March 28, 2024

Submitted via ePermitting and email (jocelyn.carter@state.co.us)

Ms. Jocelyn Carter
Division of Reclamation Mining and Safety
1313 Sherman St., Rm. 215
Denver, CO 80203

RE: GCC Rio Grande, Inc., Pueblo Plant, Reclamation Permit No. M-2002-004, Technical Revision 13 (TR-13), Beneficial Use of Coal Reject Material and Update to Financial Warranty Cost Estimate

Dear Ms. Carter:

GCC Rio Grande, Inc., Pueblo Plant (GCC) owns and operates a cement manufacturing plant located in Pueblo, Colorado, which includes an on-site limestone quarry. The limestone quarry operates as a Regular 112 construction material mining operation under Mining Reclamation Permit No. M-2002-004 issued by the Division of Reclamation, Mining, and Safety (DRMS) on August 29, 2003.

GCC has prepared and is submitting this Technical Revision 13 (TR-13) in accordance with The Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials (the "Rules"). With this request, which does not have more than a minor effect upon the approved Reclamation Plan, GCC proposes to:

1. Reclaim and beneficially reuse reject coal material in the quarry area for reclamation backfill purposes. GCC performed pH, Toxicity Characteristic Leaching Procedure (TCLP) and Synthetic Precipitation Leaching Procedure (SPLP) tests on the coal reject material. Analytical results demonstrate, as discussed in more detail below, that the coal reject material does not exhibit any toxic or acid-producing characteristics.
2. Update financial warranty cost estimates, specifically tasks #1, Conveyor Belt Demo, and #3, Arroyo Restoration. Pursuant to discussions with DRMS, GCC is submitting supporting documentation to update tasks #1 and #3 cost estimates with this Technical Revision.

The below sections provide additional supporting information for these items.

Part 1 - Beneficial Use of Coal Reject Material

Background and Source

GCC utilizes coal as the primary fuel source for its cement kiln. Prior to coal entering the pyroprocess it is ground into a powder-like material in the coal mill. If there is any foreign metal object(s) within the coal, the metal separator will reject the material into a bin next to the coal mill. The generation of the coal rejects material is highly variable as it only occurs if there is potential metal contamination within the coal received on-site. Although variable, GCC estimates that approximately 300 tons of coal reject material is generated annually.

Sampling Methodology and Representativeness

The sampling methodology utilized for the collection and characterization of the coal reject material was selected to help ensure that the collected samples were representative of the material as whole. A summary of the sampling methodology is described below. A copy of the complete sampling and analytical report is included with this submittal as Attachment 1.

- The coal reject material characterized in this TR represents material that has accumulated over a period of several years. All coal used on-site comes from GCC's coal mine in Durango, CO. As such, the composite samples collected are representative of the material from both a temporal perspective as well as a source variability perspective.
- Samples were collected using a 2.5-inch-wide PVC tube at equidistant intervals of approximately 10 feet around the circumference of the pile resulting in approximately 30 individual samples. Samples were collected at a height of three to four feet off the ground surface by inserting the PVC tube horizontally (parallel with the ground surface) to a depth of 6-8 inches. Each of the sample cores were then transferred from the PVC tube into a compositing container and thoroughly mixed until homogenous. Once mixed, the material was transferred into 8oz glass jars.

Material Characterization and Testing Results

Field Parameters

Field pH readings were collected for the composited sample using method SM 4500 H+B. A pH reading was taken immediately after suspension of the solids, at one hour after allowing solids to settle, and again at four hours after allowing solids to settle. The field pH readings were 6.1 standard units at each interval. A copy of the complete sampling and analytical report is included with this submittal as Attachment 1.

Laboratory Testing

In consultation with DRMS, samples were analyzed for TCLP and SPLP metals. A copy of the complete sampling and analytical report is included with this submittal as Attachment 1. Results are summarized in the below table.

Parameter	TCLP Analytical Result (mg/L)	SPLP Analytical Result (mg/L)	RCRA Waste Code[1]	Regulatory Limit (mg/L)[1]
Arsenic	0.0092 J	<0.00094 U	D004	5.0
Barium	0.0704 J	0.0128	D005	100.0
Cadmium	0.0024 J	<0.00017 U	D006	1.0
Chromium	<0.002 U	<0.00062 U	D007	5.0
Lead	<0.0018 U	<0.00052 U	D008	5.0
Mercury	<0.000095 U	<0.000095 U	D009	0.2
Selenium	0.0073 J	0.0057	D010	1.0

Silver	0.0021 J	<0.00016 U	D011	5.0

Footnotes:
[1] RCRA waste codes and regulatory level in accordance with 40 CFR Part 40 CFR Part 261.24
J – Indicates a result above the Method Detection Limit (MDL) but below the Reporting Limit (RL), result is an estimate
U – Indicates a result less than the MDL

TCLP results were non-detect for chromium, lead, and mercury. The remaining metals: arsenic, barium, cadmium, selenium, and silver, were all reported with a "J" flag indicating that the result was detected above the Method Detection Limit (MDL) but below the Reporting Limit (RL). "J" flag results indicate that the result is considered an estimate.

SPLP results were non-detect for arsenic, cadmium, chromium, lead, mercury, and silver. Barium was reported at a concentration of 0.0128 mg/L and selenium at 0.0057 mg/l, both orders of magnitude below the RCRA (Resource Conservation and Recovery Act) regulatory limit.

Summary
Field and analytical results demonstrate that the coal reject material does not exhibit toxic or acid-forming characteristics. A signed affidavit stating that the coal reject material exhibits comparable properties to the inert raw materials currently used in quarry is included with this submittal as Attachment 2.

Beneficial Reuse

GCC proposes to use the reject coal material as additional fill material in the quarry to support reclamation efforts in accordance with the current Reclamation Plan. GCC will transport the coal reject material to the quarry and place it with other previously approved overburden backfill materials being used to bring the quarry to grade to meet reclamation design requirements. The coal reject material will be mixed with the existing overburden materials, to ensure adequate compaction for stability prior to final placement. As further described in the Reclamation Plan, the backfill will be graded in a manner to control erosion and siltation, covered with topsoil, and seeded. Besides the use of coal reject material as backfill, there are no other expected changes to the backfilling procedures described in the current Reclamation Plan.

