



# ARM Group Inc.

Engineers and Scientists

July 3, 2019

Mr. Kevin Moore  
Senior Manager, Mine Planning & Capital  
Specialty Granules LLC  
13424 Pennsylvania Ave  
Suite 303  
Hagerstown, MD 21742

Re: NPDES Permit Application Sampling  
Lower Mill, Charmian Plant  
Blue Ridge Summit, Pennsylvania  
ARM Project 190435

Dear Mr. Moore:

This letter report describes the collection by ARM Group Inc. (ARM) of three (3) 24-hour composite samples of water from Outfall 001 at the Specialty Granules LLC (SGI) Charmian Facility in Blue Ridge Summit, Pennsylvania. ARM understands this work was performed to comply with requests from the Pennsylvania Department of Environmental Protection (PADEP) for asbestos sampling of the effluent from the Charmian Facility.

As specified in the sampling protocol submitted to and approved by PADEP, the three 24-hour composite samples were taken once week apart from the discharge from Lower Mill Pond No. 3 (Outfall 001) at the Charmian Plant. The samples were submitted to RJ Lee Group in Monroeville, PA for analysis of asbestos via EPA Method 100.2

## BACKGROUND

SGI operates a non-coal surface mining (quarry) operations near Blue Ridge Summit in metabasalt rock. Currently, all discharges occurring at the Charmian Facility occur through the Lower Mill Pond system to Miney Branch as authorized under NPDES Permit No. PA0009059. The PADEP District Mining Office advised SGI of the desire for sampling for asbestos in the effluent in order to perform a “reasonable potential analysis”. SGI prepared and submitted to PADEP a proposed sampling and analysis plan on April 2, 2019, which PADEP approved by letter dated April 12, 2019.

As explained in Section 6.3 of the U.S. Environmental Protection Agency (“EPA”) NPDES Permit Writers’ Manual, a “reasonable potential analysis” is part of the analysis to be conducted by a permitting agency to determine if a water quality base effluent limitation (“WQBEL”) should be developed and imposed. It is noted that there are no promulgated federal or state instream water quality standards for asbestos. However, pursuant to the Federal Safe Drinking Water Act, EPA has adopted a maximum contaminant level (“MCL”) for asbestos in drinking water of 7 million fibers per liter longer than 10  $\mu\text{m}$ . 40 C.F.R. §141.62(b). Although there is no public drinking water intake within 15 miles downstream of the SGI Lower Mill Pond discharge, the federal drinking water MCL is the only currently available comparator for purposes of analysis.

## SAMPLING METHODS

In accordance with the PADEP-approved sampling plan, ARM was engaged to collect three samples from the Lower Mill Pond No. 3 (Outfall 001) at least one week apart for analysis of asbestos via USEPA Method 100.2. The samples were specified to be 24-hour composite samples. Such composite samples are defined in Attachment D of the NPDES Permit Application Instructions as involving at least eight individual samples of at least 100 milliliters each per sampling event. Under the Attachment D “composite” sample guidance, samples are designed to be flow-proportional; if the discharge rate is constant then constant volumes at constant time intervals may be collected.

The sampling was coordinated with the SGI facility during times that the discharge from Outfall 001 was expected to remain constant for the 24 hours during the sampling. For the samples collected on May 20-21 and June 4-5, the flow rates were reasonably consistent through the sampling period. During the sampling period on June 12-13, the flow rates increased over the sample collection period for unforeseen reasons. Although the composite sample taken on June 12-13 was taken at even intervals, and was not under these circumstances flow proportional, the sample result reported by RJ Lee Group (where no asbestos fibers > 10 microns in size were found) would indicate that flow proportionality was irrelevant.

ARM collected three composite samples from Lower Mill Pond No. 3 (Outfall 001) using an ISCO 3700 Composite Sampling unit. This unit was selected due to its durability, ease of handling and operation, and its data collection accuracy. Integral components to the ISCO 3700 allow this unit to be placed remotely and run autonomously without an operator. The unit uses an onboard peristaltic pump to draw in each composite aliquot into an internal 7-Liter container. This unit also has seals and covers to prevent atmospheric mixing with the sample train.

