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BEFORE THE ARIZONA CORPORATION COMMISSION

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COMMISSIONERS

MIKE GLEASON, Chairman
WILLIAM A. MUNDELL
JEFF HATCH-MILLER
KRISTIN K. MAYES
GARY PIERCE

2007 DEC 31 PM 10:48
AZ CORP COMMISSION
DOCKET CONTROL

DOCKETED

DEC 31 2007

DOCKETED BY [Signature]

IN THE MATTER OF THE APPLICATION FOR)
EXTENSION OF WATER UTILITY OF)
GREATER TONOPAH, INC., AN ARIZONA)
CORPORATION, FOR AN EXTENSION OF ITS)
CERTIFICATE OF CONVENIENCE AND)
NECESSITY TO ENCOMPASS ALL OR)
PORTIONS OF SECTIONS 15, 17 AND 22, T2N,)
R52, G&SRB&M, MARICOPA COUNTY,)
ARIZONA (AKA THE HASSAYAMPA RANCH)
DEVELOPMENT).)

DOCKET NO. W-02450A-04-0837

**NOTICE OF FILING
IN COMPLIANCE WITH
DECISION NO. 68307**

In compliance with Decision No. 68307 (Nov. 14, 2005), as modified by the Commission's Procedural Order dated May 3, 2007, Water Utility of Greater Tonopah ("WUGT") submits the required evidence of compliance with new arsenic standard. The WUGT systems that are Public Water Systems regulated by MCESD, and which had arsenic issues, are (1) Buckeye Ranch, PWS # 07-618; (2) Roseview, PWS # 07-082; (3)WPE # 6, PWS # 07-733; (4) Sunshine, PWS # 07-071.

Attached as Exhibit 1 is MCESD Certificate of Approval to Commence Operations for the Buckeye Ranch Arsenic Removal System. Attached as Exhibit 2 is a report from McBride Engineering Solutions documenting the successful instillation of the Point of Use (POU) arsenic systems for the Roseview System. This includes the MCESD Approval to Construct. Attached as Exhibit 3 is the MCESD Certificate of Approval to Commence Operations for the WPE # 6 system arsenic removal system. Attached as Exhibit 4 is the MCESD Certificate of Approval to Commence Operations for the Sunshine System.

50

ROSHKA DEWULF & PATTEN, PLC
ONE ARIZONA CENTER
400 EAST VAN BUREN STREET - SUITE 800
PHOENIX, ARIZONA 85004
TELEPHONE NO 602-256-6100
FACSIMILE 602-256-6800

1 Note that some of these documents incorrectly reference "Water Utility of Greater
2 Buckeye". However, the correct PWS Identification number is included on all documents. Please
3 contact us if you have any questions about this documentation.

4
5
6 RESPECTFULLY SUBMITTED this 31st day of December 2007.

7 ROSHKA DEWULF & PATTEN, PLC

8
9 By 

10 Michael W. Patten
11 Timothy J. Sabo
12 One Arizona Center
13 400 East Van Buren Street, Suite 800
14 Phoenix, Arizona 85004

15 Original and 13 copies of the foregoing
16 filed this 31st day of December 2007 with:

17 Docket Control
18 Arizona Corporation Commission
19 1200 West Washington Street
20 Phoenix, Arizona 85007

21 Copy of the foregoing hand-delivered/mailed
22 this 31st day of December 2007 to:

23 Lyn Farmer, Esq.
24 Chief Administrative Law Judge
25 Hearing Division
26 Arizona Corporation Commission
27 1200 West Washington
Phoenix, Arizona 85007

Christopher C. Kempley
Chief Counsel, Legal Division
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

Ernest G. Johnson, Esq.
Director, Utilities Division
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

ROSIKA DEWULF & PATTEN, PLC
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Brian Bozzo
Compliance Manager, Utilities Division
Arizona Corporation Commission
1200 West Washington
Phoenix, AZ 85007

By 

EXHIBIT

"1"



Maricopa County

Environmental Services
Water and Waste Management Division

1001 N. Central Ave., Suite 150
Phoenix, AZ 85004
Phone: (602) 506-6666
Fax: (602) 506-6925
TDD: 602 506 6704
www.maricopa.gov/envsvc

Date: December 14, 2007
Owner: Water Utility of Greater Buckeye

MCESD Project #: 2011540
PWS #: 04-07-618

CERTIFICATE OF APPROVAL TO COMMENCE OPERATIONS WITH STIPULATIONS

PROJECT DESCRIPTION: Water Utility of Greater Buckeye (WUGB), Buckeye Ranch Wellhead Arsenic Removal System (ARS). The project includes construction of a water treatment system to remove total arsenic from extracted groundwater from a 150 gallon per minute (GPM) well. The project will remove arsenic from the well water to comply with the current 10 micrograms per liter ($\mu\text{g/l}$) maximum contaminate limitation (MCL) for total arsenic. The ARS includes: two pre-treatment 20-micron pleated disposable cartridge filters with cyclone capability that are controlled by programmable logic control (PLC) and dual solenoid hydraulically actuated diaphragm valves; two four-ft diameter carbon steel ARS pressure vessels that normally operate in series and are manufactured and certified to American Society of Mechanical Engineers (ASME) code and are rated at a maximum operating gauge pressure of 100 pounds per square inc- gauge (PSIG). The vessels contain ArsenX^{np} adsorptive media and treat 84 GPM of the 150 GPM maximum well production rate. ARS influent pH is reduced from 8.2 to 7.0 utilizing a carbon dioxide injection system interlocked with a pH transmitters at the ARS inlet and the ARS outlet. The treated water combines with 66 GPM of untreated water to produce blended water with 6 $\mu\text{g/l}$ arsenic concentration. Flow meters are provided to measure both the ARS flow and bypassed flow.

Water used to condition the media and to flush excess chlorine residual from the ARS during disinfection shall be disposed of in accordance with Arizona Administrative Code (AAC) Title 18, Chapter 9 and Maricopa County Environmental Health Code (MCEHC) Chapter II. ARS disinfection and chlorine residual in finished water shall be conducted in accordance with Purolite's (the media manufacturer's) procedures as presented in the appendices of the September 2007 Design Report by Conestoga-Rovers & Associates (CRA) and in accordance with Arizona Department of Environmental Quality (ADEQ) August 1978, "Disinfection of Water Systems, ADEQ Bulletin #8. Oxidation of arsenic III (arsenite) to arsenic V (arsenate) is required for effective removal of arsenite utilizing ArsenX^{np} adsorptive media. Oxidation is conducted by injecting 0.1 to 0.2 part per million by mass (ppm_m) of sodium hypochlorite into the raw water entering the ARS lead vessel.

LOCATION:

Buckeye, Maricopa County
SWC Buckeye Road & 355th Avenue
Buckeye, AZ 85326
T1N, R6W, Sec 13

PROJECT OWNER:

Attn: Jason Bethke, P.E.
Water Utility of Greater Buckeye
21410 N. 19th Av., Suite 201
Phoenix, AZ 85027-2758

Well :

ADWR #55-802962
Well capacity = 150 GPM
Arsenic concentration = 13 $\mu\text{g/l}$ (6
 $\mu\text{g/l}$ Arsenite, 7 $\mu\text{g/l}$ Arsenate)

Blend:

Arsenic \leq 8 $\mu\text{g/l}$

Pursuant to Arizona Administrative Code (AAC) Title 18, Chapters 4 and 9 and Maricopa County Environmental Health Code (MCEHC) Chapters II and V, this Certificate of Approval to Commence Operations (ATCO) of the above-described facilities as represented in the approved plan documents on file with the Maricopa County Environmental Services Department (the Department and MCESD) is hereby given subject to the following provisions:

1. This ATCO is issued based on submission of: an application for a Certificate of Approval of Construction (AOC) prepared by the Owner dated 12/13/07; submittal of a startup plan by Brian P. McBride, P.E. (#33441) dated 12/04/07; design drawings and specifications prepared by Jeffrey N. Bryan, P.E. (#41026) dated 09/26/07; a Draft Operation and Maintenance (O&M) Manual submitted by Conestoga-Rovers and Associates (CRA, the Builder) dated December 2007; an inspection by the Department on 12/12/07; instrument calibration data submitted by the Builder dated 11/02/07; pressure test data dated 12/07/07; and equipment disinfection data dated 12/13/07.
2. This ATCO is based on the following conditions:
 - No other sources shall be connected to the facility or be blended with the treated water without Department approval.
 - All hand-operated valves that are capable of throttling flow through the facility shall be locked into position, have their handles removed, or shall have position (limit) switches installed to reduce the possibility of tampering.
 - Raw water shall only be allowed to bypass treatment in conformance with the approved blending strategy.
 - Well production shall be restricted and the amount of water bypassing the ARS shall be reduced whenever the treated arsenic level is greater than one $\mu\text{g/l}$ at the ARS effluent.
 - No other types or formulas of new or regenerated media shall be installed in the vessels without Department approval.
 - ARS vessels shall be operated in series only. Parallel operation requires prior written approval of the Department.
 - Post ARS chlorination shall be maintained at all times and a chlorine residual maintained in stored water for distribution in accordance with ADEQ Bulletin #8.
3. A Grade 2 water treatment operator (the Operator), certified by the Arizona Department of Environmental Quality (ADEQ), shall be in direct responsible charge of this facility. Shift foremen or other operators in charge of the facility in the absence of the Operator shall be certified at a grade no lower than one grade below the grade of the facility. Daily operations of this facility shall be remotely monitored using a Supervisory Control and Data Acquisition (SCADA) system with a minimum of one visit per week to this facility by the responsible operator.
4. This facility shall be subject to initial testing to insure that no contaminated water enters the distribution system. All start-up activities shall be performed under the Operator. At no time shall water with a constituent exceeding an MCL be released to the distribution system. Testing of the facility shall proceed as follows:
 - **Validation Testing:** Validation testing commences prior to start-up of the system. One sample per hour of the raw well water from the operating well, treated water from each vessel, and finished water from the ARS shall be collected at hourly intervals for field and laboratory analysis. This sampling shall continue until three (3) consecutive field tests are successful.

The Operator shall submit the test results to the Department under a signed cover letter stating that the results are accurate to the best of his/her knowledge.

After reviewing and approving the results, the Department will authorize the system to immediately go into Commissioning Testing as described below. At this time, finished water may be released from the facility into the distribution system.

- **Commissioning Testing:** During commissioning testing the Operator shall visit the site at least once each day the plant is operating. Test results shall be submitted weekly to the Department during commissioning testing.

Initially, one sample per day of the raw well water from the operating well, treated water from each vessel, and water from the Point-of-Entry (POE) shall be collected for laboratory analysis. This sampling shall continue daily until five (5) consecutive tests are successful.

Following successful completion of the initial testing, one sample per week shall be collected at the ARS discharge and at the POE for laboratory analysis. This sampling shall continue weekly until five (5) consecutive tests are successful.

When commissioning testing is completed the Operator shall submit the test results to the Department under a signed cover letter stating that the results are accurate to the best of his/her knowledge. Laboratory test results from the POE water samples shall also be submitted by the Owner to ADEQ.

5. The water treatment facility shall meet all applicable sampling and reporting requirements under the Safe Drinking Water Act Rule, Title 18, Chapter 4 of the ACC, and subsequent amendments.
6. Upon successful completion of the validation and commissioning testing of this facility, submit the following documentation to the Department:
 - An Engineer's Certificate of Completion (COC)
 - All validation and commissioning test results
 - A copy of the initial breakthrough curve showing the treated arsenic level vs. number of bed volumes treated during the testing period
 - A full set of sealed, engineered as-built plans, including electrical drawings; the drawings shall contain the following statement:

AS BUILT DRAWINGS

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY THE CONSTRUCTION CONTRACTOR. THE ENGINEER HAS INSPECTED THE FACILITIES AND CERTIFIES THAT THEY ARE A SUBSTANTIALLY ACCURATE PRESENTATION OF THE LAYOUT AND CONDITION OF THE CONSTRUCTED PROJECT.

- A final O&M Manual for the new facility, in accordance with ADEQ Engineering Bulletin #10 and specific to this facility

The Department will review the submitted material and consider issuing an AOC.

7. The Owner shall provide a monthly report of ARS operating conditions. Submit the reports to the Department on approved forms within 10 days of the end of the month. Include in the report:
 - A copy of the laboratory results performed during the month for process monitoring or for normal regulatory compliance.
 - Total well production.
 - The amount of water treated, bypassed, and blended.
 - The configuration of the vessels (i.e. lead and lag position).
 - The approximate number of bed volumes treated by each vessel.
 - The date of any media change-out, vessel reconfiguration, or other process change.

- The most recent version of the breakthrough curve showing the treated arsenic level vs. cumulative number of bed volumes for the respective batch of media.
 - Any other abnormal operating condition.
8. The Owner shall take action as follows whenever total arsenic breakthrough is experienced in the lead vessel: Replace the media of the lead ARS vessel with **new** ArsenX[™] when 90% of the total arsenic influent concentration is encountered in the effluent of the lead vessel. Place the previous lag (polishing) vessel as the lead vessel once the media replacement is completed, and the fresh shall become the lag vessel.
 9. Following Department approval of construction, the Owner shall send the Department a report whenever there is a media change-out, vessel reconfiguration, or other process change. Provide the reasons for the change and relevant data that support the decision such as laboratory test results and the number of bed volumes treated by each vessel. Submit the reports to the Department on approved forms within 10 days of the process change.
 10. Failure to comply with all conditions of this ATCO may result in forfeiture and cancellation of this permit and may require the treatment facility to be immediately taken out of service.
 11. This approval is void if major modifications occur to this facility without the knowledge and consent of the Department.
 12. Any change to the treatment facility that affects the treatment capacity, water quality, flow, location or operational performance, either in whole or in part, shall receive prior Department approval.
 13. All materials or products that come into contact with drinking water including chemicals and equipment shall conform to American National Standards Institute/National Sanitation Foundation (ANSI/NSF) 60 and 61 in accordance with AAC R18-4-119.
 14. No connection may exist between potable water and non-potable water unless an approved backflow prevention device is installed in accordance with AAC R18-4-115.
 15. Provide appropriate signage for all hose bibb connections (both potable and non-potable).
 16. Provide hoses and hose racks at all hose bibb locations (both potable and non-potable).
 17. Representative(s) of the Department shall be allowed access to conduct inspections of this facility during reasonable hours.
 18. The Department reserves the right to modify this approval pursuant to future state regulations.

WATER AND WASTE MANAGEMENT DIVISION

by: *Dale G. Bodiya*, P.E.
 Mr. Dale G. Bodiya, PE
 Manager, Water \ Wastewater Treatment Program

Approval Date: December 14, 2007

Global Water Resources- Water Utility of Greater Buckeye
 Buckeye Ranch Arsenic Removal System
 December 14, 2007 MCESD #2011540

cc: ADEQ Drinking Water Section, 1110 W Washington Street, Phoenix, AZ 85007
Deanne Kincade, P.E., McBride Engineering, 7305 W Boston Street, Chandler, AZ 85226
Jason Bethke, PE, Water Utility of Greater Buckeye, 21410 N 19th Av, Ste 201, Phoenix, AZ 85027-2758
John Kolman, RS, MCESD, Manager Drinking Water Program
Kevin Chadwick, PE, Division Manager, MCESD, Water and Waste Management Division
MCESD Project File
MCESD Facility File
Sean Kumar, P.E., Conestoga-Rovers, 4050 E Cotton Center Boulevard, Suite 49, Phoenix, AZ 85040
Utilities Division - Engineering Section, Arizona Corporation Commission, 1200 W Washington Street,
Phoenix, AZ 85007-2996

EXHIBIT

"2"



December 31, 2007

Jason Bethke, P.E.
Director of Engineering
Global Water Resources
21410 N. 19th Ave, Suite 201
Phoenix, Arizona 85027

**Re: Global Water – Water Utility of Greater Tonopah
Rose View Water System (04-07-082) POU Arsenic Removal Systems
System Compliance**

Dear Mr. Bethke:

At this time, Global Water – Water Utility of Greater Tonopah (WUGT), in cooperation with Aqua Science, Inc. and Watts Premier, has successfully completed the installation of 15 Reverse Osmosis (RO) Point-of-Use (POU) Arsenic Removal Systems (ARS) in the Rose View Water System. This letter is to verify that the units are in operation and producing potable water that is in compliance with the US EPA's arsenic MCL of 10 ppb.

Per the Approval to Construct for this project, issued by Maricopa County Environmental Services Department, water samples were obtained from the first two installations and analyzed for arsenic by Legend Technical Services Laboratory. The results of the lab analysis showed that the treated water at both installations had arsenic concentrations of less than 2 ppb, and are therefore in compliance with the arsenic MCL of 10 ppb.

The following information is enclosed and provides details on the location of each installed unit, the treated water quality, and the permit conditions:

- Rose View Water System Customer List
- Lab Analysis Results
- Approval to Construct

We trust that the enclosures provided herein will satisfy the requirements to show that Rose View is in compliance with the arsenic rule. If you have questions or concerns, please contact me at (480) 759-9608.

Sincerely,

Deanne M. Kincade, P.E.
Senior Project Manager
McBride Engineering Solutions, Inc.

Enclosures

cc: James Taylor, Water Treatment Supervisor, West Valley Region, Global Water Resources
Susan Armijo, Compliance Manager, Global Water Resources

#	Parcel #	Address (Tonopah, 85354)	Consent Received	Contact Phone	Aqua Science Completion	Field Tested	Name (Per Maricopa County Assessor)
Roseview (WS#: 07-082 Well #: 55-802143)							
1	506-58-125A	Master Meter at wellsite	N/A	N/A	N/A	N/A	N/A
2	506-58-121F	48138 W Wilheta St			No hit on property		Rykka
3	506-58-006	47938 W Wilheta St	X	623-570-5583	Done	X	Sandoval
4	506-58-009B	48043 W Wilheta St	X	928-372-4655	Done	X	Raniel
5	506-58-009A	48031 W Wilheta St	X	602-499-1237	Done	X	Jimenez
6	506-58-104B	1268 N 481st St	X	623-399-3171	Done	X	Rediger
7	506-58-104D	1256 N 481st St	X	928-372-4732	Done	X	Michael
8	506-58-104E	1254 N 481st St	X		Done	X	Rediger
9	506-58-005P	48226 W Belleview St	X	602-448-9746	Done	X	Conlona
10	506-58-005N	47938 W Belleview St	X	623-229-8655	Done	X	McKinmy
11	506-58-013A	47914 W Belleview St	X	623-217-7791	Done	X	Almirva
12	506-58-267	48114 W Portland St	X		SCHEDULED JAN08		Donathan
13	506-58-142	47937 W Portland St	X	623-693-6239	Done	X	Roman
14	506-58-117B	48014 W Portland St	X	602-550-6362	Done	X	Johnson
15	506-58-017A	48011 W Belleview St	X	480-286-4798	Done	X	Crawford
16	506-58-017H	48053 W Belleview	X	928-372-4732	Done	X	Virginia
17	506-58-005S	47937 W Belleview	X	602-579-9770	Done	X	Liebera



17631 North 25th Avenue • Phoenix, AZ 85023
P (602) 324-6100 • F (602) 324-6101
4585 S. Palo Verde Rd., Ste. 423 • Tucson, AZ 85714
P (520) 327-1234 • F (520) 327-0518

18 December 2007

Kim Eberenz, Water Quality Specialist
Global Water
21410 N. 19th Avenue, Suite 201
Phoenix, AZ 85027

RE: Roseview Water Company

Legend ID: 7120318

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 12/05/07 15:20.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

A handwritten signature in cursive script that reads "Barbara Frank".

Barbara Frank
Client Services Representative

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

Global Water
21410 N. 19th Avenue, Suite 201
Phoenix, AZ 85027

Project: Roseview Water Company
Project Number: 07-082 ROSEVIEW DW MISC-N-120307
Project Manager: Kim Eberenz, Water Quality Specialist

Reported:
12/18/07 13:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
Sample 1 Willetta (48043 W. Willetta)	7120318-01	Drinking Water	Grab	12/03/07 13:02	12/05/07 15:20
Sample 2 Portland (47937 W. Portland)	7120318-02	Drinking Water	Grab	12/03/07 13:31	12/05/07 15:20

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.
QA/QC Criteria: All analyses met method requirements unless otherwise qualified.
Comments: There were no problems encountered during the processing of the samples, unless otherwise noted.
Emailed final PDF & EDD on 12/18/07- BF

Global Water
21410 N. 19th Avenue, Suite 201
Phoenix, AZ 85027

Project: Roseview Water Company
Project Number: 07-082 ROSEVIEW DW MISC-N-120307
Project Manager: Kim Eberenz, Water Quality Specialist

Reported:
12/18/07 13:53

Sample 1 Willeta (48043 W. Willeta) (7120318-01) Drinking Water (Grab) Sampled: 12/03/07 13:02 Received: 12/05/07 15:20

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Total Metals

Arsenic	<0.002	0.002	mg/L	1	B7L0414	12/17/07 16:00	12/17/07 16:33	EPA 200.9	
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Sample 2 Portland (47937 W. Portland) (7120318-02) Drinking Water (Grab) Sampled: 12/03/07 13:31 Received: 12/05/07 15:20

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Total Metals

Arsenic	<0.002	0.002	mg/L	1	B7L0414	12/17/07 16:00	12/17/07 16:33	EPA 200.9	
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Global Water
 21410 N. 19th Avenue, Suite 201
 Phoenix, AZ 85027

Project: Roseview Water Company
 Project Number: 07-082 ROSEVIEW DW MISC-N-120307
 Project Manager: Kim Eberenz, Water Quality Specialist

Reported:
 12/18/07 13:53

Total Metals - Quality Control
Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7L0414 - Default Prep Metals										
Blank (B7L0414-BLK1)				Prepared & Analyzed: 12/17/07						
Arsenic	<0.002	0.002	mg/L							
LCS (B7L0414-BS1)				Prepared & Analyzed: 12/17/07						
Arsenic	0.021		mg/L	0.0200		105	85-115			
Matrix Spike (B7L0414-MS1)				Source: 7120239-01		Prepared & Analyzed: 12/17/07				
Arsenic	0.022		mg/L	0.0200	0.000200	109	70-130			
Matrix Spike (B7L0414-MS2)				Source: 7120240-06		Prepared & Analyzed: 12/17/07				
Arsenic	0.022		mg/L	0.0200	0.00290	95.5	70-130			
Matrix Spike Dup (B7L0414-MSD1)				Source: 7120239-01		Prepared & Analyzed: 12/17/07				
Arsenic	0.022		mg/L	0.0200	0.000200	109	70-130	0.00	25	
Matrix Spike Dup (B7L0414-MSD2)				Source: 7120240-06		Prepared & Analyzed: 12/17/07				
Arsenic	0.023		mg/L	0.0200	0.00290	100	70-130	4.44	25	

Legend Technical Services of Arizona, Inc.
 Certifications: AZ #0004 MN #004--999-387 AIHA #102982

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Global Water
21410 N. 19th Avenue, Suite 201
Phoenix, AZ 85027

Project: Roseview Water Company
Project Number: 07-082 ROSEVIEW DW MISC-N-120307
Project Manager: Kim Eberenz, Water Quality Specialist

Reported:
12/18/07 13:53

Notes and Definitions

BLK Method Blank
LCS/Dup Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup Matrix Spike/Duplicate
Dry Sample results reported on a dry weight basis
RPD Relative Percent Difference



Maricopa County

Environmental Services

Water and Waste Management Division

1077 N. Central Ave., Suite 150
Phoenix, AZ 85004
Phone: (602) 506-6666
Fax: (602) 506-6025
TDD: 602 506 4794
www.maricopa.gov/envsvc

DATE: October 18, 2007
OWNER: Water Utility of Greater Tonopah

MCESD Project #: 2011528
SYSTEM ID #: 04-07-082

CERTIFICATE OF APPROVAL TO CONSTRUCT WITH STIPULATIONS

PROJECT DESCRIPTION: Rose View Water Company Point of Use (POU) Systems for Arsenic Removal. The project treats raw water from the water system's well (ADWR #55-802143) to remove arsenic to comply with the 10 ppb Maximum Contaminant Limit (MCL). The project includes the installation of a Watts Premier, Inc. Model No. KP-4 RO POU System at the 15 residential home sites served by this water system.

The POU units are under-the-sink and each contain a 5-micron sediment prefilter, a KDF/GAC polishing filter, a reverse osmosis membrane and a 3-gallon storage tank and monitoring faucet. The monitoring faucet includes an integral TDS monitor and a timer system to alarm when the system is not working properly or requires maintenance. The POU systems are American National Standards Institute/National Sanitation Foundation (ANSI/NSF) 60 and 61 certified.

The system is rated with a production capacity of 9 gallons of drinking water in a 24-hour period at 40 pounds per square inch-gauge (psig) inlet pressure. Reject water from the reverse osmosis system is disposed to the septic system at each home. Approximately three to four gallons of water are used for every gallon of water produced.

Addendum 'A' includes the POU System installation Schedule identifying the manufacturer, model number, and site address and site parcel number included in this approval.

LOCATION: Tonopah, Maricopa County
T1N, R8W, SEC 4
Rose View Water Company
483rd Av & W McDowell Rd
Tonopah AZ 85364

PROJECT OWNER: Water Utility of Greater Tonopah
Attn. Mr. Jason Bethke, P.E.
21410 N 19th Av. Suite 210
Phoenix, AZ 85027

Pursuant to Arizona Administrative Code (AAC) Title 18, Chapters 4 and 9 and Maricopa County Environmental Health Code (MCEHC) Chapters II and V, approval to construct (ATC) the above-described facilities as represented in the approved plan documents on file with the Maricopa County Environmental Services Department (the Department) is hereby given subject to the following provisions:

1. Any change in the approved design that may affect capacity, quality, flow, location or operational performance of the system shall be submitted to this Department for review, and Department approval shall be obtained prior to undertaking the work affected by the change.
2. This approval is void if major modifications occur to this system without the knowledge and consent of the Department.
3. Immediately following installation of each POU unit, the unit shall be field tested using test strips that are accurate to one (1) ppb ($\mu\text{g/L}$) for total arsenic. The results of the tests shall be sent to the Department as soon as they are available.
4. Within seven (7) days from the installation of the first two (2) POU units, a water sample shall be collected from each of the two units. The water samples shall be tested in a state certified laboratory for total arsenic to demonstrate that the POU units are properly installed and meet the treatment objectives. The results of the tests shall be sent to the Department as soon as they are available.
5. When all POU units have been installed an application for a Certificate of Approval of Construction (AOC), together with a Certificate of Completion (COC) from the party responsible

Water Utility of Greater Tonopah
Rose View Water Company Point-of-Use Water Treatment Systems
Approval To Construct – October 18, 2007



Maricopa County

Environmental Services
Water and Waste Management Division

1001 N. Central Ave., Suite 150
Phoenix, AZ 85004
Phone: (602) 506-6666
Fax: (602) 506-6925
TDD: (602) 506-6744
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for installation of the POU units shall be submitted to this Department. Prior to granting Approval of Construction.

- a) A manual containing operations, maintenance and monitoring instructions for users of the POU system shall be submitted to and approved by this Department.
- b) The results of the laboratory analysis of water samples taken after the first two POU units were installed shall be submitted to the Department.
- c) A final construction inspection of the project shall be scheduled and completed with this Department.