GCC anticipates that approximately 300 tons of coal reject material will be beneficially reused as fill material in the quarry annually. This represents less than 1% of the total fill material used for reclamation efforts on an annual basis. The beneficial reuse of the coal reject material is expected to begin upon approval of this TR. Other than its use as backfill material, the beneficial reuse of the coal material as backfill will have no other anticipated impacts on the current Reclamation Plan.

Part 2 – Update to Financial Warranty Cost Estimate

Task #1 Conveyor Belt Demo
In the existing Exhibit L's Table L-1 and updated AM#1's Table L-1 "Reclamation Costs", the conveyor belt width and height dimensions are listed as 6 X 8 feet. There is a second conveyor belt system line item for transfer tower housing structures which lists a width and height of 12 X 20 feet. The length of the entire permanent constructed conveyor belt system, excluding the mobile loco-link conveyor belts, is 4,850 feet. Both dimensions are accurate, however, the tower structures are only located in a few sections of the quarry conveyor belt system (see Attachment 3). GCC is proposing an average for these dimensions of 6 X 10 X 4,850 feet to account for the transfer towers and conveyor belt heights across the entire system.

Task #3 Arroyo Restoration

GCC has reviewed input information for Task #3, Arroyo Restoration, and is proposing to update the scraper haul route distance used for this cost estimate task. Using AM#1's Table L-1, the total compacted cubic yards (CCY) volume for the earthwork activities identified in Task #2 (Grade highwall to 4:1) and Task #3 is 981,702 CCY. GCC used this volume to estimate an area surrounding the current quarry mining operations that would supply the borrow material. The area surrounding the mining operations can provide for a little over 1,000,000 CCY, more than enough to cover both Tasks #2 and #3. The value of +1,000,000 CCY was calculated assuming an average of 2.25 yd of cover material would be removed over the 457,371 square-yard area shown in Attachment 4. The distance from the middle of the quarry to the edge of the borrow material area ranges from 1,450 feet to 1,500 feet. During a recent conversation with DRMS regarding Task #3, it was shared that a common practice is to divide the maximum haul distance by half to provide a more realistic "average" of actual haulage distance. Using this methodology, the maximum haul distance of 1,500 feet provides an average haul distance of 750 feet. Based on this analysis, GCC is proposing to decrease the scraper haul distance specified in Task #3 from 1,500 feet to 750 feet.

GCC requests DRMS approval of this TR-13 for the beneficial reuse of the coal reject material and to update GCC's financial warranty cost estimates. The $216.00 for the DRMS Technical Revision application fee will be paid electronically on DRMS' ePermitting portal upon submittal of this TR-13 application.

If you have any questions or concerns regarding this submittal or need any additional information, please contact me at (719) 647-6861.

Sincerely,

Amy Rodrigues

Amy Rodrigues
Environmental Engineer
GCC Rio Grande, Inc.

Enclosures:
- Attachment 1 – Sampling and Analytical Report
- Attachment 2 – Affidavit of Compliance with Local Regulations
- Attachment 3 – Conveyor Belt Structures
- Attachment 4 – Borrow Material Area

cc (via email)
- Alejandro Alarcon, GCC
- Sarah Vance, GCC
- Thurman Cardwell, Aquionix

Attachment 1

Sampling and Analytical Report

GCC Rio Grande Pueblo
3372 Lime Rd.
Pueblo, CO 81004

Sampling Date:	February 8th, 2024
Reporting Date:	March 12th, 2024
Contact:	Amy Rodrigues
Project Number:	3826-020824

Please find enclosed the associated data for the above referenced Project Number.

Samples associated with this project will be disposed of approximately 6 weeks after the collection date. If you want samples returned, please advise us as soon as possible.

Aquionix, Inc. has established a Quality Management System to ensure continued accuracy, consistency and quality of services provided by the company. If you have any questions regarding this report, please do not hesitate to call 303-289-7520.

Thank you for choosing Aquionix to fulfill your environmental needs.

Kevin Teiken

03/12/24
Date

Project Number:	3826-020824	Date Sample Collected:	02-08-24
Sample ID Number:	N/A	Time Sample Collected:	10:45
Sample Location:	38.127321, -104.605843	Date Sample Analyzed:	02-08-24
		Time Sample Analyzed:	11:00

Parameter	Sample Result	Units	Method	Reporting Limit	Analyst
pH – 01	6.1	s.u.	SM 4500 H^+B	0.1	KT

Project Number:	3826-020824	Date Sample Collected:	02-08-24
Sample ID Number:	N/A	Time Sample Collected:	10:45
Sample Location:	38.127321, -104.605843	Date Sample Analyzed:	02-08-24
		Time Sample Analyzed:	12:00

Parameter	Sample Result	Units	Method	Reporting Limit	Analyst
pH – 02	6.1	s.u.	SM 4500 H^+B	0.1	KT

Project Number:	3826-020824	Date Sample Collected:	02-08-24
Sample ID Number:	N/A	Time Sample Collected:	10:45
Sample Location:	38.127321, -104.605843	Date Sample Analyzed:	02-08-24
		Time Sample Analyzed:	15:00

Parameter	Sample Result	Units	Method	Reporting Limit	Analyst
pH – 03	6.1	s.u.	SM 4500 H^+B	0.1	KT

*pH Meter was calibrated prior to sample analysis using 4.0, 7.0 and 10.0 NIST traceable standard buffer solutions.

General

GCC Rio Grande Pueblo
3372 Lime Rd.
Pueblo, CO 81004

Contact: Amy Rodrigues
Project Number: 3826-020824

Purpose of Sampling: Testing of coal reject material for characterization and potential beneficial reuse.

Description of Sampling Location: The approximately 150-foot long, 30-foot-wide, and 10-15 foot tall coal reject pile located on the south end of the coal conveyor belt, and east of the coal storage building. Coordinates of the coal reject pile: 38.127321, -104.605843

Quality Control

As a standard quality control practice, all sample containers and sampling equipment have been thoroughly cleaned and rinsed in accordance with 40 CFR, Part 136, Appendix C. This precludes the use of any equipment that may contain trace amounts of pollutant. Each sample is labeled prior to, or at the time of, sampling on a self-adhesive label with waterproof ink. As a minimum, the sample number, name of collector, date and time of collection, and sample preservative are included on the label.

All samples are immediately stored on ice to begin the cooling process to the EPA recommended storage temperature of 0-6°C during collection and transit to the laboratory.

Summary of Samples Taken

Sample Identification Numbers: 3826-020824-01
Sample Dates: 02/08/24 Sample Time: 10:25 – 10:45
Type of Sample/Description of Sample Method:
Samples collected using a 2.5-inch-wide PVC tube at equidistant intervals of approximately 10 feet around the circumference of the pile resulting in approximately 30 individual samples. Samples were collected at a height of three to four feet off the ground surface by inserting the PVC tube horizontally (parallel with the ground surface) to a depth of 6-8 inches. Each of the sample cores were then transferred from the PVC tube into a compositing container and thoroughly mixed until homogenous. Once mixed, the material was transferred into 8oz glass jars.
Method of Preservation:
The sample was stored on ice from time of collection to laboratory delivery.
Testing Requested:
TCLP Metals (RCRA 8), SPLP Metals (RCRA 8)

Sample Identification Numbers: 3826-020824-01
Sample Dates: 02/08/24 Sample Time: 10:25 – 10:45
Type of Sample/Description of Sample Method:
Approximately 50 grams of the homogenized material, collected as described above, and approximately 50 mL of deionized water were added to an 8oz glass jar and shaken to form a suspension. A pH reading was taken immediately after suspension of the solids, at one hour after allowing solids to settle, and at four hours after allowing solids to settle.
Method of Preservation:
NA
Testing Requested:
pH

Authorization

Collector's Comments/Notes: None.

Authorization: _____ Date: 03/12/24

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Aquionix

GCC Rio Grande

3826-020824

SGS Job Number: DA61866

Sampling Date: 02/08/24

Report to:

Aquionix Inc.
5545 West 56th Avenue
Arvada, CO 80002
reports@aquionix.com; jooms@aquionix.com

ATTN: Kevin Teiken

Total number of pages in report: 43

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable unless noted in the narrative, comments or footnotes.

Eric Hoffman

Client Service contact: Kelly Blanchard 303-425-6021
Certifications: CO (CO00049), ND (R-027), UT (NELAP CO00049), LA (LA150028), TX (T104704511), WY (8TMS-L) HI (CO00049), NJ (CO011), NV (CO00049), AK (CO00049), CA (3076), and NC (08701)

Sections:

Table of Contents

Sample Summary

Aquionix

Job No: DA61866

GCC Rio Grande
Project No: 3826-020824

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
DA61866-1	02/08/24	10:45	KT	02/08/24	SO	Soil	3726-020824-01
DA61866-1A	02/08/24	10:45	KT	02/08/24	SO	Soil	3726-020824-01

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Aquionix **Job No:** DA61866

Site: GCC Rio Grande **Report Date** 2/29/2024 5:06:57 PM

On 02/08/2024, 1 sample(s), 0 Trip Blank(s), 0 Equip. Blanks and 0 Field Blank(s) were received at SGS North America Inc. (SGS) at a temperature of 4 °C. The samples were intact and properly preserved, unless noted below. An SGS Job Number of DA61866 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Metals Analysis By Method SW846 6010D

Matrix: LEACHATE **Batch ID:** N:MP44810

- The data for SW846 6010D meets quality control requirements.
- DA61866-1A for Lead: Analysis performed at SGS Dayton, NJ.
- DA61866-1A for Arsenic: Analysis performed at SGS Dayton, NJ.
- DA61866-1A for Barium: Analysis performed at SGS Dayton, NJ.
- DA61866-1A for Chromium: Analysis performed at SGS Dayton, NJ.
- DA61866-1A for Selenium: Analysis performed at SGS Dayton, NJ.
- DA61866-1A for Silver: Analysis performed at SGS Dayton, NJ.
- DA61866-1A for Cadmium: Analysis performed at SGS Dayton, NJ.

Metals Analysis By Method SW846 6020B

Matrix: LEACHATE **Batch ID:** N:MP44809

- The data for SW846 6020B meets quality control requirements.
- DA61866-1 for Arsenic: Analysis performed at SGS Dayton, NJ.
- DA61866-1 for Barium: Analysis performed at SGS Dayton, NJ.
- DA61866-1 for Silver: Analysis performed at SGS Dayton, NJ.
- DA61866-1 for Cadmium: Analysis performed at SGS Dayton, NJ.
- DA61866-1 for Chromium: Analysis performed at SGS Dayton, NJ.
- DA61866-1 for Lead: Analysis performed at SGS Dayton, NJ.
- DA61866-1 for Selenium: Analysis performed at SGS Dayton, NJ.

Metals Analysis By Method SW846 7470A

Matrix: LEACHATE **Batch ID:** N:MP44833

- The data for SW846 7470A meets quality control requirements.
- DA61866-1A for Mercury: Analysis performed at SGS Dayton, NJ.

Matrix: LEACHATE **Batch ID:** N:MP44834

- The data for SW846 7470A meets quality control requirements.
- DA61866-1 for Mercury: Analysis performed at SGS Dayton, NJ.

SGS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting SGS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by SGS indicated via signature on the report cover.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: SGS Wheat Ridge, CO **Job No:** DA61866

Site: AQUICODN: GCC Rio Grande **Report Date** 2/19/2024 2:26:19 PM

On 02/13/2024, 1 sample(s), 0 Trip Blank(s), 0 Equip. Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. (SGS) at a temperature of 2.3 °C. The samples were intact and properly preserved, unless noted below. An SGS Job Number of DA61866 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Metals Analysis By Method SW846 6010D

Matrix: LEACHATE **Batch ID:** MP44810

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD82341-1AMS, JD82341-1AMSD, JD82341-1ASDL were used as the QC samples for the metals analysis.
- The serial dilution RPD(s) for Arsenic, Barium, Lead are outside control limits for sample MP44810-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals Analysis By Method SW846 6020B

Matrix: LEACHATE **Batch ID:** MP44809

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD82342-1AMS, JD82342-1AMSD, JD82342-1ASDL were used as the QC samples for the metals analysis.
- The serial dilution RPD(s) for Selenium, Silver are outside control limits for sample MP44809-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals Analysis By Method SW846 7470A

Matrix: LEACHATE **Batch ID:** MP44833

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD82104-6AMS, JD82104-6AMSD were used as the QC samples for the metals analysis.

Matrix: LEACHATE **Batch ID:** MP44834

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD82341-1AMS, JD82341-1AMSD were used as the QC samples for the metals analysis.

SGS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting SGS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by SGS indicated via signature on the report cover.

Summary of Hits

Job Number: DA61866
Account: Aquionix
Project: GCC Rio Grande
Collected: 02/08/24

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
DA61866-1	**3726-020824-01**					
Barium [a]		12.8	2.0	0.73	ug/l	SW846 6020B
Selenium [a]		5.7	1.0	0.55	ug/l	SW846 6020B
DA61866-1A	**3726-020824-01**					
Arsenic [a]		9.2 J	100	2.8	ug/l	SW846 6010D
Barium [a]		70.4 J	200	13	ug/l	SW846 6010D
Cadmium [a]		2.4 J	4.0	1.0	ug/l	SW846 6010D
Selenium [a]		7.3 J	100	4.9	ug/l	SW846 6010D
Silver [a]		2.1 J	10	1.9	ug/l	SW846 6010D

(a) Analysis performed at SGS Dayton, NJ.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: 3726-020824-01
Lab Sample ID: DA61866-1
Matrix: SO - Soil
Project: GCC Rio Grande

Date Sampled: 02/08/24
Date Received: 02/08/24
Percent Solids: n/a

Metals Analysis, SPLP Leachate SW846 1312

Analyte	Result	MCL	RL	MDL	Units	DF	Prep	Analyzed	By	Method
Arsenic [a]	0.94 U		1.0	0.94	ug/l	2	02/15/24	02/16/24	ANJ	SW846 6020B [2]
Barium [a]	12.8		2.0	0.73	ug/l	2	02/15/24	02/16/24	ANJ	SW846 6020B [2]
Cadmium [a]	0.17 U		1.0	0.17	ug/l	2	02/15/24	02/16/24	ANJ	SW846 6020B [2]
Chromium [a]	0.62 U		2.0	0.62	ug/l	2	02/15/24	02/16/24	ANJ	SW846 6020B [2]
Lead [a]	0.52 U		1.0	0.52	ug/l	2	02/15/24	02/16/24	ANJ	SW846 6020B [2]
Mercury [a]	0.095 U		0.20	0.095	ug/l	1	02/15/24	02/16/24	ANJ	SW846 7470A [1]
Selenium [a]	5.7		1.0	0.55	ug/l	2	02/15/24	02/16/24	ANJ	SW846 6020B [2]
Silver [a]	0.16 U		1.0	0.16	ug/l	2	02/15/24	02/16/24	ANJ	SW846 6020B [2]

(1) Instrument QC Batch: N:MA55549
(2) Instrument QC Batch: N:MA55562
(3) Prep QC Batch: N:MP44809
(4) Prep QC Batch: N:MP44834

(a) Analysis performed at SGS Dayton, NJ.

RL = Reporting Limit MDL = Method Detection Limit U = Indicates a result < MDL
MCL = Maximum Contamination Level (not available) J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: 3726-020824-01
Lab Sample ID: DA61866-1A
Matrix: SO - Soil
Project: GCC Rio Grande

Date Sampled: 02/08/24
Date Received: 02/08/24
Percent Solids: n/a

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	MDL	Units	DF	Prep	Analyzed	By	Method
Arsenic [a]	9.2 J	D004	5000	100	2.8	ug/l	1	02/16/24	02/18/24	ANJ	SW846 6010D [2]
Barium [a]	70.4 J	D005	100000	200	13	ug/l	1	02/16/24	02/18/24	ANJ	SW846 6010D [2]
Cadmium [a]	2.4 J	D006	1000	4.0	1.0	ug/l	1	02/16/24	02/18/24	ANJ	SW846 6010D [2]
Chromium [a]	2.0 U	D007	5000	10	2.0	ug/l	1	02/16/24	02/18/24	ANJ	SW846 6010D [2]
Lead [a]	1.8 U	D008	5000	100	1.8	ug/l	1	02/16/24	02/18/24	ANJ	SW846 6010D [2]
Mercury [a]	0.000095 U	D009	0.20	0.00020	0.000095	mg/l	1	02/15/24	02/16/24	ANJ	SW846 7470A [1]
Selenium [a]	7.3 J	D010	1000	100	4.9	ug/l	1	02/16/24	02/18/24	ANJ	SW846 6010D [2]
Silver [a]	2.1 J	D011	5000	10	1.9	ug/l	1	02/16/24	02/18/24	ANJ	SW846 6010D [2]

(1) Instrument QC Batch: N:MA55549
(2) Instrument QC Batch: N:MA55570
(3) Prep QC Batch: N:MP44810
(4) Prep QC Batch: N:MP44833

(a) Analysis performed at SGS Dayton, NJ.

RL = Reporting Limit MDL = Method Detection Limit U = Indicates a result < MDL
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) J = Indicates a result > = MDL but < RL

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

AQUIONIX, INC. DA61866 Project Checklist

Client: GCC Rio Grande	Project Number: 3826 - 020824	Analysis/Method Request	Lab Used:
Contact: Amy Rodrigues	Date: 02/08/24		☒ SGS
Address:	Project Manager: Kelly Blanchard		☐ ACZ
	Aquionix Contact: Kevin Teiken		☐ Origins
	Send Report to: reports@aquionix.com ☐ Also Report to: reports@aquionix.com		☐ Industrial
Phone:	Aquionix, Inc. 5545 W. 56th Ave #E Arvada, CO 80002 303-289-7520 (tel) 303-289-7521 (fax)		☐ CO Analytical
Fax:			☐ Other

Sample ID/Description	Sample Date	Sample Time	Matrix	Quantity & Preservation: Quant	Ice	HNO_3	H_2SO_4	HCl +ASC	NaOH	$Na_2S_2O_3$	TCLP RCRA 8 (6020B ICP-MS): As, Ba, Cd, Cr, Pb, Hg, Se, Ag	SPLP RCRA 8 (SW-846 M 1312): As, Ba, Cd, Cr, Pb, Hg, Se, Ag	Comments
3826-020824-01	2/8/2024	10:25 – 10:45	S	8	x						X	X	☐ Cyanide testing for chlorine & sulfide performed and negative at start and end of sampling. X All tests per 40 CFR 136

Special Instructions: **Please provide results no later than 2/22/24**

Sampler: Kevin Teiken

Required Turnaround: ( ) 24-Hours ( ) 48-Hours ( ) 1-Week ( ) 2-Week (X) ASAP ( ) Routine ( ) Other:

1. Relinquished By:	Date: 02/08/24	Time: 15:42	Received By:	2. Relinquished by:	Date: 2/9/24	Time: 16:00	Received By:
3. Relinquished By:	Date:	Time:	Received By:	4. Relinquished by:	Date:	Time:	Received By:

4.0 °C HA

GCC Rio Grande PC – Coal Reject (020824-KT)

DA61866: Chain of Custody
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SGS Sample Receipt Summary

Job Number: da61866 **Client:** AQUIONIX **Project:** 3826

Date / Time Received: 2/8/2024 4:10:00 PM **Delivery Method:** hd **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (4.0);

Cooler Temps (Corrected) °C: Cooler 1: (4.0);

Cooler Information	Y	or	N
1. Custody Seals Present:	☑		☐
2. Custody Seals Intact:	☑		☐
3. Temp criteria achieved:	☑		☐
4. Cooler temp verification:	IR Gun		
5. Cooler media:	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑

	W	or	S	N/A
3. Type of TB Received	☐		☐	☐

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles:	☑		☐	
2. Samples presented properly	☑		☐	
3. Suffiient volume/containers recv'd for analysis	☑		☐	
4. Condition of sample:	Intact			
5. Sample recv'd within HT	☑		☐	
6. Dates/Times/IDs on COC match sample label	☐		☐	
7. VOCs have headspace	☐		☐	☑
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☐
11. % Solids Jar Received?	☐		☐	☐
12. Residual Chlorine Present?	☐		☐	☐

Misc Information

Number of Encores: 25 Gram 5 Gram Number of Lab Filtered Metals:

Test Strip Lot #s: pH 0-3: pH 10-12: Other: (Specify)

Residual Chlorine Test Strip Lot #

Comments

SM001
Rev. Date 05/04/17

Technician: JEREMYD Date: 2/9/2024 7:21:48 AM Reviewer: Date:

Job Change Order: DA61866

Requested Date:	2/16/2024	**Received Date:**	2/8/2024
Account Name:	Aquionix	**Due Date:**	2/16/2024
Project Description:	GCC Rio Grande	**Deliverable:**	COMMBN
C/O Initiated By:	KELLY_BLA **PM:** KB	**TAT (Days):**	2

==========

Sample #: DA61866-1 **Dept:** LOGIN

Client ID: 3726-020824-01 **TAT:** 2

Change: Revise all TCLP ICPMS metals to ICP (EAG,EAS,EBA,ECD,ECR,EPB and ESE)

Above Changes Per: Kevin Teiken **Date/Time:** 2/16/2024

To Client: This Change Order is confirmation of the revisions, previously discussed with the Client Service Representative.

DA61866: Chain of Custody

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Misc. Forms

Custody Documents and Other Forms

(SGS Dayton, NJ)

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

SGS North America Inc. - Wheat Ridge
4036 Youngfield Street, Wheat Ridge, CO 80033
TEL: 303-425-6021 FAX: 303-425-6854
www.sgs.com/ehsusa

SO

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: DA61866

Client / Reporting Information	Project Information
Company Name: SGS North America Inc.	Project Name: GCC Rio Grande
Street Address: 4036 Youngfield Street	Street:
City: Wheat Ridge, State: CO, Zip: 8003	City: State:
Project Contact: Kelly.Blanchard@sgs.com, E-mail:	Project #:
Phone #: 303-425-6021, Fax #:	Client Purchase Order #:
Sampler(s) Name(s): KT, Phone:	Project Manager:

Billing Information (if different from Report to)
Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	EAGMS, EASMS, EBAMS, ECDMS, ECRMS, EHG EPBMS, ESEMS, SPLPE,	EAGMS, EASMS, EBAMS, ECDMS, ECRMS, EHG EPBMS, ESEMS, TCLPE,	LAB USE ONLY
1	3726-020824-01		2/8/24	10:45:00 AM	KT	SO											X	
1A	3726-020824-01		2/8/24	10:45:00 AM	KT	SO										X		

Turnaround Time (Business days)

Approved By (SGS PM): / Date:

- [ ] Standard 10 Day (business)
- [ ] 5 Business Days RUSH
- [ ] 3 Business Days RUSH
- [ ] 2 Business Days RUSH
- [ ] 1 Business Day EMERGENCY
- [X] other Due 2/15/2024

Emergency & Rush T/A data available via Lablink Approval needed for RUSH/Emergency TAT

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] REDT1 (Level 3)
- [ ] FULT1 (Level 4)
- [ ] Commercial "C"
- [ ] State Forms
- [ ] EDD Format
- [ ] Other
- [X] CC

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC Summary + Partial Raw data

Comments / Special Instructions

...rtment NC3A
...tion

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	MP	2/13/24 17:24	1 MP	2	2/13 11:15	2
3			3	4		4
5			5			

Custody Seal # | Intact | Not Intact | Preserved where applicable | Therm ID: | On Ice | Cooler Temp.

2.0°C 1140

6.1
6

SGS Sample Receipt Summary

Job Number: DA61866 **Client:** SGS NORTH AMERICA INC **Project:** GCC RIO GRANDE

Date / Time Received: 2/13/2024 11:15:00 AM **Delivery Method:** FEDEX **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (2.0);

Cooler Temps (Corrected) °C: Cooler 1: (2.3);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR-40		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 231619 pH 12+: 203117A Other: (Specify)

Comments

SM089-03
Rev. Date 12/7/17

Job Change Order: DA61866

Requested Date: 2/16/2024 **Received Date:** 2/8/2024

Account Name: Aquionix **Due Date:** 2/16/2024

Project Description: GCC Rio Grande **Deliverable:** COMMBN

C/O Initiated By: KELLY_BLA **PM:** KB **TAT (Days):** 2

==========

Sample #: DA61866-1 **Dept:** LOGIN

Client ID: 3726-020824-01 **TAT:** 2

Change: Revise all TCLP ICPMS metals to ICP (EAG,EAS,EBA,ECD,ECR,EPB and ESE)

Above Changes Per: Kevin Teiken **Date/Time:** 2/16/2024

To Client: This Change Order is confirmation of the revisions, previously discussed with the Client Service Representative.

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DA61866: Chain of Custody
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Metals Analysis

QC Data Summaries

(SGS Dayton, NJ)

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44809
Matrix Type: LEACHATE

Methods: SW846 6020B
Units: mg/l

Prep Date: 02/15/24

Metal	RL	IDL	MDL	MB raw	final
Aluminum	0.050	.00083	.032		
Antimony	0.0040	.00017	.0017		
Arsenic	0.0010	.00005	.00094	0.000067	<0.0010
Barium	0.0020	.000018	.00073	-0.000020	<0.0020
Beryllium	0.0010	.00001	.00015		
Boron	0.050	.0017	.014		
Cadmium	0.0010	.00002	.00017	0.000015	<0.0010
Calcium	0.50	.0072	.064		
Chromium	0.0020	.000036	.00062	0.000045	<0.0020
Cobalt	0.0010	.000006	.00017		
Copper	0.0040	.000048	.0019		
Iron	0.050	.00047	.019		
Lead	0.0010	.000016	.00052	0.00029	<0.0010
Magnesium	0.50	.00038	.046		
Manganese	0.0020	.000024	.00063		
Molybdenum	0.0020	.000034	.00045		
Nickel	0.0020	.000034	.00095		
Potassium	0.50	.0016	.068		
Selenium	0.0010	.000088	.00055	0.00014	<0.0010
Silver	0.0010	.000008	.00016	0.000016	<0.0010
Sodium	0.50	.003	.14		
Strontium	0.010	.000028	.0024		
Thallium	0.0010	.000004	.00017		
Tin	0.010	.000082	.0026		
Titanium	0.0020	.00022	.0016		
Vanadium	0.0020	.000026	.0018		
Zinc	0.010	.00016	.0054		

Associated samples MP44809: DA61866-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44809
Matrix Type: LEACHATE

Methods: SW846 6020B
Units: mg/l

Prep Date: 02/15/24

Metal	JD82342-1A Original	MS	Spikelot MP6020AQ3	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	0.0	0.075	0.080	93.8	75-125
Barium	0.0	0.071	0.080	88.8	75-125
Beryllium					
Boron					
Cadmium	0.0	0.072	0.080	90.0	75-125
Calcium					
Chromium	0.0	0.074	0.080	92.5	75-125
Cobalt	anr				
Copper					
Iron					
Lead	0.0	0.074	0.080	92.5	75-125
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium	0.0015	0.37	0.40	92.1	75-125
Silver	0.000099	0.075	0.080	93.6	75-125
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP44809: DA61866-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44809
Matrix Type: LEACHATE

Methods: SW846 6020B
Units: mg/l

Prep Date: 02/15/24

Metal	JD82342-1A Original	MSD	Spikelot MP6020AQ	3% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	0.0	0.080	0.080	100.0	6.5	20
Barium	0.0	0.072	0.080	90.0	1.4	20
Beryllium						
Boron						
Cadmium	0.0	0.075	0.080	93.8	4.1	20
Calcium						
Chromium	0.0	0.077	0.080	96.3	4.0	20
Cobalt	anr					
Copper						
Iron						
Lead	0.0	0.079	0.080	98.8	6.5	20
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium	0.0015	0.41	0.40	102.1	10.3	20
Silver	0.000099	0.083	0.080	103.6	10.1	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP44809: DA61866-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44809
Matrix Type: LEACHATE

Methods: SW846 6020B
Units: mg/l

Prep Date:			02/15/24				02/15/24	
Metal	BSP Result	Spikelot MP6020AQ3% Rec	QC Limits	BSP Result	Spikelot MP6020AQ3% Rec	QC Limits		
Aluminum								
Antimony								
Arsenic	0.068	0.080	85.0	80-120	0.072	0.080	90.0	80-120
Barium	0.071	0.080	88.8	80-120	0.083	0.080	103.8	80-120
Beryllium								
Boron								
Cadmium	0.071	0.080	88.8	80-120	0.075	0.080	93.8	80-120
Calcium								
Chromium	0.068	0.080	85.0	80-120	0.074	0.080	92.5	80-120
Cobalt	anr							
Copper								
Iron								
Lead	0.071	0.080	88.8	80-120	0.077	0.080	96.3	80-120
Magnesium								
Manganese								
Molybdenum								
Nickel								
Potassium								
Selenium	0.33	0.40	82.5	80-120	0.33	0.40	82.5	80-120
Silver	0.075	0.080	93.8	80-120	0.075	0.080	93.8	80-120
Sodium								
Strontium								
Thallium								
Tin								
Titanium								
Vanadium								
Zinc								

Associated samples MP44809: DA61866-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44809
Matrix Type: LEACHATE

Methods: SW846 6020B
Units: ug/l

Prep Date: 02/15/24

Metal	JD82342-1A Original	SDL 20:100%DIF		QC Limits
Aluminum				
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium	0.00	0.00	NC	0-10
Beryllium				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium				
Chromium	0.00	0.00	NC	0-10
Cobalt	anr			
Copper				
Iron				
Lead	0.00	0.00	NC	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium	1.52	0.00	100.0(a)	0-10
Silver	0.0992	0.00	100.0(a)	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP44809: DA61866-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44810
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: ug/l

Prep Date: 02/16/24

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	17	46		
Antimony	100	1.7	4.7		
Arsenic	100	2.1	2.8	-0.10	<100
Barium	200	.8	13	-0.30	<200
Beryllium	2.0	.3	.5		
Bismuth	20	2.3	4		
Boron	100	2.3	63		
Cadmium	4.0	.3	1	-0.10	<4.0
Calcium	5000	6.6	99		
Chromium	10	.3	2	0.20	<10
Cobalt	50	.4	2.6		
Copper	10	.8	5.9		
Iron	100	5.3	32		
Lead	100	1.1	1.8	-0.90	<100
Lithium	50	4.8	7.3		
Magnesium	5000	32	140		
Manganese	15	.1	1.4		
Molybdenum	20	.6	3.6		
Nickel	10	.4	1.7		
Phosphorus	50	1.2	18		
Potassium	10000	77	200		
Selenium	100	3.2	4.9	1.5	<100
Silicon	200	1.7	100		
Silver	10	1	1.9	-0.10	<10
Sodium	10000	34	570		
Strontium	10	.3	1		
Thallium	100	1.8	1.8		
Tin	10	.8	3.7		
Titanium	10	.5	2.5		
Tungsten	50	2.6	40		
Vanadium	50	.6	1.8		
Zinc	20	.1	6.9		
Zirconium	10	.3	4.1		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44810 Methods: SW846 6010D
Matrix Type: LEACHATE Units: ug/l

