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Surface Water Quality Bureau

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DAVE MARTIN
Secretary

BUTCH TONGATE
Deputy Secretary

JAMES H. DAVIS, Ph.D.
Director
Resource Protection Division

Certified Mail - Return Receipt Requested

May 31, 2012

Alex C. Brown, Town Manager & Finance Director
Town of Silver City
P.O. Box 1188
Silver City, New Mexico 88062

RE: Major Municipal, SIC 4952, NPDES Compliance Evaluation Inspection, Town of Silver City / Waste Water Treatment Plant, NM0020109, April 24, 2012

Dear Mr. Brown,

Enclosed, please find a copy of the report for the referenced inspection that the New Mexico Environment Department (NMED) Surface Water Quality Bureau (SWQB) 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.

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. Further, you are encouraged to notify in writing, both the USEPA and NMED regarding modifications and compliance schedules at the addresses below:

Diana McDonald
US Environmental Protection Agency
Allied Bank Tower
Region VI Enforcement Branch (6EN-WM)
1445 Ross Avenue
Dallas, Texas 75202-2733

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

I appreciate the cooperation of staff of the Town of Silver City Utilities Department during the inspection. If you have any questions about this inspection report, please contact me at (505) 827-0418.

Sincerely,

/s/ Erin S. Trujillo
Erin S. Trujillo
Surface Water Quality Bureau

cc: Marcia Gail Adams, USEPA (6EN-AS) by e-mail
Samuel Tates, EPA (6EN-AS) by e-mail
Carol Peters-Wagon, USEPA (6EN-WM) by e-mail
Diana McDonald, USEPA (6EN-WM) by e-mail
Hannah Branning, USEPA (6EN-WC) by e-mail
Larry Giglio, USEPA (6WQ-PP) by e-mail
Mike Kessler, NMED District III Manager by e-mail
Robert M. Esqueda, Utilities Director, Town of Silver City 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 <input type="text" value="N"/> 2 <input type="text" value="5"/> 3 <input type="text" value="N"/> <input type="text" value="M"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="2"/> <input type="text" value="0"/> <input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="9"/> 11 12 <input type="text" value="1"/> <input type="text" value="2"/> <input type="text" value="0"/> <input type="text" value="4"/> <input type="text" value="2"/> <input type="text" value="4"/> 17 18 <input type="text" value="C"/> 19 <input type="text" value="S"/> 20 <input type="text" value="1"/>	Remarks					
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Inspection Work Days	Facility Evaluation Rating	BI	QA	Reserved		
67 <input type="text"/> <input type="text"/> <input type="text"/> 69	70 <input type="text" value="2"/>	71 <input type="text" value="N"/>	72 <input type="text" value="N"/>	73 <input type="text"/>	74 75 <input type="text" value="M"/> <input type="text" value="A"/> <input type="text" value="J"/> <input type="text" value="O"/> <input type="text" value="R"/> 80	

Section B: Facility Data

Name and Location of Facility Inspected (For industrial users discharging to POTW, also include POTW name and NPDES permit number) Town of Silver City Waste Water Treatment Plant, 1660 Filaree Road (Filaree and Broken Arrow Road) south of Silver City. From US 180, travel south on NM-90, turn southeast onto Ridge Road, turn left onto Filaree Road. Grant County	Entry Time /Date 1245 hours / 04/24/2012 0800 hours / 04/25/2012	Permit Effective Date October 1, 2008
	Exit Time/Date 1630 hours / 04/24/2012 1015 hours / 04/25/2012	Permit Expiration Date September 30, 2013
Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s) Manuel (Manny) Orosco / Labortory Technician & Acting Wastewater Foreman / 575-388-4981 Robert M. Esqueda, Utilities Director, Town of Silver City / 575- 534-6355 Ves Grimes, Water System Foreman, Utilities Department, Town of Silver City Danny Misquiez, Utilities Department, Water System, Town of Silver City	Other Facility Data Outfall 001 Latitude 32.715056°, Longitude -108.246528°	
Name, Address of Responsible Official/Title/Phone and Fax Number Alex C. Brown, Town of Silver City, Box 1188, Silver City, New Mexico 88062 / Town Manager & Finance Director / 575-534-6358 and fax 575-534-6391	SIC 4952	
Contacted Yes <input type="checkbox"/> No <input type="checkbox"/> *		

Section C: Areas Evaluated During Inspection

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

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

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

1. SEE ATTACHED CHECKLIST REPORT WITH FURTHER EXPLANATIONS AND PHOTO LOG.

Name(s) and Signature(s) of Inspector(s) Erin S. Trujillo /s/ Erin S. Trujillo	Agency/Office/Telephone/Fax NMED/SWQB/505-827-0418	Date 05/31/2012
Signature of Management QA Reviewer Richard E. Powell /s/ Richard E. Powell	Agency/Office/Phone and Fax Numbers NMED/SWQB/505-827-2798	Date 05/31/2012

SECTION A - PERMIT VERIFICATION

PERMIT SATISFACTORILY ADDRESSES OBSERVATIONS S M U NA (FURTHER EXPLANATION ATTACHED Yes)

DETAILS: **An on-site copy of the NPDES permit was not readily available on the day of this inspection.**

- 1. CORRECT NAME AND MAILING ADDRESS OF PERMITTEE Y N NA
- 2. NOTIFICATION GIVEN TO EPA/STATE OF NEW DIFFERENT OR INCREASED DISCHARGES Y N NA
- 3. NUMBER AND LOCATION OF DISCHARGE POINTS AS DESCRIBED IN PERMIT **See further explanations for outfall location coordinates.** Y N NA
- 4. ALL DISCHARGES ARE PERMITTED Y N NA

SECTION B - RECORDKEEPING AND REPORTING EVALUATION

RECORDS AND REPORTS MAINTAINED AS REQUIRED BY PERMIT. S M U NA (FURTHER EXPLANATION ATTACHED Yes)

DETAILS: **Reviewed DMRs submitted after 04/31/2010 since last inspection on 07/15/2010 (NMED) and 10/05/2010 (USEPA R6)**

Incorrect daily max reported for E.coli on Feb 2012 DMR

- 1. ANALYTICAL RESULTS CONSISTENT WITH DATA REPORTED ON DMRs. **pH exceedance not reported on Jan 2012 DMR** Y N NA
- 2. SAMPLING AND ANALYSES DATA ADEQUATE AND INCLUDE. S M U NA
 - a) DATES, TIME(S) AND LOCATION(S) OF SAMPLING Y N NA
 - b) NAME OF INDIVIDUAL PERFORMING SAMPLING Y N NA
 - c) ANALYTICAL METHODS AND TECHNIQUES. Y N NA
 - d) RESULTS OF ANALYSES AND CALIBRATIONS. Y N NA
 - e) DATES AND TIMES OF ANALYSES. **Some final and initial DO analysis dates for BOD5 were not recorded.** Y N NA
 - f) NAME OF PERSON(S) PERFORMING ANALYSES. Y N NA
- 3. LABORATORY EQUIPMENT CALIBRATION AND MAINTENANCE RECORDS ADEQUATE. S M U NA
- 4. PLANT RECORDS INCLUDE SCHEDULES, DATES OF EQUIPMENT MAINTENANCE AND REPAIR. S M U NA
- 5. EFFLUENT LOADINGS CALCULATED USING DAILY EFFLUENT FLOW AND DAILY ANALYTICAL DATA. **Mercury** Y N NA

SECTION C - OPERATIONS AND MAINTENANCE

TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED. S M U NA (FURTHER EXPLANATION ATTACHED Yes)

DETAILS: **WWTP foreman on leave since 03/16/2012. On-site staff did not appear to be familiar with all of the record keeping system.**

