



State of Utah

SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Kimberly D. Shelley
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQE-AN105710047-21

May 10, 2021

Matt Tobey
Rio Tinto Kennecott Utah Copper LLC
4700 Daybreak Parkway
South Jordan, UT 84095
jenny.esker@riotinto.com

Dear Mr. Tobey:

Re: Approval Order:
Administrative Amendment of Approval Order DAQE-AN105710042-18 to Incorporate
Requirements of the PM_{2.5} Serious SIP
Project Number: N105710047

The attached Approval Order (AO) is issued pursuant to the Notice of Intent (NOI) received on March 8, 2021. Rio Tinto Kennecott Utah Copper LLC must comply with the requirements of this AO, all applicable state requirements (R307), and Federal Standards.

The project engineer for this action is **Ms. Catherine Wyffels**, who can be contacted at (385) 306-6531 or cwyffels@utah.gov. Future correspondence on this AO should include the engineer's name as well as the DAQE number shown on the upper right-hand corner of this letter.

Sincerely,

Bryce C. Bird
Director

BCB:CW:sb

cc: Salt Lake Valley Health Department
Dan Fagnant, EPA Region 8

STATE OF UTAH

**Department of Environmental Quality
Division of Air Quality**

APPROVAL ORDER

DAQE-AN105710047-21

**Administrative Amendment of Approval Order DAQE-
AN105710042-18 to Incorporate Requirements of the PM_{2.5} Serious
SIP**

Prepared By

**Ms. Catherine Wyffels, Engineer
(385) 306-6531
cwyffels@utah.gov**

Issued to

Rio Tinto Kennecott Utah Copper LLC - Mine & Copperton Concentrator

Issued On

May 10, 2021

Issued By



**Bryce C. Bird
Director
Division of Air Quality**

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GENERAL INFORMATION

CONTACT/LOCATION INFORMATION

Owner Name

Rio Tinto Kennecott Utah Copper LLC

Source Name

Rio Tinto Kennecott Utah Copper LLC - Mine & Copperton Concentrator

Mailing Address

4700 Daybreak Parkway
South Jordan, UT 84095

Physical Address

8362 West 10200 South
Bingham Canyon, UT 84006

Source Contact

Name Jenny Esker
Phone (801) 569-6494
Email jenny.esker@riotinto.com

UTM Coordinates

407,000 m Easting
4,493,000 m Northing
Datum NAD27
UTM Zone 12

SIC code 1021 (Copper Ores)

SOURCE INFORMATION

General Description

Rio Tinto Kennecott Utah Copper LLC (KUC) owns and operates the Bingham Canyon Mine (BCM) and the Copperton Concentrator. The BCM is an open pit mining operation located in the southwest corner of Salt Lake County, Utah. Ore from the mine is conveyed to the Copperton Concentrator located approximately five (5) miles north of the open pit in Copperton, Utah where it is ground and treated to produce copper concentrate.

The ore and waste rock at the BCM are transferred from the mining areas to other areas of the mine through a series of transfers using haul trucks and conveyor belts. Ore is transferred to the in-pit crusher with haul trucks from the shovel face and waste rock is hauled to dumping areas with haul trucks. After the ore is crushed it is transferred to the Copperton Concentrator by conveyor belts. Once the ore is processed at the concentrator, it is transferred to the smelter.

NSR Classification

Administrative Amendment

Source Classification

Located in Northern Wasatch Front O3 NAA, Salt Lake City UT PM_{2.5} NAA, Salt Lake County SO₂ NAA
Salt Lake County
Airs Source Size: B

Applicable Federal Standards

NSPS (Part 60), A: General Provisions
NSPS (Part 60), LL: Standards of Performance for Metallic Mineral Processing Plants

NSPS (Part 60), OOO: Standards of Performance for Nonmetallic Mineral Processing Plants
 NSPS (Part 60), IIII: Standards of Performance for Stationary Compression Ignition Internal
 Combustion Engines
 NSPS (Part 60), JJJJ: Standards of Performance for Stationary Spark Ignition Internal
 Combustion Engines
 MACT (Part 63), A: General Provisions
 MACT (Part 63), ZZZZ: National Emissions Standards for Hazardous Air Pollutants for
 Stationary Reciprocating Internal Combustion Engines
 Title V (Part 70) Area Source

Project Description

DAQ is amending the BCM AO to reflect the equipment evaluated in the PM_{2.5} Serious SIP and incorporate the requirements in Section IX, Part H.12.h. The following updates were made as part of this administrative amendment:

- 1) Removed second in-pit crusher and associated conditions from the AO. This crusher was permitted in 2011 and was listed as II.A.3 in DAQE-AN105710042-18. Since then, KUC's mining needs have changed and the BCM will not install this crusher. The second in-pit crusher was not included in the PM_{2.5} Serious SIP.
- 2) Updated the emission limit in II.B.1.a for the main in-pit crusher baghouse vent to match the BACT limit in Part H.12.h.i.C.
- 3) Updated II.B.1.f.C to specify that the 30,000 miles limit applies to diesel-powered vehicle, as per language in Part H.12.h.i.A.
- 4) Added the monitoring language for the daily total mileage in Part H.12.h.i.A to II.B.1.f.
- 5) Made other editorial changes to use current DAQ language and format.

SUMMARY OF EMISSIONS

The emissions listed below are an estimate of the total potential emissions from the source. Some rounding of emissions is possible.

Criteria Pollutant	Change (TPY)	Total (TPY)
CO ₂ Equivalent	0	8320.18
Carbon Monoxide	0	1707.70
Nitrogen Oxides	0	5842.11
Particulate Matter - PM ₁₀	0	1519.21
Particulate Matter - PM _{2.5}	0	369.21
Sulfur Dioxide	0	7.43
Volatile Organic Compounds	0	314.13

Hazardous Air Pollutant	Change (lbs/yr)	Total (lbs/yr)
Total HAPs (CAS #THAPS)	0	3480
	Change (TPY)	Total (TPY)
Total HAPs	0	1.74

SECTION I: GENERAL PROVISIONS

I.1	All definitions, terms, abbreviations, and references used in this AO conform to those used in the UAC R307 and 40 CFR. Unless noted otherwise, references cited in these AO conditions refer to those rules. [R307-101]
I.2	The limits set forth in this AO shall not be exceeded without prior approval. [R307-401]
I.3	Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved. [R307-401-1]
I.4	All records referenced in this AO or in other applicable rules, which are required to be kept by the owner/operator, shall be made available to the Director or Director's representative upon request, and the records shall include the two-year period prior to the date of the request. Unless otherwise specified in this AO or in other applicable state and federal rules, records shall be kept for a minimum of two (2) years. [R307-401-8]
I.5	At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Director which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded. [R307-401-4]
I.6	The owner/operator shall comply with R307-150 Series. Inventories, Testing and Monitoring. [R307-150]
I.7	The owner/operator shall comply with UAC R307-107. General Requirements: Breakdowns. [R307-107]

SECTION II: PERMITTED EQUIPMENT

II.A THE APPROVED EQUIPMENT

II.A.1	KUC Bingham Mine KUC operates the BCM. KUC removes ore from the BCM by drilling, blasting, crushing and hauling.
II.A.2	Main In-pit Crusher Main in-pit crusher Main in-pit crusher baghouse
II.A.3	Portable Roadbase Crushers Two (2) portable crushing and screening plants used to crush material for road base Maximum crusher unit capacity 700 tons per hour, each
II.A.4	Conveyors Conveyors and two (2) transfer points with baghouses (Baghouses C6/C7 and Baghouses C7/C8)

II.A.5	<p>Lime Silos Lime silos with fabric type bin vent control units</p>																														
II.A.6	<p>Sample Preparation Equipment Sample preparation equipment with baghouse</p>																														
II.A.7	<p>SX/EW plant SX/EW plant with electrowinning acid mist eliminator</p>																														
II.A.8	<p>Degreasers Various degreasing parts washers</p>																														
II.A.9	<p>Gasoline Fueling Stations</p>																														
II.A.10	<p>LPG-Fired Emergency Generators Nine (9) Liquefied Petroleum gas-fired emergency generators</p> <table border="0" data-bbox="350 695 1182 1020"> <thead> <tr> <th style="text-align: left;">Site</th> <th style="text-align: left;">Maximum Rating</th> </tr> </thead> <tbody> <tr> <td>Lark Gate</td> <td></td> </tr> <tr> <td>#1</td> <td>107 Brake Horsepower (BHP)</td> </tr> <tr> <td>#2</td> <td>49 BHP</td> </tr> <tr> <td>Production Control Building 6690</td> <td>150 BHP</td> </tr> <tr> <td>Communications 6190</td> <td>75 BHP</td> </tr> <tr> <td>Mandy's Landing</td> <td>75 BHP</td> </tr> <tr> <td>East Side Dump</td> <td>49 BHP</td> </tr> <tr> <td>Zelnora</td> <td>49 BHP</td> </tr> <tr> <td>SAM Site</td> <td>49 BHP</td> </tr> <tr> <td>Substation 2</td> <td>49 BHP</td> </tr> </tbody> </table>	Site	Maximum Rating	Lark Gate		#1	107 Brake Horsepower (BHP)	#2	49 BHP	Production Control Building 6690	150 BHP	Communications 6190	75 BHP	Mandy's Landing	75 BHP	East Side Dump	49 BHP	Zelnora	49 BHP	SAM Site	49 BHP	Substation 2	49 BHP								
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II.A.12	<p>Concrete Batch Plant</p> <ol style="list-style-type: none"> 1) One (1) 25 cubic yard per hour batch plant controlled by a baghouse 2) One (1) cement storage silo controlled by a baghouse 3) Conveyors and cement trucks 4) Storage silos with fabric filters 																														

SECTION II: SPECIAL PROVISIONS

II.B REQUIREMENTS AND LIMITATIONS

II.B.1	Limitations and Test Procedures																																																												
II.B.1.a	<p>Emissions at all times from the indicated emission points after primary control shall not exceed the following rates and concentrations:</p> <p>A. Main In-Pit Crusher Baghouse Vent</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Pollutant</td> <td style="width: 10%;">lb/hr</td> <td style="width: 10%;">grains per dry standard cubic foot (dscf)</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td></td> <td></td> <td>(68oF, 29.92 in Hg)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>PM₁₀</td> <td>1.77</td> <td>0.016</td> <td></td> <td></td> <td></td> </tr> <tr> <td>PM_{2.5}</td> <td>0.78</td> <td>0.007</td> <td></td> <td></td> <td></td> </tr> </table> <p>B. Controlled Drop Point Baghouse Vent @ Tunnel Exit Near Copperton (C6/C7)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Pollutant</td> <td style="width: 10%;">lb/hr</td> <td style="width: 10%;">grains per dry standard cubic foot (dscf)</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td></td> <td></td> <td>(68oF, 29.92 in Hg)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>PM₁₀</td> <td>0.31</td> <td>0.007</td> <td></td> <td></td> <td></td> </tr> </table> <p>C. Controlled Drop Point Baghouse Vent @ Copperton (C7/C8)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Pollutant</td> <td style="width: 10%;">lb/hr</td> <td style="width: 10%;">grains per dry standard cubic foot (dscf)</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td></td> <td></td> <td>(68oF, 29.92 in Hg)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>PM₁₀</td> <td>0.19</td> <td>0.007.</td> <td></td> <td></td> <td></td> </tr> </table> <p>[R307-401-8]</p>	Pollutant	lb/hr	grains per dry standard cubic foot (dscf)						(68oF, 29.92 in Hg)				PM ₁₀	1.77	0.016				PM _{2.5}	0.78	0.007				Pollutant	lb/hr	grains per dry standard cubic foot (dscf)						(68oF, 29.92 in Hg)				PM ₁₀	0.31	0.007				Pollutant	lb/hr	grains per dry standard cubic foot (dscf)						(68oF, 29.92 in Hg)				PM ₁₀	0.19	0.007.			
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II.B.1.b	<p>Stack testing to show compliance with the emission limitations stated in the above condition shall be performed as specified below:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 45%;">A. Emissions Point</th> <th style="width: 15%;">Pollutant</th> <th style="width: 10%;">Testing Status</th> <th style="width: 10%;">Test Frequency</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Main In-Pit Crusher Baghouse Vent</td> <td>PM₁₀</td> <td style="text-align: center;">*</td> <td style="text-align: center;">#</td> </tr> <tr> <td>PM_{2.5}</td> <td style="text-align: center;">*</td> <td style="text-align: center;">#</td> </tr> <tr> <td>Controlled Drop Point Baghouse Vent @ Tunnel Exit Near Copperton (C6/C7)</td> <td>PM₁₀</td> <td style="text-align: center;">*</td> <td style="text-align: center;">#</td> </tr> <tr> <td>Controlled Drop Point Baghouse Vent @ Copperton (C7/C8)</td> <td>PM₁₀</td> <td style="text-align: center;">*</td> <td style="text-align: center;">#</td> </tr> </tbody> </table> <p>B. Testing Status</p> <p>* The initial testing has already been performed.</p> <p># Test every three (3) years. If a unit is not in operation when a test is due, the owner/operator may request an extension for the test.</p>	A. Emissions Point	Pollutant	Testing Status	Test Frequency	Main In-Pit Crusher Baghouse Vent	PM ₁₀	*	#	PM _{2.5}	*	#	Controlled Drop Point Baghouse Vent @ Tunnel Exit Near Copperton (C6/C7)	PM ₁₀	*	#	Controlled Drop Point Baghouse Vent @ Copperton (C7/C8)	PM ₁₀	*	#																																									
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	<p>C. Notification</p> <p>The Director shall be notified at least 30 days prior to conducting any required emission testing. A source test protocol shall be submitted with the testing notification is submitted to the Director.</p> <p>The source test protocol shall be approved by the Director prior to performing the test(s). The source test protocol shall outline the proposed test methodologies, and stack to be tested. A pretest conference shall be held, if directed by the Director.