

September 8, 2020

Mr. V. C. Pyles Gillette Sand and Gravel, Inc. 20575 Hwy 24 Woodland Park, CO 80863

## RE: Evaluation of Air Emissions Reporting and Permitting Requirements, Gillette Mine

Dear Mr. Pyles:

RealTime Aquifer Services (RAS) has prepared this document at your request to evaluate potential air emissions at the Gillette Mine and associated reporting and permitting requirements. Our evaluation is based on data that you provided in support of an Air Pollution Emission Notification (APEN) application to the Colorado Department of Public Health and Environment (CDPHE). A complete draft application (CDPHE Form APCD-222), including site–specific information for the mine, is attached to this document. At your request, it has not been submitted to the CDPHE. We also researched current CDPHE regulations and contacted the CDPHE for confirmation of our findings.

At the current production rate of 42,000 tons per year, we believe that operation of the Gillette Mine, including the crushers and conveyors described in the draft Form APCD-222 does not require submittal of an APEN and will not require an emission permit. Because production is less than the CDPHE threshold of 70,000 tons per year, it does not require any regulatory notification. This is the opinion of RAS, based on our knowledge of applicable regulations and operation of the Gillette Mine.

Colorado air regulations provide a specific permitting exemption for "Surface mining activities that mine seventy thousand tons or fewer of product material per year." This exemption can be found in Colorado Regulation Number 3, specifically in Part B, Section II.D.1.g. (page 78). While that exemption specifically does not apply to crushers/screens/other processing equipment in use at the site, we do not believe that operation of this processing equipment would trigger CDPHE reporting requirements.

The exemption also clarifies that a fugitive dust control plan is required for sources like crushers and conveyors, but the need for a plan is contingent on whether or not the emissions from the mine are below the APEN threshold of 2 tons per year of particulate material (before application of any emissions controls).

Based on the throughput and moist characteristics of the material being mined (as described on Form APCD-222), we believe that emissions will be below the 2-ton annual threshold for particulates. Therefore we believe that a fugitive dust control plan is not be required.

RAS also used the site-specific data to populate the CDPHE's Excel spreadsheet-based emissions screening tool *AP\_Crushing-and-Screening-Emission-Calculator*. The spreadsheet output (attached) indicates that an APEN or permitting are not required.

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To determine and document whether emissions are below the APEN threshold, an APEN could be submitted voluntarily to the CDPHE. The Division would then determine your emissions and send you either a permit exemption letter (if emissions are above 2 tons per year and annual production is less than 70,000 tons per year) or an APEN exemption letter (if emissions are below 2 tons per year). Submittal of this application would require the \$216.00 APEN filing fee. It is important to note that if the mine operation is below the APEN exemption threshold, the CDPHE Air Pollution Control Division cannot legally compel you to submit an APEN and any submission would be on a voluntary basis.

## Summary

RAS believes that air pollutant emissions from your operation are below threshold levels and therefore you are not required to submit an APEN or prepare a fugitive dust control plan. If conditions change and you are concerned that emissions will increase to above the APEN threshold, or production rises above the 70,000 ton/year threshold, we recommend that you submit an APEN and filing fee to the CDPHE for their evaluation.

If you require documentation from the CDPHE, and you would prefer to voluntarily have them determine your emission levels, you can submit an APEN and filing fee and they will provide you with either an APEN exemption letter or permit exemption letter, depending on their findings. Under any scenario, as long as production does not exceed 70,000 tons annually, the operation is exempt from permitting, and you would not be charged more than the filing fee.

We appreciate the opportunity to provide you with this evaluation. We believe that this letter will provide you with the information necessary to maintain compliance at the Gillette Mine Should you have additional questions, comments, or require any information, please contact me at 303-808-6133 or at <u>bren.shine@q.com</u>.

Regards, RealTime Aquifer Services

Brendan Shine, P.E. Senior Geological Engineer

William Pedler President/ Geological Engineer

Cc: Mr. Elliott Russell, Colorado DRMS

Attachments:

Draft APEN Form APCD-222 for the Gillette Mine APCD AP\_Crushing-and-Screening-Emission-Calculator output **Attachment – Gillette Mine Preliminary APEN Form 222** 



# Mining Operations APEN – Form APCD-222 Air Pollutant Emission Notice (APEN) and Application for Construction Permit

All sections of this APEN and application must be completed for both new and existing facilities, including APEN updates. Incomplete APENs will be rejected and will require re-submittal. Your APEN will be rejected if it is filled out incorrectly, is missing information, or lacks payment for the filing fee. The re-submittal will require payment for a new filing fee.

This APEN is to be used for mining operations (i.e. quarries, pits, or mines). This APEN may also be used to report haul road activities at non-mining facilities. Additional APENs may be required for process equipment located at the mine. A specialty APEN may be available for the process equipment (e.g. asphalt plant, crusher/screen, concrete batch plant, engines, etc.). In addition, the General APEN (Form APCD-200) is available if the specialty APEN options will not satisfy your reporting needs. A list of all available APEN forms can be found on the Air Pollution Control Division (APCD) website.

This emission notice is valid for five (5) years. Submission of a revised APEN is required 30 days prior to expiration of the five-year term, or when a reportable change is made (significant emissions increase, increase production, new equipment, change in fuel type, etc.). See Regulation No. 3, Part A, II.C. for revised APEN requirements.

Permit Number:		/	1	
	[Leave blank unless APCD has already assigned	d a permit # and AIRS ID]		
Section 1 - Adm	ninistrative Information			
Company Name <sup>1</sup> :	Gillette Sand and Gravel, Inc.			
Mine/Pit Name:	Gillette Mine	_		
Mine/Pit Location:	Teller County Road 81	Mine/Pit Location County:	Teller	
	7.2 miles north of Victor	_		
		NAICS or SIC Code:		
Mailing Address: (Include Zip Code)	20575 Highway 24			
	Woodland Park, CO 80863	Contact Person:	Mr. V. 0	Chris Pyles
		Phone Number:	719-68	7-3111
		E-Mail Address <sup>2</sup> :	utesng@	yahoo.com

<sup>1</sup> Use the full, legal company name registered with the Colorado Secretary of State. This is the company name that will appear on all documents issued by the APCD. Any changes will require additional paperwork.

<sup>2</sup> Permits, exemption letters, and any processing invoices will be issued by the APCD via e-mail to the address provided.



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[Leave blank unless APCD has already assigned a permit # and AIRS ID]

K	NEW	permit OR newly-reported en	nission s	ource		
				- OR -		
	MODI	FICATION to existing permit (	check each	box below that applies)		
		Change fuel or equipment		Change company name <sup>3</sup>		Add point to existing permit
		Change permit limit		Transfer of ownership <sup>4</sup>		Other (describe below)
				- Or -		
	APEN	submittal for update only (No	ote blan	k APENs will not be accept	ed)	
			- A	DDITIONAL PERMIT ACTIONS -		
K	APEN	submittal for permit exempt	/grandfa	athered source		

<sup>3</sup> For company name change, a completed Company Name Change Certification Form (Form APCD-106) must be submitted.

<sup>4</sup> For transfer of ownership, a completed Transfer of Ownership Certification Form (Form APCD-104) must be submitted.

## Section 3 - General Information

General description of the activity (additionally, provide a topographic site map):

# Surface aggregate mine with conveyors, crushers and classifiers

weeks/year
50
t)



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# Section 4 - Processing/Manufacturing Information & Material Use

Check this box if APEN is for Haul Roads only (not located at a mining site) and complete the applicable sections, <u>Section 4H - Raw Material Transport</u> and/or <u>Section 4I - Finished Product Transport</u> on pages 6 and 7. Otherwise complete all of Section 4.

# From what year is the actual annual amount? 2019

Actual Annual Production (tons)	42,000
Requested Annual Production <sup>5</sup> (tons)	up to 50,000

<sup>5</sup> Requested values will become permit limitations or will be evaluated for exempt status, as applicable, and should consider future process growth. Requested values are required on all APENs, including APEN updates.

Section 4A -	Topsoil
Removal	Stockpile(s)
Topsoil removed daily (tons) 1.53	Maximum stored on site (tons) $420$
Topsoil removed annual (tons) 168	Proposed controls for topsoil stockpile
Proposed controls for topsoil removal	U Watering
🖉 Moist Material	Chemical Stabilizer
🗖 Water Spray	Compacting of Piles
Other (specify):	Enclosures (choose one option from below)
	Complete Partial
	Revegetation (must occur within one year of site disturbance)
	Other (specify):
Section 4B - Ove	erburden
Removal	Stockpile(s)
Equipment used for removal no overburden is removed	Maximum stored on site <i>(tons)</i> Not Applicable; no overburden is removed
Tons removed by dragline (daily)	Proposed controls for overburden stockpile
Tons removed by dragline (annual)	□ Watering
Dragline drop height <i>(feet)</i>	Chemical stabilizer
Hours scraper operated (daily)	Compacting of piles
Hours scraper operated (annual)	Enclosures (choose one option from below)
Proposed controls for overburden removal	🗖 Complete 🛛 Partial
🗖 Moist material	Revegetation (must occur within one year of site disturbance)
🗖 Water Spray	Other (specify):
Other (specify):	



[Leave blank unless APCD has already assigned a permit # and AIRS ID]

#### Section 4C - Drilling and Blasting Drilling Blasting Not Applicable; Not Applicable; Number of holes drilled (daily) Blast area (acres) no drilling operations no blasting operations Number of holes drilled (annual) Number of blasts (daily) Proposed controls for drilling Number of blasts (annual) □ Water injection Type of blasting material Bag collectors Blasting material used (daily) □ Other (specify): Blasting material used (annual)

#### Section 4D - Raw Material

Removal	Stockpile(s)
Material removed daily <i>(tons)</i> 382	Maximum stored on site $(tons)$ 350
Material removed annual (tons) 42,000	Proposed control for raw material stockpile
Maximum drop height <i>(feet)</i> 15	U Watering
Specific moisture content (%) 3.5	Chemical stabilizer
Proposed controls for raw material removal	Compacting of piles
☑ Moist material	Enclosures (choose one option from below)
☐ Water spray	🗖 Complete 🛛 🗖 Partial
Other (specify):	Other (specify): <b>Raw material is moist</b>

#### Section 4E - Conveyors and Transfer Points (not assigned to process equipment)

Include a map detailing the conveyor system layout within the site. Map is attached

Conveyir	Ig	Transfer Points			
Material conveyed daily (tons)	44	Number of transfer points	9		
Material conveyed annual (tons)	4,860	Proposed controls for transfer points			
Proposed controls for conveyors		U Watering			
Enclosures (choose one opt	ion from below)	🗖 Chemical stabil	izer		
🗖 Complete 🛛 Pa	rtial	Enclosures (choo	ose one option from below)		
Uther (specify):	naterial (approx. 3.5% re content)	Complete	Partial		
		□ Other (specify):	moist material (approx. 3.5% moisture content)		



#### AIRS ID Number:

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[Leave blank unless APCD has already assigned a permit # and AIRS ID]

#### Section 4F - Processing Equipment

Will processing (e.g. crushing, screening, etc.) occur on site? (yes/no) Ves

If you answered "No" above (i.e. no processing/manufacturing equipment will be located on site) check the box below and skip to page 6, Section 4G - Finished Product.

Check this box if no process equipment is located on site.

List any additional emission sources and related controls (e.g. concrete batch plants, crushers/screens, engines, conveyors and transfer points associated with process equipment, asphalt plants, etc.). Additional APENs for any such equipment may be required. The following specialty APENs are available: Form APCD-224 Concrete Batch Plant APEN, Form APCD-221 Crusher/Screen APEN, Form APCD-233 Compression Ignition Engine APEN. If a specialty APEN is not appropriate for the additional equipment, use Form APCD-200 General APEN.

Additionally, complete the section below regarding crushing and screening performed on site.

Emission Source	m	Permit Number
(or equipment type)	Control Equipment Description	(if available)
Jaw crusher (primary)	Moist material	Not applicable (no permit)
Cone crusher (secondary	Moist material	Not applicable (no permit)
Conveyors, up to eight (50 ft x 3 ft)	Moist material	Not applicable (no permit)
Coarse material finish washer/stacker	Water spray bars	Not applicable (no permit)
Two Caterpiller loaders	Moist material (high water table)	Not applicable (no permit)
Excavator (Volvo 800 crawler)	Moist material (high water table)	Not applicable (no permit)
Generator (Caterpiller 3406)	None	Not applicable (no permit)

