



SUSANA MARTINEZ
Governor
JOHN A. SANCHEZ
Lieutenant Governor

NEW MEXICO ENVIRONMENT DEPARTMENT

Harold Runnels Building
1190 South St. Francis Drive (87505)
P.O. Box 5469, Santa Fe, NM 87502-5469
Phone (505) 827-0187 Fax (505) 827-0160
www.env.nm.gov



RYAN FLYNN
Cabinet Secretary
BUTCH TONGATE
Deputy Secretary

Certified Mail – Return Receipt Requested

October 29, 2015

Phillip Howard, General Mine Manager
Chevron Mining, Inc., Questa Mine
P.O. Box 469
Questa, NM 87556

Re: Chevron Mining, Inc. (CMI), Questa Mine; Major Individual Permit; SIC 1061; NPDES Compliance Evaluation Inspection (CEI); NM0022306; September 28, 2015

Dear Mr. Howard:

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.

You are encouraged to review the inspection report, required to correct any problems noted during the inspection, and advised to modify your operational and/or administrative procedures, as appropriate. If you have comments on or concerns with the basis for the findings 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:

Racquel Douglas
US Environmental Protection Agency, Region VI
Enforcement Branch (6EN-WM)
Fountain Place
1445 Ross Avenue
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 Erin Trujillo at 505-827-0418 or at erin.trujillo@state.nm.us.

CMI Questa Mine - NM0022306

October 29, 2015

Page 2 of 2

Sincerely,

/s/Bruce J. 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-Wagnon, USEPA (6EN-WM) by e-mail
Racquel Douglas, USEPA (6EN-WM) by e-mail
Gladys Gooden-Jackson, USEPA (6EN-WC) e-mail
Brent Larsen and Tung Nguyen, USEPA (6WQ-PP) by e-mail
Isaac Chen, USEPA (6WQ-PP) by e-mail
Gary Baumgarten, USEPA (6SF-RA) by e-mail
Robert Italiano, NMED District II by e-mail
Anne Mauer, Chevron-Questa Mine Permit Lead, NMED GWQB by e-mail
Joseph C. Fox, NMED GWQB by e-mail
Armando Martinez, Chevron Environmental Management Company, Env. Mngr. by e-mail
Jeff Schoenbacker, Chevron Environmental Management Company, Proj. Mngr. by e-mail
Tony Loston, USEPA (6EN-WM) by e-mail



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	0	0	2	2	3	0	6	11	12	1	5	0	9	2	8	17	18	C	19	S	20	2
Remarks																												
I N A C T I V E M O L Y B D E N U M M I N E - M I L L																												
Inspection Work Days						Facility Evaluation Rating						BI		QA		-----Reserved-----												
67						70						71		72		73 74 75 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) Chevron Mining Inc. (CMI), Questa Mine, with mine 3.5 miles east of Questa, NM, north side of NM 38; and tailings facility west of NM 522 in Questa, NM. Taos County.		Entry Time /Date ~1020 hours / 09/282015	Permit Effective Date November 1, 2013
		Exit Time/Date ~1630 hours / 09/282015	Permit Expiration Date October 31, 2018
Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s) -Armando Martinez , Env. Manager, Chevron Env. Management Company (EMC) / 575-586-7639 -Jeff Schoenbacker, Proj. Manager, Chevron EMC / 575-586-7639 -Alex Arellano, Sampling/Environmental Technician, Chevron EMC -Cassandra Padilla, Sampling/Environmental Technician, Arcadis -Dave Bhame, Water Collection System Operator SBI -Steve Anderson, Questa Water Projects, Fircroft		Other Facility Data <u>New Outfall 001</u> Horizontal Boring Finished Outfall Not Complete <u>Outfall 002 Monitoring Location</u> 36.696819°, -105.620597° <u>Location of Outfall 002</u> 36.692045°-105.621282° <u>Outfall 004</u> 36.687047°, -105.535381° <u>Outfall 005</u> 36.695058°, -105.489681° SIC 1061	
Name, Address of Responsible Official/Title/Phone and Fax Number Phillip Howard, General Mine Manager, Chevron Mining, Inc., Questa Mine, P.O. Box 469, Questa, NM 87556 / 575-586-7521		Contacted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Section C: Areas Evaluated During Inspection

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

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

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

- See attached report and further explanations.

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 10/29/2015
Signature of Management QA Reviewer Bruce Yurdin /s/Bruce Yurdin	Agency/Office/Phone and Fax Numbers NMED/SWQB/505-827-2798	Date 10/29/2015

SECTION A - PERMIT VERIFICATION

PERMIT SATISFACTORILY ADDRESSES OBSERVATIONS

 S M U NA (FURTHER EXPLANATION ATTACHED **Yes**)DETAILS: **Unauthorized discharges described in USEPA NPDES 2013 Fact Sheet and USEPA 2010 ROD for tailings facility continue under a schedule of compliance.**

1. CORRECT NAME AND MAILING ADDRESS OF PERMITTEE.

 Y N NA2. NOTIFICATION GIVEN TO EPA/STATE OF NEW DIFFERENT OR INCREASED DISCHARGES. **See above** Y N NA

3. NUMBER AND LOCATION OF DISCHARGE POINTS AS DESCRIBED IN PERMIT.

 Y N NA4. ALL DISCHARGES ARE PERMITTED. **See above** 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: **USEPA NetDMR subscriber agreement approved 06/27/2011 and DMRs submitted electronically.**1. ANALYTICAL RESULTS CONSISTENT WITH DATA REPORTED ON DMRs. **Reviewed 06/2015 recordkeeping** 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 NA5. EFFLUENT LOADINGS CALCULATED USING DAILY EFFLUENT FLOW AND DAILY ANALYTICAL DATA. **See further explanations** Y N NA

SECTION C - OPERATIONS AND MAINTENANCE

TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED.

 S M U NA (FURTHER EXPLANATION ATTACHED **Yes**)DETAILS: **For water collection system, short term communication errors of electronic supervisory control and data acquisition system continue and electrical outages reported. Yearly maintenance for spring interception system occurs in October of 2015.**

1. TREATMENT UNITS PROPERLY OPERATED.

 S M U NA

2. TREATMENT UNITS PROPERLY MAINTAINED.

 S M U NA3. STANDBY POWER OR OTHER EQUIVALENT PROVIDED. **See further explanations** S M U NA4. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE. **Daily inspections logged** S M U NA5. ALL NEEDED TREATMENT UNITS IN SERVICE. **See above** S M U NA6. ADEQUATE NUMBER OF QUALIFIED OPERATORS PROVIDED. **See above** S M U NA

7. SPARE PARTS AND SUPPLIES INVENTORY MAINTAINED.

 S M U NA8. OPERATION AND MAINTENANCE MANUAL AVAILABLE. **Treatment facility under construction** Y N NASTANDARD OPERATING PROCEDURES AND SCHEDULES ESTABLISHED. **See further explanation (water collection)** Y N NAPROCEDURES FOR EMERGENCY TREATMENT CONTROL ESTABLISHED. **See above** 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? **No active treatment plant/Not applicable** 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. 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? **pH** Y N NA

SECTION E - FLOW MEASUREMENT

PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS. S M U NA (FURTHER EXPLANATION ATTACHED Yes)
 DETAILS: **Outfall 004 and Outfall 005 flow measurement devices include weir required in Part I.A of Permit and 9-in Parshall Flume. Expected range of flows at Outfall 004 & Outfall 005 not documented. No discharge at Outfalls 004 & 005**

1. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED. Y N NA
 TYPE OF DEVICE **Outfall 002 vault = Yokogawa Magnetic Flow Meter/Remote Flowtube**

2. FLOW MEASURED AT EACH OUTFALL AS REQUIRED. **Outfall 002** 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. **Outfall 002 Meter Manufacture Test Certificate dated 2008** 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. **Outfall 002** Y N NA

6. HEAD MEASURED AT PROPER LOCATION. **Outfall 002** Y N NA

7. FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGE OF FLOW RATES. **Outfall 002** Y N NA

SECTION F - LABORATORY

PERMITTEE LABORATORY PROCEDURES MEET PERMIT REQUIREMENTS. S M U NA (FURTHER EXPLANATION ATTACHED Yes)
 DETAILS: **Contract commercial laboratories not inspected. Permittee conducts pH monitoring on site.**