- 1. TREATMENT UNITS PROPERLY OPERATED. S M U NA
- 2. TREATMENT UNITS PROPERLY MAINTAINED. **See notes on flume in Section E – Flow Measurement**
Missing bar (tooth) in automatic bar screen S M U NA
- 3. STANDBY POWER OR OTHER EQUIVALENT PROVIDED. S M U NA
- 4. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE. S M U NA
- 5. ALL NEEDED TREATMENT UNITS IN SERVICE S M U NA
- 6. ADEQUATE NUMBER OF QUALIFIED OPERATORS PROVIDED. S M U NA
- 7. SPARE PARTS AND SUPPLIES INVENTORY MAINTAINED. S M U NA
- 8. OPERATION AND MAINTENANCE MANUAL AVAILABLE. Y N NA
- STANDARD OPERATING PROCEDURES AND SCHEDULES ESTABLISHED. Y N NA
- PROCEDURES FOR EMERGENCY TREATMENT CONTROL ESTABLISHED. **No written emergency SOP for collection system** Y N NA

SECTION C - OPERATIONS AND MAINTENANCE (CONT'D)

9. HAVE BYPASSES/OVERFLOWS OCCURRED AT THE PLANT OR IN THE COLLECTION SYSTEM IN THE LAST YEAR? Y N NA
 IF SO, HAS THE REGULATORY AGENCY BEEN NOTIFIED? **See further explanations** Y N NA
 HAS CORRECTIVE ACTION BEEN TAKEN TO PREVENT ADDITIONAL BYPASSES/OVERFLOWS? Y N NA

10. HAVE ANY HYDRAULIC OVERLOADS OCCURRED AT THE TREATMENT PLANT? Y N NA
 IF SO, DID PERMIT VIOLATIONS OCCUR AS A RESULT? Y N NA

SECTION D - SELF-MONITORING

PERMITTEE SELF-MONITORING MEETS PERMIT REQUIREMENTS. S M U NA (FURTHER EXPLANATION ATTACHED **Yes**).
 DETAILS:

1. SAMPLES TAKEN AT SITE(S) SPECIFIED IN PERMIT. Y N NA

2. LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES. Y N NA

3. FLOW PROPORTIONED SAMPLES OBTAINED WHEN REQUIRED BY PERMIT. Y N NA

4. SAMPLING AND ANALYSES COMPLETED ON PARAMETERS SPECIFIED IN PERMIT. Y N NA

5. SAMPLING AND ANALYSES PERFORMED AT FREQUENCY SPECIFIED IN PERMIT. **pH frequency timing** Y N NA

6. SAMPLE COLLECTION PROCEDURES ADEQUATE. Y N NA

a) SAMPLES REFRIGERATED DURING COMPOSITING. **Not documented for BOD5/TSS** Y N NA

b) PROPER PRESERVATION TECHNIQUES USED. Y N NA

c) CONTAINERS AND SAMPLE HOLDING TIMES CONFORM TO 40 CFR 136.3. **pH** Y N NA

7. IF MONITORING AND ANALYSES ARE PERFORMED MORE OFTEN THAN REQUIRED BY PERMIT, ARE THE RESULTS REPORTED IN PERMITTEE'S SELF-MONITORING REPORT? **pH** Y N NA

SECTION E - FLOW MEASUREMENT

PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS. S M U NA (FURTHER EXPLANATION ATTACHED **Yes**).
 DETAILS: **Substantial algal growth observed in flume. Flow in flume not free of turbulence.**

1. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED. Y N NA
 TYPE OF DEVICE **9" and 6" Parshall flume for high and low flow. Installed = Yes; Maintained (Clean, Algal Growth) = No**

2. FLOW MEASURED AT EACH OUTFALL AS REQUIRED. Y N NA

3. SECONDARY INSTRUMENTS (TOTALIZERS, RECORDERS, ETC.) PROPERLY OPERATED AND MAINTAINED. Y N NA

4. CALIBRATION FREQUENCY ADEQUATE. **Last calibration 03/29/2011 (+/- 5%) over 1 year** Y N NA
 RECORDS MAINTAINED OF CALIBRATION PROCEDURES. Y N NA
 CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE. **Written documentation of monthly checks** Y N NA

5. FLOW ENTERING DEVICE WELL DISTRIBUTED ACROSS THE CHANNEL AND FREE OF TURBULENCE. Y N NA

6. HEAD MEASURED AT PROPER LOCATION. Y N NA

7. FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGE OF FLOW RATES. Y N NA

SECTION F – LABORATORY

PERMITTEE LABORATORY PROCEDURES MEET PERMIT REQUIREMENTS. S M U NA (FURTHER EXPLANATION ATTACHED **Yes**).
 DETAILS: **Contract laboratories were not inspected. On-site laboratory conducts pH, E.coli bacteria, TSS, and BOD5.**

1. EPA APPROVED ANALYTICAL PROCEDURES USED (40 CFR 136.3 FOR LIQUIDS, 503.8(b) FOR SLUDGES) **pH and TSS not documented** Y N NA

Town of Silver City WWTP – April 24 & April 25, 2012

PERMIT NO. NM0020109

SECTION F - LABORATORY (CONT'D)

2. IF ALTERNATIVE ANALYTICAL PROCEDURES ARE USED, PROPER APPROVAL HAS BEEN OBTAINED Y N NA
3. SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT. S M U NA
4. QUALITY CONTROL PROCEDURES ADEQUATE. **Written laboratory procedures were not updated.** S M U NA
5. DUPLICATE SAMPLES ARE ANALYZED. **E.coli, BOD5 and TSS (multiple dilutions or volumes 100%), but only one duplicate sample in 1st Qtr 2012 (TSS) <10% OF THE TIME.** Y N NA
6. SPIKED SAMPLES ARE ANALYZED. ___ % OF THE TIME. Y N NA
7. COMMERCIAL LABORATORY USED. Y N NA

LAB NAME **1) Hall Environmental Analysis Laboratory** **2) Huther and Associates, Inc.**
 LAB ADDRESS **4901 Hawkins NE, Albuquerque, NM 87109** **1156 North Bonnie Brae, Denton, Texas 76201**
 PARAMETERS PERFORMED **Mercury (Hg)** **WET**

SECTION G - EFFLUENT/RECEIVING WATERS OBSERVATIONS.

S M U NA (FURTHER EXPLANATION ATTACHED Yes).

OUTFALL NO.	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	FLOAT SOL.	COLOR	OTHER
001	no	no	no	some foam	no	clear	algal growth

RECEIVING WATER OBSERVATIONS: **As previously described, substantial algal growth was observed in flume & channel after flume (often an indicator of nutrients in effluent). Effluent looked dark green at a distance from algal growth. Un-reported pH 6.41 su (lower than 6.6 su) measured in January of 2012. Prior to this inspection, a sewer system overflow ultimately discharged into an unnamed surface water tributary of Maudes Canyon then San Vicente Arroyo. Chlorine solution was used to disinfect sewage in the receiving stream channel. Some paper solids remained in channel. See further explanations for information on overflow at WWTP occurring after this inspection.**

SECTION H - SLUDGE DISPOSAL

SLUDGE DISPOSAL MEETS PERMIT REQUIREMENTS. S M U NA (FURTHER EXPLANATION ATTACHED No).

DETAILS: **Sewage sludge is sent to the Butterfield Trail Regional Landfill, Deming, New Mexico**

1. SLUDGE MANAGEMENT ADEQUATE TO MAINTAIN EFFLUENT QUALITY. S M U NA
2. SLUDGE RECORDS MAINTAINED AS REQUIRED BY 40 CFR 503. **Records not evaluated during this inspection.** S M U NA
3. FOR LAND APPLIED SLUDGE, TYPE OF LAND APPLIED TO: Not Applicable (e.g., FOREST, AGRICULTURAL, PUBLIC CONTACT SITE)

SECTION I - SAMPLING INSPECTION PROCEDURES (FURTHER EXPLANATION ATTACHED No).