</p> <p>D. Sample Location</p> <p>The emission point shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 1, or other EPA approved methods acceptable to the Director. An Occupational Safety and Health Administration (OSHA) or Mine Safety and Health Administration (MSHA) approved access shall be provided to the test location.</p> <p>E. Volumetric Flow Rate</p> <p>40 CFR 60, Appendix A, Method 2 or other EPA approved testing methods acceptable to the Director.</p> <p>F. PM₁₀/PM_{2.5}</p> <p>For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201 or 201a or other EPA-approved testing method acceptable to the Director. The back half condensable particulate emissions shall also be tested (where applicable) using 40 CFR 51, Appendix M Method 202, or other EPA-approved testing method acceptable to the Director. All particulate captured using Method 202 shall be considered PM_{2.5} and/or PM₁₀.</p> <p>For stacks in which liquid drops are present, methods to eliminate the liquid drops shall be explored. If no reasonable method to eliminate the drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, 5i or other as appropriate. If using Method 5 or any variation of Method 5, a scanning electron microscopy analysis or other equivalent method shall be used to determine the fraction of PM₁₀ and/or PM_{2.5}, as approved by the Director. The back half condensable particulate emissions shall also be tested using 40 CFR 51, Appendix M Method 202 or other EPA-approved testing method acceptable to the Director. All particulate captured using Method 202 shall be considered PM_{2.5} and/or PM₁₀.</p> <p>For filterable emission limits, condensable emissions shall not be used for compliance demonstrations. For filterable + condensable emission limits, both filterable and condensable emissions shall be used for compliance demonstrations.</p> <p>[R307-401-8]</p>
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<p>II.B.1.c</p>	<p>G. Calculations</p> <p>To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Director, to give the results in the specified units of the emission limitation.</p> <p>H. Source Operation</p> <p>For a new source/emission point, the production rate during all compliance testing shall be no less than 90% of the production capacity of the equipment. If the maximum production capacity has not been achieved at the time of the test, the following procedure shall be followed:</p> <ol style="list-style-type: none"> 1) Testing shall be at no less than 90% of the production rate achieved to date. 2) If the test is passed, the new maximum allowable production rate shall be 110% of the tested achieved rate. This new allowable maximum production rate shall remain in effect until successfully tested at a higher rate. This process may be repeated until the maximum AO production rate is achieved. <p>For an existing source/emission point, the production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.</p> <p>[R307-401-8]</p>
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<p>II.B.1.d</p>	<p>Visible emissions from the following emission points shall not exceed the following values:</p> <ul style="list-style-type: none"> A. Main In-Pit crusher baghouse vent 7% opacity B. Controlled drop point baghouse vent @ tunnel exit near Copperton (C6/C7) 7% opacity C. Controlled drop point baghouse vent @ Copperton (C7/C8) 7% opacity D. Concrete batch plant baghouse 10% opacity E. All other conveyor transfer points 10% opacity F. Lime silos 10% opacity G. Sample preparation equipment with baghouse 10% opacity H. Drilling 10% opacity I. LP gas-fired emergency generators 10% opacity J. Nonmetallic Mineral Processing Screens and Conveyors 7% opacity K. Nonmetallic Mineral Processing Crushers 12% opacity L. Metallic Mineral Processing Equipment 10% opacity M. Electrowinning Plant with electrowinning acid mist eliminator 15% opacity N. All other points except as defined in other conditions of this AO 10% opacity <p>Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.</p> <p>[R307-201]</p>
<p>II.B.1.e</p>	<p>For sources that are subject to NSPS, opacity shall be determined in accordance with 40 CFR 60.11(b) and 40 CFR 60, Appendix A, Method 9. It is the responsibility of the owner/operator of the source to supply these observations to the Director.</p> <p>A current certified observer must be used for these observations. Emission points that are subject to the initial observations are:</p> <ul style="list-style-type: none"> A. All crushers B. All screens C. All conveyor transfer points. <p>[40 CFR 60 Subpart A]</p>

<p>II.B.1.f</p>	<p>The following limits shall not be exceeded:</p> <ul style="list-style-type: none"> A. Total material moved (ore and waste) shall not exceed 260,000,000 tons per rolling 12-month period*. B. Annual emissions of SO₂ shall not exceed 7 tons per rolling 12-month period. C. Maximum total mileage per calendar day for diesel-powered ore and waste haul trucks shall not exceed 30,000 miles. D. Minimum design payload per ore and waste haul truck shall not be less than 240 tons. Minimum design payload for trucks hauling material to develop new mining technologies, and material from maintenance activities shall not be less than 40 tons. Trucks used for underground development and operation may be smaller depending on application. E. Maximum number of wheels per ore or waste haul truck shall not exceed six (6) wheels. F. Height of mine waste dump lift shall not exceed 1000 feet. G. The surface area of the Solvent Extraction/Electrowinning Plant mixer/settlers shall not exceed 1,100 ft². <p>*Total ore and waste limitation shall be applied to dry tons of new material mined at the production shovels face.</p> <p>The owner/operator shall determine compliance with the 12-month period limits on a rolling 12-month total. The owner/operator shall calculate a new 12-month total by the twentieth day of each month using data from the previous 12 months.</p> <p>The owner/operator shall keep records of daily total mileage for all periods when the mine is in operation. The owner/operator shall track haul truck miles with a Global Positioning System or equivalent. The system shall use real time tracking to determine daily mileage.</p> <p>SO₂ emissions from fuel burning shall be determined using the following formula:</p> $\text{SO}_2 \text{ tpy} = (\text{gal fuel/year}) * (7.05 \text{ lb/gal}) * (\% \text{S by wt.}) / 2000 \text{ lb/ton} * (2 \text{ lb SO}_2/\text{lb S}).$ <p>[R307-401-8]</p>
<p>II.B.1.g</p>	<p>The following site-wide emission limits at the BCM shall not be exceeded:</p> <ul style="list-style-type: none"> A. 7,350 tons of NO_x, PM₁₀ and SO₂ combined per rolling 12-month period. B. 6,205 tons of NO_x, PM_{2.5} and SO₂ combined per rolling 12-month period. <p>The owner/operator shall determine compliance with the 12-month period limits on a rolling 12-month total per methodology outlined in Appendix A. The owner/operator shall calculate a new 12-month total by the twentieth day of each month using data from the previous 12 months.</p> <p>[R307-401-8]</p>
<p>II.B.1.h</p>	<p>The owner/operator shall not operate each emergency engine on site for more than 100 hours per rolling 12-month period during non-emergency situations. There is no time limit on the use of the engines during emergencies.</p> <p>[40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ, R307-401-8]</p>