1. EPA APPROVED ANALYTICAL PROCEDURES USED (40 CFR 136.3 FOR LIQUIDS, 503.8(b) FOR SLUDGES). **Fluoride** 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. **See further explanation** S M U NA
5. DUPLICATE SAMPLES ARE ANALYZED. **100 % (pH) / 100 % (Lab), 1/qtr** % OF THE TIME. Y N NA
6. SPIKED SAMPLES ARE ANALYZED. **100 (Laboratory)** % OF THE TIME. Y N NA
7. COMMERCIAL LABORATORY USED. Y N NA

LAB NAME **ALS (970-490-1511)**LAB ADDRESS **225 Commerce Drive, Fort Collins, CO 80524**PARAMETERS PERFORMED **Metals, Fluoride, TSS**

GEI Consultants,

4601 DTC Boulevard, Ste 900, Denver, CO 80237

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
new 001	Not completed	NA					
002	No	No	No	No	No	Clear	NA
004	No discharge	NA					
005	Not observed	NA					

RECEIVING WATER OBSERVATIONS **No reported effluent limitations exceedances at Outfall 002 since permit effective date. Water in wet area and shallow channel below Outfall 002 had a naturally occurring biological sheen. Visible precipitates and deposits were observed along bank of Red River, both upstream of the Questa Mine, and at Spring 13 & 39 seepage interception systems. See further explanations.**

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: **NA** (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

Chevron Mining Inc. (CMI)
Questa Mine
Compliance Evaluation Inspection
NPDES Permit No. NM0022306
September 28, 2015

Further Explanations – Introduction and Background

Introduction

On September 28, 2015, a Compliance Evaluation Inspection (CEI) was conducted by Erin S. Trujillo of the State of New Mexico Environment Department (NMED), Surface Water Quality Bureau (SWQB) at the Chevron Mining Inc. (CMI), Questa Mine (formerly Molycorp) near the village of Questa, Taos County, New Mexico. Ms. Trujillo was accompanied by Mr. Daniel Valenta, also of NMED SWQB, during the entrance and exit interview of this CEI.

U.S. Environmental Protection Agency (USEPA), Region 6, Record of Decision (ROD), Molycorp, Inc., Questa, New Mexico, CERCLIS ID No: NMD002899094, dated December 20, 2010 is the decision document that presents the “Selected Remedy” for the Site chosen in accordance with Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The facility or site was placed on USEPA National Priorities List (NPL) of Superfund Sites. USEPA decided to continue or proceed with National Pollutant Discharge Elimination System (NPDES) permitting for some discharges under the Selected Remedy. A summary of the site background, activities, CERCLA selected remedy and relationship to NPDES authorized discharges and outfalls was provided in the September 2014 NPDES CEI report available at:

<https://www.env.nm.gov/swqb/NPDES/Inspections/NM0022306-20140923.pdf>.

Questa Mine is classified as a major facility discharger under the federal Clean Water Act, Section 402 NPDES permit program and is assigned permit number NM0022306. The facility is located in the watershed of the Red River which includes several tributaries, including Sulfur Gulch, Spring Gulch, Goathill Gulch and Capulin Canyon. Discharges from four outfalls (Outfalls 002, 004, and 005 and “new” Outfall 001) are authorized by USEPA NPDES Permit No. NM0022306 to Red River in *State of New Mexico Standards for Interstate and Intrastate Surface Waters* Segment 20.6.4.122 New Mexico Administrative Code (NMAC) of the Rio Grande Basin. Designated uses for this segment of Red River are coldwater aquatic life, fish culture, irrigation, livestock watering, wildlife habitat and primary contact.

Storm water discharges associated with industrial activity at the facility are also regulated by USEPA’s Multi-Sector General Permit (MSGP), which is discussed in the CERCLA ROD. Permit conditions of the MSGP require a Storm Water Pollution Prevention Plan (SWPPP). An industrial stormwater MSGP CEI was not conducted on the day of this CEI to determine compliance under the 2015 MSGP. Under the previous MSGP permit, CMI submitted a Notice of Intent (NOI) on January 5, 2009 (active NPDES Tracking No. NMR05GC01 with coverage on February 4, 2009) to obtain permit coverage under the 2008 Multi-Sector General Permit (MSGP) for industrial stormwater discharges. Prior to that, Molycorp, Inc. submitted a NOI (expired Tracking Number NMR05A913) on January 25, 2001 to obtain coverage under the 2000 MSGP.

Other permits for the Questa Mine activities include NMED GWQB ground water discharge permits DP-1055 and DP-933 and the New Mexico Energy, Minerals, and Natural Resources Department (EMNRD) Mining and Minerals Division (MMD) permit TA001RE.

Upon arrival at approximately 1020 hours on the day of this CEI, the inspector made introductions, presented credentials, and discussed the purpose of the inspection with Mr. Armando Martinez, Environmental Manager and Mr. Jeff Schoenbacker, Project Manager, both of Chevron Environmental Management Company (Chevron EMC). Ms. Trujillo, Mr. Martinez and Mr. Schoenbacker toured portions of the facility. Mr. Alex Arellano, Sampling/Environmental Technician, Chevron EMC and Ms. Cassandra Padilla, Sampling/Environmental Technician, Arcadis described sampling activities; and Mr. Dave Bhome, SBI described water collection system operations during the tour. At the mill area, Mr. Steve Anderson, Fircroft led the tour of the water treatment plant under construction. Ms. Trujillo conducted a brief exit interview on site at CMI’s offices to discuss preliminary findings with Mr. Martinez

and Mr. Schoenbacker. The inspectors left the facility at approximately 1630 hours on day of this CEI. Requested information on the water metrics for the facility's Water Collection Systems was provided by Mr. Gabriel Herrera, Interim Project Manager – Waste, EMC Mining and Specialty Portfolios – Questa Mine to the inspector by e-mail on September 30, 2015.

Facility and Treatment Scheme Summary

CMI Questa Mine includes underground molybdenum mine, mill area, tailing disposal impoundments (tailing facility), historic open pit and massive waste rock piles. Rock piles, approximately 750 acres, at the mine site include Capulin, Goathill North, Goathill South, Sugar Shack West, Sugar Shack South, Middle, Sulphur Gulch South, Spring Gulch and Sulphur Gulch North / Blind Gulch. CMI announced the cessation of operations at the Questa Mine on June 2, 2014. Since the mill is inactive, no tailings are sent to the Tailing Facility for disposal. Closeout activities continue with decommissioning and demolition of selected surface facilities at the mill area. Decommissioning and demolition of remaining surface facilities at the Mill Area, Mine Area, and Tailing Facility will occur under a subsequent phase.

Tailing Facility / Status of “Old” Outfall 001: An ion exchange plant was constructed in 1983 to remove molybdenum from decant water below tailing facility Dam No. 4 before discharging the water to the Red River via Pope Creek (holding pond), but is no longer operating. Before then, waste water discharges to the Red River were untreated. This discharge was permitted as Outfall 001 under the previous 1993 and 2006 USEPA NPDES Permit No. NM0022306. Discharge from “old” Outfall 001 is not authorized under the current 2013 USEPA NPDES Permit NM0022306.

Tailing Facility / Outfall 002: Continuous ground water extraction south of the Tailing Facility discharged at Outfall 002 is authorized by USEPA NPDES Permit No. NM022306. Outfall 002 discharges effluent comprised of a mixture of tailing seepage and contaminated ground water collected by a system of extraction wells and seepage interception drains south of Dam No. 1. An extension of the Outfall 002 system was previously identified as Outfall 003. It consists of an extraction well and two seepage barriers that collect tailing seepage from the eastern flank of the Dam No. 4 impoundment. The extension system ties into and becomes part of the Outfall 002 discharge. Monitoring and flow meter measurements for Outfall 002 are conducted at a concrete access vault south of the Tailing Facility. Effluent from this collection system flows via gravity through a pipeline and discharges to a wet area on the north bank and continues to Red River (See Outfall 002 Photos #1 and #2).

Mine Area / Water Collection System and Spring Flow: As described in USEPA ROD 2010, Sections 2.3.1.3, 2.5.1.2, and 2.5.1.3, the seepage interception systems at Spring 13 east of the mouth of Capulin Canyon and Spring 39 east of the mouth of Goathill Gulch; and ground water withdrawal well system at the toe of the roadside waste rock piles were installed to comply with the prohibition against the discharge to the Red River of pollutants traceable to point source mine operations. Maintaining and proper operation of the seepage interception systems and ground water withdrawal well system are Best Management Practices under USEPA NPDES Permit No. NM022306. Both seepage areas are where aluminum hydroxide precipitation occurs. Operation of the seepage interception systems began in February 2003. USEPA ROD 2010 Section 2.5.1.2 describes the Ground Water Withdrawal Well System as follows:

In 2002, three ground water withdrawal wells (GWW-1, -2, and -3) were installed just downgradient of the toes of the three Roadside Waste Rock Piles (Sugar Shack South, Middle, and Sulphur Gulch South) to capture potential discharges from point source mine operations through a hydrologic connection below the Sugar Shack waste rock pile.... These wells collect acidic, metals-laden water impacted by acid rock drainage from the waste rock piles and thereby, prevent such water from flowing downgradient and entering into the Red River at zones of upwelling at the Spring 39 area.

Collected underground mine water is conveyed by centrifugal pumps and sump pumps toward the east to a tunnel or decline from the underground mine to the Mill Area. Collected water from a ground water withdrawal well system along the roadside waste rock piles and seepage interception collection systems at Spring 13 and Spring 39 continue to be combined at Sump 5000 at the Mill Area. Lime is added to the collected water to adjust the pH of the water between 6.0 to 9.0 standard units to meet NMED GWQB DP-933 requirements. Collected water continues to be

transported through the pipeline and disposed at the Tailing Facility. Sump 5000 will be decommissioned when the new water treatment plant at the Mill Area is completed according to Permittee representatives.

Mill Area/New Water Treatment Plant under Construction and Status of “New Outfall 001”: Treated mine site area collected water discharged at “new” Outfall 001 is authorized by USEPA NPDES Permit No. NM022306. Treatment works and facilities for the new water treatment plant (WTP) were undergoing construction and installation at the Mill Area on the day of this CEI. Photos #8 and #9 show the status of the WTP construction. Horizontal boring had been completed from the Mill Area to the bank of the Red River, but “new” Outfall 001 pipe and outlet was not completed on the day of this CEI. Photos #10 and #11 show the status of the “new” Outfall 001 construction. The stormwater collection structure at the Mill Area is to be enhanced as part of the construction of the WTP according to Permittee representatives.

CMI’s Final Treatability Study Evaluation Report Questa Mine Water Treatment Pilot Study was completed in February of 2015. Selected figures from the 2015 Final Treatability Study Evaluation Report are attached. As described in the Final Treatability Study Evaluation Report, the treatment process collected mine dewatering, groundwater withdrawal well system, seepage interception systems at Spring 13 and 39, seepage interception systems at the base of Capulin and Goathill North waste rock piles, and groundwater extraction well systems is to include Enhanced Chemical Precipitation + Nanofiltration (ECP + NF) for the contaminants of concern (COCs). Section 9.1 of the 2015 Final Treatability Study Evaluation Report states *“The treatment process comprised of ECP + High Recovery NF (see Figure 9-1) is the preferred technology based on the results of pilot testing. The pilot study results demonstrate that this process is capable of meeting water treatment test levels for all COCs, with exceptions noted above for fluoride. Pilot testing shows that activated alumina is a viable treatment process for removing fluoride to below 1 mg/L. Activated aluminum can be added to the ECP + High Recovery NF treatment train at a later date if fluoride limits are required in a future NPDES discharge permit.”*

Outfalls 004 and 005: Stormwater discharge from 1) a waste rock pile below unlined Goathill Gulch catchments at Outfall 004 and 2) the mine site area at Outfall 005 (located at the mill area) is authorized by USEPA NPDES Permit No. NM022306. There was no discharge observed from Outfall 004 on the day of this CEI. Due to construction activities and heavy vehicle traffic, Outfall 005 was not observed during this CEI. No discharge was observed at the facility fence near the authorized location of Outfall 005.

**Section A - Permit Verification - Overall rating of “Marginal” and
Section G - Effluent/Receiving Waters - Overall rating of “Marginal”**

• **Ceasing Waste Streams To The Tailing Facility**

CWA and Permit Requirements

- Clean Water Act requirements set forth at 33 U.S.C. § 1311(a) provides that the discharge of a pollutant from a point source to waters of the United States without a permit issued under the Clean Water Act is unlawful.
- Part I.B (Compliance Schedules) of the 2013 Permit states *“The Permittee shall comply with...schedule of activities for cessation of waste streams to the tailing facility in order to substantially eliminate unauthorized tailings facility seepage....”* The deadline of the schedule of compliance is October 16, 2016.

Status of Meeting Compliance Schedule

- Sending tailing waste to the Tailing Facility ceased, but other unauthorized wastewater streams (underground mine dewatering and water collection systems) continues to be disposed at the Tailing Facility on the day of this CEI under a schedule of compliance. As discussed above, the new WTP and “new” Outfall 001 was under construction.

- **Prohibition of Discharge of Point Source Mine Operation Pollutants at Mine Area**

NPDES Regulation and Permit Requirements

- Ore Mining and Dressing Effluent Limitations Guidelines Subpart J - Copper, Lead, Zinc, Gold, Silver, and Molybdenum Subcategory are at 40 CFR §440. Subpart §440.102 establishes BPT effluent limitations and §440.103 establishes BAT effluent limitations.
- Part II.D of the 2013 NPDES Permit states *“This permit prohibits the discharge to the Red River of pollutants traceable to point source mine operations except in trace amounts. Implementation of these Best Management Practices (described below) is considered compliance with this prohibition.”* The entire Part II.D states:

D. Best Management Practices

This permit prohibits the discharge to the Red River of pollutants traceable to point source mine operations except in trace amounts. Implementation of these Best Management Practices (described below) is considered compliance with this prohibition.

The permittee shall maintain and properly operate seepage interception systems to prevent discharges of process related ground water to the Red River at Spring 13 and Spring 39. The permittee shall also properly operate the ground water withdrawal well below the toe of the Sugar Shack South deposit at a location approximately 100 yards southwest of the old mill site.

Spring 13 is defined as the seepage zone located on the north side of the Red River at the southwest base of Goathill, just east of Capulin Canyon.

Spring 39 is defined as the seepage zone located on the north side of the Red River approximately 500 feet east of Goathill Campground.

The permittee shall conduct monthly visual inspections of the Red River and its banks in the vicinity of the facility at the following known historic seeps and springs locations: Goathill Gulch seep, Sulphur Gulch seep, Portal springs, Cabins Springs, Upper Spring 39, Shaft Springs, Spring 39, and Spring 13. Quantitative estimates of flow will be noted and evaluated to identify changes in discharge or seepage trends. Data obtained from monitoring wells located below the mine front waste rock piles may be substituted for visual observation of seeps and springs in that area. A report summarizing the monthly inspections shall be submitted annually. In the event that the quantitative estimate of flow identifies and order of magnitude increase in the average discharge or seepage rates, the observation shall be reported to the Agencies within fourteen days of identification of the change. This fourteen day reporting requirement applies to Portal Spring (below the Sugar Shack deposit in the vicinity of the Old Mill), Spring 13, and Spring 39. This permit may be reopened if any significant discharge or seepage occurs or if it is determined that existing seepage in other locations is hydrologically connected to the mine. Should monitoring required under Part II.A of this permit show that the seepage interception system is In effective or find seepage traceable to point source mine operations, this permit may be modified or revoked and reissued to address those discharges.”

Continued or Repeat Findings

- Revised Final Feasibility Study Report (“FS”), Questa Mine Site, Questa, NM, CERCLA Docket No. 06-09-01, November 16, 2009, Section 6.1.1.2 (Spring Collection Systems along the Red River) states *“The two spring collection systems remove metals and other inorganics loads from the shallow alluvial aquifer and reduce the load entering the Red River. The Spring 39 collection system has reduced the aluminum hydroxide precipitates along the northern river bank, whereas, aluminum hydroxide precipitates are still visible along the Spring 13 collection system.”*

Visible white precipitates (described by Permittee representative to be aluminum hydroxide) and red (rusty in color) slimy deposits, possibly iron bacteria, and algal growth mats continue to be observed along the north bank of the Red River at and downstream of the Spring 13 interception system during this CEI (see Photos #3 and #4). Algal growth may be from increased nutrients (nitrogen and phosphorus). Visible white precipitates on surface water in the floodplain of the Red River at the Spring 39 interception system continue to be observed during this CEI (see Photo #5). Similar visible precipitates and deposits were observed at these locations during the 2014 NPDES CEI.