1. SAMPLES OBTAINED THIS INSPECTION. Y N NA
2. TYPE OF SAMPLE OBTAINED
 GRAB _____ COMPOSITE SAMPLE _ METHOD _____ FREQUENCY _____
3. SAMPLES PRESERVED. Y N NA
4. FLOW PROPORTIONED SAMPLES OBTAINED. Y N NA
5. SAMPLE OBTAINED FROM FACILITY'S SAMPLING DEVICE. Y N NA
6. SAMPLE REPRESENTATIVE OF VOLUME AND MATURE OF DISCHARGE. Y N NA
7. SAMPLE SPLIT WITH PERMITTEE. Y N NA
8. CHAIN-OF-CUSTODY PROCEDURES EMPLOYED. Y N NA
9. SAMPLES COLLECTED IN ACCORDANCE WITH PERMIT. Y N NA

**Town of Silver City WWTP
NPDES Permit No NM0020109
Compliance Evaluation Inspection
April 24 & April 25, 2012**

Further Explanations

Introduction

On April 24, 2012, Erin Trujillo of the New Mexico Environment Department (NMED), Surface Water Quality Bureau (SWQB) conducted a Compliance Evaluation Inspection (CEI) at the Town of Silver City Waste Water Treatment Plant (WWTP) at 1660 Filaree Road in Grant County, New Mexico. On April 25, 2012, Erin Trujillo conducted a sanitary sewer overflow (SSO) CEI along an unnamed tributary between Rodeo Road and Pinon Lane, east of Rosedale Road, in Silver City, New Mexico that was reported to have occurred on March 31, 2012 and April 1, 2012 (Town of Silver City letter to USEPA Water Enforcement Branch dated April 10, 2012).

The WWTP has a design flow capacity of 2 million gallons per day (MGD) and is classified as a major municipal discharger under the federal Clean Water Act, Section 402, of the National Pollutant Discharge Elimination System (NPDES) permit program. It is assigned NPDES permit number NM0020109 which regulates discharge of treated wastewater from outfall 001. Discharges are to unclassified San Vicente Arroyo (20.6.4.99 *State of New Mexico Standards for Interstate and Intrastate Surface Waters*, 20.6.4 *New Mexico Administrative Code (NMAC)* Closed Basin. San Vicente Arroyo is a tributary of the Mimbres River approximately 30 miles downstream from the WWTP.

Upon arrival at the WWTP at approximately 1245 hours on April 24, 2012, the inspector made introductions, presented credentials to Mr. Manuel (Manny) Orosco, WWTP Laboratory Technician and Acting Wastewater Foreman, Town of Silver City and explained the purpose of the inspection. The inspector and Mr. Orosco toured the plant. Mr. Robert M. Esqueda, Utilities Director, Town of Silver City joined the tour upon his arrival. Preliminary findings were discussed with Mr. Esqueda and Mr. Orosco at the plant office. The inspector left the plant at approximately 1630 hours on April 24, 2012.

The inspector arrived at the Town of Silver City Utilities Department, 1211 North Hudson, Silver City, New Mexico at approximately 0800 hours on April 25, 2012 to conduct the SSO part of this inspection. The inspector presented credentials and explained the purpose of the inspection to Mr. Esqueda. After obtaining a verbal description of the collection system from Mr. Esqueda, the inspector, Mr. Esqueda, Ves Grimes, Water System Foreman, and Danny Misquiez, Utilities Department toured the location of the sewer overflow north of Pinon Lane. Preliminary findings were discussed with Mr. Esqueda on site. The inspector left the location of the sewer overflow at approximately 1015 hours on April 25, 2012.

The NMED performs a certain number of CEIs each year for the U.S. Environmental Protection Agency (USEPA), Region VI. The purpose of this inspection is to provide the USEPA with information to evaluate the Permittee compliance with the NPDES permit. This inspection report is based on information provided by the Permittee representatives, observations made by the NMED inspector, and records and reports kept by the Permittee and/or NMED. A summary of electronic Discharge Monitoring Reports (DMRs) submitted by the Permittee to USEPA for monitoring periods from May 31, 2010 to April 30, 2012 was obtained from USEPA Region 6.

Collection System and Overflow Summary

Based on a description of the collection system by Mr. Esqueda, there are approximately 4,200 residential and commercial connections and a roughly estimated 65 miles of sewer line. The age of the system varies. For example, the collection system includes sewer line from the 1960's to 70's. Sewer line along San Vicente Arroyo and Maude Canyon was added when the WWTP was relocated to the present location in the late 1970s. The lateral connection to the Rosedale area was added in the 1980s. Collection system overflows do not typically occur due to infiltration according to Mr. Esqueda, but are due to clogs and/or blockages. Root killer is used once or twice a year in problem areas. Town of Silver City has a city grease ordinance that allows citations to be issued. Only one pump or lift station in the collection system is maintained by the Town of Silver City. The municipal two-pump lift station at Delk and US 180 does not have back up power or a supervisory control and data acquisition (SCADA) system, but does have a high level warning beacon. A second pump or lift station in the collection system is maintained by a developer.

Town of Silver City has a written Emergency Response Plan, but Mr. Esqueda stated that the plan did not specifically address sewage system overflows. It was noted during the inspection that the Town of Silver City Utilities Department sent e-mails of overflows to staff that no longer worked for the NMED SWQB. Based on a review of NMED SWQB files which do not contain e-mail reports from the Permittee, the following is a brief summary of the reported overflows since the effective date of the current permit:

DMR/Letter Notification Date	Volume Gallons	Cause Summary	Duration	Action Summary	Receiving Stream
Sept 2009 DMR	200	Blockage	09/04/09	Rod main. Clean up. Disinfected w/approx. 300 gallons of chlorinated water.	F Street Creek Yankie Creek
04/10/12 Letter to USEPA Region 6	Unknown/ Not Est.	Blockage (Overflow at Manhole) north of Pinon Lane	03/31 - 04/01/12	Clean up thru 04/11/12. Disinfected w/approx. 500 gallons of chlorinated water (approx. 4 cups HTH). Cut trees and hauled branches to provide access for maintenance.	Unnamed tributary

NMED Groundwater Quality Bureau (GWQB) was notified of the overflow north of Pinon Lane by an adjacent resident who indicated that a spill occurred on Thursday, March 29 and continued until Saturday, March 31, 2012. NMED GWQB staff contacted the Town of Silver City's Utility Department. Based on the Town of Silver City's letter dated April 10, 2012 to the USEPA, the Permittee was notified that sewage was surfacing in the arroyo north of Pinon Lane, off of Rosedale Road, at approximately 9:30 pm on Saturday, March 31, 2012, responded to the call, but did not locate the manhole that overflowed until Sunday, April 1, 2012.

WWTP Treatment Scheme

Town of Silver City WWTP, constructed in 1977 (Town of Silver City Improvement Project List letter dated 01/15/2009), serves a population of 11,800 (Permittee application dated 02/25/2008). The plant hours are 7 to 3:30 pm Monday thru Friday and is checked by staff for approximately 2 hours on Saturday and Sunday. The treatment scheme consists of primary and secondary clarification, biological treatment of activated sludge including aeration for de-nitrification and ultra-violet (UV) disinfection. This facility also accepts septage liquid waste and grease trap waste at the south end of the plant. The plant has a call alarm system to notify the plant staff of high flow, low flow, and electrical problems at the plant.

Raw sewage influent enters the WWTP entrance works by gravity flow at the pump or plant lift station. The lift station also has two screw pumps, one for influent, and one for return activated sludge (RAS) from the secondary clarifiers. Influent is directed to a primary automatic bar screen and grit chamber, then to a secondary aerated grit chamber located adjacent to the entrance works. At the primary grit chamber, wastewater is lifted to a 12-inch Parshall flume and a sonic secondary measurement device where the influent flow is recorded.

