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NEW MEXICO
ENVIRONMENT DEPARTMENT

Surface Water Quality Bureau

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RYAN FLYNN
Cabinet Secretary-Designate

BUTCH TONGATE
Deputy Secretary

ERIKA SCHWENDER
Director
Resource Protection Division

Certified Mail - Return Receipt Requested

February 12, 2014

Ms. Katherine Miller
Santa Fe County Manager
102 Grant Ave.
Santa Fe, New Mexico 87504

RE: Santa Fe Quill Wastewater Treatment Facility; Minor; Unpermitted Discharge; SIC 4952; NPDES Compliance Evaluation Inspection; NPDES # NMU001871; January 23, 2014

Dear Ms. Miller:

Enclosed please find a copy of the report and check list for the referenced inspection that the New Mexico Environment Department (NMED) conducted at your facility on behalf of the U.S. Environmental Protection Agency (USEPA). This inspection report will be sent to the USEPA in Dallas for their review. These inspections are used by USEPA to determine compliance with the National Pollutant Discharge Elimination System (NPDES) permitting program in accordance with requirements of the Federal Clean Water Act.

Introduction, treatment scheme, and problems noted during this inspection are discussed in the Further Explanations section of the inspection report.

You are encouraged to review the inspection report, required to correct any problems noted during the inspection, and to modify your operational and/or administrative procedures, as appropriate. If you have comments on or concerns with the basis for the finding in the NMED inspection report, please contact us (see the address below) in writing within 30 days from the date of this letter. Further, you are encouraged to notify in writing both the USEPA and NMED regarding modifications and compliance schedules at the addresses below:

Santa Fe Quill Wastewater Treatment Facility
February 12, 2014
Page 2

Racquel Douglas
US Environmental Protection Agency, Region VI
Enforcement Branch (6EN)
1445 Ross Avenue, Suite 120
Dallas, Texas 75202-2733

Bruce Yurdin
New Mexico Environment Department
Surface Water Quality Bureau
Point Source Regulation Section
P.O. Box 5469
Santa Fe, New Mexico 87502

If you have any questions about this inspection report, please contact Daniel Valenta at (505) 827-2575 or daniel.valenta@state.nm.us.

Sincerely,

/s/Bruce Yurdin

Bruce J. Yurdin
Program Manager
Point Source Regulation Section
Surface Water Quality Bureau

Cc: Rashida Bowlin, USEPA (6EN-AS) by e-mail
Carol Peters, USEPA (6EN-WM) by e-mail
Brent Larsen, USEPA (6WQ) by e-mail
Racquel Douglas, USEPA (6EN-WM) by e-mail
Gladys Gooden-Jackson, USEPA (6EN-WC) by e-mail
NMED District I, William Chavez by e-mail
Jerry Schoeppner, NMED GWQB by e-mail



Form Approved
OMB No. 2040-0003
Approval Expires 7-31-85

NPDES Compliance Inspection Report

Section A: National Data System Coding

Transaction Code			NPDES										yr/mo/day					Inspec. Type		Inspector		Fac Type						
1	N	2	5	3	N	M	U	0	0	1	8	7	1	11	12	1	4	0	1	2	1	17	18	C	19	S	20	2
Remarks																												
W A S T E						W A T E R						L A G O O N						S Y S T E M										
Inspection Work Days						Facility Evaluation Rating						BI		QA		Reserved												
67						70						71		72		74 75										80		

Section B: Facility Data

Name and Location of Facility Inspected (<i>For industrial users discharging to POTW, also include POTW name and NPDES permit number</i>)		Entry Time /Date		Permit Effective Date	
Santa Fe Quill Wastewater Treatment Facility, 4311 Hwy 14, Santa Fe, NM 87504 Santa Fe County		1530/ 1-23-2014		No Permit	
		Exit Time/Date		Permit Expiration Date	
		1720/1-23-2014		No Permit	
Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s)				Other Facility Data	
Robert J. George/Utilities Infrastructure Manager/ Santa Fe County Division, P.O. Box 276 Santa Fe, NM /505-992-3046/505-490-0038/ fax 505-992-3028 Shane Padilla/Utilities Worker/505-603-2966 Tony Quintana/Utilities Worker/505-316-2048				LAT 35° 34' 24.16" N LONG 106° 03' 39.95" W SIC 4952	
Name, Address of Responsible Official/Title/Phone and Fax Number			Contacted		
Ms. Katherine Miller, 102 Grant Ave., Santa Fe, New Mexico 87504/ Santa Fe County Manager/505-986-6200, fax 505-995-2740			Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

