

ORIGINAL



0000103299

MEMORANDUM

RECEIVED

TO: Docket Control

2009 DEC 23 P 12: 29

Arizona Corporation Commission

DOCKETED

FROM: Steven M Olea  
Director  
Utilities Division

AZ CORP COMMISSION  
DOCKET CONTROL

DEC 23 2009

DATE: December 23, 2009

DOCKETED BY

RE: STAFF'S 2009 COMPLIANCE REPORT FOR GOLD CANYON SEWER COMPANY, DOCKET NO. SW-02519A-06-0015 (RATES) AND DECISION NO. 69664

**INTRODUCTION**

On June 28, 2007, the Commission issued Decision No. 69664 granting a rate increase to Gold Canyon Sewer Company ("Company"). Pursuant to that Decision, Staff was ordered to "conduct annual odor detection site visits and provide a report in this docket by December 31 of each year, as a compliance measure, with the first report to be filed by no later than December 31, 2007." This Memorandum is Staff's 2009 Compliance Report.

**COMPLIANCE REPORTS**

Staff's Report

Staff conducted four unannounced site visits on the following dates; May 1, 2009, June 26, 2009, October 23, 2009, and December 4, 2009. All the site visits were conducted by Marlin Scott, Jr., Staff Engineer. During all the visits, Staff toured the wastewater treatment plant ("WWTP"), the MountainBrook Village Subdivision east of the WWTP, and the commercial area west of the WWTP; i.e., Bashas area. During all these site visits, Staff did not detect any odors.

ADEQ's Report

*Annual Compliance Inspection (Attachment #1)*

On March 25, 2009, the Arizona Department of Environmental Quality ("ADEQ") conducted its annual compliance inspection of the facility and provided a report, dated April 7, 2009. As noted in the ADEQ inspection report, no offensive odors were detected.

*Notice of Violation*

According to the above ADEQ Annual Compliance Inspection report, ADEQ issued a Notice of Violation ("NOV") on May 16, 2008 for the exceedance of the aquifer quality levels ("AQLs") for total nitrogen in the point of compliance ("POC") well. The exceedances ranged from 13 – 18 mg/L, with the maximum AQL set at 10 mg/L. As a result of the NOV, on November 6, 2008, the Company submitted an amendment to its Aquifer Protection Permit ("APP") to adjust the AQLs for possible upgradient influence of high nitrates. This amendment is in the substantive review phase and the NOV will remain open until review of the APP amendment has been completed.

SMO:MSJ:red

Originator: Marlin Scott, Jr.

Attachment: #1

Service list for Gold Canyon Sewer Company  
Docket No. SW-02519A-06-0015

Mr. Jay L. Shapiro  
Mr. Todd Wiley  
Mr. Patrick J. Black  
FENNEMORE CRAIG  
3003 N. Central Avenue, Suite 2600  
Phoenix, Arizona 85012

Mr. Daniel Pozefsky  
RUCO  
1110 West Washington Street, Ste. 220  
Phoenix, Arizona 85007

Mr. Andy Kurtz  
Mountainbrook Village at Gold Canyon Ranch Association  
5674 S. Marble Drive  
Gold Canyon, Arizona 85218

Mr. Mark Tucker  
MARK TUCKER, P.C.  
Attorney for Cal-Am Properties, Inc.  
7373 East Highway 60  
Gold Canyon, Arizona 85219

Ms. Janice Alward  
Chief Counsel, Legal Division  
Arizona Corporation Commission  
1200 W. Washington Street  
Phoenix, Arizona 85007

Steven M. Olea  
Director, Utilities Division  
Arizona Corporation Commission  
1200 W. Washington Street  
Phoenix, Arizona 85007

Attachment #1



Janice K. Brewer  
Governor

# ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

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



Patrick J. Cunningham  
Acting Director

April 7, 2009

Charlie Hernandez  
Business Manager East Valley Group  
Algonquin Water Services  
12725 W. Indian School Rd. D-101  
Avondale, AZ 85392

**Re: Annual Compliance inspection of the Gold Canyon Sewer Company Wastewater Treatment Plant (WWTP), APP No. P100217, Reclaimed Water Type 2 General Permits R105784, R105785, R105787, Inventory No. 100217, Middle Gila River Watershed, Inspection ID Nos. 136955, and 136959**

Dear Mr. Hernandez:

The Water Quality Field Services (WQFSU) of the Arizona Department of Environmental Quality (ADEQ) has enclosed an inspection report concerning the inspection conducted at the above referenced facility on March 25, 2009. This was a routine annual compliance inspection of the facility. The inspection was conducted to determine compliance with Arizona Revised Statute (A.R.S.) Title 49, Chapter 2, Article 3 and Arizona Administrative Code (A.A.C.) Title 18, Chapter 9, and pursuant to the authority in A.R.S. §49-203(B)(1) and A.A.C. R18-9-110 (A).

The inspection did not uncover any new deficiencies. The Notice of Violation (NOV) that was issued on May 16, 2008 regarding aquifer quality limits (AQLs) for nitrate exceedances in the POC well remains open. This NOV is pending the completion of a permit amendment to reset the AQL for nitrates in the POC well, based on ambient upgradient monitoring.

Thank you for your efforts to protect the environment.

Sincerely,

William J. Hare, E.P.S.  
Water Quality Field Services Unit  
cc: Pinal County Health Department  
Facility File, Inventory No.100217

Northern Regional Office  
1801 West 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

**ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY**  
**WATER QUALITY DIVISION - COMPLIANCE SECTION**  
 Field Services Unit

**INSPECTION REPORT- WASTEWATER**

**Facility:** Gold Canyon Sewer Company

**Place ID:** 8561

**Aquifer Protection Permit (APP) No:** P100217

**AZPDES Permit No:** N/A

**Reuse Permit No:** R100217

**Inventory No:** 100217

**Inspected by:** William J. Hare, E.P.S.

**Inspection Date:** March 25, 2009

**Start Time:** 8:00 a.m.

**End Time:** 12Noon

**Accompanied by:** Dan Schanaman  
 Charlie Hernandez  
 Loren Ells

**Report Date:** April 7, 2009

**YES   NO   N/A   UNKNOWN**

1. WWTF quality meets the following permit requirements:
  - A. Aquifer Protection Permit
  - B. Reuse Permit
  - C. AZPDES Permit
2. A certified operator is employed by the owner per ADEQ regulations.
3. This system meets permit requirements for operation and maintenance.

	X*		
X			
		X	
X			
X			

\* The facility has exceeded the AQL for total nitrogen during groundwater sampling from the POC well during the 2007-2009 calendar years. This matter was previously addressed in a 2008 NOV and an amended APP is being processed by ADEQ.

Facility Description

The permittee is authorized to operate a 1.9 million gallons per day (MGD) wastewater treatment plant (WWTP), using two treatment trains. The facility has undergone a major expansion and a permit amendment has elevated the design rate and flow limit to 1.9 MGD. The facility has new headworks with a two stage chemical wet scrubber, two extended aeration treatment trains each consisting of nitrification, denitrification, clarification and disc filtration. The facility utilizes liquid chlorine for disinfection. Sludge is dewatered in a belt press with a drum thickener and stored onsite in large rolloffs. The sludge from the rolloffs is hauled to an approved disposal facility. Effluent is disposed by reuse and/or recharged. When it is reused, it is pumped to effluent storage ponds located at the various permitted reuse sites (golf courses), and then used

for irrigation under a valid reclaimed water permit. When effluent is recharged, it is disposed in three recharge basins or vadose zone wells. The current APP authorizes disposal of effluent for recharge if the effluent has been denitrified.

#### Inspection Purpose and Scope:

This was a routine inspection regarding compliance with the Aquifer Protection Permit (APP) and Reclaimed Water General Permits.

#### APP Inspection

##### Permit Status

The current APP was issued on December 1, 2005, under LTF No. 32629 and required both effluent and groundwater monitoring. The discharge limit (DL) for the effluent and the aquifer quality limit (AQL) for groundwater monitoring for total nitrogen is established at 10mg/L in the APP.

##### Pending Permit-, LTF No. 48920

The facility submitted an amendment for an APP on November 6, 2008 regarding a request to amend the aquifer quality levels (AQLs) for nitrogen in the POC well. This amendment is in the substantive review phase.

##### Pre-inspection file Review

The file review noted numerous exceedances from the POC downgradient well for the AQL regarding total nitrogen and nitrate-nitrite during the 2008 calendar year. The exceedances occurred during the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> quarters of 2008. The values ranged from 13-18 mg/L. The facility has reported that the upgradient monitoring well has high readings for nitrogen. These test results are much higher than the downgradient monitoring well. The AQL remains set 10 mg/L in the current APP.

<i>Date</i>	<i>Nitrogen Results for POC Well-AQL is 10mg/L</i>	<i>Nitrogen Results for upgradient Well – ambient monitoring</i>
Jan/2008	14.2 mg/L	72.5 mg/L
Feb/2008	18.8 mg/L	68.3 mg/L
March/2008	16.6 mg/L	73.1 mg/L
April/2008	17.9 mg/L	67.9 mg/L
May/2008	17.6 mg/L	61.3 mg/L
June/2008	13.8 mg/L	53.0 mg/L
July/2008	13.2 mg/L	54.9 mg/L
August/2008	16.5 mg/L	58.9 mg/L
September/2008	15.1 mg/L	71.1 mg/L
October/2008	12.8 mg/L	68.2 mg/L
November/2008	13.6 mg/L	65.5 mg/L
December/2008	14.8 mg/L	64.4 mg/L

The above chart shows AQL exceedances for nitrogen monitoring in the POC well. Up gradient monitoring has indicated high levels of total nitrogen; the facility has applied for an amended APP to adjust the AQL levels. The AQL remains at 10 mg/L in the current APP.