Prep Date: 02/16/24

Metal	RL	IDL	MDL	MB raw	final

Associated samples MP44810: DA61866-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44810
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: ug/l

Prep Date: 02/16/24

Metal	JD82341-1A Original	MS	Spikelot MPSPK2	% Rec	QC Limits
Aluminum	anr				
Antimony	anr				
Arsenic	0.0	1870	2000	93.4	75-125
Barium	0.0	1980	2000	98.9	75-125
Beryllium	anr				
Bismuth					
Boron					
Cadmium	0.0	1900	2000	95.0	75-125
Calcium					
Chromium	0.0	1860	2000	92.7	75-125
Cobalt					
Copper	anr				
Iron					
Lead	0.0	1840	2000	91.7	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum	anr				
Nickel	anr				
Phosphorus					
Potassium					
Selenium	0.0	1840	2000	92.0	75-125
Silicon					
Silver	0.0	246	250	98.4	75-125
Sodium					
Strontium					
Sulfur					
Thallium	anr				
Tin					
Titanium					
Tungsten					
Vanadium	anr				
Zinc	anr				

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44810
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: ug/l

Prep Date: 02/16/24

Metal	JD82341-1A Original MS	Spikelot MPSPK2	% Rec	QC Limits
Zirconium				

Associated samples MP44810: DA61866-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44810
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: ug/l

Prep Date: 02/16/24

Metal	JD82341-1A Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony	anr					
Arsenic	0.0	1920	2000	95.9	2.6	20
Barium	0.0	2020	2000	100.9	2.0	20
Beryllium	anr					
Bismuth						
Boron						
Cadmium	0.0	1940	2000	97.0	2.1	20
Calcium						
Chromium	0.0	1910	2000	95.2	2.7	20
Cobalt						
Copper	anr					
Iron						
Lead	0.0	1880	2000	93.7	2.2	20
Lithium						
Magnesium						
Manganese						
Molybdenum	anr					
Nickel	anr					
Phosphorus						
Potassium						
Selenium	0.0	1870	2000	93.5	1.6	20
Silicon						
Silver	0.0	248	250	99.2	0.8	20
Sodium						
Strontium						
Sulfur						
Thallium	anr					
Tin						
Titanium						
Tungsten						
Vanadium	anr					
Zinc	anr					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44810 Methods: SW846 6010D
Matrix Type: LEACHATE Units: ug/l

Prep Date: 02/16/24

Metal	JD82341-1A Original MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Zirconium					

Associated samples MP44810: DA61866-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44810
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: ug/l

Prep Date:			02/16/24				02/16/24	
Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum	anr							
Antimony	anr							
Arsenic	1990	2000	99.5	80-120	1900	2000	95.0	80-120
Barium	2110	2000	105.5	80-120	2010	2000	100.5	80-120
Beryllium	anr							
Bismuth								
Boron								
Cadmium	2020	2000	101.0	80-120	1930	2000	96.5	80-120
Calcium								
Chromium	1980	2000	99.0	80-120	1890	2000	94.5	80-120
Cobalt								
Copper	anr							
Iron								
Lead	1960	2000	98.0	80-120	1870	2000	93.5	80-120
Lithium								
Magnesium								
Manganese								
Molybdenum	anr							
Nickel	anr							
Phosphorus								
Potassium								
Selenium	1970	2000	98.5	80-120	1860	2000	93.0	80-120
Silicon								
Silver	258	250	103.2	80-120	249	250	99.6	80-120
Sodium								
Strontium								
Sulfur								
Thallium	anr							
Tin								
Titanium								
Tungsten								
Vanadium	anr							
Zinc	anr							

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44810
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: ug/l

Prep Date:		02/16/24				02/16/24		
Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Zirconium								

Associated samples MP44810: DA61866-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44810
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: ug/l

Prep Date: 02/16/24

Metal	JD82341-1A Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	2.70	0.00	100.0(a)	0-10
Barium	2.20	0.00	100.0(a)	0-10
Beryllium	anr			
Bismuth				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium				
Chromium	6.10	6.20	1.6	0-10
Cobalt				
Copper	anr			
Iron				
Lead	5.10	0.00	100.0(a)	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum	anr			
Nickel	anr			
Phosphorus				
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Sulfur				
Thallium	anr			
Tin				
Titanium				
Tungsten				
Vanadium	anr			
Zinc	anr			

SERIAL DILUTION RESULTS SUMMARY

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44810
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: ug/l

Prep Date: 02/16/24

Metal	JD82341-1A Original	SDL 1:5	%DIF	QC Limits
Zirconium				

Associated samples MP44810: DA61866-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44833 Methods: SW846 7470A
Matrix Type: LEACHATE Units: mg/l

Prep Date: 02/15/24

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.00020	.000013	.000095	0.000091	<0.00020

Associated samples MP44833: DA61866-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44833
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: mg/l

Prep Date: 02/15/24

Metal	JD82104-6A Original MS		Spikelot HGPW3	% Rec	QC Limits
Mercury	0.000073	0.0020	0.0020	96.4	75-125

Associated samples MP44833: DA61866-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44833 Methods: SW846 7470A
Matrix Type: LEACHATE Units: mg/l

Prep Date: 02/15/24

Metal	JD82104-6A Original	MSD	Spikelot HGPW3	% Rec	MSD RPD	QC Limit
Mercury	0.000073	0.0021	0.0020	101.4	4.9	20

Associated samples MP44833: DA61866-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44833
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: mg/l

Prep Date:			02/15/24				02/15/24	
Metal	BSP Result	Spikelot HGPW3	% Rec	QC Limits	BSP Result	Spikelot HGPW3	% Rec	QC Limits
Mercury	0.0020	0.0020	100.0	80-120	0.0021	0.0020	105.0	80-120

Associated samples MP44833: DA61866-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44834
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: ug/l

Prep Date: 02/15/24

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.013	.095	0.020	<0.20

Associated samples MP44834: DA61866-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44834
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: ug/l

