11 examine the utility’s business plans, budgets and prior performance, as well as various
12 drivers and economic indicators of future capital investments, revenues and expenses.
13 After the Attrition Period forecast has been computed, the forecasted earnings at present
14 rates is compared to the level of forecasted earnings that are required to achieve the Fair
15 Profit component of the projected Revenue Requirement to determine the amount of
16 any earnings deficiency. Service rates should then be increased to remove the earnings
17 deficiency and give the utility a fair opportunity to achieve its projected Revenue
18 Requirement in the Attrition Period.
19 The process of determining the particular rate adjustments that are needed to generate
20 the projected Revenue Requirement is known as “rate design” and generally involves
21 application of various rate policies and precedents.

22 **Q. Please summarize the Revenue Requirement calculation for Cartwright in this**
23 **case.**

1 A. Most calculations, assumptions and adjustments necessary to determine the Company's
2 Attrition Period forecast were based on review and audit of Cartwright's books, records
3 and underlying source documents provided by the Company, as well as discussions with
4 management and a tour of the service areas and utility plants.

5 The Company's Test Period earnings and Attrition Period forecast are summarized on
6 TRA Staff Exhibit, Schedule 3. The Attrition Period net operating income of \$1,677
7 represents the projected income by Cartwright for the Twelve Months Ending
8 December 31, 2017 at presently-approved rates. The Attrition Period net operating
9 income is computed by deducting forecasted operating expenses and taxes of \$675,972
10 from forecasted operating revenues at present rates of \$677,649.

11 **Q. Please explain how the Company's revenue deficiency was computed.**

12 A. As shown on TRA Staff Exhibit, Schedule 1, the Attrition Period operating expenses
13 were multiplied by the recommended operating margin of 6.5% to determine the
14 required operating income (fair profit) of \$43,938. This amount, together with the
15 forecasted Attrition Period net operating income of \$1,677, results in an operating
16 income deficiency of \$42,261. The income deficiency was then converted to a revenue
17 deficiency through a factor that recognizes the impact of forfeited discounts and taxes
18 on each new \$1 of revenue. This conversion resulted in a revenue deficiency of \$44,154
19 which is the amount by which Cartwright's service rates should be increased.

20 **Q. How was Cartwright's proposed rate designed calculated in order to eliminate the**
21 **projected revenue deficiency?**

22 A. The proposed rate design is presented on TRA Staff Exhibit, Schedule 7. In order to
23 give the Company a fair opportunity to achieve its projected Revenue Requirement

during the Attrition Period, the following rates are recommended for approval by the Authority:

A) For Residential rates at Grasslands, the recommended rates are:

<u>Customer/Classification</u>	<u>Current Rate</u>	<u>Proposed Rate</u>
1 Bedroom	\$28.88	\$42.00
2 Bedroom	36.88	42.00
3 Bedroom	42.88	46.50
4 Bedroom	49.14	52.00
5 Bedroom	55.13	55.25

B) For Residential rates at Arrington Retreat, the recommended rates are:

<u>Customer/Classification</u>	<u>Current Rate</u>	<u>Proposed Rate</u>
1 Bedroom	\$28.88	\$55.25
2 Bedroom	36.88	55.25
3 Bedroom	42.88	55.25
4 Bedroom	49.14	55.25
5 Bedroom	55.13	55.25

C) For Residential rates at Hideaway, the recommended rates are:

<u>Customer/Classification</u>	<u>Current Rate</u>	<u>Proposed Rate</u>
1 Bedroom	\$28.88	\$55.25
2 Bedroom	36.88	55.25
3 Bedroom	42.88	55.25
4 Bedroom	49.14	55.25
5 Bedroom	55.13	55.25

D) For Commercial customers, the recommended rates are:

<u>Customer/Classification</u>	<u>Current Rate</u>	<u>Proposed Rate</u>
Commercial Usage Rate	\$8.21 per 1,000 Gallons	\$8.75 per 1,000 Gallons
Commercial Minimum Bill	\$28.49	\$37.00

Q. What is the effect on customers' residential bills for the proposed rate increase?

A. If the proposed rates and charges are approved and implemented, the average monthly residential bill for wastewater service is projected to increase from \$46.05 to \$50.34, which constitutes a 9.3% increase since Cartwright's last rate adjustment over six years ago.

Q. Please describe the structure of the recommended rate design.

A. The proposed rate design maintains the Company's historical per-bedroom rate structure for residential rates applicable to the Grasslands service area. The Company serves a more diverse customer base in the Grasslands community than its other service areas, from two-bedroom condominiums to five-bedroom homes, and with widely varying overall sizes and ages of homes.

For the Arrington Retreat and Hideaway subdivisions, however, the proposed rate design flattens the structure for residential service to a single rate. A single residential rate for these service areas is reasonable, especially in light of the more uniform size and ages of the homes that are served. As compared to Grasslands, these service areas are comprised of much larger and newer homes. Thus, the proposed residential rates for these areas were set at the five-bedroom residential rate recommended for Grasslands.

Q. Do you have any other recommendations regarding rates and charges?

1 A. Yes. In addition to the proposed monthly rates for wastewater service described earlier
2 in my testimony, the parties are recommending that a Capital Improvements Surcharge
3 (“Surcharge”) be established to fund long-term maintenance and repair projects and
4 emergencies. In his testimony, Company witness Bruce Meyer describes some of the
5 specific capital improvement projects that need to be undertaken by Cartwright for
6 plant replacement and upgrades, particularly at the aging Grasslands system.

7 **Q. Has the Authority previously approved such a mechanism for funding capital**
8 **improvements?**

9 A. Yes. In Docket No. 14-00004, the TRA approved a capital improvements tariff rider
10 for Berry’s Chapel Utility, Inc., as part of the approval of the settlement agreement
11 between the utility and the Consumer Protection and Advocate Division of the Office of
12 the Attorney General. The Surcharge mechanism proposed in this docket would
13 operate similarly to the one approved in Docket No. 14-00004.

14 **Q. Please describe the proposed capital improvements mechanism.**

15 A. The purpose of the proposed Capital Improvements Surcharge is to establish an account
16 to fund capital expenditures associated with long-term maintenance and repair projects
17 and emergencies. The Surcharge creates a \$7.50 monthly charge per customer to be
18 collected and deposited into a separate bank account over a thirty-six (36) month period.
19 Subject to TRA oversight and approval, the Company would withdraw funds from the
20 account to finance needed capital improvements and repairs. The Surcharge mechanism
21 has been structured to operate substantially the same as the mechanism established in
22 Docket 14-00004. In particular, the following terms would apply to administration of
23 the Surcharge and resulting capital account:

1 a. The Surcharge shall automatically and without further action of the Authority
2 terminate immediately after the thirty-sixth (36th) month of collection of the \$7.50
3 monthly charge per customer;

4 b. Notwithstanding the foregoing, the Authority, in the exercise of its discretion,
5 may terminate the Surcharge upon the issuance of a termination order;

6 c. The funds collected under the Surcharge, as well as all cash contributions in
7 aid of construction received by Cartwright during the Surcharge's thirty-six (36)
8 month collection period, shall be deposited and held in a separate FDIC insured state
9 authorized interest-bearing bank account ("Capital Account") from which funds shall
10 not be expended without Cartwright seeking and obtaining from the Authority (in a
11 specified amount and for a specified purpose), prior to expenditure of such funds, an
12 order by the Authority specifically authorizing the expenditure of such funds in a
13 specified amount(s) and for a specified purpose(s); provided, however, that in exigent
14 circumstances requiring expenditures of funds from the Capital Account, Cartwright
15 may expend funds from such account after obtaining the required approval in
16 accordance with the exigent circumstances procedures described below. The
17 Authority order authorizing expenditure(s) of funds from the Capital Account shall
18 state the purpose(s) and amount(s) of such expenditure(s), and may impose additional
19 restrictions upon such expenditure(s) in the discretion of the Authority;

20 d. If, in the reasonable view of Cartwright, exigent circumstances exist requiring
21 the use of funds held in the Capital Account, Cartwright shall, prior to the expenditure
22 of such funds, seek approval of the Chief of the TRA's Utilities Division or his/her
23 designee by submitting a letter request to the TRA (in a specified amount and for a

specified purpose) with appropriate support and documentation for the request, including without limitation an explanation of how any amount requested was calculated;

e. Cartwright will clearly and conspicuously state on each bill sent to its customer the Surcharge for capital improvements as a separate line item; and

f. Cartwright shall file with the TRA on the 10th business day of the month after the end of each calendar quarter a report on the balance in the Capital Account, including copies of the bank statements for such account for the prior three month period, and the expenditure(s) of any amount(s) from such account. Upon request, Cartwright shall provide additional information related to the Capital Account, including documentation supporting deposits to and withdrawals from such account.

Q. Please explain your forecast of operating revenue for the Attrition Period.

A. The individual components that comprise the Attrition Period forecast of operating revenue are as follows:

Schedule 3, Line 1- Residential Revenue - \$398,107: This amount represents the forecasted residential wastewater revenue the Company should realize during the Attrition Period absent any rate relief. To forecast residential revenue, I first examined the customer billing and number of residential customer in the Test Period as reflected on Revenue Workpaper 2.02. In light of planned housing starts determined through my discussions with Bruce Meyer who maintains conversations with the developers in Cartwright's territories to keep track of prospective new customers, customers under contract with the developers and current housing starts. I assumed the residential customer growth would increase by 142 customers, which yielded a residential

1 customer growth of 18.3% as reflected on Revenue Workpaper 2.02. This increase in
2 residential customers is priced-out at present rates to arrive at the Attrition Period
3 forecast as reflected on Revenue Workpaper 2.01.

4 **Schedule 3, Line 2 - Commercial - \$90,386:** This amount represents the forecasted
5 commercial wastewater sales the company should realize during the Attrition Period
6 absent any rate relief. Similar to my forecast of residential wastewater revenue, I first
7 examined the customer billing and water usage information in the Test Period as
8 reflected on Revenue Workpaper 2.03. Based on discussions with the Company, no
9 additional commercial customers would be added to the system. I assumed that the
10 customer usage growth during the Attrition Period would increase by the same
11 percentage as 2014 to 2015. This increased commercial customer volumes are priced-
12 out at present rates to arrive at the Attrition Period forecast as reflected on Revenue
13 Workpaper 2.01.

14 **Schedule 3, Line 3 - Forfeited Discounts-\$13,695:** This amount represents the
15 forecasted discounts (late charges) the Company should realize during the Attrition
16 Period absent any rate relief. The tariffed forfeited discount rate of 5% is assessed on
17 wastewater service bills after the 15th day of each month for which a bill has been
18 rendered. The effective discount rate on total residential and commercial revenue was
19 computed for the Test Period and that effective rate applied to the forecasted residential
20 and commercial revenue for the Attrition Period to arrive at the Attrition Period forecast
21 as reflected on Revenue Workpaper 2.01.

22 **Schedule 3, Line 4- Other Sewer Revenue- Bonding Surcharge -\$0:** This amount
23 represents the forecasted other sewer revenue (bonding surcharge) the Company should

1 incur during the Attrition Period. On March 2, 2010, in Docket No. 09-00056 the
2 Authority approved a \$0.39 monthly surcharge for the purpose of funding the
3 Company's cost of the TRA's required bond. The Test Period bonding surcharge
4 amount was decreased to zero for the Attrition period, as reflected on Revenue
5 Workpaper 2.01. The reason for the bonding surcharge to be decreased to zero is the
6 bonding surcharge is to be discontinued.

7 **Schedule 3, Line 5- Tap Fees -\$0:** This amount represents the forecasted tap fees the
8 Company should incur during the Attrition Period. The Test Period tap fees were
9 decreased to zero for the Attrition period, as reflected on Revenue Workpaper 2.01.
10 There are no projected tap fees in the areas being developed during the Attrition Period
11 in light of current contracts with developers providing for the payment of maintenance
12 fees.

13 **Schedule 3, Line 6- Developer's Operating Subsidy - \$154,461:** This amount
14 represents the forecasted developer's operating subsidy (maintenance fee), the
15 Company should realize during the Attrition Period. The developer's operating subsidy
16 (maintenance fee) is a negotiated fee between the company and the developer to cover
17 the maintenance of the plant until enough customers connect to make the utility plant
18 self-sustainable. The forecasted contract rate and agreement were provided by the
19 Company. The calculation of the Attrition Period developer's operating subsidy
20 (maintenance fee) is reflected on Revenue Workpaper 2.04.

21 **Schedule 3, Line 7- Inspection Fees - \$21,000:** This amount represents the forecasted
22 inspection fees the Company should realize during the Attrition Period. The inspection
23 fees were calculated for the Attrition Period by multiplying the new construction

1 forecast provided by the Company of 80 new homes by the Attrition Period rate of
2 \$250.00 per inspection, equaling \$20,000. The Company also estimated that 20% of the
3 homes will require a reinspection with a rate of \$50.00 per reinspection, totaling an
4 additional \$1,000 of inspection fee revenue. The Attrition Period inspection fee
5 revenue is reflected on Revenue Workpaper 2.01.

6 **Q. Does this conclude your testimony?**

7 A. Yes it does.

**BEFORE THE
TENNESSEE REGULATORY AUTHORITY**

IN RE:

Joint Petition of Cartwright Creek, LLC and TRA Staff (as a Party) to Increase Rates and Charges

DOCKET NO. 16-00127

**TRA PARTY STAFF
EXHIBITS and WORKPAPERS**

**Cartwright Creek, LLC
Exhibits Directory
For the 12 Months Attrition Period Ending December 31, 2017**

	<u>Schedule</u>
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Cartwright Creek, LLC
Results of Operations - Operating Margin Method
For the 12 Months Attrition Period Ending December 31, 2017

<u>Line</u>			
1	Operating Income At Current Rates		\$1,677 A/
2	Total Operating Expenses	\$675,972 A/	
3	Fair Operating Margin	<u>6.50% B/</u>	
4	Required Operating Income		<u>43,938</u>
5	Operating Income Deficiency		\$42,261
6	Gross Revenue Conversion Factor		<u>1.044792 C/</u>
7	Revenue Deficiency (Operating Margin Method)		<u>\$44,154</u>
8	Monthly Service Rate Average Percentage Increase		<u>6.52%</u>

A/ Schedule 3

B/ Proposed operating margin

C/ Schedule 5

Cartwright Creek, LLC
Rate Base
For the 12 Months Attrition Period Ending December 31, 2017

<u>Line</u>		<u>Test Period</u>	<u>Test Period Adjustments</u>	<u>Adjusted Test Period</u>	<u>Adjustments</u>	<u>Attrition Period</u>
<u>Additions:</u>						
1	Utility Plant in Service	\$4,883,098 A/	\$0	\$4,883,098	\$0	\$4,883,098
2	CWIP	0	0	0	0	0
3	Inventories	0	0	0	0	0
4	Deferred Rate Case Expense	0	0	0	0	0
5	Cash Working Capital	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
6	Total Additions	<u>\$4,883,098</u>	<u>\$0</u>	<u>\$4,883,098</u>	<u>\$0</u>	<u>\$4,883,098</u>
<u>Deductions:</u>						
7	Accumulated Depreciation	\$968,952 A/	\$0	\$968,952	\$0	\$968,952
8	Contributions in Aid of Construction	3,947,682 A/	0	3,947,682	0	3,947,682
9	Escrow Deposits	0	0	0	0	0
10	Customer Deposits	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
11	Total Deductions	<u>\$4,916,634</u>	<u>\$0</u>	<u>\$4,916,634</u>	<u>\$0</u>	<u>\$4,916,634</u>
12	Rate Base	<u>(\$33,536)</u>	<u>\$0</u>	<u>(\$33,536)</u>	<u>\$0</u>	<u>(\$33,536)</u>

A/ 2015 TRA Annual Report

Cartwright Creek, LLC
Income Statement at Current Rates
For the 12 Months Attrition Period Ending December 31, 2017

Line		Test Period	Test Period Adjustments	Adjusted Test Period	Adjustments	Attrition Period
1	Residential Revenue	\$323,167 A/	\$504	\$323,671	\$74,436	\$398,107 B/
2	Commercial	84,209 A/	1,560	85,770	\$4,616	90,386 B/
3	Forfeited Discounts	11,421 A/	0	11,421	\$2,274	13,695 B/
4	Other Sewer Revenue-TRA Bonding	3,904 A/	(3,904)	0	(\$0)	0 B/
5	Tap Fees	5,000 A/	(5,000)	0	\$0	0 B/
6	Developer's Operating Subsidy	38,737 A/	0	38,737	\$115,724	154,461 B/
7	Inspection Fee's	0	4,050	4,050	\$16,950	21,000 B/
8	Total Operating Revenues	\$466,439	(\$2,790)	\$459,600	\$197,050	\$677,649
9	Purchased Power	\$39,257 A/	\$0	\$39,257	\$18,411	\$57,669 C/
10	Sludge Removal	38,600 A/	0	38,600	33,775	72,375 C/
11	Chemicals	12,056 A/	0	12,056	1,576	13,632 C/
12	Materials and Supplies	4,853 A/	0	4,853	634	5,487 C/
13	Contractual Services	291,057 A/	(15,269)	275,788	99,801	375,589 C/
14	Maintenance and Repairs	8,328 A/	0	8,328	29,589	37,917 C/
15	Transportation Expense	15,089 A/	(8,082)	7,007	3,776	10,784 C/
16	Telephone Expense	6,169 A/	0	6,169	807	6,975 C/
17	Insurance Expense	28,888 A/	0	28,888	10,309	39,198 C/
18	Postage and Delivery	3,748 A/	0	3,748	490	4,238 C/
19	Bad Debt Expense	12,143 A/	(12,143)	(0)	0	(0) C/
20	Bank Charges	6,935 A/	0	6,935	907	7,841 C/
21	Miscellaneous	11,242 A/	0	11,242	3,870	15,112 C/
22	Permits and Fees	3,460 A/	0	3,460	1,500	4,960 C/
23	Property Tax	6,790 A/	0	6,790	5,234	12,024 D/
24	Franchise Tax	2,766 A/	0	2,766	6,431	9,197 E/
25	Regulatory Fees	2,215 A/	0	2,215	644	2,859 F/
26	Excise Tax	0 A/	0	0	117	117 G/
27	Total Operating Expenses	\$493,595	(\$35,494)	\$458,101	\$217,871	\$675,972
28	Net Operating Income/(Loss)	(\$27,156)	\$32,704	\$1,498	(\$20,821)	\$1,677

A/ 2015 General Ledger
B/ Workpaper 2.01
C/ Workpaper 3.01
D/ Workpaper 4.01
E/ Workpaper 4.03
F/ Workpaper 4.02
G/ Schedule 4

Cartwright Creek, LLC
State Excise Tax Expense at Current Rates
For the 12 Months Attrition Period Ending December 31, 2017

<u>Line</u>		<u>Attrition Amount</u>
1	Total Operating Revenues	\$677,649 A/
2	Total Operating Expenses Before Excise Tax	<u>675,855 A/</u>
3	NOI Before Excise & Income Tax	\$1,794
4	Less Interest Expense	<u>0</u>
5	Pre-Tax Book Income	\$1,794
6	Excise Tax Rate	<u>6.50% B/</u>
7	Excise Tax Expense	<u><u>\$117</u></u>

A/ Schedule 3
B/ Statutory Rate

Cartwright Creek, LLC
Revenue Conversion Factor
For the 12 Months Attrition Period Ending December 31, 2017

<u>Line</u>		<u>Amount</u>	<u>Balance</u>
1	Operating Revenues		1.000000
2	Forfeited Discounts	2.80% A/	<u>0.028036</u>
3	Balance		1.028036
4	TRA Inspection Fee	0.425% B/	<u>0.004369</u>
5	Balance		1.023667
6	State Excise Tax	6.500% B/	<u>0.066538</u>
7	Balance		<u>0.957128</u>
8	Revenue Conversion Factor (Line 1 / Line 7)		<u><u>1.044792</u></u>

A/ Workpaper 2.01

B/ Statutory Rate

NOTE: Cartwright Creek, LLC is a limited liability company filing Form 1065/K-1 federal tax returns. As such, all income and associated tax liabilities flow through to the members' federal tax returns.