Flow from the secondary grit chamber is directed through a splitter box where effluent is divided between two primary clarifiers that operate in parallel. Sludge is collected by rotating scrapers and directed to a sump located in the center of the clarifiers. The collected sludge is recycled or pumped to the aerobic digesters. Flow continues to another splitter box prior to entering the anoxic basin. A bypass channel with side gates is operated to select which basins are used. The anoxic basins were designed for denitrification. Recirculation speed can be adjusted to balance ammonia and nitrate in the secondary effluent. Wastewater then flows from the primary clarifiers to the aeration basin that has four mechanical brush aerators. From the aerobic basin, flow enters a splitter box and is divided before entering two secondary clarifiers. Activated sludge that settles in these units is periodically pumped back as RAS or to the sludge digesters.

From the secondary clarifiers, flows are combined then routed to a UV disinfection system that contains two UV drums. The treated effluent flows into the former chlorine contact chamber. The chamber is used as an equalization basin. From the chamber, treated effluent from the WWTP can be sent to the San Vicente Arroyo or surface impoundments and used for irrigation at the Scott Park Golf Course and Glenn Ranch. Treated effluent is also used for irrigation at the municipal baseball fields.

The effluent stored in an equalization basin is open to the sunlight, blowing leaves, and any other contaminate that may fall into this area. On the day of the inspection, the equalization basin walls were not clean and had a build up of slime or other coatings. The water was green with foam, floating grease and solids. Not all of the solids, which were similar to those observed through out the treatment works, appeared from windblown sources. The Permittee on-site representative indicated that some of the solids in the equalization basin may be from insufficient cleaning and removal of solids from the treatment works. Manual removal of floating solids from the equalization tank was occurred during this inspection and was collected in a trash bin adjacent to the tank.

Solids Management

From the aerobic digesters, sewage sludge is drained to one of fourteen drying beds. Sludge in the beds is manually aerated to facilitate the drying process and increase the solids content prior to final disposal. Liquid from the drying beds is decanted and returned to the entrance works. Sludge is no longer disposed at the South Central Solid Waste Authority in Las Cruces, New Mexico (Permittee application dated 02/25/2008), but the Butterfield Trail Regional Landfill in Deming, New Mexico according to the Permittee on-site representatives.

Section A - Permit Verification – Overall Rating of “M = Marginal”

Permit Requirements for Permit Verification

Part III.D.9 (Standard Conditions, Other Information) of the permit states:

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

Findings for Permit Verification

Based on on-line mapping tools, the description of Outfall 001 stated on the title page of the permit and in the Permittee application (Latitude 32° 42 ' 57" North and Longitude 108° 14' 54" West) is incorrect. The actual outfall location is at approximately Latitude 32° 42' 54.2" North, Longitude 108° 14' 47.5" West. In decimal degrees, the location is at approximately Latitude 32.715056° and Longitude -108.246528° (see Figure 1).

Figure 1: Latitude/Longitude as Described in Permit/Application and Actual Outfall Location



Section B - Recordkeeping and Reporting Evaluation – Overall Rating of “U = Unsatisfactory”

Permit Requirements for Recordkeeping and Reporting for WWTP

Part III.C.4 (Standard Conditions, Record Contents) of the permit states:

- Records of monitoring information shall include:*
- a. The date, exact place, and time of sampling or measurements;*
 - b. The individual(s) who performed the sampling or measurements;*
 - c. The date(s) and time(s) analyses were performed;*
 - d. The individual(s) who performed the analyses;*
 - e. The analytical techniques or methods used; and*
 - f. The results of such analyses.*

Findings for Recordkeeping and Reporting for WWTP

Flow Measurement and Loading Record Keeping and Reporting: Part I.A of the permit requires 30-day average, 7-day average and daily max flow reporting. Part III.F (definitions) of the permit defines Daily Maximum Flow as “*The highest total flow for any 24-hour period in a calendar month.*” An example calculation check for flow measurement is provided in Table 1. Based on a review and check of hand written

flow measurement records for the 1st Qtr of 2012, it appears that the Permittee incorrectly reports the daily max flow in the 30-day average flow field on DMRs. Both reported 30-day and 7-day averages are more than the reported daily maximum for the month. This is a repeat finding.

Time of flow measurement was not recorded on hand written monthly flow data logs. Therefore, 30-day average and 7-day average flow calculations; and TSS and BOD5 30 and 7-day average loading for composite samples collected starting at 1000 and ending 1500 hours was not verified (checked) for this inspection.

Part I.A of the permit requires loading calculations for Mercury. Previous CEI reports have indicated that effluent loadings were not calculated using daily effluent flow and daily analytical data. The Permittee has inputted the same value for both Mercury concentrations and loading in quarterly DMRs. For example, for the quarterly monitoring period between 07/01/2011 to 09/30/2011, the reported value for Total Mercury 30-day Average loading (lbs/day), Daily Max loading (lbs/day); 30-day Average concentration (mg/L) and Daily Max concentration (mg/L) are all 0.00051. Therefore, it does not appear that daily flow is used in quarterly Mercury loading calculations.

pH Reporting: Analytical results were not consistent with data reported on DMRs. A pH excursion was not reported on the January 2012 DMR. Effluent limits for pH in Part I. A of the permit are a minimum of 6.6 and maximum of 8.8 standard units (su). The minimum pH reported on the January 2012 DMR was 6.6 su. However, the recorded pH analysis result for a sample collected on 01/17/2012 was 6.45 su which is below the minimum effluent limit. Additional findings on pH monitoring are in Sections D and F of this report.

E.Coli Record Keeping and Reporting: A calculation check for recorded E.coli bacteria analytical results is provided in Table 2. Some math errors were observed. The E.coli worksheet for a sample collected on 01/06/2012 and removed from incubator on 01/07/2012 was not completed to show the counted colonies for each volume to verify the calculation. Analytical procedures for E.coli, including information on calculations, are further discussed in Section D and F of this report.

Part I.A of the permit requires reporting of 30-day averages and daily maximum concentration for E.coli bacteria. The 30-day averages reported on the January, February and March DMRs are inconsistent with the calculated geometric mean (see Table 2). This is a repeat finding. A reason for this inconsistency was not determined in a review of hand written worksheets. A review by the Permittee of the geometric mean calculations for the calendar month, including rounding procedures and values entered into electronic spreadsheets appears needed.

Part III.F (definitions) of the permit defines Daily Maximum Concentration as “*The maximum concentration measured on a single day...within a period of one calendar month.*” The reported E.coli bacteria daily maximum on the February 2012 DMR was 121.4 CFU/100mL. However, the E.coli bacteria daily maximum for a sample collected on 02/27/2012 was 46 CFU/100 mL.

Table 1: February 2012 Flow Measurement Check

2012	6" Flume		Difference MGD	9" Flume		Difference MGD	Total Flow MGD
	Total Flow gallons	x 100 gallons		Total Flow gallons	x 100 gallons		
Jan 31	3230766	323076600	0.01	14780996	1478099600	0.80	0.80
Feb 1	3230886	323088600	0.01	14789915	1478991500	0.89	0.90
Feb 2	3230980	323098000	0.01	14797293	1479729300	0.74	0.75
Feb 3	3231134	323113400	0.02	14805408	1480540800	0.81	0.83
Feb 4	3231252	323125200	0.01	14818781	1481878100	1.34	1.35
Feb 5	3231337	323133700	0.01	14828395	1482839500	0.96	0.97
Feb 6	3231398	323139800	0.01	14836074	1483607400	0.77	0.77
Feb 7	3231489	323148900	0.01	14845035	1484503500	0.90	0.91
Feb 8	3231576	323157600	0.01	14852422	1485242200	0.74	0.75
Feb 9	3231653	323165300	0.01	14856098	1485609800	0.37	0.38
Feb 10	3231745	323174500	0.01	14858887	1485888700	0.28	0.29
Feb 11	3231845	323184500	0.01	14862088	1486208800	0.32	0.33
Feb 12	3231920	323192000	0.01	14865444	1486544400	0.34	0.34
Feb 13	3231988	323198800	0.01	14869140	1486914000	0.37	0.38
Feb 14	3232074	323207400	0.01	14873338	1487333800	0.42	0.43
Feb 15	3232183	323218300	0.01	14877333	1487733300	0.40	0.41
Feb 16	3232263	323226300	0.01	14881556	1488155600	0.42	0.43
Feb 17	3232366	323236600	0.01	14889813	1488981300	0.83	0.84
Feb 18	3232487	323248700	0.01	14900915	1490091500	1.11	1.12
Feb 19	3232573	323257300	0.01	14910978	1491097800	1.01	1.01
Feb 20	3232675	323267500	0.01	14921242	1492124200	1.03	1.04
Feb 21	3232751	323275100	0.01	14931147	1493114700	0.99	1.00
Feb 22	3232837	323283700	0.01	14938875	1493887500	0.77	0.78
Feb 23	3232929	323292900	0.01	14947625	1494762500	0.88	0.88
Feb 24	3233015	323301500	0.01	14955037	1495503700	0.74	0.75
Feb 25	3233105	323310500	0.01	14963439	1496343900	0.84	0.85
Feb 26	3233198	323319800	0.01	14973265	1497326500	0.98	0.99
Feb 27	3233271	323327100	0.01	14982164	1498216400	0.89	0.90
Feb 28	3233359	323335900	0.01	14985647	1498564700	0.35	0.36
Feb 29	3233450	323345000	0.01	14989784	1498978400	0.41	0.42
Mar 1	3233540	323354000	0.01	14994165	1499416500	0.44	0.45

02/01/2012 to 02/29/2012 DMR

Daily Max (MGD)

30 Day Average (MGD)

Reported

0.67

1.35

Calculated

1.35

Table 2: E.coli Bacteria Calculation Check

Month	Date	Using All or 20-80 Colonies Calculation	Result CFU/100 ml	30 DA AVE Reported CFU/100 ml	Bench Sheet Review Notes
Jan 2012	2	$(1+1+5+8+19)*100/185$	18.4		
	4	$(38+34)*100/150$	48		
	6	Cannot be Verified	47.3		Did not complete worksheet
	9	$(22+59)*100/70$	115.7		Did not use calculation consistent with method
	11	$(37+52)*100/70$	127.1		
	13	$(2+4+7+12+15)*100/185$	21.6		
	16	$(21)*100/100$	21.0		
	18	$(24+41)*100/150$	43.3		
	20	$(26+49)*100/150$	50		
	23	$(1+3+4+6+18)*100/185$	17.3		
	25	$(<1+6+6+9+16)*100/185$	20.5		
	27	$(22)*100/100$	22		
	30	$(24+61)*100/70$	121.4		
			Calculated Geomean =	40	44.2
Feb 2012	1	$(1+2+1+3+9)*100/185$	8.6		
	3	$(<1+1+1+6+11)*100/185$	10.8		
	6	$(31)*100/100$	31		
	8	$(1+<1+4+5+9)*100/185$	10.8		
	10	$(<1+2+5+11+17)*100/185$	19.5		
	13	$(30)*100/100$	30		
	15	$(1+1+1+3+6)*100/185$	6.5		
	17	$(1+5+11+17+17)*100/185$	27.6		
	20	$(27)*100/100$	27		
	22	$(<1+1+1+2+6)*100/185$	5.9		
	24	$(26)*100/100$	26		
	27	$(28+41)*100/150$	46		Calculation Error 28+41 = 69 not 67
	29	$(<1+1+1+2+9)*100/185$	7.6		Calculation Error <1+1+1+2+9 = <14 not 11
		Calculated Geomean =	16	18.3	
Mar 2012	2	$(<1+<1+10+6+3)*100/185$	11.4		Calculation Error <1+<1+10+6+3 = <21 not 63
	5	$(21)*100/100$	21		
	8	$(59+71)*100/150$	86.7		
	9	$(20+33)*100/150$	35.3		
	12	$(1+4+7+12+19)*100/185$	23.2		
	14	$(21+30)*100/150$	34.0		
	16	$(24)*100/100$	24		
	19	$(36+79)*100/150$	76.7		
	21	$(24+46+77)*100/170$	86.5		
	23	$(26+52)*100/150$	52		
	26	$(24+42+61+79)*100/85$	242.4		
	28	$(24+38)*100/150$	41.3		
	30	$(2+4+3+10+10)*100/185$	15.7		
			Calculated Geomean =	40	47.6482

TSS and BOD5 Recordkeeping and Reporting: Some record keeping for BOD5 was not complete with dates of analysis. The final dissolved oxygen (DO) analysis date was not documented for samples collected on 2/21/2012 and 3/20/2012. The initial DO analysis date for BOD5 was not documented for a sample collected on 1/3/2012. Both initial and final dates are important to verify that a 5-day test as required by the permit and analytical method was completed. Additional findings on TSS monitoring are in Sections D and F of this report.

Reported BOD5 and TSS 30 day averages (mg/L) were not consistent with calculated averages for the 1st Quarter of 2012, see example calculation checks below:

Table 3: BOD5 and TSS Calculation Check

February 2012	Collection Date	Result BOD mg/L	
	7		2.6
	14		1.4
	21		1.8
	28		4.0
	Average =		2.4
		BOD 30 Day Ave mg/L	BOD 7 Day Ave mg/L
	Reported	0.73	4.0
	Calculated	2.4	4.0
February 2012	Collection Date	Result TSS mg/L	
	7		5.33
	14		4.83
	21		4.495
	28		8.495
	Average =		4.5
		TSS 30 Day Ave mg/L	TSS 7 Day Ave mg/L
	Reported	1.7	8.5
	Calculated	4.5	8.5

Permit Requirements for Recordkeeping and Reporting for Collection System Overflow

Part I.E (Overflow Reporting) of the permit states,

The permittee shall report all overflows with the Discharge Monitoring Report submittal. These reports shall be summarized and reported in tabular format. The summaries shall include: the date, time, duration, location, estimated volume, and cause of the overflow; observed environmental impacts from the overflow; actions taken to address the overflow; and ultimate discharge location if not contained (e.g., storm sewer system, ditch, tributary).

Overflows that endanger health or the environment shall be orally reported to EPA at (214) 665-6595, and NMED Surface Water Quality Bureau at (505) 827-0187, within 24 hours from the time the permittee becomes aware of the circumstance. A written report of overflows that endanger health or the environment shall be provided to EPA and the NMED Surface Water Quality Bureau within 5 days of the time the permittee becomes aware of the circumstance.

Part III.D.7 (Standard Conditions, Twenty-Four Hour Reporting) of the permit states:

a. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall be provided within 5 days of the time the permittee becomes aware of the circumstances. The report shall contain the following information: (1) A description of the noncompliance and its cause; (2) The period of noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and, (3) Steps being taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge. b. The following shall be included as information which must be reported within 24 hours: (1) Any unanticipated bypass which exceeds any effluent limitation in the permit; (2) Any upset which exceeds any effluent limitation in the permit.... c. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

Part III.D.8 (Standard Conditions, Other Noncompliance) of the permit states:

The permittee shall report all instances of noncompliance not reported under Parts III.D.4 and D.7 ...at the time monitoring reports are submitted. The reports shall contain the information listed at Part III.D.7.

Findings for Reporting for Collection System Overflow

The Permittee did not have a written agency notification procedure for collection system overflows; or current procedure or practice to report all overflows with the Discharge Monitoring Report submittal--summarized and reported in tabular format to both NMED SWQB and USEPA as required in Part I.E of the Permit.

A sewer system overflow north of Pinon Lane was not orally reported to USEPA or NMED SWQB within 24 hours from the time the permittee apparently became aware of the circumstance. The written report of the overflow was not provided to USEPA and NMED SWQB within 5 days of the time the permittee apparently became aware of the circumstance. The overflow appeared to have endangered health and the environment--the overflow discharged into a surface water tributary, was near residences, and was reported by the public. Based on on-line mapping tools, the unnamed tributary is approximately 100-125 feet from the nearest residence. Although the overflow occurred in area difficult to access by maintenance vehicles, the overflow was in an area between two public roadways and accessible by adjacent residents.

**Section C - Operations and Maintenance – Overall Rating of “U = Unsatisfactory” and
Section G - Effluent/Receiving Waters Observations – Overall Rating of “U = Unsatisfactory”**

Permit Requirements for Operations and Maintenance

Part I.A of the Permit states, “*There shall be no discharge of floating solids or visible foam in other than trace amounts.*”

Part III.B.2 (Standard Conditions, Duty to Mitigate) of the permit states:

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

Part III.B.3 (Standard Conditions, Proper Operation and Maintenance) of the permit states:

a. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by permittee as efficiently as possible and in a manner which will minimize upsets and discharges of excessive pollutants and will achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

b. The permittee shall provide an adequate operating staff which is duly qualified to carry out operation, maintenance and testing functions required to insure compliance with the conditions of this permit.

Findings for Operations and Maintenance and Effluent/Receiving Waters for WWTP

Treatment units did not appear properly maintained on the day of this inspection. Each basin and clarifier had floating solids including paper and plastic solids. A missing bar (tooth) in the primary automatic bar screen had not been replaced. The need for the replacement of the bar screen among other improvements has been identified (Town of Silver City Improvement Project List letter dated 01/15/2009). Substantial algal growth was observed in flume and channel after flume (often an indicator of nutrients in effluent). Some algal growth (slime) was observed in the clarifiers especially on the weir teeth.

An adequate number of qualified staff did not appear to be provided at the WWTP on the day of this inspection. The Permittee on-site representative (laboratory technician and acting foreman) was not familiar enough with the on-site filing systems to readily provide permit record keeping for the facility. Also, the Permittee may not have sufficient backup (staff in current rotation conducting maintenance at the plant) in case of leave.

Additional Staffing Notes: State of New Mexico Regulations for Wastewater and Water Supply Facilities, Utility Operator Certification, 20.7.4.13 NMAC requires public wastewater facilities with secondary treatment (aeration and nitrogen removal treatment processes) with a population served between 10,000 to 20,000 to have an operator with a level 4 wastewater (WW4) certification. As described by the Permittee on-site representative, five staff worked at the WWTP—three with wastewater operator certifications (Level 1 WW1, Level 2 WW2 and Level 4 WW4). The WWTP foreman (level 4 WW4) had been on leave since 03/16/2012 and plans to retire. Mr. Esqueda stated that there was another WW4 operator on staff at the Town of Silver City. However, this person was not assigned or currently conducted maintenance at the WWTP on the day of this inspection.

On the day of this inspection, the Permittee on-site representative described that the daily measurement of the sludge blanket in the secondary clarifier was 5 to 6 feet, but was maintained (wasted to the digester) to 3 to 4 feet each day. The Permittee on-site representative stated that a consultant had been contacted about the bulking problem. Following this inspection, the Town of Silver City submitted to USEPA a non-compliance report dated May 23, 2012 of sludge solids discharging thru the outfall of the plant starting the evening of Friday, May 18, 2012 due to the secondary clarifiers' sludge blankets rising up to the over flow weirs and overflowing thru the outfall. In addition to increased weekend checks, the Permittee non-compliance letter states, "...*The Town of Silver City contracted with Smith Engineering on May 1, 2012 to help identify the cause of the rising sludge blankets.*"

Findings for Operations and Maintenance and Effluent/Receiving Waters for Collection System Overflow

The Town of Silver City did not have a readily available written sewer overflow procedures for emergency treatment control (e.g., emergency response procedures specifically addressing overflows, written procedures for disinfection, possible de-chlorination, actions to protect surface waters, etc.).

The sewage overflow that occurred in the collection system north of Pinon Lane resulted in the discharge of solids to a surface water tributary to Maudes Canyon. Chlorine solution was used to disinfect sewage in the receiving stream channel and pools. Some paper solids that were not raked or shoveled because of bedrock remained in the channel on the day of this inspection. No settleable or floatable solids from the sewage overflow were observed in the remaining pool on the day of this inspection.

The Town of Silver City's letter dated April 10, 2012 states, "*To minimize, or prevent future sewer overflows, the Town will be working with private property owners to construct an access road along the sewer line and easement. This will allow access to the sewer line and manholes in the event of emergencies, and will allow the Town to perform regular maintenance on the sewer line.*"

Section D - Self-Monitoring – Overall Rating of “U = Unsatisfactory” and Section F – Laboratory – Overall Rating of “U = Unsatisfactory”

Permit Requirements for Self-Monitoring and Laboratory

Part III.C.5 (Standard Conditions, Monitoring Procedures) of the permit states:

- a. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit or approved by the Regional Administrator.*
- b. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instruments at intervals frequent enough to insure accuracy of measurements and shall maintain appropriate records of such activities.*
- c. An adequate analytical quality control program, including the analyses of sufficient standards, spikes and duplicate samples to insure the accuracy of all required analytical results shall be maintained by the permittee or designated commercial laboratory.*

Findings for Self-Monitoring and Laboratory

pH Monitoring Frequency Timing: Sampling and analyses for pH monitoring was not performed at a frequency timing specified in the permit. Part I.A of the permit requires a measurement frequency for pH effluent monitoring of 3/Week and Footnote 1 of the permit states, "*Samples shall be at least two-days apart.*" Effluent monitoring for pH was often not conducted at least three times per week with samples at

least two-days apart of the previously collected sample based on a review of the Permittee records for the 1st Quarter of 2012. For example, of the three consecutive daily samples collected in the facility's defined week starting January 17 (January 17, 18, and 19) only two of these three samples were at least two days apart from the previously collected sample. When four consecutive daily samples were collected in the facility's defined week starting January 2 (January 3, 4, 5, and 6) still only two of the four samples were at least two days apart from the previously collected sample. The permit does not prohibit additional monitoring. Of the 13 weeks reviewed, only samples collected during the week starting January 9 (samples collected/analyzed on January 9, 10, 11, 12 and 13) and March 5 (samples collected/analyzed on March 5, 6, 7 and 9) met both the frequency and timing requirements.

pH Analytical Procedures: Analytical procedures for pH monitoring did not or was not documented to follow approved method procedures based on a review of the 1st Quarter 2012 pH bench sheets. pH bench sheets referred to 4500-H+ A & B, Standard Methods (SM) 18th Edition. Section 1.a (principle), Page 4-66 of SM 18th Edition states, "Choose buffers to bracket the sample." Section 4.a (instrument calibration) Page 4-68 of this method describes a three buffer standardization before sample analysis (initial buffer; second buffer within 2 pH units of sample pH; and third buffer below pH 10, approximately 3 pH units different from the second). The purpose of standardization is to adjust the response of the glass electrode to the instrument. A two buffer (7 and 10) calibration was recorded on the pH bench sheet. During the 1st Quarter of 2012, effluent pH ranged between 6.41 and 8.32 su and the values lower than 7 would not be bracketed by the 7 and 10 buffers. Expiration dates for three buffers (4, 7 and 10 su) were recorded on bench sheets, but the results of a three buffer standardization prior to sample analysis were not.

A record for pH monitoring for a sample collected and analyzed on the day of this inspection did not have the time of sample collection recorded. Therefore, it could not be verified if the pH analysis met the required 15 minute holding time in 40 CFR 136.3. The Permittee on-site representative described that there was no other record to verify the holding time, that the record would be kept, and a note added that the analysis result would not be used in reporting.

Additional Comment on pH Monitoring: Records reviewed included two separate pH monitoring bench sheets by the same analyst for samples collected on January 27, 2012. The sample recorded to be collected at 9:55, with a calibration at 10:09, and analyzed at 10:15 exceeded the 15 minute holding time required in 40 CFR 136.3 Table II. A sample recorded to be collected at 10:05, with a calibration at 7:03, and also analyzed at 10:15, had the same result as the sample collected at 9:55 (7.99 su). Most pH records reviewed had monitoring instrument results (print outs) attached or included on copies of the bench sheet. It was not documented why an earlier calibration (7:03) was recorded on one of the records. A note stating "Forgot to print out but did pH on 2-27-12 Check Paperwork" was attached to one of the January 27, 2012 records. Recorded information on these bench sheets was not verified for this inspection.

E.coli Analytical Procedures: E.coli worksheets referred to both m-ColiBlue 24 broth and SM 18th Edition Page 9-60 which starts with 9222 D Fecal Coliform Membrane Filter Procedure that refers to Section 9225 for differentiation of E.coli. Approved methods for E.coli (number per 100 ml) in 40 CFR 136.3 includes most probable number (MPN) SM 18th Edition 9223 B. The approved methods for E.coli membrane filtration (MF) single step in 40 CFR 136.3 are only EPA 1603 and mColiBlue-24. The m-ColiBlue 24 Edition 5 (Hach Water Analysis Handbook, Coliforms-Total and E. coli, Membrane Filtration Method 10029 DOC316.53.01213) is downloadable at:

<http://www.hach.com/m-coliblu24-broth-plastic-ampules-pk-50/product-downloads?id=7640249626>.

For a sample collected on 01/09/2012, two of the five filter volumes met the minimum colony counts (20 to 80 CFU), but additional filter volumes were shown to be used in the calculation to determine Coliform colonies per 100 mL. The calculation shown on the worksheet for the sample collected on 01/09/2012 was different than the other calculations on reviewed 1st Quarter E.coli bacteria worksheets. The on-line

Hach m-ColiBlue 24 broth method states, “Select a maximum sample size to give 20 to 200 colony-forming units (CFU) per filter....The ideal sample volume of...wastewater...yields 20-80.” Equation B in m-ColiBlue 24 (*Sum of colonies in all samples / Sum of volumes (in mL) of all samples x 100*) is used to calculate coliform colonies per 100 mL “if no filter meets the desired minimum colony counts.”

TSS: TSS laboratory analysis procedures on some bench sheets were not documented to be in accordance with USEPA approved methods. TSS bench sheets refer to SM 18th Edition 2540 D. Page 2-56 of this method states, “Repeat the cycle of drying, cooling, desiccating, and weighing until a constant weight is obtained or until the weight change is less than 4% of the previous weight or 0.5 mg, whichever is less.” Repeat drying (2nd dry weight of sample) was not recorded on TSS bench sheets for samples collected on 1/3/2012, 1/20/2012, and 3/27/2012.

Composite Sample Collection Procedures: Part I.A of the permit requires 6-hr composite samples for TSS and BOD5 effluent monitoring. Bench sheets for BOD5 had sample temperatures ranging from 21.5 to 16.6. There was insufficient documentation recorded on the bench sheets to confirm that samples were refrigerated during compositing. Both TSS and BOD5 require cooling preservation ≤ 6 °C in 40 CFR 136.3 Table II.

Quality Control: Written quality control procedures (e.g., daily schedules) needed to be updated. Except for TSS, duplicate samples were not collected and analyzed. According to EPA’s NPDES Inspection Manual, “10 percent of the samples should be duplicated.”

Comment: Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act; Analysis and Sampling Procedures, including 40 CFR 136, were modified by Federal Register, Vol. 77, No. 97 on Friday, May 18, 2012 effective June 18, 2012. Analytical procedures in SM 18th Edition, which is used by this Permittee, will become out dated. Among other additions and modifications to the regulations, USEPA is adding new quality assurance and quality control language at 40 CFR 136.7 to specify twelve essential quality control elements that must be in the laboratory’s documented quality system unless a written rationale is provided to explain why these quality control elements are inappropriate for a specific analytical method or application.

Section E - Flow Measurement – Overall Rating of “M = Marginal”

Permit Requirements for Flow Measurement

Part III, Section C.5.b of the permit states:

The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instruments at intervals frequent enough to insure accuracy of measurements and shall maintain appropriate records of such activities.

Part III, Section C.6 of the permit states:

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than 10% from true discharge rates throughout the range of expected discharge volumes.

Findings for Flow Measurement

The date of the last calibration of the effluent flume flowmeters and recorders was 03/29/2011 and over one year. According to EPA's NPDES Inspection Manual, Chapter 6, "*The facility must ensure that their flow measurement systems are calibrated by a qualified source at least once a year to ensure their accuracy.*" Flow measurement is used to calculate mass loading. Following this inspection, the Permittee submitted purchase order documentation dated May 2, 2012 to obtain a flume and recorder calibration.

Flow entering the device was not free of turbulence. Substantial algal growth was observed in the flume. Operation and maintenance procedures in Recommended Practice for the Use of Parshall Flumes and Palmer-Bowlus Flumes in Wastewater Treatment Plants, EPA 600/2-84-186, November 1984, Section 11.1.5 states, "*Flume surfaces should be wiped down weekly to free them of slimes or other coatings.*"

NMED/SWQB
Official Photograph Log
Photo # 1

Photographer: Erin S. Trujillo	Date: 04/24/2012	Time: 1401 hours
City/County: Silver City / Grant County	State: New Mexico	
Location: Town of Silver City WWTP		
Subject: Example of floating solids in secondary clarifier, including some algal growth on teeth of weir and some foam past effluent weir.		



NMED/SWQB
Official Photograph Log
Photo # 2

Photographer: Erin S. Trujillo	Date: 04/24/2012	Time: 1406 hours
City/County: Silver City / Grant County	State: New Mexico	
Location: Town of Silver City WWTP		
Subject: Example of paper solids in secondary clarifier.		



NMED/SWQB
Official Photograph Log
Photo # 3

Photographer: Erin S. Trujillo	Date: 04/24/2012	Time: 1407 hours
City/County: Silver City / Grant County	State: New Mexico	
Location: Town of Silver City WWTP		
Subject: Example of floating solids in secondary clarifier.		



NMED/SWQB
Official Photograph Log
Photo # 4

Photographer: Erin S. Trujillo	Date: 04/24/2012	Time: 1422 hours
City/County: Silver City / Grant County	State: New Mexico	
Location: Town of Silver City WWTP		
Subject: Floating solids in equalization basin before outfall. Basin walls were not clean.		



NMED/SWQB
Official Photograph Log
Photo # 5

Photographer: Erin S. Trujillo	Date: 04/24/2012	Time: 1423 hours
City/County: Silver City / Grant County	State: New Mexico	
Location: Town of Silver City WWTP		
Subject: Solids and grit in trash container next to equalization basin.		



NMED/SWQB
Official Photograph Log
Photo # 6

Photographer: Erin S. Trujillo	Date: 04/24/2012	Time: 1426 hours
City/County: Silver City / Grant County	State: New Mexico	
Location: Town of Silver City WWTP		
Subject: Effluent flow, including some turbulence, through flume.		



NMED/SWQB
Official Photograph Log
Photo # 7

Photographer: Erin S. Trujillo	Date: 04/24/2012	Time: 1428 hours
City/County: Silver City / Grant County	State: New Mexico	
Location: Town of Silver City WWTP		
Subject: Agal growth in flume channel. Solids (possibly foil or metal) was observed in agal growth. Some foam on effluent.		



NMED/SWQB
Official Photograph Log
Photo # 8

Photographer: Erin S. Trujillo	Date: 04/24/2012	Time: 1430 hours
City/County: Silver City / Grant County	State: New Mexico	
Location: Town of Silver City WWTP		
Subject: Algal growth in flume channel. Some foam on effluent. Gage was not clean below water level.		



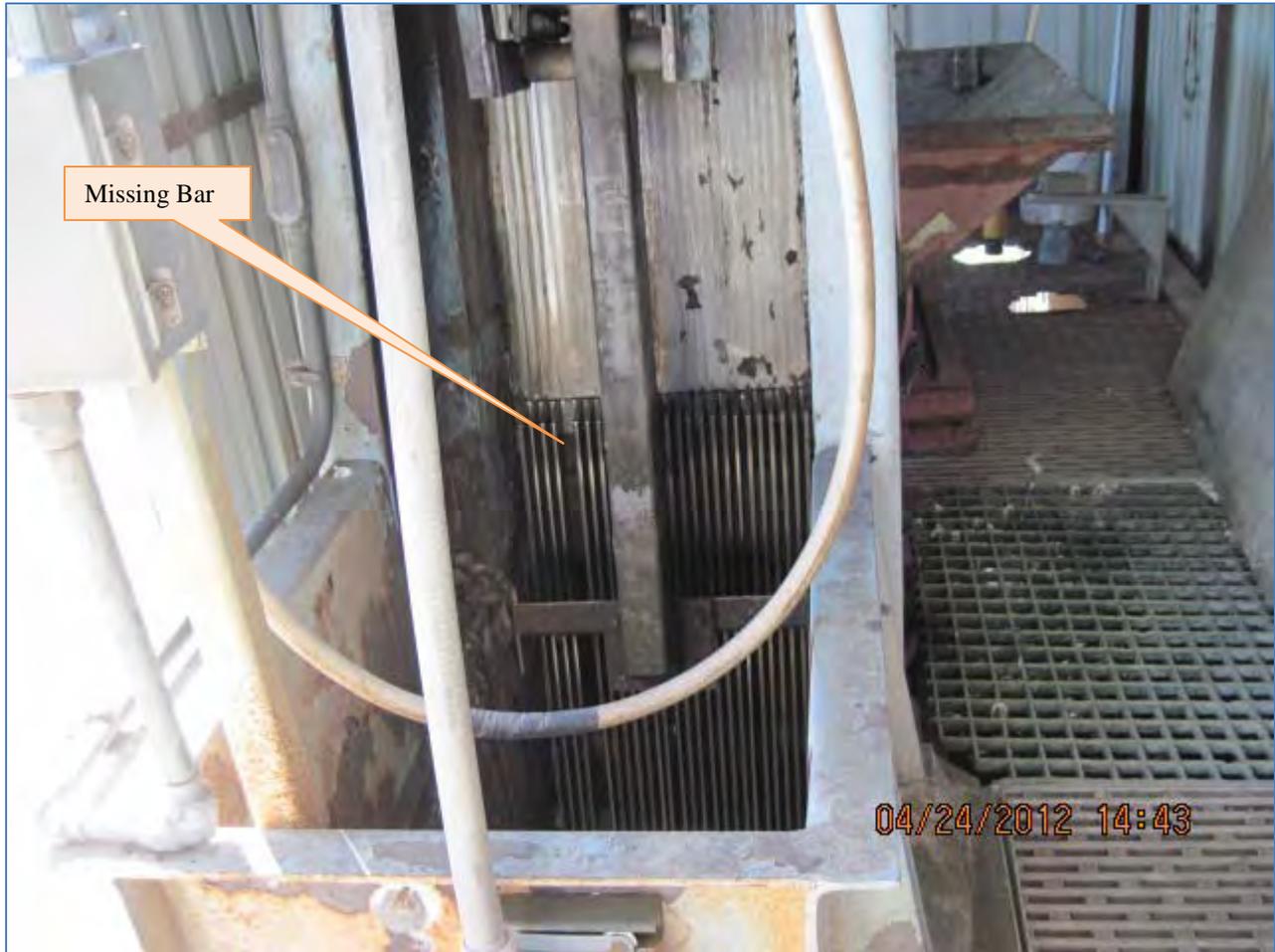
NMED/SWQB
Official Photograph Log
Photo # 9

Photographer: Erin S. Trujillo	Date: 04/24/2012	Time: 1431 hours
City/County: Silver City / Grant County	State: New Mexico	
Location: Town of Silver City WWTP		
Subject: Effluent in channel after flume. Agal growth and foam observed.		



NMED/SWQB
Official Photograph Log
Photo # 10

Photographer: Erin S. Trujillo	Date: 04/24/2012	Time: 1443 hours
City/County: Silver City / Grant County	State: New Mexico	
Location: Town of Silver City WWTP		
Subject: Missing bar (tooth) in automatic bar screen.		



NMED/SWQB
Official Photograph Log
Photo # 11

Photographer: Erin S. Trujillo	Date: 04/25/2012	Time: 0921 hours
City/County: Silver City / Grant County	State: New Mexico	
Location: SSO north of Pinon Lane		
Subject: Some remaining dry solids (paper) on manhole that had overflow. There was no remaining sewage odor in this area.		



NMED/SWQB
Official Photograph Log
Photo # 12

Photographer: Erin S. Trujillo	Date: 04/25/2012	Time: 0922 hours
City/County: Silver City/Grant County	State: New Mexico	
Location: SSO north of Pinon Lane		
Subject: Some remaining dry solids (paper) above stream channel. There was no remaining sewage odor in this area.		



NMED/SWQB
Official Photograph Log
Photo # 13

Photographer: Erin S. Trujillo	Date: 04/24/2012	Time: 0923 hours
City/County: Silver City / Grant County	State: New Mexico	
Location: SSO north of Pinon Lane		
Subject: Remaining dry solids on vegetation and ground in stream channel. There was no remaining sewage odor in this area.		



NMED/SWQB
Official Photograph Log
Photo # 14

Photographer: Erin S. Trujillo	Date: 02/25/2012	Time: 0925 hours
City/County: Silver City / Grant County	State: New Mexico	
Location: Pool in Unnamed Tributary above described SSO north of Pinon Lane		
Subject: Surface water in a remaining pool upgradient of where the overflow was described by the Permittees on-site representatives to have entered the stream channel appeared green from algal growth and had a faint odor common of stagnant water. No settled or floatable solids from the sewage overflow were observed in the remaining pool on the day of this inspection.		



NMED/SWQB
Official Photograph Log
Photo # 15

Photographer: Erin S. Trujillo	Date: 04/25/2012	Time: 0933 hours
City/County: Silver City / Grant County	State: New Mexico	
Location: SSO north of Pinon Lane		
Subject: Remaining dry solids from sewage overflow on bedrock in stream channel. There was no remaining sewage odor in this area.		



NMED/SWQB
Official Photograph Log
Photo # 16

Photographer: Erin S. Trujillo	Date: 04/25/2012	Time: 0953 hours
City/County: Silver City / Grant County	State: New Mexico	
Location: Unnamed tributary below SSO north of Pinon Lane		
Subject: Dried mud and algal growth was observed on bedrock and vegetation in the stream channel near the culverts at Pinon Lane (approximately 700 feet downstream from the manhole that overflowed). There was no sewage odor associated with these dried muds. It did not appear that the sewage overflow that continued approximately 300 feet downstream from the manhole continued downstream to this area near the culverts at Pinon Lane.		