Section C: Areas Evaluated During Inspection

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

U	Permit	N	Flow Measurement	N	Operations & Maintenance	N	CSO/SSO
N	Records/Reports	N	Self-Monitoring Program	N	Sludge Handling/Disposal	N	Pollution Prevention
U	Facility Site Review	N	Compliance Schedules	N	Pretreatment	N	Multimedia
N	Effluent/Receiving Waters	N	Laboratory	N	Storm Water	N	Other:

Section D: Summary of Findings/Comments (Attach additional sheets if necessary)

- Facility does not have permit coverage to discharge to surface waters.

Name(s) and Signature(s) of Inspector(s)		Agency/Office/Telephone/Fax		Date	
DANIEL VALENTA /s/Daniel Valenta		NMED/SWQB 505-827-2575		2/11/2014	
Signature of Management QA Reviewer		Agency/Office/Phone and Fax Numbers		Date	
SARA HOLCOMB /s/Sara Holcomb		NMED/SWQB 505-827-0418		2/11/2014	

Compliance Evaluation Inspection
Santa Fe Quill Wastewater Treatment Facility
NPDES Permit No. NMU001871
January 23, 2014

Introduction

On January 23, 2014 a Compliance Evaluation Inspection was conducted by Daniel J. Valenta at the Santa Fe Quill Wastewater Treatment Facility (Standard Industrial Classification 4952). The unauthorized discharge originated to the west of New Mexico Highway 14, at Latitude 35° 34' 23.32" N, Longitude 106° 03' 38.70" W, T15N/R8E/S35, Santa Fe County. The facility operates pursuant to ground water Discharge Permit DP-234, last re-issued on August 12, 2012 by the New Mexico Environment Department Ground Water Quality Bureau (GWQB).

The purpose of this inspection was to document the facility's status regarding the discharge of influent or effluent wastewater under regulation **40 Code of Federal Regulations Part 122**. Findings of the inspection are detailed on the attached EPA form 3560-3 and in the narrative finding section of the report.

The Santa Fe Quill Wastewater Treatment Facility has an active Ground Water Discharge permit. Per this permit the facility proposes to discharge up to 280,000 gallons per day (gpd) of domestic wastewater. The facility is connected to the New Mexico Penitentiary Complex, the New Mexico National Guard Complex, the Santa Fe County Detention Center, the Valle Vista Subdivision, the Santa Fe County Business Park Development and the New Mexico Film Studio. Wastewater is treated in two synthetically lined aerated impoundments followed by two synthetically lined stabilization impoundments. It is disinfected and then stored in a clay lined impoundment and discharged to a 95 acre land application area for irrigation.

Discharge from this facility would flow to an ephemeral reach of Cienega Creek, thence to the Santa Fe River in the Rio Grande basin Segment 20.6.4.113. Designated uses are: irrigation, livestock watering, wildlife habitat, marginal coldwater aquatic life, secondary contact, and warmwater aquatic life.

This report is based on on-site observation by NMED personnel, site and office records, and verbal information provided by the facility's representative. The inspector met with Mr. Robert George, Utilities Infrastructure Manager, Santa Fe County, at the County Utilities Office. Credentials were presented at that time. After the introduction the Inspector met with Messrs. Shane Padilla and Tony Quintana, Quill Utility Workers. Details of the release were reviewed. The Inspector and Mr. George traveled to the Quill facility to review the release site. A brief exit interview to discuss the findings of this inspection was conducted at the County Utilities Office with Mr. George at approximately 1720 hours.

Federal Clean Water Act and NPDES Requirements

Section 301 of the Federal Clean Water Act states: *“Except as in compliance with this section and sections 302, 306, 307, 318, 402 and 404 of this Act, the discharge of any pollutant by any person shall be unlawful.”*

40 CFR Part 122.1 (b) Scope of the NPDES permit requirement states (1) states, *“The NPDES program requires permits for the discharge of “pollutants” from any “point source” into “waters of the United States.” The terms “pollutant”, “point source” and “waters of the United States” are defined at § 122.2.”*

Compliance Evaluation Inspection
Santa Fe Quill Wastewater Treatment Facility
NPDES Permit No. NMU001871
January 23, 2014

Per 40 CFR Part 122.21(a) Duty to apply states (1) states, “*Any person who discharges or proposes to discharge pollutants...must submit a complete application to the Director in accordance with this section and part 124.*”

Findings

At approximately 8:15AM on the morning of January 21, 2014, SFCU operators set up the facility's irrigation system to operate with four active laterals. The operators soon discovered that the end-plugs (drain plugs) of the irrigation system had not been installed and the system was running without restriction. Within 15 minutes, the problem was identified by the operators and the system shut down. At approximately 8:30AM, the system was again set up and the irrigation pump restarted. The system was observed by the operators to be functioning normally, with effluent spraying from the irrigation heads located on the active laterals. The operators left the treatment facility site to perform other duties and attend training at the Public Works Complex. At approximately 12:45 PM, operators returned to the treatment facility and discovered that extensive effluent runoff from the north irrigation field was occurring. The runoff was moving down the center of north irrigation field, overflowing the tailwater pond at the base of the north field, draining down the facility fence line and discharging westward approximately 0.5 miles down an unnamed arroyo.

Upon discovery of the problem, the operators responded by shutting down the irrigation pump and commencing pumping from the tailwater pond back to the effluent holding pond. At the same time, operators began improving the earthen berm at the west end of the tailwater pond to stop the discharge from exiting the tailwater pond. These efforts stopped the runoff from exiting the tailwater pond by approximately 2:00 PM on January 21, 2014.

Investigation into the cause of the extensive runoff revealed that one of the end-plugs on an irrigation lateral had blown out of place and was allowing an unrestricted discharge of effluent to exit the irrigation system. The total volume discharged as calculated by SFCU personnel on January 21, 2014 was 144,500 gallons (based upon meter readings) and the irrigation pump ran a total of 4.11 hrs. Of this volume, approximately 25,000 gallons was captured in the tailwater pond and transferred back to the effluent pond by trash pump and some of the effluent absorbed into the soil of the irrigation area, however; a significant volume (possibly > 100,000 gallons) ran off the site and discharged to the nearby arroyo. The area in the arroyo affected was very similar to the area affected by the unauthorized discharge observed by NMED on January 13, 2014.

After interviewing the site operators and reviewing the site it is believed that the plugging of six of the sprinkler heads caused increased pressure within the irrigation system resulting in the blow out of a single end-plug.

**Compliance Evaluation Inspection
Santa Fe Quill Wastewater Treatment Facility
NPDES Permit No. NMU001871
January 23, 2014**

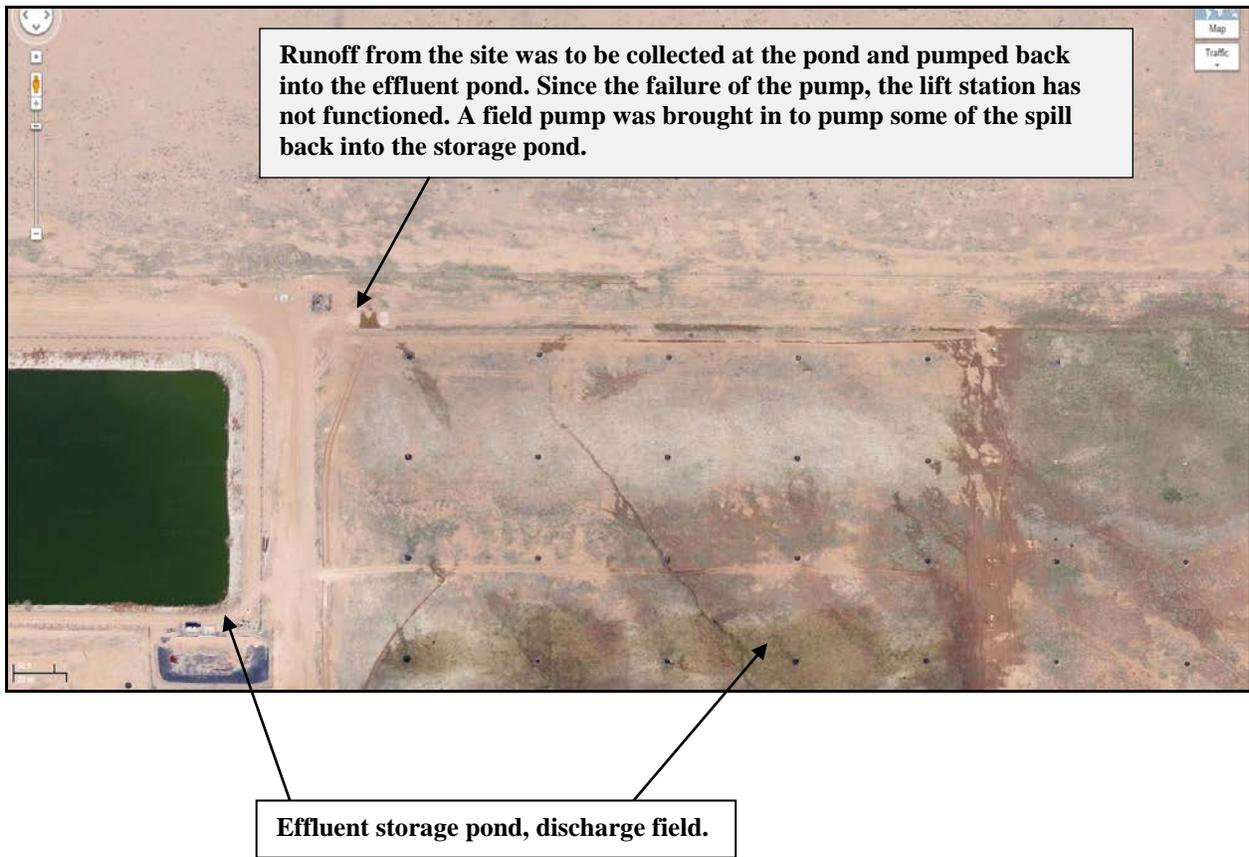
The system used at present is a rental. The water inlet at the storage tank was not designed for this type of system; another inlet screen has since been installed to help prevent intake of vegetation into the system. Attached is the discharge report submitted to NMED from SFCU. In the report is an analysis of the effluent discharged to the arroyo.

This facility does not have NPDES permit coverage for the discharge of effluent from the treatment facility to surface waters.

NMED/SWQB

Site Overview

City/County: South of Santa Fe/Santa Fe County	
Location: 43110 Hwy 14, Santa Fe, NM	
Subject: The system was designed to collect the effluent and return it to the effluent storage lagoon.	



**NMED/SWQB
Official Photograph Log**

Photo # 1

Photographer: Daniel Valenta	Date: 1/23/2014	Time: 1635
City/County: South of Santa Fe/Santa Fe County		
Location: 43110 Hwy 14, Santa Fe, NM, facing southeast.		
Subject: Discharge field where pipe plug was blown out allowing discharge of treated effluent.		



**NMED/SWQB
Official Photograph Log**

Photo # 2

Photographer: Daniel Valenta	Date: 1/23/2014	Time: 1631
City/County: South of Santa Fe/Santa Fe County		
Location: 43110 Hwy 14, Santa Fe, NM.		
Subject: The pipe is plugged with this cap, it sits inside the pipe and locks into place by the curved handle which latches onto the lip of the pipe.		



**NMED/SWQB
Official Photograph Log**

Photo # 3

Photographer: Daniel Valenta	Date: 1/23/2014	Time: 1640
City/County: South of Santa Fe/Santa Fe County		
Location: 43110 Hwy 14, Santa Fe, N.M. facing northwest.		
Subject: Downcutting from treated effluent from the blown endcap.		



**NMED/SWQB
Official Photograph Log**

Photo # 4

Photographer: Daniel Valenta	Date: 1/23/2014	Time: 1645
City/County: South of Santa Fe/Santa Fe County		
Location: 43110 Hwy 14, Santa Fe, N.M. facing southeast.		
Subject: Collection pond filled and then overflowed, note water level mark.		



**NMED/SWQB
Official Photograph Log**

Photo # 5

Photographer: Daniel Valenta	Date: 1/23/2014	Time: 1648
City/County: South of Santa Fe/Santa Fe County		
Location: 43110 Hwy 14, Santa Fe, N.M. facing southeast.		
Subject: Effluent overtopped holding pond and continued downhill.		



Daniel "Danny" Mayfield
Commissioner, District 1

Miguel Chavez
Commissioner, District 2

Robert A. Anaya
Commissioner, District 3



Kathy Holian
Commissioner, District 4

Liz Stefanics
Commissioner, District 5

Katherine Miller
County Manager

SANTA FE COUNTY UTILITIES DIVISION

January 27, 2014

Gladys Gooden-Jackson
EPA Region 6
Main Office
1445 Ross Ave.
Suite 1200
Dallas, Texas 75202

Melissa Halick
NMED-GWQB
P.O. Box 5469
Santa Fe, NM
87502-5469

Daniel Valenta
NMED-SWQB
P.O. Box 5469
Santa Fe, NM
87502-5469

RE: SANTA FE COUNTY UTILITIES DIVISION - UNAUTHORIZED DISCHARGE OF EFFLUENT RUNOFF, QUILL WWTF (2nd INCIDENT)

