

Attachment A**NPDES Draft Permit Fact Sheet**Mining Permit Application No. 01180301NPDES Application No. PA0279617Site Name: Northern Tract QuarryDate Application received: January 5, 2018**Background**

The Northern Tract Quarry is a new mining permit that includes surface mining of metabasalt in the Toms Creek watershed. The receiving streams include an unnamed tributary to Toms Creek and Toms Creek. Toms Creek is classified as a High Quality (HQ) – Cold Water Fishes (CWF). The Northern Tract Quarry will utilize groundwater pumping during active mining and storm water management in the form of two sedimentation ponds identified as 001 and 002. These outfalls will only discharge during a precipitation event greater than a 100-year/24-hour storm event. The operator proposes to pump all groundwater from the active pit and storm water from 001 and 002 to the adjacent permits identified as SMP Nos. 01930302 and 6477SM5. The adjacent permits are both owned by Specialty Granules, LLC. A portion of the surface and groundwater pumped from the Northern Tract Quarry will be used as process water for SMP No. 6477SM5 while the remaining water will discharge to Miney Branch, designated as a CWF under NPDES No. PA0009059. In addition to utilizing the adjacent SMPs, the operator has completed an anti-degradation supplement and Social or Economic Justification (SEJ) for outfalls 001 and 002. At this time, a monitor and report only requirement has been added to the emergency spillways for outfalls 001 and 002 for Total Suspended Solids (TSS). The NPDES permit No. PA0279617 NPDES Individual Permit Condition number 4 states that the operator must not cause or contribute to degradation of Unnamed Tributary to/and Toms Creek in the event of a discharge from the emergency spillways for outfalls 001 and 002. This condition also requires that the operator conduct sampling during a discharge event of the discharge and upstream and downstream monitoring points that will be evaluated to determine reasonable potential for an exceedance of the corresponding water quality criterion for TSS. Should a reasonable potential for an exceedance be established, water quality based effluent limits will be calculated and implemented during precipitation events, as described above, and the permit will be revised at that time to include these limits.

1. Facility descriptionApplicant: Specialty Granules, LLCMunicipality: Hamiltonban TownshipCounty: Adams

Type of Facility: Coal Noncoal
 Surface Prep Plant Underground Mine Coal Refuse Reprocessing

This application is for:

- New source(s)
 Renewal of existing source(s)
 Revision/Modification

Permit History Not applicable, this is a New Permit

Original Permit issuance date: _____

Reissuance for Renewal dates: _____

Modification/Revision dates: _____

Does the site include remining? Yes No

If so, are there pre-existing discharges subject to Subchapter F/G? Yes No

Is this subject to EPA review? Yes No If yes, Why?

TMDL stream Monongahela watershed

Yes No Yes No

If the stream is subject to a TMDL, it is impaired for _____

Receiving Stream: Unnamed Tributary to Toms Creek and Toms Creek

Is the watershed a Special Protection Watershed designated as HQ or EV?

Yes No [If yes, provide supporting documentation for the antideg process.]

The discharge(s) is/are described as follows:

The operator has completed an Anti-Degradation Supplement for the proposed permit application. Alternative discharge location/discharging to another (non-special protection) watershed was identified as a suitable storm water management strategy for the site. Water encountered during the mining operation and from precipitation events will be pumped to outfall 001 associated with NPDES PA0009059 on the adjacent Specialty Granules, LLC SMP No. 6477SM5 discharging to Miney Branch, designated as a CWF. The pumped water from the Northern Tract Quarry to outfall 001 will have TSS limits of 35/70/90 mg/L. Any water discharging from the emergency spillway from 001 (NT Pond 1) AND 002 (NT Pond 2) will be subject to monitor and report for TSS. In addition, during a discharge event from the emergency spillways from 001 and 002, the operator will conduct sampling at the upstream and downstream monitoring points for each outfall that will be evaluated to determine reasonable potential for an exceedance of the corresponding water quality criterion for TSS. Should a reasonable potential for an exceedance be established, water quality based effluent limits will be calculated and implemented during precipitation events, as described above, and the permit will be revised at that time to include these limits.