- Dry red (rusty in color) deposits, aluminum hydroxide and foam were observed along the Red River banks east and upstream of the Questa Mine boundary during this CEI (see Photos #6 and #7).

Comments / Further Evaluation Outside the Scope of this CEI

- Trace amounts is not defined in the NPDES Permit. Visible precipitates and deposits may correspond to detectable or measurable pollutants in the receiving stream at that location. Determining the amount of pollutants from visible precipitates and deposits traceable to mining operations is not required in the NPDES Permit. Given the observations and findings of the Best Management Practices (discussed below), USEPA R6 may want to consider if the implementation of the BMPs as described in the permit should continue to be considered as compliance with the point source mine operation prohibition, or if more is needed (e.g., definition clarification; study to determine effectiveness and efficiency; additional permit conditions, schedules, reporting, monitoring or effluent limitations, etc.). Given the hydrogeologic, geochemistry and regulatory complexities, additional coordination or consultation with scientific and regulatory agencies is advisable.
- **Update on WET Testing and Required Monitoring Frequency**

CMI submitted an “Application for WET Testing Frequency Reduction” to USEPA dated September 15, 2014. Non-compliance with sample preservation requirements in the 2013 Permit and 40 CFR 136.3 Table II was not reported on the Permittee’s application to reduce frequency. Part II.F.3.d.iii of the Permit (WET Toxicity Testing, Samples and Composites) states “*Samples shall be chilled to 6 degrees Centigrade during collection....and/or storage.*” CMI’s letter dated December 22, 2014 in response to the 2014 NPDES CEI report indicated that composite sample cooling preservation procedures had been corrected. USEPA approved CMI’s WET Testing Frequency Reduction request on February 4, 2015 to once per year for *Pimephales promelas* and once per six (6) months for *Ceriodaphnia dubia*. There continues to be no reported WET toxicity failures since the effective date of the NPDES Permit.

- **Comments on USEPA’s Sufficiently Sensitive Method Rule**

Part I.D and Part I.E of the Permit requires effluent characteristic analysis for discharges at Outfall 001 and Outfalls 004 and 005. Minimum Quantification Levels (MQL’s), discussed in Part II.A and listed in Appendix A of the Permit, do not include language on USEPA’s Sufficiently Sensitive Method (SSM) Rule effective September 18, 2014. More information on the SSM rule is available at

<http://water.epa.gov/polwaste/npdes/basics/>.

USEPA R6 has not determined that modifications to the permit are required at this time due to the Sufficiently Sensitive Method Rule. Prior to analysis and submitting (reporting) “not detected” or “0” concentration data for effluent characteristics or permit renewal applications using approved 40 CFR 136.3, Permittees should contact the USEPA R6 Permit Writer to confirm that the reportable MQLs in Appendix A of PART II of the Permit are sufficient. Additional information (e.g., detection or estimate limits, minimum or reportable quantification levels, etc.) may be required.

- **Comments for Flow Measurement**

The Permittee can contact USEPA Region 6 Permit Section to discuss if a flow measurement type of estimate, instead of weirs—not subject to accuracy requirements of Part III.C.6 of the permit—would be appropriate at Outfalls 004 and 005 and the addition of flow measurement flumes below weirs at Outfalls 004 and 005. Findings for flow measurement are discussed below. USEPA Region 6 Permit Section would also need to be notified should changes to the location or flow measurement type at Outfall 005 results from construction activities and/or the stormwater water collection structure enhancements at the Mill Area.

Section B - Recordkeeping and Reporting Evaluation - Overall rating of “Satisfactory”

Permit Requirements

Part I.A of the Permit requires metal and TSS effluent loading limitations (lbs/day) for both “new” Outfall 001 and Outfall 002.

Findings

- Reported effluent loadings for Outfall 002 were not calculated using daily effluent flow (flow on day of sampling) based on reviewed records. Changes in the Permittees’ procedures on the flow data to use to calculate loading is required to meet USEPA reporting guidance.

Once discharging, effluent loading calculations for “new” Outfall 001 would also need to be calculated using daily effluent flow corresponding to the composite sample analytical data.

Additional Information: USEPA Region 6, NPDES Reporting Requirements Handbook, Reporting of Loadings, Revised August 25, 2004 states:

Some parameters in the permit are limited in terms of pounds per day (lbs/day). Although all of these parameters are measured initially in milligrams per liter (mg/L), conversion to lbs/day can be achieved by using the following formula. Always be sure to use the flow measurement determined on the day when sampling was done. Flow on day of sampling (MGD) x concentration (mg/L) x 8.34 (lbs/gal) = Loading (lbs/day)

Based on a review of CMI’s records for June 2015 for Outfall 002, calculated average flow of the flow measurements at the time each composite sample grab was collected was used in the loading calculation instead of the calculated daily average flow for an entire 24 hour period. Twenty-four (24) composite sample day (e.g., recorded as 6 am to 6 am for Outfall 002) and the flow measurement day start and end times would need to match for the calculation to be accurate. Because of the concentrations, flow volumes, significant figures, and rounding that would be used in the calculations, the loading values for Outfall 002 reported on the June 2015 DMR would not change or substantially change using a daily effluent flow (flow measurement for entire 24 hour period). Calculated loadings would still below effluent limitations for Outfall 002.

Section C - Operation and Maintenance Evaluation - Overall rating of “Marginal”

Permit Requirements

Part II.D (Best Management Practices, Seepage Interception Systems and Ground Water Withdrawal Well) of the 2013 Permit states *“The permittee shall maintain and properly operate seepage interception systems...the permittee shall also properly operate the ground water withdrawal....”*

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

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...This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of this permit.”

Continued or Repeat Findings

- USEPA NPDES CEI report signed February 28, 2011 for an inspection on October 26, 2010 states:

Chevron Mining failed to operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by permittee. The permittee is required to maintain and operate the seepage interception and management system to comply with the prohibition against the discharge to the Red River of pollutants traceable to point source mine operations except in trace amounts. On the day of the inspection, Spring 39 seepage interception system was visibly leaking and discharging to the Red River.... The Spring 39 seepage interception system consist of two french drains which are approximately 300 feet long with an approximate pumping rate of 95 gpm. On the day of the inspection the pumping rate was 6 gpm....

- The electronic supervisory control and data acquisition system used by the Permittee in monitoring the operation of the seepage interception systems and/or groundwater well system continue to have communication interruptions and/or failures.

Additional Notes: Communication errors (periods when the system cannot be monitored remotely) do not necessarily indicate that there the water collection system or portions of the systems are not pumping. The Permittee also records daily inspection of the water collection system. The following dates of communication interruptions and/or failures of the electronic supervisory control and data acquisition system for the seepage interception systems and/or groundwater well system were listed in the 2014 NPDES CEI Report:

Recorded Dates of Water Collection System Communication Errors

GWW1	GWW2	GWW3	Spring 13	Spring 39
12/01/2013	12/01/2013	12/01/2013	12/01/2013	12/01/2013
12/02/2013	12/02/2013	12/02/2013	12/02/2013	12/02/2013
12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/10/2013
12/11/2013	12/11/2013	12/11/2013	12/11/2013	12/11/2013
12/12/2013	12/12/2013	12/12/2013	12/12/2013	12/12/2013
			01/22/2014	01/22/2014
			06/07/2014	06/07/2014
06/09 - 06/25/2014	06/09 - 06/27/2014	06/09 - 06/25/2014		
06/30/2014	06/30/2014	06/30/2014	06/30/2014	06/30/2014

Continued examples of when communication errors caused data gaps to occur within the historian software dataset thru September 2015 include:

<u>Date</u>	<u>System</u>
February 6, 7, 8 and 9, 2014	GWW1, GWW2, GWW3, Spring 13 & Spring 39 systems
July 15, 2014	GWW1, GWW2, GWW3, Spring 13 & Spring 39 systems
December 1 & 2, 2014	GWW1, GWW2, GWW3, Spring 13 & Spring 39 systems
December 10, 11 & 12, 2014	GWW1, GWW2, GWW3, Spring 13 & Spring 39 systems
January 22, 2015	Spring 13 & Spring 39 systems
April 26, 2015	Spring 13 & Spring 39 systems
May 29 & 30, 2015	GWW1, GWW2, GWW3, Spring 13 & Spring 39 systems
August 28, 2015	GWW1, GWW2, & GWW3 systems

- Periods of operation or pumping shut down for the Spring 13 and 39 seepage interception systems and/or groundwater well system continue to be reported for maintenance, line break, and electrical utility corridor work. Outages also occurred when facilities are decommissioned.