Dear Ms. Gooden-Jackson, Ms. Halick and Mr. Valenta:

On January 21, 2014 at approximately 12:45 PM, a Santa Fe County Utilities (SFCU) Division operator observed a large amount of effluent runoff from the irrigation field of the Santa Fe County Quill Wastewater Treatment Facility (WWTF). Investigation revealed that the runoff was the result of a failure of a effluent irrigation distribution system lateral end-plug. On January 14, 2014, SFCU submitted a written report concerning a similar unauthorized discharge that occurred on January 13, 2014 and was observed by Ms. Halick and Mr. Valenta of the New Mexico Environment Department (NMED) Ground Water and Surface Water Quality Bureaus (respectively). The site of the unauthorized discharge originates to the west of New Mexico Highway 14, at Latitude 35°, 34', 23.32" N, Longitude 106°, 03', 38.70" W, T15N/R8E/S35, Santa Fe County. This facility operates pursuant to ground water Discharge Permit DP-234, last re-issued on August 12, 2012 by the New Mexico Environment Department Ground Water Quality Bureau (GWQB).

The details of the unauthorized discharge of effluent runoff are as follows:

At approximately 8:15 AM on the morning of January 21, 2014, SFCU operators set up the facility's irrigation system to operate with four active laterals. It was soon discovered that the end-plugs (drain plugs) of the irrigation system had not been installed and the system was running without restriction. Within 15 minutes, the problem was identified by the operators and the system shut down. At approximately 8:30 AM, the system was properly set up and the irrigation pump restarted. The system was observed to be

January 27, 2014

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functioning normally, with effluent spraying from the irrigation heads located on the active laterals. SFCU operators left the treatment facility site to perform other duties and attend training at the Public Works Complex. At approximately 12:45 PM, operators returned to the treatment facility and discovered that extensive effluent runoff from the north irrigation field was occurring. The runoff was moving down the center of north irrigation field, overflowing the tailwater pond at the base of the north field, draining down the facility fence line and discharging westward approximately 0.5 miles down an unnamed arroyo. Note that the tailwater pond is a temporary structure constructed at the northwest base of the north irrigation field. It was constructed to capture effluent runoff from the north field in response to the unauthorized discharge that occurred on January 13, 2014.

Upon discovery of the problem, SFCU operators responded by shutting down the irrigation pump and commencing pumping from the tailwater pond back to the effluent holding pond. At the same time, operators began improving the earthen berm at the west end of the tailwater pond to stop the discharge from exiting the tailwater pond. These efforts stopped the runoff from exiting the tailwater pond by approximately 2:00 PM on January 21, 2014.

Investigation into the cause of the extensive runoff revealed that one of the end-plugs on an irrigation lateral had blow out of place and was allowing an unrestricted discharge of effluent to exit the irrigation system. SFCU has previously experienced problems with the end-plug gaskets and occasional end-plug blowout, but in the past these problems have not resulted in the extensive discharge and site runoff of this incident. The total volume discharged on January 21, 2014 was 144,500 gallons (based upon meter readings) and the irrigation pump ran a total of 4.11 hrs. Of this volume, approximately 25,000 gallons was captured in the tailwater pond and transferred back to the effluent pond by trash pump and some of the effluent absorbed into the soil of the irrigation area, however; a significant volume (possibly > 100,000 gallons) ran off the site and discharged to the nearby arroyo. The area of the arroyo affected was very similar to the area affected by the unauthorized discharge observed by NMED on January 13, 2014.

At approximately 3:15 PM on the afternoon of January 21, 2014, SFCU's Infrastructure Manager, Robert George, contacted Ms. Halick and Mr. Valenta by phone to report the spill and provide basic information. Mr. George followed up with Ms. Halick and Mr. Valenta later on January 21, 2014 with an email that contained pictures of the north irrigation field, tailwater pond and area affected by the effluent runoff. Please note that in that email, Mr. George erroneously reported that at least 2 end-plugs had blown out of irrigation laterals. SFCU now believes that plugging of the irrigation heads by debris in the effluent may have caused increased pressure within the irrigation system resulting in the blow out of a single end-plug.