Outfall	Identifier	Type	Frequency	Average Flow Rate	Maximum Flow Rate	Units (GPM/MGD)
001	Sedimentation Pond (NT Pond 1)	SW	P	*	*	MGD
002	Sedimentation Pond (NT Pond 2)	SW	P	*	*	MGD

For the type of discharge use Stormwater (SW), Mine Drainage Treatment (MDT) or Other (O)

For frequency use Continuous (C) Intermittent (I) or Precipitation Dependent (P)

2. Effluent Characterization

For Renewals: The applicant submitted data which complies with the effluent characterization requirements in 40 CFR 122.21(g)(7) and 122.26(c)(1)(E).

For all permits, review of the effluent characterization data indicates the presence of the following pollutants:

The operator provided estimate data based on PA Code Chapter 93.8c Table 5 Water Quality Criteria for Toxic Substances.

From the EPA Table III, only zinc was greater than the detection limits¹. The estimate concentrations were compared to screening values in order to determine the potential for each constituent to contribute to a violation of the water quality standard in the receiving stream. The screening values utilized are the Criteria Maximum Concentration (CMC)² and/or the Criteria Continuous Concentration (CCC)³. Cadmium, mercury, and selenium were present at concentrations greater than the screening values;

however, the estimated concentrations for these parameters were reported to be less than the detection limit.

Based on the adjacent Pitts Quarry and Charmian Plant Discharge Monitoring Reports (DMRs) and that the outfalls will only discharge during precipitation events greater than 100-year/24-hour storm event, there is a very low potential for the discharges to cause the in-stream water quality to exceed the CCC for these constituents. Since sample analysis provided was used as an estimate, further evaluation of these constituents will be conducted when an actual effluent characterization sample is provided from the above referenced site.

¹The detection limit concentration is the lowest concentration of a substance that can be distinguished from the absence of that substance. It is dependent on the type of analytical method and instruments used in the lab.

²The Criteria Maximum Concentration (CMC) is an estimate of the highest concentration of a material in surface water to which an aquatic community can be exposed briefly without resulting in an unacceptable effect (i.e. acute exposure).

³The Criteria Continuous Concentration (CCC) is an estimate of the highest concentration of a material in surface water to which an aquatic community can be exposed indefinitely without resulting in an unacceptable effect (i.e., chronic exposure).

⁴Q710 is a statistical estimate of the lowest average flow that would be experienced during a consecutive 7-day period with an average recurrence interval of ten years.

Based on the effluent characterization analytical results in the permit application, there is no potential for the discharge of significant amounts of toxic substances (other than those already limited) or nutrients.

Or,

Monitoring conditions have been imposed for the following toxic substances: _____

3. TMDL Waste Load Allocation

Not Applicable-Not a TMDL Stream

Not Applicable-While there is a TMDL, the identified impairment is not mining related

The Department completed and US EPA approved the _____ TMDL on _____. The TMDL was established in accordance with Sections 303(d) (1) (c) an d(2) of the Clean Water Act. The TMDL was established to address impairment of water quality for acid mine drainage as identified in Pennsylvania’s 303(d) list.

A waste load allocation for this permit is:

- Not needed because there will be no discharges subject to the TMDL
- Available from completed permit number _____
- Built into the existing TMDL report on page _____
- Limits defined by the TMDL, requires a WLA to be Requested (Kiski-Conemaugh TMDL)
- Limits at the TMDL endpoints (not in the Kiski-Conemaugh TMDL)
- Available from future mining operation allocation # ____ on page _____

4. Reasonable Potential Assessment

The following factors listed below were reviewed to determine if there is a reasonable potential to cause or contribute to an excursion from the water quality standards:

Yes No NA

- Mine Inspector comments indicate stream or discharge water quality concerns.
- WQSS evaluation (Spreadsheet calculations result in WQBELs)
- TMDL (i.e. There is no available WLA or the TMDL assigned WLAs that don't reflect permitted effluent limits.)
- Adjacent mine pit water review (The SO₄/TDS/SC is high)
- Pit water samples and/or raw treatment water is acid indicating that discharge monitoring for trace metals is needed.
- OBA shows High NP/High S or Low NP/High S
- (Renewal) Stream monitoring data reviewed in conjunction with the renewal CHIA indicates that existing effluent limits are not adequately protective of water quality standards.
- (Renewal) Pit water samples and/or treatment pond discharges have unusually elevated TDS, conductance or sulfate indicating that an Osmotic Pressure effluent limit is needed.
- Review of DMR data
- Effluent Characterization data review
- The existing stream WQ review shows no available assimilative capacity
- The projected receiving water concentration exceeds the Water quality standard

If any of the boxes are checked YES, then list the effluent limits that prevent this reasonable potential from being realized:

If none of the Yes boxes are checked, then there is no reasonable potential to cause or contribute to a water quality violation.

Conductivity/TDS/Osmotic Pressure RPA

- Discharges from this mine are not anticipated to exceed an osmotic pressure of 50 milliosmoles (mOsm) per kilogram and will not adversely affect the receiving streams.

Explain: The Department completed a reasonable potential analysis using specific conductance data from the adjacent Pitts Quarry monitoring data from the effluent characterization sample collected from the Pitts Pond and stream monitoring point SS-1. The relationship between osmotic pressure (OP in mOsm/kg) and specific conductance (SC in $\mu\text{S}/\text{cm}$) can be estimated using the following formula: $OP = SC/81$. The data used to determine the relationship between SC and OP was collected from other mining NPDES outfalls within Somerset, Cambria, and Indiana Counties. The maximum specific conductance in the last 10 years of stream monitoring data is 668 $\mu\text{S}/\text{cm}$, at monitoring location SS-1 on August 21, 2014. The osmotic pressure calculated using the formula is and a specific conductance of 668 $\mu\text{S}/\text{cm}$ is 8.25 mOsm/kg. The specific conductance from the effluent characterization sample collected from the Pitts Pond on February 7, 2014 is 333 $\mu\text{S}/\text{cm}$. The osmotic pressure calculated using the formula above and a specific conductance of 333 $\mu\text{S}/\text{cm}$ is 4.11 mOsm/kg. The in-stream water quality standard for osmotic pressure is 50 mOsm/kg.

Since the calculated osmotic pressure was less than 50% of the water quality standard an osmotic pressure effluent limit was not included; however, since the majority of the data used to establish the relationship between SC and OP is sulfate dominated water from coal mining operations, a condition has been included in the permit to collect a confirmatory sample from each outfall.

- Discharges from this mine may exceed an osmotic pressure of 50 milliosmoles (mOsm) per kilogram. Therefore, this permit includes an effluent limit for osmotic pressure.

Explain:.

5. Public Water Supply Water Quality Standard Analysis

In order to determine if there is a reasonable potential for discharge(s) from the Northern Tract Quarry to cause or contribute to a violation of the PWS narrative water quality standard, an evaluation of sulfate and asbestos was conducted. The maximum contaminate level (MCL) in drinking water for sulfate is 250 mg/L and 7 Million Fibers per liter (MFL) longer than 10 µm for asbestos. There are no downstream public water supply intakes to the Pennsylvania/Maryland State border approximately seven (7) miles downstream of the Northern Tract Quarry, or found on Monocacy River (MD) and the Potomac River (MD). Therefore, the Northern Tract Quarry will not have an impact on any public water supply intakes.

A review of a dip sample collected on February 7, 2014 from the adjacent Pitts Quarry Pitts Pond 1 shows a sulfate concentration of 13.9 mg/L. Samples collected from Toms Creek show sulfate concentrations ranging from 2.8 to 6.8 mg/L. Therefore, there is no reasonable potential for discharges from the Northern Tract Quarry to contribute to a violation of the drinking water standard for sulfate.