Additional Notes: Reported shut downs to the seepage interception and/or groundwater well systems in 2015 thru September 2015 include:

<u>Date</u>	<u>Reported Reason</u>
January 9, 2015	Maintenance – Lime System
January 22, 2015	Instrumentation Building Relocation
January 28, 2015	Instrumentation Building Relocation
April 15, 2015 (reported)	Pulling new cable to the WTP on April 22 & 23, 2015

May 29, 2015	Underground dewatering system work
June 1, 2015	Underground dewatering system work
June 2, 2015	Underground dewatering system work
June 7, 2015	5kV Line Fault
August 28, 2015	Excavation work at Mill Area
September 1, 2015	Utility company inspection
September 10, 2015	Utility corridor work

- Reported flow or pumping rates at Spring 13 and Spring 39 seepage interception systems continue to be lower than described in the previous 2006 NPDES permit, 2009 Feasibility Study, and 2010 ROD.

Additional Information: A summary of CMI reported average flows determined from monthly visual inspections of the Red River under the NPDES Permit NM0022306 for Spring 13, Spring 39, Portal Spring and other springs from 2010 thru September 2015 is provided below:

CMI Annual Report	Reported Year	Spring 13 gpm	Spring 39 gpm	Cabin Spring gpm	Portal Spring gpm	Sulphur Gulch Seep gpm
09/30/2010	2010	1	4.8		1.22	0.875
09/06/2011	2011	1	4.72		1.44	1
08/08/2012*	2012	1	3.83		0.42	0.33
09/13/2013	2013	0.6	3.18	0**	0.16	1.07
09/10/2014	2014	0.833	2.3	0.16	0.58	1.02
09/29/2015	10/2014-09/ 2015	0.33	3.6	0.5	1.08	1.8

Notes: *Report transmittal date appears incorrect. NMED SWQB files indicate that the report was received in September of 2012. **Values provided in September 2014 Annual Report.

Described average pumping or flow rates for Spring 13 and 39 seepage interception system pumping or flow include:

Source	Spring 13 Interception System Pumping / Flow Rate	Spring 39 Interception System Pumping / Flow Rate
2006 USEPA NPDES Permit No. NM0022306, Part II.A	~50 gpm	~95 gpm
CMI Final Feasibility Study Report Appendix C Groundwater Budget, Loading Analyses, and Operational Water Usage for the Mine Site, Revision No. 2.00, 8/25/2009	~13 to 32 gpm (2003 thru 2006)	~90 gpm (2006)
2010 USEPA ROD, Section 2.5.1.2	~20 gpm	~80 gpm

Reporting of average pumping or flow rates is not required in the 2013 NPDES Permit. Reviewed CMI recorded flow rates for the Spring 13 interception system from November 2013 thru December 2014 indicate a range from 3,000 to 13,000 gallons per day (converted to 2.083 to 9.028 gpm). Reviewed recorded flow rates for the Spring 39 interception system from November 2013 thru December 2014 indicate a range from 42,000 to 97,000 gallons per day (converted to 29.17 to 67.36 gpm). Based on reviewed CMI's recordkeeping from January thru June 2015, Spring 13 interception system pumping rates when the system operated ranged from 3,000 to 9,000 gallons per day (converted to 2.083 to 6.25 gpm); and Spring 39 interception system pumping rates when the system operated ranged from 19,000 to 72,000 gallons per day (converted to 13.19 to 50 gpm). Below is a summary:

<u>Reviewed CMI Recordkeeping</u>	Spring 13 Interception System Pumping / Flow Rate	Spring 39 Interception System Pumping / Flow Rate
November 2013 thru December 2014	2.083 to 9.028 gpm	29.17 to 67.36 gpm
January thru June 2015	2.083 to 6.25 gpm	13.19 to 50 gpm

**Section D - Self-Monitoring - Overall rating of “Satisfactory” and
Section F - Laboratory - Overall rating of “Marginal”**

Permit Requirements

Part I.A of the Permit for Outfall 002 requires Fluoride monitoring for Outfall 002.

Part III.B.3a (Standard Conditions, Proper Operation and Maintenance) of the Permit states “*Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures.*”

Part III.C.5 a & b (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.

Findings

- Use of USEPA approved analytical procedures in 40 CFR 136.3 for fluoride monitoring was not recorded or updated on the reviewed contract laboratory analytical report for samples collected in June 2015. The analytical method recorded on the June 24, 2015 analytical report was EPA Method 340.2. EPA Method 340.2 was withdrawn in March of 2007 (*Federal Register/Vol. 72, No. 47/Monday, March 12, 2007/Rules and Regulations*). Approved methods in 40 CFR 136.3 Table IB for Total Fluoride include, among others, EPA 300.0, Rev 2.1 (1993) and 300.1–1, Rev 1.0 (1997). This finding was inadvertently missed in the writing of the 2014 NPDES CEI report.
- Temperature of the refrigerator used to store collected samples was not documented on reviewed records. Temperatures of the refrigerator was not measured by a traceable National Institute of Standards and Technology (NIST) thermometer or checked against an NIST calibrated thermometer.

Additional Notes: Table II (Required Containers, Preservation Techniques, and Holding Times) of 40 CFR 136.3 requires that samples collected for solids, oil & grease and WET testing are cool, $\leq 6^{\circ}\text{C}$. Samples were described by Permittee representatives to be refrigerated during composite sample collection. Thermometers showed temperatures below the required cooling preservation requirement on the day of this CEI.

USEPA National Pollutant Discharge Elimination System Compliance Inspection Manual, Table 5-4 quality control procedures for field analyses and equipment states, “*All standardization should be against a traceable NIST or NIST calibrated thermometer...Temperature readings should agree within $\pm 1^{\circ}\text{C}$ or the thermometer should be replaced or recalibrated.*”

Section E - Flow Measurement - Overall rating of “Marginal”

Permit Requirements

Part I.A of the 2013 Permit requires flow measurement 1/day with a sample type of “*measure by weir*” for Outfalls 004 and 005.

Part III.C.6 (Standard Conditions, Flow Measurements) 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.

Continued or Repeat Finding

- Outfall 004 & Outfall 005 flow measurement devices included a weir as required in Part I.A of Permit and 9-in Parshall Flume. CMI's Amended Renewal Application dated December 21, 2012 EPA Form 2C did not provide average flows expected at Outfall 004 and Outfall 005. CMI's letter dated December 22, 2014 in response to the 2014 NPDES CEI report did not provide expected flows. Without anticipated flow, it cannot be determined if the flow measurement equipment weirs at Outfall 004 and Outfall 005 are adequate to handle expected range of flow rates.

NMED/SWQB
Official Photograph Log
Photo # 1

Photographer: Erin S. Trujillo

Date: 09/28/2015

Time: 1121 hours

City/County: West of Questa / Taos County

State: New Mexico

Location: South of CMI Questa Mine Tailings Facility

Subject: Looking south-southwest, arrow points to Outfall 002 in wet area along the north bank of the Red River.



NMED/SWQB
Official Photograph Log
Photo # 2

Photographer: Erin S. Trujillo

Date: 09/28/2015

Time: 1122 hours

City/County: West of Questa / Taos County

State: New Mexico

Location: CMI Questa Mine

Subject: Sheen on water surface below Outfall 002. When disturbed by inspector, sheen was observed to break up into small platelets indicative of an organic nonpetroleum sheen caused by bacteria.



NMED/SWQB
Official Photograph Log
Photo # 3

Photographer: Erin S. Trujillo

Date: 09/28/2015

Time: 1148 hours

City/County: East of Questa / Taos County

State: New Mexico

Location: CMI Questa Mine, Downstream of Spring 13 Seepage Interception System Area, North bank of Red River

Subject: Examples of visible white precipitate and white with brown foam along water's edge of Red River. A brown color on this type of foam is an indicator that the source is not from man-made commercial detergents.



NMED/SWQB
Official Photograph Log
Photo # 4

Photographer: Erin S. Trujillo

Date: 09/28/2015

Time: 1151 hours

City/County: East of Questa / Taos County

State: New Mexico

Location: CMI Questa Mine, Downstream of Spring 13 Seepage Interception System Area, Along north bank of Red River

Subject: Looking upstream (generally east), example of red (rusty in color) slimy deposits, possibly iron bacteria; and green algal growth mats at seep along bank of Red River. Algal growth may be from increased nutrients (nitrogen and phosphorus).



