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BEFORE THE ARIZONA CORPORATION COMMISSION

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AZ CORP COMMISSION  
DOCKET CONTROL

IN THE MATTER OF THE APPLICATION OF  
THE ESTATE OF WILLIAM F. RANDALL  
DBA VALLE VERDE WATER COMPANY  
FOR AN INCREASE IN ITS WATER RATES.

DOCKET NO. W-01431A-09-0360

IN THE MATTER OF THE APPLICATION OF  
THE ESTATE OF WILLIAM F. RANDALL  
DBA VALLE VERDE WATER COMPANY  
FOR AUTHORITY TO INCUR LONG-TERM  
DEBT.

DOCKET NO. W-01431A-09-0361

STAFF'S NOTICE OF FILING  
DIRECT TESTIMONY

Staff of the Arizona Corporation Commission ("Staff") hereby files the Direct Testimony of  
Dorothy M. Hains in the above docket.

RESPECTFULLY SUBMITTED this 11<sup>th</sup> day of February 2010.

Maureen A. Scott, Senior Staff Counsel  
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Legal Division  
Arizona Corporation Commission  
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Original and thirteen (15) copies  
of the foregoing filed this  
11<sup>th</sup> day of February 2010 with:

Docket Control  
Arizona Corporation Commission  
1200 West Washington Street  
Phoenix, Arizona 85007

Arizona Corporation Commission

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1 Copy of the foregoing mailed this  
11<sup>th</sup> day of February 2010 to:

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**DIRECT**

**TESTIMONY**

**OF**

**PEDRO M. CHAVES**

**DOROTHY M. HAINS**

**DOCKET NOS. W-01431A-09-0360  
W-01431A-09-0361**

**IN THE MATTER OF THE APPLICATION OF  
WILLIAM F. RANDALL DBA VALLE VERDE  
WATER COMPANY FOR AN APPROVAL  
INCREASE IN ITS WATER RATES AND  
APPLICATION OF ESTATE OF WILLIAM F. RANDALL  
DBA VALLE VERDE WATER COMPANY FOR  
AUTHORITY TO INCUR & LONG-TERM DEBT**

**FEBRUARY 11, 2010**

BEFORE THE ARIZONA CORPORATION COMMISSION

KRISTIN K. MAYES  
Chairman  
GARY PIERCE  
Commissioner  
PAUL NEWMAN  
Commissioner  
SANDRA D. KENNEDY  
Commissioner  
BOB STUMP  
Commissioner

IN THE MATTER OF THE APPLICATION OF )  
THE ESTATE OF WILLIAM F. RANDALL )  
DBA VALLE VERDE WATER COMPANY FOR )  
APPROVAL OF AN INCREASE IN ITS WATER )  
RATES AND THE APPLICATION OF THE )  
ESTATE OF WILLIAM F. RANDALL DBA )  
VALLE VERDE WATER COMPANY FOR )  
AUTHORITY TO INCUR LONG-TERM DEBT )  
\_\_\_\_\_)

DOCKET NO. W-01431A-09-0360

DOCKET NO. W-01431A-09-0361

DIRECT

TESTIMONY

OF

PEDRO M. CHAVES

PUBLIC UTILITIES ANALYST III

ARIZONA CORPORATION COMMISSION

UTILITIES DIVISION

FEBRUARY 11, 2010

## TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION .....	1
II. BACKGROUND .....	2
III. CONSUMER SERVICES .....	4
IV. SUMMARY OF PROPOSED REVENUES .....	4
V. SUMMARY OF STAFF'S RATE BASE AND OPERATING INCOME ADJUSTMENTS .....	5
VI. RATE BASE.....	6
Fair Value Rate Base ("FVRB") .....	6
Rate Base Summary .....	6
Rate Base Adjustment No. 1 – Pro Forma Plant Removal .....	6
Rate Base Adjustment No. 2 – Working Capital .....	7
VII. OPERATING INCOME .....	8
Operating Income Summary .....	8
Operating Income Adjustment No. 1 – Metered Water Revenue .....	8
Operating Income Adjustment No. 2 – Purchased Water Expense .....	8
Operating Income Adjustment No. 3 – Water Testing Expense .....	9
Operating Income Adjustment No. 4 – Depreciation Expense .....	9
Operating Income Adjustment No. 5 – Property Tax Expense .....	10
VIII. REVENUE REQUIREMENT .....	10
IX. FINANCING APPLICATION .....	12
X. RATE DESIGN .....	13
Present Rate Design .....	13
Valle Verde's Proposed Water Rate Design .....	13
Staff's Recommended Water Rate Design .....	13

## SCHEDULES

Revenue Requirement.....	PMC-1
Rate Base – Original Cost.....	PMC-2
Summary of Rate Base Adjustments .....	PMC-3
Rate Base Adj. No. 1 – Removal of Pro Forma Plant.....	PMC-4
Rate Base Adj. No. 2 – Removal of Working Capital Allowance.....	PMC-5
Operating Income – Test Year and Staff Recommended .....	PMC-6
Summary of Operating Income Adjustments – Test Year.....	PMC-7
Operating Income Adj. No. 1 – Metered Water Revenue.....	PMC-8
Operating Income Adj. No. 2 – Purchased Water Expense .....	PMC-9
Operating Income Adj. No. 3 – Water Testing Expense .....	PMC-10
Operating Income Adj. No. 4 – Depreciation Expense .....	PMC-11
Operating Income Adj. No. 5 – Property Tax Expense .....	PMC-12
Rate Design.....	PMC-13
5/8-inch Meter Typical Bill Analysis .....	PMC-14
3/4-inch Meter Typical Bill Analysis .....	PMC-15

**EXECUTIVE SUMMARY  
VALLE VERDE WATER COMPANY  
DOCKET NOS. W-01431A-09-0360, ET AL**

The estate of William F. Randall dba Valle Verde Water Company ("Valle Verde" or "Company") is located near the City of Nogales in Santa Cruz County. Valle Verde is managed by Southwestern Utility Management, Inc. The Company's current rates were approved in Decision No. 59553, dated March 13, 1996.

On July 17, 2009, Valle Verde filed a rate increase application and a financing application. The rate application shows a \$301,837 adjusted operating loss for the test year that ended December 31, 2008. Valle Verde's application proposes total operating revenue of \$953,101, an increase of \$497,753, or 109.3 percent, over its test year revenue of \$455,348. Valle Verde's proposed revenue, as filed, would provide an operating income of \$195,915 and an operating margin of 20.56 and a 37.91 percent rate of return on the proposed \$516,847 fair value rate base which is the same as the proposed original cost rate base.

Under the Company's proposed rates, the monthly bill for a median residential 5/8-inch meter customer consuming 5,658 gallons per month would increase by \$31.86, or 166.74 percent, from \$19.11 to \$50.96.

Under the Company's proposed rates, the monthly bill for a median residential 3/4-inch meter customer consuming 5,480 gallons per month would increase by \$46.14, or 242.51 percent, from \$19.02 to \$65.16.

The testimony of Mr. Pedro M. Chaves presents Staff's recommendation in the areas of rate base, operating income, revenue requirement, financing request and rate design. Staff's examination shows that Valle Verde experienced a \$225,357 operating loss in the test year. Staff recommends total operating revenue of \$561,726, an increase of \$276,656, or 103.04 percent, over test year revenue of \$276,656, to provide an operating margin of 10.20 percent, or \$57,295.

Under Staff's recommended rates, the monthly bill for a median residential 5/8-inch meter customer consuming 5,658 gallons per month would increase by \$9.37, or 49.04 percent, from \$19.11 to \$28.48.

Under Staff's recommended rates, the monthly bill for a median residential 3/4-inch meter customer consuming 5,480 gallons per month would increase by \$8.94, or 47.01 percent, from \$19.02 to \$27.97.

Staff recommends authorization to incur an 18-to-22-year amortizing loan from the Water Infrastructure Financing Authority of Arizona ("WIFA") for an amount not to exceed the \$1,063,478 amount requested by the Company.

1     **I.     INTRODUCTION**

2     **Q.     Please state your name, occupation, and business address.**

3     A.     My name is Pedro M. Chaves. I am a Public Utilities Analyst employed by the Arizona  
4           Corporation Commission (“ACC” or “Commission”) in the Utilities Division (“Staff”).  
5           My business address is 1200 West Washington Street, Phoenix, Arizona 85007.

6  
7     **Q.     Briefly describe your responsibilities as a Public Utilities Analyst.**

8     A.     In my capacity as a Public Utilities Analyst, I perform studies to estimate the cost of  
9           capital component of the overall revenue requirement calculation in rate filings. I also  
10          analyze requests for financing authorization, analyze and examine accounting, financial,  
11          statistical and other information and prepare reports based on my analyses that present  
12          Staff’s recommendations to the Commission on utility revenue requirements, rate design  
13          and other financial regulatory matters.

14  
15    **Q.     Please describe your educational background and professional experience.**

16    A.     I am a graduate of Arizona State University where I received a Bachelor of Science degree  
17          in Global Business with a specialization in finance. My course of studies included classes  
18          in corporate and international finance, investments, accounting, statistics, and economics.  
19          I began employment as a Staff Public Utilities Analyst in December 2005. I have also  
20          attended the National Association of Regulatory Utility Commissioners’ (“NARUC”)  
21          Utility Rate School.

22  
23    **Q.     What is the scope of your testimony in this case?**

24    A.     I am presenting Staff’s analysis and recommendations regarding Valle Verde Water  
25          Company’s (“Valle Verde”) applications for a permanent rate increase and financing

1 authorization. I am presenting testimony and schedules addressing rate base, operating  
2 revenues and expenses, revenue requirement, operating margin and rate design.

3  
4 **Q. What is the basis of your testimony in this case?**

5 A. I performed a regulatory audit of Valle Verde's application and records. The regulatory  
6 audit consisted of examining and testing financial information, accounting records, and  
7 other supporting documentation, and verifying that the accounting principles applied were  
8 in accordance with the Commission-adopted NARUC Uniform System of Accounts  
9 ("USOA").

10  
11 **Q. How is your testimony organized?**

12 A. My testimony is presented in ten sections. Section I is this introduction. Section II  
13 provides a background of the Company. Section III is a summary of consumer service  
14 issues. Section IV is a summary of proposed revenues. Section V is a summary of Staff's  
15 rate base and operating income adjustments. Section VI presents Staff's rate base  
16 recommendations. Section VII presents Staff's operating income recommendations.  
17 Section VIII discusses the revenue requirement. Section IX discusses the financing  
18 application. Finally, Section X discusses rate design.

19  
20 **Q. Have you prepared any schedules to accompany your testimony?**

21 A. Yes. I prepared schedules PCM-1 to PMC-15.

22  
23 **II. BACKGROUND**

24 **Q. Please provide background information regarding this application.**

25 A. Valle Verde Water Company, Inc. ("Valle Verde" or "Company") was a sole  
26 proprietorship that became the property of the estate of William F. Randall. Valle Verde

1 is managed by Southwestern Utility Management, Inc. Valle Verde provides water  
2 service to approximately 800 customers in Santa Cruz County, Arizona.

3  
4 On July 17, 2009, Valle Verde filed an application requesting a permanent rate increase.  
5 On that same date, Valle Verde filed an application requesting authorization to execute a  
6 loan agreement with the Water Infrastructure Finance Authority of Arizona ("WIFA") in  
7 an amount of \$1,063,478. A Procedural Order, dated October 9, 2009, granted Staff's  
8 request to consolidate the permanent rate increase and financing applications.

9  
10 On September 29, 2009, Staff filed a sufficiency letter informing the Company that the  
11 application, together with the revisions docketed on September 11, 2009, met the  
12 sufficiency requirements as outlined in the Arizona Administrative Code R-14-2-103.

13  
14 **Q. What test year did the Company use?**

15 A. Valle Verde's rate filing is based on the twelve-month period that ended December 31,  
16 2008.

17  
18 **Q. When were Valle Verde's present rates established?**

19 A. The Commission authorized the Company's current rates in Decision No. 59553, dated  
20 March 13, 1996.

1 **III. CONSUMER SERVICES**

2 **Q. Please provide a brief history of customer complaints regarding Valle Verde and**  
3 **summarize the customer responses to Valle Verde's proposed rate increase received**  
4 **by the Commission.**

5 A. Staff reviewed the Commission's records for the period of January 1, 2007, through  
6 January 5, 2010, and found three complaints filed against the Company. All complaints  
7 have been resolved and closed. For this same period, there were 27 opinions filed in 2009  
8 opposing the currently-proposed rate increase.

9  
10 **Q. Is the Company in good standing with the Corporations Division of the Commission?**

11 A. Yes. The Company is in good standing with the Corporations Division of the  
12 Commission.

13  
14 **IV. SUMMARY OF PROPOSED REVENUES.**

15 **Q. Please summarize the Valle Verde's proposed revenue requirement.**

16 A. Valle Verde's application proposes total annual operating revenue of \$953,101, a  
17 \$497,753, or 109.31 percent, increase over test year revenue of \$455,348. Valle Verde's  
18 proposed revenue, as filed, would provide an operating income of \$195,915 for an  
19 operating margin of 20.56 and a 37.91 percent rate of return on the proposed \$516,847 fair  
20 value rate base ("FVRB") which is the same as the proposed original cost rate base  
21 ("OCRB").

22  
23 **Q. Please summarize Staff's revenue requirement recommendation.**

24 A. Staff recommends total operating revenue of \$561,726, an increase of \$285,070, or 103.04  
25 percent, over test year revenues of \$276,656 to provide an operating margin of 10.20  
26 percent, or \$57,295, as shown in Schedule PMC-1.

1 **V. SUMMARY OF STAFF'S RATE BASE AND OPERATING INCOME**  
2 **ADJUSTMENTS**

3 **Q. Please summarize the rate base adjustments addressed in your testimony.**

4 A. My testimony addresses the following issues:

5  
6 Removal of Pro Forma Plant – This adjustment decreases rate base by \$1,063,478 to  
7 remove plant that was not used and useful at the end of the test year.

8  
9 Removal of Working Capital – This adjustment decreases rate base by \$52,205 to remove  
10 a cash working capital allowance based on the formula method.

11  
12 **Q. Please summarize the operating expense adjustments addressed in your testimony.**

13 A. My testimony addresses the following issues:

14  
15 Metered Water Revenue – This adjustment decreases revenue by \$178,692 to reflect  
16 removal of revenue from a surcharge to be discontinued.

17  
18 Purchased Water Expense – This adjustment decreases expenses by \$187,158 to reflect  
19 Staff's removal of a non-recurring expense.

20  
21 Water Testing Expense – This adjustment decreases expenses by \$5,412 to reflect water  
22 testing costs.

23  
24 Depreciation Expense – This adjustment decreases expenses by \$55,163 to reflect  
25 application of Staff's recommended depreciation rates by account to Staff's recommended  
26 plant balances.

1           Property Tax Expense – This adjustment decreases expenses by \$7,439 to reflect property  
2 tax expense using the modified Arizona Department of Revenue method.

3  
4       **VI.    RATE BASE**

5       **Fair Value Rate Base (“FVRB”)**

6       **Q.    Does Valle Verde’s application include schedules with elements of a Reconstruction**  
7           **Cost New Rate Base?**

8       A.    No. Valle Verde’s application does not request recognition of a Reconstruction Cost New  
9           Rate Base. Accordingly, Staff has treated Valle Verde’s OCRB as its FVRB.

10  
11       **Rate Base Summary**

12       **Q.    Please summarize Staff’s rate base recommendation.**

13       A.    Staff recommends a negative \$598,836 for rate base, a \$1,115,683 reduction from the  
14           Company’s proposed \$516,847 rate base, as shown in Schedules PMC-2 and PMC-3.  
15           Staff’s recommendation results from the rate base adjustments described below.

16  
17       **Rate Base Adjustment No. 1 – Pro Forma Plant Removal**

18       **Q.    Does the Company propose to include in rate base the plant that it plans to construct**  
19           **with the funds from an anticipated WIFA loan?**

20       A.    Yes. The Company proposes to include in rate base \$1,063,478, the total amount Valle  
21           Verde is requesting for financing approval in this docket.

22  
23       **Q.    Is the plant used and useful?**

24       A.    No, the proposed plant is not used and useful. The plant is yet to be constructed. As  
25           indicated on the Engineering Report, although the proposed projects in the financing  
26           application are appropriate and the cost estimates presented appear to be reasonable, no

1 “used and useful” determination of the proposed project items was made and no particular  
2 treatment should be inferred for rate-making or rate base purposes in the future.

3  
4 **Q. What is Staff’s recommendation?**

5 A. Staff recommends removing \$1,063,478 from rate base. Staff’s recommendation  
6 decreases plant in service by \$1,063,478, from \$3,922,086 to \$2,858,608, as reflected in  
7 Schedules PMC-2 and PMC-3.