Cartwright Creek, LLC
Income Statement at Proposed Rates
For the 12 Months Attrition Period Ending December 31, 2017

<u>Line</u>		<u>Current Rates</u>	<u>Rate Increase</u>	<u>Required Rates</u>
	<u>Operating Margin Method</u>			
1	Residential Revenue	\$398,107 A/	\$37,094 B/	\$435,201
2	Commercial	90,386 A/	7,060 B/	97,446
3	Forfeited Discounts	13,695 A/	1,238 C/	14,933
4	Other Sewer Revenue-TRA Bonding	0 A/	0	0
5	Tap Fee	0 A/	0	0
6	Developer's Operation Subsidy	154,461 A/	0	154,461
7	Inspection Fee	21,000 A/	0	21,000
8	Total Operating Revenues	\$677,649 A/	\$45,392	\$723,041
9	Purchased Power	\$57,669 A/	\$0	\$57,669
10	Sludge Removal	72,375 A/	0	72,375
11	Chemicals	13,632 A/	0	13,632
12	Materials and Supplies	5,487 A/	0	5,487
13	Contractual Services	375,589 A/	0	375,589
14	Maintenance and Repairs	37,917 A/	0	37,917
15	Transportation Expense	10,784 A/	0	10,784
16	Telephone Expense	6,975 A/	0	6,975
17	Insurance Expense	39,198 A/	0	39,198
18	Postage and Delivery	4,238 A/	0	4,238
19	Bad Debt Expense	(0) A/	0	(0)
20	Bank Charges	7,841 A/	0	7,841
21	Miscellaneous	15,112 A/	0	15,112
22	Permits and Fees	4,960 A/	0	4,960
23	Property Tax	12,024 A/	0	12,024
24	Franchise Tax	9,197 A/	0	9,197
25	Regulatory Fees	2,859 A/	193 D/	3,052
26	Excise Tax	117 A/	2,938 E/	3,055
27	Total Operating Expenses	\$675,972 A/	\$3,131	\$679,103
28	Net Operating Income/(Loss)	\$1,677 A/	\$42,261	\$43,938 F/

A/ Schedule 3

B/ Schedule 1, Line 7 Revenue Deficiency of: \$44,154

C/ Schedule 1, Line 7 multiplied Schedule 5, Line 2

D/ Schedule 1, Line 7 multiplied by Schedule 5, Line 4

E/ Schedule 1, Line 7 multiplied by Schedule 5, Line 6

F/ Schedule 1, Line 4 Operating Margin of: \$43,938

Cartwright Creek, LLC
Rate Design
For the 12 Months Attrition Period Ending December 31, 2017

Line	Residential:	Attrition Year Determinates	Present Rates	C/	Current Operating Revenues	Proposed Rates	Proposed Revenues	Increase / (Decrease)	Service Increase	Capital Rider	Capital Recovery	Total Rate	Total Increase
Grasslands:													
1	1-2 Bedroom	432	\$36.38		\$15,716	\$42.00	\$18,144	\$2,428	15.45%	\$7.50	\$3,240	\$49.50	36.06%
2	3 Bedroom	3,396	42.38		143,922	46.50	157,914	13,992	9.72%	7.50	25,470	54.00	27.42%
3	4 Bedroom	2,160	49.14		106,142	52.00	112,320	6,178	5.82%	7.50	16,200	59.50	21.08%
4	5 Bedroom	96	55.13		5,292	55.25	5,304	12	0.22%	7.50	720	62.75	13.82%
5	Total Grasslands Revenue	6,084	\$183.03		\$271,074		\$293,682	\$22,608			\$45,630		
Arrington:													
6	3 Bedroom	132	\$42.38		\$5,594	\$55.25	\$7,293	\$1,699	30.37%	\$7.50	\$990	\$62.75	48.07%
7	4 Bedroom	1,963	49.14		96,462	55.25	108,456	11,994	12.43%	7.50	14,723	62.75	27.70%
8	5 Bedroom	156	55.13		8,600	55.25	8,619	19	0.22%	7.50	1,170	62.75	13.82%
9	Total Arrington Revenue	2,251	\$146.65		\$110,656		\$124,368	\$13,711			\$16,883		
Hideaway:													
10	4 Bedroom	119	\$49.14		\$5,848	\$55.25	\$6,575	\$727	12.43%	\$7.50	\$893	\$62.75	27.70%
11	5 Bedroom	191	55.13		10,530	55.25	10,553	23	0.22%	7.50	1,433	62.75	13.82%
12	Total Hideaway Revenue	310	\$104.27		\$16,377		\$17,128	\$750			\$2,325		
Commercial Revenue:													
13	Min. Charge Customers	168	\$28.49		\$4,786	\$37.00	\$6,216	\$1,430	29.87%	\$7.50	\$1,260	\$44.50	56.20%
14	Vol. Customers-Service Rate	10,426	8.21		85,599	8.75	91,230	5,630	6.58%	0.00	0	8.75	6.58%
15	Vol. Customers-Cap Rider	336	0.00		0	0.00	0	0	0.00%	7.50	2,520	7.50	100.00%
16	Total Commercial Revenue	10,930	\$36.70		\$90,386		\$97,446	\$7,060			\$3,780		
Special Contracts:													
17	Monthly Maintenance Fee	2,054	\$75.20	D/	\$154,461	\$75.20	\$154,461	\$0	0.0%	\$0.00	\$0	\$75.20	0.00%
18	Total Special Contract Revenue	2,054	\$75.20		\$154,461		\$154,461	\$0			\$0		
Other:													
19	Forfeited Discounts	13,695			\$13,695		\$14,933	\$1,237	9.03%	\$0.00	\$0	\$14,933	0.00%
20	Inspection Fees	21,000			21,000		21,000	0	0.00%	0.00	0	21,000	0.00%
21	Total Other Revenue	34,695			\$34,695		\$35,933	\$1,237			\$0		
22	TOTAL REVENUE PER RATE DESIGN				\$677,649	A/	\$723,016	\$45,367			\$68,618		
23	TOTAL REQUIRED REVENUES PER SCHEDULE 6						\$723,041	B/					
24	DIFFERENTIAL						(\$25)						

A/ Schedule 3
B/ Schedule 6

**Cartwright Creek, LLC
Workpaper Directory
For the 12 Months Attrition Period Ending December 31, 2017**

<u>Line</u>		
1	Selected General Ledger Account Balances	1.01
2	Revenue Forecast at Present Rates	2.01
3	Customer Growth Forecast	2.02
4	Commercial Volumes	2.03
5	Maintenance Fee Forecast	2.04
6	Operations and Maintenance Expense Analysis and Forecast	3.01
7	Inflation and Growth Factors	3.02
8	Salaries, Wages and Benefits	3.03
9	Property Tax	4.01
10	TRA Inspection Fee	4.02
11	Franchise Tax	4.03

Cartwright Creek, LLC
Selected General Ledger Accounts
For the 12 Months Attrition Period Ending December 31, 2017