SGI collected asbestos water samples from the Charmian Plant Lower Mill Pond 3 (Outfall 001). The sampling consisted of three 24-hour composite samples from Outfall 001 on May 20-21, June 4-5, and June 12-13 of 2019 that were analyzed using EPA Method 100.2. In addition to collecting three 24-hour composite samples for Outfall 001, SGI also collected a dip sample from Pitts Pond 1 for the Active Pitts Quarry on September 18, 2019. The asbestos results are as follows: Charmian Plant -Outfall 001 <3.2 Million Fibers per liter (MFL) on May 20-21, 2019, <0.2 MFL on June 4-5, 2019, and <0.2 MFL on June 12-13, 2019. Pitts Quarry Pond 1- 0.2 MFL. The Department collected split water samples with SGI on February 11, 2020 from the upper and lower J-stand for analysis for asbestos using EPA Method 100.1. The results for the upper J-stand were <1.0 MFL while the results for the lower J-stand were <0.52 MFL. The maximum contaminant level (MCL) for asbestos in drinking water is 7 MFL longer than 10 µm. The asbestos results of the samples collected from Outfall 001 and Pitts Quarry Pond 1 for asbestos show concentrations of asbestos less than the drinking water standard of 7 MFL. Samples collected from Toms Creek show asbestos concentrations at < 0.2 MFL. Therefore, there is no reasonable potential for discharges from the Northern Tract Quarry to contribute to a violation of the drinking water standard for asbestos.

6. Aquatic Life Water Quality Standard

Summarize the evaluation and measures taken to prevent a violation of the Aquatic Life narrative Water Quality Standard:

The permit contains the following standard conditions to protect aquatic life:

1. The discharger may not discharge floating materials, scum, sheen, or substances that result in deposits in the receiving water.
2. The permittee may not discharge substances in concentration or amounts sufficient to be inimical or harmful to the water uses to be protected or to human, animal, plant or aquatic life.

7. Calculations and explanation of effluent limits

Effluent limits for this in the draft permit are based on:

- BAT
- WQBEL Check the method(s) used and attach documentation:
 - WQSS (Anti-degradation Method)
 - PENTOX
 - Mass Balance Calculations
 - Limits defined by TMDL

Effluent Limits

<p>The following discharge limitations apply to dry weather discharges from stormwater facilities and all pumped water to SMP No. 6477SM5 at Outfall 001 associated with NPDES Permit PA0009059. All concentrations are in mg/L except where otherwise noted.</p>			
<p>Outfalls: 001, 002</p>			
	Monthly Average	Daily Max.	Instantaneous Max.
Total Fe	N/A	N/A	N/A
Total Mn	N/A	N/A	N/A
Total Al	N/A	N/A	N/A
TSS	35.0	70.0	90.0

<p>The following alternate discharge limitations apply to discharges from stormwater facilities resulting from precipitation events less than or equal to the 100-year/24-hour precipitation event. All concentrations are in mg/L except where otherwise noted.</p>			
<p>Outfalls: 001,002</p>			
	Monthly Average	Daily Max.	Instantaneous Max.
TSS	N/A	N/A	Monitor and Report*

*Data collected from a minimum of 3 discharge events will be used to calculate appropriate effluent limits under these conditions. Until that time, compliance during a discharge event will be determined using the following permit condition.

The operator must not cause or contribute to degradation of Toms Creek or Unnamed Tributary to Toms Creek in the event of a discharge from the emergency spillways for outfalls 001 and 002.

For TSS, a non-degrading discharge from the emergency spillways from outfall 001 and 002 shall be permitted during a 100-year/24-hour storm event or greater if the difference in the concentrations between the upstream and downstream monitoring points are not statistically significant given the natural variability of such parameters and have not caused or contributed to an adverse impact on human health, aquatic life, public water supply uses, cold water fishes or recreational uses of the stream.

The permittee must commence collecting water samples for TSS with flow measurements at the monitoring points listed below during a precipitation event which exceeds the 100-year/24-hour event or at any precipitation event the emergency spillway outfalls 001 and 002 appears possible to discharge:

Outfall 001
 Outfall 002
 SS-TC-US (Upstream Toms Creek- Upstream of Outfall 001)
 SS-4 (Midstream Toms Creek -Downstream of Outfall 001)
 SS-CH1-US (Upstream Unnamed Tributary to Toms Creek)
 SS-CHN1-DS (Downstream Unnamed Tributary to Toms Creek)

The operator is required to report all the above referenced monitoring information with their quarterly sampling results. In addition, the operator is to provide a yearly report of the data collected during the discharge events at outfalls 001 and 002.

After a minimum of three precipitation events exceeding the 100-year/24-hour event or any other precipitation event where the emergency spillways from outfalls 001 and 002 discharge, sampling results will be evaluated to determine reasonable potential for an exceedance of the corresponding water quality criterion for TSS. Should a reasonable potential for an exceedance be established, water quality based effluent limits will be calculated and implemented during precipitation events, as described above, and the permit will be revised at that time to include these limits.

8. Basis for Permit Conditions

This NPDES permit contains the mandated standard conditions as required in 40 CFR 122.41.

For new Permits, the following conditions are included in the permit to document the effluent characterization requirements:

The permittee shall provide analysis of samples collected from erosion and sedimentation control outfalls within two years of the initial discharge of each facility in compliance with 40 CFR 122.26(c)(1)(i)(G). Specifically, sampling results are required for the pollutants listed in 40 CFR 122, Appendix D, Table III (Report All), and for Appendix D, Tables II and IV those that are expected to be present and pH, specific conductivity, temperature, alkalinity, acidity, iron, manganese, aluminum, sulfate, chloride, settleable solids, total dissolved solids, oil and grease, BOD5, COD, Kjeldahl nitrogen, and nitrate plus nitrite nitrogen. This quantitative data requirement is subject to the small business exemption at 40 CFR 122.21(g)(8) for Tables II and IV.

In addition, the permit contains the following conditions:

The permittee shall include a sample from the receiving stream to be analyzed for hardness as part of the effluent characterization for this site. The hardness sample must be collected from the receiving stream downstream of the outfall(s) during a discharge.

The permittee shall ensure that all effluent characterization data analysis includes detection limits that are less than the corresponding water quality criteria for each parameter (Pa. Code Title 25 Chapter 93.8c Table 5).

The permittee shall include a sample of the erosion and sedimentation control outfalls to be analyzed for osmotic pressure as part of the effluent characterization for this site.

These additional conditions are required because:

In order to properly evaluate the effluent characterization sampling the operator will be required to analyze each constituent at a detection limit below the screening values. Additionally, the operator will

collect a hardness sample from the receiving stream to aid in the effluent characterization evaluation for each outfall.

The operator will also collect an osmotic pressure sample of the erosion and sedimentation control outfalls to confirm the results of the reasonable potential analysis using specific conductance.

9. Alternatives to standards

- There are no alternatives to standards since the NPDES permit will require that the discharges meet all applicable water quality standards.

Or

- The NPDES permit applicant has requested an alternative to required standards of Chapter 93 under the procedure of Chapter 93 relating to Social or Economic Justification. (Explain)

SGI will implement a non-discharge alternative that includes: (1) the installation of oversized ponds NT Pond Nos. 1 and 2 (outfall 001 and 002) and related drainage structures, (2) collection and transfer of water from the Northern Tract Pond System to the Lower Mill Pond System, and (3) the water use technologies that are part of the Lower Mill Pond System. The Northern Tract mine permit plan utilizes an alternative discharge location which will collect runoff from the Northern Tract area and discharge such waters to a non-specially protected watershed via the Lower Mill Three Pond System in all instances except for a storm that is of greater intensity or magnitude than a 100-year/24-hour storm event, when there would be the potential for a discharge via an auxiliary spillway to reach Toms Creek. As such, SGI has completed an SEJ for the potential discharges that may occur from outfalls 001 and 002.

10. Procedure for reaching a final decision

Date of the notice of the tentative determination for this application published in the Pennsylvania Bulletin May 26, 2018

Period for public comment: May 26, 2018 to June 26, 2018

Address where comments are received 286 Industrial Park Road, Ebensburg, PA 15931

11. Public participation comments and request for public hearings:

The public may participate by providing written comments during the comment period, requesting a public hearing, attending a public hearing or providing testimony at a public hearing.