II.B.1.h.1	<p>To determine compliance with a rolling 12-month total, the owner/operator shall calculate a new 12-month total by the 20th day of each month using data from the previous 12 months. Records documenting the operation of each emergency engine shall be kept in a log and shall include the following:</p> <p>A. The date the emergency engine was used</p> <p>B. The duration of operation in hours</p> <p>C. The reason for the emergency engine usage.</p> <p>[40 CFR 63 Subpart ZZZZ, R307-401-8]</p>
II.B.1.h.2	<p>To determine the duration of operation, the owner/operator shall install a non-resettable hour meter for each emergency engine. [40 CFR 63 Subpart ZZZZ, R307-401-8]</p>
II.B.2	<p>Equipment Requirements</p>
II.B.2.a	<p>The Main In-Pit Crusher Baghouse shall control process streams from the Main In-Pit Crusher. This baghouse shall be sized to handle at least 12,898 Dry Standard Cubic Feet per Minute (DSCFM). All exhaust air from the Main In-Pit Crusher shall be routed through the baghouse before being vented to the atmosphere. [R307-401-8]</p>
II.B.2.b	<p>The lime silos fabric bin vent control units shall control process streams from the lime silos. This control unit shall be sized to handle at least 616 DSCFM. All exhaust air from the lime silos shall be routed through the control unit before being vented to the atmosphere. [R307-401-8]</p>
II.B.2.c	<p>The Controlled Transfer Drop Point C6/C7 baghouse shall control process streams from the drop point. This baghouse shall be sized to handle at least 5,120 DSCFM. All exhaust air from the C6/C7 transfer drop point shall be routed through the baghouse before being vented to the atmosphere. [R307-401-8]</p>
II.B.2.d	<p>The Controlled Transfer Drop Point C7/C8 baghouse shall control process streams from the drop point. This baghouse shall be sized to handle at least 3,168 DSCFM. All exhaust air from the C7/C8 transfer drop point shall be routed through the baghouse before being vented to the atmosphere. [R307-401-8]</p>
II.B.2.e	<p>The Sample Preparation baghouse shall control process streams from the sample preparation building crushing and grinding equipment. This baghouse shall be sized to handle at least 4,200 DSCFM. All exhaust air from the sample preparation crusher and grinder shall be routed through the baghouse before being vented to the atmosphere. [R307-401-8]</p>
II.B.2.f	<p>The Electrowinning Acid Mist Eliminator shall control process streams from the electrowinning cells. This mist eliminator shall be sized to handle at least 8,000 actual CFM. Except during service, inspection, and cathode harvest, all exhaust air from the electrowinning cells shall be routed through the mist eliminator before being vented to the atmosphere. [R307-401-8]</p>
II.B.2.g	<p>The solvent extraction tanks and the stripping mixer/settlers shall be covered at all times except during inspection, sampling, and adjustment. [R307-401-8]</p>
II.B.2.h	<p>The concrete batch plant baghouse shall control all process streams from the 25 cubic yard concrete batch plant listed in Condition II.A.12. This baghouse shall be sized to handle at least 3,900 DSCFM. All exhaust air from the concrete batch plant shall be routed through the baghouse before being vented to the atmosphere. [R307-401-8]</p>
II.B.2.i	<p>The owner/operator shall only combust diesel fuel that meets the definition of ultra-low sulfur diesel (ULSD), which has a sulfur content of 15 ppm or less. [R307-401-8]</p>

II.B.2.i.1	To demonstrate compliance with the ULSD fuel requirement, the owner/operator shall maintain records of diesel fuel purchase invoices or obtain certification of sulfur content from the diesel fuel supplier. The diesel fuel purchase invoices shall indicate that the diesel fuel meets the ULSD requirements. [R307-401-8]
II.B.3	Roads and Fugitive Dust
II.B.3.a	The owner/operator shall abide by a FDCP acceptable to the Director for control of all dust sources associated with the BCM. The FDCP shall be updated and submitted on an annual basis to the Director by February 1 of every year. This plan shall contain sufficient controls to prevent an increase in PM ₁₀ emissions above those modeled for this AO. The haul road length, speed, or any other parameters used to calculate the emissions cannot be changed without prior approval from the Director, if the change would result in an increase in emissions above the limitations set in the FDCP. [R307-309]
II.B.3.b	The BCM shall comply with all applicable requirements of UAC R307-205 and R307-309 for Fugitive Emission and Fugitive Dust sources. The provisions of R307-205 and R307-309 shall not apply to any sources for which limitations for fugitive dust or fugitive emissions are assigned pursuant to R307-401 or R307-305 nor shall they apply to agricultural or horticultural activities. [R307-309]
II.B.3.c	Control of disturbed or stripped areas is required at all times (24 hours per day every day) for the duration of the project/operation until the area is reclaimed. Records of disturbed area, treatment and/or reclamation shall be kept for all periods when the BCM is in operation. [R307-309]
II.B.3.d	Visible fugitive dust emissions from haul-road traffic and mobile equipment in operational areas shall not exceed 20% opacity at any point. Visible emission determinations shall use procedures similar to Method 9. The normal requirement for observations to be made at 15-second intervals over a six-minute period, however, shall not apply. Visible emissions shall be measured at the densest point of the plume but at a point not less than 1/2 vehicle length behind the vehicle and not less than 1/2 the height of the vehicle. [R307-309]
II.B.3.e	<p>Water sprays, chemical dust suppression sprays or enclosures shall be installed at the following points that are not enclosed or have baghouses to control fugitive emissions:</p> <ul style="list-style-type: none"> A. All stationary and portable conveyor transfer points B. All portable crusher input and output points, and screening unit points or partial enclosures. <p>The sprays shall operate whenever dry conditions warrant or as determined necessary by the Director.</p> <p>[R307-309]</p>
II.B.3.f	The accessible surfaces of all uncovered storage piles shall be sprayed with water or chemical dust suppressants to minimize generation of fugitive dusts, as dry conditions warrant or as determined necessary by the Director. Records of water and/or chemical dust control treatment shall be kept for all periods when the plant is in operation. [R307-309]
II.B.3.g	The opacity on active waste slopes shall not exceed 20%. Opacity observations shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9, but the requirement for observations to be made at 15-second intervals over a six-minute period shall not apply. At any time, the owner/operator may propose a compliance method to UDAQ for approval prior to implementation. [R307-309]

<p>II.B.3.h</p>	<p>The owner/operator shall use frequent watering or chemical dust suppressant to control road dust from all trafficked roads and areas in the mine. The owner/operator shall submit an annual road dust control report, in conjunction with the FDCP, by February 1 of each calendar year, containing as a minimum the following:</p> <ul style="list-style-type: none"> A. A description of what dust control measures are planned for the coming year B. A report of what dust control measures were actually completed during the past year C. Specific elements of the report will include: <ul style="list-style-type: none"> 1) A map of all trafficked areas and roads associated with the mine, indicating which areas are planned for water and/or chemical dust suppressant treatment. 2) A description of the chemical dust suppressant and how it will be applied (application rate, application frequency, dilution rate, special application procedure, scarification, etc.). 3) A list of equipment dedicated either full or part time to the work area and for road dust control (number of water trucks, water capacity, number of graders, etc.). 4) A quantification of how much dust suppressant (gallons, tons) was applied the previous year and when and where it was applied. 5) A quantification of how much watering was accomplished the previous year (gallons, water truck operating hours). 6) A map outlining the pit influence boundary. <p>[R307-309]</p>
<p>II.B.3.i</p>	<p>Wet drilling shall be performed for all blast holes. [R307-309]</p>

<p>II.B.3.j</p>	<p>To minimize fugitive dust on roads at the BCM, the owner/operator shall perform the following measures:</p> <ul style="list-style-type: none"> A. Apply water to all active haul roads located at the BCM as conditions warrant and in accordance with the FDCP, and shall <ul style="list-style-type: none"> 1) Ensure the surface of the active haul roads located within the pit influence boundary consists of road base material, blasted waste rock, crushed rock, or chemical dust suppressant, and 2) Apply a chemical dust suppressant to active haul roads located outside of the pit influence boundary no less than twice per year. B. Ore conveyors shall be the primary means for transport of crushed ore from the BCM to the Copperton Concentrator. C. Chemical dust suppressant shall be applied on unpaved access roads that receive haul truck traffic and light vehicle traffic as defined in the FDCP. D. The owner/operator shall use graders to perform haul road maintenance and clean-up activities as well as other operational functions. E. If, for a 12-month period, the material movement by haul trucks is below 197,000,000 tpy of ore and waste rock combined, the owner/operator may petition the Director to revise the fugitive dust control measures above. <p>[R307-309-10]</p>
<p>II.B.4</p>	<p>Monitoring Requirements</p>
<p>II.B.4.a</p>	<p>The owner/operator shall operate two ambient monitoring stations to monitor PM₁₀ in Copperton and lower Butterfield Canyon area as approved by the Director. The monitoring plan will be periodically reviewed and revised as necessary. Any changes must be approved by the Director.</p> <p>The air monitoring stations shall remain in operation, at a minimum, until the BCM material moved has achieved a minimum of 234,000,000 TPY. If after that amount of material moved has been achieved and monitoring data indicates compliance with the NAAQS, the owner/operator may petition the Director to remove the air monitoring stations.</p> <p>[R307-410]</p>
<p>II.B.4.b</p>	<p>The owner/operator shall utilize federal reference method (FRM) or federal equivalent method PM₁₀ monitors as specified in 40 CFR 53 and quality assurance procedures which are equal to or exceed the requirements described in the EPA Quality Assurance Manual including revisions, 40 CFR Parts 50, 53 and 58. [R307-410]</p>
<p>II.B.4.c</p>	<p>If the PM₁₀ concentrations measured are greater than 135 ug/m³ (90% of the 24-hr PM₁₀ NAAQS) and if such concentrations have been measured for more than one day per year on an average over three (3) consecutive years, the owner/operator shall conduct a review of mine operations and other potential sources and conditions such as the Natural Events Exception Criteria.</p> <p>If it is determined the BCM may be the source of the elevated ambient PM₁₀ concentrations, the owner/operator shall work with DAQ to review control practices and possible changes in practices to avoid future elevated concentrations.</p> <p>[R307-410]</p>

<p>II.B.4.d</p>	<p>The owner/operator shall submit quarterly data reports within 45 days after the end of the calendar quarter and an annual data report within 90 days after the end of the calendar year.</p> <p>The quarterly report shall consist of a narrative data summary and a submittal of all data points in EPA-AIRS record format. The data shall be submitted on a compact disk (CD). The narrative data summary shall include:</p> <ul style="list-style-type: none"> A. A topographic map of appropriate scale with UTM coordinates and a true north arrow showing the air monitoring site locations in relation to the mine and the general area; B. A hard copy of the individual data points; C. The quarterly and monthly arithmetic means for PM₁₀ at actual temperature and pressure; D. The first and second highest 24-hour concentrations for PM₁₀; E. The quarterly and monthly wind roses; F. A summary of the data collection completeness; G. A summary of the reasons for missing data; H. An audit summary; I. A summary of any ambient air PM₁₀ exceedances; J. Calibration information; and K. Laboratory reports (for exceedance filters). <p>The annual data report shall consist of a narrative data summary containing:</p> <ul style="list-style-type: none"> A. A topographic map of appropriate scale with UTM coordinates and a true north arrow showing the air monitoring site locations in relation to the mine and the general area; B. A pollution trend analysis; C. The annual arithmetic means for PM₁₀; D. The first and second highest 24-hour concentrations for PM₁₀; E. The annual wind rose; F. Annual summaries of data collection frequency and completeness; G. An annual summary of audit data; H. An annual summary of any ambient standard exceedance; I. Annual mine material moved in TPY; J. Annual summary of analytical speciation results for detectible metals (for exceedance filters); and K. Recommendations on future monitoring. <p>The Director may audit the air monitoring network, the laboratory performing associated</p>
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	<p>analysis, and any data handling procedures at unspecified times. On the basis of the audits and subsequent reports, DAQ may recommend or require changes in the air monitoring system and associated activities in order to improve data quality and completeness.</p> <p>[R307-410]</p>
<p>II.B.4.e</p>	<p>The owner/operator shall contract with an independent firm to conduct quarterly performance audits of its PM₁₀ monitors.</p> <p>Exposed PM₁₀ filters that exceed 150 ug/m³ shall be analyzed for metals, and other constituents as requested by the Director. One filter blank per batch of ten filters or less shall also be submitted for analysis.</p> <p>[R307-410]</p>
<p>II.B.4.f</p>	<p>PM₁₀ and meteorological data (wind speed, wind direction, and ambient temperature) shall be collected at each site. The meteorological tower shall be located within one (1) mile of the monitor station. [R307-410]</p>

PERMIT HISTORY

This Approval Order shall supersede (if a modification) or will be based on the following documents:

Incorporates
20, 2019
Supersedes

Section IX, Part H.12.h of the PM_{2.5} Serious SIP dated November
DAQE-AN105710042-18 dated January 10, 2018

ACRONYMS

The following lists commonly used acronyms and associated translations as they apply to this document:

40 CFR	Title 40 of the Code of Federal Regulations
AO	Approval Order
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CDS	Classification Data System (used by Environmental Protection Agency to classify sources by size/type)
CEM	Continuous emissions monitor
CEMS	Continuous emissions monitoring system
CFR	Code of Federal Regulations
CMS	Continuous monitoring system
CO	Carbon monoxide
CO ₂	Carbon Dioxide
CO _{2e}	Carbon Dioxide Equivalent - Title 40 of the Code of Federal Regulations Part 98, Subpart A, Table A-1
COM	Continuous opacity monitor
DAQ/UDAQ	Division of Air Quality
DAQE	This is a document tracking code for internal Division of Air Quality use
EPA	Environmental Protection Agency
FDCP	Fugitive dust control plan
GHG	Greenhouse Gas(es) - Title 40 of the Code of Federal Regulations 52.21 (b)(49)(i)
GWP	Global Warming Potential - Title 40 of the Code of Federal Regulations Part 86.1818-12(a)
HAP or HAPs	Hazardous air pollutant(s)
ITA	Intent to Approve
LB/YR	Pounds per year
MACT	Maximum Achievable Control Technology
MMBTU	Million British Thermal Units
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOI	Notice of Intent
NO _x	Oxides of nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
PM ₁₀	Particulate matter less than 10 microns in size
PM _{2.5}	Particulate matter less than 2.5 microns in size
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
R307	Rules Series 307
R307-401	Rules Series 307 - Section 401
SO ₂	Sulfur dioxide
Title IV	Title IV of the Clean Air Act
Title V	Title V of the Clean Air Act
TPY	Tons per year
UAC	Utah Administrative Code
VOC	Volatile organic compounds