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

Certified Mail – Return Receipt Requested

June 12, 2012

Mr. David Saegert, Plant Manager
GCC Rio Grande
11783 State Highway 337 South
Post Office Box 100
Tijeras, NM 87059

RE: Minor Non-Municipal, SIC 3241, NPDES Compliance Evaluation Inspection, GCC Rio Grande, NM0000116, June 7, 2012

Dear Mr. Saegert:

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 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 wish to thank your staff for their cooperation during this inspection. If you have any questions concerning this inspection report, please feel free to contact me at the above address or by telephone (505) 827-1041.

Sincerely,
/s/ Sandra Gabaldón

Sandra Gabaldón
Surface Water Quality Bureau

Cc: Marcia Gail Adams, 6EN-AS, via email
Samual Tate, 6EN-AS, via email
Carol Peters-Wagnon, 6EN-WM, via email
Hannah Branning, 6EN-WC, via e-mail
Larry Giglio, 6WQ-PP, via email
Diana McDonald, 6EN-WM, via email
District I, via e-mail

SECTION A - PERMIT VERIFICATION

PERMIT SATISFACTORILY ADDRESSES OBSERVATIONS

 S M U NA (FURTHER EXPLANATION ATTACHED NO)

DETAILS:

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

 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 NO)DETAILS: **No discharge since 2006.**

1. ANALYTICAL RESULTS CONSISTENT WITH DATA REPORTED ON DMRs.

 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.

 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.

 Y N NA

SECTION C - OPERATIONS AND MAINTENANCE

TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED.

 S M U NA (FURTHER EXPLANATION ATTACHED NO)

DETAILS:

1. TREATMENT UNITS PROPERLY OPERATED.

 S M U NA

2. TREATMENT UNITS PROPERLY MAINTAINED. Quarry #1 Pond

 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.

 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? 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: **See further explanations for details – Permittee not prepared for sampling discharge at this time.**

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. Y N NA

6. SAMPLE COLLECTION PROCEDURES ADEQUATE Y N NA

a) SAMPLES REFRIGERATED DURING COMPOSITING. Y N NA

b) PROPER PRESERVATION TECHNIQUES USED. Y N NA

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

SECTION E - FLOW MEASUREMENT

PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS. S M U NA (FURTHER EXPLANATION ATTACHED NO)
 DETAILS: **No overflow of Outfall 001 has occurred since 2006.**

1. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED. Y N NA
 TYPE OF DEVICE : No primary device – overflow from pond

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. Y N NA
 RECORDS MAINTAINED OF CALIBRATION PROCEDURES. Y N NA
 CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE. 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 NO)
 DETAILS:

1. EPA APPROVED ANALYTICAL PROCEDURES USED (40 CFR 136.3 FOR LIQUIDS, 503.8(b) FOR SLUDGES) Y N NA

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. S M U NA
5. DUPLICATE SAMPLES ARE ANALYZED. ___ % OF THE TIME. Y N NA
6. SPIKED SAMPLES ARE ANALYZED. ___ % OF THE TIME. Y N NA
7. COMMERCIAL LABORATORY USED. **No commercial laboratories currently contracted by the permittee.** Y N NA

LAB NAME

LAB ADDRESS

PARAMETERS PERFORMED

SECTION G - EFFLUENT/RECEIVING WATERS OBSERVATIONS. S M U NA (FURTHER EXPLANATION ATTACHED NO).

OUTFALL NO.	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	FLOAT SOL.	COLOR	OTHER
001	NO DISCHARGE						

RECEIVING WATER OBSERVATIONS NO DISCHARGE

SECTION H - SLUDGE DISPOSAL

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

DETAILS:

1. SLUDGE MANAGEMENT ADEQUATE TO MAINTAIN EFFLUENT QUALITY. S M U NA
2. SLUDGE RECORDS MAINTAINED AS REQUIRED BY 40 CFR 503. S M U NA
3. FOR LAND APPLIED SLUDGE, TYPE OF LAND APPLIED TO: N/A (e.g., FOREST, AGRICULTURAL, PUBLIC CONTACT SITE)

SECTION I - SAMPLING INSPECTION PROCEDURES (FURTHER EXPLANATION ATTACHED).

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

**Compliance Evaluation Inspection
GCC Rio Grande, Inc. (Tijeras Plant)
NPDES Permit No. NM0000116
Date of Inspection: June 7, 2012**

Introduction

A Compliance Evaluation Inspection (CEI) was conducted at GCC Rio Grande, Inc. (Tijeras Plant) located at 11783 State Highway 337, Tijeras, NM by Sandra Gabaldón and Daniel Valenta of the State of New Mexico Environment Department (NMED), Surface Water Quality Bureau (SWQB), on June 7, 2012. This facility is classified as a minor discharger under the federal Clean Water Act (CWA), Section 402 National Pollutant Discharge Elimination System (NPDES) permit program, and is assigned NPDES permit number NM0000116.

This permit authorizes discharges from Outfall 001 and Outfall 004 (once built). Outfall 001 is authorized to discharge stormwater runoffs from quarry, storage and production areas, once-through cooling water, cleaning water, and Artesian well water. Outfall 004 is authorized to discharge stormwater runoffs from storage and production areas, once-through cooling water, cleaning water, and Artesian well water. Outfall 001 and Outfall 004, if a discharge does occur, would discharge into unclassified reaches of Corral Canyon, thence to Tijeras Canyon, thence to a classified reach of the Rio Grande in Segment 20.6.4.105 of the Rio Grande Basin (*NMAC State of New Mexico Standards for Interstate and Intrastate Surface Waters*). Designated uses of segment 20.6.4.105 are irrigation, marginal warmwater aquatic life, livestock watering, public water supply, wildlife habitat and primary contact.

The inspector arrived at GCC Rio Grande, Inc. at 0950 hours and conducted an entrance interview with Mr. Jose Madera, Environmental Specialist. Ms. Gabaldón made introductions, presented her credentials and discussed the purpose of the inspection with Mr. Madera. An exit conference was conducted with Mr. Madera from approximately 1334 hours to 1350 hours.

The NMED performs a specific number of CEI's annually for the United States Environmental Protection Agency (USEPA). The purpose of this inspection is to provide the USEPA with information to evaluate the permittee's compliance with their NPDES permit. The enclosed inspection report is based on verbal information supplied by the permittee's representatives, observations made by Ms. Gabaldón, and a review of records maintained by the permittee, commercial laboratory, and/or NMED. Findings of the inspection are detailed in the attached EPA form 3560-3 and in the narrative further explanations section of the report.

TREATMENT SCHEME

The Tijeras cement plant began construction in 1958 and was operating by 1960. The plant kilns were originally fired on natural gas and then converted to coal in the mid 1970s. In 1980, the kilns were shortened and two stage suspension preheaters were added. In 1987, the clinker cookers were replaced with modern grate coolers and the coal mills were replaced with smaller more efficient mills.

The Tijeras cement plant produces Portland cement. Portland cement is a fine, gray powder comprised of forms of calcium silicate, tricalcium aluminate, tetracalcium aluminoferrite, with the addition of forms

of calcium sulfate. The plant is a continuous process and can operate continuously for several months with minimal shut down time for maintenance. Since the final product is a fine powder, the production of Portland cement creates both air quality and water quality issues. The stages of production include: Procurement of raw materials, raw milling, pyroprocessing (kilns), clinker cooling/storage, product finishing and product storage and loadout.

The predominant raw material used in the process is limestone, which is extracted from a quarry adjacent to the plant. Other raw materials, including silica, alumina, and iron are transported to the site via truck.

Raw milling involves mixing and grinding the raw materials to provide the kiln feed with the correct chemical and physical properties. The milling ensures optimal fuel efficiency in the cement kiln and strength in the final concrete product. The Tijeras plant uses a dry milling process to prepare the kiln feed. This means that the materials are dried before or during the grinding process and no water is added.

In pyroprocessing, the raw materials are heated in the kilns to produce Portland cement clinker. The kiln system consists of preheating, calcining (a heating process in which calcium oxide is formed), and burning (reaction of the oxides to form clinker).

The clinker cooling operation recovers up to 30% of kiln system heat, preserves product quality, and enables the cooled clinker to be handled by belt conveyors. The Tijeras plant uses reciprocating grate coolers. Air sent through the clinker to cool it is directed to the rotary kiln where it nourishes fuel combustion. Conveyors then transfer the clinker to a covered storage pile until the product is moved to the finish mill.

The final stage of Portland cement production known as finish milling is where the clinker is ground with other materials (which impart special characteristics to the finished product) into a fine powder. Up to 5% gypsum and/or natural anhydrite are added to regulate the setting time of the cement. Other chemicals, such as those which regulate flowability may also be added. The Tijeras plant uses a roll crusher to achieve a preliminary size reduction of clinker and gypsum. These materials are then sent through ball mills which perform the remaining grinding. The product finishing is a dry system.

Once the production of Portland cement is complete, the finished product is transferred using bucket elevators and conveyors to the storage silos in the shipping department. Most of the Portland cement is transported in bulk by truck, but it could be packaged in 94 pound bags as well.

The plant's drainage system (discharge flow paths) include surface runoff, curb and constructed swales in paved areas, series of manmade unlined ditches, culvert, and drop inlets that would convey process water and stormwater primarily to Quarry #1 pond (Outfall 001) in the north-northwest portion of the site. If Outfall #1 pond overflows, discharges would likely occur from a low point in the pond's constructed berm across an access road. There is no well-defined channel in the uneven surfaces of the limestone bedrock and soils of outfall 001.

Section D – Self-Monitoring – Overall rating of “Unsatisfactory”

Permit Requirements for Self Monitoring:

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)...Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures...*

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

- a. *Monitoring must be conducted according to test procedures approved under Part 40 CFR 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:

The permittee provided standard operating procedures for the facility dated 2010. The document was outdated and needed to be updated to include specific sampling methodology as well as the required preservation and holding times for all samples being collected. The document was entitled "Stormwater", which seems to be directed at their Multi-Sector General Permit requirements rather than their individual permit. It was suggested that the permittee update the document and separate the individual permit requirements into its own document to insure that all procedures, quality control, and quality assurance is included and followed by either the permittee or a commercial laboratory.

The permittee does have a pH requirement in their permit. When the inspectors checked the pH meter it was noted that the battery was dead in the meter. There has been no maintenance for the pH meter. It is important that the permittee keep their pH meter in working condition in the event of a discharge to capture the pH reading since there is no holding time for pH. (pH must be read within fifteen minutes of the grab sample).

The permittee also did not have a commercial laboratory chosen to analyze their biomonitoring samples. No sample bottles were available to the permittee at this time. The permittee was instructed to find a commercial laboratory that could provide biomonitoring analysis when needed.

Because the weather in New Mexico is unpredictable, it is important that the permittee be prepared for any rain event that may cause a discharge. At the time of the inspection, it appears that the permittee may not have the appropriate sampling equipment to capture any discharge to satisfy their requirements of the NPDES permit.

NMED/SWQB
Official Photograph Log
Photo # 1

Photographer: Daniel Valenta	Date: June 7, 2012	Time: 1211 Hours
City/County: Tijeras / Bernalillo County		State: New Mexico
Location: GCC Rio Grande, Inc. (Tijeras Plant)		
Subject: Quarry #1 Pond (Outfall 001) Northwest corner of property.		



NMED/SWQB
Official Photograph Log
Photo # 2

Photographer: Daniel Valenta	Date: June 7, 2012	Time: 1212 Hours
City/County: Tijeras / Bernalillo County		State: New Mexico
Location: GCC Rio Grande, Inc. (Tijeras Plant)		
Subject: Quarry #1 Pond (Outfall 001) Northwest corner of property.		



NMED/SWQB
Official Photograph Log
Photo # 3

Photographer: Daniel Valenta	Date: June 7, 2012	Time: 1212 Hours
City/County: Tijeras / Bernalillo County		State: New Mexico
Location: GCC Rio Grande, Inc. (Tijeras Plant)		
Subject: Flow pattern adjacent to Outfall #1. Below truck is limestone bedrock where apparent discharge off property would occur.		