Discharge water was sampled at the same location as NPDES samples are taken, an 8” steel pipe connected to the base of the Lower Mill Pond No. 3. Effluent discharge rates average 500 to 1,000-gal/min from this pipe. Since the ISCO 3700 uses vacuum suction via peristalsis, a portion of the sampling stream was diverted into a sampling container by utilizing the existing ½” brass ball-valve sampling port flowing into a sampling container. Schedule 40 PVC and a 5-gallon container were used to divert the flow from the pipe into the container. The discharging pipe was installed to a depth of approximately 2” from the bottom of the container to ensure constant recharge and prevent stagnation in the container. A lid was installed to seal the container from any atmospheric interaction with the water sample. A weir on the side of the container was used to discharge excess water during the 24-hr period. Additional weirs were installed near the bottom of the container to empty it should flow stop during the 24-hr period. If flow stops, the container would empty to a point where no sample could be collected to prevent inaccurate sampling. The sampling unit draws fluids through a combination of polyethylene and vinyl tubing. The tubing was installed near the bottom of the container. A photo log of the sampling setup is included as **Attachment A**.

The ISCO sampler was programmed to pull a sample of approximately 100 ml every hour for 24 hours (24 samples) totaling approximately 2.4 liters, exceeding the minimum composite sample requirements of 8 - 100 ml samples in a 24 hour period. Final samples volumes were collected after each 24-hour period from the 7 liter internal container by mixing the water thoroughly and then pouring directly into the laboratory-supplied 1 liter polyethylene sample bottles. The collection container was then emptied and rinsed with deionized water.

### Event 1: May 20-21, 2019

ARM arrived onsite on May 20, 2019 for the first event. The sampler was rinsed with deionized water and discharge water prior to use. The auto-sampler was started at 10:57AM and left onsite 24 hours. On May



21, 2019 at approximately 9:57 AM, the ISCO 3700 successfully collected the 24-hr composite sample for outfall 001. Samples were placed in laboratory approved 1-Liter plastic bottles and shipped via FedEx to RJ Lee Group under their approved chain-of-custody. The samples were shipped to RJ Lee Group laboratories for analysis. A copy of the chain of custody for this event is included as **Attachment B**.

### **Event 2: June 4-5, 2019**

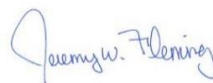
ARM conducted the second sampling event on June 4, 2019. The equipment setup and sampling methods were identical to the initial event. All equipment in contact with the sample train was rinsed with deionized water then discharge water from the 8" pipe. The ISCO 3700 unit was programmed to collect 100 mL every hour for 24 hours starting at 10:01 AM. On June 5, 2019 at approximately 9:01 AM, the ISCO 3700 successfully collected the 24-hr composite sample for outfall 001. Samples were placed in laboratory approved 1-Liter plastic bottles and shipped via FedEx to RJ Lee Group under their approved chain-of-custody. The samples were shipped to RJ Lee Group laboratories for analysis. A copy of the chain of custody for this event is included as **Attachment B**.

### **Event 3: June 12-13, 2019**

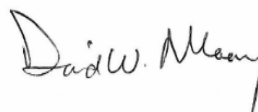
ARM conducted the final sampling event on June 12, 2019. The equipment setup and sampling methods were identical to the initial event. All equipment in contact with the sample train was rinsed with deionized water then discharge water from the 8" pipe. The ISCO 3700 unit was programmed to collect 100 mL every hour for 24 hours starting at 11:47 AM. On June 13, 2019 at approximately 10:47 AM, the ISCO 3700 successfully collected the 24-hr composite sample for outfall 001. Samples were placed in laboratory approved 1-Liter plastic bottles and shipped via FedEx to RJ Lee Group under their approved chain-of-custody. The samples were shipped to RJ Lee Group laboratories for analysis. A copy of the chain of custody for this event is included as **Attachment B**.

Please contact us if you have any questions regarding this summary report.

Respectfully submitted,  
ARM Group Inc.



Jeremy Fleming  
Project Geologist II



David W. Mooney, P.G  
Senior Project Manager

Enclosures: A. Photolog  
B. Chain of Custody Forms



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## **Attachment A**

### **Photograph Log**

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**Photo 1 – 5/13/19**

001 Outfall Location



**Photo 2 – 5/13/19**

Sample point connection  
valve.





**Photo 3 – 5/13/19**

Sampling connections and  
stilling bucket for ISCO 3700  
sampler.



**Photo 4 – 5/13/19**

ISCO 3700 Composite  
sampler.