- 6. POU operations and maintenance shall conform, in all respects, to the most recent version of the Arizona Department of Environmental Quality (ADEQ) "Arizona Point of Use Compliance Program Guidance Manual".
- 7. A minimum Grade 1 water treatment operator certified by ADEQ shall oversee the efficient operation and maintenance of the water system, including the POU units.
- 8. The water treatment facility shall meet all applicable sampling and reporting requirements under the Safe Drinking Water Act Rule, Title 18, Chapter 4 of the AAC and subsequent amendments.
- 9. All materials or products that come into contact with drinking water or with water treatment chemicals shall conform to ANSI/NSF 60 and 61 in accordance with AAC R18-4-119.
- 10. No connection may exist between potable water and non-potable water unless an approved backflow prevention device is installed in accordance with AAC R18-4-115.
- 11. MCESD reserves the right to modify this approval pursuant to future state regulations.

If construction has not commenced within one year of the plan approval date, or if there is a halt in construction of more than one year, or if construction is not completed within three years, this certificate will expire.

WATER AND WASTE MANAGEMENT DIVISION

By Eric J. Karpinger, P.E.
Dale G. Bodija, PE
Manager Water / Wastewater Treatment Program

Plan Approval Date: October 18, 2007

cc: ADEQ Drinking Water Section, 1110 W. Washington Street, Phoenix, AZ 85003
Arizona Corporation Commission, Utilities Division – Engineering Section,
1200 W. Washington Street, Phoenix, AZ 85007
Deanne Kincade, P.E., McBride Engineering, 7305 W Boston St, Chandler, AZ 85226
John Kolman, RS, MCESD, Manager Drinking Water Program
Kevin Chadwick, PE, MCESD, Division Manager
MCESD Facilities File
MCESD Project File

Addendum A
Point-of-Use System Installation Schedule

Table 1 – Installation Schedule				
POU Unit No.	Manufacturer / Model No.	Address	Parcel No.	Notes
1	Watts Premier, Inc. Model No. KP-4 RO	Master Meter at wellsite Tonopah, AZ 85354	506-58-125A	
2	Watts Premier, Inc. Model No. KP-4 RO	48138 W Willetta St Tonopah, AZ 85354	506-58-123E	
3	Watts Premier, Inc. Model No. KP-4 RO	47938 W Willetta St Tonopah, AZ 85354	506-58-006	
4	Watts Premier, Inc. Model No. KP-4 RO	48043 W Willetta St Tonopah, AZ 85354	506-58-009B	
5	Watts Premier, Inc. Model No. KP-4 RO	48031 W Willetta St Tonopah, AZ 85354	506-58-009A	
6	Watts Premier, Inc. Model No. KP-4 RO	1268 N 481st St Tonopah, AZ 85354	506-58-114B	
7	Watts Premier, Inc. Model No. KP-4 RO	1256 N 481st St Tonopah, AZ 85354	506-58-114D	
8	Watts Premier, Inc. Model No. KP-4 RO	1254 N 481st St Tonopah, AZ 85354	506-58-114E	
9	Watts Premier, Inc. Model No. KP-4 RO	48226 W Belleview St Tonopah, AZ 85354	506-58-005P	
10	Watts Premier, Inc. Model No. KP-4 RO	47938 W Belleview St Tonopah, AZ 85354	506-58-005N	
11	Watts Premier, Inc. Model No. KP-4 RO	47914 W Belleview St Tonopah, AZ 85354	506-58-013A	
12	Watts Premier, Inc. Model No. KP-4 RO	47911 W Belleview St Tonopah, AZ 85354	506-58-017B	
13	Watts Premier, Inc. Model No. KP-4 RO	479142 W Belleview St Tonopah, AZ 85354	506-58-005T	
14	Watts Premier, Inc. Model No. KP-4 RO	48114 W Portland St Tonopah, AZ 85354	506-58-267	
15	Watts Premier, Inc. Model No. KP-4 RO	47937 W Portland St Tonopah, AZ 85354	506-58-142	

EXHIBIT

"3"

Water and Waste Management Division

1001 N. Central Ave., Suite 150
Phoenix, AZ 85004
Phone: (602) 506-6666
Fax: (602) 506-6925
TDD: 602 506 6704
www.maricopa.gov/envsvc

**CERTIFICATE OF APPROVAL TO COMMENCE OPERATIONS
WITH STIPULATIONS**

PROJECT DESCRIPTION: Water Utility of Greater Tonopah, West Phoenix Estates Well #6, Temporary Fluoride and Arsenic Removal System (FARS).

The original FARS (MCESD Project No. 2010888) received a Certificate of Approval of Construction from the Department on March 1, 2004. The Department issued a Certificate of Approval to Construct a permanent FARS on April 20, 2007 as part of this same Project No. 2011450. Subsequent to issuing that certificate, the Owner requested Approval to Construct a temporary FARS to satisfy immediate water demands. A Certificate of Approval to Construct the temporary FARS was issued on May 23, 2007. The temporary FARS is a Pureflow 36-inch diameter activated alumina treatment unit that will remove fluoride and arsenic from the well water to comply with the respective 4 mg/l and 10 µg/l Maximum Contaminant Levels (MCL). The work included all piping, electrical, and control modifications for installation of the temporary unit. The temporary system will serve a maximum 60 connections with an approximate population of 150.

The original FARS will remain in place as a backup to the temporary FARS. The following existing facilities will be used as part of the temporary FARS: acid and caustic systems for pH control; tablet chlorination system; 10,000-gallon storage tank; booster pump; hydropneumatic tank; backwash pump; and solar evaporation ponds.

The permanent FARS will include removal of the original and temporary FARS and construction of a McPhee Environmental Supply treatment system utilizing activated alumina media. The permanent FARS will include two 48-inch dia. x 8-ft high vessels with Engelhard DD-6 media. The vessels will operate in parallel to treat an initial peak flow of 30 gpm and will be expandable to treat 100 gpm to service 200 connections and an approximate population of 500.

MCESD Project #2011450

LOCATION:

Tonopah, Maricopa County
NEC Bethany Home Road & 419th Ave.
T2N, R7W, SEC 11
PWS #: 04-07-733

WELL #6

ADWR #55-802145
Well capacity = 30 gpm
Fluoride concentration = 11 mg/l
Arsenic concentration = 7.6 µg/l

PROJECT OWNER:

Attn: Graham Symmonds, Sr. VP
Water Utility of Greater Tonopah
21410 N. 19th Avenue, Suite 201
Phoenix, AZ 85027

Pursuant to Arizona Administrative Code (AAC) Title 18, Chapter 4, or Chapter 9 and Maricopa County Environmental Health Code Chapters II and V, approval to commence operations of the above-described facilities as represented in the approved plan documents on file with the Maricopa County Environmental Services Department (MCESD) is hereby given subject to the following provisions:

1. This certificate is being issued based on submission of: an application for Certificate of Approval of Construction prepared by the Owner; an Engineer's Certificate of Completion executed by Jason Bethke, P.E. (#33976) on 6/11/07; draft as-built drawings; operations and maintenance data; and post-construction photographs of the temporary FARS. This certificate allows the facility to commence Validation Testing, as described below.
2. This approval is based on the following conditions:
 - No other sources shall be connected to the facility or be blended with the treated water without Department approval.
 - All hand-operated valves that are capable of throttling flow through the facility shall be locked into position, have their handles removed, or have position switches to reduce the possibility of tampering.
 - Raw water shall be only be allowed to bypass treatment in conformance with an approved blending strategy.
 - All process tanks shall be covered.
 - Off-site regeneration of media shall not be performed unless approved by the Department.

- The temporary FARS shall operate for an evaluation period not to exceed twelve (12) months from the date of the initial Certificate of Approval to Construct for the permanent FARS (April 20, 2007).
3. This facility shall be subject to initial testing to insure that no contaminated water enters the distribution system. All start-up activities shall be performed under the control of an Arizona Department of Environmental Quality (ADEQ) certified water treatment plant operator. At no time shall water with a constituent exceeding a Maximum Contaminant Level be released to the distribution system. Testing of the facility shall proceed as follows:
- **Validation Testing:** Validation testing commences prior to start-up of the system. One sample of the raw well water, treated water, and finished water from the point of entry (POE) shall be collected at hourly intervals for field and laboratory analysis of the fluoride and arsenic concentration. This sampling shall continue until three (3) consecutive field tests are successful.
The operator shall submit the test results to the Department under a signed cover letter stating that the results are accurate to the best of his/her knowledge.
After reviewing and approving the results, the Department will authorize the system to immediately go into the Commissioning Testing phase described below. At this point finished water may be released from the facility into the distribution system.
 - **Commissioning Testing:** During commissioning testing the plant operator shall visit the site at least once each day the plant is operating. Test results shall be submitted weekly to the Department during commissioning testing.
Initially, one sample per day of the raw well water, treated water, and water from the Point-of-Entry (POE) shall be collected for laboratory analysis of the fluoride and arsenic concentration. This sampling shall continue daily until five (5) consecutive tests are successful.
Following successful completion of the initial testing, one sample per week shall be collected at the POE for laboratory analysis. This sampling shall continue weekly until five (5) consecutive tests are successful.
When commissioning testing is completed the operator shall submit the test results to the Department under a signed cover letter stating that the results are accurate to the best of his/her knowledge. Laboratory test results from the POE water samples shall also be submitted by the Owner to ADEQ.
4. Upon successful completion of the validation and commissioning testing of this facility, submit the following documentation to the Department:
- All validation and commissioning test results.
 - A full set of sealed, engineered as-built plans.
 - An Operation and Maintenance Manual for the new facility, in accordance with Engineering Bulletin #10 and specific to this facility.
 - A copy of the ADEQ Aquifer Protection Permit for the FARS and evaporation ponds.
- The Department will review and approve the submitted material and issue a Certificate of Approval of Construction.
5. The Owner shall continue to take monthly samples for laboratory confirmation. Submit the results to MCESD within 10 days of the end of the month. Provide:
- a. One representative monthly laboratory sample of the pH, fluoride and arsenic level in water sampled at the POE.
 - b. A description of operating conditions during the month. Include:
 - Total well production
 - Facility inspection results
 - The date of any media regeneration, change-out, vessel reconfiguration, or other process change
 - Any other abnormal operating condition
 - c. Time stamped photographs showing the water level in the evaporation ponds following each media regeneration.
 - d. One additional monthly laboratory sample of the pH, fluoride, and arsenic level in water sampled at the POE following any change in vessel configuration, media replacement, or other abnormal operating condition.

- e. Describe any non-routine operations and maintenance activities that are scheduled for the following month.
6. Failure to comply with all conditions of this certificate may result in forfeiture and cancellation of this permit and may require the treatment facility to be immediately taken out of service.
7. Any change to the treatment facility that affects the treatment capacity, water quality, flow, location or operational performance, either in whole or in part, shall receive Department approval prior to construction.
8. A Grade 2 water treatment operator, certified by the Arizona Department of Environmental Quality, shall be in direct responsible charge of this facility. Daily operations of this facility shall be remotely monitored using a Supervisory Control and Data Acquisition (SCADA) system with a minimum of one visit per week to this facility by the responsible operator.
9. Representative(s) of Maricopa County Environmental Services Department (MCESD) shall be allowed access to the site to conduct inspections of the treatment plant during reasonable hours.
10. The water treatment facility shall meet all applicable sampling and reporting requirements under the Safe Drinking Water Act Rule, Title 18, Chapter 4 of the Arizona Administrative Code, and subsequent amendments.
11. All materials or products that come into contact with drinking water or with water treatment chemicals shall conform to ANSI/NSF 60 and 61 in accordance with AAC R18-4-119.
12. No connection shall exist between potable and non-potable water.
13. MCESD reserves the right to modify the Approval of Construction pursuant to future state drinking water quality standards.

WATER AND WASTE MANAGEMENT DIVISION

by: _____
Mr. Dale G. Bodiya, PE
Manager, Water \ Wastewater Treatment Program

Approval Date: June 27, 2007

cc: Jason Bethke, PE, Global Water Resources, 21410 North 19th Ave., Suite 201, Phoenix, AZ 85027
Kevin Chadwick, PE, MCESD, W&WMD, Division Manager
John Kolman, RS, MCESD, Drinking Water Program
ADEQ Drinking Water Section, 1110 W. Washington St., Phoenix, AZ 85003
MCESD File

October 26, 2005

Certified Mail # 7001 1140 0000 4716 3180

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Phone: (602) 506-6666
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TDD: 602 506 6704
www.maricopa.gov/envsvc

Attn: J. John Mihlik
Water Utility of Greater Tonopah, Inc.
3800 N. Central Ave., Suite #770
Phoenix, AZ 85012

**RE: Tonopah, West Phoenix, Estates #6, Arsenic and Fluoride Treatment Facility
PWS # 04-07-733**

Maricopa County Environmental Services Department (MCESD) issued a Certificate of Approval of Construction (AOC) for the project on March 1, 2004 (copy attached). Stipulation Nos. 1 and 2 of the AOC state:

1. "...Samples of the raw water, treated water, and stored water shall be collected once a month and sent to a laboratory to confirm the field results. The field and laboratory data shall be reported to the Department on approved forms within 10 days of the end of each month..."
2. "Regeneration and/or replacement of the activated alumina shall be conducted before the fluoride level exceeds 2.0 mg/l at the end of the treatment train."

Our records indicate that WUGT has not complied with Stipulation No.1 and, because this is one of the few activated alumina systems in the county, we would like to know about the media performance per Stipulation No. 2.

MCESD is giving WUGT thirty (30) calendar days from receipt of this letter to comply with these stipulations. Per Stipulation No. 4 of the AOC:

4. "Failure to comply with all conditions of this certificate may result in forfeiture and cancellation of this permit and may require the treatment system to be immediately taken out of service."

Please contact me at 602-506-6414 if you have any questions.

Sincerely,

Kenneth R. James, PE
Acting Manager, Water/Wastewater Treatment Program

Enclosures: As noted

cc: Dale G. Bodiya, PE, Acting Manager, MCESD Water/Waste Division
John Kolman, RS, Manager, MCESD Drinking Water Program
Aimee Upton, MCESD, Acting Enforcement Manager
ADEQ Drinking Water Section, 1110 W. Washington St., Phoenix, AZ 85003
Utilities Division - Engineering Section, Arizona Corporation Commission
1200 W. Washington, Phoenix, AZ 85007-2996

EXHIBIT

"4"



Maricopa County

Environmental Services
Water and Waste Management Division

1001 N. Central Ave., Suite 150
Phoenix, AZ 85004
Phone: (602) 506-6666
Fax: (602) 506-6925
TDD: 602 506 6704
www.maricopa.gov/envsvc

Date: December 14, 2007
Owner: Water Utility of Greater Buckeye

MCESD Project #: 2011539
PWS #: 04-07-731

CERTIFICATE OF APPROVAL TO COMMENCE OPERATIONS WITH STIPULATIONS

PROJECT DESCRIPTION: Water Utility of Greater Buckeye (WUGB), Sunshine Wellhead Arsenic Removal System (ARS). The project includes construction of a water treatment system to remove total arsenic from extracted groundwater from a 100 gallon per minute (GPM) well. The project will remove arsenic from the well water to comply with the current 10 micrograms per liter ($\mu\text{g/l}$) maximum contaminate limitation (MCL) for total arsenic. The ARS includes: two pre-treatment 20-micron pleated disposable cartridge filters with cyclone capability that are controlled by programmable logic control (PLC) and dual solenoid hydraulically actuated diaphragm valves; two four-ft diameter carbon steel ARS pressure vessels that normally operate in series and are manufactured and certified to American Society of Mechanical Engineers (ASME) code with a maximum operating pressure of 100 pounds per square inch-gauge (PSIG). The vessels contain ArsenXTM adsorptive media and treat 56 GPM of the 100 GPM maximum well production rate. ARS influent pH is reduced from 8.2 to 7.0 utilizing a carbon dioxide injection system interlocked with pH transmitter at the ARS inlet and the ARS outlet. The treated water combines with 44 GPM of untreated water to produce blended water with 6 $\mu\text{g/l}$ arsenic concentration. Flow meters are provided to measure both the ARS flow and bypassed flow.

Water used to condition the media and to flush excess chlorine residual from the ARS during disinfection shall be disposed of in accordance with Arizona Administrative Code (AAC) Title 18, Chapter 9 and Maricopa County Environmental Health Code (MCEHC) Chapter II. ARS disinfection and chlorine residual in finished water shall be conducted in accordance with Purolite's (the media manufacturer's) procedures as presented in the appendices of the September 2007 Design Report by Conestoga-Rovers & Associates (CRA) and in accordance with Arizona Department of Environmental Quality (ADEQ) August 1978, "Disinfection of Water Systems", ADEQ Bulletin #8.

LOCATION:

Buckeye, Maricopa County
SEC Siesta Way & 355th Avenue
Buckeye, AZ 85326
T1S, R5W, Sec 04

PROJECT OWNER:

Attn: Jason Bethke, P.E.
Water Utility of Greater Buckeye
21410 N. 19th Av., Suite 201
Phoenix, AZ 85027-2758

Well :

ADWR #55-802141
Well capacity = 100 GPM
Arsenic concentration = 13 $\mu\text{g/l}$

Blend:

Arsenic \leq 8 $\mu\text{g/l}$

Pursuant to Arizona Administrative Code (AAC) Title 18, Chapters 4 and 9 and Maricopa County Environmental Health Code (MCEHC) Chapters II and V, this Certificate of Approval to Commence Operations (ATCO) of the above-described facilities as represented in the approved plan documents on file with the Maricopa County Environmental Services Department (the Department and MCESD) is hereby given subject to the following provisions:

1. This ATCO is issued based on submission of: an application for a Certificate of Approval of Construction (AOC) prepared by the Owner dated 12/13/07; submittal of a startup plan by Brian P. McBride, P.E. (#33441) dated 12/04/07; design drawings and specifications prepared by Jeffrey N. Bryan, P.E. (#41026) dated 09/26/07; a Draft Operation and Maintenance (O&M) Manual submitted by Conestoga-Rovers and Associates (CRA, the Builder) dated December 2007; an inspection by the Department on 12/12/07; instrument calibration data submitted by the Builder dated 11/02/07; pressure test data dated 12/07/07; and equipment disinfection data dated 10/11/07.
2. This ATCO is based on the following conditions:
 - No other sources shall be connected to the facility or be blended with the treated water without Department approval.
 - All hand-operated valves that are capable of throttling flow through the facility shall be locked into position, have their handles removed, or shall have position (limit) switches installed to reduce the possibility of tampering.
 - Raw water shall only be allowed to bypass treatment in conformance with the approved blending strategy.
 - Well production shall be restricted and the amount of water bypassing the ARS shall be reduced whenever the treated arsenic level is greater than one µg/l at the ARS effluent.
 - No other types or formulas of new or regenerated media shall be installed in the vessels without Department approval.
 - ARS vessels shall be operated in series only. Parallel operation requires prior written approval of the Department.
 - Post ARS chlorination shall be maintained at all times and a chlorine residual maintained in stored water for distribution in accordance with ADEQ Bulletin #8.
3. A Grade 2 water treatment operator (the Operator), certified by the Arizona Department of Environmental Quality (ADEQ), shall be in direct responsible charge of this facility. Shift foremen or other operators in charge of the facility in the absence of the Operator shall be certified at a grade no lower than one grade below the grade of the facility. Daily operations of this facility shall be remotely monitored using a Supervisory Control and Data Acquisition (SCADA) system with a minimum of one visit per week to this facility by the responsible operator.
4. This facility shall be subject to initial testing to insure that no contaminated water enters the distribution system. All start-up activities shall be performed under the Operator. At no time shall water with a constituent exceeding an MCL be released to the distribution system. Testing of the facility shall proceed as follows:
 - **Validation Testing:** Validation testing commences prior to start-up of the system. One sample per hour of the raw well water from the operating well, treated water from each vessel, and finished water from the ARS shall be collected at hourly intervals for field and laboratory analysis. This sampling shall continue until three (3) consecutive field tests are successful.

The Operator shall submit the test results to the Department under a signed cover letter stating that the results are accurate to the best of his/her knowledge.

After reviewing and approving the results, the Department will authorize the system to immediately go into Commissioning Testing as described below. At this time, finished water may be released from the facility into the distribution system.

- **Commissioning Testing:** During commissioning testing the Operator shall visit the site at least once each day the plant is operating. Test results shall be submitted weekly to the Department during commissioning testing.

Initially, one sample per day of the raw well water from the operating well, treated water from each vessel, and water from the Point-of-Entry (POE) shall be collected for laboratory analysis. This sampling shall continue daily until five (5) consecutive tests are successful.

Following successful completion of the initial testing, one sample per week shall be collected at the ARS discharge and at the POE for laboratory analysis. This sampling shall continue weekly until five (5) consecutive tests are successful.

When commissioning testing is completed the Operator shall submit the test results to the Department under a signed cover letter stating that the results are accurate to the best of his/her knowledge. Laboratory test results from the POE water samples shall also be submitted by the Owner to ADEQ.

5. The water treatment facility shall meet all applicable sampling and reporting requirements under the Safe Drinking Water Act Rule, Title 18, Chapter 4 of the ACC, and subsequent amendments.
6. Upon successful completion of the validation and commissioning testing of this facility, submit the following documentation to the Department:
 - An Engineer's Certificate of Completion (COC)
 - All validation and commissioning test results
 - A copy of the initial breakthrough curve showing the treated arsenic level vs. number of bed volumes treated during the testing period
 - A full set of sealed, engineered as-built plans, including electrical drawings; the drawings shall contain the following statement: **AS BUILT DRAWINGS**

THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY THE CONSTRUCTION CONTRACTOR. THE ENGINEER HAS INSPECTED THE FACILITIES AND CERTIFIES THAT THEY ARE A SUBSTANTIALLY ACCURATE PRESENTATION OF THE LAYOUT AND CONDITION OF THE CONSTRUCTED PROJECT.
 - A final O&M Manual for the new facility, in accordance with ADEQ Engineering Bulletin #10 and specific to this facility

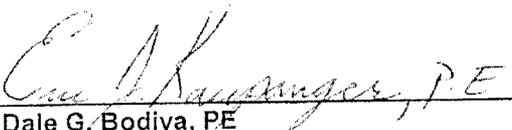
The Department will review the submitted material and consider issuing an AOC.

7. The Owner shall provide a monthly report of ARS operating conditions. Submit the reports to the Department on approved forms within 10 days of the end of the month. Include in the report:
 - A copy of the laboratory results performed during the month for process monitoring or for normal regulatory compliance.
 - Total well production.
 - The amount of water treated, bypassed, and blended.
 - The configuration of the vessels (i.e. lead and lag position).
 - The approximate number of bed volumes treated by each vessel.
 - The date of any media change-out, vessel reconfiguration, or other process change.
 - The most recent version of the breakthrough curve showing the treated arsenic level vs. cumulative number of bed volumes for the respective batch of media.

Global Water Resources- Water Utility of Greater Buckeye
Sunshine Arsenic Removal System
December 14, 2007 MCESD #2011539

- Any other abnormal operating condition.
8. The Owner shall take action as follows whenever total arsenic breakthrough is experienced in the lead vessel: Replace the media of the lead ARS vessel with **new** ArsenX^{OP} when 90% of the total arsenic influent concentration is encountered in the effluent of the lead vessel. Place the previous lag (polishing) vessel as the lead vessel once the media replacement is completed, and the fresh shall become the lag vessel.
 9. Following Department approval of construction, the Owner shall send the Department a report whenever there is a media change-out, vessel reconfiguration, or other process change. Provide the reasons for the change and relevant data that support the decision such as laboratory test results and the number of bed volumes treated by each vessel. Submit the reports to the Department on approved forms within 10 days of the process change.
 10. Failure to comply with all conditions of this ATCO may result in forfeiture and cancellation of this permit and may require the treatment facility to be immediately taken out of service.
 11. This approval is void if major modifications occur to this facility without the knowledge and consent of the Department.
 12. Any change to the treatment facility that affects the treatment capacity, water quality, flow, location or operational performance, either in whole or in part, shall receive prior Department approval.
 13. All materials or products that come into contact with drinking water including chemicals and equipment shall conform to American National Standards Institute/National Sanitation Foundation (ANSI/NSF) 60 and 61 in accordance with AAC R18-4-119.
 14. No connection may exist between potable water and non-potable water unless an approved backflow prevention device is installed in accordance with AAC R18-4-115.
 15. Provide appropriate signage for all hose bibb connections (both potable and non-potable).
 16. Provide hoses and hose racks at all hose bibb locations (both potable and non-potable).
 17. Representative(s) of the Department shall be allowed access to conduct inspections of this facility during reasonable hours.
 18. The Department reserves the right to modify this approval pursuant to future state regulations.

WATER AND WASTE MANAGEMENT DIVISION

by: 
 Mr. Dale G. Bodiya, PE
 Manager, Water \ Wastewater Treatment Program

Approval Date: December 14, 2007

cc: ADEQ Drinking Water Section, 1110 W Washington Street, Phoenix, AZ 85007
Deanne Kincade, P.E., McBride Engineering, 7305 W Boston Street, Chandler, AZ 85226
Jason Bethke, PE, Water Utility of Greater Buckeye, 21410 N 19th Av, Ste 201, Phoenix, AZ 85027-2758
John Kolman, RS, MCESD, Manager Drinking Water Program
Kevin Chadwick, PE, Division Manager, MCESD, Water and Waste Management Division
MCESD Project File
MCESD Facility File
Sean Kumar, P.E., Conestoga-Rovers, 4050 E Cotton Center Boulevard, Suite 49, Phoenix, AZ 85040
Utilities Division - Engineering Section, Arizona Corporation Commission, 1200 W Washington Street,
Phoenix, AZ 85007-2996



Janet Napolitano
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.azdeq.gov



Stephen A. Owens
Director

APPROVAL OF CONSTRUCTION

Project Description: Convert an existing 2,800 GPM agricultural well to a potable production well. Well ADWR#55-509941. Well must operate with NSF approved oil for lubrication.

Location: Pinal County/Florence

Project Owner: Global Water Company
Address: 21410 N. 19th Ave. #201
Phoenix, AZ 85027

The Arizona Department of Environmental Quality (ADEQ) hereby issues an Approval of Construction for the above-described facility based on the following provisions of Arizona Administrative Code (A.A.C.) R18-5-507 et seq.

On August 10th, 2007, ADEQ issued a Certificate of Approval to Construct for the referenced project.

On December 11th, 2007, Bradeley E. Richards, P.E., certified the following:

- a final construction inspection was conducted on December 11th, 2007;
- the referenced project was constructed according to the as-built plans and specifications and ADEQ's Certificate of Approval to Construct;
- water system pressure and leakage tests were conducted on September 9th, 2007 and the results were within the allowable leakage rates; and
- the water distribution system was disinfected according to an ADEQ-approved method.

Microbiological samples were collected on October 4th, 2007 and analyzed on October 5th, 2007 by Test America, ADHS License No. AZ0426. The sample results were negative for total coliform.

This Approval of Construction authorizes the owner to begin operating the above-described facilities as represented in the approved plan on file with the ADEQ. Be advised that A.A.C. R18-5-124 requires the owner of a public water system to maintain and operate all water production, treatment and distribution facilities in accordance with ADEQ Safe Drinking Water Rules.

DB11

PWS No.:11-131
LTF No.: 46294


Kwame A. Agyare, P.E., Manager Date Approved 12/13/07
Engineering Review Unit
Drinking Water Section

cc: ERU File No.: 20070551
Pinal County Health Department
Pinal County Planning & Zoning Department
AZ Corporation Commission
Engineer

Northern Regional Office
1801 W. Route 66 • Suite 117 • Flagstaff, AZ
86001
(928) 779-0313

Southern Regional Office
400 West Congress Street • Suite 433 • Tucson, AZ
85701
(520) 628-6733