Prior Enforcement actions Case No: 94639

A NOV was issued on May 16, 2008 for AQL exceedances of nitrates in the POC well. The exceedances ranged from 13-18 mg/L and the AQL is set at 10 mg/L. However, monitoring in the upgradient ambient well has resulted in very high levels of nitrates. As a result of the NOV, the facility has submitted a permit amendment to adjust the AQL's for possible upgradient influence of high nitrates. The NOV will remain open until the permit amendment has completed the sustentative review phase.

Nitrogen results in the effluent

The file review also included a review of the levels of total nitrogen in the effluent. The chart below indicates the values for total nitrogen during effluent monitoring during 2008:

Date	Rolling Geometric Mean for total nitrogen in plant effluent
Jan/2008	4.85 mg/L
Feb/2008	5.91 mg/L
arch/2008	6.30 mg/L
April/2008	7.55 mg/L
May/2008	8.20 mg/L
June/2008	8.13 mg/L
July/2008	6.93 mg/L
August/2008	6.03 mg/L
September/2008	5.93 mg/L
October/2008	4.76 mg/L
November/2008	5.15 mg/L
December/2008	5.43 mg/L

The source of the very high levels of nitrate/nitrite in the upgradient well is not known at this time. The well head was previously examined and inspected and no abnormalities were discovered.

Flow Data

The influent flows have averaged about 800,000 – 850,000 g.p.d. during recent weekdays with peak flows during the weekend being recorded at 1 MGD. Growth has slowed during the last year and flows have actually decreased from the previous year. Summer flow rates are usually 20-30% lower due to seasonal occupancy. The utility reported about 6,100 residential hookups to the sewer system. This is about 100 hookups lower than the previous year.

Inspection of the WWTP Components

The inspection of the operational components did not reveal any deficiencies. The headworks room was found to be functioning adequately. The aeration in the aerobic units was noted to be uniform. Only one of the aerobic reactors (treatment trains) was in service due to low flows. The clarifier(s) and the disc filter(s) were also functioning adequately. The turbidity was noted to be 0.79 NTU at the time of the inspection. The effluent was observed to be very clear.

### Sludge Equipment

At the time of the inspection the operator was not utilizing the sludge belt press. The operator noted that the polymer assisted double belt press is utilized several days a week. The amount of sludge produced in the summer months is much lower. A partially filled 20 yard container of sludge was removed and hauled to the landfill at the time of the inspection. The 'filter cake' did not generate any offensive odors at the time of the inspection. The sludge is removed on a daily basis and hauled to a local landfill.

### Recharge Basins

At the time of the inspection, the facility was not using the recharge basins, and all effluent was being discharged to golf courses under the authority of a reclaimed water general permit.

### Odor Inspection at WWTP:

**Wet Odor Scrubbers-** This facility utilizes a two stage wet scrubber utilizing bleach and caustic soda to treat the sulfides within the reactor. This wet reactor treats septic air pumped through a negative air system that is piped from the various components at the plant, including the headworks. The reactor is serviced on a quarterly basis, which includes an acid washing of the reactor area. The device appeared to be functioning adequately at the time of the inspection.

**Carbon Air Scrubber –** This device utilizes activated charcoal to treat septic odors from the aerobic sludge digester. The other components at the facility are piped to the wet scrubber. The device was noted to be functional. No offensive odors were detected in and around the sludge digester which is covered with a tarp like device.

The inspection entailed a tour of the WWTP for offensive odors including the headworks and the various components. There was a musty or earthy odor near the various components of the WWTP. This was not an offensive odor. No offensive odors were detected during the tour of the WWTP and various components. The inspection also entailed a tour of the nearby strip mall. No offensive odors were detected in the nearby shopping center.

### Air monitoring at the plant perimeter:

The inspection noted the presence of four portable sulfide monitors (OdaLog) on the perimeter of the plant fence line to detect for hydrogen sulfide. In addition, the facility had two permanent odor sensors installed on the air scrubber device at the plant. This was previously requested by the Administrative Law Judge during a rate hearing case before the ACC.

### Air monitoring data

The facility collects data from the four perimeter OdaLog sensors on a daily basis. The facility also records data from the two sensors on the fixed air scrubber at the plant and monitors for incoming air prior to being 'scrubbed' and outgoing air after the scrubbing process is completed. The sensors record data every 15 minutes. This data is periodically downloaded onto an external hard drive for regulatory review. Some of the most recent data was reviewed at the time of the inspection. Some limited 'hydrogen sulfide' hits were noted from the outlet for the air scrubber device. The 'hits' occurred during recent months (February 10<sup>th</sup> and March 12<sup>th</sup>), when the pump for the bleach (liquid chlorine) failed due to a pump malfunction. Accordingly, a plastic gear in

the gearbox periodically fails and prevents the pumping of chlorine into the chamber of the air scrubber. The cause of the pump failure is an individual plastic gear that fails due to wear. The facility has obtained a supply of extra gears in an effort to be proactive on this matter. The pump was functioning at the time of the inspection.

The three perimeter sensors were read at the time of the inspection and a "0" reading was recorded. On the day of the inspection no septic odors were detected in the property grounds.

#### Reclaimed Water Type 2 General Permit Inspection:

The facility discharges treated effluent to three golf courses that are permitted with Type 2 Reclaimed Water General Permits. At the time of the inspection most of the effluent was being utilized for irrigation of the golf courses as listed below:

**Mountain Brooke Golf Course – R105787 –issued on July 26, 2006** -one 18 hole golf course) – daily effluent rates vary from 32,000 – 179,000 g.p.d. in the summer months. The utility only provides 20% of the irrigation needs to this golf course. The golf course utilizes CAP water to supplement the remaining 80% of water to irrigate the golf course greens.

**Gold Canyon Resort** (two 18 hole golf courses) – currently not permitted to received any reclaimed water. This facility has refused to accept any effluent unless the rate for reclaimed water is lowered and uses CAP water in lieu of effluent.

**Gold Canyon RV Resort- R105784-issued on July 12, 2006** (one 9 hole golf course) – daily effluent rates have been 80,000 g.p.d. for year round. This facility uses 100% effluent to irrigate the golf course greens.

**Superstition Mtn. Resort- R105785 (issued on July 12, 2006)** (two 18 hole golf courses) – daily effluent rates vary from 150,000 – 490,000 g.p.d in the summer months. The utility only provides 20% of the irrigation needs to this golf course. The golf course utilizes CAP water to supplement the remaining 80% of water needs to irrigate the golf course greens.

The facility furnished water data for the amount(s) of reclaimed water used for reuse versus recharge during 2008 as noted below:

Reuse to all golf courses – 170,748,000 gallons

Discharge to Recharge Basins – 81,000,000 gallons

The inspection included a site visit to the Superstition Mountain Golf Course Resort which has two 18 hole courses. Some additional signage was needed around the two main golf course lakes. The facility agreed to obtain some additional signage to be placed around the lakes in a prominent manner. No other deficiencies were observed.

#### Findings:

The inspection found that the sewer plant components were functioning adequately and producing excellent quality effluent at the time of the inspection. Nitrogen levels in the effluent have ranged from 4-8 mg/L. The inspection and records review noted that the down gradient

POC groundwater monitoring well data revealed exceedances for total nitrogen during the last 2 years. This matter was previously addressed in a NOV and is being addressed with a permit amendment to accommodate for high levels of nitrates from upgradient sources. The down gradient POC well monitoring data for 2008 nitrogen monitoring ranged from 12 – 18 mg/L. However, the upgradient well showed very high levels of nitrogen with values ranging from 60-80 mg/L.

Some very brief 'sulfide hits' were recorded on the outlet monitoring of the air scrubber. A chlorine pump malfunction was the cause and the repairs were previously made. The facility has obtained a supply of extra parts to make quick repairs on the chlorine pump.

### Compliance Summary

**1a. Monitoring and Reporting.** The facility has submitted the self monitoring report forms (SMRFs) in a timely manor. The respective monitoring of the various parameters for both effluent and groundwater had been completed. The records review noted that the facility had exceeded the AQL for total nitrogen in the POC downgradient well during the last 2 years. This matter was previously addressed in a NOV issued in February 2008 and a permit amendment is pending to adjust the AQLs for nitrates.

Rating: **Non Compliance**

**1b. Reuse Permit Requirements.** The facility discharges reclaimed water to three golf courses under the authority of valid Reclaimed Water Type 2 General Permits. The Type 2 Reclaimed Water General Permits were issued to the respective golf courses. The inspection included a tour of one of the golf courses that was in compliance with the reclaimed water utilization requirements.

Rating: **Compliance**

**2. Operator Certification Requirements.** The WWTP is classified as a Class 3 WWTP and the collection system is classified as a Class 2 Collection System. Dan Schanaman is the supervisory operator and holds a Grade 4 WWT and a Grade 4 WWC license issued by ADEQ. His license expires on April 30, 2010.

Rating: **Compliance**

**3. Maintenance (O&M) Requirements.** The inspection noted compliance with the operational and maintenance requirements of the APP.

Rating: **Compliance.**

**End of Report**