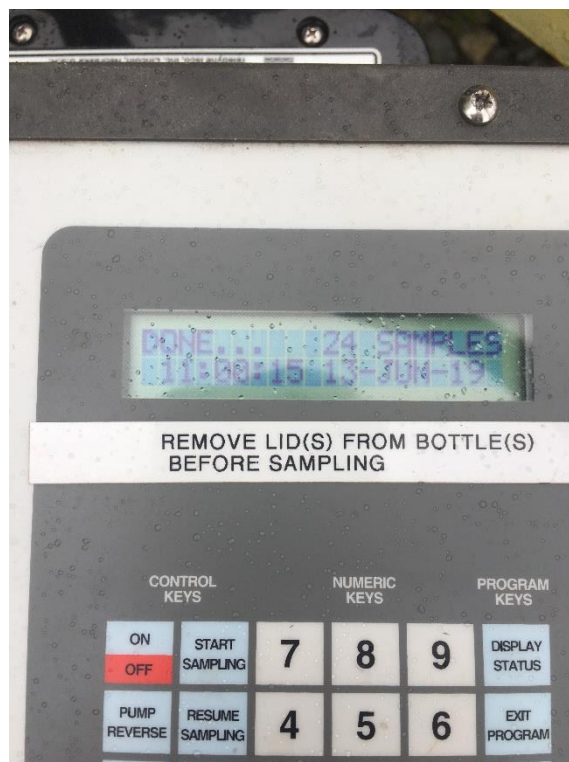
**Photo 5 – 6/12/19**

View of sampling system  
before departure.



**Photo 6 – 6/13/19**

Completed 24-hour  
composite sample.



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## **Attachment B**

### **Laboratory Chain of Custody Forms**

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**RJ LEE GROUP**  
DELIVERING SCIENTIFIC RESOLUTION



170  
1200

**FedEx**  
Express  
Package  
US Airbill  
Tracking  
Number  
8130 2289 5546

1 From  
Date 5/21/16

Sender's  
Name Jeremy Fleming Phone 717 500-8600

Company  
Address

City State ZIP

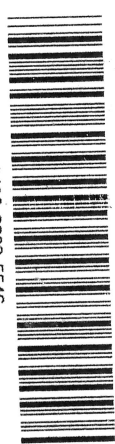
2 Your Internal Billing Reference

3 To  
Recipient's  
Name Sample Receiving Phone 724 325-1716

Company RSLee Group

Address 350 Hoberg Rd

City Monaca State PA ZIP 15146



8130 2289 5546

Form  
ID No. 0215

4 Express Package Service

Next Business Day

☐ FedEx First Overnight  
Earliest next business morning delivery to select locations. Next business morning delivery is selected on Monday unless Saturday delivery is selected.

☐ FedEx Priority Overnight  
Next business morning. Friday shipments will be delivered on Monday unless Saturday delivery is selected.

☒ FedEx Standard Overnight  
Next business afternoon. Saturday delivery NOT available.

2 or 3 Business Days

☐ FedEx 2Day AM  
Second business morning. Saturday delivery NOT available.

☐ FedEx 2Day  
Second business afternoon. Thursday shipments delivery is selected. Monday unless Saturday delivery is selected.

☐ FedEx Express Saver  
Saturday delivery NOT available.

5 Packaging \*Declared value limit \$500.  
☐ FedEx Envelope\* ☐ FedEx Pak\* ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling and Delivery Signature Options Fees may apply. See the FedEx Service Guide.

☐ Saturday Delivery  
NOT available for FedEx Standard Overnight, FedEx 2Day AM, or FedEx Express Saver.

☒ No Signature Required  
Package may be left without obtaining a signature for delivery.

☐ Direct Signature  
Someone at recipient's address may sign for delivery.

☐ Indirect Signature  
If no one is available at recipient's address, someone at a neighboring residential address only.

Does this shipment contain dangerous goods?  
One box must be checked.  
☒ Yes ☐ No  
As per attached Shipper's Declaration, not required.

Restrictions apply for dangerous goods — see the current FedEx Service Guide.

7 Payment Bill to:  
Enter FedEx Acct. No. or Credit Card No. below.

☒ Sender ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

Total Packages 10 Total Weight 10 lbs

Credit Card Auth.

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OUR1

800 GoFedEx 1.800.463.3339

FedEx

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Express

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FedEx  
Tracking  
Number

8146 6149 1506

Form  
ID No. 0215

4 Express Package Service

\*To most locations.

Packages up to  
For packages over 60  
FedEx Express Freight

Next Business Day

- ☐ FedEx First Overnight  
Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.
- ☐ FedEx Priority Overnight  
Next business morning.\* Friday shipments will be delivered on Monday unless Saturday Delivery is selected.
- ☒ FedEx Standard Overnight  
Next business afternoon.\* Saturday Delivery NOT available.