NMED/SWQB
Official Photograph Log
Photo # 5

Photographer: Erin S. Trujillo

Date: 09/28/2015

Time: 1314 hours

City/County: East of Questa / Taos County

State: New Mexico

Location: CMI Questa Mine, Spring 39 Seepage Interception System Area

Subject: Visible white precipitates (aluminum hydroxide) on surface water, and PVC pipe for trench system at Spring 39 Seepage Interception System.



NMED/SWQB
Official Photograph Log
Photo # 6

Photographer: Erin S. Trujillo

Date: 09/28/2015

Time: 1329 hours

City/County: East of Questa / Taos County

State: New Mexico

Location: North bank of Red River, Approximately one mile east of CMI Questa Mine Boundary

Subject: Looking upstream (generally east), dry red, rusty in color, deposits along north bank of Red River.



NMED/SWQB
Official Photograph Log
Photo # 7

Photographer: Erin S. Trujillo

Date: 09/28/2015

Time: 1330 hours

City/County: East of Questa / Taos County

State: New Mexico

Location: North bank of Red River, Approximately one mile east and upstream of CMI Questa Mine Boundary

Subject: White with brown foam along north bank of Red River. A brown color on this type of foam is an indicator that the source is not from man-made commercial detergents.



NMED/SWQB Official Photograph Log Photo # 8		
Photographer: Erin S. Trujillo	Date: 09/28/2015	Time: 1427 hours
City/County: East of Questa / Taos County		State: New Mexico
Location: CMI Questa Mine, Mill Area		
Subject: Status of construction for building for future waste water treatment works.		



NMED/SWQB Official Photograph Log Photo # 9		
Photographer: Erin S. Trujillo	Date: 09/28/2015	Time: 1528 hours
City/County: East of Questa / Taos County		State: New Mexico
Location: CMI Questa Mine, Mill Area		
Subject: Status of waste water treatment works installation in building shown in previous photo.		



NMED/SWQB Official Photograph Log Photo # 10		
Photographer: Erin S. Trujillo	Date: 09/28/2015	Time: 1543 hours
City/County: East of Questa / Taos County		State: New Mexico
Location: CMI Questa Mine, South of the Mill Area, Future location of "new" Outfall 001.		
Subject: Installed sleeve for outfall pipe.		



NMED/SWQB Official Photograph Log Photo # 11		
Photographer: Erin S. Trujillo	Date: 09/28/2015	Time: 1543 hours
City/County: East of Questa / Taos County		State: New Mexico
Location: CMI Questa Mine, South of the Mill Area, Future location of "new" Outfall 001		
Subject: Temporary erosion control measures below installed sleeve on the north bank of the Red River.		



Attachments to CEI Report
Selected figures from CMI Final Treatability Study,
Evaluation Report Questa Water Treatment Pilot Study
February 2015

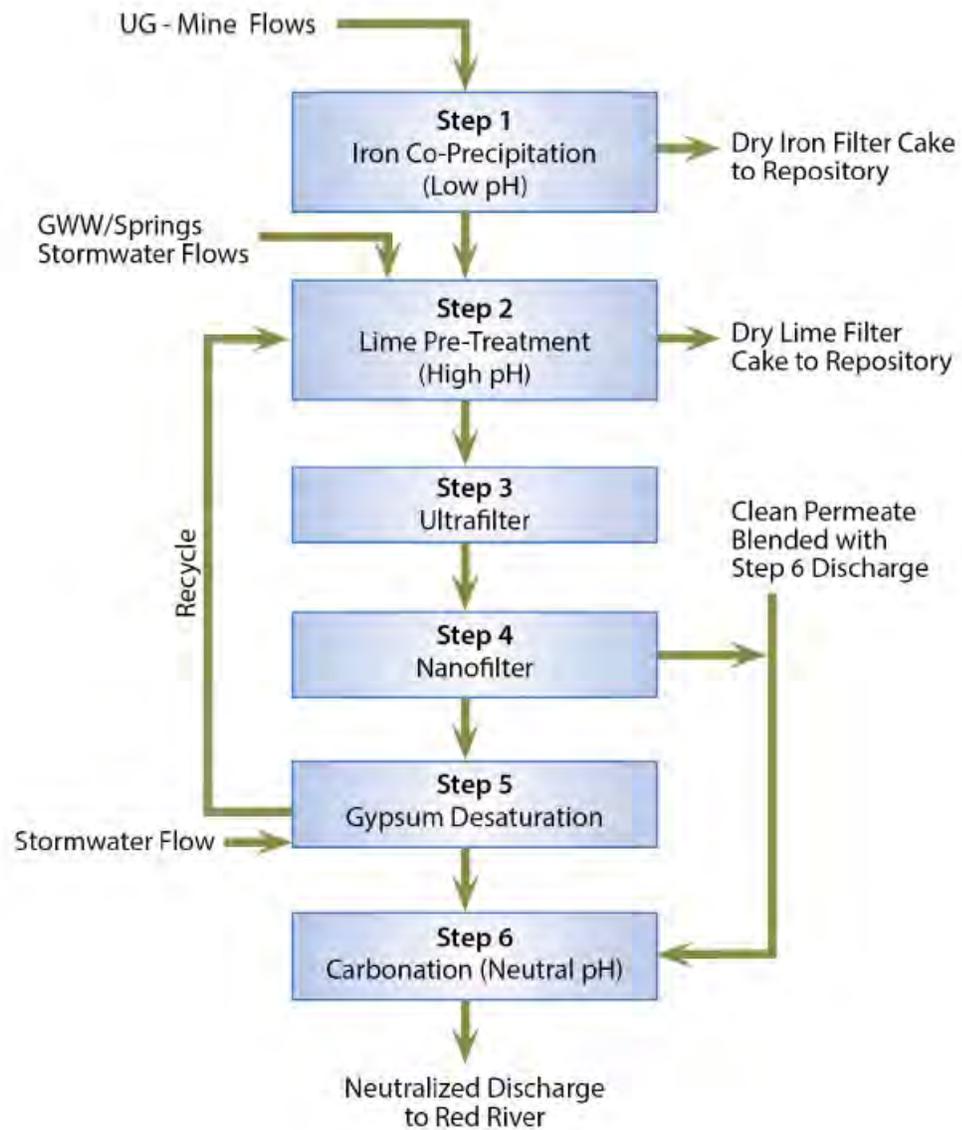
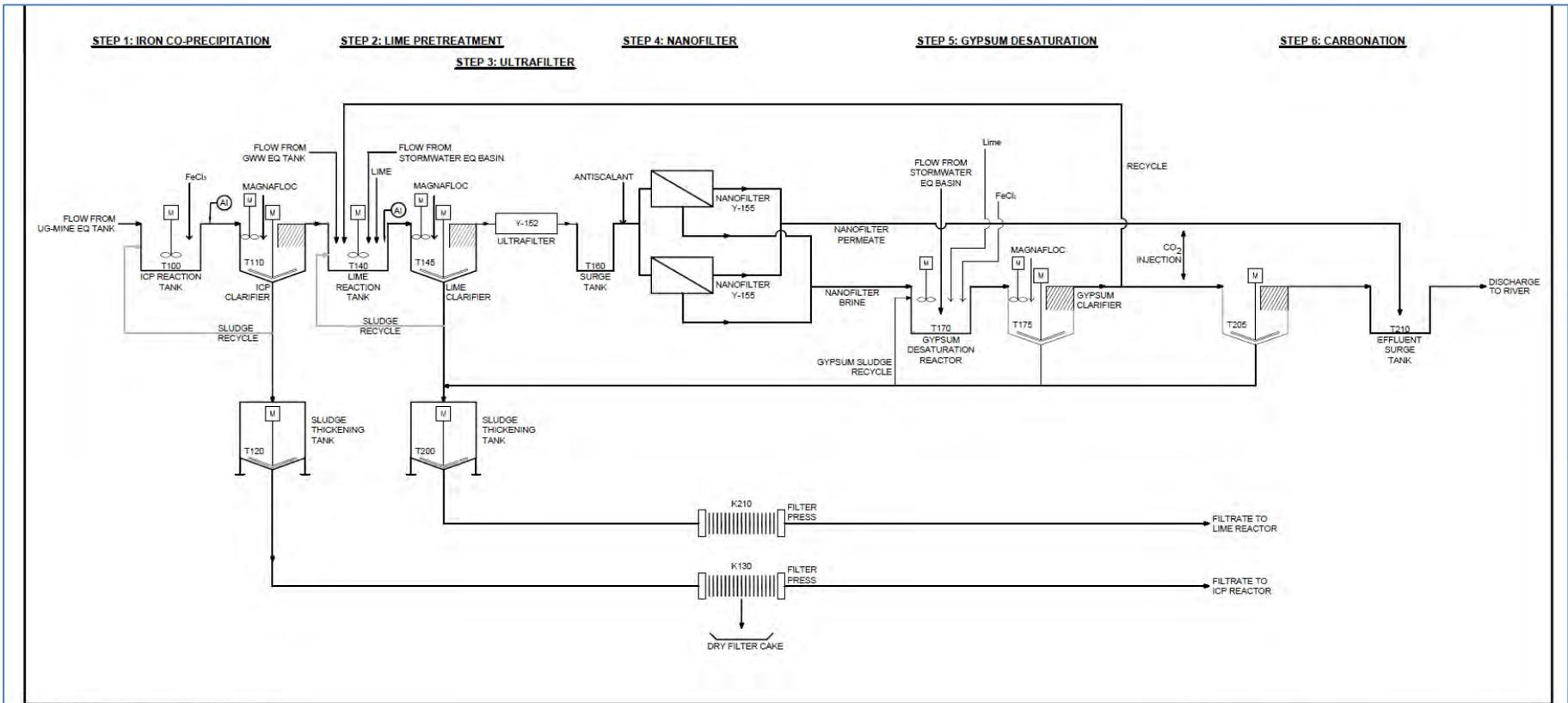