SFCU is in the process of repairing the pump equipment that normally transfers any collected runoff from the tailwater area back to the effluent storage pond and has taken a

number of corrective actions to address effluent runoff from the irrigation site. Those actions were detailed in the written report submitted on January 14, 2014 concerning the previous spill. In addition to those corrective actions, SFCU is proposing the following:

1. The north and (now) west berms of the small tailwater pond have been improved to prevent runoff to a greater extent. However, please note that these berms can only control moderate amounts of runoff. A failure of the irrigation system will still cause overflow of the tailwater pond.
2. Irrigation of the field is being kept to a minimum during the winter months to prevent excessive runoff as the effluent melts. This will involve the application of only enough effluent to the field to maintain the required freeboard in the effluent storage pond. Operators are watching carefully to ensure that runoff does not occur.
3. An influent screen has been installed on the intake of the irrigation pump. Hopefully this will prevent debris from entering the pump intake and plugging the irrigation heads.
4. More laterals will be utilized during irrigation to reduce the pressure in the irrigation system.
5. SFCU will continue to remove accumulated water from the tailwater pond and tailwater wetwell and return it to the effluent storage pond.
6. SFCU is evaluating the use of wire retainers and/or thrust blocks to restrict the movement of the end-plugs. If one (or both) of these solutions proves to work well and still allow the irrigation system to be easily and fully drained, it will be implemented.

SFCU fully recognizes that this unauthorized discharge of effluent runoff was a significant event; however, there are two mitigating factors that may serve to minimize the impact from this discharge. First, the quality of the effluent that ran off of the irrigation field is monitored on a monthly basis for Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS) and Fecal Coliform bacteria and total nitrogen (sum of Total Kjeldahl Nitrogen and Nitrate-Nitrogen). This monitoring is conducted in conformance with the requirements of DP-234. The table below summarizes the effluent quality, as reported in the facility's quarterly monitoring reports:

Monthly Effluent Quality Quill WWTF, 4th Quarter 2013

Month	BOD₅	TSS	Fecal Coliform	Total Nitrogen
Oct. 2013	41 mg/L	- *	30 CFU/100 ml	11mg/L
Nov. 2013	37 mg/L	67 mg/L	5.1 CFU/100 ml	8.2 mg/L
Dec. 2013	30 mg/L	47 mg/L	86 CFU/100 ml	11 mg/L

* TSS sample inadvertently not analyzed for this month

While the effluent BOD and TSS do not consistently meet secondary treatment standards, the effluent is well disinfected and exhibits a low total nitrogen concentration.

Second, while the discharge affected a large area of the arroyo, it did not directly impact any surface water body and was confined to an area with limited public access. In addition to these mitigating factors, it is important to recognize that Santa Fe County is now poised to operate maintain, repair and improve the Quill WWTF in a way that was not previously possible. SFCU has operated the Quill WWTF for over 15 years under various lease agreements with the State of New Mexico Property Control Division and Department of Corrections. For much of this time, the responsibilities and obligations of the contractual relationship between the parties were not well defined, which stalled capital improvement at this facility. On June 12, 2012, the entities involved signed a long-term (25 year) lease that authorizes Santa Fe County to invest in improvements to this facility with the aim of making it a regional treatment facility that will serve the area outside of the limits of the City of Santa Fe. Santa Fe County has secured \$3.3 Million in funding through a general obligation bond specifically for making improvements to the Quill WWTF and is embarking on engineering evaluations that will identify needed infrastructure upgrades. At the same time, SFCU is undertaking the most critical repairs to the existing facility with the intent of ensuring that the facility can operate within the requirements of DP-234. These repairs include returning the irrigation pumps and tailwater pumping system to functionality with an upgraded control capability and making improvements to the facility's entrance works barscreen, effluent irrigation distribution system and critical access roads. SFCU will continue to work with our permitting agency (NMED-GWQB) to identify the details of these projects and secure concurrence with the aims and objectives.

If you have any questions regarding this unauthorized discharge, please feel free to contact me at (505) 992-9872 or contact SFCU's Infrastructure Manager (Robert George) at (505) 992-3046 or on his cell phone at (505) 490-0038.

Sincerely,



Claudia Borchert, Director
Santa Fe County Utilities Division

CB:RG/rjg

CC: Bruce Yurdin, Point Source Program Manger, NMED-SWQB (via email)
Katherine Miller, Santa Fe County Manager, 102 Grant Ave., Santa Fe, NM
87504
SFCU Spill Report file

Jan Walker, Melissa Halick, Daniel Valenta, RE: SFCU Unauthorized Discharge of Effluent
Runoff (2nd Incident)
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Katherine Miller, Manager