Line	Account	Description	2014	2014	2015	2015
REVENUE ACCOUNTS						
1	521.1	Residential Revenues	\$267,538		\$269,202	
2	521.2	Residential Revenues-Arrington	35,954		53,965	
3	521	Residential Revenues		303,492		323,167
4	521.6	Forfeited Discounts (Late Fee)		9,636		11,421
5	522.2	Commercial Revenues		80,043		84,209
6	536	Other Sewer Revenues-TRA		2,850		3,904
7	536.3	Tap Fees-Grassland				5,000
8	537	Developer's Operating Subsidy		75,812		38,737
9	400	Total Operating Revenues		\$471,834		\$466,439
EXPENSE ACCOUNTS						
10	711	Sludge Removal		38,400		38,600
11	715	Purchased Power		40,615		39,257
12	718	Chemicals		5,137		12,056
13	720	Materials & Supplies		6,944		4,853
14	730.1	Engineering	73,749		84,039	
15	730.2	Plant Management	94,405		87,408	
16	730.3	Accounting	15,857		13,917	
17	730.4	Environmental Testing	34,579		32,324	
18	730.5	Repairs and Maintenance to plant	32,429		24,234	
19	730.6	Legal Fees	67,891		30,606	
20	730.7	Consulting Fees (Hal & Tyler Rainey)	5,872		18,530	
21	730	Total for Contractual Services		324,780		291,058
22	750	Transportation Expense		8,429		15,089
23	753	Telephone Expense		6,463		6,169
24	755	Insurance Expense		24,588		28,888
25	758	Postage and Delivery Expense		2,505		3,748
26	765	Regulatory Commission Expense		1,849		2,215
27	770	Bad Debt Expense		1,896		12,143
28	773	Bank Charges		6,785		6,935
29	775.01	Industry Dues and Education	1,335		1,499	
30	775.02	Data Processing	1,823		1,896	
31	775.03	Communication	160			
32	775.2	Travel/Meals/Entertainment	524		798	
33	775.25	Office Supplies	4,027		5,336	
34	775.4	Repair & Maintenance - Routine	2,382		404	
35	775.45	Repair & Maintenance - Non-Routine	25,593		7,924	
36	775.5	Utilities Expense	1,082		1,713	
37	775.6	Late Fees	274			
38	775	Total Miscellaneous Expense		37,200		19,570
39		Inspections		6,900		4,050
40	408	Permits and Taxes non-income		15,987		22,315
41	426.08	Penalties and Violations		11,000		11,000
42		Operating Expenses		\$539,478		\$517,945

Source: 2014 & 2015 General Ledger.

Cartwright Creek, LLC
Revenue Forecast at Present Rates
For the 12 Months Attrition Period Ending December 31, 2017

Line				Attrition Period
	<u>Residential Revenue:</u>			
1	Attrition Year Bills	432 A/		
2	2 Bedroom Charge	\$36.38 B/	\$15,716	
3	Attrition Year Bills	3,528 A/		
4	3 Bedroom Charge	\$42.38 B/	149,517	
5	Attrition Year Bills	4,242 A/		
6	4 Bedroom Charge	\$49.14 B/	208,452	
7	Attrition Year Bills	443 A/		
8	5 Bedroom Charge	\$55.13 B/	24,423	
9	Attrition Year Water Revenue at Present Rates			\$398,107
	<u>Commercial Revenue:</u>			
10	Attrition Year Wastewater Bills	168 A/		
11	Minimum Wastewater Charge per Bill	\$28.49 B/		
12	Minimum Wastewater Charges		\$4,786	
13	Test Year Billable Wastewater Volumes	9,864 C/		
14	Attrition Year Wastewater Customer Growth Rate	5.7% D/		
15	Attrition Year Billable Wastewater Volumes	10,426		
16	Volumetric Charge per 1,000 Gallons	\$8.21 B/		
17	Volumetric Wastewater Charges		85,599	
18	Attrition Year Commercial Revenue at Present Rates			90,386
	<u>Special Contract Revenue:</u>			
19	Attrition Year Maintenance Bills	2,054 E/		
20	Attrition Year Maintenance Rate	\$75.20 E/		
21	Total Attrition Maintenance Fee		154,461	
22	Total Attrition Year Main. Revenue at Present Rates			154,461
	<u>Tap Fees:</u>			
23	Test Year Water Taps	1		
24	Attrition Year Growth Rate	0.00%		
25	Total Attrition Year Taps		0	
26	Service Connection/Tap Fee		\$5,000.00 B/	
27	Total Tap Fees at Present Rates			0
	<u>TRA Bonding Surcharge:</u>			
28	Test Year Bonding Surcharges	3,904 F/		
29	Attrition Year Growth Rate	0%		
30	Total Attrition Year Surcharges		0	
31	Bonding Surcharge Rate		\$0.39	
32	Total TRA Bonding Surcharges at Present Rates			0
	<u>Forfeited Discounts:</u>			
33	Test Period Wastewater Forfeited Discounts	11,421 F/		
34	Test Period Wastewater Service Revenue	407,376 F/		
35	Test Period Forfeited Discount Rate		2.80%	
36	Attrition Period Water and Wastewater Service Revenue		\$488,493	
37	Total Forfeited Discounts at Present Rates			13,695
	<u>Inspection Fees:</u>			
38	Attrition Year New Construction Inspections	80 G/		
39	Attrition Year Inspection Fee Rate	\$250.00 H/	\$ 20,000	
40	Attrition Year Reinspections (25% of Inspections)	20 I/		
41	Attrition Year Reinspection Rate	\$50.00 I/	\$1,000	
42	Total Inspection Fee Revenue at Present Rates			21,000
43	Total Attrition Period Regulated Revenue at Present Rates			\$ 677,649

- A/ Customer growth workpaper 2.02
 B/ Cartwright Creek, LLC Company Tariff.
 C/ Commercial workpaper 2.03
 D/ Growth between 2014 and 2015 Volumes of 9,864 and 10,424
 E/ Maintenance workpaper 2.04
 F/ General Ledger
 G/ Assumes 40 Lots sold in Arrington and 40 lots sold in Hideaway
 H/ \$250.00 for inspection of newly constructed homes
 I/ \$50.00 for reinspection assuming 25% reinspection rate

Cartwright Creek, LLC
Customer Growth Forecast
For the 12 Months Attrition Period Ending December 31, 2017

Line	Month	2 Bedroom Customers	Change	3 Bedroom Customers	Change	4 Bedroom Customers	Change	5 Bedroom Customers	Change	Com. Min. Customers	Change	Com. Vol. Customers	Change	Total Customers	Change
1	Dec 2014	36	A/	294	-	239	-	9	-	14	-	28	-	620	0
2	Jan 2015	36	A/	294	A/	244	A/	10	A/	14	A/	28	A/	626	6
3	Feb 2015	36	A/	294	A/	247	A/	10	A/	14	A/	28	A/	629	3
4	Mar 2015	36	A/	294	A/	250	A/	11	A/	14	A/	28	A/	633	4
5	Apr 2015	36	A/	294	A/	256	A/	11	A/	14	A/	28	A/	639	6
6	May 2015	36	A/	294	A/	257	A/	11	A/	14	A/	28	A/	640	1
7	Jun 2015	36	A/	294	A/	259	A/	11	A/	14	A/	28	A/	642	2
8	Jul 2015	36	A/	294	A/	263	A/	12	A/	14	A/	28	A/	647	5
9	Aug 2015	36	A/	294	A/	263	A/	12	A/	14	A/	28	A/	647	0
10	Sep 2015	36	A/	294	A/	264	A/	12	A/	14	A/	28	A/	648	1
11	Oct 2015	36	A/	294	A/	271	A/	12	A/	14	A/	28	A/	655	7
12	Nov 2015	36	A/	294	A/	272	A/	16	A/	14	A/	28	A/	660	5
13	Dec 2015	36	A/	294	A/	274	A/	16	A/	14	A/	28	A/	662	2
14	Jan 2016	36	A/	294	A/	282	B/	17	D/	14	A/	28	A/	671	9
15	Feb 2016	36	A/	294	A/	286	B/	18	D/	14	A/	28	A/	676	5
16	Mar 2016	36	A/	294	A/	288	B/	20	D/	14	A/	28	A/	680	4
17	Apr 2016	36	A/	294	A/	289	B/	20	D/	14	A/	28	A/	681	1
18	May 2016	36	A/	294	A/	297	B/	20	D/	14	A/	28	A/	689	8
19	Jun 2016	36	A/	294	A/	306	B/	21	D/	14	A/	28	A/	699	10
20	Jul 2016	36	B/	294	B/	309	B/	21	D/	14	B/	28	B/	702	3
21	Aug 2016	36	B/	294	B/	309	B/	21	D/	14	B/	28	B/	702	0
22	Sep 2016	36	B/	294	B/	310	B/	22	D/	14	B/	28	B/	704	2
23	Oct 2016	36	B/	294	B/	315	B/	24	D/	14	B/	28	B/	711	7
24	Nov 2016	36	B/	294	B/	320	B/	26	D/	14	B/	28	B/	718	7
25	Dec 2016	36	B/	294	B/	325	B/	27	D/	14	B/	28	B/	724	6
26	Jan 2017	36	B/	294	B/	326	C/	27	E/	14	B/	28	B/	725	1
27	Feb 2017	36	B/	294	B/	328	C/	28	E/	14	B/	28	B/	728	3
28	Mar 2017	36	B/	294	B/	331	C/	29	E/	14	B/	28	B/	732	4
29	Apr 2017	36	B/	294	B/	338	C/	32	E/	14	B/	28	B/	742	10
30	May 2017	36	B/	294	B/	344	C/	34	E/	14	B/	28	B/	750	8
31	Jun 2017	36	B/	294	B/	350	C/	36	E/	14	B/	28	B/	758	8
32	Jul 2017	36	B/	294	B/	356	C/	38	E/	14	B/	28	B/	766	8
33	Aug 2017	36	B/	294	B/	362	C/	40	E/	14	B/	28	B/	774	8
34	Sep 2017	36	B/	294	B/	368	C/	42	E/	14	B/	28	B/	782	8
35	Oct 2017	36	B/	294	B/	374	C/	44	E/	14	B/	28	B/	790	8
36	Nov 2017	36	B/	294	B/	380	C/	46	E/	14	B/	28	B/	798	8
37	Dec 2017	36	B/	294	B/	385	C/	47	E/	14	B/	28	B/	804	6
38	Test Year Bills	432		3,528		3,120		144		168		336		7,728	
39	Attrition Year Bills	432		3,528		4,242		443		168		336		9,149	
40	Customer Growth	0		0		1,122		299		0		0		1,421	
41	Growth Rate	0.00%		0.00%		35.96%		207.64%		0.00%		0.00%		18.39%	

A/ Company Response to Data Request - 1-2

B/ Forecast based on Cartwright's projected 51 new customers

C/ Forecast based on Cartwright's projected 60 new customers.

D/ Forecast based on Cartwright's projected 11 new customers

E/ Forecast based on Cartwright's projected 20 new customers.

Cartwright Creek, LLC
Commercial Volumes
For the 12 Months Attrition Period Ending December 31, 2017

Line No.	Commercial Volume Customers	Annual Volumes in thousands	Rate per 1,000 Gallons	Minimum Monthly Charge	Bond Surcharge	Monthly Without Bonding	Monthly With Bonding	Annual With Bonding	Annual Bonding Surcharge	Annual Without Bonding
1		88.00	8.21	28.88	0.39	60.21	60.60	727.16	4.68	722.48
2		202.18	8.21	28.88	0.39	138.32	138.71	1,664.58	4.68	1,659.90
3		74.00	8.21	28.88	0.39	50.63	51.02	612.22	4.68	607.54
4		149.00	8.21	28.88	0.39	101.94	102.33	1,227.97	4.68	1,223.29
5		66.00	8.21	28.88	0.39	45.16	45.55	546.54	4.68	541.86
6		126.00	8.21	28.88	0.39	86.21	86.60	1,039.14	4.68	1,034.46
7		2,324.30	8.21	28.88	0.39	1,590.21	1,590.60	19,087.18	4.68	19,082.50
8		1,975.00	8.21	28.88	0.39	1,351.23	1,351.62	16,219.43	4.68	16,214.75
9		133.30	8.21	28.88	0.39	91.20	91.59	1,099.07	4.68	1,094.39
10		152.00	8.21	28.88	0.39	103.99	104.38	1,252.60	4.68	1,247.92
11		213.00	8.21	28.88	0.39	145.73	146.12	1,753.41	4.68	1,748.73
12		364.00	8.21	28.88	0.39	249.04	249.43	2,993.12	4.68	2,988.44
13		85.00	8.21	28.88	0.39	58.15	58.54	702.53	4.68	697.85
14		344.00	8.21	28.88	0.39	235.35	235.74	2,828.92	4.68	2,824.24
15		102.70	8.21	28.88	0.39	70.26	70.65	847.85	4.68	843.17
16		442.00	8.21	28.88	0.39	302.40	302.79	3,633.50	4.68	3,628.82
17		59.60	8.21	28.88	0.39	40.78	41.17	494.00	4.68	489.32
18		309.00	8.21	28.88	0.39	211.41	211.80	2,541.57	4.68	2,536.89
19		70.00	8.21	28.88	0.39	47.89	48.28	579.38	4.68	574.70
20		286.20	8.21	28.88	0.39	195.81	196.20	2,354.38	4.68	2,349.70
21		265.00	8.21	28.88	0.39	181.30	181.69	2,180.33	4.68	2,175.65
22		556.00	8.21	28.88	0.39	380.40	380.79	4,569.44	4.68	4,564.76
23		163.00	8.21	28.88	0.39	111.52	111.91	1,342.91	4.68	1,338.23
24		156.30	8.21	28.88	0.39	106.94	107.33	1,287.90	4.68	1,283.22
25		170.20	8.21	28.88	0.39	116.45	116.84	1,402.02	4.68	1,397.34
26		47.00	8.21	28.88	0.39	32.16	32.55	390.55	4.68	385.87
27		864.40	8.21	28.88	0.39	591.39	591.78	7,101.40	4.68	7,096.72
28		76.8	8.21	28.88	0.39	52.54	52.93	635.21	4.68	630.53
29	Totals	9,863.98				\$ 6,748.61	\$ 6,759.53	\$ 81,114.32	\$ 131.04	\$ 80,983.28

Source: Customer Response to Data Request 1-3.

Cartwright Creek, LLC
Maintenance Fee Forecast
For the 12 Months Attrition Period Ending December 31, 2017

Line No.		Customer Lots	Builder Lots	Developer Lots	Total Lots	Total Bills	Maintenance Fee A/	Total Monthly Revenue
1	Jan	12	33	158	203	191	\$75.20	\$14,363
2	Feb	14	31	158	203	189	75.20	14,213
3	Mar	16	34	153	203	187	75.20	14,062
4	Apr	22	28	153	203	181	75.20	13,611
5	May	26	34	143	203	177	75.20	13,310
6	Jun	30	30	143	203	173	75.20	13,010
7	Jul	34	36	133	203	169	75.20	12,709
8	Aug	38	32	133	203	165	75.20	12,408
9	Sep	42	38	123	203	161	75.20	12,107
10	Oct	46	34	123	203	157	75.20	11,806
11	Nov	50	40	113	203	153	75.20	11,506
12	Dec	52	38	113	203	151	75.20	11,355
13	2017 Maintenance		408	1,646		2,054		\$154,461

Source: Company response to data request regarding Hideaway system growth through Attrition Year

A/ Attrition Year Budget per Exhibit D of Hideaway Contract	\$265,318
Less Long Term Replacement Booked as CIAC	59,997
Less Ten Percent Contingency Booked as CIAC	22,128
Subtotal Attrition Year Budget for Hideaway System per Exh. D	<u>\$183,193</u>
Total Number of Hideaway Lots	<u>203</u>
Annual Per Lot Budget for Hideaway System per Exh. D	<u>\$902</u>
Number of Attrition Year Months	<u>12</u>
Monthly Per Lot Budget for Hideaway System	<u><u>\$75.20</u></u>

Cartwright Creek, LLC
Operation and Maintenance Expense Analysis and Forecast
For the 12 Months Attrition Period Ending December 31, 2017

Line		Test Period	Adjustments	Adjusted Test Period	Growth Factor	Attrition Period
1	Purchased Power Grassland/Natchez - 715	\$33,419 A/		\$33,419	\$785 D/	\$34,204
2	Purchased Power Arrington - 715	5,838 A/		5,838	763 E/	6,601
3	Purchased Power Hideaway - New	0		0	16,863 F/	16,863
4	Purchased Power - 715	39,257 A/	0	39,257	18,411	57,669
5	Sludge Removal - 711	38,600 A/		38,600	33,775 G/	72,375
6	Chemicals - 718	12,056 A/		12,056	1,576 E/	13,632
7	Materials and Supplies 720	4,853 A/		4,853	634 E/	5,487
8	Engineering/Manager Salary 730.1	84,039 A/	(3,653) H/	80,386		80,386
9	Plant Management 1 Salary - 730.2	60,189 A/	(7,458) H/	52,731		52,731
10	Plant Management 2 Salary - New	0	0	0	52,000 H/	52,000
11	Benefits/BCBS - 730.2	27,218 A/	(4,158) H/	23,060	17,646 H/	40,707
12	Payroll Taxes	0		0	14,161 H/	14,161
13	Accounting - 730.3	13,917 A/		13,917	1,820 E/	15,737
14	Environmental Testing - 730.4	20,845 A/		20,845	3,080 I/	23,925
15	Part-Time Plant Mgmt/Testing 730.4	11,479 A/		11,479	1,501 E/	12,980
16	Repair & Maint. Contractors - 730.5	24,234 A/		24,234	3,168 E/	27,402
17	Legal Fees - 730.6	30,606 A/		30,606	4,002 E/	34,608
18	Consulting Fees - 730.7	18,530 A/		18,530	2,423 E/	20,953
19	Contractual Services - 730	291,057 A/	(15,269)	275,788	99,801	375,589
20	Routine Maintenance - 775.40	404 A/		404	28,553 J/	28,957
21	Non-Routine Maintenance - 775.45	7,924 A/		7,924	1,036 K/	8,960
22	Maintenance and Repairs - 775	8,328	0	8,328	29,589	37,917
23	Transportation Expense - 750	15,089 A/	(8,082) B/	7,007	3,776 L/	10,784
24	Telephone Expense - 753	6,169 A/		6,169	807 E/	6,975
25	Insurance Expense - 755	28,888 A/		28,888	10,309 M/	39,198
26	Postage and Delivery Expense - 758	3,748 A/		3,748	490 E/	4,238
27	Bad Debt Expense - 770	12,143 A/	(12,143) C/	(0)	0	(0)
28	Bank Charges - 773	6,935 A/		6,935	907 E/	7,841
29	Industry Dues & Education - 775.01	1,499 A/		1,499	196 E/	1,695
30	Data Processing - 775.02	1,896 A/		1,896	248 E/	2,144
31	Travel/Meals/Entertainment - 775.20	798 A/		798	104 E/	903
32	Office Supplies - 775.25	5,336 A/		5,336	698 E/	6,034
33	Utilities Expense/Water - 775.50	1,713 A/		1,713	2,624 N/	4,336
34	Miscellaneous - 775	11,242 A/	0	11,242	3,870	15,112
35	Permits and Fees	3,460 A/		3,460	1,500 O/	4,960
36	Total Operations and Maintenance	\$481,824	(35,494)	\$446,330	\$205,445	\$651,775

A/ 2015 General Ledger

B/ Adjusted amount for non-recurring truck rental expense--replaced truck with new truck --rental amount from GL 750 6/14 \$1578, 8/31 \$2848, 9/15 \$1876, 10/15 \$1778 (

C/ Bad Debt Write-Off

D/ Adjustment adds inflation factor per Inflation and Growth Factor Workpaper of: 2.35% Workpaper 3.02

E/ Adjustment adds a growth factor per Inflation and Growth Factor Workpaper of 13.07% Workpaper 3.02

F/ Adjustment based on 3rd Data Response of an additional amount to be budgeted for power at the Hideaway Plant due to large blowers

G/ Adjustment based on 87.5% increased cost for sludge removal to new location from Grassland

H/ Salaries, Wages & Benefits Workpaper 3.03

I/ Adjustment based on inflation factor of 2.35% plus the response to the 3rd Data Request of an amount of \$2,590 testing anticipated at the Hideaway Plant

J/ Adjustment based on growth factor 13.07% + Estimates for Hideaway routine maintenance (\$6,000) + Estimates for Hideaway and Arrington groundskeeping (\$22,500)

K/ Adjustment based on growth factor of 13.07%

L/ Adjustment based on growth factor of 13.07% plus Response to 3rd Data Request anticipating an additional amount of \$2,860 for the Hideaway Plant

M/ Adjustment to increase insurance expense by the difference in the 2015 General Ledger balance and the premiums for 2016 plus a 5% anticipated increase in premiums

N/ Adjustment based on growth factor of 13.07% + a response from the 3rd Data Response for water and Internet service at the Hideaway Plant (\$2,400)

O/ Adjustment based on additional permits for Hideaway Plant

Cartwright Creek, LLC
Inflation and Growth Factors
For the 12 Month Attrition Period Ending December 31, 2017

<u>Line</u>			<u>Rate</u>
1	Projected total customers at 12/31/2017	804 A/	
2	Actual total customers at 12/31/2015	662 B/	
3	Projected customer increase for two years	142	
4	Percentage increase for two years	21.45%	
5	One-half percentage increase for two years		10.73%
6	BEA Table 1.1.9 GDP Price Deflator 2nd Qtr 2016	111.263 C/	
7	BEA Table 1.1.9 GDP Price Deflator 2nd Qtr 2014	108.709 C/	
8	GDP Price Deflator increase for two years	2.554	
9	Two-Year Inflation Factor		<u>2.35%</u>
10	Two-Year Growth Factor		<u>13.07%</u>

A/ Revenue Workpaper

B/ Response to First Staff Data Request, No. 2.

C/ Bureau of Economic Analysis: www.bea.gov/iTable/index_nipa.cfm

Cartwright Creek, LLC
Salaries, Wages & Benefits
For the 12 Month Attrition Period Ending December 31, 2017

<u>Line</u>		<u>Test Year</u>	<u>Adjustments</u>	<u>Adjusted Test Year</u>	<u>Growth</u>	<u>Attrition Year</u>
1	Plant Engineer/General Manager	\$ 84,039 A/	\$ (3,653) B/	\$ 80,386	\$ -	\$ 80,386
2	Plant Manager	60,189 A/	(7,458) B/	52,731	-	52,731
3	New Plant Manager (100%)	-	-	-	52,000 C/	52,000
4	Benefits/BCBS	27,218 A/	(4,158) B/	23,061	17,646 D/	40,707
5	FICA Taxes	-	-	-	14,161 E/	14,161
6	Total	<u>\$ 171,447</u>	<u>\$ (15,269)</u>	<u>\$ 156,178</u>	<u>\$ 83,808</u>	<u>\$ 239,985</u>

A/ 2015 General Ledger

B/ Salary, wage & benefit allocation between Berry's Chapel and Cartwright Creek:

	<u>Plant Engineer</u>	<u>Plant Mgr</u>	<u>Total</u>
Total compensation per W-2s	\$ 92,386	\$ 64,731	\$ 157,117
Berry's Chapel payroll per ledger	12,000	12,000	24,000
Cartwright Creek payroll expense	<u>\$ 80,386</u>	<u>\$ 52,731</u>	<u>\$ 133,117</u>
Percentage Cartwright Creek			84.72%
Total Benefits/BCBS per ledger			27,218
Cartwright Creek Benefits/BCBS			<u>\$ 23,061</u>

C/ Response to 3rd Staff Data Request, No. 1.a., (new Hideaway plant manager, 75% time at \$25.00 per hr)

D/ Annualized BCBS for 2016 per ledger (\$2,398/mo)	\$ 28,776
Projected premium increase of 5% annually	1,439
Subtotal	\$ 30,215
Percentage Cartwright Creek per Note B/	84.72%
Subtotal	\$ 25,599
New Plant Manager at 100% Cartwright Creek	15,107
Projected Attrition Year BCBS	<u>\$ 40,707</u>

E/ Employer match for FICA of 7.65% times Attrition Year Salaries/Wages.

Cartwright Creek, LLC
Property Tax
For the 12 Month Attrition Period Ending December 31, 2017

<u>Line</u>		<u>Test Period</u>	<u>Growth/ Additions</u>	<u>Attrition Period</u>
1	Williamson County Property Tax	\$ 6,790	A/ \$ 234	B/ \$ 7,024
2	New Hideaway System (Willamson Co.)	-	5,000	C/ 5,000
3	Total	<u>\$ 6,790</u>	<u>\$ 5,234</u>	<u>\$ 12,024</u>

A/ 2015 Property Tax Notice

B/ 2015 Equalized Assessment	\$ 293,960
2014 Equalized Assessment	289,025
Dollar Growth	<u>\$ 4,935</u>
Annual Percentage Growth	1.71%
Test Year Property Tax	<u>\$ 6,790</u>
Year 1 Growth	116
Subtotal	<u>\$ 6,906</u>
Year 2 Growth	118
Attrition Year Property Tax	<u>\$ 7,024</u>

C/ Forecasted property taxes for Hideaway per response to Third Staff Data Request, No. 1.f.

Cartwright Creek, LLC
TRA Inspection Fee
For the 12 Month Attrition Period Ending December 31, 2017

<u>Line</u>		<u>Amount</u>
1	Gross Revenue for Attrition Period	\$ 677,649 A/
2	Less Exemption	<u>5,000 B/</u>
3	Net Revenue	\$ 672,649
4	Statutory Rate	<u>0.425% B/</u>
5	TRA Inspection Fee	<u><u>\$ 2,859</u></u>

A/ Workpaper 2.01

B/ Statutory rates

Cartwright Creek, LLC
Franchise Tax
For the 12 Month Attrition Period Ending December 31, 2017

<u>Line</u>		<u>Test Period</u>		<u>Additions</u>		<u>Attrition Period</u>
1	Land	\$ 203,269	A/	\$ 160,000	C/	\$ 363,269
2	Net Plant	<u>903,145</u>	A/	<u>2,412,437</u>	C/	<u>3,315,582</u>
3	Total	\$ 1,106,414	A/	<u><u>\$ 2,572,437</u></u>		\$ 3,678,851
4	Rate	<u>0.25%</u>	B/			<u>0.25%</u>
5	Franchise Tax	<u><u>\$ 2,766</u></u>	A/			<u><u>\$ 9,197</u></u>

A/ 2015 Franchise Tax Return

B/ Statutory Tax Rate

C/ Addition of Hideaway System per Annual Report less depreciation (assume 30-yr composite rate)

VERIFICATION

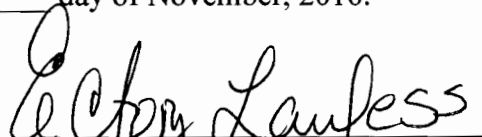
STATE OF TENNESSEE)

COUNTY OF DAVIDSON)

I, Daniel Ray, being duly sworn, state that I am authorized to make this verification on behalf of TRA Staff (As a Party); that I have read the foregoing Pre-filed Direct Testimony, Exhibits and Workpapers of Daniel Ray and know the content thereof; and that the same are true and correct to the best of my knowledge, information and belief.


Daniel Ray

Sworn to and subscribed before me the 10th day of November, 2016.


Notary Public

My Commission Expires: 1/9/2018