FIGURE E-1
PREFERRED TREATMENT PROCESS
(ECP + HIGH RECOVERY NF)



Parametrix DATE: August 27, 2014 FILE: BR2817015P03T01-F60

Figure 9-1
Preferred Process, ECP + High Recovery NF
 Chevron Mining Inc.
 Pilot Scale Treatment Study for Questa Mine and Mill Waters

Attachment
Operator Response



RECEIVED

NOV 23 2015

SURFACE WATER
QUALITY BUREAU

Armando Martinez
Environmental Manager

Questa Mine
Chevron Environmental
Management Company –
Mining and Specialty
Portfolios Business Unit
P.O. Box 469
Questa, NM 87556
Tel (575) 586-7639
amartl@chevron.com

FED EX

November 19, 2015

Mr. Bruce Yurdin, Program Manager
Point Source Regulation Section
Surface Water Quality Bureau
Water Protection Division
New Mexico Environment Department
P.O. Box 5469
Santa Fe, NM 87502-5469

**Re: Chevron Mining Inc. – Questa Mine – NPDES NM0022306
Response to Compliance Evaluation Inspection Report
Dated October 29, 2015**

Dear Mr. Yurdin:

Chevron Mining Inc. (CMI) has received and reviewed the Compliance Evaluation Inspection Report and cover letter dated October 29, 2015, for the September 28, 2015 inspection conducted by Erin Trujillo of your office.

This letter is CMI's response to the items noted, including where appropriate, compliance schedules for CMI's actions to address those items. The structure of this submittal is to respond to the "Further Explanations" section of the inspection and supply additional information.

SECTION A PERMIT VERIFICATION
SECTION G EFFLUENT/RECEIVING WATERS

NMED Comment: Status of Meeting Compliance Schedule (page 3)

Sending tailing waste to the Tailing Facility ceased, but other unauthorized wastewater streams (underground mine dewatering and water collection systems) continues to be disposed at the Tailing Facility on the day of this CEI under a schedule of compliance. As discussed above, the new WTP and "new" Outfall 001 was under construction.

RECEIVED

Response:

CMI agrees that the new WTP and new Outfall 001 are under construction. They will be in operation prior to the October 16, 2016 deadline for cessation of waste streams to the tailing facility. CMI notes that reference to "unauthorized" waste streams is incorrect; the Permit refers to seepage from the tailing facility as "unauthorized," not the discharge to the facility.

PROHIBITIONS OF DISCHARGE OF POINT SOURCE MINE OPERATIONS POLLUTANTS AT MINE AREA (page 4)

Revised Final Feasibility Study Report ("FS"), Questa Mine Site, Questa, NM, CERCLA Docket No. 06-09- 01, November 16, 2009, Section 6.1.1.2 (Spring Collection Systems along the Red River) states "The two spring collection systems remove metals and other inorganics loads from the shallow alluvial aquifer and reduce the load entering the Red River. The Spring 39 collection system has reduced the aluminum hydroxide precipitates along the northern river bank, whereas, aluminum hydroxide precipitates are still visible along the Spring 13 collection system."

Visible white precipitates (described by Permittee representative to be aluminum hydroxide) and red (rusty in color) slimy deposits, possibly iron bacteria, and algal growth mats continue to be observed along the north bank of the Red River at and downstream of the Spring 13 interception system during this CEI (see Photos #3 and #4). Algal growth may be from increased nutrients (nitrogen and phosphorus). Visible white precipitates on surface water in the floodplain of the Red River at the Spring 39 interception system continue to be observed during this CEI (see Photo #5). Similar visible precipitates and deposits were observed at these locations during the 2014 NPDES CEI.

Dry red (rusty in color) deposits, aluminum hydroxide and foam were observed along the Red River banks east and upstream of the Questa Mine boundary during this CEI (see Photos #6 and #7).

Response:

As has been documented in the ROD and other evaluations (FS, USGS study from 2010¹) the exact source for the Al, Fe and other metals observed in this area is undefined and have been linked to a number of potential sources, such as natural mineralization, historic fill material and potential faults linkages to the mine. To assist in managing potential impacts resulting from Spring 13 and 39, seepage interception system were installed in 2002 and upgraded in 2005 as a best management practices in accordance with Section D of the permit. CEMC continues to operate the Spring 13 and 39

water collection systems and as noted in the comment and documented in the ROD, the systems have reduced loading to the river from these sources.

Comments on USEPA's Sufficiently Sensitive Method Rule (page 5)

Part I.D and Part I.E of the Permit requires effluent characteristic analysis for discharges at Outfall 001 and Outfalls 004 and 005.

Minimum Quantification Levels (MQL's), discussed in Part II.A and listed in Appendix A of the Permit, do not include language on USEPA's Sufficiently Sensitive Method (SSM) Rule effective September 18, 2014. . . .

Response:

USEPA R6 has not determined modifications are required at this time. CMI will continue to monitor to (i.e. updates to the MQL) to ensure the permit renewal is as accurate as possible.

SECTION B Recordkeeping and Reporting Evaluation (page 6)

Reported effluent loadings for Outfall 002 were not calculated using daily effluent flow (flow on day of sampling) based on reviewed records. Changes in the Permittees' procedures on the flow data to use to calculate loading is required to meet USEPA reporting guidance.

Once discharging, effluent loading calculations for "new" Outfall 001 would also need to be calculated using daily effluent flow corresponding to the composite sample analytical data.

Additional Information: USEPA Region 6, NPDES Reporting Requirements Handbook, Reporting of Loadings, Revised August 25, 2004 states:

Some parameters in the permit are limited in terms of pounds per day (lbs/day). Although all of these parameters are measured initially in milligrams per liter (mg/L), conversion to lbs/day can be achieved by using the following formula. Always be sure to use the flow measurement determined on the day when sampling was done. Flow on day of sampling (MGD) x concentration (mg/L) x 8.34 (lbs/gal) = Loading (lbs/day)

Based on a review of CMI's records for June 2015 for Outfall 002, calculated average flow of the flow measurements at the time each composite sample grab was collected was used in the loading calculation instead of the calculated daily average flow for an entire 24 hour period. Twenty-four (24) composite sample day (e.g., recorded as 6 am to 6 am for Outfall 002) and the flow measurement day start and end times would need to match for the calculation to be accurate. Because of the concentrations, flow volumes, significant figures, and rounding that

would be used in the calculations, the loading values for Outfall 002 reported on the June 2015 DMR would not change or substantially change using a daily effluent flow (flow measurement for entire 24 hour period). Calculated loadings would still below effluent limitations for Outfall 002.

Response:

The load is calculated using the average gallons per minute (gpm) for all three composite samples. While Appendix H of the USEPA Region 6 *NPDES Reporting Requirements Handbook* does specify to "use the flow measurement determined on the day when sampling was done", the guidance does not define "day". The permit specifies additional detail regarding "daily discharge" as "...the discharge of a pollutant measured during a calendar day or any 24-hour period...". While this description also does not define a specific requirement for reporting, it does imply that data from the complete 24-hour period should be included in calculations. CMI's current practice for load calculation does meet the requirements as specified in the handbook and the permit, but CMI will begin calculating load using flow data for the complete 24-hour period that samples were collected as requested.

Section C - Operation and Maintenance Evaluation (page 6)

The electronic supervisory control and data acquisition system used by the Permittee in monitoring the operation of the seepage interception systems and/or groundwater well system continue to have communication interruptions and/or failures.

Response:

This has been acknowledged these systems are being evaluated. Some systems will be improved during the upgrades to the controls system as part of the new water treatment facility. The systems not directly being upgraded at this time will be evaluated for future improvements. CMI's intent is to have a fully functional system. However due to the geographic location of the mine, this system periodically experiences interruptions due to lightning, maintenance and other unforeseen activities. When these disruptions occur CMI notifies the agencies and implements mitigation strategies as quickly as possible.

Periods of operation or pumping shut down for the Spring 13 and 39 seepage interception systems and/or groundwater well system continue to be reported for maintenance, line break, and electrical utility corridor work. Outages also occurred when facilities are decommissioned.

Response:

CMI agrees that there were periods when the Spring 13 and Spring 39 systems and the groundwater well system were shut down. During 2015, CMI has been in the process of decommissioning electrical equipment, decommissioning buildings, relocating utilities, installing new utilities, and relocating infrastructure related to historian servers, as well as other equipment. During this time period, historian data gaps have been recorded as it relates to why the data gap occurred and the activity that caused the anomaly.

Reported flow or pumping rates at Spring 13 and Spring 39 seepage interception systems continue to be lower than described in the previous 2006 NPDES permit, 2009 Feasibility Study, and 2010 ROD.

Response:

CMI agrees that Spring 13 and 39 water collection systems (WCS) pumping rates are lower than the previous 2006 NPDES permit, 2009 Feasibility Study, and 2010 ROD.

Section D - Self-Monitoring (page 9)

Section F - Laboratory

Use of USEPA approved analytical procedures in 40 CFR 136.3 for fluoride monitoring was not recorded or updated on the reviewed contract laboratory analytical report for samples collected in June 2015. The analytical method recorded on the June 24, 2015 analytical report was EPA Method 340.2. EPA Method 340.2 was withdrawn in March of 2007 (Federal Register/Vol. 72, No. 47/Monday, March 12, 2007/Rules and Regulations). Approved methods in 40 CFR 136.3 Table IB for Total Fluoride include, among others, EPA 300.0, Rev 2.1 (1993) and 300.1-1, Rev 1.0 (1997). This finding was inadvertently missed in the writing of the 2014 NPDES CEI report.

Response:

CMI agrees. ALS Global Laboratory was contacted on October 30, 2015 and the method for fluoride has been changed to Method 4500-F, in accordance with 40 CFR 136.3 Table IB.

Temperature of the refrigerator used to store collected samples was not documented on reviewed records. Temperatures of the refrigerator was not measured by a traceable National Institute of Standards and Technology (NIST) thermometer or checked against an NIST calibrated thermometer.

Response:

Consistent with the CMI's Standard Operating Procedure, for every NPDES compliance sample that enters the American Biotech refrigerator, CMI records the temperature on the following field form and the technicians sign the verification. These records were provided during the audit. On October 21, 2015 a NIST Digi-Sense glass thermometer (Serial Number R16436) was purchased and installed within the refrigerator and will be used to record the temperature against the refrigerator display.

Oxycon Measg, Inc
 Oxf/Al 002
 24 Hour Composite
 Monthly
 Quarterly

Month	Quarter:			GPM	Volume (ml)	Sampled by
Date	Time	Factor				

Refrigerated sample into fridge, (temperature set at 4°C)

Date	Time	Technician	Verify 4°C

Section D - Self-Monitoring

Temperatures of the refrigerator was not measured by a traceable National Institute of Standards and Technology (NIST) thermometer or checked against an NIST calibrated thermometer.

Additional Notes: Table II (Required Containers, Preservation Techniques, and Holding Times) of 40 CFR 136.3 requires that samples collected for solids, oil & grease and WET testing are cool, ≤6°C. Samples were described by Permittee representatives to be refrigerated during composite sample collection. Thermometers showed temperatures below the required cooling preservation requirement on the day of this CEI.

USEPA National Pollutant Discharge Elimination System Compliance Inspection Manual, Table 5-4 quality control procedures for field analyses and equipment states, "All standardization should be against a traceable NIST or NIST calibrated thermometer...Temperature readings should agree within ±1°C or the thermometer should be replaced or recalibrated."

Response:

During the inspection American Biotech refrigerator equipped with an automated alarm system displayed a reading of 4 degrees Celsius. The internal non-NIST thermometer revealed a reading of 5 degrees Celsius. Previously CMI did not have a NIST certified instrument; however, on October 21, 2015 a NIST Digi-Sense glass thermometer (Serial Number R16436) was purchased and installed within the refrigerator.

Section E - Flow Measurement (page 10)

Outfall 004 & Outfall 005 flow measurement devices included a weir as required in Part I.A of Permit and 9-in Parshall Flume. CMI's Amended Renewal Application dated December 21, 2012 EPA Form 2C did not provide average flows expected at Outfall 004 and Outfall 005. CMI's letter dated December 22, 2014 in response to the 2014 NPDES CEI report did not provide expected flows. Without anticipated flow, it cannot be determined if the flow measurement equipment weirs at Outfall 004 and Outfall 005 are adequate to handle expected range of flow rates.

Response:

CMI did not provide expected flows in its December 22, 2014 letter because it does not expect flows from either outfall. In fact, neither outfall has ever discharged, and would only be expected to discharge under extreme storm events.

Although it is difficult to estimate flow from storm events, the 9-inch Parshall flumes are capable of measuring up to 8.9 cubic feet per second at a water depth of 2 feet (Water Measurement Manual, 3rd Edition, United States Department of the Interior, Bureau of Reclamation ASTM D 1941-91 (2007): Standard Test Method for Open Channel Flow Measurement of Water with Parshall Flume). The flumes are therefore capable of measuring large flow rates and are sufficiently sized given that neither outfall has experienced discharge.

Thank you for your consideration in this matter and should you have any questions or require additional information regarding this report, please contact Jeff Schoenbacher at (575) 586-7537.

Sincerely,



Armando Martinez
Environmental Manager

Enc: NIST Digi-Sense Statement of Accuracy

cc: Carol Peters Wagon, USEPA
Gladys Gooden-Jackson, USEPA
Isaac Chen, USEPA
Gary Baumgarten, USEPA
Anne Mauer, NMED GWQB
Erin Trujillo, NMED SWQB
Joseph C. Fox, NMED GWQB
Michael Coats, CEMC
Jeff Schoenbacher, CEMC

¹ 2010 United States Geological Survey (USGS) 2010 published a study in The Geological Society of America, Field Guide 18, titled "Estimating Natural Background Groundwater Chemistry, Questa molybdenum mine, New Mexico"



Statement of Accuracy
Verification Bottle Thermometers

Serial Number: R16436 Date of Report: SEP 23 2015

This is to confirm the thermometer bearing the serial number above was compared with standards traceable to the National Institute of Standards and Technology (NIST). Accuracy for this thermometer is +/- 4 scale divisions.

The standard serial number is based on the range of the thermometer. The standard serial numbers calibrated by NIST are as follows:

- #7713700 (NIST) for ranges below -30°C
- #844016 (NIST) for ranges from -30° to 10°C
- #878708 (NIST) for ranges from 0° to 50°C
- #9810984 (NIST) for ranges from 50° to 180°C
- #905364 (NIST) for ranges from 100° to 150°C
- #878735 (NIST) for ranges from 150° to 200°C

Digi-Sense glass thermometers are exclusively manufactured by H-B Instrument and tested in our A2LA accredited calibration laboratory (Cert. #2448 01) in accordance with the recognized International Standard ISO/IEC 17025:2005 and meets the requirements of ANSI/NGSL Z540-1-1994.

For Product and Ordering Information, Contact:



Toll-Free: 1-800-323-4340
Phone: 1-847-549-7600
Fax: 1-847-247-2929
ColeParmer.com/Digi-Sense



Toll-Free: 1-800-358-5525
Phone: 1-847-327-2000
Fax: 1-847-327-2700
Davis.com/Digi-Sense