2 or 3 Business Days

- ☐ FedEx 2Day A.M.  
Second business morning.\* Saturday Delivery NOT available.
- ☐ FedEx 2Day  
Second business afternoon.\* Thursday shipments will be delivered on Monday unless Saturday Delivery is selected.
- ☐ FedEx Express Saver  
Third business day.\* Saturday Delivery NOT available.

5 Packaging

\*Declared value limit \$500.

- ☐ FedEx Envelope\* ☐ FedEx Pak\* ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling and Delivery Signature Options

Fees may apply. See the FedEx Service Guide.

- ☐ Saturday Delivery  
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

- ☒ No Signature Required  
Package may be left without obtaining a signature for delivery.

- ☐ Direct Signature  
Someone at recipient's address may sign for delivery.

- ☐ Indirect Signature  
If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only.

Does this shipment contain dangerous goods?

One box must be checked.

- ☐ No ☐ Yes  
As per attached Shipper's Declaration.
- ☐ Yes  
Shipper's Declaration not required.

☐ Dry Ice  
Dry Ice, 5, UN 1845 x kg

☐ Cargo Aircraft Only

Restrictions apply for dangerous goods — see the current FedEx Service Guide.

7 Payment Bill to:

Enter FedEx Acct. No. or Credit Card No. below.

Obtain recip.  
Acct. No. ☐

- ☒ Sender  
Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

Total Packages Total Weight Credit Card Auth.

lbs.

\*Our liability is limited to US\$100 unless you declare a higher value. See the current FedEx Service Guide for details.

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From

Date 6/5/19

Sender's  
Name

Jeremy Fleming

Phone

717 593-8600

Company

RTI GROUP INC.

Address

1129 W. COVERDALE RD.

Dept./Floor/Suite/Room

City

PHILADELPHIA

State

PA

ZIP

19056-9173

2 Your Internal Billing Reference

3 To

Recipient's  
Name

Sample Receiving

Phone

700 460-0715

Company

RTI Group

Address

350 Hocking Road

Dept./Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City

Memorville

State

PA

ZIP

15101



8146 6149 1506



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R5 05302018

**RJ LEE GROUP**  
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1046

1200

fedex.com 1800.GoFedEx 1800.463.3339



FedEx Tracking Number 8146 6149 1469

MUR3

Form 10 No. 0215

**1 From**  
Date 6-13-19  
Sender's Name Jeremy Fleming  
Company ARM GROUP INC  
Address 1127 W GOVERNOR RD  
City HUMMELSTOWN State PA ZIP 17036-9175  
Dept./Floor/Suite/Room

**2 Your Internal Billing Reference**  
140435-1

**3 To**  
Recipient's Name Sample Receiving  
Company RJ We Group  
Address 350 Hackberg Rd  
City Monacaeville State PA ZIP 15146  
Dept./Floor/Suite/Room



8146 6149 1469

**4 Express Package Service** \*To most locations. Packages up to 150 lbs. For packages over 150 lbs., use the FedEx Express Freight US Airbill.

Next Business Day	2 or 3 Business Days
<input type="checkbox"/> FedEx First Overnight Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.	<input type="checkbox"/> FedEx 2Day A.M. Second business morning. * Saturday Delivery NOT available.
<input type="checkbox"/> FedEx Priority Overnight Next business morning. * Friday shipments will be delivered on Monday unless Saturday Delivery is selected.	<input type="checkbox"/> FedEx 2Day Second business afternoon. * Thursday shipments will be delivered on Monday unless Saturday Delivery is selected.
<input checked="" type="checkbox"/> FedEx Standard Overnight Next business afternoon. * Saturday Delivery NOT available.	<input type="checkbox"/> FedEx Express Saver Third business day. * Saturday Delivery NOT available.

**5 Packaging** \*Declared value limit \$500.

☐ FedEx Envelope\* ☐ FedEx Pak\* ☐ FedEx Box ☐ FedEx Tube ☒ Other

**6 Special Handling and Delivery Signature Options** Fees may apply. See the FedEx Service Guide.

☐ Saturday Delivery  
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☒ No Signature Required  
Package may be left without obtaining a signature for delivery.

☐ Direct Signature  
Someone at recipient's address may sign for delivery.

☐ Indirect Signature  
If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only.

**Does this shipment contain dangerous goods?** One box must be checked.

☐ No ☐ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐

Restrictions apply for dangerous goods — see the current FedEx Service Guide.

**7 Payment Bill to:** Enter FedEx Acct. No. or Credit Card No.

☒ Sender Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐

Total Packages Total Weight lbs. Credit

1465 B01

6 15:00 146 06.1 kg

check

1465 B01

1465 B01