8  
9 **Rate Base Adjustment No. 2 – Working Capital**

10 **Q. Does the Company propose to include an allowance for work in capital?**

11 A. Yes. The Company proposes to include a working capital allowance of \$52,205 based on  
12 the formula method.

13  
14 **Q. Is the formula method an appropriate approach to estimate the working capital of a  
15 class “C” utility?**

16 A. No. Staff utilizes the formula method to provide an allowance for working capital to class  
17 “D” and “E” Companies. Larger companies should perform a lead-lag study to estimate  
18 their working capital.

19  
20 **Q. Did Valle Verde perform a lead-lag study?**

21 A. No, it did not.

22  
23 **Q. What is Staff’s recommendation?**

24 A. Staff recommends that working capital be adjusted to \$0 from \$52,205, as shown in  
25 Schedule PMC-5.

1 **VII. OPERATING INCOME**

2 **Operating Income Summary**

3 **Q. What are the results of Staff's analysis of test year revenue, expenses, and operating**  
4 **income?**

5 A. Staff's analysis resulted in adjusted test year operating revenues of \$276,656, operating  
6 expenses of \$502,013, and an operating loss of \$225,357, as shown in Schedules PMC-6  
7 and PMC-7. Staff made six adjustments to operating income as discussed below.

8  
9 **Operating Income Adjustment No. 1 – Metered Water Revenue**

10 **Q. Please explain Staff's Operating Income Adjustment No. 1.**

11 A. Staff's adjustment decreased metered water revenue by \$178,692, from \$449,315 to  
12 \$270,623, as reflected on Schedule PMC-8. Commission Decision No. 70098, dated  
13 December 21, 2007, approved the application of Valle Verde for an emergency interim  
14 surcharge to all customers of \$1.73 per 1,000 gallons. The surcharge should terminate  
15 when rates are established in this rate case; therefore, these are non-recurring revenues.  
16 This adjustment removes revenue derived from the emergency surcharge.

17  
18 **Q. What is Staff's recommendation?**

19 A. Staff recommends \$270,623 for adjusted test year metered water revenue.

20  
21 **Operating Income Adjustment No. 2 – Purchased Water Expense**

22 **Q. Please explain Staff's Operating Income Adjustment No. 2.**

23 A. Staff's adjustment decreased purchased water expense from \$187,158 to \$0, as reflected in  
24 Schedule PMC-9. The Company purchased water from the City of Nogales in an amount  
25 of \$187,065 and also purchased bottled water for a care home in the amount of \$93.  
26 These are non-recurring expenses and should be disallowed.

1 **Operating Income Adjustment No. 3 – Water Testing Expense**

2 **Q. Please explain Staff's Operating Income Adjustment No. 3.**

3 A. Staff's adjustment decreased water testing expense by \$5,412, from \$10,447 to \$5,035, as  
4 reflected on Schedule PMC-10. Based on the data provided by the Company, Staff  
5 estimated the total average annual water testing costs for Valle Verde, as shown in Table 5  
6 of Staff's Engineering Report.

7

8 **Q. What is Staff's recommendation?**

9 A. Staff recommends \$5,035 for water testing expense.

10

11 **Operating Income Adjustment No. 4 – Depreciation Expense**

12 **Q. Please explain Staff's Operating Expense Adjustment No. 4.**

13 A. Staff's adjustment decreases depreciation expense by \$55,163, from \$166,663, to  
14 \$111,500, as reflected in Schedule PMC-11.

15

16 **Q. Why does Staff's depreciation expense differ from the Company-proposed  
17 depreciation expense?**

18 A. Staff's calculation of depreciation expense (Schedule PMC-11) represents the application  
19 of Staff's recommended depreciation rates by plant account to Staff's recommended plant  
20 balances for those accounts. The primary difference in depreciation expense results from  
21 Staff's lower plant in service due to Staff rate base Adjustment No. 1 that removes the  
22 Company's pro forma plant from rate base. Correlating with Staff's rate base  
23 recommendation, Staff's depreciation expense excludes depreciation expense on the pro  
24 forma plant.

1 **Q. What is Staff's recommendation?**

2 A. Staff recommends depreciation expense of \$111,500.

3

4 **Operating Income Adjustment No. 5 – Property Tax Expense**

5 **Q. Please explain Staff's Operating Expense Adjustment No. 5.**

6 A. Staff's adjustment decreases test year property taxes by \$7,439, from \$14,129 to \$6,690.

7 Staff's calculation is based upon Staff's application of the modified Arizona Department  
8 of Revenue method typically adopted by the Commission, as shown in Schedule PMC-12.

9

10 **Q. What is Staff's recommendation?**

11 A. Staff recommends test year property taxes of \$6,690. Staff further recommends use of a  
12 1.0086 gross revenue conversion factor (Schedule PMC-12, Line 25) to provide recovery  
13 of incremental property tax expense at the authorized revenue.

14

15 **VIII. REVENUE REQUIREMENT**

16 **Q. What does the Company propose for an increase in operating revenue?**

17 A. The Company proposes increasing operating revenues by \$497,753, from \$455,348, to  
18 \$953,101, as reflected in Schedule PMC-1.

19

20 **Q. How did the Company determine its proposed revenue requirement?**

21 A. Valle Verde calculated the revenue requirement based upon an operating margin of  
22 20.56.<sup>1</sup>

---

<sup>1</sup> Direct Testimony of Sonn S. Rowell, pages 3, line 6; Schedule A-1, line 10.

1 **Q. What does Staff recommend for an increase in operating revenues?**

2 A. Staff recommends a \$285,070 increase in operating revenues, from \$276,656, to \$561,726,  
3 as reflected in Schedules PMC-1 and PMC-6.

4  
5 **Q. How did the Staff determine its proposed revenue requirement?**

6 A. Staff performed a cash flow analysis to determine its proposed revenue requirement.  
7 Schedule PMC-6, Line 30, shows that Staff's recommended revenues provide pro forma  
8 cash flow of \$88,008 including debt service coverage (principal and interest) on the  
9 proposed WIFA loan. This is sufficient cash flow to cover contingencies, including the  
10 financing of additional capital improvements recommended by Staff in this proceeding.

11  
12 **Q. Why did Staff not perform a cost of capital study?**

13 A. The cost of capital is the opportunity cost represented by anticipated returns or earnings  
14 that are foregone by choosing one investment over others with equivalent risk. In other  
15 words, the cost of capital is the return that shareholders expect for committing their  
16 resources in a determined business enterprise. Valle Verde has negative equity; hence, a  
17 cost of capital study is not warranted. Further, Valle Verde has a negative rate base to  
18 which application of a rate of return is not meaningful.

19  
20 **Q. What is Staff's recommendation?**

21 A. Staff recommends total operating revenue of \$586,629, an increase of \$285,070, or 103.04  
22 percent, over test year revenue of \$276,656 to provide an operating income of \$57,295 and  
23 an operating margin of 10.20 percent, as shown in Schedules PMC-1 and PMC-6.

24

1 **IX. FINANCING APPLICATION**

2 **Q. Please provide an overview of Valle Verde's financing application.**

3 A. The Company filed with the Commission a financing application requesting authority to  
4 incur long-term debt in the amount of \$1,063,478 from WIFA to finance water system  
5 improvements including the purchase of a centralized arsenic treatment facility.

6  
7 **Q. What does Staff conclude after reviewing the financing application?**

8 A. Staff concludes that the proposed projects in the financing application are appropriate and  
9 the cost estimates presented above are reasonable. However, no "used and useful"  
10 *determination of the proposed project item was made and no particular treatment should*  
11 *be inferred for rate-making or rate base purposes in the future.*

12  
13 Staff further concludes that issuance of the proposed debt financing for the purposes stated  
14 in the Application is within Valle Verde's corporate powers, is compatible with the public  
15 interest, is consistent with sound financial practices and will not impair its ability to  
16 provide services.

17  
18 **Q. What does Staff recommend after reviewing the financing application?**

19 A. Staff recommends that the Commission authorize Valle Verde to incur an 18-to-22-year  
20 amortizing loan from WIFA for an amount not to exceed \$1,063,478 to finance water  
21 system improvements specified in its application including the purchase of a centralized  
22 arsenic treatment facility.

1     **X.     RATE DESIGN**

2     **Present Rate Design**

3     **Q.     Please provide an overview of Valle Verde's present rates.**

4     A.     The following is a general description of the present rate design. Details of the rate design  
5           are presented in Schedule PMC-13. The present rate design consists of monthly minimum  
6           charges that progressively increase by meter size from \$11.75 for a 5/8 x 3/4-inch meter to  
7           \$500.00 for a 6-inch meter and a two-tier commodity rate (per 1,000 gallons) for all  
8           meters of \$1.30 from 0 to 8,000 gallons and \$1.47 over 8,000 gallons.

9  
10    **Valle Verde's Proposed Water Rate Design**

11    **Q.     Please provide an overview of the Company's proposed rate structure.**

12    A.     Details of Valle Verde's proposed rate design are presented in Schedule PMC-13. The  
13           Company's proposed monthly minimum charges by meter size are as follows: 5/8 x 3/4-  
14           inch at \$30.00; 3/4-inch at \$45.00; 1-inch at \$75.00; 1 1/2-inch at \$150.00; 2-inch at  
15           \$240.00; 3-inch at \$480.00; 4-inch at \$750.00; and 6-inch at \$1,500.00. Valle Verde  
16           proposes an inverted-tier rate structure that includes three tiers for 5/8 x 3/4-inch and 3/4-  
17           inch meter customers and two tiers for all others. The recommended commodity rates for  
18           5/8 x 3/4-inch and 3/4-inch meter customers are \$3.00 per thousand gallons for 0 to 3,000  
19           gallons, \$4.50 per thousand gallons for 3,001 to 10,000 gallons, and \$5.65 per thousand  
20           gallons for any consumption over 10,000 gallons.

21  
22    **Staff's Recommended Water Rate Design**

23    **Q.     Please summarize Staff's recommended rate design.**

24    A.     Staff recommends rates and charges as presented in Schedule PMC-13. Staff's  
25           recommended monthly minimum charges by meter size are as follows: 5/8 x 3/4-inch at  
26           \$17.00; 3/4-inch at \$17.00; 1-inch at \$41.00; 1 1/2-inch at \$81.00; 2-inch at \$130.00; 3-

1           inch at \$250.00; 4-inch at \$405.00; and 6-inch at \$810.00. Staff recommends an inverted-  
2           tier rate structure that includes three tiers for 5/8-inch and 3/4-inch meter residential  
3           customers and two tiers for all others. The recommended commodity rates for 5/8 x 3/4-  
4           inch and 3/4-inch meter residential customers are \$1.30 per thousand gallons for 0 to  
5           3,000 gallons, \$2.85 per thousand gallons for 3,001 to 10,000 gallons, and \$3.85 per  
6           thousand gallons for any consumption over 10,000 gallons.

7  
8       **Q.    What is the rate impact on a 5/8-inch meter residential customer using a median**  
9       **consumption of 5,658 gallons?**

10      A.    Staff's recommended rates would increase the typical residential 5/8 x 3/4-inch meter bill  
11           with median use of 5,658 gallons by \$9.37, or 49.04 percent, from \$19.11 to \$28.48. By  
12           comparison, under the Company's proposed rates that same customer would experience an  
13           increase of \$31.86, or 166.74 percent, from \$19.11 to \$50.96.<sup>2</sup> A typical bill analysis for  
14           5/8 x 3/4-inch residential customers is presented in Schedule PMC-14.

15  
16      **Q.    What is the rate impact on a 3/4-inch meter residential customer using a median**  
17      **consumption of 5,480 gallons?**

18      A.    Staff's recommended rates would increase the typical residential 3/4-inch meter bill with  
19           median use of 5,480 gallons by \$8.94, or 47.01 percent, from \$19.02 to \$27.97.<sup>3</sup> By  
20           comparison, under the Company's proposed rates that same customer would experience an  
21           increase of \$46.14, or 242.51 percent, from \$19.02 to \$65.16. A typical bill analysis for  
22           3/4-inch residential customers is presented in Schedule PMC-15.

---

<sup>2</sup> A mathematical inequality occurs due to rounding.

<sup>3</sup> A mathematical inequality occurs due to rounding.

1     **Q.     What is Staff's recommendation for water system service line and meter installation**  
2     **charges?**

3     A.     Staff recommends adoption of the charges as listed under "Staff's Recommendation" in  
4     Table C of the Engineering Report and duplicated in Schedule PMC-13.

5

6     **Q.     Did the Company propose any changes to its water system service charges?**

7     A.     Yes. The Company's proposed service charges are shown in the Company's Schedule  
8     H-3 and duplicated in Schedule PMC-13.

9

10    **Q.     Does Staff agree with the Company's proposed service charges?**

11    A.     Yes. The service charges proposed by the Company are comparable with service charges  
12    of other Arizona water utilities.

13

14    **Q.     What water system service charges does Staff recommend?**

15    A.     Staff's recommendations for service charges are shown in Schedule PMC-13, Page 2.

16

17    **Q.     Does this conclude your direct testimony?**

18    A.     Yes, it does.

Valle Verde Water Company

Docket No. W-01431A-09-0360, et al

Test Year Ended December 31, 2008

DIRECT TESTIMONY OF PEDRO M. CHAVES

TABLE OF CONTENTS TO SCHEDULES :

<u>SCH #</u>	<u>TITLE</u>
PMC- 1	REVENUE REQUIREMENT
PMC- 2	RATE BASE - ORIGINAL COST
PMC- 3	SUMMARY OF RATE BASE ADJUSTMENTS
PMC- 4	RATE BASE ADJUSTMENT NO. 1 - REMOVAL OF PRO FORMA PLANT
PMC- 5	RATE BASE ADJUSTMENT NO. 2 - REMOVAL OF WORKING CAPITAL ALLOWANCE
PMC- 6	OPERATING INCOME - TEST YEAR AND STAFF RECOMMENDED
PMC- 7	SUMMARY OF OPERATING INCOME ADJUSTMENTS - TEST YEAR
PMC- 8	OPERATING INCOME ADJUSTMENT NO. 1 - METERED WATER REVENUE
PMC- 9	OPERATING INCOME ADJUSTMENT NO. 2 - PURCHASED WATER EXPENSE
PMC- 10	OPERATING INCOME ADJUSTMENT NO. 3 - WATER TESTING EXPENSE
PMC- 11	OPERATING INCOME ADJUSTMENT NO. 4 - DEPRECIATION EXPENSE
PMC- 12	OPERATING INCOME ADJUSTMENT NO. 5 - PROPERTY TAXES
PMC- 13	RATE DESIGN
PMC- 14	5/8" TYPICAL BILL ANALYSIS
PMC- 15	3/4" TYPICAL BILL ANALYSIS

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	[A] COMPANY ORIGINAL COST	[B] STAFF ORIGINAL COST
1	Fair Value Rate Base	\$ 516,847	\$ (598,836)
2	Adjusted Operating Income/(Loss)	\$ (301,837)	\$ (225,357)
3	Current Rate of Return (L2 / L1)	-58.40%	Not Meaningful
4	Required Rate of Return	Not Used	Not Meaningful
5	Recommended Operating Margin	20.56%	10.20%
6	Required Operating Income (L5 * L11)	\$ 195,915	\$ 57,295
7	Recommended Increase in Operating Income (L6 - L2)	\$ 497,753	\$ 282,652
8	Gross Revenue Conversion Factor <sup>1</sup>	1.0000	1.0086
9	Recommended Increase in Operating Revenue (L7 * L8)	\$ 497,753	\$ 285,070
10	Adjusted Test Year Operating Revenue	\$ 455,348	\$ 276,656
11	Recommended Annual Operating Revenue (L9 + L10)	\$ 953,101	\$ 561,726
12	Required Increase in Revenue (%) (L9 / L10)	109.31%	103.04%
13	Rate of Return (L7/ L1)	37.91%	Not Meaningful

References:

Column [A]: Company Schedules A-1, B-1, C-1  
Column [B]: Staff Schedules PMC-2, PMC-6

<sup>1</sup> Staff GRCF reflects property taxes.

**RATE BASE - ORIGINAL COST**

LINE NO.	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Plant in Service	\$ 3,922,086	\$ 2,858,608
2	Less: Acc Depreciation & Amortization	(1,461,206)	(1,461,206)
3	Net Plant in Service	<u>\$ 2,460,880</u>	<u>\$ 1,397,402</u>
 <i>LESS:</i>			
4	Advances in Aid of Construction (AIAC)	\$ 1,518,730	\$ 1,518,730
5	Contributions in Aid of Construction (CIAC)	\$ 502,640	\$ 502,640
6	Less: Accumulated Amortization	(25,132)	(25,132)
7	Net CIAC	<u>\$ 477,508</u>	<u>\$ 477,508</u>
8	Deferred Taxes	\$ -	\$ -
9	Customer Deposits	\$ -	\$ -
 <i>ADD:</i>			
10	Allowance for Working Capital	\$ 52,205	\$ -
11	Materials and Supplies	\$ -	\$ -
12	Prepayments	<u>\$ -</u>	<u>\$ -</u>
13	<b>Total Rate Base</b>	<u>\$ 516,847</u>	<u>\$ (598,836)</u>

References:

Column [A], Company Schedule B-1, Page 1  
Column [B]: Schedule PMC-3  
Column [C]: Column [A] + Column [B]

Valle Verde Water Company  
 Docket No. W-0143 (A-09-0560, et al  
 Test Year Ended December 31, 2008

SUMMARY OF RATE BASE ADJUSTMENTS

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) PM/C-4 Pro Forma Plant ADJ.No.1	(B) PM/C-5 Working Capital ADJ.No.2	(D) STAFF ADJUSTED
<b>PLANT IN SERVICE:</b>					
1	Organization Cost	\$ -	\$ -	\$ -	\$ -
2	Franchise Cost	125	-	-	125
3	Land and Land Rights	86,093	-	-	86,093
4	Structures and Improvements	500,114	-	-	500,114
5	Structures and Improvements - Pumping	-	-	-	-
6	Structures and Improvements - Water Treatment	557,589	-	-	557,589
7	Wells and Springs	-	-	-	-
8	Power Generation Equipment	292,876	-	-	292,876
9	Pumping Equipment	-	-	-	-
10	Gas Pumping Equipment	11,504	-	-	11,504
11	Water Treatment Equipment	366,501	-	-	366,501
12	Distribution Reservoirs & Standpipe	579,729	-	-	579,729
13	Transmission and Distribution Mains	51,108	-	-	51,108
14	Services	-	-	-	-
15	Fire Sprinkler Taps	93,702	-	-	93,702
16	Meters and Meter Installations	35,007	-	-	35,007
17	Hydrants	-	-	-	-
18	Other Plant and Miscellaneous Equipment	16,552	-	-	16,552
19	Office Furniture and Fixtures	71,364	-	-	71,364
20	Computer Equipment	-	-	-	-
21	Transportation Equipment	11,729	-	-	11,729
22	Stores Equipment	44,869	-	-	44,869
23	Tools and Work Equipment	-	-	-	-
24	Laboratory Equipment	-	-	-	-
25	Power Operated Equipment	139,746	-	-	139,746
26	Power Operated Equipment - Backhoe	1,063,478	(1,063,478)	-	-
27	Communications Equipment	-	-	-	-
28	Miscellaneous Equipment	-	-	-	-
29	Other Tangible Plant	-	-	-	-
30	Pro Forma Plant	-	-	-	-
31	Total Plant in Service	\$ 3,922,086	\$ (1,063,478)	\$ -	\$ 2,858,608
32	Less: Accumulated Depreciation	(1,461,206)	-	-	(1,461,206)
33	Less: Accumulated Amortization	(1,461,206)	-	-	(1,461,206)
34	Total Accumulated Depreciation & Amortization	\$ 2,480,880	\$ (1,063,478)	\$ -	\$ 1,397,402
35	Net Plant in Service	\$ 1,441,206	\$ -	\$ -	\$ 1,441,206
<b>LESS:</b>					
36	Advances in Aid of Construction (AIAC)	\$ 1,518,730	-	-	\$ 1,518,730
37	Contributions in Aid of Construction (CIAC)	502,640	-	-	502,640
38	Less: Accumulated Amortization	(25,132)	-	-	(25,132)
39	Net CIAC	\$ 477,508	-	-	\$ 477,508
40	Deferred Taxes	\$ -	-	-	\$ -
41	Customer Deposits	\$ -	-	-	\$ -
<b>ADD:</b>					
42	Allowance for Working Capital	\$ 52,205	-	(52,205)	\$ -
43	Materials and Supplies	\$ -	-	-	\$ -
44	Prepayments	\$ 516,647	-	-	\$ 516,647
45	Total Rate Base	\$ 516,647	\$ (1,063,478)	\$ (52,205)	\$ (598,836)

**RATE BASE ADJUSTMENT NO. 1 - REMOVAL OF PRO FORMA PLANT**

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENT	STAFF AS ADJUSTED
1	Pro Forma Plant	\$ 1,063,478	\$ (1,063,478)	\$ -

References:

Column A: Company Schedule B-2

Column B: Testimony, PMC

Column C: Column [A] + Column [B]

Valle Verde Water Company  
Docket No. W-01431A-09-0360, et al  
Test Year Ended December 31, 2008

Schedule PMC-5

**RATE BASE ADJUSTMENT NO. 2 - REMOVAL OF WORKING CAPITAL ALLOWANCE**

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENT	STAFF AS ADJUSTED
1	Working Capital	\$ 52,205	\$ (52,205)	\$ -

References:

Column A: Cooperative Schedule B-5

Column B: Testimony

Column C: Column [A] + Column [B]

OPERATING INCOME - TEST YEAR AND STAFF RECOMMENDED

Line No.	DESCRIPTION	(A) COMPANY TEST YEAR AS FILED	(B) STAFF TEST YEAR ADJUSTMENTS	(C) STAFF TEST YEAR AS ADJUSTED	(D) STAFF RECOMMENDED CHANGES	(E) STAFF RECOMMENDED
<b>REVENUES:</b>						
1	Metered Water Revenues	\$ 449,315	\$ (178,692)	ADJ. No. 1 \$ 270,623	\$ 285,070	\$ 555,693
2		-	-	-	-	-
3	Unmetered Water Revenues	-	\$ -	-	-	-
4	Other Water Revenues	6,033	-	6,033	-	6,033
5	<b>Total Revenues</b>	<u>\$ 455,348</u>	<u>\$ (178,692)</u>	<u>\$ 276,656</u>	<u>\$ 285,070</u>	<u>\$ 561,726</u>
<b>OPERATING EXPENSES:</b>						
6	Salaries and Wages	\$ 71,814	\$ -	\$ 71,814	\$ -	\$ 71,814
7	Purchased Water	187,158	(187,158)	ADJ. No. 2 -	-	-
8	Purchased Power	38,214	-	38,214	-	38,214
9	Chemicals	919	-	919	-	919
10	Repairs and Maintenance	58,561	-	58,561	-	58,561
11	Office Supplies and Expense	18,166	-	18,166	-	18,166
12	Outside Services	152,005	-	152,005	-	152,005
13	Water Testing	10,447	(5,412)	ADJ. No. 3 5,035	-	5,035
14	Rents	-	-	-	-	-
15	Transportation Expenses	10,277	-	10,277	-	10,277
16	Insurance - General Liability	10,940	-	10,940	-	10,940
17	Insurance - Health and Life	-	-	-	-	-
18	Regulatory Commission Expense - Rate Case	8,333	-	8,333	-	8,333
19	Miscellaneous Expense	1,056	-	1,056	-	1,056
20	Depreciation Expense	166,663	(55,163)	ADJ. No. 4 111,500	-	111,500
21	Taxes Other Than Income	8,503	-	8,503	-	8,503
22	Property Taxes	14,129	(7,439)	ADJ. No. 5 6,690	2,418	9,108
23	Income Tax	-	-	-	-	-
24	<b>Total Operating Expense</b>	<u>\$ 757,185</u>	<u>\$ (255,172)</u>	<u>\$ 502,013</u>	<u>\$ 2,418</u>	<u>\$ 504,431</u>
25	<b>Operating Income/(Loss)</b>	<u>\$ (301,837)</u>	<u>\$ 76,480</u>	<u>\$ (225,357)</u>	<u>\$ 282,652</u>	<u>\$ 57,295</u>
<b>Pro forma cash flow with WIFA loan</b>						
26	Plus: Depreciation Expense					111,500
27	Minus: Advance refunds					50
28	Minus: Interest expense on the WIFA loan					47,170
29	Minus: Repayment of principal on the WIFA loan					33,567
30	<b>Pro forma cash flow (L25 + L26 - L27 - L28 - L29)</b>					<u>\$ 88,008</u>
31	<b>Debt Service Coverage Ratio (L25 + L26) / (L28 + L29)</b>					2.09

References:

Column (A): Cooperative Schedule C-1, Page 1  
Column (B): Schedule PMC-7  
Column (C): Column (A) + Column (B)  
Column (E): Column (C) + Column (D)

Vaile Verde Water Company  
 Docket No. W-01431A-09-0360, et al  
 Test Year Ended December 31, 2008

SUMMARY OF OPERATING INCOME ADJUSTMENTS - TEST YEAR

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) Metered Water Revenue ADJ No. 1 Ref: Sch PMC-8	(C) Purchased Water Expense ADJ No. 2 Ref: Sch PMC-9	(D) Water Testing Expense ADJ No. 3 Ref: Sch PMC-10	(E) Depreciation Expense ADJ No. 4 Ref: Sch PMC-11	(F) Property Tax Expense ADJ No. 5 Ref: Sch PMC-12	(H) STAFF ADJUSTED
<b>REVENUES:</b>								
1	Metered Water Revenues	\$ 449,315	\$ (178,692)	\$ -	\$ -	\$ -	\$ -	\$ 270,623
2	Unmetered Water Revenues	-	-	-	-	-	-	-
3	Other Water Revenues	6,033	-	-	-	-	-	6,033
4	<b>Total Revenues</b>	<b>\$ 455,348</b>	<b>\$ (178,692)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 276,656</b>
<b>OPERATING EXPENSES:</b>								
6	Salaries and Wages	\$ 71,814	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 71,814
7	Purchased Water	187,158	-	(187,158)	-	-	-	-
8	Purchased Power	38,214	-	-	-	-	-	38,214
9	Chemicals	919	-	-	-	-	-	919
10	Repairs and Maintenance	58,561	-	-	-	-	-	58,561
11	Office Supplies and Expense	18,166	-	-	-	-	-	18,166
12	Outside Services	152,005	-	-	-	-	-	152,005
13	Water Testing	10,447	-	(5,412)	-	-	-	5,035
14	Rents	-	-	-	-	-	-	-
15	Transportation Expenses	10,277	-	-	-	-	-	10,277
16	Insurance - General Liability	10,940	-	-	-	-	-	10,940
17	Insurance - Health and Life	-	-	-	-	-	-	-
18	Regulatory Commission Expense - Rate Case	8,333	-	-	-	-	-	8,333
19	Miscellaneous Expense	1,056	-	-	-	-	-	1,056
20	Depreciation Expense	166,663	-	-	(55,163)	-	-	111,500
21	Taxes Other Than Income	8,503	-	-	-	-	(7,439)	8,503
22	Property Taxes	14,129	-	-	-	-	-	6,690
23	Income Tax	-	-	-	-	-	-	-
24	<b>Total Operating Expenses</b>	<b>\$ 757,185</b>	<b>\$ (187,158)</b>	<b>\$ (5,412)</b>	<b>\$ (55,163)</b>	<b>\$ (7,439)</b>	<b>\$ -</b>	<b>\$ 532,013</b>
25	<b>Operating Income/(Loss)</b>	<b>\$ (301,837)</b>	<b>\$ (178,692)</b>	<b>\$ 5,412</b>	<b>\$ 55,163</b>	<b>\$ 7,439</b>	<b>\$ -</b>	<b>\$ (225,357)</b>

OPERATING INCOME ADJUSTMENT NO. 1 - METERED WATER REVENUE

Line No.	Description	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENT	STAFF AS ADJUSTED
1	Metered Water Revenue	\$ 449,315	\$ (178,692)	\$ 270,623

To remove non-recurring surcharge revenues.

References:

Column A: Cooperative Schedule C-1, Page 1

Column B: Testimony, Schedule PMC-7

Column C: Column [A] + Column [B]

OPERATING INCOME ADJUSTMENT NO. 2 - PURCHASED WATER EXPENSE

Line No.	Description	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENT	STAFF AS ADJUSTED
1	Purchased Water	\$ 187,158	\$ (187,158)	\$ -

To disallow a non-recurring expense.

References:

- Column A: Cooperative Schedule C-1, Page 1
- Column B: Testimony, Schedule PMC-7
- Column C: Column [A] + Column [B]

**OPERATING INCOME ADJUSTMENT NO. 3 - WATER TESTING EXPENSE**

		[A]	[B]	[C]
Line No.	Description	COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Water Testing Expense	\$ 10,447	\$ (5,412)	\$ 5,035

References:

Column A: Cooperative Schedule C-1, Page 1

Column B: Testimony, Schedule PMC-7

Column C: Column [A] + Column [B]

OPERATING INCOME ADJUSTMENT NO. 4 - DEPRECIATION EXPENSE

Line No.	Description	[A]	[B]	[C]	[D]		
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED			
1	Depreciation Expense	\$ 166,663	\$ (55,153)	\$ 111,500			
<u>Depreciation Expense</u>			Staff Adjustment	Staff Adjusted Original Cost	Proposed Rate	Depreciation Expense	
Line No.	Acct. No.	Description	Company Original Cost 12/31/2008				
1	301	Organization	\$ -	\$ -	0.00%	\$ -	
2	302	Franchises	125	-	0.00%	-	
3	303	Land & Land Rights	86,093	-	0.00%	-	
4	304	Structures & Improvements	500,114	-	3.33%	16,654	
5	304.1	Structures & Improvements - Pumping	-	-	3.33%	-	
6	304.2	Structures & Improvements - Water Treatment	-	-	3.33%	-	
7	305	Collecting & Impounding Reservoirs	-	-	2.50%	-	
8	306	Lake, River, Canal Intakes	-	-	2.50%	-	
9	307	Wells & Springs	557,589	-	3.33%	18,568	
10	308	Infiltration Galleries	-	-	6.67%	-	
11	309	Raw Water Supply Mains	-	-	2.00%	-	
12	310	Power Generation Equipment	-	-	5.00%	-	
13	311	Electric Pumping Equipment	292,876	-	12.50%	36,610	
14	311.1	Gas Pumping Equipment	-	-	12.50%	-	
15	320	Water Treatment Equipment	11,504	(11,504)	-	-	
16	320.1	Water Treatment Plant	-	-	3.33%	-	
17	320.2	Solution Chemical Feeders *	-	345	345	20.00%	
18	320.4	Water Treatment Plant (media) - PCE removal Plant *	-	11,159	11,159	5.00%	
19	330	Distribution Reservoirs & Standpipes	366,501	(366,501)	-	-	
20	330.1	Storage Tanks **	-	285,871	285,871	2.22%	6,346
21	330.2	Pressure Tanks **	-	80,630	80,630	5.00%	4,032
22	331	Transmission & Distrib. Mains	579,729	-	579,729	2.00%	11,595
23	333	Services	51,108	-	51,108	3.33%	1,702
24	333.1	Fire Sprinkler Taps	-	-	-	3.33%	-
25	334	Meters & Meter Installations	93,702	-	93,702	8.33%	7,805
26	335	Hydrants	35,007	-	35,007	2.00%	700
27	336	Backflow Prevention Devices	-	-	-	6.67%	-
28	339	Other Plant & Misc. Equipment	-	-	-	6.67%	-
29	340	Office Furniture & Equipment	16,552	-	16,552	6.67%	1,104
30	340.1	Computers & Software	-	-	-	20.00%	-
31	341	Transportation Equipment	71,364	-	71,364	20.00%	14,273
32	342	Stores Equipment	-	-	-	4.00%	-
33	343	Tools, Shop & Garage Equip.	11,729	-	11,729	5.00%	586
34	344	Laboratory Equipment	-	-	-	10.00%	-
35	345	Power Operated Equipment	44,869	-	44,869	5.00%	2,243
36	345.1	Power Operated Equipment - Backhoe	-	-	-	5.00%	-
37	346	Communication Equipment	-	-	-	10.00%	-
38	347	Miscellaneous Equipment	-	-	-	10.00%	-
39	348	Other Tangible Plant	139,746	-	139,746	10.00%	13,975
40		Total	\$ 2,858,608	0	\$ 2,858,608		\$ 136,192
41		Less: Non-depreciable Accounts			\$ 85,218		
42		Depreciable Plant (L35 - L36)			\$ 2,772,390		
43		Contributions-in-aid-of-Construction (CIAC)			\$ 502,640		
44		Composite CIAC Amortization Rate (Col. D, L35 / Col. B, L37)			4.9124%		
45		Less: Amortization of CIAC					\$ 24,692
46		Staff Recommended Total Depreciation Expense (L 35 - L 40)					\$ 111,500

References:

- Column A: Cooperative Schedule C-1, Page 1
- Column B: Testimony, PMC
- Column C: Column [A] + Column [B]

OPERATING INCOME ADJUSTMENT NO. 5 - PROPERTY TAXES

LINE NO.	Property Tax Calculation	[A]	[B]
		STAFF AS ADJUSTED	STAFF RECOMMENDED
1	Staff Adjusted Test Year Revenues - 2008	\$ 276,656	\$ 276,656
2	Weight Factor	2	2
3	Subtotal (Line 1 * Line 2)	\$ 553,311	\$ 553,311
4a	Staff Adjusted Test Year Revenues - 2008	276,656	
4b	Staff Recommended Revenue, Per Schedule PMC-1		561,726
5	Subtotal (Line 4 + Line 5)	\$ 829,967	\$ 1,115,037
6	Number of Years	3	3
7	Three Year Average (Line 5 / Line 6)	\$ 276,656	\$ 371,679
8	Department of Revenue Multiplier	2	2
9	Revenue Base Value (Line 7 * Line 8)	\$ 553,311	\$ 743,358
10	Plus: 10% of CWIP -	-	-
11	Less: Net Book Value of Licensed Vehicles	27,478	27,478
12	Full Cash Value (Line 9 + Line 10 - Line 11)	\$ 525,833	\$ 715,880
13	Assessment Ratio	21.0%	21.0%
14	Assessment Value (Line 12 * Line 13)	\$ 110,425	\$ 150,335
15	Composite Property Tax Rate (Per Company Schedule C-2, Page 3, Line 16)	6.0583%	6.0583%
16	Staff Proposed Property Tax Expense (Line 14 * Line 15)	\$ 6,690	
17	Company Proposed Property Tax	\$ 14,129	
18	Staff Test Year Adjustment (Line 16-Line 17)	\$ (7,439)	
19	Property Tax - Staff Recommended Revenue (Line 14 * Line 15)		\$ 9,108
20	Staff Test Year Adjusted Property Tax Expense (Line 16)		\$ 6,690
21	Increase/(Decrease) to Property Tax Expense		\$ 2,418
22	Increase to Property Tax Expense		\$ 2,418
23	Increase in Revenue Requirement		\$ 285,070
24	Decrease to Property Tax per Dollar Increase in Revenue (Line19/Line 20)		0.8482%
25	GRCF = (1 / (1-TR)) = 1 / (1-.015471)		1.0086

References:

Col [A]: Company Schedule C-1 Page 3  
Col [B]: PMC Testimony

RATE DESIGN

Monthly Usage Charge	Present Rates	Company Proposed Rates	Staff Recommended Rates
5/8 x3/4" Meter - All Classes	\$ 11.75	\$ 30.00	\$ 17.00
3/4" Meter - All Classes	11.90	45.00	17.00
1" Meter - All Classes	20.00	75.00	41.00
1½" Meter - All Classes	31.00	150.00	81.00
2" Meter - All Classes	59.65	240.00	130.00
3" Meter - All Classes	120.00	480.00	260.00
4" Meter - All Classes	250.00	750.00	405.00
6" Meter - All Classes	500.00	1,500.00	810.00
<b>Commodity Rates</b>			
5/8 x3/4" Meter (Residential)			
From 0 to 8,000 Gallons	\$ 1.30	N/A	N/A
Over 8,000 Gallons	\$ 1.47	N/A	N/A
From 0 to 3,000 Gallons	N/A	\$ 3.00	\$ 1.30
From 3,001 to 10,000 Gallons	N/A	\$ 4.50	\$ 2.85
Over 10,000 Gallons	N/A	\$ 5.65	\$ 3.85
3/4" Meter (Residential)			
From 0 to 8,000 Gallons	\$ 1.30	N/A	N/A
Over 8,000 Gallons	\$ 1.47	N/A	N/A
From 0 to 3,000 Gallons	N/A	\$ 3.00	\$ 1.30
From 3,001 to 10,000 Gallons	N/A	\$ 4.50	\$ 2.85
Over 10,000 Gallons	N/A	\$ 5.65	\$ 3.85
5/8 x3/4" Meter (Commercial)			
From 0 to 8,000 Gallons	\$ 1.30	N/A	N/A
Over 8,000 Gallons	\$ 1.47	N/A	N/A
From 0 to 3,000 Gallons	N/A	\$ 3.00	N/A
From 3,001 to 10,000 Gallons	N/A	\$ 4.50	N/A
Over 10,000 Gallons	N/A	\$ 5.65	N/A
From 0 to 10,000 Gallons	N/A	N/A	\$ 2.85
Over 10,000 Gallons	N/A	N/A	\$ 3.85
3/4" Meter (Commercial)			
From 0 to 8,000 Gallons	\$ 1.30		
Over 8,000 Gallons	\$ 1.47		
From 0 to 3,000 Gallons	N/A	\$ 3.00	N/A
From 3,001 to 10,000 Gallons	N/A	\$ 4.50	N/A
Over 10,000 Gallons	N/A	\$ 5.65	N/A
From 0 to 10,000 Gallons	N/A	N/A	\$ 2.85
Over 10,000 Gallons	N/A	N/A	\$ 3.85
1" Meter (Residential, Commercial)			
From 0 to 8,000 Gallons	\$ 1.30	N/A	N/A
Over 8,000 Gallons	\$ 1.47	N/A	N/A
From 0 to 15,000 Gallons	N/A	\$ 4.50	\$ 2.85
Over 15,000 Gallons	N/A	\$ 5.65	\$ 3.85
1½" Meter (Res., Comm.)			
From 0 to 8,000 Gallons	\$ 1.30	N/A	N/A
Over 8,000 Gallons	\$ 1.47	N/A	N/A
From 0 to 20,000 Gallons	N/A	\$ 4.50	\$ 2.85
Over 20,000 Gallons	N/A	\$ 5.65	\$ 3.85
2" Meter (Res., Comm., & Res/Comm)			
From 0 to 8,000 Gallons	\$ 1.30	N/A	N/A
Over 8,000 Gallons	\$ 1.47	N/A	N/A
From 0 to 25,000 Gallons	N/A	\$ 4.50	\$ 2.85
Over 25,000 Gallons	N/A	\$ 5.65	\$ 3.85

RATE DESIGN

Monthly Usage Charge	Present Rates		Company Proposed Rates			Staff Recommended Rates		
3" Meter (Res., Comm.)								
From 0 to 8,000 Gallons	\$	1.30			N/A			N/A
Over 8,000 Gallons	\$	1.47			N/A			N/A
From 0 to 70,000 Gallons		N/A			\$ 4.50			\$ 2.85
Over 70,000 Gallons		N/A			\$ 5.65			\$ 3.85
4" Meter (Res., Comm.)								
From 0 to 8,000 Gallons	\$	1.30			N/A			N/A
Over 8,000 Gallons	\$	1.47			N/A			N/A
From 0 to 150,000 Gallons		N/A			\$ 4.50			\$ 2.85
Over 150,000 Gallons		N/A			\$ 5.65			\$ 3.85
6" Meter (Res., Comm.)								
From 0 to 8,000 Gallons	\$	1.30			N/A			N/A
Over 8,000 Gallons	\$	1.47			N/A			N/A
From 0 to 500,000 Gallons		N/A			\$ 4.50			\$ 2.85
Over 500,000 Gallons		N/A			\$ 5.65			3.85
Service Line and Meter Installation Charges	Total		Line	Meter	Total	Line	Meter	Total
5/8" x 3/4" Meter	\$ 320		\$ 445	\$ 155	\$ 600	\$ 445	\$ 155	\$ 600
3/4" Meter	360		445	255	700	445	255	700
1" Meter	420		495	315	810	495	315	810
1 1/2" Meter	635		550	525	1,075	550	525	1,075
2" Turbine Meter	1,090		830	1,045	1,875	830	1,045	1,875
2" Compound Meter	N/T		830	1,890	2,720	830	1,890	2,720
3" Turbine Meter	1,505		1,045	1,670	2,715	1,045	1,670	2,715
3" Compound Meter	N/T		1,165	2,545	3,710	1,165	2,545	3,710
4" Turbine Meter	2,380		1,490	1,737	3,227	1,490	1,737	3,227
4" Compound Meter	N/T		1,670	3,645	5,315	1,670	3,645	5,315
6" Turbine Meter	4,655		2,210	3,766	5,976	2,210	3,766	5,976
6" Compound Meter	N/T		2,330	6,920	9,250	2,330	6,920	9,250
Over 6"	N/T		N/T	N/T	N/T	Cost	Cost	Cost
Service Charges								
Establishment	\$ 10.00				\$ 30.00			\$ 30.00
Establishment (After Hours)	20.00				40.00			40.00
Reconnection (Delinquent)	20.00				40.00			40.00
Reconnection (Delinquent and After Hours)	N/T				50.00			50.00
Meter Test (If Correct)	35.00				35.00			35.00
Deposit	(a)				(a)			(a)
Deposit Interest	(a)				(a)			(a)
Re-Establishment (With-in 12 Months)	(b)				(b)			(b)
NSF Check	\$ 15.00				\$ 30.00			\$ 25.00
Late Charge per month	1.50%				1.50%			1.50%
Deferred Payment, Per Month	1.50%				1.50%			1.50%
Meter Re-Read (If Correct)	10.00				20.00			20.00
Monthly Service Charge for Fire Sprinkler	(c)				(c)			(d)

NT = No Tariff

(a) Per Commission Rule A.A.C. R14-2-403(B)

(b) Number of months off system times the monthly minimum, per Commission Rule A.A.C. R14-2-403(D).

(c) 1% of monthly minimum for a comparable sized meter connection, but no less than \$5.00 per month. The service charge for fire sprinklers is only applicable for service lines separate and distinct from the primary water service line.

(d) 2% of monthly minimum for a comparable sized meter connection, but no less than \$10.00 per month. The service charge for fire sprinklers is only applicable for service lines separate and distinct from the primary water service line.

**Typical Bill Analysis**  
 5/8" Residential

Company Proposed	Gallons	Present Rates	Proposed Rates	Dollar Increase	Percent Increase
Average Usage	7,550	\$ 21.57	\$ 59.48	\$ 37.91	175.79%
Median Usage	5,658	19.11	50.96	\$ 31.86	166.74%
<b>Staff Recommended</b>					
Average Usage	7,550	\$ 21.57	\$ 33.87	\$ 12.30	57.05%
Median Usage	5,658	19.11	28.48	\$ 9.37	49.04%

**Present & Proposed Rates (Without Taxes)**  
 5/8" Residential

Gallons Consumption	Present Rates	Company Proposed Rates	% Increase	Staff Recommended Rates	% Increase
-	\$ 11.75	\$ 30.00	155.32%	\$ 17.00	44.68%
1,000	13.05	33.00	152.87%	18.30	40.23%
2,000	14.35	36.00	150.87%	19.60	36.59%
3,000	15.65	39.00	149.20%	20.90	33.55%
4,000	16.95	43.50	156.64%	23.75	40.12%
5,000	18.25	48.00	163.01%	26.60	45.75%
5,658	19.11	50.96	166.74%	28.48	49.04%
6,000	19.55	52.50	168.54%	29.45	50.64%
7,000	20.85	57.00	173.38%	32.30	54.92%
7,550	21.57	59.48	175.79%	33.87	57.05%
8,000	22.15	61.50	177.65%	35.15	58.69%
9,000	23.62	66.00	179.42%	38.00	60.88%
4,898	18.12	47.54	162.41%	26.31	45.22%
10,000	25.09	70.50	180.99%	40.85	62.81%
11,000	26.56	76.15	186.71%	44.70	68.30%
12,000	28.03	81.80	191.83%	48.55	73.21%
13,000	29.50	87.45	196.44%	52.40	77.63%
14,000	30.97	93.10	200.61%	56.25	81.63%
15,000	32.44	98.75	204.41%	60.10	85.27%
16,000	33.91	104.40	207.87%	63.95	88.59%
17,000	35.38	110.05	211.05%	67.80	91.63%
18,000	36.85	115.70	213.98%	71.65	94.44%
19,000	38.32	121.35	216.68%	75.50	97.03%
20,000	39.79	127.00	219.18%	79.35	99.42%
25,000	47.14	155.25	229.34%	98.60	109.16%
30,000	54.49	183.50	236.76%	117.85	116.28%
35,000	61.84	211.75	242.42%	137.10	121.70%
40,000	69.19	240.00	246.87%	156.35	125.97%
45,000	76.54	268.25	250.47%	175.60	129.42%
50,000	83.89	296.50	253.44%	194.85	132.27%
75,000	120.64	437.75	262.86%	291.10	141.30%
100,000	157.39	579.00	267.88%	387.35	146.11%

**Typical Bill Analysis**  
3/4" Residential

Company Proposed	Gallons	Present Rates	Proposed Rates	Dollar Increase	Percent Increase
Average Usage	7,433	\$ 21.56	\$ 73.95	\$ 52.39	242.94%
Median Usage	5,480	19.02	65.16	\$ 46.14	242.51%
<b>Staff Recommended</b>					
Average Usage	7,433	\$ 21.56	\$ 33.53	\$ 11.97	55.52%
Median Usage	5,480	19.02	27.97	\$ 8.94	47.01%

Present & Proposed Rates (Without Taxes)  
3/4" Residential

Gallons Consumption	Present Rates	Company Proposed Rates	% Increase	Staff Recommended Rates	% Increase
-	\$ 11.90	\$ 45.00	278.15%	\$ 17.00	42.86%
1,000	13.20	48.00	263.64%	18.30	38.64%
2,000	14.50	51.00	251.72%	19.60	35.17%
3,000	15.80	54.00	241.77%	20.90	32.28%
4,000	17.10	58.50	242.11%	23.75	38.89%
5,000	18.40	63.00	242.39%	26.60	44.57%
5,480	19.02	65.16	242.51%	27.97	47.01%
6,000	19.70	67.50	242.64%	29.45	49.49%
7,000	21.00	72.00	242.86%	32.30	53.81%
7,433	21.56	73.95	242.94%	33.53	55.52%
8,000	22.30	76.50	243.05%	35.15	57.62%
9,000	23.77	81.00	240.77%	38.00	59.87%
10,000	25.24	85.50	238.75%	40.85	61.85%
11,000	26.71	91.15	241.26%	44.70	67.35%
12,000	28.18	96.80	243.51%	48.55	72.29%
13,000	29.65	102.45	245.53%	52.40	76.73%
14,000	31.12	108.10	247.37%	56.25	80.75%
15,000	32.59	113.75	249.03%	60.10	84.41%
16,000	34.06	119.40	250.56%	63.95	87.76%
17,000	35.53	125.05	251.96%	67.80	90.82%
18,000	37.00	130.70	253.24%	71.65	93.65%
19,000	38.47	136.35	254.43%	75.50	96.26%
20,000	39.94	142.00	255.53%	79.35	98.67%
25,000	47.29	170.25	260.01%	98.60	108.50%
30,000	54.64	198.50	263.29%	117.85	115.68%
35,000	61.99	226.75	265.78%	137.10	121.16%
40,000	69.34	255.00	267.75%	156.35	125.48%
45,000	76.69	283.25	269.34%	175.60	128.97%
50,000	84.04	311.50	270.66%	194.85	131.85%
75,000	120.79	452.75	274.82%	291.10	141.00%
100,000	157.54	594.00	277.05%	387.35	145.87%

BEFORE THE ARIZONA CORPORATION COMMISSION

KRISTIN K. MAYES  
Chairman  
GARY PIERCE  
Commissioner  
PAUL NEWMAN  
Commissioner  
SANDRA D. KENNEDY  
Commissioner  
BOB STUMP  
Commissioner

IN THE MATTER OF THE APPLICATION OF ) DOCKET NO. W-01431A-09-0360  
WILLIAM F. RANDALL DBA VALLE VERDE )  
WATER COMPANY FOR AN APPROVAL )  
INCREASE IN ITS WATER RATES & )  
APPLICATION OF ESTATE OF WILLIAM F. )  
RANDALL DBA VALLE VERDE )  
WATER COMPANY FOR AUTHORITY TO )  
INCUR & LONG-TERM DEBT )  
\_\_\_\_\_ ) DOCKET NO. W-01431A-09-0361

DIRECT

TESTIMONY

OF

DOROTHY M. HAINS, P.E.

UTILITIES ENGINEER

ARIZONA CORPORATION COMMISSION

UTILITIES DIVISION

FEBRUARY 11, 2010

**TABLE OF CONTENTS**

	<b><u>Page</u></b>
INTRODUCTION .....	1
PURPOSE OF TESTIMONY .....	2
ENGINEERING REPORTS .....	3
RECOMMENDATIONS AND CONCLUSIONS .....	4

**EXHIBITS**

ENGINEERING REPORT FOR VALLE VERDE .....	DMH-1
------------------------------------------	-------

1 **INTRODUCTION**

2 **Q. Please state your name and business address.**

3 A. My name is Dorothy Hains. My business address is 1200 West Washington Street,  
4 Phoenix, Arizona 85007.

5  
6 **Q. By whom and in what position are you employed?**

7 A. I am employed by the Arizona Corporation Commission ("Commission" or "ACC") as a  
8 Utilities Engineer - Water/Wastewater in the Utilities Division.

9  
10 **Q. How long have you been employed by the Commission?**

11 A. I have been employed by the Commission since January 1998.

12  
13 **Q. What are your responsibilities as a Utilities Engineer - Water/Wastewater?**

14 A. My main responsibilities are to inspect, investigate and evaluate water and wastewater  
15 systems. This includes obtaining data, preparing reconstruction cost new and/or original  
16 cost studies and investigative reports, interpreting rules and regulations, and to suggest  
17 corrective action and provide technical recommendations on water and wastewater system  
18 deficiencies. I also provide written and oral testimony in rate cases and other cases before  
19 the Commission.