Primary Crus	hing	Screening/Classifying					
Maximum crushed per year (tons)	610	Maximum screened per year (tons)	4,860				
Design process rate (tons/hour)	20	Design process rate (tons/hour)	45				
Duration of daily crushing (hours)	8 (as needed)	Duration of daily screening (hours)	8 (as needed)				
Secondary Cru	ishing	Secondary Screening/	Classifying				
Maximum crushed per year (tons)	1,620	Maximum screened per year (tons)	4,860				
Design process rate (tons/hour)	20	Design process rate (tons/hour)	45				
Proposed control for crushing		Proposed control for screening					
🗴 Moist material		🗖 Moist material					
U Water spray		🗹 Water spray					
Enclosures (choose one opti	on from below)	Enclosures (choose one option	n from below)				
🗖 Complete 🛛 🗖 Part		🗖 Complete 🗖 Partial					
Other <i>(specify)</i> Crushed market raw materia	aterial is mixed with moist Il resulting in deminimus dust	Other (specify):					

Note: Completion of this section does not relieve the applicant from the requirement to submit APEN forms for process equipment subject to APEN or permitting requirements.

generation



[Leave blank unless APCD has already assigned a permit # and AIRS ID]

## Section 4G - Finished Product

Stockp	ile(s)
Maximum stored on site (tons)	50
Proposed control for finished prod	uct stockpile
Watering	
Chemical stabilizer	
Compacting of piles	
Enclosures (choose one option	on from below)
🔲 Complete 🛛 🗋 Parti	al
Revegetation (must occur w	ithin one year of site disturbance)
Other (specify):	

#### Section 4H - Raw Material Transport (raw material removal to stockpiles)

Annual on-site transfer:	Not Applica	ble							
		Ha	aul Vehicle 1		<u>Haul Ve</u>	hicle 2	Haul Vehicle 3		
Haul vehicle capacity:								tons	
Haul vehicle empty weigh	t:							tons	
Max number of trips per d	ay:							_	
Haul road length (avg. one	e way):							 feet	
Posted speed limit on hau	l road:			— n	nph			_	
List all air pollution contro	ols used for the	haul	roads:						
Paved Surface									
Stre	eet sweeping:		No		Yes				
Unpaved Surface	9								
	Watering:		None		As needed		Frequent <sup>6</sup> :		times/day
Surfac	e is graveled:		No		Yes				
Chemical stab	ilizer applied:		No		Yes	Type:			
							(e.g. mag chlo	ride, resir	n, etc.)

<sup>6</sup> If "Frequent" is selected, your permit may include a requirement to water haul roads daily as often as listed in this APEN.



Permit Number:

#### AIRS ID Number: /

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[Leave blank unless APCD has already assigned a permit # and AIRS ID]

		-	Section 4I - F	inist	ed Produc	t Tran	spor	<u>t</u>		
Annual off-site transfer:	42,000	ton:	S							
		<u>Hau</u>	ıl Vehicle 1		Haul Vehicle	<u>e 2</u>		Haul Vehicle 3		
Haul vehicle capacity:		25	tons		15 tons				tons	
Haul vehicle empty weight:		34	000 lb		24000 I	b			tons	
Max number of trips per da	y:	6		6	6					
Haul road length (avg. one	way):	12	00 ft.	-	1200 ft				 feet	
Posted speed limit on haul road:		10		mph						
List all air pollution control	s used for the	e haul	roads:							
Paved Surface										
Street sweeping:			No		Yes					
Unpaved Surface										
Watering:			None	X	As needed			Frequent <sup>6</sup> :		times/day
Surface is graveled:			No		Yes			_		
Chemical stabilizer ap	plied:		No		Yes	Type:				
							(e	.g. mag chloride, re	sin, etc.)	

<sup>6</sup> If "Frequent" is selected, your permit may include a requirement to water haul roads daily as often as listed in this APEN.

Section 5 - Geographica	I/Site Information	
	Geographical Coordinates (Latitude/Longitude or UTM)	
	38°46'43.22"N/-105°7'9.12"W	
	Attach a topographic site map indicating location.	·
Total site area (acres): 32		
Total disturbed site area (acres):	3.88 (2019)	
Proposed site controls		
☑ Watering (choose one opti	on from below)	
Frequent (2 or more	times per day)	
X As needed		
Chemical stabilizer		
Revegetation (must occur	within one year of site disturbance)	
Seeding with mulch		
Seeding without mu	ılch	
Other (specify):		



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[Leave blank unless APCD has already assigned a permit # and AIRS ID]

## Section 6 - Applicant Certification

I hereby certify that all information contained herein and information submitted with this application is complete, true, and correct.

Signature of Legally Authorized Person (not a vendor or consultant) Date		
V. Chris Pyles	Presider	nt
Name (print)		Title

#### Check the appropriate box to request a copy of the:

Draft permit prior to issuance
 Draft permit prior to public notice

(Checking any of these boxes may result in an increased fee and/or processing time)

This emission notice is valid for five (5) years. Submission of a revised APEN is required 30 days prior to expiration of the five-year term, or when a reportable change is made (significant emissions increase, increase production, new equipment, change in fuel type, etc.). See Regulation No. 3, Part A, II.C. for revised APEN requirements.

Send this form along with \$216.00 to:

Colorado Department of Public Health and Environment Air Pollution Control Division APCD-SS-B1 4300 Cherry Creek Drive South Denver, CO 80246-1530

Make check payable to:

Colorado Department of Public Health and Environment

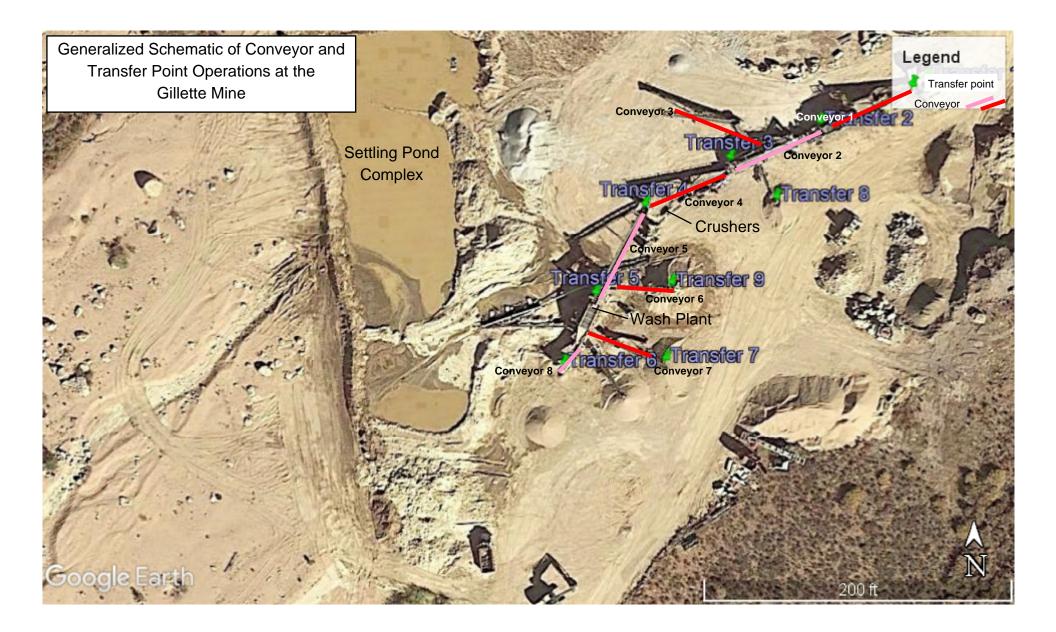
For more information or assistance call:

Small Business Assistance Program (303) 692-3175 Or (303) 692-3148

APCD Main Phone Number (303) 692-3150







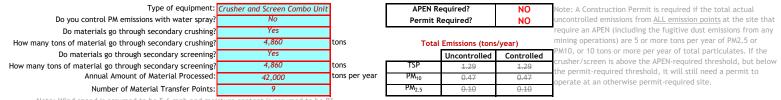
Attachment – APCD AP\_Crushing-and-Screening-Emission-Calculator output

# Crushing and Screening Emissions Calculator

Instructions: Fill in your information into the teal-colored boxes and refer to the yellow highlighted boxes for your reportable calculated emissions.

If you have multiple pieces of equipment, only use the calulator for one piece of equipment at a time to get accurate results for APEN and Permitting requirements. For example, calculate the emissions from your crusher, clear out the calculator and then calculate emissions from the screen since the need for an APEN is based on the emissions from the single piece of equipment. There is an option for combo units.

If values appear as gray and/or crossed out, they are not above the reporting threshold and can be ignored.



Note: Wind speed is assumed to be 5.6 mph and moisture content is assumed to be 8%

#### **TSP Emission Calculations**

Emission Source	Uncontrolled Emission Factor (lb/ton)	Uncontrolled TSP Emission (ton/year)	Control %	Controlled TSP Emission (ton/year)
CRUSHER HOPPER LOADING	0.0004	0.0083	0.00%	0.0083
PRIMARY CRUSHING	0.0054	0.1134	0.00%	0.1134
SCREENING	0.0250	0.5250	0.00%	0.5250
SECONDARY CRUSHING	0.0054	0.0131	0.00%	0.0131
RESCREENING	0.0250	0.0608	0.00%	0.0608
CONVEYORS AND TRANSFER POINTS	0.0030	0.5670	0.00%	0.5670
Total TSP:	-	<del>1.29</del>	0.00%	1.29

#### PM<sub>10</sub> Emission Calculations

Emission Source	Uncontrolled Emission Factor (lb/ton)	Uncontrolled PM <sub>10</sub> Emission (ton/year)	Control %	Controlled PM <sub>10</sub> Emission (ton/year)
CRUSHER HOPPER LOADING	0.0002	0.0039	0.00%	0.0039
PRIMARY CRUSHING	0.0024	0.0504	0.00%	0.0504
SCREENING	0.0087	0.1827	0.00%	0.1827
SECONDARY CRUSHING	0.0024	0.0058	0.00%	0.0058
RESCREENING	0.0087	0.0211	0.00%	0.0211
CONVEYORS AND TRANSFER POINTS	0.0011	0.2079	0.00%	0.2079
Total PM <sub>10</sub> :	-	0.47	0.00%	0.47

#### PM<sub>2.5</sub> Emission Calculations

Emission Source	Uncontrolled Emission Factor (lb/ton)	Uncontrolled PM <sub>2.5</sub> Emission (ton/year)	Control %	Controlled PM <sub>2.5</sub> Emission (ton/year)
CRUSHER HOPPER LOADING	0.0000	0.0006	0.00%	0.0006
PRIMARY CRUSHING	0.0004	0.0076	0.00%	0.0076
SCREENING	0.0013	0.0274	0.00%	0.0274
SECONDARY CRUSHING	0.0004	0.0084	0.00%	0.0084
RESCREENING	0.0013	0.0274	0.00%	0.0274
CONVEYORS AND TRANSFER POINTS	0.0002	0.0312	0.00%	0.0312
Total PM <sub>2.5</sub> :	-	0.10	0.00%	0.10

Note: A PM2.5/PM10 ratio was assumed to be 0.15 based on http://www3.epa.gov/ttnchie1/conference/ei15/session14/cowherd.pdf



## Air Emissions Regulatory Notification and Permitting Requirements

1 message

Brendan Shine <br/>
stern.shine@q.com><br/>
To: Ute Pass Concrete-Sand & Gravel <utesng@yahoo.com><br/>
Cc: elliott.russell@state.co.us, Bill Pedler <br/> topedler@rasinc.org>, lwilliams@rasinc.org<br/>

Tue, Sep 8, 2020 at 3:12 PM

Dear Mr. Pyles:

As you requested, RealTime Aquifer Services (RAS) has prepared the attached letter to summarize our understanding of your regulatory and notification requirements for air emissions at the Gillette Mine. We believe that permitting and reporting through the Colorado Department of Public Health and Environment would not be required under current mine operations and production rates. This is because the production rate of the mine falls below the 70,000 ton/year APEN threshold and the material transported through operation of the conveyor and crusher system unlikely to produce more than 2 tons per year of particulate (fugitive dust) material. In addition, a fugitive dust control plan would not be necessary under the current operation conditions.

We appreciate the opportunity to provide you with our continued services. If you require any additional information, please contact me.

Best Regards,

Brendan

Brendan Shine, P.E.

**RealTime Aquifer Services** 

303.808.6133

bren.shine@q.com

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Air Regulatory Requirement Letter 9-8-20.pdf 2386K