Prep Date: 02/15/24

Metal	JD82341-1A Original	MS	Spikelot HGPW3	% Rec	QC Limits
Mercury	0.0	2.0	2	100.0	75-125

Associated samples MP44834: DA61866-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44834
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: ug/l

Prep Date: 02/15/24

Metal	JD82341-1A Original	MSD	Spikelot HGPW3	% Rec	MSD RPD	QC Limit
Mercury	0.0	2.0	2	100.0	0.0	20

Associated samples MP44834: DA61866-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: DA61866
Account: ALMS - SGS Wheat Ridge, CO
Project: AQUICODN: GCC Rio Grande

QC Batch ID: MP44834
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: ug/l

Prep Date:			02/15/24				02/15/24	
Metal	BSP Result	Spikelot HGPW3	% Rec	QC Limits	BSP Result	Spikelot HGPW3	% Rec	QC Limits
Mercury	2.0	2	100.0	80-120	1.9	2	95.0	80-120

Associated samples MP44834: DA61866-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

Attachment 2

Affidavit of Compliance with Local Regulations

AFFIDAVIT OF COMPLIANCE WITH LOCAL REGULATIONS

I certify that I, ALEJANDRO ALARCON, have determined that, to the best of my knowledge, GCC Rio Grande, Inc., Pueblo Cement Plant and Quarry (name of facility or project) has determined that the properties of coal reject material are comparable to the inert raw materials currently used in quarry for reclamation backfill purposes. Toxic Characteristic Leaching Procedure (TCLP), Synthetic Precipitation Leaching Procedure (SPLP), and pH tests were conducted, and a copy of the analytical results have been provided in the attached Technical Revision request.

ALEJANDRO ALARCON
Print Name

Signature

3-27-`24
Date

State of Colorado

County of Pueblo

Signed and attested before me on 3/27/24 by Jessica L. Cortez
(Date) (Name of Person)

Signature of Notary Office

JESSICA L CORTEZ
NOTARY PUBLIC - STATE OF COLORADO
NOTARY ID 20234030697
MY COMMISSION EXPIRES AUG 11, 2027

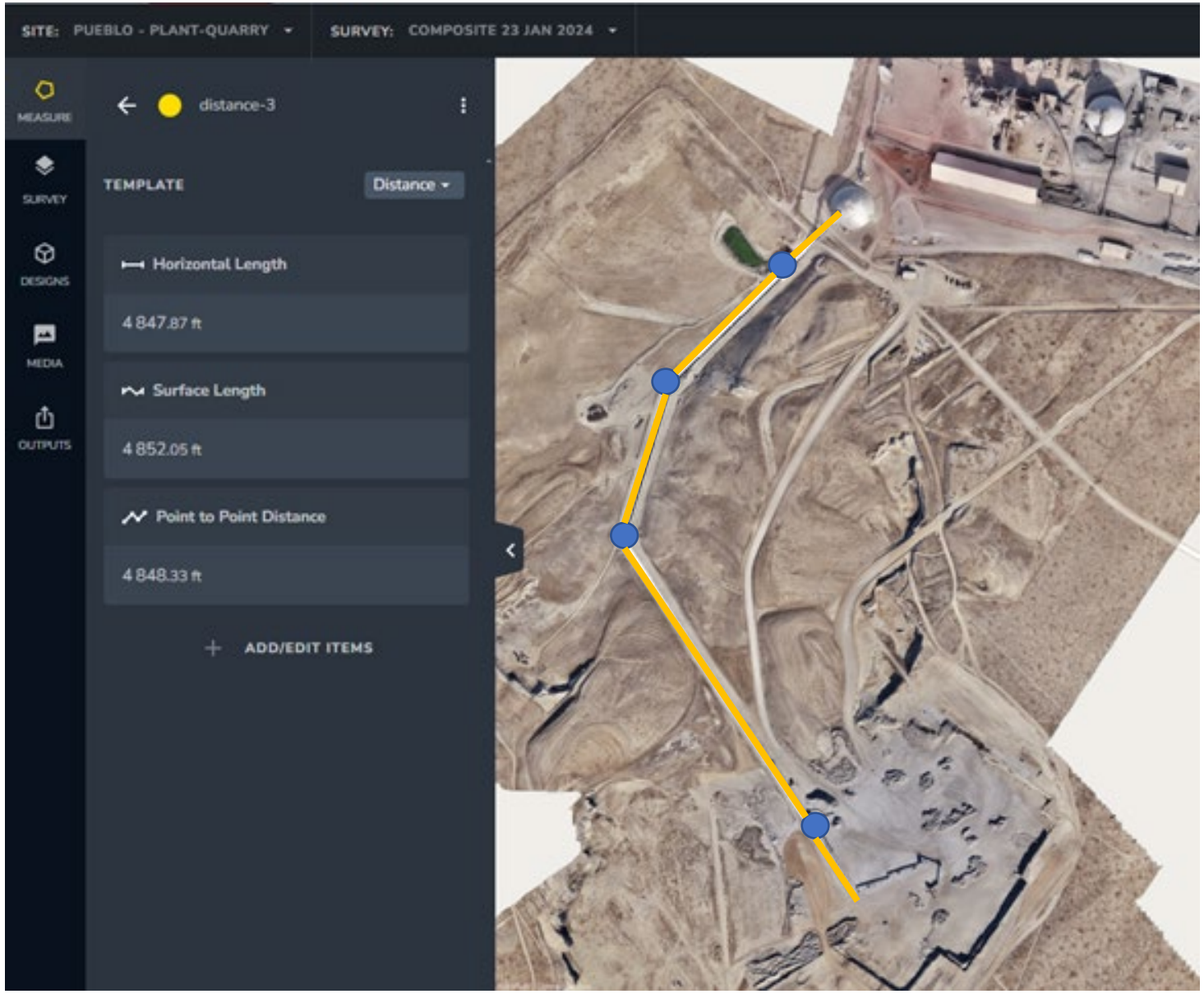
Aug. 11, 2027
My commission expires on

(Seal)

Attachment 3

Conveyor Belt Structures

Attachment 3



- Conveyor belt transfer tower structures
- Conveyor belts

Attachment 4

Borrow Material Area

Attachment 4

Borrow material area

Haul route path lengths