20  
21 **Q. How many companies have you analyzed for the Utilities Division?**

22 A. I have analyzed more than 90 companies covering these various responsibilities for  
23 Utilities Division Staff ("Staff").

1 **Q. Have you previously testified before this Commission?**

2 A. Yes, I have testified on numerous occasions before this Commission.

3  
4 **Q. What is your educational background?**

5 A. I graduated from the University of Alabama in Birmingham in 1987 with a Bachelor of  
6 Science degree in Civil Engineering.

7  
8 **Q. Briefly describe your pertinent work experience.**

9 A. Before my employment with the Commission, I was an Environmental Engineer for the  
10 Arizona Department of Environmental Quality ("ADEQ") for ten years. Prior to that time,  
11 I was an Engineering Technician with C. F. Hains, Hydrology in Northport, Alabama for  
12 approximately five years.

13  
14 **Q. Please state your professional membership, registrations, and licenses.**

15 A. I have been a registered Civil Engineer in Arizona since 1990. I am a member of the  
16 American Society of Civil Engineering, American Water Works Association and Arizona  
17 Water Association ("AWA").

18  
19 **PURPOSE OF TESTIMONY**

20 **Q. What was your assignment in this rate proceeding?**

21 A. My assignment was to provide Staff's engineering evaluation of William F. Randall dba  
22 Valle Verde Water Company ("Valle Verde" or "Company") rate and financing  
23 applications.

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

2 A. To present the findings of Staff's engineering evaluation of the Company's water system.  
3 The findings are contained in the Engineering Report that I have prepared for this  
4 proceeding. The report is included as Exhibit DMH-1 in this pre-filed testimony.

5

6 **ENGINEERING REPORTS**

7 **Q. Would you briefly describe what was involved in preparing your Engineering Report**  
8 **for this rate proceeding?**

9 A. After reviewing the application, I physically inspected the system to evaluate its operation  
10 and to determine if any plant items were not used and useful. I contacted ADEQ to  
11 determine if the water system was in compliance with the Safe Drinking Water Act water  
12 quality requirements. After I obtained information from the Company regarding plant  
13 improvements, chemical testing expense and data of water usage, I analyzed that  
14 information. Based on the data, I prepared the attached Engineering Report. I also  
15 contacted Arizona Department of Water Resources ("ADWR") to determine if the water  
16 system was in compliance with the ADWR's requirements governing water providers.

17

18 **Q. Please describe the information contained in your Engineering Report.**

19 A. The Reports are divided into three general sections: 1) Executive Summary; 2)  
20 Engineering Report Discussion, and 3) Engineering Report Exhibits. The Discussions  
21 section for Valle Verde Water Company can be further divided into ten subsections: A)  
22 Purpose of Report; B) Location of System; C) Description of System; D) Water Usage; E)  
23 Growth Projection; F) ADEQ compliance; G) ADWR compliance; H) ACC compliance;  
24 I) Water Testing Expenses; J) Depreciation Rates; K) Financing (Docket No. W-01431A-

1           09-0361); L) Other Issues. These subsections provide information about the water system  
2           serving the Company's customers.

3  
4           **RECOMMENDATIONS AND CONCLUSIONS**

5           **Q.     What are Staff's recommendations and conclusions regarding the Company's**  
6           **operations?**

7           A.     Staff's recommendations and conclusions are as follows:

8  
9           **Recommendations**

10          I.     Staff recommends that Valle Verde use depreciation rates by individual National  
11           Association of Regulatory Utility Commissioners category, as delineated in Exhibit 6  
12           of the attached Engineering Report.

13  
14          II.    Staff recommends approval of separate meter and service line installation charges as  
15           shown under the columns labeled "Staff Recommendation" in Table 6 of the attached  
16           Engineering Report.

17  
18          III.   Water testing expenses are based upon participation in the ADEQ Monitoring  
19           Assistance Program; annual testing expenses should be adjusted to \$5,036.

20  
21          IV.   Staff recommends that the Company monitor Valle Verde Public Water System  
22           ("PWS") No. 12-009 and record the gallons pumped and sold to determine the non-  
23           account water for calendar year 2009. The results of this monitoring and reporting  
24           shall be filed in the Company's 2009 Annual Report filed with the Commission in  
25           2010. If the reported water loss is greater than 10 percent, the Company shall prepare

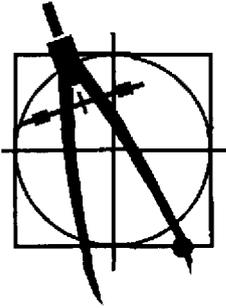
1 a report containing a detailed analysis and plan to reduce water loss to 10 percent or  
2 less. If the Company believes it is not cost effective to reduce the water loss to less  
3 than 10 percent, it should submit a detailed cost benefit analysis to support its opinion.  
4 In no case shall the Company allow water loss to be greater than 15 percent. The  
5 water loss reduction report or the detailed analysis, whichever is submitted, shall be  
6 docketed as a compliance item within 90 days of the effective date of the order issued  
7 in this proceeding.

8  
9 V. Valle Verde PWS No. 12-009 does not have adequate storage capacity. Staff  
10 recommends that a minimum of 175,000 gallons of storage capacity be installed prior  
11 to December 2011. Staff further recommends that a copy of the Approval of  
12 Construction for this storage addition be docketed as a compliance item in this case by  
13 December 31, 2011.

14  
15 **Conclusions:**

- 16 I. A check of the Commission's Compliance Section database dated August 3, 2009,  
17 indicated that Valle Verde has no delinquent compliance items.  
18  
19 II. Valle Verde PWS Nos. 12-009 and 12-025 have no major deficiencies. ADEQ has  
20 determined that both systems are currently delivering water that meets water quality  
21 standards required by Arizona Administrative Code, Title 18, Chapter 4.  
22  
23 III. Staff concludes that Valle Verde PWS No. 12-025 has adequate storage and production  
24 capacities.  
25

- 1 IV. The calculated water loss for Valle Verde PWS No. 12-025 was 5 percent, which is within  
2 acceptable limits.  
3
- 4 V. Valle Verde is located in the Santa Cruz AMA and the Arizona Department of Water  
5 Resources has determined that Valle Verde is currently in compliance with departmental  
6 requirements governing water providers and/or community water systems.  
7
- 8 VI. Staff concludes that the proposed projects in the Financing Application are appropriate  
9 and the cost estimates presented are reasonable. However, no "used and useful"  
10 determination of the proposed project item was made and no particular treatment should  
11 be inferred for rate making or rate base purposes in the future.  
12
- 13 **Q. Does this conclude your Direct Testimony?**
- 14 A. Yes, it does.



**Engineering Report  
William F. Randall dba  
Valle Verde Water Company  
Prepared By  
Dorothy Hains, P. E.  
Docket Nos. W-01431A-09-0333 (Rates) &  
W-01431A-09-0334 (Financing)**

**February 11, 2010**

**EXECUTIVE SUMMARY**

**Recommendations:**

1. Utilities Division Staff ("Staff") recommends that William F. Randall dba Valle Verde Water Company ("Valle Verde" or "Company") use depreciation rates by individual National Association of Regulatory Utility Commissioners category, as delineated in Exhibit 6. (See §J and Exhibit 6 for a discussion and a tabulation of the recommended rates.)
2. Staff recommends approval of separate meter and service line installation charges as shown under the columns labeled "Staff Recommendation" in Table 6. (See §L of report for discussion and details.)
3. Water testing expenses are based upon participation in the Arizona Department of Environmental Quality ("ADEQ") Monitoring Assistance Program. Annual testing expenses should be adjusted to \$5,036. (See §I and Table 5 for discussion and details.)
4. Staff recommends that the Company monitor Valle Verde Public Water System ("PWS") No. 12-009 and record the gallons pumped and sold to determine the non-account water for calendar year 2009. The results of this monitoring and reporting shall be filed in the Company's 2009 Annual Report filed with the Arizona Corporation Commission ("Commission") in 2010. If the reported water loss is greater than 10 percent, the Company shall prepare a report containing a detailed analysis and plan to reduce water loss to 10 percent or less. If the Company believes it is not cost effective to reduce the water loss to less than 10 percent, it should submit a detailed cost benefit analysis to support its opinion. In no case shall the Company allow water loss to be greater than 15 percent. The water loss reduction report or the detailed analysis, whichever is submitted, shall be docketed as a compliance item within 90 days of the effective date of the order issued in this proceeding. (See §D for discussion and details.)

5. Since Valle Verde PWS No. 12-009 does not have adequate storage capacity. Staff recommends that a minimum of 175,000 gallons of storage capacity be installed prior to December 2011. Staff further recommends that a copy of the Approval of Construction for this storage addition be docketed as a compliance item in this case by December 31, 2011. (See §C of report for discussion and details.)

**Conclusions:**

1. A check of the Commission's Compliance Section database dated August 3, 2009, indicated that Valle Verde has no delinquent compliance items. (See §H of report for discussion and details.)
2. Valle Verde PWS Nos. 12-009 and 12-025 have no major deficiencies. ADEQ has determined that both systems are currently delivering water that meets water quality standards required by Arizona Administrative Code, Title 18, Chapter 4. (See §F of report for discussion and details.)
3. Staff concludes that Valle Verde PWS No. 12-025 has adequate storage and production capacities. (See §C of report for discussion and details.)
4. The calculated water loss for Valle Verde PWS No. 12-025 was 5 percent, which is within acceptable limits. (See §D for discussion and details.)
5. Valle Verde is located in the Santa Cruz Active Management Area and the Arizona Department of Water Resources has determined that Valle Verde is currently in compliance with departmental requirements governing water providers and/or community water systems. (See §G of report for discussion and details.)
6. Staff concludes that the proposed projects in the Financing Application are appropriate and the cost estimates presented are reasonable. However, no "used and useful" determination of the proposed project item was made and no particular treatment should be inferred for rate making or rate base purpose in the future. (See §K of report for discussion and details.)

## TABLE OF CONTENTS

	<u>Page</u>
A. PURPOSE OF REPORT.....	1
B. LOCATION OF SYSTEM.....	1
C. DESCRIPTION OF SYSTEM.....	1
1. <i>System Description</i> .....	1
2. <i>System Analysis</i> .....	4
D. WATER USAGE.....	5
1. <i>Water Sold</i> .....	6
2. <i>Non-account Water</i> .....	6
E. GROWTH PROJECTION.....	7
F. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (“ADEQ”) COMPLIANCE.....	8
G. ARIZONA DEPARTMENT OF WATER RESOURCES (“ADWR”) COMPLIANCE.....	8
H. ACC COMPLIANCE.....	8
I. WATER TESTING EXPENSES.....	9
J. DEPRECIATION RATES.....	10
K. FINANCING (Docket No. W-01431A-09-0361).....	10
1. <i>Project Description</i> .....	11
2. <i>Cost</i> .....	12
L. OTHER ISSUES.....	14
1. <i>Service Line and Meter Installation Charges</i> .....	14
2. <i>Curtailement Tariff</i> .....	15
3. <i>Cross Connection or Backflow Tariff</i> .....	15

**EXHIBITS**

Exhibit 1: Valle Verde Certificate Service Area .....16

Exhibit 2: Location of Valle Verde Service Area.....17

Exhibit 3A: Systematic Drawing .....18

Exhibit 3B: Systematic Drawing .....19

Exhibit 3C: Systematic Drawing .....20

Exhibit 3D: Systematic Drawing .....21

Exhibit 4A: Water Usage in Valle Verde Service Area.....22

Exhibit 4B: Water Usage in Valle Verde Service Area.....23

Exhibit 5: Actual and Projected Growth in Valle Verde Service Area.....24

Exhibit 6: Depreciation Rates .....25

## **A. PURPOSE OF REPORT**

This report was prepared in response to the applications of the estate of William F. Randall dba Valle Verde Water Company, Inc. ("Valle Verde" or "Company") before the Arizona Corporation Commission ("ACC" or "Commission") for an increase in its water rates and for authority to incur long term debt to finance water system improvements including the purchase of a centralized arsenic treatment facility. Valle Verde is managed by Southwestern Utility Management, Inc. ("SWUM").

An inspection of the Company's water system was conducted by Dorothy M. Hains, Staff Engineer, accompanied by Eddie Morales and Keith Dojaquez managers for SWUM, on November 3, 2009.

## **B. LOCATION OF SYSTEM**

The Company is located near the City of Nogales ("City") in Santa Cruz County. Attached Exhibits 1 and 2 detail the location of the service area in relation to other Commission-regulated companies in Santa Cruz County and in the immediate area. The Company serves an area approximately two and one-half square miles in size that includes portions of Sections 13, 24 and 25 of Township 23 South, Range 13 East, portions of Sections 30 and 31 of Township 23 South, Range 14 East and a portion of Section 5 of Township 24 South, Range 14 East.

## **C. DESCRIPTION OF SYSTEM**

### *1. System Description*

The Company owns and operates two water systems. Public Water System ("PWS") No. 12-009 consists of two wells that have 530 gallons per minute ("GPM") combined capacity, one 500 GPM tetrachloroethylene ("PCE") removal plant, two pressure tanks and a distribution system serving approximately 730 metered customers.

This system is interconnected with the City water system. During 2008 the Company used this interconnection to deliver water purchased from the City to its customers. The Company ceased purchasing water after the PCE removal plant was in service.

Due to the PCE contamination, Well Nos. 1, 4 7 and 8 in the PWS No. 12-009 have been abandoned. Prior to abandonment, the Company downgraded Well No. 4 to an irrigation well and had been providing bottled water to customers in the Well No. 4 service area

Exhibits 3A, 3B, 3C and 3D are schematic drawings of the water systems.

PWS No. 12-025 consists of three wells that have 1,350 GPM combined capacity, 1,000,000 gallon storage capacity, two booster pump stations, two pressure tanks and a

distribution system serving approximately 90 metered customers. Arsenic levels in Well Nos. 5 and 6 exceed the 10 µg/l arsenic standard. The Company seeks financing approval from the Commission to install an arsenic treatment plant. (See Section K for detail discussion.) Detailed listing of the Company's water systems facilities are as follows:

**Table 1 Plant Data (PWS Nos. 12-009 & 12-025)**

**Active Drinking Water Wells (PWS No.12-009)**

Well No.	ADWR No.	Year Drilled (19xx)	Casing Size (inches)	Well Depth (ft)	Well Meter Size (inches)	Pump (HP)	Pump Yield (GPM)
2	55-617054	1972	16	260	6	60	400
3	55-617055	1971	12	220	3	15	130

**Storage, Pumping Equipment (PWS #12-009)**

Location	Structure or equipment	Capacity
Well No. 2 site	Pressure Tank	One 10,000 gal
Well No. 3 site	Pressure Tank	One 3,000 gal

**Water Treatment Plant (PWS No.12-009)**

	Treatment Type	Size (in gpm)	Location
PCE Removal Plant	Active Carbon Adsorption	500	Well #2 site

**In active Storage, Pumping Equipments (PWS No.12-009)**

Location	Structure or equipment	Capacity
Well #1 site	Pressure Tank	One 5,000 gal
Well #4 site	Pressure Tank	One 3,000 gal
Well #7 site	Pressure Tank	One 3,000 gal
Well #8 site	Pressure Tank	Two 57 gal

Inactive Wells (PWS No.12-009)

Well #	ADWR No.	Year Drilled (19xx)	Casing Size (inches)	Well Depth (ft)	Well Meter Size (inches)	Pump (HP)	Pump Yield (GPM)
1	55-617053	1954	12	105	4	30	200
4	55-513789	1987	12	203	3	10	70
7	55-801847	1933	10	93	4	30	400
8	55-617057	N/A	N/A	N/A	2	3	32

Active Drinking Water Wells (PWS No. 12-025)

Well No.	ADWR No.	Year Drilled (19xx)	Casing Size (inches)	Well Depth (ft)	Well Meter Size (inches)	Pump (HP)	Pump Yield (GPM)
5	55-617054	1972	16	260	6	60	400
6	55-617055	1971	12	220	3	15	130
10	55-582348	2001	12	300	6	30	450

Storage, Pumping Equipments (PWS No. 12-025)

Location	Structure or equipment	Capacity
Well No. 5 site	Pressure Tank	One 5,000 gal
Well No.6 Tank site	Pressure Tank	One 10,000 gal
	Storage Tank	One 800,000 gal
	Booster pumps	Two 100-HP
	Booster pumps	One 50-HP
	Booster pumps	Two 25-HP
Well No.10 site	Pressure Tank	One 5,000 gal
	Storage Tank	One 200,000 gal
	Booster pumps	Three 30-HP
	Booster pumps	Two 15-HP

### Distribution Mains

Diameter (inches)	Material	Length (feet)
2	polyvinyl chloride ("PVC")	8,397
3	Asbestos Cement ("AC"),	920
3	steel	1,300
4	PVC	16,560
4	AC	8,299
6	PVC	19,818
8	PVC	3,220
12	PVC	400
16	PVC	2,175
18	PVC	1,070

### Meters

Size (inches)	Quantity
$\frac{5}{8} \times \frac{3}{4}$	316
$\frac{3}{4}$	404
1	38
1½	3
2	12
3 (comp)	3

## 2. System Analysis

### a. PWS No. 12-009

The system does not currently have any storage capacity. The Company has not proposed in its financing application to install additional storage capacity (see Section K.). Since PWS No. 12-009 does not currently have any storage capacity Staff recommends that a minimum of 175,000 gallons of storage capacity be installed prior to December 2011.<sup>1</sup> Staff further recommends that a copy of the Approval of Construction for this storage addition be docketed as a compliance item in this case by December 31, 2011.

### b. PWS No. 12-025

The system has adequate storage and production capacities.

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<sup>1</sup> Staff's calculation is based on daily average usage during the peak month in test year and fire flow requirement of 1,000 gpm for one hour and five year projected growth.

**D. WATER USAGE**

Table 2 and Table 3 summarize water usage in the Company's CC&N area. Exhibit 4 includes graphs that show water consumption data in gallons per day ("GPD") per connection for each system during the test year.

**Table 2 Water Usage in the System (Valle Verde – PWS No. 12-009)**

Month	Number of Customers	Water Sold (in gallons)	Water pumped (in gallons)	Water purchased (in gallons)	Daily Average (in gpd/customer)
Jan 08	732	5,058,000	614,000	8,050,000	223
Feb 08	733	4,994,000	497,000	7,004,000	243
Mar 08	731	4,687,000	1,094,000	9,154,000	207
Apr 08	736	4,952,000	1,247,000	6,678,000	224
May 08	739	7,631,000	1,025,000	7,358,000	333
Jun 08	741	9,505,000	933,000	10,173,000	428
Jul 08	744	7,671,000	912,000	7,446,000	333
Aug 08	743	6,769,000	980,000	6,397,000	294
Sep 08	738	6,594,000	968,000	6,347,000	298
Oct 08	730	5,322,000	1,030,000	4,873,000	235
Nov 08	730	5,679,000	4,400,000	1,829,000	259
Dec 08	731	4,602,000	4,751,000	0 <sup>1</sup>	203
total		73,464,000	18,451,000	75,309,000	
Average					273

Note: 1. In 2008 the Company had to purchase water from City of Nogales to serve its customers in PWS No. 12-009, since the completion of the PCE treatment plant and other system improvements the Company has not had to purchase any additional water from the City of Nogales.

**Table 3 Water Usage in the System (Valle Verde – PWS No. 12-025)**

Month	Number of Customers	Water Sold (in gallons)	Water pumped (in gallons)	Water purchased (in gallons)	Daily Average (in gpd/customer)
Jan 08	90	1,837,000	1,732,000	0	658
Feb 08	92	1,699,000	2,217,000	0	660
Mar 08	93	1,652,000	2,338,000	0	573
Apr 08	90	1,498,000	2,566,000	0	555
May 08	91	2,817,000	2,566,000	0	999
Jun 08	92	3,729,000	2,891,000	0	1,351
Jul 08	91	2,981,000	4,426,000	0	1,057
Aug 08	93	2,287,000	1,905,000	0	793
Sep 08	93	1,778,000	2,046,000	0	637
Oct 08	93	3,571,000	2,188,000	0	1,239
Nov 08	93	3,315,000	4,573,000	0	1,188
Dec 08	93	2,106,000	1,419,000	0	730
total	93	29,270,000	30,867,000	0	
Average					870

1. *Water Sold*

a. PWS No. 12-009

Based on information provided by the Company, during the test year the Company experienced an overall daily average use of 273 GPD per customer, a high use of 428 GPD per customer, and a low use of 203 GPD per customer. The highest total monthly use occurred in June, when a total of 9,505,000 gallons were sold to 741 customers. The lowest total monthly use occurred in December, when 4,602,000 gallons were sold to 731 customers.

b. PWS No. 12-025

Based on information provided by the Company, during the test year the Company experienced an overall daily average use of 870 GPD per customer, a high use of 1,351 GPD per customer, and a low use of 555 GPD per customer. The highest total monthly use occurred in June, when a total of 3,729,000 gallons were sold to 92 customers. The lowest total monthly use occurred in April, when 1,498,000 gallons were sold to 90 customers.

2. *Non-account Water*

Non-account water should be 10 percent or less and never more than 15 percent. It is important to be able to reconcile the difference between the water sold and the water produced by the source. A water balance will allow a water company to identify water and revenue losses due to leakage, theft, and flushing.

a. PWS No. 12-009

The Company reported 73,464,000 gallons of water sold, and 75,309,000 gallons purchased and 18,451,000 gallons pumped during the test year. The calculated water loss in this system was 21.7 percent, which exceeds Staff's recommended 10 percent threshold.

The Company believes that water loss was due to leakage from a 12-inch main during the test year. The Company stated that this leaking pipeline had been repaired in 2009. To support its position the Company provided water usage data collected after December 2008. The recent water usage data from January 2009 to October 2009 indicates that water loss has been reduced to 2 percent. Staff recommends that the Company monitor Valle Verde PWS No. 12-009 and record the gallons pumped and sold to determine the non-account water for calendar year 2009. The results of this monitoring and reporting shall be filed in the Company's 2009 Annual Report filed with the Commission in 2010. If the reported water loss is greater than 10 percent, the Company shall prepare a report containing a detailed analysis and plan to reduce water loss to 10 percent or less. If the Company believes it is not cost effective to reduce the water loss to less than 10 percent, it should submit a detailed cost benefit analysis to support its opinion. In no case shall the Company allow water loss to be greater than 15 percent. The water loss reduction report or the detailed analysis, whichever is submitted, shall be docketed as a compliance item within 90 days of the effective date of the order issued in this proceeding.

b. PWS No. 12-025

The Company reported 29,270,000 gallons of water sold, and 30,867,000 gallons pumped during the test year. The calculated water loss in this system was 5 percent, which is within acceptable limits.

**E. GROWTH PROJECTION**

Based on the service meter data contained in the Company's annual reports, the number of customers increased from 747 at the end of 1996 to 824 at the end of 2008, which results in an average growth rate of 7.8 customers per year for the period. Based on the linear regression analysis, the Company could serve approximately 902 customers by end of 2014. The following table summarizes both actual and projected growth in the Company's certificated service area.

**Table 4 Actual and Projected Growth (Valle Verde)**

Year	Nos. of Customers	
1996	747	Reported
1997	746	Reported
1998	754	Reported
1999	771	Reported
2000	788	Reported
2001	795	Reported
2002	832	Reported
2003	808	Reported
2004	807	Reported
2005	845	Reported
2006	860	Reported
2007	867	Reported
2008	824	Reported
2009	863	Estimated
2010	871	Estimated
2011	878	Estimated
2012	886	Estimated
2013	894	Estimated
2014	902	Estimated

**F. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (“ADEQ”) COMPLIANCE**

Staff received compliance status reports from ADEQ dated December 8, 2009 and January 6, 2010 in which ADEQ stated that both PWS No. 12-009 and PWS No. 12-025 have no major deficiencies. ADEQ has determined that both systems are currently delivering water that meets water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

**G. ARIZONA DEPARTMENT OF WATER RESOURCES (“ADWR”) COMPLIANCE**

Valle Verde is located in the Santa Cruz Active Management Area (“AMA”) as designated by ADWR, and is subject to AMA reporting and conservation rules. Staff received a compliance status report from ADWR dated September 1, 2009, in which ADWR has determined that the Company is currently in compliance with departmental requirements governing water providers and/or community water systems.

**H. ACC COMPLIANCE**

A check of the Commission’s Compliance Section database dated August 3, 2009, indicated that Valle Verde has no delinquent compliance items.

## I. WATER TESTING EXPENSES

Valle Verde is subject to mandatory participation in the ADEQ Monitoring Assistance Program ("MAP"). Staff calculated the testing costs based on the following assumptions:

1. MAP will do baseline testing on everything except copper, lead, bacteria, and disinfection by-products.
2. ADEQ testing is performed in 3-year compliance cycles. Therefore, monitoring costs are estimated for a 3-year compliance period and then presented as a pro forma expense on an annualized basis.
3. MAP fees were calculated from the ADEQ MAP rules.
4. All monitoring expenses are based on Staff's best knowledge of lab costs and methodology and one point of entry.
5. The estimated water testing expenses represent a minimum cost based on no "hits" other than lead and copper, and assume compositing of well samples. If any constituents were found, then the testing costs could dramatically increase.

Table 5 shows the estimated annual monitoring expense, assuming participation in the MAP program. Water testing expenses should be adjusted to Staff's annual expense amount of **\$5,036** (rounded) shown in Table 5.

**Table 5 Water Testing Costs (Valle Verde)**

Monitoring – wells (Tests per 3 years, unless noted.)	Cost per test	No. of tests per three year period		Total cost per three year period		Annual Cost		
		12-009	12-025	12-009	12-025	12-009	12-025	Total
PWS #								
Bacteriological – monthly	\$25	72	36	\$1,800	\$900	\$600	\$300	\$900
Inorganics (& secondary)	\$300	MAP	MAP	MAP	MAP	MAP	MAP	MAP
Radiochemical – (1/ 4 yr)	\$60	MAP	MAP	MAP	MAP	MAP	MAP	MAP
IOC's, SOC's, VOC's	\$2,805	MAP	MAP	MAP	MAP	MAP	MAP	MAP
Nitrites	\$20	MAP	MAP	MAP	MAP	MAP	MAP	MAP
Nitrates – annual	\$40	MAP	MAP	MAP	MAP	MAP	MAP	MAP
Asbestos – per 9 years	\$180	1/3	1/3	MAP	MAP	MAP	MAP	MAP
Lead & Copper – annual	\$45	30	30	\$1,350	\$1,350	\$450	\$450	\$900
TTHM– per 3 years	\$150	3	3	\$450	\$450	\$150	\$150	\$300
HHAs– per 3 years	\$155	3	3	\$465	\$465	\$155	\$155	\$310
MAP fees (annual)						\$2,172.36	\$453.03	\$2,625.39
<b>Total</b>						<b>\$3,527.36</b>	<b>\$1,508.03</b>	<b>\$5,035.39</b>

**J. DEPRECIATION RATES**

Staff has developed typical and customary depreciation rates within the range of anticipated equipment life. These rates are presented in Exhibit 6, and should be used to calculate the annual depreciation expense for the Company. It is recommended that the Company use the depreciation rates by individual National Association of Regulatory Utility Commissioners (“NARUC”) category, as delineated in Exhibit 6.

**K. FINANCING (Docket No. W-01431A-09-0361)**

The Company filed with the Commission a financing application requesting authority to incur long term debt in the amount of \$1,063,478 to finance water system improvements including the purchase of a centralized arsenic treatment facility. More specifically the planned improvements include: (1) the purchase of a centralized arsenic treatment facility; (2) the interconnection of Well Nos. 2 and 4; (3) distribution system upgrades; (4) the installation of Pressure Reducing Valve (“PRV”) stations; (5) service line and service meter replacements; (6) well abandonment; (7) distribution system analysis and (8) system mapping.

*I. Project Description*

a. Arsenic Treatment Facility

Both Well Nos. 5 and 6 have high arsenic levels above the MCL. Well No. 6 contains arsenic at a level of 12 µg/l which exceeds the 10 µg/l arsenic standard and Well No. 5 contains arsenic level at a level of 9 µg/l just below the standard. The Company proposes to install a 500 GPM media adsorption arsenic removal plant at the PWS No. 12-025 Tank Site.

b. Interconnection of Well Nos. 2 and 4

Well No. 4 contains high levels of PCE and was designed for irrigation use only.<sup>2</sup> In 2009, Well No. 4 stopped producing water, so the Company disconnected the well head from the distribution system. The proposed interconnection will facilitate the transfer of the customers who were served by Well No. 4, to Well No. 2 so these customers will receive adequate service in PWS No. 12-009.

c. Distribution System Upgrades

The Company indicated that its distribution system is limiting service efficiency due to the use of 2-inch diameter mains in PWS No. 12-009. The Company's proposal would replace the undersized 2-inch with 6-inch diameter mains. This upgrading job will enlarge Well #3 service area.

d. Installation of PRV Stations

The Company proposes to install a PRV Station at the Well No. 3 site due to pressure in the area exceeding 100 psi. Another PRV would also be installed at Chula Vista Estates.

e. Service Line and Service Meter Replacements

To reduce water loss, the Company proposes to: (1) replace existing water meters with remote or lockable water meters, (2) replace existing Schedule 20 PVC service line with 200 psi rated PVC or Type K soft copper pipe and (3) install fire hydrant locks to prevent theft.

f. Well Abandonment

Due to PCE contamination, the Company had disconnected Well Nos.1, 4, 7 and 8 from its distribution. Those wells have not been abandoned per ADWR well closure requirements. To prevent possible contamination of the groundwater, proper well closure and abandonment work would be completed.

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<sup>2</sup> Bottle water was provided to customers for drinking.

g. Distribution system analysis and computer modeling

The Company stated this modeling would help define future growth and allow it to better manage and maintain its two water systems in the future.

h. System Mapping

The Company proposes to do a pressure analysis in its distribution systems. The analysis results will be used to develop a system map.

2. *Cost*

A general description and breakdown of the funding required is as follows:

Project Description	Quantity (unit)	Unit Cost (\$)	Co.' proposed costs (\$)
<b>a. Arsenic Treatment Facility</b>			
An 500 GPM treatment plant	1	300,000	300,000
Site Electrical	1	22,500	22,500
Building shade	1	17,500	17,500
<b>subtotal</b>			<b>340,000</b>
<b>b. Interconnection of Well Nos. 2 and 4</b>			
Installing 6-inch PVC pipeline (in ft)	1,500	30.00	45,000
Installing 6-inch valves	3	2,500	7,500
Installing ½-inch Air Release ("AR") valve	3	1,500	4,500
<b>subtotal</b>			<b>57,000</b>
<b>c. Distribution System Upgrades</b>			
<b>For System No.12-009</b>			
Mobilization & demobilization	1	20,000	20,000
Installing 6-inch PVC (in ft)	1,500	55	82,500
Installing 6-inch gate valve	3	2,500	7,500
½-inch AR valve	3	1,500	4,500
<b>subtotal</b>			<b>114,500</b>
<b>Miscellaneous area</b>			
Mobilization & demobilization	1	20,000	20,000
Installing 6-inch PVC (in ft)	500	55	27,500
Installing 6-inch gate valve	1	2,500	2,500
½-inch AR valve	1	1,500	1,500
<b>subtotal</b>			<b>51,500</b>
<b>d. Installation of PRV Stations</b>			
PRV station installation	2	10,000	20,000
<b>subtotal</b>			<b>20,000</b>

<b>e. Service Line and Service Meter Replacements</b>			
<b>Relocate Mains &amp; Service Line to the easement</b>			
Installation/Replacement of 6-inch PVC	1,200	55	66,000
Installation/Replacement of 6-inch gate valve	2	2,500	5,000
Installation/Replacement of 1-inch service line	25	1,250	31,250
Removal/Replace pavement/sidewalk (in square yard)	500	40	20,000
<b>subtotal</b>			<b>122,250</b>
<b>Replace service line</b>			
# of 1-inch service line replacement	25	1,250	31,250
<b>subtotal</b>			<b>31,250</b>
<b>Service meter replacement</b>			
# of service meter replacement by 1-inch lockable meter	25	300	7,500
<b>subtotal</b>			<b>7,500</b>
<b>Fire Hydrant ("FH") lock installation</b>			
# of FHs needs locks	10	500	5,000
<b>subtotal</b>			<b>5,000</b>
<b>f. Well Abandonment</b>			
4 wells (Well #1, Well #4, Well #7 & Well #8) to be plugged		10,000	10,000
<b>subtotal</b>			<b>10,000</b>
<b>g. Distribution system analysis and computer modeling</b>			
# of Calibration	2	1,000	2,000
# of Fire flow tests	2	900	1,800
# of Field work	2	900	1,800
<b>subtotal</b>			<b>5,600</b>
<b>h. System Mapping</b>			
# of field work	3	900	2,700
<b>subtotal</b>			<b>2,700</b>
<b>Total (Construction Cost ("CC"))</b>			<b>767,300</b>
Admin & Legal Fee (2% CC)			15,346
Engineering Fee (8% CC)			61,384
Survey Fee (2% CC)			15,346
Inspection Fee (3.5% CC)			26,855
<b>Total</b>			<b>886,231</b>
Contingency expense (20%)			177,246
<b>Total Cost</b>			<b>1,063,478</b>

Staff concludes that the proposed projects in the Financing Application are appropriate and the cost estimates presented above are reasonable. However, no “used and useful” determination of the proposed project item was made and no particular treatment should be inferred for rate making or rate base purposes in the future.

## L. OTHER ISSUES

### 1. Service Line and Meter Installation Charges

Staff recommends approval of separate meter and service line installation charges as shown under the columns labeled “Staff Recommendation” in Table 6. Since the Company may at times install meters on existing service lines, it would be appropriate for some customers to only be charged for the meter installation. Therefore, separate service line and meter charges have been developed by Staff. Staff’s recommended charges listed in the table below should be adopted.

**Table 6 Service Line and Meter Installation Charges (Valle Verde)**

Meter Size	Current Meter & Service Line Installation Charges	Proposed Service Line Installation Charge	Proposed Meter Charge	Proposed total installation Charge	Staff Recommendation (meter installation charge)	Staff Recommendation (Service Line installation charge)	Staff Recommended total charges
5/8 x 3/4-inch	\$320	\$445	\$155	\$600	\$155	\$445	\$600
3/4-inch	\$360	\$445	\$255	\$700	\$255	\$445	\$700
1-inch	\$420	\$495	\$315	\$810	\$315	\$495	\$810
1½-inch	\$635	\$550	\$525	\$1,075	\$525	\$550	\$1,075
2-inch (Turbine)	\$1,090	\$830	\$1,045	\$1,875	\$1,045	\$830	\$1,875
2-inch (Compound)	N/A	\$830	\$1,890	\$2,720	\$1,890	\$830	\$2,720
3-inch (Turbine)	\$1,505	\$1,045	\$1,670	\$2,715	\$1,670	\$1,045	\$2,715
3-inch (Compound)	N/A	\$1,165	\$2,545	\$3,710	\$2,545	\$1,165	\$3,710
4-inch (Turbine)	\$2,380	\$1,490	\$2,670	\$4,160	\$2,670	\$1,490	\$4,160
4-inch (Compound)	N/A	\$1,670	\$3,645	\$5,315	\$3,645	\$1,670	\$5,315
6-inch (Turbine)	\$4,655	\$2,210	\$5,025	\$7,235	\$5,025	\$2,210	\$7,235
6-inch (Compound)	N/A	\$2,330	\$6,920	\$9,250	\$6,920	\$2,330	\$9,250
Over 6-inch	N/A	N/A	N/A	N/A	Actual Cost	Actual Cost	Actual Cost

2. *Curtailment Tariff*

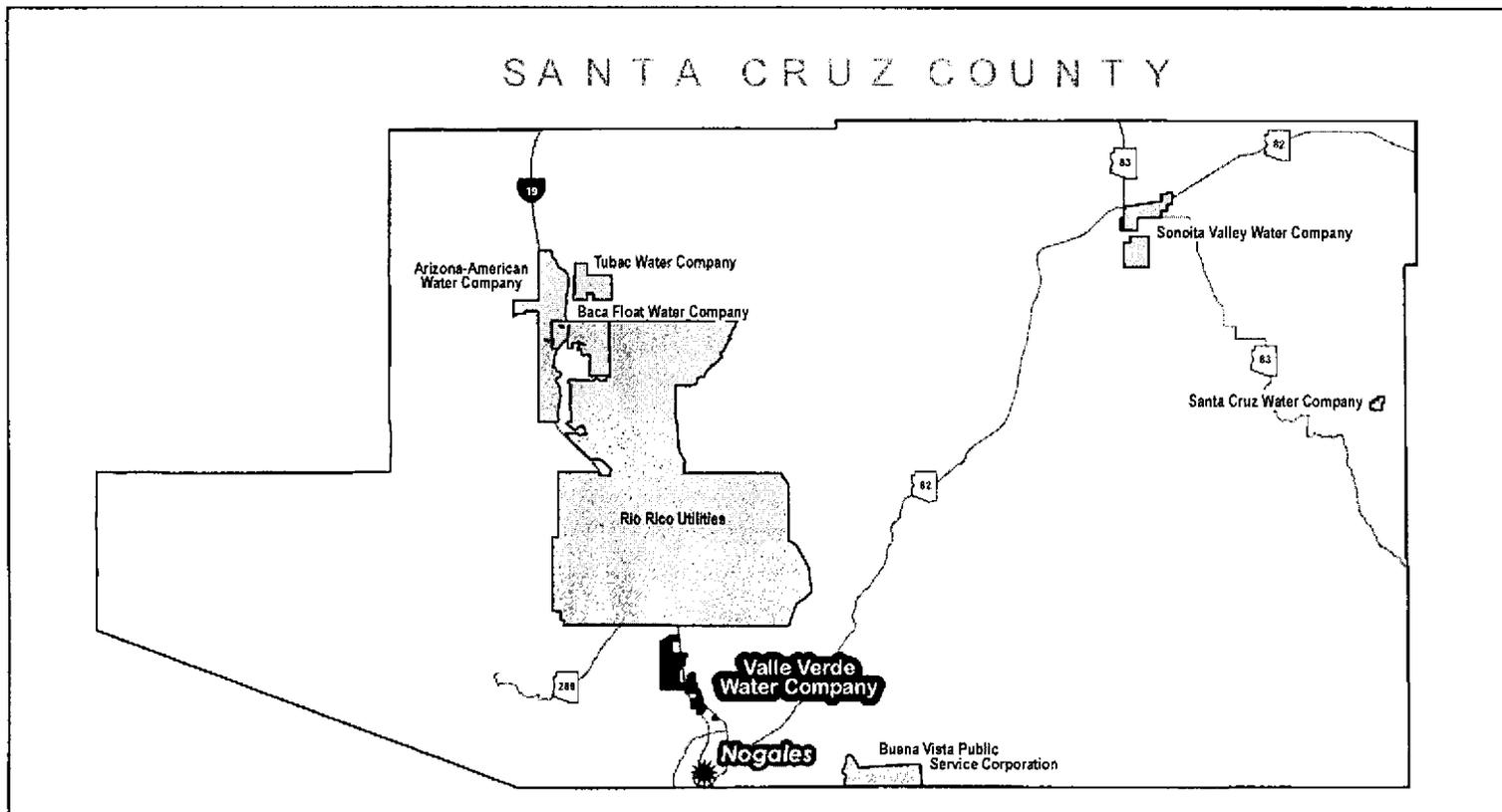
The Company has an approved curtailment tariff on file with the Commission.

3. *Cross Connection or Backflow Tariff*

The Company has an approved backflow prevention tariff on file with the Commission.

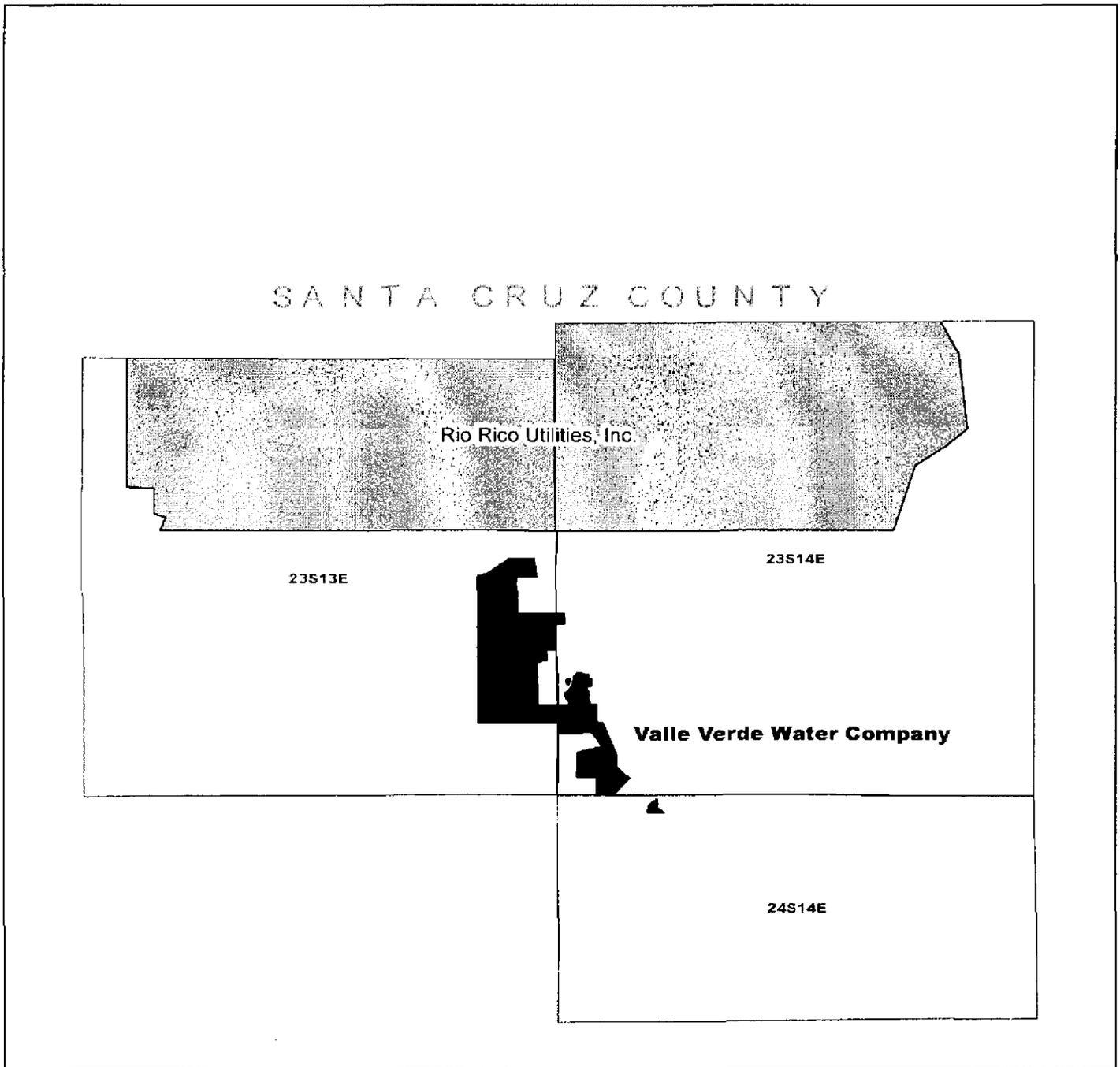
**EXHIBIT 1**

**Valle Verde Certificate Service Area**



**EXHIBIT 2.**

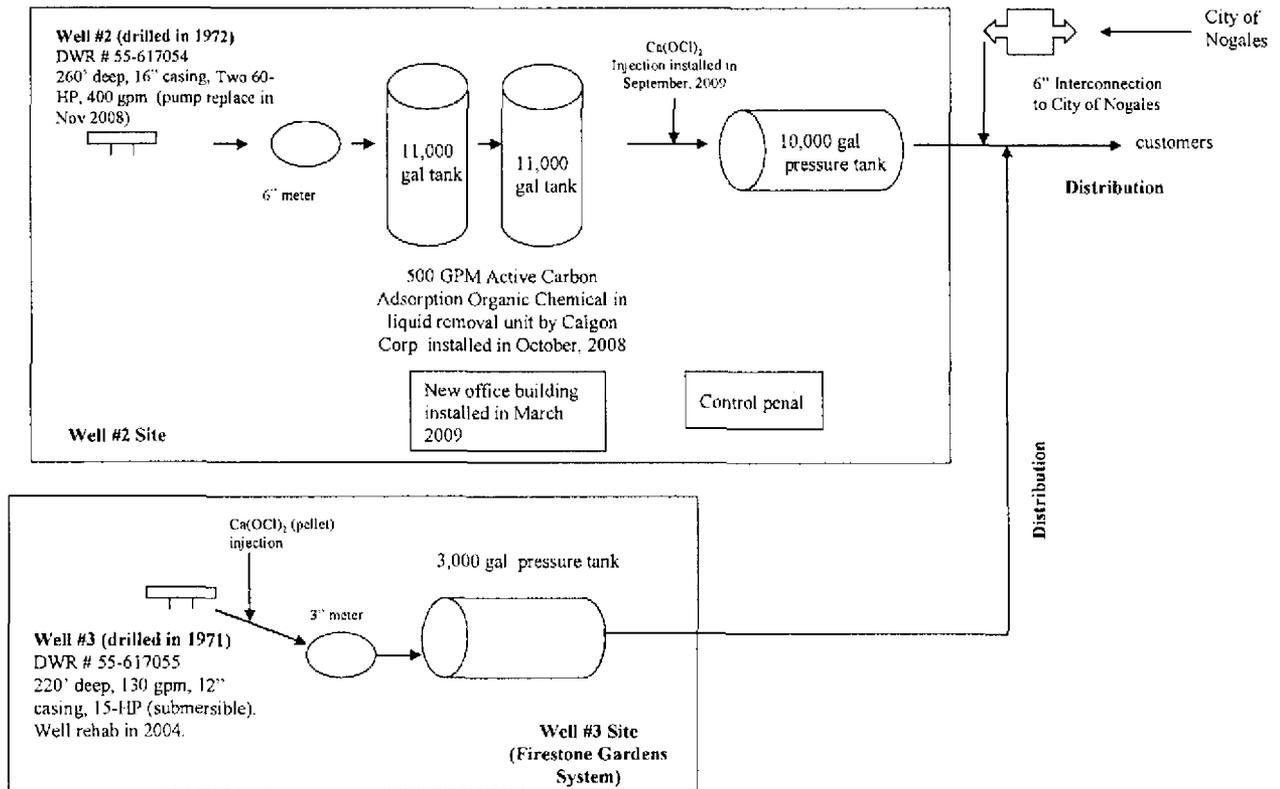
**LOCATION OF VALLE VERDE SERVICE AREA**



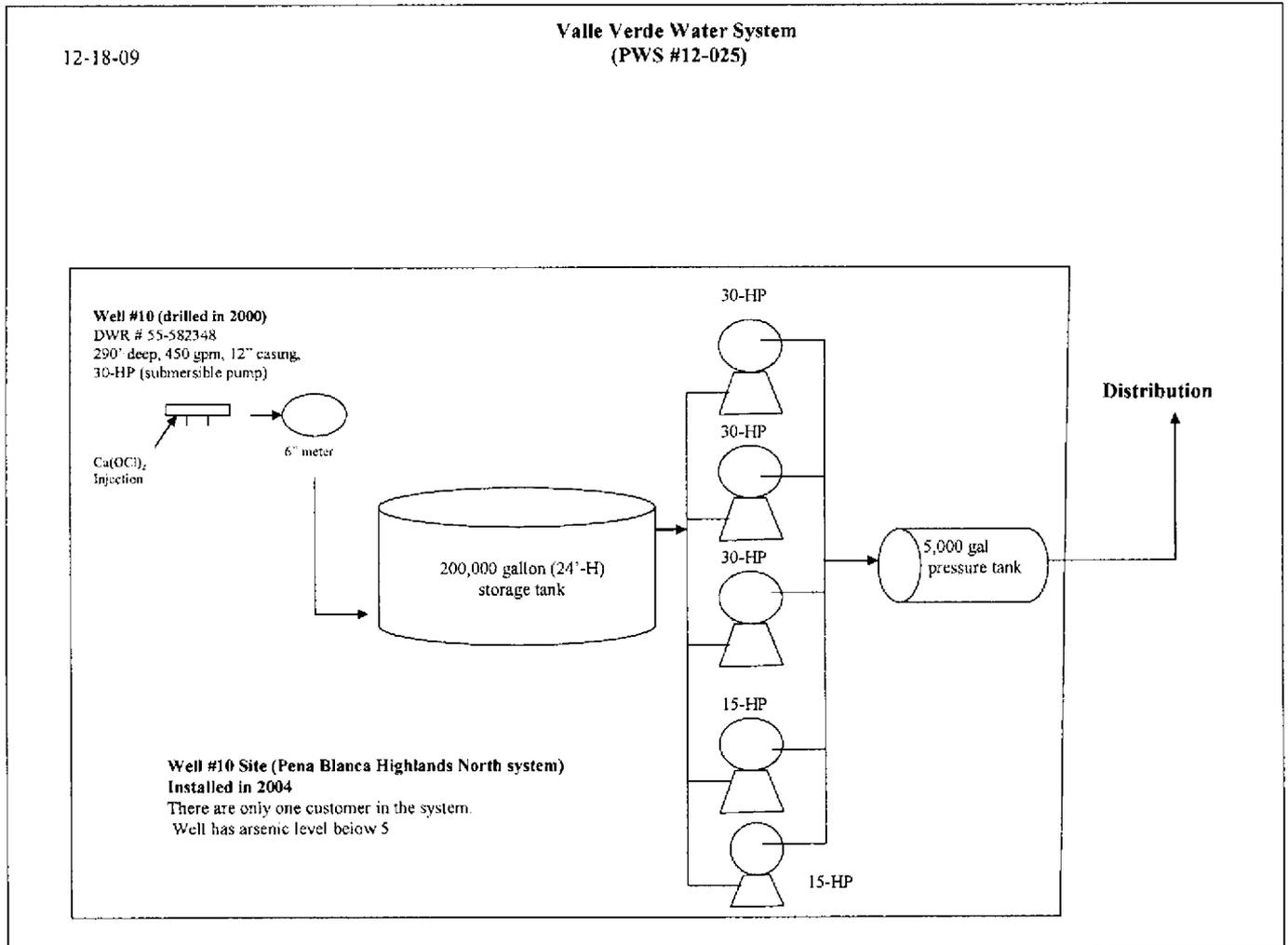
**EXHIBIT 3A**  
**SYSTEMATIC DRAWING**

**Valle Verde Water System  
 (PWS #12-009 active wells)**

1-19-10

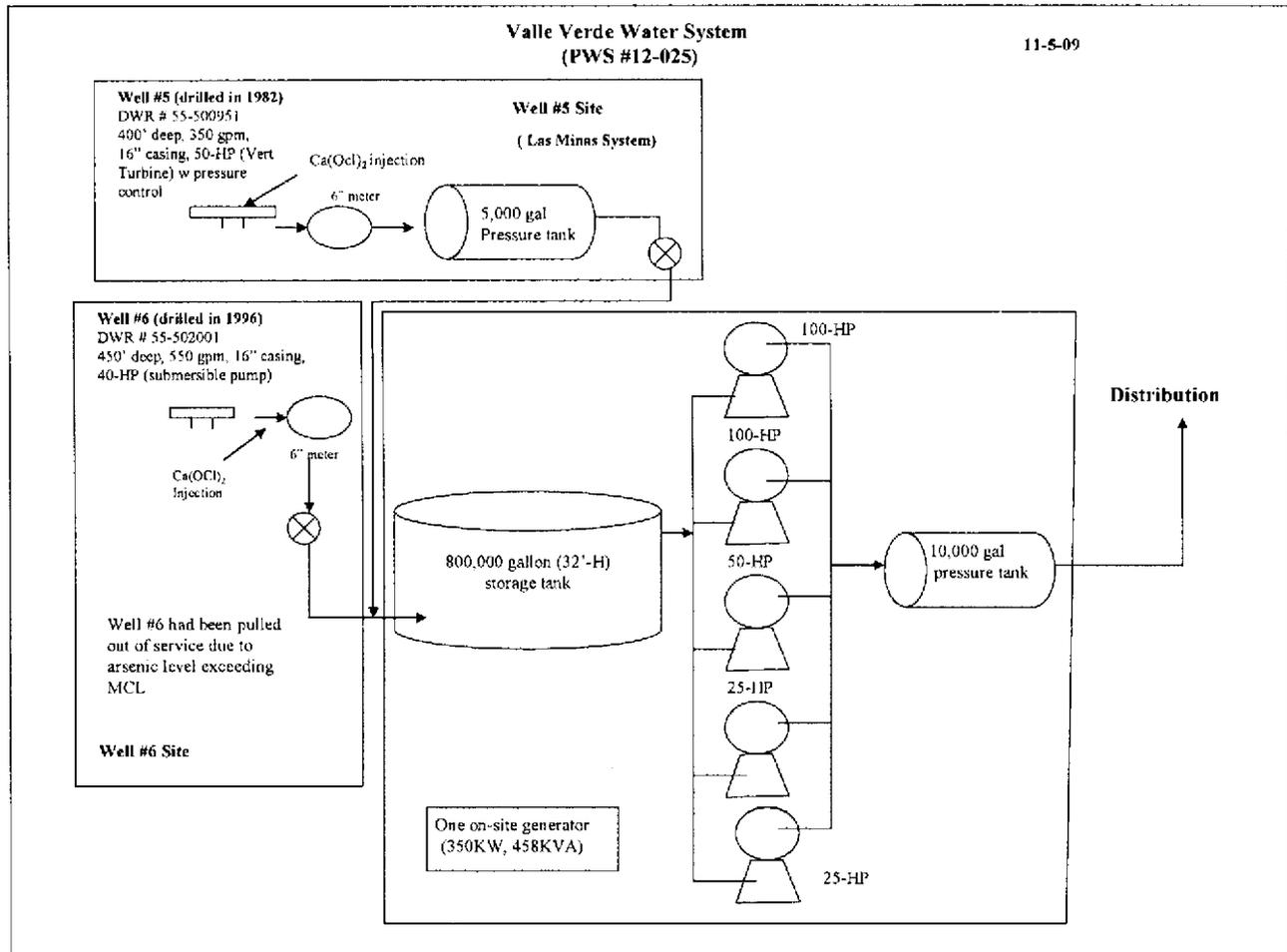


**EXHIBIT 3B**  
**SYSTEMATIC DRAWING**



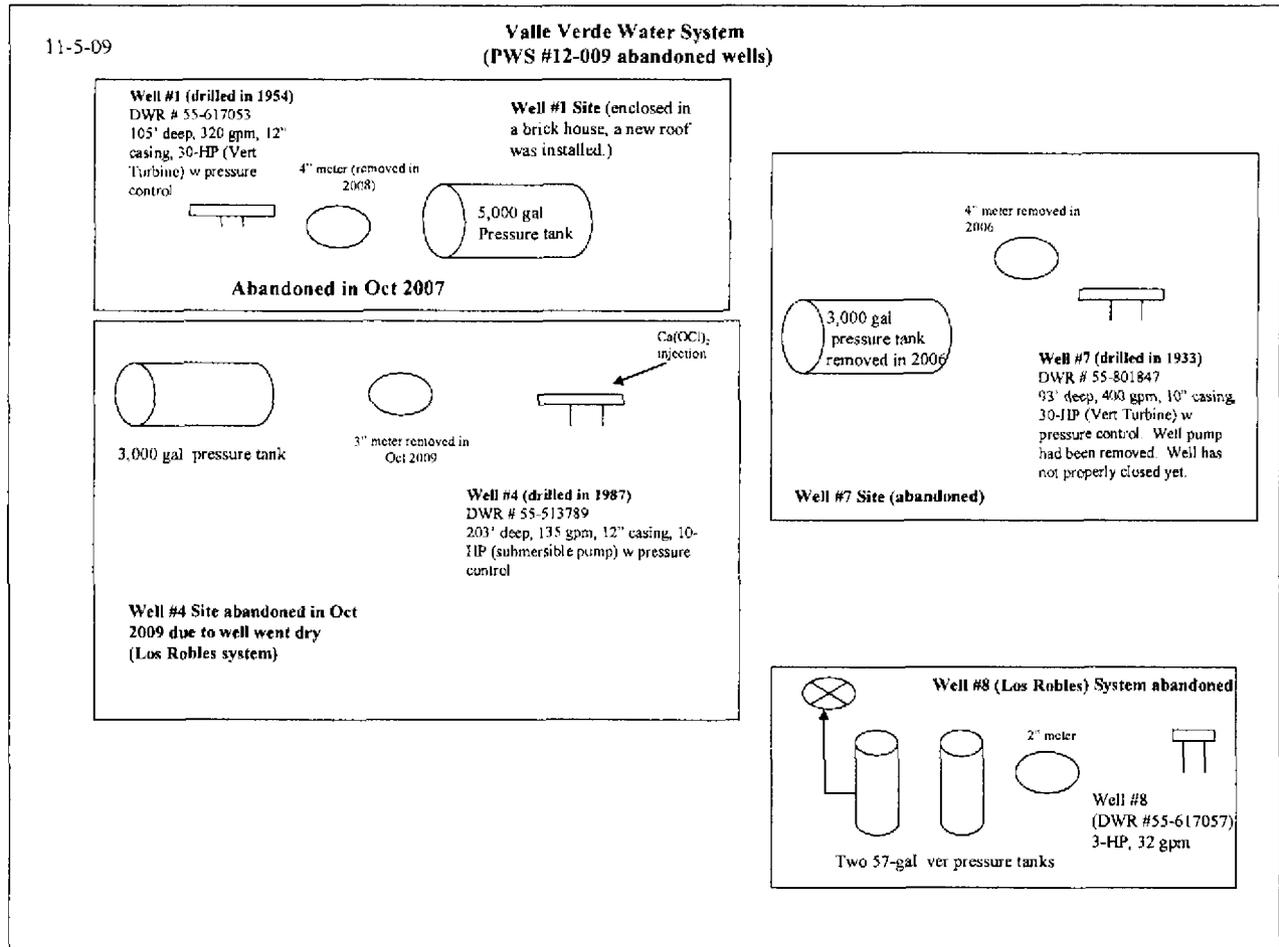
### EXHIBIT 3C

### SYSTEMATIC DRAWING



**EXHIBIT 3D**

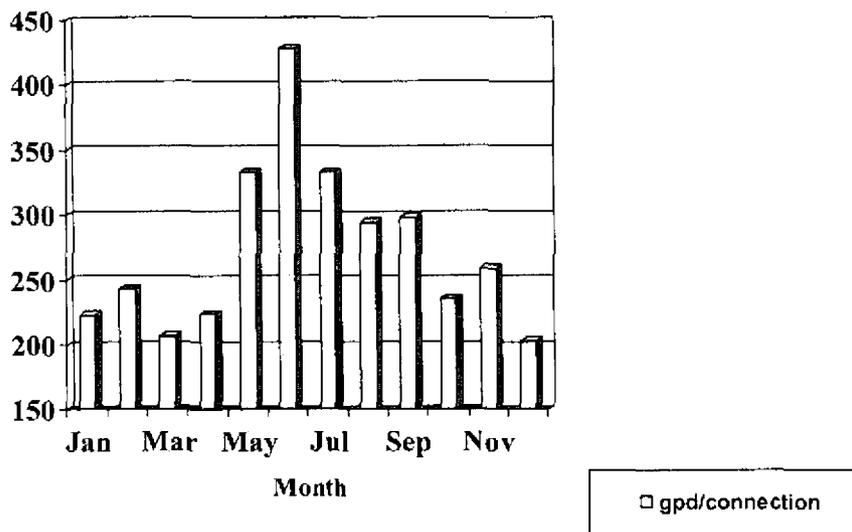
**SYSTEMATIC DRAWING**



**EXHIBIT 4A**

**WATER USAGE ON THE VALLE VERDE SERVICE AREA**

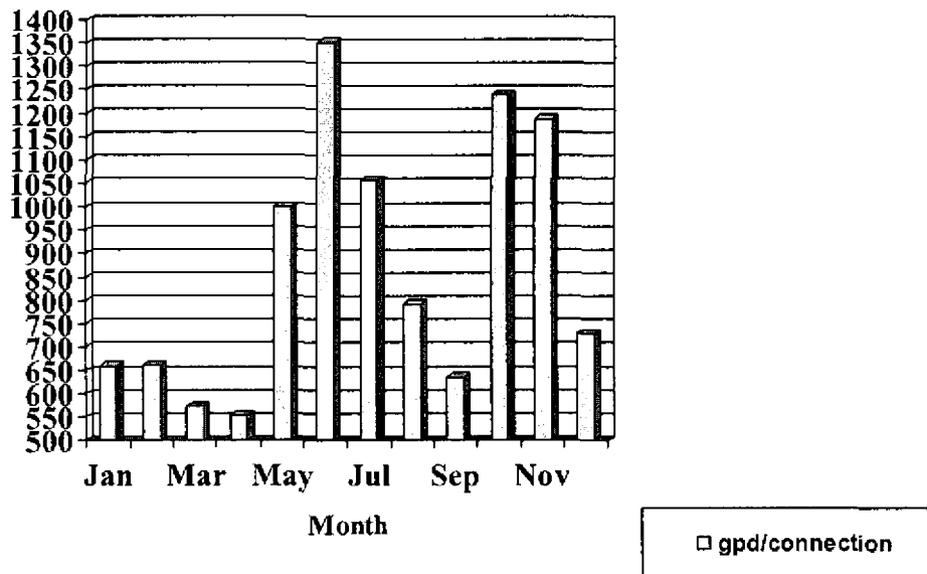
**During 2008 Test Year Water Usage In Valle Verde Water Co.  
( PWS #12-009) Service Area**



**EXHIBIT 4B**

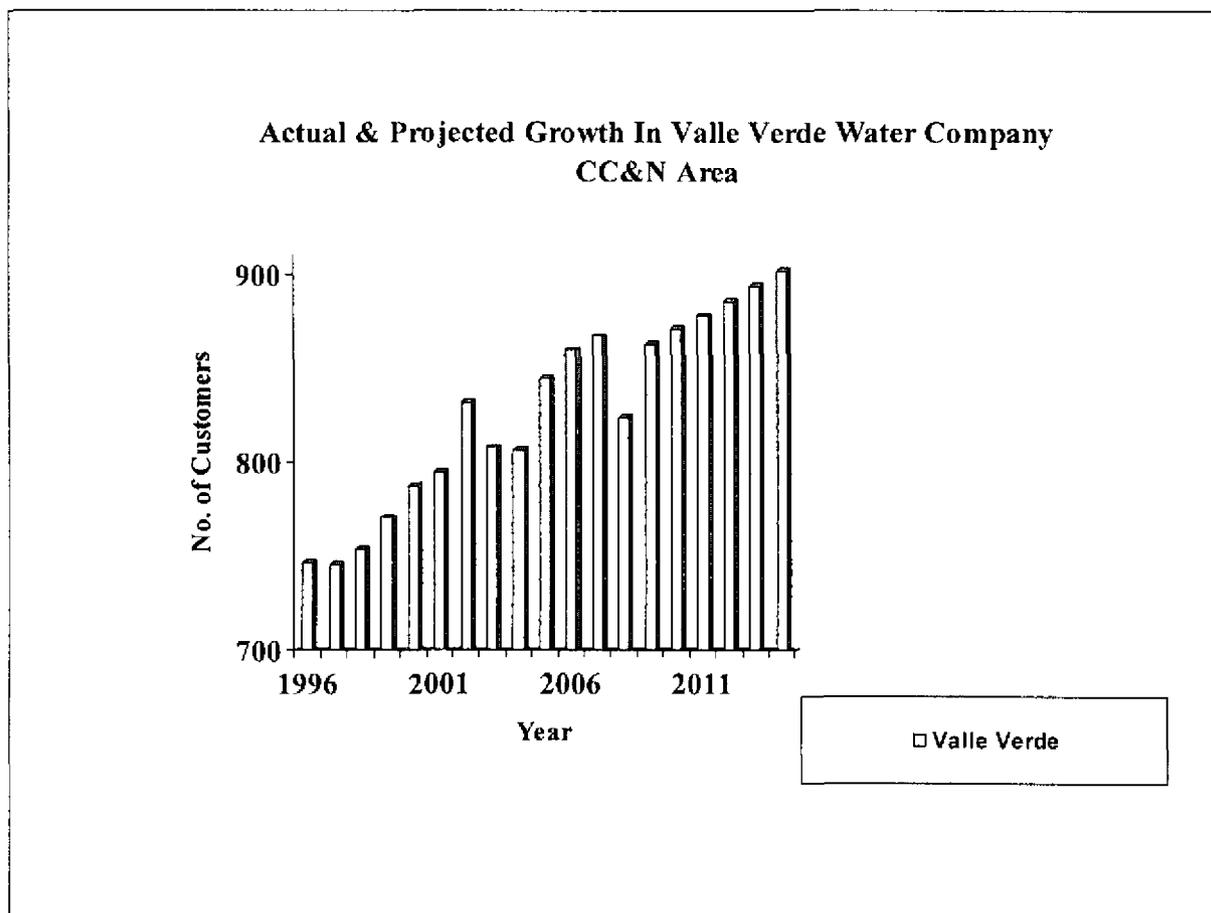
**WATER USAGE ON THE VALLE VERDE SERVICE AREA**

**During 2008 Test Year Water Usage In Valle Verde Water Co.  
( PWS #12-025) Service Area**



**EXHIBIT 5**

**ACTUAL AND PROJECTED GROWTH IN VALLE VERDE SERVICE AREA**



**Exhibit 6**

**Water Depreciation Rates (Valle Verde Water)**

Acct. No.	Depreciable Plant	Average Service Life (Years)	Annual Accrual Rate (%)
304	Structures & Improvements	30	3.33
305	Collecting & Impounding Reservoirs	40	2.50
306	Lake, River, Canal Intakes	40	2.50
307	Wells & Springs	30	3.33
308	Infiltration Galleries	15	6.67
309	Raw Water Supply Mains	50	2.00
310	Power Generation Equipment	20	5.00
311	Pumping Equipment	8	12.5
320	Water Treatment Equipment		
320.1	Water Treatment Plants	30	3.33
320.2	Solution Chemical Feeders	5	20.0
320.4	Water Treatment Plant (media) – PCE removal plant	20	5.00
330	Distribution Reservoirs & Standpipes		
	Storage Tanks		
330.1	Pressure Tanks	45	2.22
330.2		20	5.00
331	Transmission & Distribution Mains	50	2.00
333	Services	30	3.33
334	Meters	12	8.33
335	Hydrants	50	2.00
336	Backflow Prevention Devices	15	6.67
339	Other Plant & Misc Equipment	15	6.67
340	Office Furniture & Equipment	15	6.67
340.1	Computers & Software	5	20.00
341	Transportation Equipment	5	20.00
342	Stores Equipment	25	4.00
343	Tools, Shop & Garage Equipment	20	5.00
344	Laboratory Equipment	10	10.00
345	Power Operated Equipment	20	5.00
346	Communication Equipment	10	10.00
347	Miscellaneous Equipment	10	10.00
348	Other Tangible Plant	----	----