Persons wishing to comment on this permit application should submit a statement to the Department at the address listed. Comments received within the comment period will be considered in the final determination regarding the NPDES permit application. Comments must include the name, address and telephone number of the writer and a concise statement to inform the Department of the exact basis of a comment and the relevant facts upon which it is based.

The Department will accept requests or petitions for a public hearing on this NPDES permit application, as provided in 25 Pa. Code § 92.61. The request or petition for a public hearing shall be filed within the comment period and shall contain the name, address, telephone number and the interest of the party filing the request, and shall state the reasons why a hearing is warranted.

If a hearing is scheduled, a notice of the hearing on the NPDES permit application will be published in the *Pennsylvania Bulletin* and a newspaper of general circulation within the relevant geographical area.

12. Additional Information

Further information may be obtained by contacting Rock Martin, Chief, Technical Services Section, 286 Industrial Park Road, Ebensburg, PA 15931; 814-472-1900, martin@pa.gov

13. Waivers

The permittee has not been granted any waivers under 40 CFR Secs. 122.21 or 123.25 related to permit applications.

14. Protection of In-stream water quality-post-mining pollution prevention

The Department considered the expected post-mining water quality from this permit and determined that there is reasonable assurance that in-stream water quality will be protected to meet designated uses and can meet water quality criteria at 25 Pa. Code Section 93.7.

For new permits:

Any post-mining drainage that the proposed mining operation may produce will be alkaline drainage because the mining activities will (select one):- Not Applicable

- encounter overburden with sufficient calcium carbonate to prevent acid drainage.
- use alkaline material imported to the site sufficient to prevent acid drainage.
- completely flood and therefore restrict oxygen to prevent acid drainage.
- completely flood and will encounter calcium-carbonate containing roof rock.

For renewals: During review of the initial mine permit application the Department considered the expected post-mining water quality from this permit and determined that there is reasonable assurance that in-stream water quality will be protected to meet designated uses and can meet water quality criteria at 25 Pa. Code Section 93.7. Any post-mining drainage that may be produced by the proposed mining operation is expected to be alkaline drainage.

Select one:

- Review of the renewal application including company and inspector sampling data confirm the finding regarding post-mining discharges made during the initial application review.
- Review of the renewal application including company and inspector sampling data contradicts the finding regarding post mining discharges made during the initial application review—permit modifications are required.

Explain any permit modifications that will be made as a right of this renewal including changes to effluent limits and/or revisions to the mining plan:

15. Potential Improvements – Not Applicable

- The receiving stream(s) is(are) impaired by acid mine drainage and the additional alkalinity anticipated from this discharge is expected to improve overall water quality.

Remining is expected to improve overall water quality due to decreased sedimentation and runoff.

Note: A TSS effluent limit was not included for the subchapter F discharges. TSS limits are not required by Pennsylvania Subchapter F regulations and can be waived under the federal remining regulations.

16. Pa Fish and Boat Commission Comments

The PA Fish Commission has reviewed the proposed discharge and has determined the following (summarize or attach comments):

The Department received comments from the PA Fish Commission on February 9, 2018. The PA Fish Commission did not have any comments in regard to discharges from the Northern Tract Quarry.

Tools and References Used to Develop Permit	
<input checked="" type="checkbox"/>	Water Quality Spreadsheet (see Attachment)
<input type="checkbox"/>	PENTOXSD for Windows Model (see Attachment)
<input type="checkbox"/>	TMDL Report:
<input checked="" type="checkbox"/>	Anti-degradation Supplement for Mining Permits
<input type="checkbox"/>	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
<input type="checkbox"/>	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
<input checked="" type="checkbox"/>	Developing National Pollutant Discharge Elimination System (NPDES) Permits for Mining Activities (563-2112-115)
<input type="checkbox"/>	Other:
<input type="checkbox"/>	Other:
<input type="checkbox"/>	Other:
<input type="checkbox"/>	Other: