

Statement of Basis

**Permit to Construct No. P-2020.0020
Project ID 62457**

**Carco Mineral Resources Inc
Caldwell, Idaho**

Facility ID 027-00034

Final

**November 18, 2020
Chris Duerschner
Permit Writer**

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The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01. et seq, Rules for the Control of Air Pollution in Idaho, for issuing air permits.

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ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

Btu	British thermal units
CFR	Code of Federal Regulations
CMR	Carco Mineral Resources
CO	carbon monoxide
DEQ	Department of Environmental Quality
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
GACT	Generally Available Control Technology
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
hr/yr	hours per consecutive 12 calendar month period
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pounds per hour
MACT	Maximum Achievable Control Technology
MMBtu	million British thermal units
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NSPS	New Source Performance Standards
PM	particulate matter
PM _{2.5}	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
PW	process weight rate
<i>Rules</i>	<i>Rules for the Control of Air Pollution in Idaho</i>
SM	synthetic minor
SM80	synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SO ₂	sulfur dioxide
SO _x	sulfur oxides
T/hr	tons per hour
T/yr	tons per consecutive 12 calendar month period
TAP	toxic air pollutants
VOC	volatile organic compounds

FACILITY INFORMATION

Description

Carco Mineral Resources operates a clay processing facility. Clay is stored on-site in two piles. Once per year, the piles are transferred by front end loader to a hopper, conveyed to a primary crusher, and stored in a 15 ton surge bin. The bin feeds a proprietary process which feeds a rotary dryer. The dried ore is crushed and pneumatically conveyed to a storage silo. The air used for pneumatic conveyance is filtered before exiting the silo. When it is time to load a train car, clay from the silo drops by gravity from the bottom through a rotary airlock onto a conveyor belt equipped with a scale. The clay is conveyed on the belt to a loading chute that is connected to the railcar with a dust-tight connection. The conveyor belt and chute are enclosed with a shroud and the dust that is entrained by the air inside due to the movement of the clay is filtered by a second dust collector at the bottom of the silo.

Permitting History

The following information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

November 17, 1986	P-0400-0034, Initial Permit, Permit status (S)
July 7, 1994	P-027-00034, Permit Modification, (S)
February 21, 1996	P-027-00034, (A, but will become S upon issuance of this permit)

Application Scope

This PTC is a revision of an existing PTC.

The applicant has proposed to:

- Revise their permit to include a clay storage silo and two baghouses that control emissions of PM from the pneumatic conveyance of clay into the silo and the loadout of clay from the silo.

Application Chronology

January 30, 2020	DEQ sent a notice to comply to the facility, which included notification that a PTC was required (NTC No. BRO-2020.0003).
June 3, 2020	DEQ received an application and an application fee.
June 10 – 25, 2020	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
July 2, 2020	DEQ determined that the application was complete.
September 30, 2020	DEQ made available the draft permit and statement of basis for peer and regional office review.
October 2, 2020	DEQ made available the draft permit and statement of basis for applicant review.
November 16, 2020	DEQ received the permit processing fee.
November 18, 2020	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Source ID No.	Sources	Control Equipment	Emission Point ID No.
1	<u>Rotary Dryer:</u> Manufacturer: Stelty & Brink Model: 320TAH Heat input rating: 4 MMBtu/hr Fuel: Natural Gas	<u>Rotary Dryer Baghouse (DC-4):</u> Manufacturer: Donaldson Torrit Model: TD4600 Type: pulse-jet cartridge PM ₁₀ control efficiency: 99.8%	1
6 3	Storage Pile Raw Feed Bin	None None	
2	<u>Primary Crusher</u> Manufacturer: Jeffrey <u>Front End Conveyors</u>	<u>Baghouse DC-1:</u> Manufacturer: Donaldson Torit Model: TD3060 Type: pulse-jet cartridge PM ₁₀ control efficiency: 99.8% <u>Baghouse DC-2:</u> Manufacturer: Donaldson Torit Model: TD970 Type: pulse-jet cartridge PM ₁₀ control efficiency: 99.8%	2-A 2-B
	<u>Secondary Mill/Grinder</u> Manufacturer: Entoleter Model: 30	<u>Baghouse DC-3:</u> Manufacturer: Donaldson Torit Model: TD970 Type: pulse-jet cartridge PM ₁₀ control efficiency: 99.8%	4
5	<u>Conveyors</u> <u>Backend Pneumatic Conveyance</u> <u>Backend Conveyance</u> <u>Bagging</u>	<u>Baghouse DC-5:</u> Manufacturer: Donaldson Torit Model: TD970 Type: pulse-jet cartridge PM ₁₀ control efficiency: 99.8% <u>Baghouse DC-6:</u> Manufacturer: Torit Model: 130-AS Type: shaker PM ₁₀ control efficiency: 99.8%	5-A 5-B
7	<u>Storage Silo</u> Manufacturer: A.O. Smith Manufacture Date: 1997	<u>Silo Baghouse 1 (DC-7)</u> Manufacturer: Airlanco Model: 86 Ser. 4BAC55 PM ₁₀ Control Efficiency: 99.0% <u>Silo Baghouse 2 (DC-8)</u> Manufacturer: Airlanco Model: 86 Ser. 4BAC55 PM ₁₀ Control Efficiency: 99.0%	7-A (pneumatic conveyance exhaust) 7-B (railcar loading)

Emissions Inventories

Potential to Emit

IDAPA 58.01.01 defines Potential to Emit as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is state or federally enforceable. Secondary emissions do not count in determining the potential to emit of a facility or stationary source.

Using this definition of Potential to Emit an emission inventory was developed for the storage and loadout of clay (see Appendix A) associated with this proposed project. Emission estimates of criteria pollutant and HAP PTE were based on emission factors from AP-42, manufacturer provided baghouse efficiencies, and a throughput of 5,000 T/yr.

Uncontrolled Potential to Emit

Using the definition of Potential to Emit, uncontrolled Potential to Emit is then defined as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall **not** be treated as part of its design **since** the limitation or the effect it would have on emissions **is not** state or federally enforceable.

The uncontrolled Potential to Emit is used to determine if a facility is a “Synthetic Minor” source of emissions. Synthetic Minor sources are facilities that have an uncontrolled Potential to Emit for regulated air pollutants or HAP above the applicable Major Source threshold without permit limits.

The following table presents the uncontrolled Potential to Emit for regulated air pollutants as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations and the assumptions used to determine emissions for each emissions unit. For operation of the storage silo and loadout operations, the uncontrolled Potential to Emit assumes 8,760 hours per year of operation that the no baghouse control is used to limit emissions of particulate matter.

Table 2 UNCONTROLLED POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	VOC
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Point Sources						
Storage Silo	175	64	0.00	0.00	0.00	0.00
Loadout	1463	533	0.00	0.00	0.00	0.00
Total, Point Sources	1638	597	0.00	0.00	0.00	0.00

No emissions of hazardous air pollutants are associated with this project.

Pre-Project Potential to Emit

Pre-project Potential to Emit is used to establish the change in emissions at a facility as a result of this project. Since the purpose of this permitting project is to include an unpermitted clay storage silo and associated control equipment, pre-project emissions for this emissions unit are zero.

Post Project Potential to Emit

Post project Potential to Emit is used to establish the change in emissions at a facility and to determine the facility’s classification as a result of this project. Post project Potential to Emit includes all permit limits resulting from this project.

The following table presents the post project Potential to Emit for criteria pollutants from only those emission units being modified at the facility as determined supplied by the applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 2 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM ₁₀		PM _{2.5}		SO ₂		NO _x		CO		VOC	
	lb/hr ^(a)	T/yr ^(b)	lb/hr ^(a)	T/yr ^(b)	lb/hr ^(a)	T/yr ^(b)	lb/hr ^(a)	T/yr ^(b)	lb/hr ^(a)	T/yr ^(b)	lb/hr ^(a)	T/yr ^(b)
Storage Silo	0.4	0.5	0.15	0.18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Railcar Loading	3.3	0.5	1.2	0.18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Post Project Totals	3.70	1.00	1.35	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

- a) Controlled average emission rate in pounds per hour is a daily average, based on the proposed daily operating schedule and daily limits.
- b) Controlled average emission rate in tons per year is an annual average, based on the proposed annual operating schedule and annual limits.

Change in Potential to Emit

The change in facility-wide potential to emit is used to determine if a public comment period may be required and to determine the processing fee per IDAPA 58.01.01.225. The following table presents the facility-wide change in the potential to emit for criteria pollutants.

Table 3 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM ₁₀		PM _{2.5}		SO ₂		NO _x		CO		VOC	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Pre-Project Potential to Emit	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Post Project Potential to Emit	3.70	1.00	1.35	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Changes in Potential to Emit	3.70	1.00	1.35	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Non-Carcinogenic TAP Emissions

There is no change in the emission of non-carcinogenic TAPs as a result of this project. Therefore, modeling is not required for any non-carcinogenic TAP because none of the 24-hour average non-carcinogenic screening ELs identified in IDAPA 58.01.01.585 were exceeded.

Carcinogenic TAP Emissions

There is no change in the emission of carcinogenic TAPs as a result of this project. Therefore, modeling is not required for any carcinogenic TAP because none of the annual average carcinogenic screening ELs identified in IDAPA 58.01.01.586 were exceeded.

Ambient Air Quality Impact Analyses

The emissions increases for all criteria pollutants and toxic air pollutants were below the applicable screening emission levels; therefore an ambient air quality impact analysis was not required for this project.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Caldwell County, which is designated as attainment or unclassifiable for PM_{2.5}, PM₁₀, SO₂, NO₂, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

Facility Classification

The AIRS/AFS facility classification codes are as follows:

For HAPs (Hazardous Air Pollutants) Only:

- A = Use when any one HAP has permitted emissions > 10 T/yr or if the aggregate of all HAPS (Total HAPs) has permitted emissions > 25 T/yr.
- SM80 = Use if a synthetic minor (uncontrolled HAPs emissions are > 10 T/yr or if the aggregate of all

uncontrolled HAPs (Total HAPs) emissions are > 25 T/yr and permitted emissions fall below applicable major source thresholds) and the permit sets limits > 8 T/yr of a single HAP or ≥ 20 T/yr of Total HAPs.

- SM = Use if a synthetic minor (uncontrolled HAPs emissions are > 10 T/yr or if the aggregate of all uncontrolled HAPs (Total HAPs) emissions are > 25 T/yr and permitted emissions fall below applicable major source thresholds) and the permit sets limits < 8 T/yr of a single HAP and/or < 20 T/yr of Total HAPs.
- B = Use when the potential to emit (i.e. uncontrolled emissions and permitted emissions) are below the 10 and 25 T/yr HAP major source thresholds.
- UNK = Class is unknown.

For All Other Pollutants:

- A = Use when permitted emissions of a pollutant are > 100 T/yr.
- SM80 = Use if a synthetic minor for the applicable pollutant (uncontrolled emissions are > 100 T/yr and permitted emissions fall below 100 T/yr) and permitted emissions of the pollutant are ≥ 80 T/yr.
- SM = Use if a synthetic minor for the applicable pollutant (uncontrolled emissions are > 100 T/yr and permitted emissions fall below 100 T/yr) and permitted emissions of the pollutant are < 80 T/yr.
- B = Use when the potential to emit (i.e. uncontrolled emissions and permitted emissions) are below the 100 T/yr major source threshold.
- UNK = Class is unknown.

Table 4 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

Pollutant	Uncontrolled PTE (T/yr)	Permitted PTE (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM	>100	<100	100	SM
PM ₁₀	>100	<100	100	SM
PM _{2.5}	>100	<100	100	SM
SO ₂	<100	<100	100	UNK
NO _x	<100	<100	100	UNK
CO	<100	<100	100	UNK
VOC	<100	<100	100	UNK
HAP (single)	<100	<100	10	UNK
Total HAPs	<100	<100	25	UNK

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201 Permit to Construct Required

In response to a notice to comply, the permittee has requested that a PTC be issued to the facility for an existing, but unpermitted 180-ton clay storage silo. Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401 Tier II Operating Permit

The application was submitted for a permit to construct (refer to the Permit to Construct section), and an optional Tier II operating permit has not been requested. Therefore, the procedures of IDAPA 58.01.01.400–410 were not applicable to this permitting action.

Visible Emissions (IDAPA 58.01.01.625)

IDAPA 58.01.01.625 Visible Emissions

The sources of PM emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement is assured by Permit Condition 2.4.

Fugitive Dust (IDAPA 58.01.01.650)

IDAPA 58.01.01.650 Rules for Control of Fugitive Dust

IDAPA 58.01.01.650 through 652 requires reasonable precautions be taken to prevent particulate matter from becoming airborne. Some of these reasonable precautions include:

- The application of dust suppressants to, or the covering of, dirt roads, material stockpiles, and other surfaces which can create dust;
- The use of hoods, fans, and control equipment to enclose and vent the handling of dusty materials;
- The covering of open bodied trucks transporting materials likely to give rise to airborne dusts; and
- The paving of roadways and their maintenance in a clean condition.

This requirement is assured by Permit Condition 2.8.

Particulate Matter – New Equipment Process Weight Limitations (IDAPA 58.01.01.701)

IDAPA 58.01.01.701 Particulate Matter – New Equipment Process Weight Limitations

IDAPA 58.01.01.700 through 703 set PM emission limits for process equipment based on when the piece of equipment commenced operation and the piece of equipment’s process weight (PW) in pounds per hour (lb/hr). IDAPA 58.01.01.701 and IDAPA 58.01.01.702 establish PM emission limits for equipment that commenced operation on or after October 1, 1979, and for equipment operating prior to October 1, 1979, respectively.

For equipment that commenced operation on or after October 1, 1979, the PM allowable emission rate (E) is based on one of the following equations:

- IDAPA 58.01.01.701.01.a: If PW is < 9,250 lb/hr; $E = 0.045 (PW)^{0.60}$
- IDAPA 58.01.01.701.01.b: If PW is $\geq 9,250$ lb/hr; $E = 1.10 (PW)^{0.25}$

For equipment that commenced prior to October 1, 1979, the PM allowable emission rate is based on one of the following equations:

- IDAPA 58.01.01.702.01.a: If PW is < 17,000 lb/hr; $E = 0.045 (PW)^{0.60}$
- IDAPA 58.01.01.702.01.b: If PW is $\geq 17,000$ lb/hr; $E = 1.12 (PW)^{0.27}$

For the clay storage silo and loadout operations that result of this project with a proposed throughput of 16.7 T/hr, E is calculated as follows:

- Proposed throughput = 16.7 T/hr x 2,000 lb/1 T = 33,400 lb/hr

Therefore, E is calculated as:

- $E = 1.10 \times PW^{0.25} = 1.10 \times (33,400)^{0.25} = 14.9$ lb-PM/hr

Although the PTE for PM is not known for the entire process, because process equipment is enclosed in a building and baghouses are used to control area emissions, it is very unlikely that the process weight rate PM emission limit could be exceeded. Therefore, assumes that compliance with this requirement is assured.

Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)

IDAPA 58.01.01.301 Requirement to Obtain Tier I Operating Permit

Post project facility-wide emissions from this facility do not have a potential to emit greater than 100 tons per year for PM₁₀, SO₂, NO_x, CO, VOC, and HAP or 10 tons per year for any one HAP or 25 tons per year for all HAP combined. Therefore, the facility is not a Tier I source in accordance with IDAPA 58.01.01.006 and the requirements of IDAPA 58.01.01.301 do not apply.

PSD Classification (40 CFR 52.21)

40 CFR 52.21 Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change at a stationary source not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52. Therefore in accordance with 40 CFR 52.21(a)(2), PSD requirements are not applicable to this permitting action. The facility is not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a), and does not have facility-wide emissions of any criteria pollutant that exceed 250 T/yr.

NSPS Applicability (40 CFR 60)

Because the facility processes clay materials, they may be subject to the requirements of 40 CFR 60 Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants, and 40 CFR 60 Subpart UUU – Standards of Performance for Calciners and Dryers in Mineral Industries. The following is an NSPS applicability analysis for the proposed equipment.

40 CFR 60, Subpart OOO Standards of Performance for Nonmetallic Mineral Processing Plants

§60.670 Applicability and designation of affected facility.

(a)

- (1) Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Also, crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of this subpart.
- (2) The provisions of this subpart do not apply to the following operations: All facilities located in underground mines; plants without crushers or grinding mills above ground; and wet material processing operations (as defined in §60.671).

(b) An affected facility that is subject to the provisions of subparts F or I of this part or that follows in the plant process any facility subject to the provisions of subparts F or I of this part is not subject to the provisions of this subpart.

(c) Facilities at the following plants are not subject to the provisions of this subpart:

- (1) Fixed sand and gravel plants and crushed stone plants with capacities, as defined in §60.671, of 23 megagrams per hour (25 tons per hour) or less;
- (2) Portable sand and gravel plants and crushed stone plants with capacities, as defined in §60.671, of 136 megagrams per hour (150 tons per hour) or less; and
- (3) Common clay plants and pumice plants with capacities, as defined in §60.671, of 9 megagrams per hour (10 tons per hour) or less.

- (d)
 - (1) When an existing facility is replaced by a piece of equipment of equal or smaller size, as defined in §60.671, having the same function as the existing facility, and there is no increase in the amount of emissions, the new facility is exempt from the provisions of §§60.672, 60.674, and 60.675 except as provided for in paragraph (d)(3) of this section.
 - (2) An owner or operator complying with paragraph (d)(1) of this section shall submit the information required in §60.676(a).
 - (3) An owner or operator replacing all existing facilities in a production line with new facilities does not qualify for the exemption described in paragraph (d)(1) of this section and must comply with the provisions of §§60.672, 60.674 and 60.675.
- (e) An affected facility under paragraph (a) of this section that commences construction, modification, or reconstruction after August 31, 1983, is subject to the requirements of this part.
- (f) Table 1 of this subpart specifies the provisions of subpart A of this part 60 that do not apply to owners and operators of affected facilities subject to this subpart or that apply with certain exceptions.

Because the facility processes common clay with a capacity of less than 10 T/hr, the requirements of 40 CFR, Subpart OOO are not applicable. Compliance with this requirement is assured by permit conditions 2.5 and 2.6.

40 CFR 60, Subpart UUU Standards of Performance for Calciners and Dryers in Mineral Industries

§60.730 Applicability and designation of affected facility.

- (a) The affected facility to which the provisions of this subpart apply is each calciner and dryer at a mineral processing plant. Feed and product conveyors are not considered part of the affected facility. For the brick and related clay products industry, only the calcining and drying of raw materials prior to firing of the brick are covered.
- (b) An affected facility that is subject to the provisions of subpart LL, Metallic Mineral Processing Plants, is not subject to the provisions of this subpart. Also, the following processes and process units used at mineral processing plants are not subject to the provisions of this subpart: vertical shaft kilns in the magnesium compounds industry; the chlorination-oxidation process in the titanium dioxide industry; coating kilns, mixers, and aerators in the roofing granules industry; and tunnel kilns, tunnel dryers, apron dryers, and grinding equipment that also dries the process material used in any of the 17 mineral industries (as defined in §60.731, “Mineral processing plant”).
- (c) The owner or operator of any facility under paragraph (a) of this section that commences construction, modification, or reconstruction after April 23, 1986, is subject to the requirements of this subpart.

Mineral processing plant means any facility that processes or produces any of the following minerals, their concentrates or any mixture of which the majority (>50 percent) is any of the following minerals or a combination of these minerals: alumina, ball clay, bentonite, diatomite, feldspar, fire clay, fuller's earth, gypsum, industrial sand, kaolin, lightweight aggregate, magnesium compounds, perlite, roofing granules, talc, titanium dioxide, and vermiculite.

Because the facility does not process any material listed under the definition of mineral processing plant, the requirements of 40 CFR 60, Subpart UUU do not apply. Compliance with this requirement is assured by permit condition 2.6.

NESHAP Applicability (40 CFR 61)

The facility is not subject to any NESHAP requirements in 40 CFR 61.

MACT/GACT Applicability (40 CFR 63)

The facility is not subject to any MACT standards in 40 CFR Part 63.

Permit Conditions Review

This section describes the permit conditions for this permit. Only those conditions which were added, revised, modified, or deleted are described in this section. The General Provisions are also discussed since they have changed significantly since the time of the previous permit issuance.

Permit Condition 2.3

The Emission Limits permit condition requires that the permittee comply with PM₁₀ emission limits for the storage silo and railcar loadout.

Permit Condition 2.4

The Opacity Limit permit condition requires that the permittee not discharge emissions into the atmosphere that aggregate more than three minutes in any sixty minute period greater than twenty percent opacity.

Permit Condition 2.5

The Allowable Materials permit condition ensures that the permittee does not process any material that would cause the requirements of NSPS subparts OOO or UUU to apply.

Permit Condition 2.6

The Crusher Capacity Requirement permit condition ensures that the permittee does not operate with a capacity, as defined in 40 CFR 60.671, such that the requirements of NSPS Subpart OOO would apply.

Permit Condition 2.7

The Storage Silo Loadout Limit permit condition ensures that the permittee does not operate with a loadout rate that would cause the project PTE increase to exceed the PM₁₀ and PM_{2.5} BRC limits. Because this throughput assumption was used to preclude modelling analysis for this project, it is appropriate to require that it is not exceeded.

Permit Condition 2.8

The Control of Fugitive Dust permit condition requires that the permittee shall take reasonable precautions to prevent particulate matter from becoming airborne.

Permit Condition 2.9

The Baghouse Operation permit condition requires that the permittee operate a baghouse to control emission from the storage silo and truck/railcar loading.

Permit Condition 2.10

The Storage Silo Loadout Monitoring permit condition requires that the permittee monitor and record the amount of clay loaded from the storage silo each calendar year.

Permit Condition 3.1

The duty to comply general compliance provision requires that the permittee comply with all of the permit terms and conditions pursuant to Idaho Code §39-101.

Permit Condition 3.2

The maintenance and operation general compliance provision requires that the permittee maintain and operate all treatment and control facilities at the facility in accordance with IDAPA 58.01.01.211.

Permit Condition 3.3

The obligation to comply general compliance provision specifies that no permit condition is intended to relieve or exempt the permittee from compliance with applicable state and federal requirements, in accordance with IDAPA 58.01.01.212.01.

Permit Condition 3.4

The inspection and entry provision requires that the permittee allow DEQ inspection and entry pursuant to Idaho Code §39-108.

Permit Condition 3.5

The permit expiration construction and operation provision specifies that the permit expires if construction has not begun within two years of permit issuance or if construction has been suspended for a year in accordance with IDAPA 58.01.01.211.02.

Permit Condition 3.6

The notification of construction and operation provision requires that the permittee notify DEQ of the dates of construction and operation, in accordance with IDAPA 58.01.01.211.01 and 211.03.

Permit Condition 3.7

The performance testing notification of intent provision requires that the permittee notify DEQ at least 15 days prior to any performance test to provide DEQ the option to have an observer present, in accordance with IDAPA 58.01.01.157.03.

Permit Condition 3.8

The performance test protocol provision requires that any performance testing be conducted in accordance with the procedures of IDAPA 58.01.01.157, and encourages the permittee to submit a protocol to DEQ for approval prior to testing.

Permit Condition 3.9

The performance test report provision requires that the permittee report any performance test results to DEQ within 60 days of completion, in accordance with IDAPA 58.01.01.157.04-05.

Permit Condition 3.10

The monitoring and recordkeeping provision requires that the permittee maintain sufficient records to ensure compliance with permit conditions, in accordance with IDAPA 58.01.01.211.

Permit Condition 3.11

The excess emissions provision requires that the permittee follow the procedures required for excess emissions events, in accordance with IDAPA 58.01.01.130-136.

Permit Condition 3.12

The certification provision requires that a responsible official certify all documents submitted to DEQ, in accordance with IDAPA 58.01.01.123.

Permit Condition 3.13

The false statement provision requires that no person make false statements, representations, or certifications, in accordance with IDAPA 58.01.01.125.

Permit Condition 3.14

The tampering provision requires that no person render inaccurate any required monitoring device or method, in accordance with IDAPA 58.01.01.126.

Permit Condition 3.15

The transferability provision specifies that this permit to construct is transferable, in accordance with the procedures of IDAPA 58.01.01.209.06.

Permit Condition 3.16

The severability provision specifies that permit conditions are severable, in accordance with IDAPA 58.01.01.211.

PUBLIC REVIEW

Public Comment Opportunity

An opportunity for public comment period on the application was provided in accordance with IDAPA 58.01.01.209.01.c or IDAPA 58.01.01.404.01.c. During this time, there was not a request for a public comment period on DEQ's proposed action. Refer to the chronology for public comment opportunity dates.

APPENDIX A – EMISSIONS INVENTORIES

Table 1: Bentonite Silo PM Emissions Estimate

PM10

	Source ID	Max Feed Rate ² (tons/hr)	Operation Time (hours/yr)	PM10 Emission Factor ³ (lbs/ton)	Baghouse Abatement efficiency ⁴	Controlled Emissions (lbs/hr)	Controlled Emissions (tons/yr)	Uncontrolled Emissions ⁵ (lbs/hr)	Uncontrolled Emissions ⁵ (tons/yr)
Bentonite ¹ Silo	DC #1	2	2500	20	99.0%	0.4	0.50	40	175
	DC #2	16.7	300	20	99.0%	3.3	0.50	334	1463
PM10 TOTALS:						3.7	1.00	374	1638
BRC limit:							1.5		

PM2.5

	Source ID	Max Feed Rate ² (tons/hr)	Operation Time (hours/yr)	PM10 Emission Factor ³ (lbs/ton)	Baghouse Abatement efficiency ⁴	Controlled Emissions (lbs/hr)	Controlled Emissions (tons/yr)	Uncontrolled Emissions ⁵ (lbs/hr)	Uncontrolled Emissions ⁵ (tons/yr)
Bentonite ¹ Silo	DC #1	2	2500	7.3	99.0%	0.15	0.18	15	64
	DC #2	16.7	300	7.3	99.0%	1.2	0.18	122	533
PM2.5 TOTALS:						1.4	0.36	136	596
BRC limit:							1.0		

¹ Bentonite clay (CAS 1302-78-9) is not a 585 or 586 TAP

² 100 tons per railcar, 6 hours load time per car, 50 cars per year

³ AP-42 Section 11.25 Table 4-13 does not have an EF for pneumatic conveyance, so using the EF for bentonite - rotary dryer, filterable PM10 adjusted for PM2.5, which according to Table 4-11 is 36.4% of bentonite PM10 (0.8%/2.2%). 20 lbs/ton x 36.4% = 7.3 lbs/ton

⁴ Airlanco 86 series 4BAC55 style II and III dust control filters

⁵ Uncontrolled means unfiltered and operating for 8760 hrs/yr.

APPENDIX B – FACILITY DRAFT COMMENTS

The following comments were received from the facility on October 10, 2020:

Facility Comment: The facility provided equipment information to be included in Table 1.1 of the permit.

DEQ Response: DEQ added the provided information to Table 1.1.

Facility Comment: The facility provided clarifying edits to Permit Condition 2.1 (Process Description).

DEQ Response: DEQ accepted the clarifying edits.

Facility Comment: The facility provided equipment information and proposed their preferred nomenclature for control devices and emission points to be included in Table 2.1 of the permit.

DEQ Response: DEQ accepted the equipment information and adopted the proposed nomenclature.

Facility Comment: The facility requested the inclusion of Permit Condition 2.6, to clarify that covered outdoor storage is acceptable.

DEQ Response: DEQ included the suggested Permit Condition.

Facility Comment: At DEQ's request, the facility provided that the rotary drum dryer does not combust fuel oil; therefore, a permit condition expressing the requirements of IDAPA 58.01.01.725 is not necessary.

DEQ Response: DEQ removed former Permit Condition 2.9, which expressed the requirements of IDAPA 58.01.01.725 from the permit.

Facility Comment: The facility corrected the calculation of the process weight rate PM emission limit.

DEQ Response: DEQ accepted the correction.

APPENDIX C – PROCESSING FEE

PTC Processing Fee Calculation Worksheet

Instructions:

Fill in the following information and answer the following questions with a Y or N.
Enter the emissions increases and decreases for each pollutant in the table.

Company: Carco Mineral Resources Inc
Address: 1370 Pantheon Way, Suite #175
City: San Antonio
State: Texas
Zip Code: 78232
Facility Contact: Jeff Register
Title: Vice President
AIRS No.: 212325

N Does this facility qualify for a general permit (i.e. concrete batch plant, hot-mix asphalt plant)? Y/N

Y Did this permit require engineering analysis? Y/N

N Is this a PSD permit Y/N (IDAPA 58.01.01.205.04)

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO _x	0.0	0	0.0
SO ₂	0.0	0	0.0
CO	0.0	0	0.0
PM10	1.0	0	1.0
VOC	0.0	0	0.0
Total:	0.0	0	1.0
Fee Due	\$ 2,500.00		

Comments: