MOJAVE DESERT
AIR QUALITY MANAGEMENT DISTRICT

NSR/FOP Evaluation Document

for

Finish Mill No. 2 Project

Pet Coke and Alternate Fuels Project

Portable Limestone Crushing Plant Project

Cement Variability Project

Preliminary Determination/Decision - Statement of Basis

for

Significant Modification to

FOP Number: 223900003

For:

CalPortland Company

Facility:

CalPortland – Oro Grande

Facility Address:

19409 National Trails Highway
Oro Grande, CA 92368

Document Date: October 8, 2020
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A. Introduction

1. Application and Setting

CalPortland Company, Oro Grande Cement Plant (CalPortland or Facility), Federal Operating Permit (FOP) number 223900003, located at 19409 National Trails Hwy, Oro Grande, CA 92368 is a modern Portland cement manufacturing facility. The basic process of the facility is the calcining of limestone, which is mixed with other raw materials. Calcining takes place in a pre-calciner tower and the rotary kiln. Ancillary processes are the cooling of the clinker, milling, blending, crushing, and packaging and/or dispatch in bulk truck and railcar.

The Mojave Desert Air Quality Management District (MDAQMD or District) received an application on July 25, 2019 (1st addendum August 28, 2019; 2nd addendum April 27, 2020) for the construction of the following at the CalPortland Oro Grande Facility;

1. Addition of one new additive storage silo to finish mill no. 2.
2. One new fuel handling system that will allow the kiln to be fueled with petroleum coke (coke).
3. One new fuel handling system that will allow the kiln and/or precalciner to be fueled with whole tires, chipped tires, biomass fuels (including but not limited to construction and demolition wood, as well as pistachio shells, almond shells and yard clippings), paper cardboard, engineered fuel, biosolids, and dust collector bags generated on-site at the Facility as alternate fuels.
4. A new portable limestone crushing/screening operation for the mining area of the Facility.
5. One new portable prime diesel generator to be used to power the proposed portable limestone crushing operation.
6. Replacement of existing cement silo baghouses permitted under District Permit C001739, C000219, and C001740) (unrelated to either project for PSD).
7. A new portable additive crushing/screening operation.
8. Four new cement storage silos, one cement storage dome, and one truck loadout station.

The application for construction was accompanied by an application for Significant Modification to CalPortland's FOP.

A copy of the application materials can be viewed in Appendix D. The District determined the application materials to be complete.

Pursuant to District Rule 1301 – *New Source Review Definitions*, CalPortland is an existing Major Facility for CO, NO_x, SO_2, $PM_{10/2.5}$, and VOC. The MDAQMD is classified as 'attainment/unclassified' by USEPA and CARB for CO, NO_2, SO_2, and $PM_{2.5}$, and nonattainment for ozone precursors (NOx and VOC) and PM_{10} [precursors include VOC, NO_x, SO_x]; therefore, pursuant to District Rule 1303 – *New Source Review Requirements*, the proposed equipment is subject to both BACT and Offset requirements for the Nonattainment Air Pollutant/Precursors of NO_x, SO_x, PM_{10}, and VOC. The applicant proposes to offset any increase in the Facility's Potential Emissions as follows; Simultaneous Emission Reductions to reduce PM_{10} and SO_x

(PM_{10} for SO_x at a ratio of 2:1), NO_x emission reduction credits to offset NOx at a ratio of 1.3:1, and use of interpollutant offsets, NO_x for VOC, at a ratio of 1:1. The District accepts the proposed offset package, however, determines an appropriate interpollutant NO_x for VOC offset ratio of 2:1. The 2:1 ratio has been previously accepted in District NSR projects. USEPA Region IX approved the interpollutant trade as proposed given that the permitting action is a "minor NSR" action[1]. See Appendix B for EPA approval.

In addition, CalPortland is defined as a federal Major Facility pursuant to District Rule 1201 – *Federal Operating Permit Definitions*. The proposed modifications are classified as a Significant Modification to CalPortland's Federal Operating Permit (FOP). Pursuant to District Rule 1205 – *Modifications of Federal Operating Permits*, section (B)(2) and District Rule 1302(D)(1)(d), this document serves as the preliminary decision and Statement of Legal and Factual Basis.

2. Description of Projects

CalPortland proposes the following:

1. A new coke fuel handling system, including three baghouses, conveyors, hoppers, and a silo. Coke will be stored in the existing coal material storage building.
2. An alternate fuels handling system, including five baghouses, conveyors, and hoppers. The facility has proposed for use as alternate fuel in the kiln the following; whole tires, chipped tires, biomass fuels (including but not limited to construction and demolition wood, as well as pistachio shells, almond shells and yard clippings), paper cardboard, engineered fuel, biosolids, and dust collector bags generated on-site as alternate fuels.
3. A portable limestone crushing operation, including two crushers, conveyors, a screen, and a two stockpiles. This equipment will be used in the quarry area.
4. One portable Tier 4F diesel electrical generator to be used to power the portable limestone crushing operation.
5. Replacement of three baghouses associated with cement storage silos, associated with process group 611 in the Title V permit.
6. A new portable additive crushing/screening operation.
7. Four new cement storage silos, one cement storage dome, one truck loadout station, and ten associated baghouses.
8. Modify the FOP and PTO T007433 to include the addition of one new additive storage silo and two new baghouses at finish mill no. 2.

The following sections further describe each emission source.

2.1 Petroleum Coke Combustion and Petroleum Coke Fuel Handling and Delivery

CalPortland will combust coke as an alternate fuel to coal in the existing kiln. Existing emission units that will be utilized/impacted by this project are the kiln (B007435), the coal and slag fuel additive transfer and storage system (B007477; Process Group #231), the existing coal grinding system and transfer to kiln system (B007481; Process Group #461), and the existing coal and slag material storage building (MSB).

[1] C. Anderson. MDAQMD to L. Beckham, EPA Region 9, November 26, 2019.

The combustion of coke will not affect the emissions from Process Group #231 and Process Group #461. Fugitive emissions will be lower given the higher moisture content of the coke in comparison to other fuels, and the lower amount of coke mass needed to meet equivalent kiln heating needs, as described in Applicants "*Table 25. Fugitive Emissions Comparison*" provided in Alt Fuels Application. CalPortland will not increase the amount of clinker produced at the kiln after implementation of this project; thus, the amount of heat generated by the kiln will not change and the maximum potential emissions (PTE) from the kiln as defined in the FOP will not change. As a result, the addition of coke as an alternate fuel for the kiln will not debottleneck any emission units upstream or downstream of the kiln, but will provide CalPortland with increased flexibility of fuel options for use at the kiln.

In order to combust coke in the kiln, coke will be delivered from the MSB using new coke conveyors and a new coke storage bin. All other coal delivery and processing systems (including milling) will then be utilized to transport the coke. The coke handling system will vent to three new baghouses (ID#'s 231BF301, 231BF302, and 461BF301). This new coke handling system, similar to coal handling in the MSB, will emit fugitive emissions from stockpiles and material handling in the MSB.

2.2 Alternate Fuel Handling and Delivery

CalPortland will combust whole tires, chipped tires, biomass fuels (including but not limited to construction and demolition wood, as well as pistachio shells, almond shells and yard clippings), paper cardboard, engineered fuel, biosolids, and dust collector bags generated on-site as Alternate fuels to coal in the existing kiln. The emission units that will be impacted by this project are the kiln (431KL100) and calciner (421CL400). No existing material handling operations are being impacted because of the new alternate fuels handling system.

It is not expected that the combustion of alternate fuels will affect expected emissions from Process Groups #331, 421, 431, and 441 for the preheater, kiln, and cooler system. Similar to coke combustion, CalPortland will not increase the amount of clinker produced at the kiln after addition of Alternate fuels. As such, the amount of energy needed to produce the same amount of clinker will not change.

In order to combust alternate fuels in the kiln, a new alternate fuels handling system will be installed at the Facility, which will include five new baghouses. This new alternate fuels handling system will also include fugitive emissions from material transfer points. The new alternate fuels material handling system will result in PM emissions. The amount of each alternate fuel required to fuel the kiln is scaled to match the heat input of existing coal operations on a PTE basis. The alternate fuel that produces maximum emissions for the handling process are biosolids, due to the low moisture content and heating value.

2.3 Portable Limestone Crushing and Screening Plant

CalPortland intends to install a new portable limestone crushing plant to produce additive limestone for the finish mills. The portable limestone crushing plant may be a rental unit or facility owned and can be operated in multiple configurations but cannot exceed the total number

of equipment pieces or process limits identified by the operating permit. The portable limestone crushing plant includes conveyors, two crushers, a screener, and two stockpiles. The portable limestone crushing plant will be operated at different locations within the quarry on an as-needed basis. This portable plant will be powered by an EPA Tier 4F portable diesel generator.

2.4 Replacement Baghouses

CalPortland intends to replace three existing cement silo baghouses (C001739, C000219, and C001740). This replacement effort will improve the efficiency of the current baghouses. Particulate emission reductions associated with the baghouse replacements will be used as simultaneous emission reductions to reduce the proposed particulate emissions from the project.

2.5 Portable Additive Crushing/Screening Plant

CalPortland intends to install a new portable additive crushing/screening plant to produce additive materials for the finish mills. The portable additive crushing/screening plant may be a rental unit or facility owned and can be operated in multiple configurations (similar to the new portable limestone crushing plant) but cannot exceed the total number of equipment pieces or process limits identified by the operating permit. The portable additive crushing/screening plant includes conveyors, two crushers, a screener, and two stockpiles. The portable additive crushing/screening plant will be operated at different locations within the quarry on an as-needed basis.

2.6 Four Cement Storage Silos, One Cement Storage Dome, One Truck Loadout Stations, and Ten Associated Baghouses

CalPortland intends to install four new cement storage silos (silos #27-30) and one cement storage dome all vented to baghouses. Silos #27-30 will serve one new cement truck drive-thru loadout station equipped with two separate dual spout loadouts (#9 and #10). Each loadout spout will vent to baghouse.

2.7 Modify PTO T007433

CalPortland requests MDAQMD revise PTO T007433 to include the addition of one new additive storage bin and two new baghouses at finish mill no. 2.

B. Analysis

1. Presentation of Emissions

Emission summaries prepared pursuant to District Regulation XIII are presented below. A detailed analysis of project emissions was presented by the applicant in the application for Authority to Construct. The District agrees with the emission calculations with updates to selected PM fractionations. An emission summary is described below.

Emissions will result from

- dry material storage and handling of cement, coke, and alternate fuels
- cement truck loadout

- cement additive and limestone crushing/screening and material handling, and
- one new portable diesel generator

Aside from the portable diesel generator, these permitted activities will only emit particulate matter emissions. To ensure that there is no increase in PM emissions, CalPortland will use Simultaneous Emission Reductions (SERs) resulting from the replacement of three cement silo baghouses with three new cement silo baghouses. The PM SERs are based on the HAE for the existing cement silo baghouses (shown below in Table 2) using existing cement silo baghouse permit grain loading rates and the most recent 24-month period operation. PM SERs will be applied to the PTE for PM emissions.

As described above and demonstrated in Table 3 below, there will be no net increase in PM emissions from the Project. Emissions of SOx will be shown to be no net increase using PM SERs. NOx and VOC (emitted from the portable diesel generator) will be offset using emission reduction credits.

As described in Table 3 below, the Emissions Change, pursuant to District Rule 1304, for a new or modified Facility or Emissions Unit(s) is calculated, by subtracting Historic Actual Emission from Proposed Emissions (section (B)(1)(a) of Rule 1304).

Emissions Change = (Proposed Emissions) – (Historic Actual Emissions)

Table 3 presents the required offsets for the new and modified emission sources. Detailed emission calculations are presented in Appendix C.

Table 1 *- Potential to Emit (PTE) of New Emission Units*

Emissions Unit	**Process Permit #**	**Baghouse ID**	**Baghouse Permit #**	**PM10**	**PM2.5**	**SO2**	**NOx**	**CO**	**VOC**
				(tpy)	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**
Finish Mill No 2 Storage & Feed Bins	T007433	551BF105	C013959	0.39	0.39				
		551BF106	C013960	0.19	0.07				
Pet Coke Fuel Handling System	B013683	231BF301	C013675	0.72	0.11				
		231BF302	C013676	0.72	0.11				
		461BF301	C013677	0.96	0.15				
Alternate Fuel Storage & Handling System	B013684	Baghouse 1	C013678	0.80	0.12				
		Baghouse 2	C013679	0.80	0.12				
		Baghouse 3	C013680	0.80	0.12				
		Baghouse 4	C013681	0.80	0.12				
		Baghouse 5	C013682	0.80	0.12				
Alt Fuel Drop Point		na	na	0.47	0.07				
Coke MSB Stockpile		na	na	2.86	1.14				
Cement Silo Replacement Baghouse 1		611BF015	C001730	1.13	0.43				
Cement Silo Replacement Baghouse 2	T001755	611BF016	C000219	0.78	0.30				
Cement Silo Replacement Baghouse 3		611BF017	C001740	1.13	0.43				
Limestone Crushing and Screening, Portable	B013685	na	na	1.44	0.17				
Limestone Material Transfer		na	na	7.75	2.37				
Portable Limestone Stockpiles 1 & 2		na	na	0.70	0.28				
Diesel IC Engine, Portable Generator Limestone Crushing/Screening	B013686	na	na	0.03	0.03	0.01	0.60	5.27	0.285
Additive Crushing and Screening, Portable	B013855	na	na	0.41	0.05				
Additive Material Transfer		na	na	2.46	0.75				
Additive Stockpiles 1 & 2		na	na	0.70	0.28				
Dome, Cement Storage	T013687	Baghouse 1	C013957	3.94	1.50				
		Baghouse 2	C013958	0.90	0.34				

Emissions Unit	Process Permit #	Baghouse ID	Baghouse Permit #	PM10 (tpy)	PM2.5 (tpy)	SO2 (tpy)	NOx (tpy)	CO (tpy)	VOC (tpy)
Silos 27-30, Cement Storage	T013908	Baghouse 1	C013949	1.13	0.43				
		Baghouse 3	C013951	1.13	0.43				
		Baghouse 5	C013953	1.13	0.43				
		Baghouse 7	C013955	1.13	0.43				
Truck Loadout Station 9 & 10	B013712	Baghouse 2	C013950	0.34	0.13				
		Baghouse 4	C013952	0.34	0.13				
		Baghouse 6	C013954	0.34	0.13				
		Baghouse 8	C013956	0.34	0.13				
		PTE		**37.57**	**11.56**	**0.01**	**0.60**	**5.27**	**0.28**

Table 2 *– Historic Actual Emissions (HAE)*

Emissions Unit	Process Permit #	Baghouse ID	Baghouse Permit #	PM_{10} (tpy)	SO2 (tpy)	NOx (tpy)	CO (tpy)	VOC (tpy)
MSB Coal Stockpile	fugitives	na	na	0.83				
Cement Silo Replacement Baghouse 1	T001755	611BF015	C001730	21.9				
Cement Silo Replacement Baghouse 2		611BF016	C000219	15.3				
Cement Silo Replacement Baghouse 3		611BF017	C001740	21.9				
			Total	**59.9**	**0**	**0**	**0**	**0**

Baghouse HAE based on the two-year period from July 2017 to June 2019. Coal Stockpile HAE included since Coke MSB Stockpile PTE is included in PTE calculations as worst case coal/coke storage emissions.

Table 3 – Emission Offsets

Emissions	**PM_{10} (tpy)**	**SO_2 (tpy)**	**NO_x (tpy)**	**VOC (tpy)**
Proposed Emissions[3]	37.57	0.01	0.60	0.28
Historical Actual Emissions[4]	59.97	0.00	0.00	0.00
Emission Change[5]	-22.40	0.01	0.60	0.28
Simultaneous Emission Reductions[6]	22.38	0.01	0.00	0.00
Pollutant Offset Ratio	--	--	1.3	1.3
Interpollutant Offset Ratio (NOx for VOC)	--	--	--	2.0
Amount of Offsets Required[7]	--	--	0.78	0.74
Amount of ERCs Required to be Surrendered[8, 9]	--	--	**1.52**	
Amount of ERC's available[10]	--	--	**438**	**0.006**

1. Per MDAQMD Rule 1303(B), offsets are required for nonattainment air pollutants and their precursors. As such, only those relevant pollutants are listed in this table.

2. Kiln emissions are not included in the offset calculations because the kiln has been previously offset,

3. Proposed Emissions = PTE of New Emission Sources (Including baghouses, drops, stock piles, limestone crushing plant, including portable engines, and associated emissions)

4. Historical Actual Emissions (HAE) = HAE of shutdown baghouses + HAE of Fugitive Emissions from Existing Coal Stock Pile

5. Per MDAQMD Rule 1304(B), Emissions Change = Proposed Emissions - Historical Actual Emission

6. Simultaneous emission reduction (SER) of PM_{10} applied to SO_2 at a ratio of 2:1 according to guidance provided by Alan de Salvio on 8/22/2019 in a conversation with Jeremias Szust (Trinity Consultants). As such, 0.04 tpy of the PM_{10} SER are used to simultaneously reduce 0.02 tpy of SO_2.

7. Amount of Offsets Required = (Emission Change - Simultaneous Emission Reductions) * 1.3 (NO_X and VOC offset ratio of 1.3 to 1.0 due to ozone nonattainment pursuant to MDAQMD Rule 1305 (C)(1)) * Interpollutant Offset Ratio

8. Amount of ERCs Required to be Surrendered = Amount of NOx Offsets Required for NO_x Emission Change + Amount of NO_X Offsets Required for VOC Emission Change

9. CalPortland will surrender the required portion of NOx ERCs as issued by MDAQMD under ERC Certificate Number 0103 on January 20, 2016. CalPortland will surrender the required portion of VOC ERCs using ERC Certificate Number 0111 (0.006 tpy VOC).

10. Available amount of ERC's associated with ERC certificate 0103 post RACT adjustment.

2. Determination of Nonattainment NSR Requirements

a. BACT Evaluation

[District Rule 1302(C)(2)(a)]

Best Available Control Technology (BACT) is required for each Nonattainment Air Pollutant or its Precursors with potential to emit (PTE);

a) new or modified permit unit; 25 pounds per day or more

b) new or modified facility; 25 tons per year or more (15 tpy in the case of PM_{10}).

[District Rule 1303(A)]

Because this facility has a NOx and VOC PTE greater than 25 tons per year or more and has a PM_{10} PTE greater than 15 tpy, BACT is required for each new permit unit. BACT is defined as the most stringent emission limit or control technique which has been achieved in practice, for such Permit Unit class or category of source [District Rule 1301].

The proposed emission sources must each be equipped with BACT.

PM_{10} BACT

Process Group #231 (Fuel & Additive Transfer & Storage System):
The applicant proposes that all equipment emission points be vented to baghouse and that each baghouse will not exceed an outlet grain loading of 0.005 gr/dscf. With respect to fugitive emissions from the new processes, CalPortland proposes the use of a partial enclosure for coke fuel storage pile (sharing the existing coal main storage building and/or a similar structure) and good operating practices for the new coke stockpile.

The District determines BACT for this class and category as full enclosure of all new material conveying and transfer points vented to baghouse with outlet grain loading not to exceed 0.005 gr/dscf. Note no change to emission limits for shared coke/coal fuel conveyance system as that system is not being Modified. BACT for fugitive emissions from coke storage and handling is determined as storage of coke in the existing coal material storage building, which is a building with open ends and half sides (to ensure proper ventilation of fuels for safety reasons) and a visible emissions limit not to exceed 10 percent opacity for 6 minutes in any one hour.

Alternate Fuels Dry Material Handling and Storage
Alternate fuels will include materials that are likely to emit PM emissions as the materials are handled and stored. Alternate fuels can only include fuels which can be characterized as non-hazardous secondary materials (NHSMs) following the provisions of 40 CFR 241, Subpart B, and identified below:
a) Bags from baghouses at this facility.
b) Tire Derived Fuel (TDF), specifically, any combination of whole tires, chipped tires, or separated portions of tires.
c) Biosolids;
d) Biomass fuels (including pistachio shells, almond shells, yard clippings, and Construction and Demolition (C&D) wood meeting the definition of 40 CFR 241.2). As required in 40 CFR 241.4, compliance with the non-hazardous C&D requirement shall be evidenced by suppliers written certification that the C&D wood was processed by trained operators in accordance with best management practices (as described in 40 CFR 241.4(a)(5)).
e) Paper cardboard.
f) Engineered Fuel

The applicant proposes that alternate fuels storage will take place within a building, material conveyors and transfer points will be skirted and convered, and all equipment emission points be vented to baghouse and that each baghouse will not exceed an outlet grain loading of 0.005 gr/dscf. CalPortland is not proposing open outdoor storage of alternate fuels at this time.

The District carried out a PM10 BACT search using published BACT determinations as well as recent District BACT determinations. USEPA RACT/BACT/LAER Clearinghouse was searched, finding several determinations including RBLC ID: MI-0401) as well as other determinations related to biomass material handling. Determination MI-0401 noted a primary emission limit of 0.001 gr/dscf as well as fugitive Visible Emissions (VE) not to exceed 5 percent opacity. The emission limit was not identified as being verified. Further, notes on MI-0401 are as follows; Biomass feedstock delivery by truck. Feedstock handling, processing, and storage in enclosed conveyance systems and within three buildings. Fugitive dust sources include an outdoor emergency biomass pile, mobile handling equipment, and truck traffic on paved facility roads.

San Joaquin Valley APCD BACT Clearinghouse was also searched. A determination for Biomass - Fuel Receiving, Handling, and Storage is as follows;

BIOMASS FUEL STACKING AND OPEN STORAGE Dust suppression to limit visible emissions from unloading/stacking operations and open storage areas to prevent visible emissions in excess of 5% opacity for any 3 minutes in any one hour period

BIOMASS FUEL PROCESSING, INCLUDING: RECEIVING, SCREENING, GRINDING, FINES REMOVAL AND CONVEYING;Receiving bin, screen, grinders, fines removal and, augers, elevators, and conveyors all enclosed and vented to fabric filter baghouse

Recent District BACT determinations for dry material handling at this facility and similar facilities required venting to baghouse with an emission limit not to exceed 0.005 gr/dscf.

The District determines BACT as receiving bin, screen, grinders, fines removal and, augers, elevators, and conveyors all enclosed and vented to fabric filter baghouse with outlet grain loading not to exceed 0.005 gr/dscf. BACT for fugitive emissions from alternate fuels storage piles and handling is determined as enclosed storage for biosolids, biomass fuels, and engineered fuels as well as Visible Emissions (VE) not to exceed 5% opacity for 3 minutes in any one hour, and open outdoor storage of all other materials with a Visible Emissions (VE) not to exceed 5% opacity for 3 minutes in any one hour.

Process Group #511 (Clinker Storage & Transfer System) and Process Groups # 470 and 550 (Finish Mill No. 2 Additive Conveying & Storage and Feed Bins) and Process Group #611 (Cement Storage)

The applicant proposes that all equipment emission points be vented to baghouse and that each baghouse will not exceed an outlet grain loading of 0.003 gr/dscf.

The District determines BACT for this class and category as full enclosure of all new material storage and conveying and transfer points vented to baghouse with outlet grain loading not to exceed 0.003 gr/dscf. Note this particular limit is expected to be met but will be fully demonstrated after two years of successful operation and passing source test results.

Portable Limestone Crushing & Screening Plant and Additive Crushing & Screening Plant:

The applicant proposes BACT as control of emissions through the use of high pressure water sprays, consistent with recent BACT determinations for similar operations.

The District reviewed San Joaquin Valley APCD BACT Clearinghouse. According to SJVPACD BACT Clearinghouse, technologically feasible BACT for Sand, Gravel, Aggregate, Recycled Asphalt & Recycled Concrete: Processing, Crushing, Screening and Storage Operations (7/31/2018);
Achieved in Practice:
1) CRUSHING: Water sprays allowing visible emissions no greater than 12% opacity as measured using EPA Method 9 (Visible Opacity)
2) SCREENING: Water sprays allowing visible emissions no greater than 7% opacity as measured using EPA Method 9 (Visible Opacity)
3) CONVEYORS/TRANSFER POINT: Water sprays allowing visible emissions no greater than 7% opacity as measured using EPA Method 9 (Visible Opacity)
4) STORAGE (PILES): Water sprays allowing visible emissions no greater than 20% opacity as measured using EPA Method 9 (Visible Opacity)
Technologically Feasible:
1) CRUSHING: Charged fog spray or water spray with chemical additives
2) STORAGE (PILES): Water spray with chemical suppressant

Based on review of SJVAPCD BACT and recent District BACT determinations, the District determines for a portable track mounted crushing and screening system BACT as use of high-pressure water sprays at all emission points (within the permit equipment) having a control efficiency of 95% or better and meeting the opacity requirements noted above. High pressure water spray systems are regarded as a water spray system which can be readily controlled, has an operating pressure of at least 150 psig, and produces an atomized spray to suppress airborne dust. High pressure water sprays have been evaluated as having control efficiency of 95% percent or greater in recent permitting projects within the MDAQMD.

Portable Internal Combustion Engine Generator (NOX, VOC, PM10, SO2)
The applicant proposes BACT as a portable diesel IC engine meeting Tier 4 Final emission standards.

Based on a review of the available BACT determinations for this class and category of source and including recent BACT determinations for similar equipment in the MDAQMD, the District determines BACT as use of current tier standard, in this case Tier 4 Final. Propane and natural gas fueled engines were not considered effective due to the portable nature of the equipment and the added difficulty in transporting and delivering propane or natural gas fuels to various locations within a quarry.

b. Offsets Evaluation

[District Rule 1302(C)(3)]

Offsets are required for any new or modified Facility which has the Potential to Emit a Regulated Air Pollutant in an amount greater than or equal to the thresholds for the Nonattainment Air

Pollutants and their Precursors specified in District Rule 1303 (B)(1). As noted above, there is a net reduction in the amount of PM_{10} emissions from this project. Therefore, PM_{10} emission offsets are not required for this project. There is a net increase in SO2, NOx, and VOC emissions from the project, therefore emission offsets are required. The applicant proposes to offset any increase in the facility's Potential Emissions as follows; Simultaneous Emission Reductions to reduce PM_{10} and SO_x (PM_{10} for SO_x at a ratio of 2:1), NO_x emission reduction credits to offset NOx at a ratio of 1.3:1, and proposes to use interpollutant offsets, NO_x for VOC, at a ratio of 1:1. The District accepts the proposed offset package, however concludes that a higher than proposed NOx for VOC ratio of 2:1 is acceptable, conservative, and technically justified for this project. Pursuant to District Rule 1305(B)(6), USEPA was consulted for approval of interpollutant offsets. USEPA Region IX approved the interpollutant trade as proposed by the District given that the permitting action is a minor NSR action, which this action is. Emission offsets are to be surrendered contemporaneously with this permit action and prior to permit issuance.

c. Determination of Additional Federal Requirements

[District Rule 1302(C)(4)]

Pursuant to the requirements in District Rule 1302 B(1)(a)(ii), an analysis of Alternate Siting is not required as the proposed equipment is not a Major Modification as defined in District Rule 1301 (DDD).
Pursuant to the requirements in District Rule 1302 B(1)(a)(iii), an analysis of any anticipated impacts on visibility is not required as the proposed equipment does not qualify as an application for a new Major Facility, nor is it a Major Modification for NSR purposes.

3. Determination of Requirements for Toxic Air Contaminants

[District Rule 1302(C)(5)]

a. *District Rule 1320:*
Pursuant to District Rule 1320 – *New Source Review for Toxic Air Contaminants*, CalPortland is subject to both State and Federal Toxic New Source Review, as CalPortland is a New or Modified Facility (or Emissions Units) which has the potential to emit a Toxic Air Contaminant, and CalPortland also has the potential to emit 10 tons per year of any single Hazardous Air Pollutant (Federal T-NSR). Pursuant to the requirements of District Rule 1320, an applicability analysis of state and federal air toxic regulations was conducted for the proposed equipment (State T-NSR and Federal T-NSR, respectively). The State T-NSR and Federal T-NSR analyses are described below:

1. State T-NSR:
Section (E)(1)(b) of District Rule 1320 requires that if any Airborne Toxic Control Measure (ATCM) applies to the proposed equipment, the requirements of that ATCM shall be added to the District permit. The Portable Diesel Engine ATCM (17CCR93116) applies to the proposed portable diesel engine generator. The engine has been determined to comply with the requirements stated in the ATCM.

Pursuant to District Rule 1320, section (E)(2), State T-NSR also requires an EU Prioritization Score (PS) for each New of Modified Emission Unit. A Prioritization Score (PS) considers potency, toxicity and amount of toxics released into the air, as well as the distance to workers, residents and sensitive receptors (such as hospitals, schools, and day care centers). Section (E)(2) requires PS to be calculated utilizing the most recently approved CAPCOA Facility Prioritization Guidelines, the most recently approved OEHHA Unit Risk Factor for cancer potency factors, and the most recently approved OEHHA Reference Exposure Levels for non-cancer acute factors, and non-cancer chronic factors. The District prepared the PS using the July 2016 CAPCOA Facility Prioritization Guidelines, CalPortland 2018 CEIR Material Properties as the basis for HAP/TAC emission estimates, AND conservatively grouped together multiple emission units into one Project PS score. This method allowed the District to process multiple emission units together and still provide the demonstration that the PS does not trigger further risk review.

Table 4*- Project Prioritization Score*

Proposed New/Modified Project Components	Cancer Priority	Acute Noncancer Priority	Chronic Noncancer Priority
Cement (includes cement storage and truck silo loadouts)	6.72	0.014	0.29
Clinker Storage Baghouse Dust (includes clinker storage bins)			
Coal (includes alternate fuel equipment)			
Limestone (includes portable limestone and additive crushing and screening)			
Diesel ICE (includes portable diesel generator)			
TOTAL	6.72	0.014	0.29

1 project toxic emissions aggregated for purposes of classifying new sources Prioritization Score.

As shown in the table above, the total PS for of the project is less than 10. Therefore, each component is maximally categorized as "Intermediate Priority" and TBACT analysis is not required for any of the emission units. Kiln toxic air emissions are not expected to increase, including emissions of Hg and HCl (which are monitored by CEMS and subject to ATCM/MACT limits). State T-NSR is satisfied.

2. Federal T-NSR:
Pursuant to section (F)(1) of District Rule 1320, the Modified Facility/Emission Units were analyzed to determine if any current, enforceable Maximum Achievable Control Technology (MACT) standards apply. The proposed equipment is subject to the Portland Cement MACT (40 CFR 63, Subpart LLL), and will comply with all applicable requirements for these units by permit condition. There are no other applicable MACT standards. Federal T-NSR is satisfied.

b. District Rule 1520 – Control of Toxic Air Contaminants from Existing Sources applies to CalPortland, as they are an existing facility that has a facility PTE greater than ten (10) tons per year for VOC, PM, and NO_X, as well as a PTE to emit a TAC (Section (B)(1)(a) and (c)). CalPortland's 2016 Comprehensive Emission Inventory Report (CEIR) was utilized to fulfill the

requirements of section (D)(1)(b)(i) of District Rule 1520. Based on the 2016 report, the facility carried out a Health Risk Assessment (HRA). The HRA was approved by the District on May 3, 2019.

The numerical results of the 2016 HRA are listed below. The 2016 results indicate that CalPortland facility is a Significant Health Risk for maximum lifetime cancer risk and chronic hazard index. Based on this level of risk, CalPortland is required to conduct an initial and quadrennial public notification in accordance with Section (F) of District Rule 1520 and submits annual CEIR updates. The initial public notification is pending with an expected notification date of Winter 2020. Based on the Total PS of this project, the addition of this equipment will not significantly impact the surrounding populated areas nor become a perceptible increase to the 2016 HRA result due.

Table 5- *Facilitywide Health Risk Analysis Results*

Cancer Risk, per million	Chronic THI	8 Hour Chronic THI	Acute THI	Cancer Burden
68.6	**1.1**	**0.14**	**0.78**	**<1**

The requirements of District Rule 1520 are satisfied as CalPortland has an approved CEIR and HRA on file with the District and the proposed project will not alter the categorical results of the HRA.

4. Determination of Requirements for Prevention of Significant Deterioration

[District Rule 1302(C)(6)]

a. PSD Analysis

The federal PSD regulations are provided in 40 CFR 52.21. Per 40 CFR 52.21(a)(2), these regulations apply to any new major stationary source or any existing major stationary source where a project results in a significant net emissions increase located in an unclassifiable or attainment area. The Facility is an existing major PSD stationary source. The PSD regulations only apply to federal attainment or unclassifiable pollutants which, for this Facility, are PM, $PM_{2.5}$, NO_2, SO_2, and CO. As such, CalPortland must evaluate if the emission increases associated with each Project is significant. CalPortland intends to complete four projects at the Facility as follows:
(1) modification to the Finish Mill No. 2 which was previously permitted modernization project (July 16, 2018 permitting action),
(2) the Alternate Fuels Project included in the Application and First Addendum,
(3) a new Portable Limestone Crushing Project included in the Application and Both Addendums, and
(4) a new Cement Variability Project included in the Second Addendum.

For PSD applicability purposes, the replacement baghouses are not being considered as part of either project.

CalPortland carried out the PSD emission evaluation in Section 4.1.4 of their application for construction. The District has no objection to CalPortland's evaluation.

Table 5 below shows that each project emission increase does not exceed the significant emission rates (SERs) therefore, the requirements of 40 CFR 52.21 do not apply to the project.

Table 6 -. *PSD Applicability for Finish Mill No. 2 Project*

Emission Units[1]	**Emissions (tpy)**				
	PM	**PM2.5**	**SO2**	**NO2**	**CO**
Finish Mill No. 2 Project	0.58	0.22	0	0	0
Significant Emission Rate (SER)	25	15	40	40	100
Emission Increases Greater Than SER?	No	No	No	No	No

1. Project emissions increase is calculated as follows: PAE + PTE of New Emission Sources - BAE - CHA.

Table 7 *- PSD Applicability for Cement Variability Project*

Emission Units[1]	**Emissions (tpy)**				
	PM	**PM2.5**	**SO2**	**NO2**	**CO**
Cement Variability Project	20.3	5.2	0	0	0
Significant Emission Rate (SER)	25	10	40	40	100
Emission Increases Greater Than SER?	No	No	No	No	No

1. Project emissions increase is calculated as follows: PAE + PTE of New Emission Sources - BAE - CHA.

Table 8 *- PSD Applicability for Alt Fuels Project*

Emission Units[1]	**Emissions (tpy)**				
	PM	**PM2.5**	**SO2**	**NO2**	**CO**
Alt Fuels Project	21.8	2.9	9.3	16.3	39.7
Significant Emission Rate (SER)	25	15	40	40	100
Emission Increases Greater Than SER?	No	No	No	No	No

1. Project emissions increase is calculated as follows: PAE + PTE of New Emission Sources - BAE - CHA.

Table 9 *- PSD Applicability for Portable Limestone Crushing Project*

Emission Units[1]	**Emissions (tpy)**				
	PM	**PM2.5**	**SO2**	**NO2**	**CO**
Portable Limestone Crushing Project	21.18	2.85	0.01	0.60	5.27
Significant Emission Rate (SER)	25	15	40	40	100
Emission Increases Greater Than SER?	No	No	No	No	No

1. Project emissions increase is calculated as follows: PAE + PTE of New Emission Sources - BAE - CHA.

b. NAAQS Impact Analysis

District Rule 1302, section (D)(5)(b)(iv) requires that any new or Modified Facility located in an area classified by USEPA as attainment or unclassifiable shall determine if the Facility will cause or contribute to a violation of the National Ambient Air Quality Standards (NAAQS). The proposed Projects, constructed and operated in accordance with the permits will not contribute to a violation of the NAAQS.

5. Rules and Regulations Applicable to the Proposed Project

District Rules

Rule 201/203 – *Permits to Construct/Permit to Operate*. Any equipment which may cause the issuance of air contaminants must obtain authorization for such construction from the Air Pollution Control Officer. CalPortland is in compliance with this rule as they appropriately applied for a District permit for all new equipment and maintains District permits for all residing equipment.

Rule 204 – *Permit Conditions*. To assure compliance with all applicable regulations, the Air Pollution Control Officer (Executive Director) may impose written conditions on any permit. The District has imposed permit conditions to ensure CalPortland complies with all applicable regulations.

Rule 206 – *Posting of Permit to Operate*. Equipment shall not operate unless the entire permit is affixed upon the equipment or kept at a location for which it is issued and will be made available to the District upon request.

Rule 207 – *Altering or Falsifying of Permit.* A person shall not willfully deface, alter, forge, or falsify any issued permit.

Rule 209 – *Transfer and Voiding of Permits*. CalPortland shall not transfer, whether by operation of law or otherwise, either from one location to another, from one piece of equipment to another, or from one person to another. When equipment which has been granted a permit is altered, changes location, or no longer will be operated, the permit shall become void.

Rule 210 – *Applications*. CalPortland provided all the required information to correctly address the proposed equipment pursuant to this rule, although there were instances in which additional information were required, in which the thirty (30) day clock was restarted.

Rule 212 – *Standards for Approving Permits*. This rule establishes baseline criteria for approving permits by the District for certain projects. In accordance with these criteria, the proposed modifications and application does not cause issuance of air contaminants in violation of Sections 41700 or 41701 of the State Health and Safety code.

Rule 221 – *Federal Operating Permit Requirement.* CalPortland is in compliance with this rule, as they currently hold and maintain a Federal Operating Permit.

Rule 301 – *Permit Fees*. The proposed equipment will increase CalPortland's annual permit fees by the applicable amounts described in section (E) of this rule.

Rule 401 – *Visible Emissions*. This rule limits visible emissions opacity to less than 20 percent (or Ringlemann No. 1). In normal operating mode, visible emissions are not expected to exceed 20 percent opacity.

Rule 402 – *Nuisance*. This rule prohibits facility emissions that cause a public nuisance. The proposed modifications and associated equipment is required by permit condition to employ good engineering and operational principles in order to minimize emissions and the possibility of a nuisance.

Rule 404 – *Particulate Matter Concentration.* This rule requires that no person exceed the particulate matter concentration provided in Table 404(a). As the minimum allowable concentration (0.01gr/dscf) is greater than the baghouse outlet grain loading of 0.005 gr/scf (BACT), the proposed baghouses will comply with the requirements of this rule.

Rule 405 – *Solid Particulate Matter – Weight.* This rule requires that no person exceed the particulate matter process weights provided in Table 405(a). Because the proposed baghouses meet BACT (described above), it is not anticipated that they will exceed the limits in Table 405(a) and will therefore meet the requirements of this rule.

Rule 408 – *Circumvention*. This rule prohibits hidden or secondary rule violations. The proposed modifications as described is not expected to violate Rule 408.

Rule 430 – *Breakdown Provisions*. Any Breakdown which results in a violation to any rule or regulation as defined by Rule 430 shall be properly addressed pursuant to this rule.

Rule 900 – *Standards of Performance for New Stationary Sources (NSPS)*. Rule 900 adopts all applicable provisions regarding standards of performance for new stationary sources as set forth in 40 CFR 60. 40 CFR 60 Subpart F – Standards of Performance for Portland Cement Plants applies to this facility. This rule limits the allowable opacity from kilns and clinker coolers. The kiln will continue to be subject to the opacity limits in NSPS Subpart F.

Regulation X – *National Emission Standards for Hazardous Air Pollutants*. Pursuant to Regulation X, CalPortland is required to comply with all applicable ATCMs and under state law, a federal National Emission Standards for Hazardous Air Pollutants (NESHAP) becomes the State ATCM, unless the Air Resources Board (ARB) has already adopted an ATCM for the source category and associated hazardous air pollutant(s). In the case of the proposed new and modified equipment associated with the alt fuel component of the Project, the Portland Cement MACT is the applicable MACT and ATCM (as the state has not adopted an equivalent rule). In the case of the portable diesel engines, the applicable State ATCM is the Portable Diesel ATCM which the proposed engine is expected to comply with through proper operation, maintenance, sole use of ULSD, and recordkeeping and monitoring.

Regulation XII – *Title V Permits*
This regulation contains requirements for sources which must have a FOP. CalPortland currently has a FOP and is expected to comply with all applicable rules and regulations.

Rule 1201 – *Federal Operating Permit Definitions.* CalPortland is defined as a federal Major Facility pursuant to this rule.

Rule 1203 – *Federal Operating Permits*. The proposed Significant Permit Modification is being issued in accordance with the provisions of this rule including notification to public, State, and EPA pursuant to Rule 1207.

Rule 1205 – *Modifications of Federal Operating Permits*. The proposed equipment classifies as a Significant Permit Modification to CalPortland's Federal Operating Permit (FOP), and subsequently, this permit modification is being issued in accordance with the provisions of District Rule 1203.

Rule 1207 – *Notice and Comment.* This NSR permitting action is being noticed concurrent with the Significant Modification of CalPortland Federal Operating Permit. Notably, this affords the public the right to petition USEPA to reconsider the decision to not object to the permit action.

Rule 1208 – *Certification*. CalPortland included a Certification of Responsible Official as required with the submitted application for the proposed equipment.

Rule 1211 – *Greenhouse Gas Provisions of Federal Operating Permits*. CalPortland is a Major GHG Facility pursuant to Rule 1211. CalPortland's FOP includes all the requirements of this rule.

Regulation XIII – *New Source Review*
This regulation implements pre-construction review of and requirements for a proposed project.

Rule 1302 – *Procedure*. This rule applies to all new or Modified Facilities and requires certain requirements to be fulfilled when submitting an application. All applicable requirements of this rule are discussed in this NSR document as part of the Analysis procedure. Certification of compliance with the Federal Clean Air Act, applicable implementation plans, and all applicable District rules and regulations have been addressed. The Authority to Construct (ATC) application package for the proposed equipment includes sufficient documentation to comply with Rule 1302(D)(5)(b)(ii). Permit conditions for the proposed project will require compliance with Rule 1302(D)(5)(b)(iii).

Rule 1303 – *Requirements*. This rule requires BACT and offsets for selected facility modifications. All new equipment installed shall meet BACT (see Section B(2)(a)). The change in the method of operation to the kiln to accept alternate fuels will not result in a net emissions increase; therefore, BACT is not required for the kiln. Offsets are necessary to be obtained as the project PTE is demonstrated to be a net increase in emissions of NOx and VOC (see Section

B(2)(a)). CalPortland proposes use of SERs and ERCs to offset the Project. The District approves of the emission offset package proposal.

Rule 1304 – *Emissions Calculations*. The Proposed Emissions from the proposed modifications were calculated pursuant to section (B)(1)(a) of this rule.

Rule 1305 – *Emission Offsets.* The proposed actual emission reductions associated with ERC certificate 0103 were obtained from a prior banking action involving the shutdown of equipment subject to Rule 1161- Portland Cement Kilns. The current value of ERC certificate 0103 is 1,707,913 pounds NOx. Rule 1161 was amended in 2018 (post banking action) with NOx emission limits stipulated by Rule 1161 as RACT; therefore, ERC certificate 0103 will be RACT adjusted in accordance with the requirements of Rule 1305. See RACT adjustment analysis for details. The useable value of ERC 0103, after RACT adjustment is 919,808 pounds NOx. ERC certificate 0111 (0.006 tpy VOC) does not require adjustment.

Rule 1310 – *Federal Major Facilities and Modifications.* The Projects are *not* determined to be a Federal Major Modifications as calculated in accordance with Rule 1310(E)(1)(a) as the Projected Actual Emissions, calculated pursuant to section Rule 1310 (E)(3)(c) do not exceed the Federal Major Modification Thresholds. Said calculation methodologies are similar to those required by District Rule 1304(B)(1)(a) considering all things will be equal with regards to startup, shutdown, and malfunction.

Rule 1320 – *New Source Review for Toxic Air Contaminants*. Pursuant to the requirements of District Rule 1302, an applicability analysis of state and federal air toxic regulations was conducted for the proposed modifications (State T-NSR and Federal T-NSR, respectively) which shows the new or modified equipment is compliant with this rule. Further discussion is provided in section (B)(3)(a)(1) of this document.

Rule 1520 – *Control of Toxic Air Contaminants from Existing Sources*. This permit action is subject to Rule 1520, as CalPortland is an existing Major Facility and has a facility PTE greater than ten (10) tons per year for CO, NO_x, SO_2, $PM_{10/2.5}$, and VOC, as well as has a PTE to emit a TAC (Section (B)(1)(a) and (c)). A Toxic 'Hot Spots' Program Analysis was previously conducted by the District pursuant to section (E) of District Rule 1520, concluding with production of a HRA. Results of the HRA are discussed in detail in section (B)(3)(b), above.

Regulation XVII – *Prevention of Significant Deterioration*
The purpose of this regulation is to set forth requirements for all new Major PSD Facilities and Major PSD Modifications which emit or have the potential to emit a PSD Air Pollutant pursuant to the requirements of 40 CFR 52.21. The proposed projects do not constitute a new Major PSD Facility or a Major PSD Modification; therefore, PSD does not apply to the proposed projects.

State Regulations

There are no project specific applicable state regulations.

Federal Regulations

40 CFR 63, Subpart LLL - *National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry (Portland Cement MACT).* The requirements of this regulation require that the kiln use natural gas, synthetic natural gas, propane, distillate oil, synthesis gas, and ultra-low sulfur diesel during startup. "…Each new or existing raw material, clinker, or finished product storage bin; conveying system transfer point; bagging system; bulk loading or unloading system; raw and finish mills; and each existing raw material dryer, at a facility which is a major source subject to the provisions of this subpart must not cause to be discharged any gases from these affected sources which exhibit opacity in excess of 10 percent" [63.1345]. An EPA method 9 is to be conducted to demonstrate compliance with this opacity limit. Continued compliance with this regulation is expected and implemented by permit condition in CalPortland FOP, Appendix A.

Lastly, 40 CFR 63.1340(c) states onsite sources that are subject to the standards for nonmetallic mineral processing plants in 40 CFR 60, Subpart OOO (NSPS) are not subject to this subpart. As both the portable limestone crushing/screening plant and portable additive crushing/screening plant are subject to NSPS OOO, each is exempt from the provisions of Subpart LLL.

40 CFR 60, Subpart F – *NSPS for Portland Cement Kilns*. This rule limits the allowable opacity from kilns, clinker coolers, cement storage and conveyor transfer points. Affected equipment will be subject to NSPS Subpart F including opacity limits.

40 CFR 60, Subpart Y – *Standards of Performance for Coal Preparation and Processing Plants*, applies to affected facilities constructed, reconstructed or modified after May 27, 2009 in coal preparation and processing plants that process more than 200 tons of coal per day. Per 40 CFR 60.251(e), a coal preparation and processing plant is defined as "any facility (excluding underground mining operations) which prepares coal by one or more of the following processes: breaking, crushing, screening, wet or dry cleaning, and thermal drying." CalPortland processes more than 200 tons of coal per day and prepares coal through the processes described in 40 CFR 60.251(e). Per 40 CFR 60.251(d)(2), coal is defined as "all solid fossil fuels classified as anthracite, bituminous, subbituminous, or lignite by ASTM D388 (incorporated by reference—see §60.17), and coal refuse. Per the preamble to NSPS Subpart Y (FR 51960, Volume 74, Number 194, dated October 8 2009), EPA stated "based on are view of the comments received and because of the limited amount of currently available data, EPA has decided not to include ''petroleum coke'' in the subpart Y definition of ''coal'' at this time. …" As such, because coke is not a part of the coal definition in NSPS Subpart Y, the new coke handling system is not considered an affected facility under NSPS Subpart Y.

40, CFR 60, Subpart OOO – *Standards of Performance for Nonmetallic Mineral Processing*. This rule is applicable to the portable crushing and screening operations as the initial crusher rating is greater than 150 ton per hour. Each crusher, screen, and belt conveyors associated with the portable crushing equipment will be subject to the provisions of this NSPS (Subpart OOO). The emission limits associated with NSPS Subpart OOO are listed in Table 3 of the Subpart, and require that the conveyors and screen meet an opacity limit of 7 percent and the two crushers meet an opacity limit of 12 percent. An initial performance test must be conducted according to

40 CFR 60.11 of this part and 40 CFR 60.675 of this subpart. Monthly periodic inspections of water sprays will be required according to 40 CFR 60.674(b) and 40 CFR 60.676(b).

40 CFR 64, *Compliance Assurance Monitoring*. The Compliance Assurance Monitoring (CAM) rule (40 CFR 64) applies to each Pollutant Specific Emissions Unit (PSEU) when it is located at a Major Facility that is required to obtain Title V, Part 70 or 71 permit and it meets all of the following criteria. "PSEU" means an emissions unit considered separately with respect to each regulated air pollutant.

> The PSEU must:
> a. Be subject to an emission limitation or standard [40 CFR 64; AND,
> b. Use a control device to achieve compliance [40 CFR 64.2(a)(2)]; AND,
> c. Have the **potential pre-control** emissions that exceed or are equivalent to the major source threshold. [40 CFR 64.2(a)(3)]

The proposed PSEU were evaluate for applicability. Per 40 CFR 64.5(a), the owner of an emission unit is required to submit information to MDAQMD pursuant to 40 CFR 64.4 with a significant FOP revision when the PSEU in question is considered "large." Because the PTE for all the baghouses included in this significant FOP revision have the PTE less than major source thresholds, the new emission units are not considered large PSEU. Therefore, CAM does not need to be reviewed further in this permitting action.

6. NSR Preliminary Decision - Conclusion

The District has reviewed the proposed new and modified emission unit applications for CalPortland and conducted a succinct written analysis as required by District Rule 1302, section (D)(1)(b) and District Rule 1203, section (B)(1)(a). The District has determined that the proposed equipment is in compliance with all applicable District, state, and federal rules and regulations as proposed and when operated in terms of the permit conditions stated below.

7. Operating Conditions

Operating conditions will be assigned to each individual permit unit listed as a bullet item Sections 7.1 thru 7.7 below. Operating conditions for each of these permit units are included in Part III of CalPortland's FOP. As the District permit and FOP are a bifurcated program, the permit unit operating conditions will also be placed on the District Authorities to Construct (ATC). A brief explanation pertaining to the origin and authority of the operating conditions are found below as well as noted after each operating condition in the FOP.

7.1 Petroleum Coke Combustion and Petroleum Coke Fuel Handling and Delivery

Permit conditions reflect requirements based on New Source Review (BACT and Offsets), District Rules 401 and 403 (*Visible Emissions and Fugitive Dust*), 40 CFR 63 Subpart LLL, 40 CFR 63 Subpart F, 40 CFR 63 Subpart Y, District Toxics Rules 1320 and 1520 (*TNSR and Control of TAC's From Existing Source*), and District Rules 204 and 1302 (authority to impose operating conditions.)

- COKE HANDLING SYSTEM, B013683
- COKE HANDLING BAGHOUSE, C013675 and C013676
- COKE HANDLING & SILO BAGHOUSE, C013677
- FUEL STORAGE BINS, T007508 (coal, pulverized coal, and coke)
- COAL & COKE GRINDING AND TRANSFER TO KILN, B007481(*Updated permit description to include coke. No other changes and no changes to permit conditions.)*
- PREHEATER AND KILN, B007435

7.2 Alternate Fuel Handling and Delivery

Permit conditions reflect requirements based on New Source Review (BACT and Offsets), District Rules 401 and 403 (*Visible Emissions and Fugitive Dust*), 40 CFR 63 Subpart LLL, 40 CFR 63 Subpart F, District Toxics Rules 1320 and 1520 (*TNSR and Control of TAC's From Existing Source*), and District Rules 204 and 1302 (authority to impose operating conditions.)

- PREHEATER AND KILN, B007435
- ALTERNATE FUELS HANDLING SYSTEM, B013684
- ALTERNATE FUELS BAGHOUSE 1 thru 5, C013678, C013679, C013680, C013681, C013682

7.3 Portable Limestone Crushing and Screening Plant

Permit conditions reflect requirements based on New Source Review (BACT and Offsets), District Rules 401 and 403 (*Visible Emissions and Fugitive Dust*), 40 CFR Part 60 Subpart OOO and District Rules 204 and 1302 (authority to impose operating conditions.).

- LIMESTONE CRUSHING AND SCREENING PLANT, PORTABLE, B013685
- DIESEL IC ENGINE, PORTABLE GENERATOR, LIMESTONE CRUSHING/SCREENING PLANT, B013686

7.4 Replacement Baghouses

Permit conditions reflect requirements based on New Source Review (BACT and Offsets), District Rules 401 and 403 (*Visible Emissions and Fugitive Dust*), 40 CFR 63 Subpart LLL, 40 CFR 63 Subpart F, District Toxics Rules 1320 and 1520 (*TNSR and Control of TAC's From Existing Source*), and District Rules 204 and 1302 (authority to impose operating conditions.)

- BAGHOUSE 611BF016, C000219
- BAGHOUSE 611BF015, C001739
- BAGHOUSE 611BF017, C001740

7.5 Portable Additive Crushing/Screening Plant

Permit conditions reflect requirements based on New Source Review (BACT and Offsets), District Rules 401 and 403 (*Visible Emissions and Fugitive Dust*), 40 CFR Part 60 Subpart OOO and District Rules 204 and 1302 (authority to impose operating conditions.).

- CEMENT ADDITIVE CRUSHING AND SCREENING PLANT, PORTABLE, B013855

7.6 Four Cement Storage Silos, One Cement Storage Dome, One Truck Loadout Station, and Ten Associated Baghouses

Permit conditions reflect requirements based on New Source Review (BACT and Offsets), District Rules 401 and 403 (*Visible Emissions and Fugitive Dust*), 40 CFR 63 Subpart LLL, 40 CFR 63 Subpart F, District Toxics Rules 1320 and 1520 (*TNSR and Control of TAC's From Existing Source*), and District Rules 204 and 1302 (authority to impose operating conditions.)

- DOME, CEMENT STORAGE – T013687
- BAGHOUSE 1, CEMENT STORAGE DOME, C013957
- BAGHOUSE 2, CEMENT STORAGE BIN, C013958
- SILOS, CEMENT (27-30), T013908
- BAGHOUSE 1, CEMENT SILO 27 (C013949);
- BAGHOUSE 3, CEMENT SILO 28 (C013951);
- BAGHOUSE 5, CEMENT SILO 29 (C013953), and
- BAGHOUSE 7, CEMENT SILO 29 (C013955)
- TRUCK LOADOUT STATION 9 & 10, B013712
- BAGHOUSE 2, CEMENT TRUCK LOADOUT STATION 10 WEST, C013950;
- BAGHOUSE 4, CEMENT TRUCK LOADOUT STATION 10 WEST, C013952;
- BAGHOUSE 6, CEMENT TRUCK LOADOUT STATION 9 EAST, C013954; and
- BAGHOUSE 8, CEMENT TRUCK LOADOUT STATION 9 EAST, C013956

7.7 Modify PTO T007433

Permit conditions reflect requirements based on New Source Review (BACT and Offsets), District Rules 401 and 403 (*Visible Emissions and Fugitive Dust*), 40 CFR 63 Subpart LLL, 40 CFR 63 Subpart F, District Toxics Rules 1320 and 1520 (*TNSR and Control of TAC's From Existing Source*), and District Rules 204 and 1302 (authority to impose operating conditions.)

- FINISH MILL #2 STORAGE & FEED BINS – MDAQMD PERMIT # T007433
- BAGHOUSE 551BF105 – MDAQMD PERMIT # C013959
- BAGHOUSE 551BF106 – MDAQMD PERMIT # C013960

C. Title V Permit/FOP – Significant Permit Modification

1. Proposed Changes to FOP

CalPortland submitted an application for Significant Permit Modification to their FOP in parallel with the application for District Permit modification. The District is processing the proposed FOP changes in accordance with procedures specified in District Rule 1302(D)(1)(d). This preliminary decision also serves as the statement of basis. A draft FOP is attached. Additionally, CalPortland has accepted a baghouse grain loading limit to reflect agreed upon emission rate of 0.01 gr/dscf to the following units; C001742, C001770, C000160, C000162, C001776, C001771 (621BF007), C001772 (621BF009), and C001775 (621BF008).

2. Title V/FOP – Conclusion

The District has reviewed the applications and proposed modifications to CalPortland's FOP. The District has determined that the proposed modification is in compliance with all applicable District, state, and federal rules and regulations as proposed when operated in the terms of the operating conditions given herein.

D. Comment Period and Notifications

1. Public Comment

This preliminary determination/decision will be publicly noticed on or about October 15, 2020, allowing for public comment until November 16, 2020 (or 30 days after publish date). Please see Appendix A for noticing details.

2. Notifications

The preliminary decision will be submitted to USEPA and CARB pursuant to District Rule 1302 for an EPA forty-five (45) day review period on October 8, 2020. The final modified FOP shall be issued on or about November 23, 2020.

All correspondence as required by District Rules 1302 will be forwarded electronically to the following recipients:

Director, Office of Air Division
United States EPA, Region IX
75 Hawthorne Street
San Francisco, CA 94105
R9airpermits_AV_MD@epa.gov

Chief, Stationary Source Division
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812
Permits@arb.ca.gov

Desirea Haggard

Director of Environmental Affairs
CalPortland Company
P.O. Box 146
Oro Grande, CA 92368
dhaggard@calportland.com

Appendix A
Public Notice

Noticing Methods include the following, per District Rule 1302(D)(2) and (3):

- Published in newspapers of general circulation - *Riverside Press Enterprise* (Riverside County) and the *Daily Press* (San Bernardino County) on or about October 15, 2020.
- Mailed and/or emailed to MDAQMD contact list of persons requesting notice of actions (see the contact list following the Public Notice in this Appendix) TBD.
- Posted on the MDAQMD Website at the following link: http://www.mdaqmd.ca.gov/permitting/public-notices-advisories/public-notices-permitting-regulated-industry

NOTICE OF TITLE V PERMIT MODIFICATION

NOTICE IS HEREBY GIVEN THAT *CalPortland Company*, located within the Mojave Desert Air Quality Management District (MDAQMD) at 19409 National Trails Hwy, Oro Grande, has applied for a Preconstructions Review including Significant Modification of a Federal Operating Permit (FOP) pursuant to the provisions of MDAQMD Regulations XII and XIII, respectively. The applicant is a company engaged in Portland Cement Manufacturing. CalPortland - Oro Grande operates under FOP Number 223900003 and is proposing one new fuel handling system that will allow the kiln to be fueled with pet coke, one new alternate fuel storage and handling system that will allow the kiln and/or precalciner to be fueled with alternate fuels, one new portable limestone crushing/screening operation (powered by diesel generator), one new cement additive crushing/screening operation, one new cement storage dome, four cement storage silos, and one truck loadout station.

REQUEST FOR COMMENTS: Interested persons are invited to submit written comments and/or other documents regarding the terms and conditions of the proposed Federal Operating Permit. If you submit written comments, you may also request a public hearing on the proposed Significant Modification of the FOP. To be considered, comments, documents and requests for public hearing must be submitted no later than 5:00 P.M. on November 16, 2020 (or 30 days after this publication date, whichever is later) to the MDAQMD, Attention: Chris Anderson at the address listed below.

PETITION FOR REVIEW: Federal Operating Permits are also subject to review and approval by the United States Environmental Protection Agency (USEPA). If the USEPA finds no objection to the proposed permit renewal, the final permit will be issued. In the event of public objection to the issuance of a specific permit, a Title V petition may be submitted to the USEPA Administrator electronically through the Central Data Exchange at: https://cdx.epa.gov/ or in writing to USEPA at 1200 Pennsylvania Ave, N.W., Washington, D.C. 20460. In order to file a Title V petition, issues must be raised with reasonable specificity during the public comment period, and filed within 60 days of the close of the USEPA review period.

AVAILABILITY OF DOCUMENTS: The proposed Federal Operating Permit, as well as the application and other supporting documentation are available for review at the MDAQMD offices, 14306 Park Avenue, Victorville, CA 92392. In addition, these documents are available on the MDAQMD website and can be viewed at following link: https://www.mdaqmd.ca.gov/permitting/public-notices-advisories/public-notices-permitting-regulated-industry. Please contact Chris Anderson, Air Quality Engineer, at the above address or (760) 245-1661, extension 1846 or at canderson@mdaqmd.ca.gov for additional questions pertaining to this action and/or corresponding documents.

*Traducción en español esta disponible por solicitud. Por favor llame: (760) 245-1661

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Appendix B
USEPA Region 9 Interpollutant Offset Approval

From: BECKHAM, LISA
To: Chris Anderson
Cc: Sheri Haggard
Subject: RE: Interpollutant Emission Reductions Approval-"Minor NSR" Action
Date: Monday, December 16, 2019 6:03:56 AM
Attachments: image001.png
image002.png
image003.gif
image004.gif
image005.gif

Hi Chris,

Sorry this took so long to get to.

As I've note previously, the federal regulations for major sources in nonattainment areas require offsets to always be for the same pollutant. The exceptions are (1) NOX and VOC can be traded for ozone (if certain requirements are met) and (2) PM2.5 and PM2.5 precursors can be traded (if certain requirements are met). 40 CFR 51.165(a)(11).

The current version of 40 CFR 51.165(a)(11) requires interpollutant trading for new major sources and major modifications at existing major sources to meet 40 CFR 51.165(a)(11)(i)(C), which generally requires a SIP-approved interprecursor trading ratio or a technical demonstration with photochemical modeling to justify the trading ratio for an individual permit action. However, MDAQMD's SIP-approved NSR program contains more stringent offset requirements than the federal minimum, as there are no offset requirements under the federal program for non-major sources/non-major modifications (what the EPA refers to as "minor NSR") or criteria for obtaining offsets for minor NSR actions. So, while the justification below would not be sufficient for a new major source or major modification, it is approved in this case for this minor NSR action.

Thanks,
Lisa

Lisa Beckham
Acting Manager
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Appendix C
EMISSIONS

Table 1. Finish Mill 2 Bin Baghouse Parameters

Unit	Baghouse	Flow Rate[1] (acfm)	Temperature[2] (Fahrenheit)	Temperature[3] (Rankine)	Pressure[4] (inHg)	Flow Rate[5] (dscfm)	Maximum Outlet Grain Loading[6] (gr/dscf)
Finish Mill No 2 Storage and Feed Bin	551BF105	4,000	70	529.67	26.82	3,423	0.003
	551BF106	2,000	70	529.67	26.82	1,711	0.003

1. Baghouse flow rates are from the Flow Diagrams provided in Attachment 3.
2. Baghouse temperatures as provided by CalPortland
3. Temperature (R) = Temperature (F) + 459.67
4. Pressure (inHg) from 2016 Comprehensive Emission Inventory (CEIR) and based on actual site atmospheric conditions
5. Flow Rate (dscfm) = Flow Rate (acfm) x (Standard Temperature (Rankine) / Actual Exhaust Temperature (Rankine)) x (Actual Pressure (inHg) / Standard Pressure (inHg)) x (1 - Moisture of Ambient Air (%) / 100)

Standard Pressure (inHg)	29.92
Standard Temperature (Rankine)	519.67
Moisture Content Ambient Air (%)	2.7

6. Based on baghouse BACT limit established by MDAQMD in Finish Mill 2 Project, refer to MDAQMD Permit #T007433.

Table 2. PM Speciation Factors [1]

Weight Fraction of PM	Weight Fraction of PM_{10}	Weight Fraction of $PM_{2.5}$
1	0.84	0.32

1. AP-42 11.19.2 Crushed Stone Processing and Pulverized Mineral Processing. 0.84 is the PM10/PM ratio and 0.38 is the PM2.5/PM10 ratio for "grinding with fabric filter emissions" on Table 11.19.2-4.

Table 3. Finish Mill 2 Bin Baghouse PTE

Unit	Baghouse	Annual Operating Hours (hr/year)	Hourly PTE (lb/hr)			Annual PTE (tpy)		
			PM [1]	PM_{10} [1]	$PM_{2.5}$ [1]	PM [2]	PM_{10} [2]	$PM_{2.5}$ [2]
Finish Mill No 2 Storage and Feed Bin	551BF105	8,760	0.105	0.088	0.034	0.46	0.39	0.15
	551BF106	8,760	0.052	0.044	0.017	0.23	0.19	0.07
		Total PTE:	**0.16**	**0.13**	**0.05**	**0.69**	**0.58**	**0.22**

1. Hourly PTE (lb/hr) = Weight Fraction of PM/PM10/PM2.5 * PM_{10} Grain Loading (gr/scf) x Flow Rate (scfm) x 60 (min/hr) / 7,000 (gr/lb)
2. PTE (tpy) = Hourly Emissions (lb/hr) x Annual Operating Hours (hr/yr)/ 2000 (lb/ton)

Table 4. Finish Mill 2 Project - Updated PSD Applicability

Description	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
July 2018 FM 2 Modernization PEI[1]	**-560.03**	**-165.57**	**-113.53**
New Baghouses PTE	0.69	0.58	0.22
Updated Modernization PEI[2]	-559.3	-165.0	-113.3
Significant Emission Rate (SER)[3]	25	15	10
In Attainment of NAAQS?[4]	N/A	No	Yes
Emission Increases > SER?	**No**	**No**	**No**

1. Per the NSR/FOP Evaluation Document for Finish Mill 2 Modification dated July 16, 2018.
2. Updated Modernization PEI = July 2018 FM2 Modernization PEI + New Baghouses PTE
3. Significant as defined in MDAQMD Rule 1600/40 CFR 52.21.
4. According to EPA Greenbook. https://www3.epa.gov/airquality/greenbook/ancl.html. Accessed 4/16/2020.

Table 5. Finish Mill 2 Bin Baghouse Offset Summary

Description	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
July 2018 FM2 Total Proposed Emissions[1]	25.45	17.15
July 2018 Total HAE[1]	28.61	19.28
New Baghouses PTE	0.58	0.22
Emissions Change[2]	-2.58	-1.91
Offsets Required?	**No**	**No**

1. Per the NSR/FOP Evaluation Document for Finish Mill 2 Modification dated July 16, 2018.
2. Emission Change = July 2018 Total HAE - July 2018 FM 2 Total Proposed Emissions - New Baghouse Total Proposed Emissions

Table 6. Portable Limestone Crushing and Screening Operations

Equipment	Throughputs (ton/hr)	Annual Hours (hr/yr)	Throughputs (tpy)	Emission Factor[1] (lb/ton)			Total Emissions[2] (lb/hr)			Total Emissions[3] (tpy)		
				PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Crusher #1	360	4,160	1,497,600	0.0012	0.00054	0.0001	0.43	0.19	0.04	0.90	0.40	0.07
Crusher #2	180	4,160	748,800	0.0012	0.00054	0.0001	0.22	0.10	0.02	0.45	0.20	0.04
Screener	540	4,160	2,246,400	0.0022	0.00074	0.00005	1.19	0.40	0.03	2.47	0.83	0.06
						Total	1.84	0.69	0.08	3.82	1.44	0.17

1. Emission factor for crusher and screener operations are from Table 11.19.2-2, AP-42 Section 11.19 for the Mineral Products Industry. Assumed controlled per water sprays that will be utilized.
2. Particulate Emissions (lb/hr) = Emission Factor (lb/ton) x Maximum Throughput (tph)
3. PTE (tpy) = Hourly Emissions (lb/hr) x Annual Operating Hours (hr/yr)/ 2000 (lb/ton). Use of material crushing and transfer operations will not exceed 40 hours/week

Table 7. Portable Limestone Material Handling Operations

Throughputs (ton/hr)	Throughputs (tpy)	Number of Drop Points[1]	Conveyor Cover Control Efficiency	Water-Spray Control Efficiency[2]	Emission Factors[3] (lb/ton)			Total Emissions[4] (lb/hr)			Total Emissions[5] (tpy)		
					PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
180	748,800	5	0%	75%	0.006	0.003	0.001	1.28	0.62	0.19	2.66	1.29	0.39
360	1,497,600	2	0%	75%	0.006	0.003	0.001	1.02	0.50	0.15	2.12	1.03	0.32
540	2,246,400	7	0%	75%	0.006	0.003	0.001	5.36	2.61	0.80	11.15	5.42	1.66
							Total	**7.66**	**3.73**	**1.14**	**15.93**	**7.75**	**2.37**

1. The PFD for the Limestone Crushing Operation shows the drop points for the crushed material and the mass flow at each drop point, as provided in Attachment 3.
2. Water spray has a control efficiency of 75% at the point of application. Control efficiencies from Section E of MDAQMD Emission Inventory Guidance for Mineral Handling and Processing Industries.
3. Emission Factors (lb/ton) = Particle Size Multiplier x 0.0032 x (Mean Wind Speed (mph)/5)^1.3 / (Material Moisture Content (%)/2)^1.4 per AP-42 Chapter 13.2.4, Equation 1.

Wind Speed 7.7 mph

Moisture Content from 2018 CEIR 1.60 w/w%

Particulate Size Multipliers:

PM	PM_{10}	$PM_{2.5}$
0.74	0.36	0.11

4. Particulate Emissions (lb/hr) = Emission Factor (lb/ton) x Maximum Throughput (tph) x (1-Conveyor Cover Control Efficiency/100) x (1-Water Spray Control Efficiency/100)
5. PTE (tpy) = Hourly Emissions (lb/hr) x Annual Operating Hours (hr/yr)/ 2000 (lb/ton). Use of material crushing and transfer operations will not exceed 40 hours/week

Table 8. Portable Limestone Stockpile Parameters

Material	Silt %[1]	Control Efficiency %[2]	Number of Days with Precipitation > 0.01 in[3]	Percentage of Time with Wind Speed > 12 mph (%)[3]	Maximum Monthly Pile Exposed Surface Area[4] (ft^2)	Maximum Monthly Pile Exposed Surface Area (acre)
Limestone	15	50	20	13.3	15,175	0.35

1. Silt % from CalPortland 2018 CEIR.
2. 50% control efficiency assumed from use of water sprays.
3. Conservative days with precipitation and windy hours default from 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G.
4. Assumed maximum monthly stockpile area equal to I-Lime stockpile area max from CalPortland 2018 CEIR.

Table 9. Particulate Aerodynamic Factor for Stockpiles [1]

PM	PM_{10}	$PM_{2.5}$
1.0	0.50	0.20

1. 2013 *MDAQMD Emission Inventory Guidance Mineral Handling and Processing Industries Section G.*

Table 10. Portable Limestone Stockpile Potential to Emit

Stockpile	Emission Factor (ton/acre-year)[1]			Emissions (tpy)[2]		
	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Limestone Pile 1	4.04	2.02	0.81	0.70	0.35	0.14
Limestone Pile 2	4.04	2.02	0.81	0.70	0.35	0.14

1. Emission Factor (ton/acre) = Particulate Aerodynamic Factor x 1.7 x Silt Loading (%) / 1.5 x (365 days - Number of Rain Days) / 235 x Percentage of Strong Wind Days / 15 x 365 / 2000, per 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G

2. PM Emissions (tpy) = Emission Factor (ton/acre-year) x Maximum Exposed Surface Area (acres) x (1 - Control Efficiency (%) / 100) per 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G

Table 11. Diesel Generator Potential to Emit

Model	Emission Source Description	Process Description	Annual Hours (hr)	Power Output (bhp)[1]	Power Output (kw)[1]	Pollutant	PTE Annual Emission Factor	Emission Factor Units	Potential Emissions (lb/hr)[5,6]	Potential Emissions (tpy)[7]
John Deere 6090HFG06	Diesel Engine	Diesel Combustion	4,200	437	326	$PM/PM_{10}/PM_{2.5}$[1,2]	0.014	g/bhp-hr	0.01	0.03
						CO[1]	2.609	g/bhp-hr	2.51	5.27
						NOx[1,2]	0.298	g/bhp-hr	0.29	0.60
						VOC[1,3]	0.141	g/bhp-hr	0.14	0.285
						SO_2[4]	1.21E-05	lb/bhp-hr	5.31E-03	0.01

1. Based on Tier 4 Final emission standards and information found in Attachment 3 of this Addendum.
2. It is conservatively assumed that the emission factors for PM_{10} and $PM_{2.5}$ are equivalent to the emission factor for PM.
3. Manufacturer provided a NMHC factor of 0.002 grams/bhp-hr. Assumed all NMHC are VOCs.
4. The engine uses ultra low sulfur diesel fuel per the manufacturer specification sheet. The emission factor is based on a fuel sulfur content of 0.0015% for ultra low sulfur diesel fuel, as defined under 40 CFR 80, Subpart I. The SO_2 emission factor from AP-42 Section 3.4, Table 3.4-1 (10/96) is used in lieu of that in AP-42 Section 3.3, Table 3.3-1 (10/96) in order to account for the fuel sulfur content.
5. Conversion from gram to pound: 1 g = 0.0022 lbs
6. Potential emissions (lb/hr) = Diesel Emission Factor (grams/bhp-hr) * 0.0022 lbs/gram * Power Output (bhp).
7. Potential emissions (tpy) = Potential Emissions (lb/hr) * Annual Hours of Operation (hr/yr) / 2000 (lb/ton).

Table 12. Portable Limestone Crushing Plant Project Emission Increase

Description	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Revised Limestone Crushing Plant PTE[1]	21.18	9.92	2.85	0.01	0.60	5.27	0.28
Significant Emission Rate (SER)[2]	25	15	10	40	40	100	40
In Attainment of NAAQS?[3]	N/A	No	Yes	Yes	Yes	Yes	No
Emission Increases > SER?	**No**	**No**	**No**	**No**	**No**	**No**	**No**

1. Revised Limestone Crushing PTE = Portable Limestone Crushing and Screening Operations PTE + Limestone Material Handling Operations PTE + Portable Limestone Stockpile PTE + Revised Emergency Engine PTE
2. Significant as defined in MDAQMD Rule 1310 and Rule 1600/40 CFR 52.21.
3. According to EPA Greenbook. https://www3.epa.gov/airquality/greenbook/ancl.html. Accessed 4/16/2020.

Table 13. Portable Additive Crushing and Screening Operations

Equipment	Throughputs (ton/hr)	Throughputs (tpy)	Emission Factor[1] (lb/ton)			Total Emissions[2] (lb/hr)			Total Emissions[3] (tpy)		
			PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Crusher #1	360	432,000	0.0012	0.00054	0.0001	0.43	0.19	0.04	0.26	0.12	0.02
Crusher #2	180	216,000	0.0012	0.00054	0.0001	0.22	0.10	0.02	0.13	0.06	0.01
Screener	540	648,000	0.0022	0.00074	0.00005	1.19	0.40	0.03	0.71	0.24	0.02
					Total	**1.84**	**0.69**	**0.08**	**1.10**	**0.41**	**0.05**

1. Emission factor for crusher and screener operations are from Table 11.19.2-2, AP-42 Section 11.19 for the Mineral Products Industry. Assumed controlled per water sprays that will be utilized.
2. Particulate Emissions (lb/hr) = Emission Factor (lb/ton) x Maximum Throughput (tph)
3. PTE (tpy) = Hourly Emissions (lb/hr) x Annual Operating Hours (hr/yr)/ 2000 (lb/ton). Use of material crushing and transfer operations will not exceed 40 hours/week

Table 14. Portable Additive Material Handling Operations

Throughputs (ton/hr)	Throughputs (tpy)	Number of Drop Points[1]	Conveyor Cover Control Efficiency	Water-Spray Control Efficiency[2]	Emission Factors[3] (lb/ton)			Total Emissions[4] (lb/hr)			Total Emissions[5] (tpy)		
					PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
180	432,000	5	0%	75%	0.006	0.003	0.001	1.28	0.62	0.19	1.53	0.75	0.23
360	216,000	2	0%	75%	0.006	0.003	0.001	1.02	0.50	0.15	0.31	0.15	0.05
540	648,000	7	0%	75%	0.006	0.003	0.001	5.36	2.61	0.80	3.22	1.56	0.48
							Total	**7.66**	**3.73**	**1.14**	**5.05**	**2.46**	**0.75**

1. The Additive Crushing Operation will utilize the same configuration as the Limestone Crushing Operation. The PFD for the Limestone Crushing Operation shows the drop points for the crushed material and the mass flow at each drop point, as provided in Attachment 3.
2. Water spray has a control efficiency of 75% at the point of application. Control efficiencies from Section E of MDAQMD Emission Inventory Guidance for Mineral Handling and Processing Industries.
3. Emission Factors (lb/ton) = Particle Size Multiplier x 0.0032 x (Mean Wind Speed (mph)/5)^1.3 / (Material Moisture Content (%)/2)^1.4 per AP-42 Chapter 13.2.4, Equation 1.

Wind Speed 7.7 mph

Moisture Content from 2018 CEIR 1.60 w/w%

Particulate Size Multipliers:

PM	PM_{10}	$PM_{2.5}$
0.74	0.36	0.11

4. Particulate Emissions (lb/hr) = Emission Factor (lb/ton) x Maximum Throughput (tph) x (1-Conveyor Cover Control Efficiency/100) x (1-Water Spray Control Efficiency/100)
5. PTE (tpy) = Hourly Emissions (lb/hr) x Annual Operating Hours (hr/yr)/ 2000 (lb/ton). Use of material crushing and transfer operations will not exceed 40 hours/week

Table 15. Portable Additive Stockpile Parameters

Material	Silt %[1]	Control Efficiency %[2]	Number of Days with Precipitation > 0.01 in[3]	Percentage of Time with Wind Speed > 12 mph (%)[3]	Maximum Monthly Pile Exposed Surface Area[4] (ft^2)	Maximum Monthly Pile Exposed Surface Area (acre)
Additive	15	50	20	13.3	15,175	0.35

1. Conservative Silt % per 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G.
2. 50% control efficiency assumed from use of water sprays.
3. Conservative days with precipitation and windy hours default from 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G.
4. Assumed maximum monthly stockpile area equal to I-Lime stockpile area max from CalPortland 2018 CEIR.

Table 16. Particulate Aerodynamic Factor for Stockpiles [1]

PM	PM_{10}	$PM_{2.5}$
1.0	0.50	0.20

1. 2013 *MDAQMD Emission Inventory Guidance Mineral Handling and Processing Industries Section G.*

Table 17. Portable Additive Stockpile Plant Potential to Emit

Stockpile	Emission Factor (ton/acre-year)[1]			Emissions (tpy)[2]		
	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Stockpile 1	4.04	2.02	0.81	0.70	0.35	0.14
Stockpile 2	4.04	2.02	0.81	0.70	0.35	0.14

1. Emission Factor (ton/acre) = Particulate Aerodynamic Factor x 1.7 x Silt Loading (%) / 1.5 x (365 days - Number of Rain Days) / 235 x Percentage of Strong Wind Days / 15 x 365 / 2000, per 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G
2. PM Emissions (tpy) = Emission Factor (ton/acre-year) x Maximum Exposed Surface Area (acres) x (1 - Control Efficiency (%) / 100) per 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G

Table 21. Cement Storage Baghouse Parameters

Unit	Baghouse	Flow Rate[1] (acfm)	Temperature[2] (Fahrenheit)	Temperature[3] (Rankine)	Pressure[4] (inHg)	Flow Rate[5] (dscfm)	Maximum Outlet Grain Loading[6] (gr/dscf)
Cement Storage Silos	Baghouse 1	10,000	200	659.67	26.82	6,871	0.003
	Baghouse 2	3,000	200	659.67	26.82	2,061	0.003
	Baghouse 3	10,000	200	659.67	26.82	6,871	0.003
	Baghouse 4	3,000	200	659.67	26.82	2,061	0.003
	Baghouse 5	10,000	200	659.67	26.82	6,871	0.003
	Baghouse 6	3,000	200	659.67	26.82	2,061	0.003
	Baghouse 7	10,000	200	659.67	26.82	6,871	0.003
	Baghouse 8	3,000	200	659.67	26.82	2,061	0.003
Cement Storage Dome	Baghouse 1	35,000	200	659.67	26.82	24,048	0.003
	Baghouse 2	8,000	200	659.67	26.82	5,497	0.003

1. Baghouse flow rates are from the Flow Diagrams provided in Attachment 3.
2. Baghouse temperatures as provided by CalPortland.
3. Temperature (R) = Temperature (F) + 459.67
4. Pressure (inHg) from 2016 Comprehensive Emission Inventory (CEIR) and based on actual site atmospheric conditions
5. Flow Rate (dscfm) = Flow Rate (acfm) x (Standard Temperature (Rankine) / Actual Exhaust Temperature (Rankine)) x (Actual Pressure (inHg) / Standard Pressure (inHg)) x (1 - Moisture of Ambient Air (%) / 100)

Standard Pressure (inHg)	29.92
Standard Temperature (Rankine)	519.67
Moisture Content Ambient Air (%)	2.7

6. Based on baghouse BACT limit established by MDAQMD in Finish Mill 2 Project, refer to MDAQMD Permit # C013011.

Table 22. PM Speciation Factors [1]

Weight Fraction of PM	Weight Fraction of PM_{10}	Weight Fraction of $PM_{2.5}$
1	0.84	0.32

1. AP-42 11.19.2 Crushed Stone Processing and Pulverized Mineral Processing. 0.84 is the PM10/PM ratio and 0.38 is the PM2.5/PM10 ratio for "grinding with fabric filter emissions" on Table 11.19.2-4.

Table 23. Cement Storage Baghouse Hourly Emissions

Unit	Baghouse	Annual Operating Hours (hr/year)	Hourly PTE (lb/hr)			Annual PTE (tpy)		
			PM [1]	PM_{10} [1]	$PM_{2.5}$ [1]	PM [2]	PM_{10} [2]	$PM_{2.5}$ [2]
Cement Storage Silos	Baghouse 1	8,760	0.31	0.26	0.10	1.34	1.13	0.43
	Baghouse 2	8,760	0.09	0.08	0.03	0.40	0.34	0.13
	Baghouse 3	8,760	0.31	0.26	0.10	1.34	1.13	0.43
	Baghouse 4	8,760	0.09	0.08	0.03	0.40	0.34	0.13
	Baghouse 5	8,760	0.31	0.26	0.10	1.34	1.13	0.43
	Baghouse 6	8,760	0.09	0.08	0.03	0.40	0.34	0.13
	Baghouse 7	8,760	0.31	0.26	0.10	1.34	1.13	0.43
	Baghouse 8	8,760	0.09	0.08	0.03	0.40	0.34	0.13
Cement Storage Dome	Baghouse 1	8,760	1.07	0.90	0.34	4.69	3.94	1.50
	Baghouse 2	8,760	0.24	0.21	0.08	1.07	0.90	0.34
		Total PTE:	**2.91**	**2.44**	**0.93**	**12.74**	**10.70**	**4.08**

1. Hourly PTE (lb/hr) = Weight Fraction of PM/PM10/PM2.5 * Grain Loading (gr/scf) x Flow Rate (scfm) x 60 (min/hr) / 7,000 (gr/lb)
2. PTE (tpy) = Hourly Emissions (lb/hr) x Annual Operating Hours (hr/yr)/ 2000 (lb/ton)

Table 24. New Baghouse Parameters

Process	Baghouse Equipment ID	Flow Rate[1] (acfm)	Temperature[2] (Fahrenheit)	Temperature[3] (Rankine)	Pressure[4] (inHg)	Flow Rate[5] (dscfm)	Maximum Outlet Grain Loading[6] (gr/dscf)
Coke Handling System	231BF301	4,500	70	530	26.82	3,851	0.005
	231BF302	4,500	70	530	26.82	3,851	0.005
	461BF301	6,000	70	530	26.82	5,134	0.005
Silo-Cement Storage	611BF015	7,875	135	595	26.82	6,002	0.005
	611BF016	5,616	150	610	26.82	4,175	0.005
	611BF017	7,875	135	595	26.82	6,002	0.005
Alternate Fuel Handling System	Baghouse 1	5,000	70	530	26.82	4,279	0.005
	Baghouse 2	5,000	70	530	26.82	4,279	0.005
	Baghouse 3	5,000	70	530	26.82	4,279	0.005
	Baghouse 4	5,000	70	530	26.82	4,279	0.005
	Baghouse 5	5,000	70	530	26.82	4,279	0.005

1. Baghouse flow rates are from the Flow Diagrams provided in Appendix C.
2. Baghouse temperatures provided in Appendix A. Silo-Cement Storage baghouse temperatures from FOP 223900003.
3. Temperature (R) = Temperature (F) + 459.67
4. Pressure (inHg) from 2016 Comprehensive Emission Inventory (CEIR) and based on actual site atmospheric conditions
5. Flow Rate (dscfm) = Flow Rate (acfm) x (Standard Temperature (Rankine) / Actual Exhaust Temperature (Rankine)) x (Actual Pressure (inHg) / Standard Pressure (inHg)) x (1 - Moisture of Ambient Air (%) / 100)

Standard Pressure (inHg)	29.92
Standard Temperature (Rankine)	519.67
Moisture Content Ambient Air (%)	2.7

6. Based on baghouse BACT limit established by MDAQMD in Finish Mill 2 Project.

Table 25. New Baghouse Hourly Emissions

Process	Baghouse Equipment ID	PM Emissions[1] (lb/hr)	PM_{10} Emissions[1] (lb/hr)	$PM_{2.5}$ Emissions[1] (lb/hr)
Coke Handling System	231BF301	0.47	0.17	0.02
	231BF302	0.47	0.17	0.02
	461BF301	0.63	0.22	0.03
Silo-Cement Storage	611BF015	0.31	0.26	0.10
	611BF016	0.21	0.18	0.07
	611BF017	0.31	0.26	0.10
Alternate Fuel Handling System	Baghouse 1	0.37	0.18	0.03
	Baghouse 2	0.37	0.18	0.03
	Baghouse 3	0.37	0.18	0.03
	Baghouse 4	0.37	0.18	0.03
	Baghouse 5	0.37	0.18	0.03

1. Emissions (lb/hr) = Grain Loading (gr/scf) x Flow Rate (scfm) x 60 (min/hr) / 7,000 (gr/lb)

Table 26. PM Speciation Factors for Petroleum Coke, Cement, and Biosolids

PM Speciation with respect to Total PM	Coke[1]	Cement[2]	Biosolids[3]
Weight Fraction of $PM_{2.5}$	0.053	0.32	0.07
Weight Fraction of PM_{10}	0.35	0.84	0.49
Weight Fraction of PM	1.00	1.00	1.00

1. Nevada Division of Environmental Protection, Bureau of Air Pollution Control, *Guidance on Emission Factors for the Mining Industry.* May 31, 2017.
2. AP-42 11.19.2 Crushed Stone Processing and Pulverized Mineral Processing. 0.84 is the PM10/PM ratio and 0.38 is the PM2.5/PM10 ratio for "grinding with fabric filter emissions" on Table
3. California Air Resources Board speciation profile 421, for SCC 50400301, Open Refuse Stockpile

Table 27. New Baghouse Potential to Emit

Process	Baghouse Equipment ID	Annual Operating Hours (hr/year)	PTE		
			PM Emissions[1] (tpy)	PM_{10} Emissions[1] (tpy)	$PM_{2.5}$ Emissions[1] (tpy)
Coke Handling System	231BF301	8,760	2.07	0.72	0.11
	231BF302	8,760	2.07	0.72	0.11
	461BF301	8,760	2.75	0.96	0.15
Silo-Cement Storage	611BF015	8,760	1.34	1.13	0.43
	611BF016	8,760	0.93	0.78	0.30
	611BF017	8,760	1.34	1.13	0.43
Alternate Fuel Handling System	Baghouse 1	8,760	1.64	0.80	0.12
	Baghouse 2	8,760	1.64	0.80	0.12
	Baghouse 3	8,760	1.64	0.80	0.12
	Baghouse 4	8,760	1.64	0.80	0.12
	Baghouse 5	8,760	1.64	0.80	0.12
		Total PTE (tpy):	18.70	9.46	2.12

1. PTE (tpy) = Hourly Emissions (lb/hr) x Annual Operating Hours (hr/yr)/ 2000 (lb/ton)

Table 28. Baghouse to be Shutdown Parameters

Process	Baghouse Equipment ID	Flow Rate[1] (acfm)	Temperature[1] (Fahrenheit)	Temperature[2] (Rankine)	Pressure[3] (inHg)	Flow Rate[4] (dscfm)	Maximum Outlet Grain Loading[1] (gr/dscf)
Silo-Cement Storage	611BF015	7,875	135	595	26.82	6,002	0.1
	611BF016	5,616	150	610	26.82	4,175	0.1
	611BF017	7,875	135	595	26.82	6,002	0.1

1. Baghouse flow rate is from Federal Operating Permit #223900003, revised on August 31, 2018.
2. Temperature (R) = Temperature (F) + 459.67
3. Pressure (inHg) from 2016 Comprehensive Emission Inventory (CEIR) and based on actual site atmospheric conditions
4. Flow Rate (dscfm) = Flow Rate (acfm) x (Standard Temperature (Rankine) / Actual Exhaust Temperature (Rankine)) x (Actual Pressure (inHg) / Standard Pressure (inHg)) x (1 - Moisture of Ambient Air (%)/100)

Standard Pressure (inHg)	29.92
Standard Temperature (Rankine)	519.67
Moisture Content Ambient Air (%)	2.7

Table 29. Potential to Emit of Baghouses to be Shutdown

Process	Baghouse Equipment ID	PM Emissions[1] (lb/hr)	PM_{10} Emissions[1] (lb/hr)	$PM_{2.5}$ Emissions[1] (lb/hr)	PM Emissions[1] (tpy)	PM_{10} Emissions[1] (tpy)	$PM_{2.5}$ Emissions[1] (tpy)
Silo-Cement Storage	611BF015	6.12	5.14	1.96	26.83	22.53	8.58
	611BF016	4.26	3.58	1.36	18.66	15.67	5.97
	611BF017	6.12	5.14	1.96	26.83	22.53	8.58

1. Emissions (lb/hr) = Grain Loading (gr/scf) x Flow Rate (scfm) x 60 (min/hr) / 7,000 (gr/lb)

Table 30. PM Speciation Factors

PM Speciation with respect to Total PM[1]	
Weight Fraction of $PM_{2.5}$	0.32
Weight Fraction of PM_{10}	0.84
Weight Fraction of PM	1.00

1. AP-42 11.19.2 Crushed Stone Processing and Pulverized Mineral Processing. 0.84 is the PM10/PM ratio and 0.38 is the PM2.5/PM10 ratio for "grinding with fabric

Table 31. PM Annual Emissions of Baghouses to be Shutdown

Year	Annual Operating Hours[2] (hr/yr)	PM Annual Emissions[1] (tpy)			PM_{10} Annual Emissions[1] (tpy)			$PM_{2.5}$ Annual Emissions[1] (tpy)		
		Baghouse 611BF015	Baghouse 611BF016	Baghouse 611BF017	Baghouse 611BF015	Baghouse 611BF016	Baghouse 611BF017	Baghouse 611BF015	Baghouse 611BF016	Baghouse 611BF017
2017	8,492	26.0	18.1	26.0	21.8	15.2	21.8	8.32	5.79	8.32
2018	8,492	26.0	18.1	26.0	21.8	15.2	21.8	8.32	5.79	8.32
2019	4,320	13.2	9.2	13.2	11.1	7.7	11.1	4.23	2.94	4.23

1. $PM/PM_{10}/PM_{2.5}$ Annual Emissions (tpy) = $PM/PM_{10}/PM_{2.5}$ Emissions (lb/hr) x Annual Operating Hours (hr/yr)/2000 (lb/ton)
2. 2019 Operating hours assume continuous operation from January through June. 180 Days, 24 hours each.

Table 32. Historical Actual Emissions (HAE) of Baghouses to be Shutdown [1]

Baghouse Equipment ID	PM[4] (tpy)			PM_{10}[4] (tpy)			$PM_{2.5}$[4] (tpy)		
	Year 1[2]	Year 2[3]	Average	Year 1[2]	Year 2[3]	Average	Year 1[2]	Year 2[3]	Average
611BF015	26.0	26.2	26.1	21.8	22.0	21.9	8.3	8.4	8.4
611BF016	18.1	18.2	18.2	15.2	15.3	15.3	5.8	5.8	5.8
611BF017	26.0	26.2	26.1	21.8	22.0	21.9	8.3	8.4	8.4

1. HAE calculated pursuant to MDAQMD Rule 1304(D)(2)(a)(i). 59.14
2. Year 1 is July 2017 to June 2018. 0.83
3. Year 2 is July 2018 to June 2019. 59.97
4. It is assumed that annual emissions are split evenly between the months in order to estimate the emissions from Year 1 and Year 2. 37.57

Table 33. Cement Variability Project - Emission Increase

Description	**PM (tpy)**	**PM_{10} (tpy)**	**$PM_{2.5}$ (tpy)**
Portable Additive Crushing Plant	7.6	3.6	1.1
Additional Cement Storage	12.7	10.7	4.1
Project Emissions Increase[1]	**20.3**	**14.3**	**5.2**
Significant Emission Rate (SER)[2]	25	15	10
In Attainment of NAAQS?[3]	N/A	No	Yes
Emission Increases > SER?	**No**	**No**	**No**

1. Project emissions increase is equal to PTE of New Emission Sources
2. Significant as defined in MDAQMD Rule 1310 and Rule 1600/40 CFR 52.21.
3. According to EPA Greenbook. https://www3.epa.gov/airquality/greenbook/ancl.html. Accessed 4/16/2020.

Table 34. Alternate Fuels Project Emissions Increase

Description	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Project Emissions Increase[1]	21.8	10.6	2.9	9.3	16.3	39.7	17.3
Significant Emission Rate (SER)[2, 3]	25	15	10	40	40	100	40
In Attainment of NAAQS?[4]	N/A	No	Yes	Yes	Yes	Yes	No
Emission Increases > SER?	**No**	**No**	**No**	**No**	**No**	**No**	**No**

1. Project emissions increase is calculated as follows: PAE + PTE of New Emission Sources - BAE - CHA.
2. SER as defined in 40 CFR 52.21(b)(23)(i).
3. Significant as defined in MDAQMD Rule 1310 and Rule 1600/40 CFR 52.21.
4. According to EPA Greenbook. https://www3.epa.gov/airquality/greenbook/ancl.html. Accessed 1/15/2019.

Table 35. Alternate Fuels Project - Baseline Actual Emissions (BAE) of Existing Units

Emission Source	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Kiln	25	25	17	11	1,741	399	10
Coal MSB Stock Pile	1.7	0.8	0.3	0	0	0	0

Table 36. Alternate Fuels Project - Projected Actual Emissions (PAE) of Existing Unit[1]

Emission Source	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Kiln	45	45	28	28	2,629	638	33

1. Coal Stockpile PAE assumed to be 0 tpy since Coke MSB Stockpile PTE is included in PEI calculations.

Table 37. Alternate Fuels Project - Could Have Accommodated Emissions (CHA) of Existing Unit[1]

Emission Source	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Kiln	19	19	10	8	871	200	6

1. Conservatively only includes emissions from the Kiln, although CHA emissions from the existing stockpile could have been included in this evaluation.

Table 38. Alternate Fuels Project - Potential to Emit (PTE) of New Emission Sources

Emission Source	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Coke Fuel Handling System Baghouse 231BF301	2.07	0.72	0.11				
Coke Fuel Handling System Baghouse 231BF302	2.07	0.72	0.11				
Coke Fuel Handling System Baghouse 461BF301	2.75	0.96	0.15				
Alternate Fuel Handling - Baghouse 1	1.64	0.80	0.12				
Alternate Fuel Handling - Baghouse 2	1.64	0.80	0.12				
Alternate Fuel Handling - Baghouse 3	1.64	0.80	0.12				
Alternate Fuel Handling - Baghouse 4	1.64	0.80	0.12				
Alternate Fuel Handling - Baghouse 5	1.64	0.80	0.12				
Worst Case Fuel Drop Point[1]	0.99	0.47	0.07				
Coke MSB Stockpile	5.72	2.86	1.14				
Total	**21.8**	**9.8**	**2.2**				

1. Worst case fuel drop point is based on the maximum emissions from either the coke handling system or the alternate fuel handling system.

Table 39. Emission Offsets Calculation [1,2]

Description	PM_{10} (tpy)	SO_2 (tpy)	NO_x (tpy)	VOC (tpy)
Limestone Crushing PEI	9.92	0.01	0.60	0.28
Cement Storage PEI	14.28	--	--	--
Alternate Fuels PEI	9.76	--	--	--
FM2 BH & Replacement Silo Cement BH*	3.62			
Historical Actual Emissions (AF Project)[3]	59.97	0.00	0.00	0.00
Emission Change[4]	-22.40	0.01	0.6	0.3
Simultaneous Emission Reductions[5, 6]	22.38	0.01	0.0	0.0
Pollutant Offset Ratio	--	--	1.3	1.3
Interpollutant Offset Ratio (NOx for VOC)	--	--	--	2.00
Amount of Offsets Required[7]	--	--	0.78	0.74
Amount of ERCs Required to be Surrendered[8,9]	--	--	1.52	

1. Per MDAQMD Rule 1303(B), offsets are required for nonattainment air pollutants and their precursors. As such, only those relevant pollutants are listed in this table.

2. Kiln emissions from the AF Project are not included in the offset calculations because the kiln has been previously offset, according to MDAQMD.

3. Per July 2019 Alternate Fuels Project Application.

4. Per MDAQMD Rule 1304(B), Emissions Change = Proposed Emissions (i.e. Limestone Crushing PEI + Additive Crushing PEI + Clinker Storage PEI + Cement Storage PEI) - Historical Actual Emission

6. Simultaneous emission reduction (SER) of PM10 applied to SO2 at a ratio of 2:1 according to guidance provided by Alan de Salvio on 8/22/2019 in a conversation with Jeremias Szust (Trinity Consultants). As such, 0.02 tpy of the PM10 SER are used to simultaneously reduce 0.01 tpy of SO2.

7. Amount of Offsets Required = Emission Change - Simultaneous Emission Reductions

8. Amount of ERCs Required to be Surrendered = Amount of Offsets Required * 1.3 (NO_X and VOC offset ratio of 1.3 to 1.0 due to ozone nonattainment pursuant to MDAQMD Rule 1305 (C)(1)) * 2.0 (Interpollutant NOx for VOC ratio 2:1.0.)

9. CalPortland will surrender the required portion of NOx ERCs as issued by MDAQMD under ERC Certificate Number 0103 on January 20, 2016. CalPortland is proposing to surrender the required portion of VOC ERCs using ERC Certificate Number 0111 (0.006 tpy VOC) and ERC Certificate Number 0103 along with an agreed upon VOC: NOx interpollutant offset ratio.

*new emissions--added by CJA

2009 Issuance Calculation:		
NOx Emission Average of 06 and 07 (HAE pounds per year):	7842793	
Current Facility NOx PTE (pounds per year):	6132000	16800 lbs NOx/day limit in May 30, 2007 ATC B007435 over 365 days
Net NOx Emission Reduction in pounds (AER):	1710793	
Rule 1161 (2018) Surplus Adjustment		
Original HAE (pounds per year)	7842793	Surplus to Rule 1161 (2002) with seven kilns and waste heat recovery boilers
1/22/2018 Rule 1161 allowed HAE (pounds per year)	7008000	16800/2.45 tons of clinker by 2.8 pounds/ton of clinker 2018 rule limit over 365 days
Current Facility NOx PTE	6132000	16800 lbs NOx/day limit over 365 days
Surplus portion of HAE (pounds)	876000	
Surplus portion of HAE (tons)	438	

Certificate Number: 0103

Effective Date: **January 20, 2016**
Expiration Date: **N/A**

Certificate of Ownership

This certifies that

CalPortland Company

owns the following Class "A" Emission Reduction Credits:

1,707,913 pounds NO_x

This Certificate of Ownership is issued pursuant to Regulation XIV of the Mojave Desert Air Quality Management District.

See Reverse for Terms and Conditions.

Method of Reduction
[X] Shutdown
[ ] Modification
[ ] Other:

MOJAVE DESERT air quality management district

for **January 20, 2016**
Eldon Heaston — **Date**
Executive Director

Table 1 *- Potential to Emit (PTE) of New Emission Units*

Emissions Unit	Process Permit #	Baghouse ID	Baghouse Permit #	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO2 (tpy)	NOx (tpy)	CO (tpy)	VOC (tpy)
Finish Mill No 2 Storage & Feed Bins	T007433	551BF105	C013959	0.39	0.15				
		551BF106	C013960	0.19	0.07				
Pet Coke Fuel Handling System	B013683	231BF301	C013675	0.72	0.11				
		231BF302	C013676	0.72	0.11				
		461BF301	C013677	0.96	0.15				
Alternate Fuel Storage & Handling System	B013684	Baghouse 1	C013678	0.80	0.12				
		Baghouse 2	C013679	0.80	0.12				
		Baghouse 3	C013680	0.80	0.12				
		Baghouse 4	C013681	0.80	0.12				
		Baghouse 5	C013682	0.80	0.12				
Alt Fuel Drop Point		na	na	0.47	0.07				
Coke MSB Stockpile		na	na	2.86	1.14				
Cement Silo Replacement Baghouse 1		611BF015	C001730	1.13	0.43				
Cement Silo Replacement Baghouse 2	T001755	611BF016	C000219	0.78	0.30				
Cement Silo Replacement Baghouse 3		611BF017	C001740	1.13	0.43				
Limestone Crushing and Screening, Portable	B013685	na	na	1.44	0.17				
Limestone Material Transfer		na	na	7.75	2.37				
Portable Limestone Stockpiles 1 & 2		na	na	0.70	0.28				
Diesel IC Engine, Portable Generator Limestone Crushing/Screening	B013686	na	na	0.03	0.03	0.01	0.60	5.27	0.285
Additive Crushing and Screening, Portable	B013855	na	na	0.41	0.05				
Additive Material Transfer		na	na	2.46	0.75				
Additive Stockpiles 1 & 2		na	na	0.70	0.28				
Dome, Cement Storage	T013687	Baghouse 1	C013957	3.94	1.50				
		Baghouse 2	C013958	0.90	0.34				
		Baghouse 1	C013949	1.13	0.43				

Silos #27-30, Cement Storage	T013908	Baghouse 3	C013951	1.13	0.43				
		Baghouse 5	C013953	1.13	0.43				
		Baghouse 7	C013955	1.13	0.43				
Truck Loadout Station 9 & 10	B013712	Baghouse 2	C013950	0.34	0.13				
		Baghouse 4	C013952	0.34	0.13				
		Baghouse 6	C013954	0.34	0.13				
		Baghouse 8	C013956	0.34	0.13				
		PTE		**37.57**	**11.56**	**0.01**	**0.60**	**5.27**	**0.28**

CalPortland Oro Grande Reporting Year 2018 CEIR Material Properties

CAS		**7429905**	**7440360**	**7440382**	**7440393**	**7440417**	**7440439**
Material[1]	**PM Emissions, Lbs**	**Aluminum**	**Antimony**	**Arsenic**	**Barium**	**Beryllium**	**Cadmium**
Cement (includes cement storage and truck silo loadouts)	32707	4796.55	0.00	32.67	68.00	0.00	0.00
Coal (includes alternate fuel equipment)	19516	0.00	0.00	0.00	52.33	0.46	0.00
nestone (includes portable limestone and additive crushing and screeni	57496	1300.00	0.00	6.98	9.30	0.00	0.00
Diesel ICE (includes portable diesel generator)	57	na	na	na	na	na	na

1. Material concentrations from CalPortland 2018 CEIR except RCS.

HAP/TAC Emissions Estimates

CAS		**7429905**	**7440360**	**7440382**	**7440393**	**7440417**	**7440439**
Material[1]	**PM Emissions, Lbs**	**Aluminum**	**Antimony**	**Arsenic**	**Barium**	**Beryllium**	**Cadmium**
Cement (includes cement storage and truck silo loadouts)	32707	156.88	0.00	1.07	2.22	0.00	0.00
Coal (includes alternate fuel equipment)	19516	0.00	0.00	0.00	1.02	0.01	0.00
nestone (includes portable limestone and additive crushing and screeni	57496	74.74	0.00	0.40	0.53	0.00	0.00
Diesel ICE (includes portable diesel generator)	57	na	na	na	na	na	na
	Total Annual Emissions	231.62	0.00	1.47	3.78	0.01	0.00

For the diesel ICE, Diesel PM=PM.

Respirable Crystalline Silica Content

6.74E-02	(lb RCS/lb PM10)

1. Maximum value from Table 1-4 of PM4 Crystalline Silica and PM10 Particulate Matter Emission Factors for Aggregate Producing Sources, dated July 31, 2007

Compound Concentration (mg/kg or ppm)[2]												
7440473	1.9E+07	7440484	7440508	1175	7439965	7439976	7439921	7440020	7782492	7440224	7440280	7440622
Chromium	Cr(VI)	Cobalt	Copper	lica, Cryst	Manganese	Mercury	Lead	Nickel	Selenium	Silver	Thallium	Vanadium
39.67	11.90	0.00	0.00	0.00	1600.00	0.00	61.33	0.00	0.00	0.00	0.00	35.33
2.93	0.00	0.00	2.80	0.00	8.00	0.03	1.93	2.07	1.50	0.00	0.00	3.70
2.85	0.00	0.00	0.00	1819.36	370.00	0.11	28.67	0.00	0.00	0.00	0.00	7.83
na	na	na	na	na	na	na	na	na	na	na	na	na

7440473	1.9E+07	7440484	7440508	1175	7439965	7439976	7439921	7440020	7782492	7440224	7440280	7440622
Chromium	Cr(VI)	Cobalt	Copper	lica, Cryst	Manganese	Mercury	Lead	Nickel	Selenium	Silver	Thallium	Vanadium
1.30	0.39	0.00	0.00		52.33	0.00	2.01	0.00	0.00	0.00	0.00	1.16
0.06	0.00	0.00	0.05		0.16	0.00	0.04	0.04	0.03	0.00	0.00	0.07
0.16	0.00	0.00	0.00	1819.36	21.27	0.01	1.65	0.00	0.00	0.00	0.00	0.45
na	na	na	na	na	na	na	na	na	na	na	na	na

1.52	0.39	0.00	0.05	1819.36	73.76	0.01	3.69	0.04	0.03	0.00	0.00	1.68

7440666
Zinc
71.33
3.82
17.67
na

7440666
Zinc
2.33
0.07
1.02
na

3.42

Pol_Name	POL	Emfact	ProcessRate	EMS	HRMAXEMS	DEV	PROID	Year
Aluminum	7429905			231.62	0.0264411	1	1	-1
Antimony	7440360			0.00	0	1	1	-1
Arsenic	7440382			1.47	0.0001678	1	1	-1
Barium	7440393			3.78	0.0004315	1	1	-1
Beryllium	7440417			0.01	1.032E-06	1	1	-1
Cadmium	7440439			0.00	0	1	1	-1
Chromium	7440473			1.52	0.0001733	1	1	-1
Cr(VI)	18540299			0.39	4.443E-05	1	1	-1
Cobalt	7440484			0.00	0	1	1	-1
Copper	7440508			0.05	6.238E-06	1	1	-1
Silica, Crystlr	1175			1819.36	0.207689	1	1	-1
Manganese	7439965			73.76	0.0084201	1	1	-1
Mercury	7439976			0.01	8.137E-07	1	1	-1
Lead	7439921			3.69	0.0004215	1	1	-1
Nickel	7440020			0.04	4.604E-06	1	1	-1
Selenium	7782492			0.03	3.342E-06	1	1	-1
Silver	7440224			0.00	0	1	1	-1
Thallium	7440280			0.00	0	1	1	-1
Vanadium	7440622			1.68	0.0001916	1	1	-1
Zinc	7440666			3.42	0.0003908	1	1	-1
Diesel engin	9901			56.55272528	0.0134649	1	1	-1

Appendix D
Application

PROJECT REPORT

CalPortland Company, Inc. > Oro Grande, CA

Mojave Desert Air Quality Management District

Authority to Construct and
Title V Significant Permit Modification Application

Federal Operating Permit Number 223900003
MDAQMD Company Number 2239
MDAQMD Facility Number 3

Prepared By:

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July 2019

Project 190506.0024

Environmental solutions delivered uncommonly well

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APPENDIX A: MDAQMD FORMS

APPENDIX B: EMISSION CALCULATIONS

APPENDIX C: PROCESS FLOW DIAGRAMS

APPENDIX D: COAL AND COKE ANALYSES

1. EXECUTIVE SUMMARY

CalPortland Company (CalPortland) operates a portland cement manufacturing facility in Oro Grande, California that is hereafter referred to as the Facility. The Facility is under the jurisdiction of the Mojave Desert Air Quality Management District (MDAQMD) and operates under the Federal Operating Permit (FOP) Number 223900003, issued January 8, 2016. CalPortland also has several active Authority to Construct (ATC) permits issued by MDAQMD.

CalPortland proposes to construct the following at the Facility (the Project):

- A portable limestone crushing operation for the mining area of the Facility
- One new fuel handling system that will allow the kiln to be fueled with petroleum coke (coke)
- One new fuel handling system that will allow the kiln and/or precalciner to be fueled with whole tires, chipped tires, biomass fuels (including but not limited to construction and demolition wood, as well as pistachio shells, almond shells and yard clippings), paper cardboard, engineered fuel, biosolids, and dust collector bags generated on-site at the Facility as alternate fuels.

Because the Project consists of the addition of new baghouses and emission units, ATC permits are required. Additionally, the Project also constitutes a significant modification to the FOP, as defined in MDAQMD Rule 1201.(BB).

This application constitutes an ATC application as well as a significant modification to the FOP. With this application, CalPortland is proposing that MDAQMD:

1) Incorporate the following changes related to the new fuel handling systems:
   a) Issue ATCs for a new coke fuel handling system, including three baghouses, conveyors, hoppers, and silos.
   b) Issue ATCs for the alternate fuels handling system, including five baghouses, conveyors, and hoppers.
   c) Issue an ATC for the portable limestone crushing operation, including two crushers, conveyors, a screen, and a stockpile.
   d) Modify the FOP to include these new ATCs.
   e) Modify the FOP and PTO B007435 to include language that allows for the combustion of coke and alternate fuels in the kiln and/or precalciner.

2) Incorporate the following changes related to the replacement of the cement silo baghouses (unrelated to the Project):
   a) Modify PTO C001739 to include a new baghouse with a grain-loading rate of 0.005 gr/dscf, which will replace baghouse 611BF015.
   b) Modify PTO C000219 to include a new baghouse with a grain-loading rate of 0.005 gr/dscf, which will replace baghouse 611BF016.
   c) Modify PTO C001740 to include a new baghouse with a grain-loading rate of 0.005 gr/dscf, which will replace baghouse 611BF017.

In accordance with MDAQMD Regulation III Rule 301.C.1.a, CalPortland has enclosed the total filing fee of $11,030[1], and understands that MDAQMD may contact CalPortland with the initial permit fee upon determination of a complete application.

This report is presented as follows:

- Section 1: Executive Summary
- Section 2: Facility and Project Background
- Section 3: Emission Calculations
- Section 4: Regulatory Applicability
- Appendix A: MDAQMD Forms
- Appendix B: Emission Calculations
- Appendix C: Process Flow Diagrams
- Appendix D: Coal and Coke Analyses

[1] The filing fee is calculated as $302 x the number of permits (15) to be issued by MDAQMD, plus a project evaluation deposit of $6,500 which covers a portion of the project evaluation fees, billed at a rate of $105 per hour per MDAQMD Rule 301.C.2.c. For this application, fifteen permits will be required: three new baghouse ATCs for the coke fuel handling system, five new baghouse ATCs for the alternate fuel handling system, one ATC for the coke fuel handling system, one ATC for the alternate fuel handling system, one ATC for the limestone crushing operation, and modification of four permits C001739, C000219, C001740, and B007435.

2. FACILITY AND PROJECT BACKGROUND

2.1. FACILITY DESCRIPTION

The Facility is located at 19409 National Trails Highway, Oro Grande, CA. The Facility is located in San Bernardino County. This portion of San Bernardino County is currently designated as in attainment or unclassifiable with respect to the National Ambient Air Quality Standards (NAAQS) for particulate matter with an aerodynamic diameter less than 2.5 microns ($PM_{2.5}$), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO) and lead (Pb). This area of San Bernardino County is classified as a nonattainment area with respect to ozone and particulate matter with an aerodynamic diameter less than 10 microns (PM_{10}).[2]

The Facility is a modern portland cement manufacturing facility. The basic process of the Facility is the calcining of limestone, which is mixed with other raw materials. Clinker is produced from calcining the limestone and raw materials in a pre-calciner and the rotary kiln. There are other ancillary processes at the Facility, including clinker cooling, milling, blending, and crushing, as well as load-out via railcar and trucks.

2.2. PROJECT DESCRIPTION

CalPortland intends to construct the following at the Facility:

1. Add infrastructure to the Facility in order to combust coke as an alternative fuel to coal in the kiln including installations of a new coke fuel handling system, including three new baghouses,
2. Add infrastructure to the Facility in order to combust whole tires, chipped tires, biomass fuels (including but not limited to construction and demolition wood, as well as pistachio shells, almond shells and yard clippings), paper cardboard, engineered fuel, biosolids, and dust collector bags generated on-site as alternative fuels, including five new baghouses,
3. Add a portable limestone crushing plant to the quarry area, and
4. Replace three baghouses associated with the cement storage silos.

2.2.1. Coke Combustion and Fuel Handling System

CalPortland will combust coke as an alternative fuel to coal in the existing kiln. The emission units that will be impacted by this project are the kiln (431KL100), the existing fuel additive transfer and storage system (Process Group #231), the existing coal grinding system (Process Group #461), and any sources of fugitive emissions from the coal handling system such as stockpiles and conveyor transfer points.

The combustion of coke will not affect the actual emissions from Process Group #231 and Process Group #461. The emissions will be lower given the higher moisture content of the coke, and the lower amount of coke mass needed to meet equivalent kiln heating needs, as described in Table 25 provided in Appendix B. CalPortland will not increase the amount of clinker produced at the kiln after implementation of this project; thus, the amount of heat generated by the kiln will not change and the maximum potential emissions (PTE) from the kiln as defined in the FOP will not change. As a result, the addition of coke as an alternative fuel for the kiln will not debottleneck any emission units upstream or downstream of the kiln, but will provide CalPortland with increased flexibility of fuel options for use at the kiln. It is important to note that the kiln will not be physically modified as a result of this Project.

[2] EPA Green Book. https://www3.epa.gov/airquality/greenbook/ancl.html. Accessed 04/03/2019.

In order to combust coke in the kiln, a new coke handling system will be installed at the Facility, which will include three new baghouses (231BF301, 231BF302, and 461BF301). This new coke handling system will also have fugitive emissions from stockpiles and drop points. The complete design of the new coke fuel handling system is provided in the Appendix C.

Table 2-1 provides additional details on the baghouses that will control the operations associated with the new coke handling system.

Table 2-1. Baghouses Associated with the Petroleum Coke Fuel Handling

Process Description	Baghouse ID	Baghouse Control Description	Flowrate (scfm)	Outlet Grain Loading (gr/scf)
New Petroleum Coke Fuel Handling System	231BF301	Coke Flow	3,851	0.005
	231BF302	Coke Flow	3,851	0.005
	461BF301	Coke Flow	5,134	0.005

2.2.2. Alternate Fuels Handling System

CalPortland will combust whole tires, chipped tires, biomass fuels (including but not limited to construction and demolition wood, as well as pistachio shells, almond shells and yard clippings), paper cardboard, engineered fuel, biosolids, and dust collector bags generated on-site as alternative fuels to coal in the existing kiln (the Project). The emission units that will be impacted by this project are the kiln (431KL100) and calciner (421CL400). No existing material handling operations are being impacted because of the alternate fuels handling system.

It is not expected that the combustion of alternate fuels will affect expected emissions from Process Groups #331, 421, 431, and 441 for the preheater, kiln, and cooler system. CalPortland will not increase the amount of clinker produced at the kiln after implementation of this project. As such, the amount of energy needed to produce the same amount of clinker will not change. CalPortland is not requesting a change in the kiln PTE as defined in the FOP. As a result, the addition of the aforementioned alternative fuels for the kiln will not debottleneck any emission units upstream or downstream of the kiln, but will provide CalPortland with increased flexibility of fuel options for use at the kiln. It is important to note that the kiln will not be physically modified because of this Project. In order to combust alternate fuels in the kiln, a new alternate fuels handling system will be installed at the Facility, which will include five new baghouses. This new alternate fuels handling system will also include fugitive emissions from drop points. The new alternate fuels material handling system may result in PM emissions. The amount of each alternate fuel required to fuel the kiln is scaled to match the heat input of existing coal operations on a PTE basis. The heating analysis in Table 25 of Appendix B demonstrates the amount of each alternate fuel required to match the heat input of coal, and calculates the "unit emission rate" for each fuel in order to determine worst-case emissions from the alternate fuel handling process. The alternate fuel that produces maximum emissions for the handling process are biosolids, due to the low moisture content and heating value. The complete design of the new alternate fuels handling system is provided in Appendix C.

Table 2-2 provides additional details on the baghouses that will control the operations associated with the new coke handling system.

Table 2-2. Baghouses Associated with the Alternate Fuels Handling Process

Process Description	Baghouse ID	Baghouse Control Description	Flowrate (scfm)	Outlet Grain Loading (gr/scf)
Alternate Fuels Handling	TBD	Alternate Fuel Handling Baghouse 1	4,279	0.005
	TBD	Alternate Fuel Handling Baghouse 2	4,279	0.005
	TBD	Alternate Fuel Handling Baghouse 3	4,279	0.005
	TBD	Alternate Fuel Handling Baghouse 4	4,279	0.005
	TBD	Alternate Fuel Handling Baghouse 5	4,279	0.005

2.2.3. Portable Limestone Crushing Plant

CalPortland intends to install a new portable limestone crushing plant. The crushing plant includes conveyor transfer points, two crushers, a screener, and a stockpile. The portable limestone crushing plant will be operated at different locations within the quarry on an as-needed basis. The complete design of the new portable limestone crushing plant is provided in Appendix C.

2.2.4. Cement Silo Baghouse Replacement

Unrelated to the Project, CalPortland intends to replace three of the baghouses that control the operations associated with the cement storage silos (Process Group #611). The replacement baghouses will have lower PM, PM_{10}, and $PM_{2.5}$ emissions than the original baghouses, as the grain-loading rate will be reduced. The emission reductions from the replacement of these baghouses will offset the emissions of the Project.

Table 2-3Table 2-3 provides additional details on the existing baghouses that currently control the operations associated with the cement silos.

Table 2-3. Cement Silo Baghouses to be Shutdown

Process Description	Permit Number	Baghouse ID	Baghouse Control Description	Flowrate (scfm)	Outlet Grain Loading (gr/scf)
Cement Silo Storage	C001739	611BF015	Cement Silo	6,002	0.1
	C000219	611BF016	Cement Silo	4,175	0.1
	C001740	611BF017	Cement Silo	6,002	0.1

Table 2-4 provides additional details on the baghouses that will replace the current cement silo baghouses.

Table 2-4. Replacement Cement Silo Baghouses

Process Description	Permit Number	Baghouse ID	Baghouse Control Description	Flowrate (scfm)	Outlet Grain Loading (gr/scf)
Cement Silo Storage	C001739	611BF015	Cement Silo	6,002	0.005
	C000219	611BF016	Cement Silo	4,175	0.005
	C001740	611BF017	Cement Silo	6,002	0.005

Emission calculations for the emission units impacted by the Project pursuant to the requirements of MQAQMD Regulations II – *Permits*, XIII – *New Source Review*, and XVI – *Prevention of Significant Deterioration* (PSD) are included in this section.

3.1.1. MDAQMD Rule 1310 and Rule 1600 Emission Calculations

Under MDAQMD Rule 1310 and Rule 1600, the Facility is considered an existing major facility. As such, emission calculations were performed to determine if the Project is considered a major modification as defined in Rule 1310 and Rule 1600.

Baseline actual emissions (BAE) are required to be calculated per MDAQMD Rule 1310 (New Source Review) and Rule 1600 (PSD) for existing emission units. BAE are calculated for the following pollutants: SO_2, NO_x, CO, volatile organic compound (VOC), PM, PM_{10}, and $PM_{2.5}$. BAE are calculated for all existing emission units at the Facility that are impacted by the Project (i.e., the kiln and the existing coal stockpile located in the main storage building). Pursuant to MDAQMD Rule 1310(E)(2)(b) and Rule 1600 (which references 40 CFR 52.21), BAE are calculated for each aforementioned pollutant using the maximum emissions that occurred during a consecutive 24-month period within the ten year period immediately preceding the date a complete permit application is submitted to MDAQMD. For purposes of this application, the baseline period extends from July 2009 through June 2019. The BAE of the Project are included in Table 3-1 below.

Table 3-1. BAE of Existing Units

Emission Source	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Kiln	25	25	17	11	1,741	399	10
Coal MSB Stockpile	1.6	0.8	0.3	-	-	-	-

Projected actual emissions (PAE) are required to be calculated per MDAQMD Rule 1310 (New Source Review) and Rule 1600 (PSD) for existing emission units. PAE are calculated for SO_2, NO_x, CO, VOC, PM, PM_{10}, and $PM_{2.5}$. PAE are calculated for all existing emission units at the Facility that are impacted by the Project (i.e., the kiln). Pursuant to MDAQMD Rule 1310(E)(3) and Rule 1600 (which references 40 CFR 52.21), PAE are determined based on the maximum emissions estimated to be emitted from the existing emission units in any one of the five years following completion of the Project excluding any increase in emissions from the existing emission units that could have accommodated (CHA) during the baseline period selected for the BAE calculations. For purposes of this application, it is assumed that the kiln will produce a maximum of 2,200,000 tons per year clinker during the five years following the Project, and that the kiln CHA additional clinker production during the baseline period if customer product demand existed(i.e., demand growth unrelated to the Project). The PAE are included in Table 3-2 below and the CHA emissions are included in Table 3-3 below.

Table 3-2. PAE of Existing Units

Emission Source	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Kiln	45	45	28	28	2,629	638	33

Table 3-3. CHA Emissions[1]

Emission Source	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Kiln	19	19	10	8	871	200	6

1. CHA emissions from storage piles are not included.

PTE calculations are required for new emission units per MDAQMD Rule 1310 (New Source Review) and Rule 1600 (PSD). In order to control the emissions from the new coke and alternate fuels handling systems, eight new baghouses will be installed as part of the Project. The PM, PM_{10}, and $PM_{2.5}$ PTE are calculated using the baghouse operating flow rate, a maximum outlet grain loading of 0.005 gr/dscf pursuant to BACT[3], and an assumed 8,760 operating hours per year. Potential emissions are also calculated for the fugitive sources associated with the Project, which includes a worst case fuel drop point based on the maximum emissions from either the coke handling system or the alternate fuel handling system, a coke stockpile to be located in the main storage building, and all of the conveyor, crushing, screening, and stockpile emissions from the limestone crushing plant. The PTE of the kiln will not change due to the Project. Table 3-4 provides the PTE from the Project's new sources.

[3] Baghouse BACT as described in the current FOP.

Table 3-4. PTE of New Emission Sources

Emission Source	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
231BF301	0.72	0.25	0.04
231BF302	0.72	0.25	0.04
461BF301	0.96	0.34	0.05
Alternate Fuel Handling - Baghouse 1	0.80	0.39	0.06
Alternate Fuel Handling - Baghouse 2	0.80	0.39	0.06
Alternate Fuel Handling - Baghouse 3	0.80	0.39	0.06
Alternate Fuel Handling - Baghouse 4	0.80	0.39	0.06
Alternate Fuel Handling - Baghouse 5	0.80	0.39	0.06
Worst Case Fuel Drop Point	0.99	0.42	0.07
Coke MSB Stockpile	5.72	2.86	1.14
Portable Limestone Crushing and Grinding	1.91	0.72	0.08
Portable Limestone Material Transfer Points	7.70	3.75	1.14
Portable Limestone Stockpile	0.70	0.35	0.14
Total PTE (tpy):	**23.5**	**11.0**	**3.0**

The Project emissions increase (PEI) for each pollutant is calculated as follows: PAE minus CHA plus PTE minus BAE. The PEI is then compared to the Significant Emission Rate (SER) as defined in MDAQMD Rule 1310(D)(2)(a) and 40 CFR 52.21(b)(23)(i) to determine if the Project will result in a major modification to the Facility. As shown in Table 3-5 below, the Project will not result in a PEI greater than the SER for any criteria pollutant.

Table 3-5. PEI of Project

Description	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Project Emissions Increase	23.5	11.8	3.7	9.3	16.3	39.7	17.3
Significant Emission Rate (SER)	25	15	10	40	40	100	40
In Attainment of NAAQS?[1]	N/A	No	Yes	Yes	Yes	Yes	No
Emission Increases Emissions > SER?	**No**	**No**	**No**	**No**	**No**	**No**	**No**

1. According to EPA Greenbook. https://www3.epa.gov/airquality/greenbook/ancl.html. Accessed 4/3/2019.

3.1.2. MDAQMD Rule 1303, Rule 1304, and Rule 1305 Emission Calculations

In order to determine the amount of offsets required for the Project, the PTE of the new baghouses and fugitive emission sources are calculated consistent with the emissions summary shown in Table 3-4, and the historical actual emissions (HAE) of the existing baghouses (611BF015, 611BF016, and 611BF017) to be shutdown and the existing coal stockpile to be modified are calculated. The HAE of the existing baghouses to be shutdown is calculated using the monthly hours of operation, the flow rate, and maximum outlet grain loading rates detailed in Part III, Sections A.98 and A.103 of the FOP. The HAE of the existing coal stockpile is calculated using the maximum monthly pile size. The PTE of the new baghouses for all systems is calculated conservatively assuming that they operate 8,760 hours annually, at maximum flow rates, and at a maximum outlet grain loading of 0.005 gr/dcsf. The PTE of the new coke stockpile is calculated assuming the same maximum mass determined for the HAE of the coal stockpile, which was then corrected for the lower equivalent kiln-heating requirement. The PTE

of the new alternate fuels handling system is calculated assuming the mass required for the worst-case "unit emission rate" (in this case biosolids) to match an equivalent heating value as 50 tons per hour of coal. Because both the alternate fuels and coke handling systems contain a drop point, and heating of the kiln can be achieved with either fuel system, a worst-case drop emission rate was determined by using the maximum drop point emissions from either the alternate fuels or coke handling systems[4]. The PTE of the portable limestone crushing plant is calculated assuming no more than 748,800 tons of limestone are processed in a year.

Pursuant to MDAQMD Rule 1305(A)(2)(b)(iii), the offsets for the Project are determined by taking the difference between the PTE for the new emission units and the HAE for the emission units to be shutdown or modified, consistent with MDAQMD Rule 1404(A)(2)(a). As shown in Table 3-6 below, offsets are not required for the Project. The kiln emissions are not included in the offset calculations because the kiln has been previously offset per previous MDAQMD guidance.

Table 3-6. Emission Offsets Calculation

Emissions	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
Emission Increase[1]	26	14	5
Emission Reduction[2]	61	55	37
Offsets[3]	**-34**	**-41**	**-32**
Required?	**No**	**No**	**No**

1. Emission Increase = PTE of New Emission Sources (Including baghouses, the coke drop, and the coke stock pile)
2. Emission Reduction = HAE of shutdown baghouses + Fugitive Emissions from Coal Stock Pile
3. Offsets = Emission Increase - Emission Reduction, Calculated pursuant to MDAQMD Rule 1305 (E)(3)

3.1.3. Consideration of Emissions Impact Upstream and Downstream of the Project

As mentioned previously, because the use of coke and other alternate fuels in the kiln are not debottlenecking facility operations, the introduction of an alternative fuel to the kiln will not increase any potential emissions upstream or downstream of the kiln.

Additionally, the moisture content and heat values of coal and coke were compared in order to determine if any additional emissions could be expected from processes that will be shared by the coal and coke handling systems. As shown in Table 3-7 below, while coke does have a lower moisture content than coal, the higher heating content of coke means the lb/ton equivalent emission factor for fugitive sources is lower than that of coal, indicating that the use of coke would generate fewer emissions when compared to coal. Further details are provided in Tables 25, 26, and 27 of the emission calculations in Appendix B.

[4] Biosolids handled with the alternate fuels system produce the maximum drop point emissions from either system.

Table 3-7. Coal vs. Coke Fugitive Emissions Comparison

Material	Heating Valve[1] (Btu/ton)	Mass (ton)	Heat[2] (Btu)	Moisture Content[1] (%)	Unit Emission Rate[5]		
					PM (lb/ton equivalent)	PM_{10} (lb/ton equivalent)	$PM_{2.5}$ (lb/ton equivalent)
Coal	24,034,000	1.00	24,034,000	8.15	7.85E-04	2.75E-04	4.16E-05
Coke	28,526,000	0.84	24,034,000	7.34	7.66E-04	2.68E-04	4.06E-05

The portable limestone crushing operation provides flexibility to existing primary crushing process group 110 and is not expected to increase the amount of raw material that can be fed into the kiln. Given the aforementioned discussion, CalPortland has calculated all expected emission increases related to the Project in Section 3 and Appendix B.

4. REGULATORY APPLICABILITY

The Project described herein is subject to various federal and local air quality regulations. This section summarizes the air quality regulations that will apply to the impacted permit units. Specifically, the applicability of New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP), and California State Implementation Plan (SIP) regulations are addressed with respect to the combustion of coke in the kiln, the new coke fuel handling system, the alternate fuels handling system, the portable limestone crushing plant, and the replacement of the cement silo baghouses.

4.1. FEDERAL REGULATIONS

4.1.1. Identification of Non-Hazardous Secondary Materials that are Solid Wastes When Used as Fuels or Ingredients in Combustion Units - 40 CFR Part 241, Subpart B

The alternate fuels to be used in the kiln at the Facility can be characterized as non-hazardous secondary materials (NHSMs) following the provisions of 40 CFR 241 Subpart B, *Identification of Non-Hazardous Secondary Materials that are Solid Wastes When Used as Fuels or Ingredients in Combustion Units* (NHSM Rule). The NHSM Rule provides procedures to use in order to determine if a NHSM is considered a fuel or a solid waste. Table 4-1 below presents a summary of the proposed alternate fuels CalPortland intends to combust in the kiln.

Table 4-1. Proposed Alternate Fuels Summary

Proposed Alternate Fuels
Whole Tires
Chipped Tires
Biomass Fuels
Paper Cardboard
Engineered Fuel
Biosolids
Dust Collector Bags Generated On-site

Traditional fuels, such as coke, are inherently not considered secondary materials or solid waste if they have not been discarded, as defined in 40 CFR 241.2. As such, the evaluation of coke as a NHSM is unnecessary and is not further addressed in this section of the Application.

Under the NHSM Rule, there are three "categories" that fuels for combustion units fall under in order to be considered a NHSM instead of a solid waste when combusted.

1. **Non-waste "Blanket" Determinations for NHSM** [40 CFR 241.4(a)(1) – (10)]. There are several fuels that are categorically considered to be NHSM. No additional analysis is needed to show that fuels in this category meet NHSM criteria, provided that the fuels meet the applicable requirements in 40 CFR 241.4(a)(1) – (10).

2. **NHSM that Remains in Control of the Generator and meets Legitimacy Criteria** [40 CFR 241.3(b)(1)]: Alternative materials used as fuel that remain in control of the generator (i.e., CalPortland) and meet the legitimacy criteria, which is subsequently described, are considered NHSM and not solid waste under this rule.

3. **Processed NHSM that meets Legitimacy Criteria** [40 CFR 241.3(b)(4)]: Alternative materials produced from the processing of discarded NHSM and meet the legitimacy criteria, which is subsequently described, are considered NHSM and not solid waste under this rule. Processing is defined in 40 CFR 241.2.

Per 40 CFR 241.3(d), the legitimacy criteria is met if:

- The NHSM is manages as a valuable commodity,
- The NHSM has a meaningful heating value and used as a fuel in a combustion unit that recovers energy, and
- The NHSM contains contaminants or groups of contaminants at levels comparable in concentration to or lower than the traditional fuel(s) that the combustion unit is designed to burn.

CalPortland will only combust materials in the kiln that are considered traditional fuels or NHSM. The alternate fuels proposed for this Project are summarized by their respective NHSM criteria in Table 4-2 below. CalPortland will keep records demonstrating that all NHSMs used as fuel meet the criteria specified in the NHSM Rule

Table 4-2. Alternate Fuels NHSM Criteria

Proposed Alternate Fuels	NHSM Applicability Category
Whole Tires	Non-waste "Blanket" Determinations for NHSM - 40 CFR 241.4(a)(1)
Chipped Tires	Non-waste "Blanket" Determinations for NHSM - 40 CFR 241.4(a)(1)
Biomass Fuels	Non-waste "Blanket" Determinations for NHSM - 40 CFR 241.4(a)(2), (5), (9) or (10) OR NHSM that Remains in Control of the Generator and meets Legitimacy Criteria - 40 CFR 241.3(b)(1) OR Processed NHSM that meets Legitimacy Criteria - 40 CFR 241.3(b)(4)[5]
Paper Cardboard	NHSM that Remains in Control of the Generator and meets Legitimacy Criteria - 40 CFR 241.3(b)(1) OR Processed NHSM that meets Legitimacy Criteria - 40 CFR 241.3(b)(4)
Engineered Solid Fuel	Processed NHSM that meets Legitimacy Criteria - 40 CFR 241.3(b)(4)
Biosolids	Processed NHSM that meets Legitimacy Criteria - 40 CFR 241.3(b)(4)
Dust Collector Bags Generated On-site	NHSM that Remains in Control of the Generator and meets Legitimacy Criteria - 40 CFR 241.3(b)(1)

4.1.2. New Source Performance Standards (NSPS)

4.1.2.1. NSPS Subpart F

NSPS Subpart F, *Standards of Performance for Portland Cement Plants*, applies to affected facilities in portland cement plants that commenced construction or modification after August 17, 1971. Pursuant to 40 CFR 60.60(a), the affected facilities include each **kiln**, clinker cooler, raw mill system, finish mill systems, raw mill dryer, raw material storage, clinker storage, finished product storage, **conveyor transfer points**, bagging, and bulk loading systems. A modification is defined in 40 CFR 60.2 as any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted. While the project could be considered change in

[5] Note that if a biomass fuel meets the definition of cellulosic biomass (virgin wood) or clean cellulosic biomass defined in 40 CFR 241.2, the fuel would be considered a traditional fuel and further evaluation as a NHSM is unnecessary.

the method of operation of the kiln, the kiln will not be considered a modified source under NSPS F since emission increases are not anticipated on an actual short-term basis as a result of the Project.

The cement silo baghouses associated with the project will be subject to NSPS Subpart F, which includes a 10% opacity limit. The NSPS emission standards for these affected facilities are provided in 40 CFR 60.62(c) and prohibit "discharge into the atmosphere from any affected facility other than the kiln and clinker cooler any gases which exhibit 10 percent opacity or greater." CalPortland will comply with all applicable recordkeeping, reporting, and notification requirements of NSPS F.

4.1.2.2. NSPS Subpart Y

NSPS Subpart Y, *Standards of Performance for Coal Preparation and Processing Plants*, applies to affected facilities constructed, reconstructed or modified after May 27, 2009 in coal preparation and processing plants that process more than 200 tons of coal per day.[6] Per 40 CFR 60.251(e), a coal preparation and processing plant is defined as "any facility (excluding underground mining operations) which prepares coal by one or more of the following processes: breaking, crushing, screening, wet or dry cleaning, and thermal drying." CalPortland processes more than 200 tons of coal per day and prepares coal through the processes described in 40 CFR 60.251(e). Per 40 CFR 60.251(d)(2), coal is defined as "all solid fossil fuels classified as anthracite, bituminous, subbituminous, or lignite by ASTM D388 (incorporated by reference—see §60.17), and coal refuse." Per the preamble to NSPS Subpart Y (FR 51960, Volume 74, Number 194, dated October 8 2009), EPA stated "based on a review of the comments received and because of the limited amount of currently available data, EPA has decided not to include ''petroleum coke'' in the subpart Y definition of ''coal'' at this time. …" As such, because coke is not a part of the coal definition in NSPS Subpart Y, the new coke handling system is not considered an affected facility under NSPS Subpart Y.

4.1.2.3. NSPS Subpart OOO

NSPS Subpart OOO, *Standards of Performance for Nonmetallic Mineral Processing Plants* applies to each **crusher**, grinding mill, **screening operation**, bucket elevator, **belt conveyor**, bagging operation, storage bin, or enclosed truck or railcar loading station at a nonmetallic mineral processing plant that was constructed, modified, or reconstructed after August 31, 1983. Per 40 CFR 60.671, a nonmetallic mineral processing plant is defined as follows:

> ***Nonmetallic mineral processing plant*** *means any combination of equipment that is used to crush or grind any nonmetallic mineral wherever located, including lime plants, power plants, steel mills, asphalt concrete plants, portland cement plants, or any other facility processing nonmetallic minerals …*
>
> ***Nonmetallic mineral*** *means any of the following minerals or any mixture of which the majority is any of the following minerals: (1) Crushed and Broken Stone, including* ***Limestone,*** *Dolomite, Granite, Traprock, Sandstone, Quartz, Quartzite, Marl, Marble, Slate, Shale, Oil Shale, and Shell. …*

The portable limestone crushing plant will be considered a nonmetallic mineral processing plant and will be constructed after August 31, 1983. As such, the two crushers, the screen, and the belt conveyors associated with the limestone crushing operations will be subject to the provisions of NSPS Subpart OOO.

The emission limits associated with NSPS Subpart OOO are listed in Table 3 of the Subpart, and require that the conveyors and screen meet an opacity limit of 7 percent and the two crushers meet an opacity limit of 12 percent. An initial performance test must be conducted according to 40 CFR 60.11 of this part and 40 CFR

[6] The latest applicability date is used because the new construction of the facilities affected by the Project will commence after May 27, 2009.

60.675 of this subpart. Monthly periodic inspections of water sprays will be required according to 40 CFR 60.674(b) and 40 CFR 60.676(b).

4.1.2.4. NSPS Subpart CCCC

NSPS Subpart CCCC, *Standards of Performance for Commercial and Industrial Solid Waste Incineration Units (CISWI),* applies to an incineration unit that meets the following three criteria: (1) the incineration unit is a new construction as defined in 40 CFR 60.2015; (2) the incineration unit is a CISWI as defined in 40 CFR 60.2265, or an ACI as defined in 40 CFR 60.2265; and (3) the incineration unit is not exempt under §60.2020.

40 CFR 60.2015 states that an incineration unit is considered new if it meets any of the following criteria:

- It is a CISWI or ACI that commenced construction after June 4, 2010,
- It is a CISWI or ACI that commenced reconstruction or modification after August 7, 2013, or
- It is an incinerator or ACI that commenced construction after November 30, 1999, but no later than June 4, 2010, or that commenced reconstruction or modification on or after June 1, 2001, but no later than August 7, 2013.

The kiln does not meet the definition of a CISWI or ACI unit pursuant to §60.2265, as the kiln is not an air curtain combustion unit, and it does not combust any solid waste as the term is defined in 40 CFR Part 241, as discussed in Section 4.1.1. Therefore, NSPS Subpart CCCC does not apply to the kiln as a result of this Project.

4.1.3. National Emission Standards for Hazardous Air Pollutants (NESHAP)

4.1.3.1. NESHAP Subpart LLL

NESHAP Subpart LLL *National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry* applies to each new and existing portland cement plant that is a major source as defined in 40 CFR 63.2. 40 CFR 63.1340 identifies the following affected sources subject to NESHAP Subpart LLL: **kilns**; clinker coolers; raw mills; finish mills; raw material dryers; raw material, clinker, or finished product storage bins; **conveying system transfer points**; bagging and bulk loading and unloading systems; and open clinker storage piles. The Project is not anticipated to change NESHAP LLL applicability to the kiln (which includes the in-line coal mill as defined in 40 CFR 63.1341) or existing conveying system transfer points. However, the new conveying system transfer points associated with the new coke handling system will be subject to NESHAP Subpart LLL. Per 40 CFR 63.1345, the baghouses associated with the new coke handling system and the replacement cement silo baghouses will be subject to a ten percent opacity requirement.

Additionally, 40 CFR 63.1340(c) states onsite sources that are subject to the standards for nonmetallic mineral processing plants in NSPS Subpart OOO are not subject to this subpart. The portable limestone crushing plant is therefore exempt from the provisions of Subpart LLL.

4.1.4. Prevention of Significant Deterioration (PSD)

The federal PSD regulations are provided in 40 CFR 52.21. Per 40 CFR 52.21(a)(2), these regulations apply to any new major stationary source or any existing major stationary source where a project results in a significant net emissions increase located in an unclassifiable or attainment area. The PSD regulations only apply to attainment or unclassifiable pollutants which, for this Facility, are PM, $PM_{2.5}$, NO_2, SO_2, and CO. As such, CalPortland evaluated whether the emission increases associated with the Project are significant.

For PSD applicability purposes, the new coke handling system and associated fugitive emission sources, the new alternative fuel handling system and associate fugitive emission sources, the combustion of coke/alternative fuels in the kiln, the limestone crushing plant are considered a single project. As discussed in Section 3.1.1 of this application, the Project does not constitute a major modification for the purposes of 40 CFR 52.21.

While the Project does not constitute a major modification, the projected actual emissions increase from the project is greater than 50 percent of the PM and PM_{10} SER. According to the definition in 40 CFR 52.21(r)(6)(vi)(a), there is a reasonable possibility that while the project is not part of a major modification, it may result in a significant emissions increase of PM and PM_{10}. As such, CalPortland must comply with the recordkeeping and documentation provisions of 40 CFR 52.21(r)(6).

4.2. MDAQMD REGULATIONS

In addition to the federal air regulations described above, MDAQMD establishes regulations applicable at the emission unit level and at the facility level. The regulations also contain requirements related to the need for construction and/or operating permits. The regulatory analysis presented here focuses on the new coke fuel handling system, the alternate fuels handling system, the limestone crushing operations, and the new cement silo baghouses.

4.2.1. Regulation II - Permits

Pursuant to MDAQMD Rule 201, *Permit to Construct*, the Facility will be required to obtain written authorization from the MDAQMD before building, installing, or altering equipment which may cause the issuance of air contaminants. This application and subsequent issuance of an ATC by MDAQMD serves to fulfill the requirements of this rule.

Pursuant to MDAQMD Rule 203, *Permit to Operate,* the Facility will be required to obtain written authorization from the MDAQMD before operating equipment, which may cause the issuance of air contaminants. This application and subsequent issuance of a permit to operate by MDAQMD serves to fulfill the requirements of this rule.

4.2.2. Regulation III – Fees

Pursuant to MDAQMD Rule 301, *Permit Fees,* specific fees must be paid as part of this permit application. Applicable fees calculated as $11,030[7] pursuant to this rule are enclosed as part of this application. CalPortland will pay all applicable additional fees associated with this permitting effort upon invoice from MDAQMD.

4.2.3. Regulation IV – Prohibitions

Pursuant to MDAQMD Rule 401, *Visible Emissions,* requires that no single source emit any air contaminant as dark or darker than No 1 on the Ringelmann Chart for a period or periods aggregating more than three minutes in any one hour. All sources, including the proposed sources included in this application, at the Facility are subject to this requirement and CalPortland will continue to operate all sources such that the visible emissions comply with Rule 401.

[7] The filing fee is calculated as $302 x the number of permits (15) to be issued by MDAQMD, plus a project evaluation deposit of $6,500 which covers a portion of the project evaluation fees, billed at a rate of $105 per hour per MDAQMD Rule 301.C.2.c. For this application, fifteen permits will be required: three new baghouse ATCs for the coke fuel handling system, five new baghouse ATCs for the alternate fuel handling system, one ATC for the coke fuel handling system, one ATC for the alternate fuel handling system, one ATC for the limestone crushing operation, and modification of four permits C001739, C000219, C001740, and B007435.

Pursuant to MDAQMD Rule 402, *Nuisance,* requires that no person shall discharge emissions that may cause a nuisance. CalPortland will operate the proposed equipment associated with this application in a manner that does not cause a nuisance.

Pursuant to MDAQMD Rule 403.2, *Fugitive Dust Control for the Mojave Desert Planning Area,* requires that each facility implement control measures outlined in the Mojave Desert Planning Area Federal PM_{10} Attainment Plan. The Facility will continue to implement these control measures and therefore comply with the requirements of this rule.

Pursuant to MDAQMD Rule 404, *Particulate Matter Concentration* requires that no person exceed the particulate matter concentration provided in Table 404(a). As the minimum allowable concentration (0.01 gr/scf) is greater than the baghouse outlet grain loading of 0.005 gr/scf, the proposed baghouses will comply with the requirements of this rule.

Pursuant to MDAQMD Rule 405, *Solid Particulate Matter Weight,* requires that no person exceed the particulate matter process weights provided in Table 405(a). Because the proposed baghouses meet BACT (as described in Section 4.2.8.2), it is not anticipated that they will exceed the limits in Table 405(a) and will therefore meet the requirements of this rule.

4.2.4. Regulation IX – Standards of Performance for New Stationary Sources

Pursuant to MDAQMD Rule 900, *Standards of Performance For New Stationary Source (NSPS),* incorporates by reference the NSPS requirements from 40 CFR 60. As described in Section 4.1.2of this application, the Facility will meet the applicable requirements of the NSPS.

4.2.5. Regulation X – Emission Standards for Additional Specific Air Contaminants

Pursuant to MDAQMD Rule 1000, *National Emission Standards for Hazardous Air Pollutants (NESHAP),* incorporates by reference the NESHAP requirements from 40 CFR 61. There are no 40 CFR 61 NESHAP that apply to the proposed equipment to be constructed at the Facility.

4.2.6. Regulation XI - Source Specific Standards

Pursuant to MDAQMD Rule 1161, *Portland Cement Kilns*, limits the emissions of NO_x from the operation of existing Portland Cement Kilns operating within the Federal Ozone Non-Attainment Area of the MDAQMD. The kiln at the Facility is subject to this rule because it operates within the Federal Ozone Non-Attainment Area of the MDAQMD. As a result, after the implementation of these projects, the Facility must ensure that the kiln continues to comply with the requirements of this rule, including the operation of the kiln with Reasonably Available Control Technology (RACT) for NO_x reduction. Pursuant to Rule 1161(C)(2), the kiln exhaust must not exceed 2.8 lb NOx/ton of clinker; CalPortland currently complies and will continue to comply with this requirement by complying with the more stringent limit of 2.45 lb NOx/ton of clinker provided in the FOP. These limits do not apply during the first 36 hours of operation following a startup or during the 36 hours immediately preceding shutdown. Pursuant to Rule 1161(C)(3), CalPortland shall not use a heat input of more than 4,500 MMBtu/day during start-up and shut-down periods.

4.2.7. Regulation XII – Federal Operating Permits

Pursuant to MDAQMD Rule 1200, *General,* implements the operating permit requirements of Title V of the Federal Clean Air Act as well as the requirements in 40 CFR Part 70. As described above, the Facility currently

operates under Federal Operating Permit Number 223900003 issued January 8, 2016, and will continue to comply with the requirements of this rule.

Pursuant to MDAQMD Rule 1202, *Applications,* provides the requirements for Federal Operating Permit applications. CalPortland is submitting a complete application per the requirements of MDAQMD Rule 1202(C).

Pursuant to MDAQMD Rule 1205, *Modifications of Federal Operating Permits,* provides the procedures for facilities to amend or modify existing Federal Operating Permits. There are two types of Federal Operate Permit modifications: minor and significant. Pursuant to MDAQMD Rule 1201, minor and significant permit modifications are defined as follows:

Minor Permit Modification*: A revision to a FOP which is not an Administrative Permit Amendment and meets all of the following criteria:*

(1) The proposed modification does not violate or cause a violation of any Applicable Requirement; and
(2) The proposed modification does not relax any monitoring reporting or record keeping requirements; and
(3) The proposed modification does not require or change a federally mandated case-by-case determination of an emission limitation, or other standard, a facility specific determination of ambient impacts for temporary facilities, or a visibility or increment analysis or require or change a case-by-case determination of an emissions limitation or other standard required or imposed pursuant to District Regulation XIII – New Source Review; and
(4) The proposed modification does not impose or change a permit condition which allows the facility, or any permit unit at the facility, to operate below the threshold of applicability for any Applicable Requirement or of this regulation; and0
(5) The proposed modification is not a modification under Title I of the Federal Clean Air Act;

Significant Permit Modification*: A revision or proposed revision to a FOP which does not meet the qualifications for an Administrative Permit Amendment or a Minor Permit Modification*

As described in Section 4.2.8.2of this report, multiple emission units are subject to BACT requirements (i.e., require a case-by-case determination of an emissions limitation required by MDAQMD Regulation XIII); as such, CalPortland is submitting a significant permit modification application to MDAQMD. The required MDAQMD application form is included in Appendix A. Pursuant to MDAQMD Rule 1205(C)(1)(a), CalPortland will not operate any new equipment included in this application until MDAQMD has issued an updated Federal Operating Permit.

4.2.8. Regulation XIII – New Source Review

Regulation XII outlines MDAQMD's preconstruction New Source Review requirements for new or modified facilities. This section discusses applicability of MDAQMD's Regulation XIII.

4.2.8.1. Rule 1302 – Procedure

Rule 1302 includes provisions related to application elements and applies to new or modified facilities. The information, including applicable analysis and calculations, necessary to deem the application complete has been provided as part of this application. Specific applicable portions of Rule 1302 are outlined below:

Pursuant to Rule 1302(B)(1)(a)(i)(a), all facilities must submit a Comprehensive Emissions Inventory in conjunction with the application for an ATC or modification to a permit to operate (PTO). However, per Rule 1302(B)(1)(a)(i)(b), if a facility has a current, approved Comprehensive Emissions Inventory on file with MDAQMD, the Facility may request to update the Comprehensive Emission Inventory to reflect the addition,

deletion, or modification of all emissions units affected by the application. The submission of this application serves as CalPortland's written request to update the Comprehensive Emission Inventory to reflect the new and modified emission units at the Facility.

4.2.8.2. Rule 1303 - Requirements

RULE 1303(A) - BACT

MDAQMD Rule 1303(A)(2), *Best Available Control Technology,* requires BACT for each modified Permit Unit that has the PTE of 25 pounds per day or more or any non-attainment pollutant. The Facility is located in an area that is in non-attainment of the PM_{10} and ozone NAAQS. Therefore, because the kiln will potentially have an operational change (i.e., combusting coke in addition to coal) as a result of the Project, the definition of "modified" needs to be evaluated. Per MDAQMD Rule 1301(HH), modified is defined:

Any physical or operational change …to an Emissions Unit to replace equipment, expand capacity, revise methods of operation, or modernize processes by making any physical change, change in method of operation, addition to an existing Permit Unit and/or change in hours of operation which results in a Net Emissions Increase of any Regulated Air Pollutant or which results in the emission of any Regulated Air Pollutant not previously emitted."

The kiln will not emit any regulated air pollutants that were not previously emitted. Net emissions increase (NEI) is defined, per MDAQMD Rule 1304(B), as the difference between proposed emissions and historic actual emissions. Per MDAQMD Rule 1304(D)(1)(b), proposed emissions are equal to the PTE of the emission unit following completion of the Project. Per MDAQMD Rule 1304(D)(2)(a)(iv), HAE are equal to the PTE of the emission unit if "all the emissions from that emission unit have been previously offset in a documented prior permitting action…" Based on previous discussions with MDAQMD during the permitting of the new Finish Mill, all emission units associated with the modernization project are "fully offset." Therefore, because the PTE will be the same for all regulated air pollutants both before and after the Project, there will be no NEI; as such, the kiln is not considered a modified unit under MDAQMD Rule 1301 and BACT is not required to be evaluated for the kiln.

Because the Facility is located in an area that is in non-attainment of the PM_{10} and ozone NAAQS, all new Permit Units are required to have PM_{10} BACT. MDAQMD Rule 1303(A)(3), *Best Available Control Technology,* requires BACT for each new Permit Unit located at a facility that has a PTE of 25 tons per year or more of any non-attainment pollutant. The Facility is located in an area that is in non-attainment of the PM_{10} and ozone NAAQS. Because the Facility has a PTE greater than 25 tons per year for PM_{10}, BACT will be required for the new Permit Units associated with these projects. The new Permit Units include the three new coke handling baghouses and the coke handling system, the five new alternate fuels handling baghouses and the alternate fuels handling system, the limestone crushing operations, and the cement silo replacement baghouses.

Per MDAQMD Rule 1301(K), BACT is defined as follows:

(a) The most stringent emission limit or control technique which has been achieved in practice, for such permit unit class or category of source; or
(b) Any other emission limitation or control technique, and/or different fuel demonstrated in practice to be technologically feasible and cost-effective by the APCO or by CARB.

The first criterion listed above is referred to as the "achieved in practice" standard, and the second is commonly known as the "technologically feasible" standard. Moreover, BACT must not be less stringent than the emission control(s) required by any applicable provisions of District, State, or federal laws or regulations, unless the applicant demonstrates to the satisfaction of the District that such limits are not achievable. Based on recent

BACT determinations from MDAQMD, CalPortland proposes that BACT for the new baghouses be a maximum outlet grain loading of 0.005 gr/dscf.

With respect to fugitive emissions from the new processes, CalPortland proposes the use of the main storage building enclosure and good operating practices for the new coke stockpile and alternate fuels handling system fugitives, and the use of water sprays for the portable limestone crushing operation[8].

4.2.8.3. Rule 1303(B), Rule 1304, and Rule 1305 - Offsets

MDAQMD Rule 1303(B), *Offsets,* requires that all emissions increases be offset for facilities that have individual pollutant PTEs greater than the thresholds in this rule (i.e., 15 tpy PM_{10}). The Facility has emissions greater than the offset thresholds, and therefore, CalPortland is required to evaluate offset requirements. Offset amounts are quantified pursuant to MDAQMD Rule 1304, *Emission Calculations* and MDAQMD Rule 1305, *Emissions Offsets.* Per MDAQMD Rule 1305(2)(b)(iii), offset quantities are determined based on the difference between the Facilities Proposed Emissions and the HAE. Per MDAQMD Rule 1305(B)(2), CalPortland can generate Actual Emission Reductions (AERs) by simultaneous reductions at the Facility by shutting down equipment so long as the respective air permit is surrendered and voided by MDAQMD. As stated in Section 3.1.2, no offsets will be needed because the emission reductions from the replacement of the cement silo baghouses will fully offset the installation of the new coke handling system, the new alternate fuels handling system, the limestone crushing plant, and all associated fugitive emissions.

4.2.8.4. Rule 1310 – Federal Major Facilities and Federal Major Modifications

MDAQMD Rule 1310, *Federal Major Facilities and Federal Major Modifications,* sets forth additional requirements for federal major modifications or federal major facilities which request a plant wide applicability limit. Pursuant to MDAQMD Rule 1310(D)(1)(a), the Facility is considered a Federal Major Facility. Additionally, pursuant MDAQMD Rule 1310(D)(2)(a), a modification to a major facility that results in a significant emissions increase greater than or equal to a specified SER is considered a Federal Major Modification. As such, it was necessary to evaluate the Project emissions to determine if a Federal Major Modification will occur as a result of the Project. As stated in the Section 3.1.1, the Project will not be considered a Federal Major Modification as defined under MDAQMD Rule 1310.

4.2.8.5. Rule 1320 – New Source Review for Toxic Air Contaminants

Rule 1320 sets forth requirements for preconstruction review of all new, modified, relocated, or reconstructed facilities that emit or have the potential to emit any HAP, toxic air contaminant (TAC), or regulated toxic substance. CalPortland understands that the projects described herein will potentially be subject to State Toxic NSR (T-NSR) requirements under Rule 1320(A)(2) and Rule 1320(E) as determined by the District during the initial applicability analysis carried out under Rule 1320(D)(1).

4.2.9. Regulation XVI – Prevention of Significant Deterioration

MDAQMD Rule 1600 incorporates the federal PSD regulations by reference of 40 CFR 52.21. Pursuant to 40 CFR 52.21(a)(2), these regulations apply to any new major stationary source or any existing major stationary source where a project results in a significant net emissions increase and the facility is located in an unclassifiable or attainment area. The PSD regulations only apply to attainment or unclassifiable pollutants which, for this Facility, are PM, $PM_{2.5}$, SO_2, NO_X, and CO. As discussed in section 4.1.4, there is not a significant emission increase as a result of this Project. Therefore, PSD review is not required.

[8] Consistent with San Joaquin Valley Air Pollution Control District BACT Guideline 6.1.2 Sand, Gravel, Aggregate, Recycled Asphalt & Recycled Concrete: Processing, Crushing, Screening and Storage Operations

APPENDIX A: MDAQMD FORMS

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
BRAD POIRIEZ, *EXECUTIVE DIRECTOR*
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • Fax 760.245.2022
Email: **engineering@mdaqmd.ca.gov**
www.MDAQMD.ca.gov • @MDAQMD

Application for air pollution control equipment only

Remit **$288.00** with this document *($164.00 for change of owner)*

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 95-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): CalPortland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 km E/ 3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: (760) 269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310
Type of Organization ☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency ☐ Federal agency			

Section 2: Nature of application

Application is hereby made for the following equipment: Baghouse 231BF301	
Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*

Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____		Weight of adsorbent per bed: _____
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F		Pressure drop across unit: _____ inches H_2O
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____		☐ other, specify: _____
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____		Operating temperature of combustion chamber in °F: _____
Inlet temperature: _____ °F		Pressure drop across unit: _____ inches H_2O
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD		Filtering area: TBD
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 3,851 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no		Manufacturer's specified pressure differential range: _____ inches H2O
Control efficiency: _____ % _____ ppmv 11.44 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emission calculations

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}			0.005	gr/scf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent): ☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun _____ % Jul-Sep _____ % Oct-Dec	Expected operating hours of equipment 24 Hrs/day 7 Days/wk 52 Wk/yr Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest:	_____ residence	_____ business	_____ school	
Name of closest school (K-12) _____				
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)				

***Please note:** District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters Name of responsible official	Plant Manager Official title	Signature of responsible official	7/16/19 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov
2) Pay the corresponding application fee of $288 per permit for new or modified permit (or $164 for change of owner) via check or credit card.

Payment by check:
Make check payable to the Mojave Desert AQMD
Mail the check with a copy of this completed application to:
Mojave Desert AQMD
14306 Park Avenue
Victorville, CA 92392

Payment by credit card:
Pay online at **http://www.mdaqmd.ca.gov**
Click ***"Pay Fees"***
Please note: ***a surcharge applies for all credit card payments.***

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Should you have any additional questions, please, do not hesitate to contact the permitting division at 760-245-1661, or via email at **engineering@mdaqmd.ca.gov**

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
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Application for air pollution control equipment only

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c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): CalPortland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 km E/ 3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: (760) 269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310
Type of Organization ☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency ☐ Federal agency			

Section 2: Nature of application

Application is hereby made for the following equipment: Baghouse 231BF302	
Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*

Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____ ☐ Other: specify _____		
Adsorbate(s): _____		
Number of beds: _____		Weight of adsorbent per bed: _____
Dimensions of bed: thickness: _____ surface area: _____		
Inlet temperature: _____ °F		Pressure drop across unit: _____ inches H_2O
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____		☐ other, specify: _____
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____		Operating temperature of combustion chamber in °F: _____
Inlet temperature: _____ °F		Pressure drop across unit: _____ inches H_2O
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD		Filtering area: TBD
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 3,851 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no		Manufacturer's specified pressure differential range: _____ inches H2O
Control efficiency: _____ % _____ ppmv 11.44 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emission calculations

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}	N/A	N/A	0.005	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent): ☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun _____ % Jul-Sep _____ % Oct-Dec	Expected operating hours of equipment 24 Hrs/day 7 Days/wk 52 Wk/yr Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest:	_____ residence	_____ business	_____ school	
Name of closest school (K-12)				
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)				

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters Name of responsible official	Plant Manager Official title	Signature of responsible official	7/16/19 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

Application submission instructions:

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Victorville, CA 92392

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Click ***"Pay Fees"***
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MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
BRAD POIRIEZ, *EXECUTIVE DIRECTOR*
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e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 km E/ 3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: (760) 269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310
Type of Organization ☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency ☐ Federal agency			

Section 2: Nature of application

Application is hereby made for the following equipment: Baghouse 461BF301	
Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*

Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____ ☐ Other: specify _____		
Adsorbate(s): _____		
Number of beds: _____		Weight of adsorbent per bed: _____
Dimensions of bed: thickness: _____ surface area: _____		
Inlet temperature: _____ °F		Pressure drop across unit: _____ inches H_2O
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____		☐ other, specify: _____
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____		Operating temperature of combustion chamber in °F: _____
Inlet temperature: _____ °F		Pressure drop across unit: _____ inches H_2O
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD		Filtering area: TBD
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 5,134 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no		Manufacturer's specified pressure differential range: _____ inches H2O
Control efficiency: _____ % _____ ppmv 11.44 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m^3

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m^3

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

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☑ Other (please specify): Emission calculations

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
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SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

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I hereby certify that all information contained herein is true and correct.			
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Mail the check with a copy of this completed application to:
Mojave Desert AQMD
14306 Park Avenue
Victorville, CA 92392

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Please note: ***a surcharge applies for all credit card payments.***

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MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
BRAD POIRIEZ, *EXECUTIVE DIRECTOR*
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • Fax 760.245.2022
Email: **engineering@mdaqmd.ca.gov**
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Application for air pollution control equipment only

Remit **$288.00** with this document *($164.00 for change of owner)*

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 95-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): CalPortland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 km E/ 3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: (760) 269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310

Type of Organization
☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency
☐ Federal agency

Section 2: Nature of application

Application is hereby made for the following equipment: Baghouse 611BF015	
Application is for what type of permit: ☐ New construction ☑ Modification ☐ Change of owner	For modification or change of owner: C001739 Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*

Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____		Weight of adsorbent per bed: _____
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F		Pressure drop across unit: _____ inches H_2O
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____		☐ other, specify: _____
Minimum control efficiency: _____ %	_____ ppmv	_____ mg/m³
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____	Operating temperature of combustion chamber in °F: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: Scheuch	Model: SKDT 08/14-1.6-04	Serial No.: _____
Filtering material: Polyester 550	Filtering area: 2,540 sq. ft.	
Number and dimension of filters: 448 bags, 4" diameter X 5.25' length		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☑ pulse jet ☐ other, specify: _____		
Gas flow rate: 6,002 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no	Manufacturer's specified pressure differential range: _____ inches H2O	
Control efficiency: _____ % _____ ppmv 11.44 mg/m³		
Motor size: 20 bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough: Cleaning will be based on differential pressure or Dwyer timer		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m^3

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m^3

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☑ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☐ Other (please specify): _____

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}	N/A	N/A	0.005	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent): ☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun _____ % Jul-Sep _____ % Oct-Dec	Expected operating hours of equipment 24 Hrs/day 7 Days/wk 52 Wk/yr Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest:	_____ residence	_____ business	_____ school	
Name of closest school (K-12) _____				
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)				

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters Name of responsible official	Plant Manager Official title	Signature of responsible official	7/16/19 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

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Application for air pollution control equipment only

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d. Facility or business license name (for equipment location): CalPortland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 km E/ 3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: (760) 269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310
Type of Organization ☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency ☐ Federal agency			

Section 2: Nature of application

Application is hereby made for the following equipment: Baghouse 611BF016	
Application is for what type of permit: ☐ New construction ☑ Modification ☐ Change of owner	For modification or change of owner: C000219 Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*

Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____ ☐ Other: specify _____		
Adsorbate(s): _____		
Number of beds: _____		Weight of adsorbent per bed: _____
Dimensions of bed: thickness: _____ surface area: _____		
Inlet temperature: _____ °F		Pressure drop across unit: _____ inches H_2O
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____		☐ other, specify: _____
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____		Operating temperature of combustion chamber in °F: _____
Inlet temperature: _____ °F		Pressure drop across unit: _____ inches H_2O
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: Scheuch	Model: SKDT 08/14-1.6-03	Serial No.: _____
Filtering material: Polyester 550		Filtering area: 1,905 sq. ft
Number and dimension of filters: 336 bags, 4" diameter X 5.25' length		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☑ pulse jet ☐ other, specify: _____		
Gas flow rate: 4,175 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no		Manufacturer's specified pressure differential range: _____ inches H2O
Control efficiency: _____ % _____ ppmv 11.44 mg/m³		
Motor size: 15 bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough: Cleaning will be based on differential pressure or Dwyer timer		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☑ Manufacturer ☐ Source test ☑ MDAQMD default ☐ USEPA AP-42

☐ Other (please specify): _____

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}	N/A	N/A	0.005	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent): ☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun _____ % Jul-Sep _____ % Oct-Dec	Expected operating hours of equipment 24 Hrs/day 7 Days/wk 52 Wk/yr Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest:	_____ residence	_____ business	_____ school	
Name of closest school (K-12) _____				
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)				

***Please note:** District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters Name of responsible official	Plant Manager Official title	Signature of responsible official	7/16/19 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

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d. Facility or business license name (for equipment location): CalPortland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 km E/ 3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: (760) 269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310

Type of Organization
☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency
☐ Federal agency

Section 2: Nature of application

Application is hereby made for the following equipment:
Baghouse 611BF017

Application is for what type of permit: ☐ New construction ☑ Modification ☐ Change of owner	For modification or change of owner: C001740 Current Permit Number

Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)

Section 3: Equipment information — *Complete sections A-G as applicable*

Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____		Weight of adsorbent per bed: _____
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F		Pressure drop across unit: _____ inches H_2O
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____		☐ other, specify: _____
Minimum control efficiency: _____ %	_____ ppmv	_____ mg/m³
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____		Operating temperature of combustion chamber in °F: _____
Inlet temperature: _____ °F		Pressure drop across unit: _____ inches H_2O
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: Scheuch	Model: SKDT 08/14-1.6-04	Serial No.: _____
Filtering material: Polyester 550		Filtering area: 2,540 sq. ft
Number and dimension of filters: 448 bags, 4" diameter X 5.25' length		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☑ pulse jet ☐ other, specify: _____		
Gas flow rate: 6,002 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no		Manufacturer's specified pressure differential range: _____ inches H2O
Control efficiency: _____ % _____ ppmv 11.44 mg/m³		
Motor size: 15 bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough: Cleaning will be based on differential pressure or Dwyer timer		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☑ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☐ Other (please specify): _____

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}	N/A	N/A	0.005	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

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Richard P. Walters Name of responsible official	Plant Manager Official title	Signature of responsible official	7/16/19 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

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d. Facility or business license name (for equipment location): CalPortland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 km E/ 3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: (760) 269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310
Type of Organization ☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency ☐ Federal agency			

Section 2: Nature of application

Application is hereby made for the following equipment: Alternate Fuels Baghouse 1	
Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*

Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____ ☐ Other: specify _____		
Adsorbate(s): _____		
Number of beds: _____		Weight of adsorbent per bed: _____
Dimensions of bed: thickness: _____ surface area: _____		
Inlet temperature: _____ °F		Pressure drop across unit: _____ inches H_2O
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____		☐ other, specify: _____
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____		Operating temperature of combustion chamber in °F: _____
Inlet temperature: _____ °F		Pressure drop across unit: _____ inches H_2O
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD		Filtering area: TBD
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 4,279 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no		Manufacturer's specified pressure differential range: _____ inches H2O
Control efficiency: _____ % _____ ppmv 11.44 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emission calculations

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}	N/A	N/A	0.005	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent): ☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun _____ % Jul-Sep _____ % Oct-Dec	Expected operating hours of equipment 24 Hrs/day 7 Days/wk 52 Wk/yr Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest:	_____ residence	_____ business	_____ school	
Name of closest school (K-12)				
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)				

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters Name of responsible official	Plant Manager Official title	Signature of responsible official	7/16/19 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov
2) Pay the corresponding application fee of $288 per permit for new or modified permit (or $164 for change of owner) via check or credit card.

Payment by check:
Make check payable to the Mojave Desert AQMD
Mail the check with a copy of this completed application to:
Mojave Desert AQMD
14306 Park Avenue
Victorville, CA 92392

Payment by credit card:
Pay online at **http://www.mdaqmd.ca.gov**
Click ***"Pay Fees"***
Please note: ***a surcharge applies for all credit card payments.***

3) If payment is made online via credit card, please email the receipt to Engineering@mdaqmd.ca.gov

Should you have any additional questions, please, do not hesitate to contact the permitting division at 760-245-1661, or via email at **engineering@mdaqmd.ca.gov**

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
BRAD POIRIEZ, *EXECUTIVE DIRECTOR*
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • Fax 760.245.2022
Email: **engineering@mdaqmd.ca.gov**
www.MDAQMD.ca.gov • @MDAQMD

Application for air pollution control equipment only

Remit **$288.00** with this document *($164.00 for change of owner)*

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 96-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): CalPortland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 km E/ 3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: (760) 269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310
Type of Organization ☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency ☐ Federal agency			

Section 2: Nature of application

Application is hereby made for the following equipment: Alternate Fuels Baghouse 2	
Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*

Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____ ☐ Other: specify _____		
Adsorbate(s): _____		
Number of beds: _____		Weight of adsorbent per bed: _____
Dimensions of bed: thickness: _____ surface area: _____		
Inlet temperature: _____ °F		Pressure drop across unit: _____ inches H_2O
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____		☐ other, specify: _____
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number.

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____	Operating temperature of combustion chamber in °F: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD	Filtering area: TBD	
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 4,279 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no	Manufacturer's specified pressure differential range: _____ inches H2O	
Control efficiency: _____ % _____ ppmv 11.44 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emission calculations

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}	N/A	N/A	0.005	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent): ☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun _____ % Jul-Sep _____ % Oct-Dec	Expected operating hours of equipment 24 Hrs/day 7 Days/wk 52 Wk/yr Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest:	_____	residence	_____	business	_____ school
Name of closest school (K-12)					
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)					

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters Name of responsible official	Plant Manager Official title	Richard P. Walters Signature of responsible official	7/16/19 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov
2) Pay the corresponding application fee of $288 per permit for new or modified permit (or $164 for change of owner) via check or credit card.

Payment by check:
Make check payable to the Mojave Desert AQMD
Mail the check with a copy of this completed application to:
Mojave Desert AQMD
14306 Park Avenue
Victorville, CA 92392

Payment by credit card:
Pay online at **http://www.mdaqmd.ca.gov**
Click ***"Pay Fees"***
Please note: ***a surcharge applies for all credit card payments.***

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Should you have any additional questions, please, do not hesitate to contact the permitting division at 760-245-1661, or via email at **engineering@mdaqmd.ca.gov**

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
BRAD POIRIEZ, *EXECUTIVE DIRECTOR*
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • Fax 760.245.2022
Email: **engineering@mdaqmd.ca.gov**
www.MDAQMD.ca.gov • @MDAQMD

Application for air pollution control equipment only

Remit **$288.00** with this document *($164.00 for change of owner)*

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 96-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): CalPortland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 km E/ 3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: (760) 269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310
Type of Organization ☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency ☐ Federal agency			

Section 2: Nature of application

Application is hereby made for the following equipment: Alternate Fuels Baghouse 3	
Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*

Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____		Weight of adsorbent per bed: _____
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F		Pressure drop across unit: _____ inches H_2O
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____		☐ other, specify: _____
Minimum control efficiency: _____ %	_____ ppmv	_____ mg/m³
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____		Operating temperature of combustion chamber in °F: _____
Inlet temperature: _____ °F		Pressure drop across unit: _____ inches H_2O
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD		Filtering area: TBD
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 4,279 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no		Manufacturer's specified pressure differential range: _____ inches H2O
Control efficiency: _____ % _____ ppmv 11.44 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emission calculations

Emissions data:

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}	N/A	N/A	0.005	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

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Name of closest school (K-12) _____				
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)				

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters Name of responsible official	Plant Manager Official title	Richard P. Walters Signature of responsible official	7/16/19 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov
2) Pay the corresponding application fee of $288 per permit for new or modified permit (or $164 for change of owner) via check or credit card.

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Mail the check with a copy of this completed application to:
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14306 Park Avenue
Victorville, CA 92392

Payment by credit card:
Pay online at **http://www.mdaqmd.ca.gov**
Click ***"Pay Fees"***
Please note: ***a surcharge applies for all credit card payments.***

3) If payment is made online via credit card, please email the receipt to Engineering@mdaqmd.ca.gov

Should you have any additional questions, please, do not hesitate to contact the permitting division at 760-245-1661, or via email at **engineering@mdaqmd.ca.gov**

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
BRAD POIRIEZ, *EXECUTIVE DIRECTOR*
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • Fax 760.245.2022
Email: **engineering@mdaqmd.ca.gov**
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Application for air pollution control equipment only

Remit **$288.00** with this document *($164.00 for change of owner)*

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 96-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): CalPortland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 km E/ 3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: (760) 269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310
Type of Organization ☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency ☐ Federal agency			

Section 2: Nature of application

Application is hereby made for the following equipment: Alternate Fuels Baghouse 4	
Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*

Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____		Weight of adsorbent per bed: _____
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F		Pressure drop across unit: _____ inches H_2O
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____		☐ other, specify: _____
Minimum control efficiency: _____ %	_____ ppmv	_____ mg/m³
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____		Operating temperature of combustion chamber in °F: _____
Inlet temperature: _____ °F		Pressure drop across unit: _____ inches H_2O
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD		Filtering area: TBD
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 4,279 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no		Manufacturer's specified pressure differential range: _____ inches H2O
Control efficiency: _____ % _____ ppmv 11.44 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emission calculations

Emissions data:

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}	N/A	N/A	0.005	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent): ☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun _____ % Jul-Sep _____ % Oct-Dec	Expected operating hours of equipment 24 Hrs/day 7 Days/wk 52 Wk/yr Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest:	_____	residence	_____	business	_____ school
Name of closest school (K-12) _____					
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)					

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters Name of responsible official	Plant Manager Official title	Signature of responsible official	7/16/19 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov
2) Pay the corresponding application fee of $288 per permit for new or modified permit (or $164 for change of owner) via check or credit card.

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MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
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Email: **engineering@mdaqmd.ca.gov**
www.MDAQMD.ca.gov • @MDAQMD

Application for air pollution control equipment only

Remit **$288.00** with this document *($164.00 for change of owner)*

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 96-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): CalPortland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 km E/ 3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: (760) 269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310
Type of Organization ☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency ☐ Federal agency			

Section 2: Nature of application

Application is hereby made for the following equipment: Alternate Fuels Baghouse 5	
Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*

Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____		Weight of adsorbent per bed: _____
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F		Pressure drop across unit: _____ inches H_2O
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____		☐ other, specify: _____
Minimum control efficiency: _____ %	_____ ppmv	_____ mg/m³
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____		Operating temperature of combustion chamber in °F: _____
Inlet temperature: _____ °F		Pressure drop across unit: _____ inches H_2O
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD		Filtering area: TBD
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 4,279 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no		Manufacturer's specified pressure differential range: _____ inches H2O
Control efficiency: _____ % _____ ppmv 11.44 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included		Manufacturer specifications/guarantee: ☐ included
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emission calculations

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}	N/A	N/A	0.005	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent): ☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun _____ % Jul-Sep _____ % Oct-Dec	Expected operating hours of equipment 24 Hrs/day 7 Days/wk 52 Wk/yr Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest:	_____ residence	_____ business	_____ school	
Name of closest school (K-12)				
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)				

***Please note:** District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters Name of responsible official	Plant Manager Official title	Signature of responsible official	7/16/19 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov
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Victorville, CA 92392

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Email: **engineering@mdaqmd.ca.gov**
www.MDAQMD.ca.gov • @MDAQMD

General Application Form

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PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 95-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): CalPortland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 9409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 km E/ 3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: (760) 269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310

Type of Organization
☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency
☐ Federal agency

Section 2: Nature of application

Application is hereby made for the following equipment:

Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number

Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)

Section 3: Equipment information

Equipment description (give a brief description of the equipment and/or process):
A new coke handling system, including conveyors (controlled by baghouses), a hopper, and a silo. See the application report and APCE forms for additional details on baghouses.

Manufacturer: _____ Model: _____ Serial number: _____

Add-on air pollution control equipment? ☐ Yes ☑ No (Note: *most APCE require a separate application*)

If yes: Manufacturer: TBA Model: _____ Serial #: _____ CARB EO#: _____

Type (specify): _____

Stack data Exhaust stack height from ground: _____ feet Exhaust stack diameter: _____ feet

Stack is: ☐ horizontal ☐ vertical ☑ open ☐ weather cap

Vent data: Exhaust temp. Ambient °F Maximum exhaust rate (CFM): _____

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42
☐ Other (please specify): _____

Emissions data: See emissions calculations for details.

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}				
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent):
☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun
_____ % Jul-Sep _____ % Oct-Dec

Expected operating hours of equipment
24 Hrs/day 7 Days/wk 52 Wk/yr
Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest: _____ residence _____ business _____ school

Name of closest school (K-12) _____

If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)

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Section 7: Certification

I hereby certify that all information contained herein is true and correct.

Richard P. Walters, Jr.	Plant Manager	Richard P. Walters	7/16/19
Name of responsible official	Official title	Signature of responsible official	Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

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d. Facility or business license name (for equipment location): CalPortland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 9409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 km E/ 3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: (760) 269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310
Type of Organization ☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency ☐ Federal agency			

Section 2: Nature of application

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Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information

Equipment description (give a brief description of the equipment and/or process):
A new alternate fuels handling system, including conveyors (controlled by baghouses), and a hopper. See the application report and APCE forms for additional details on baghouses.

Manufacturer: _____ Model: _____ Serial number: _____

Add-on air pollution control equipment? ☐ Yes ☑ No (Note: *most APCE require a separate application*)

If yes: Manufacturer: TBA Model: _____ Serial #: _____ CARB EO#: _____

Type (specify): _____

Stack data Exhaust stack height from ground: _____ feet Exhaust stack diameter: _____ feet

Stack is: ☐ horizontal ☐ vertical ☑ open ☐ weather cap

Vent data: Exhaust temp. Ambient °F Maximum exhaust rate (CFM): _____

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42
☐ Other (please specify): _____

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}				
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent):
☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun
_____ % Jul-Sep _____ % Oct-Dec

Expected operating hours of equipment
24 Hrs/day 7 Days/wk 52 Wk/yr
Total annual hours 8760

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Distance (feet) and direction to the property line of closest: _____ residence _____ business _____ school

Name of closest school (K-12) _____

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Name of responsible official	Official title	Signature of responsible official	Date signed

Phone: (760) 269-1183 | Email: rwalters@calportland.com

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d. Facility or business license name (for equipment location): CalPortland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 9409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 km E/ 3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: (760) 269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310
Type of Organization ☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency ☐ Federal agency			

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Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information

Equipment description (give a brief description of the equipment and/or process):
A new limestone crushing operation, including conveyors, a hopper, and a silo.

Manufacturer: _____ Model: _____ Serial number: _____

Add-on air pollution control equipment? ☐ Yes ☑ No (Note: *most APCE require a separate application*)

If yes: Manufacturer: TBA Model: _____ Serial #: _____ CARB EO#: _____

Type (specify): _____

Stack data Exhaust stack height from ground: _____ feet Exhaust stack diameter: _____ feet

Stack is: ☐ horizontal ☐ vertical ☑ open ☐ weather cap

Vent data: Exhaust temp. Ambient °F Maximum exhaust rate (CFM): _____

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42
☐ Other (please specify): _____

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}				
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent):
☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun
_____% Jul-Sep _____% Oct-Dec

Expected operating hours of equipment
24 Hrs/day 7 Days/wk 52 Wk/yr
Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest: _____ residence _____ business _____ school

Name of closest school (K-12) _____

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I hereby certify that all information contained herein is true and correct.

Richard P. Walters, Jr.	Plant Manager	Richard P. Walters	7/16/19
Name of responsible official	Official title	Signature of responsible official	Date signed

Phone: (760) 269-1183 | Email: rwalters@calportland.com

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov
2) Pay the corresponding application fee of $288 per permit for new or modified permit (or $164 for change of owner) via check or credit card.

Payment by check:
Make check payable to the Mojave Desert AQMD
Mail the check with a copy of this completed application to:
Mojave Desert AQMD
14306 Park Avenue
Victorville, CA 92392

Payment by credit card:
Pay online at **http://www.mdaqmd.ca.gov**
Click ***"Pay Fees"***
Please note: ***a surcharge applies for all credit card payments.***

3) If payment is made online via credit card, please email the receipt to Engineering@mdaqmd.ca.gov

Should you have any additional questions, please, do not hesitate to contact the permitting division at 760-245-1661, or via email at **engineering@mdaqmd.ca.gov**

APPLICATION FOR
TITLE V MODIFICATION

- Instructions -

I. PERMIT ACTION

On the application form, mark the box to indicate what type of Title V modification this is. Definitions follow in these instructions. Only one application form is needed for each facility.

Line 1. Enter the name of the facility.
Line 2. Enter the MDAQMD Facility ID number
Line 3. Enter the current Title V permit number
Line 4. Indicate the organizational structure of the facility
Line 5. Enter the name of the facility owner
Line 6. List the mailing address where correspondence regarding the application and the Permit to Operate may be sent. Please include your nine-digit zip code.
Line 7. Enter the facility mailing address. Indicate the installation date of any equipment changes from this modification.
Line 8. Indicate the distance of equipment, including feet and direction), from the closest fenceline, residence, business, and school.
Line 9. Indicate the general nature of the business performed by the facility.
Line 10. Describe each emissions unit. You may reference existing valid District Permits to Operate for each permitted emissions unit.
Line 11. Provide the name, title, phone number, and email address of a person to contact for further information on this application.

II. Compliance Certification

A compliance certification is a certification by the Responsible Official that each of the statements initialed in this section are true, accurate, and complete. The Responsible Official must check each box for which the statements are true, sign and date, and print his/her name and title.

For a corporation, the responsible official shall be a president, secretary, treasurer, or vice president in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation. The responsible official may be a duly authorized representative rather than any of the above if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit; and

1. the facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million in 1980 dollars; or

2. the District has approved a petition from the original responsible person to delegate authority.

APPLICATION FOR
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For a public agency the responsible official shall be either the principal executive officer or the ranking elected official. The principal executive officer, in the case of a federal agency, may be the executive officer having responsibility for a geographical unit.

For a partnership or sole proprietorship, the responsible official is a general partner or the proprietor, respectively.

OTHER REQUIRED INFORMATION

If needed to complete the processing of your Title V permit application, the District may request additional information.

APPLICATION FOR
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Administrative Permit Amendment

An administrative amendment is a modification to a FOP that is being made solely for the purpose of accomplishing one or more of the following objectives:

1. Corrects typographical errors.
2. Makes an administrative change at the source such as the name, address, or phone number of a person named in the Part 70 permit.
3. Requires more frequent monitoring or reporting by the permittee.
4. Allows for the transfer of ownership or operational control of a stationary source provided that a written agreement containing a specific date for transfer of Part 70 permit responsibility, coverage and liability between the current and new permittee has been submitted to the District.

Minor Permit Modification

A minor permit modification is a revision to a FOP which is not an Administrative Permit Amendment and which meets all of the following criteria:

1. The proposed modification does not violate or cause a violation of any Applicable Requirement; and
2. The proposed modification does not relax any monitoring requirements or relax any reporting or record keeping requirements; and
3. The proposed modification does not require or change a federally mandated case-by-case determination of an emission limitation or other standard, a Facility specific determination of ambient impacts for temporary Facilities, or a visibility or increment analysis or require or change a case-by-case determination of an emissions limitation or other standard required or imposed pursuant to District Regulation XIII – New Source Review; and
4. The proposed modification does not impose or change a permit condition which allows the Facility, or any Permit Unit at the Facility, to operate below the threshold of applicability for any Applicable Requirement or of this regulation; and
5. The proposed modification is not a modification under Title I of the Federal Clean Air Act.

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APPLICATION FOR
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2. A modification under Section 112 (Hazardous Air Pollutants (HAPS)), i.e. when either a new project or a modification of an existing emissions unit at a Title V facility would increase the potential to emit for HAPs and would constitute either the construction or reconstruction of a major source of HAPs as defined in 40 CFR part 63.41. This type of modification also occurs when a modification to an existing emissions unit occurs that would not be considered a reconstruction of a major source of HAPs, but would still increases HAP emissions beyond the HAP major levels such that federal promulgated MACT requirements for the emissions unit category would become applicable.
3. A major modification under Part C of Title I (PSD), i.e. when a new project or modification of an existing emissions unit at a Title V facility will require a PSD permit. This is a major modification under Part C of Title I of the Clean Air Act.
4. A major modification under Part D of Title I (Nonattainment Areas), i.e. when the potential to emit from all new, modified, replacement, or relocated emission units at the stationary source, which are covered by the application for such Part 70 permit modification, plus all other emission increases that occurred during the specified evaluation period are equal to or greater than 25 tons/year for ROC or 25 tons/year for NOx.

   The evaluation period is a period of five consecutive calendar years consisting of the calendar year in which the application for such Part 70 permit modification is submitted to the District and the four calendar years immediately prior to the calendar year in which the application for such Part 70 permit modification is submitted to the District.

Mojave Desert Air Quality Management District

TITLE V – PERMIT AMENDMENT / MODIFICATION

I. PERMIT ACTION (Check appropriate box)

☐ ADMINISTRATIVE AMENDMENT ☐ MINOR MODIFICATION ☒ SIGNIFICANT MODIFICATION

☐ OFF-PERMIT CHANGE

1. FACILITY NAME: CalPortland Oro Grande

2. FACILITY ID: 3

3. TITLE V PERMIT NO: 223900003

4. TYPE OF ORGANIZATION: ☒ Corporation ☐ Sole Ownership ☐ Government ☐ Partnership ☐ Utility

5. COMPANY NAME: CalPortland Company

6. COMPANY MAILING/BILLING ADDRESS:
STREET/P.O. BOX: P.O. Box 146
CITY: Oro Grande STATE: CA 9-DIGIT ZIP CODE: 92368 -0146

7. FACILITY ADDRESS:
STREET: 19409 National Trails Hwy
CITY: Oro Grande STATE: CA 9-DIGIT ZIP CODE: 92368 -0146

PROPOSED DATE OF INSTALLATION: Upon issuance of ATC

8. DISTANCES (FEET AND DIRECTION) TO CLOSEST:
FENCELINE: _____ RESIDENCE: _____ BUSINESS: _____ SCHOOL: _____

9. GENERAL NATURE OF BUSINESS: Portland Cement Manufacturing

10. DESCRIPTION OF EQUIPMENT OR MODIFICATION FOR WHICH APPLICATION IS MADE
(include Permit #'s if known, and use additional sheets if necessary)

Addition of coke and alternate fuels for combustion in kiln - addition to permit numbers B007435 and Federal Operating Number 223900003.
Addition of new coke fuel handling system and alternate fuel handling system to Federal Operating Permit Number 223900003 based on new ATC.
Addition of new limestone crushing and screening operations to Federal Operating Permit Number 223900003 based on new ATC.
See attached report for details.

11. PERSON TO CONTACT FOR INFORMATION ON THIS APPLICATION:

NAME: Jessica Gammett PHONE NUMBER: (706) 269-1135

TITLE: Environmental Manager EMAIL: jgammett@calportland.com

II. COMPLIANCE CERTIFICATION (Read each statement carefully and check all for confirmation):

[X] Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).

[X] Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.

[X] Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.

[X] Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

Richard P. Walters — 7/16/19

Signature of Responsible Official — Date

Richard P. Walters, Jr.

Name of Responsible Official (please print)

Plant Manager

Title of Responsible Official (please print)

For AQMD Use Only:

DATE STAMP	*DISTRICT PERMIT APPLICATION NO:* _____	*COMPANY /FACILITY ID:* _____

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Mojave Desert Air Quality Management District

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☐ ADMINISTRATIVE AMENDMENT ☐ MINOR MODIFICATION ☒ SIGNIFICANT MODIFICATION

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PROPOSED DATE OF INSTALLATION: Upon issuance of ATC

8. DISTANCES (FEET AND DIRECTION) TO CLOSEST:
FENCELINE: _____ RESIDENCE: _____ BUSINESS: _____ SCHOOL: _____

9. GENERAL NATURE OF BUSINESS: Portland Cement Manufacturing

10. DESCRIPTION OF EQUIPMENT OR MODIFICATION FOR WHICH APPLICATION IS MADE
(include Permit #'s if known, and use additional sheets if necessary)

Modify PTO C001739 for a new baghouse that will replace Baghouse 611BF015.
Modify PTO C000219 for a new baghouse that will replace Baghouse 611BF016.
Modify PTO C001740 for a new baghouse that will replace Baghouse 611BF017.
Modify Federal Operating Number 223900003 to reflect these new baghouses.
See attached report for details.

11. PERSON TO CONTACT FOR INFORMATION ON THIS APPLICATION:

NAME: Jessica Gammett PHONE NUMBER: (706) 269-1135

TITLE: Environmental Manager EMAIL: jgammett@calportland.com

II. COMPLIANCE CERTIFICATION (Read each statement carefully and check all for confirmation):

[X] Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).

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[X] Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.

[X] Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

Richard P. Walters Jr. — 7/16/19

Signature of Responsible Official — Date

Richard P. Walters, Jr.

Name of Responsible Official (please print)

Plant Manager

Title of Responsible Official (please print)

For AQMD Use Only:

DATE STAMP	*DISTRICT PERMIT APPLICATION NO:* _____	*COMPANY /FACILITY ID:* _____

APPENDIX B: EMISSION CALCULATIONS

Table 1. Project Emissions Increase

Description	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Project Emissions Increase[1]	23.5	11.8	3.7	9.3	16.3	39.7	17.3
Significant Emission Rate (SER)[2, 3]	25	15	10	40	40	100	40
In Attainment of NAAQS?[4]	N/A	No	Yes	Yes	Yes	Yes	No
Emission Increases Emissions > SER?	**No**	**No**	**No**	**No**	**No**	**No**	**No**

1. Project emissions increase is calculated as follows: PAE + PTE of New Emission Sources - BAE - CHA.
2. SER as defined in 40 CFR 52.21(b)(23)(i).
3. Significant as defined in MDAQMD Rule 1310 and Rule 1600/40 CFR 52.21.
4. According to EPA Greenbook. https://www3.epa.gov/airquality/greenbook/ancl.html. Accessed 1/15/2019.

Table 2. Baseline Actual Emissions (BAE) of Existing Units

Emission Source	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Kiln	25	25	17	11	1,741	399	10
Coal MSB Stock Pile	1.6	0.8	0.3	0	0	0	0

Table 3. Projected Actual Emissions (PAE) of Existing Unit[1]

Emission Source	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Kiln	45	45	28	28	2,629	638	33

1. Coal Stockpile PAE assumed to be 0 tpy since Coke MSB Stockpile PTE is included in PEI calculations.

Table 4. Could Have Accommodated Emissions (CHA) of Existing Unit[1]

Emission Source	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Kiln	19	19	10	8	871	200	6

1. Conservatively only includes emissions from the Kiln, although CHA emissions from the existing stockpile could have been included in this evaluation.

Table 5. Potential to Emit (PTE) of New Emission Sources

Emission Source	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
231BF301	0.72	0.25	0.04
231BF302	0.72	0.25	0.04
461BF301	0.96	0.34	0.05
Alternate Fuel Handling - Baghouse 1	0.80	0.39	0.06
Alternate Fuel Handling - Baghouse 2	0.80	0.39	0.06
Alternate Fuel Handling - Baghouse 3	0.80	0.39	0.06
Alternate Fuel Handling - Baghouse 4	0.80	0.39	0.06
Alternate Fuel Handling - Baghouse 5	0.80	0.39	0.06
Worst Case Fuel Drop Point[1]	0.99	0.47	0.07
Coke MSB Stockpile	5.72	2.86	1.14
Portable Limestone Crushing and Screening	1.91	0.72	0.08
Portable Limestone Material Transfer Emissions	7.70	3.75	1.14
Portable Limestone Stockpile Emissions	0.70	0.35	0.14
Total	23.5	11.0	3.0

1. Worst case fuel drop point is based on the maximum emissions from either the coke handling system or the alternate fuel handling system.

Table 6. Kiln Monthly CEMS Emissions From July 2009 to June 2019

Month/Year	Clinker Produced (ton/month)	Monthly Emissions (lb/month)[1]				CEMS Emission Factor (lb/ton clinker)[2]			
		SO_2	NO_x	CO	VOC	SO_2	NO_x	CO	VOC
Jul-09	49,964	204	143,538	17,680	952	0.0041	2.45	0.354	0.019
Aug-09	156,300	615	382,894	45,088	2,430	0.0039	2.45	0.288	0.016
Sep-09	162,469	2,565	434,223	51,678	4,541	0.0158	2.45	0.318	0.028
Oct-09	62,187	3,237	207,737	42,768	2,191	0.0521	2.45	0.688	0.035
Nov-09	0	0	0	0	0	0.0000	0.00	0.000	0.000
Dec-09	0	0	0	0	0	0.0000	0.00	0.000	0.000
Jan-10	0	0	0	0	0	0.0000	0.00	0.000	0.000
Feb-10	59,052	2,036	159,402	19,001	1,341	0.0345	2.45	0.322	0.023
Mar-10	171,219	1,208	443,600	50,991	3,322	0.0071	2.45	0.298	0.019
Apr-10	11,873	190	29,688	6,645	337	0.0160	2.45	0.560	0.028
May-10	68,323	603	183,647	11,142	2,139	0.0088	2.45	0.163	0.031
Jun-10	178,446	438	410,720	31,358	1,997	0.0025	2.30	0.176	0.011
Jul-10	164,586	1,822	410,496	44,534	1,903	0.0111	2.45	0.271	0.012
Aug-10	0	0	0	0	0	0.0000	0.00	0.000	0.000
Sep-10	0	0	0	0	0	0.0000	0.00	0.000	0.000
Oct-10	36,912	215	104,923	11,934	383	0.0058	2.45	0.323	0.010
Nov-10	160,268	556	393,090	60,180	1,598	0.0035	2.45	0.375	0.010
Dec-10	0	0	59	2	1	0.0000	0.00	0.000	0.000
Jan-11	0	0	0	0	0	0.0000	0.00	0.000	0.000
Feb-11	95,166	1,797	217,543	24,449	129	0.0189	2.29	0.257	0.001
Mar-11	103,922	803	225,100	32,823	611	0.0077	2.17	0.316	0.006
Apr-11	116,008	323	251,720	33,444	1,048	0.0028	2.17	0.288	0.009
May-11	78,242	16	167,604	45,334	534	0.0002	2.14	0.579	0.007
Jun-11	0	0	306	20	23	0.0000	0.00	0.000	0.000
Jul-11	130,306	144	316,361	32,706	2,438	0.0011	2.43	0.251	0.019
Aug-11	174,772	46	417,113	66,425	1,488	0.0003	2.39	0.380	0.009
Sep-11	0	0	0	0	0	0.0000	0.00	0.000	0.000
Oct-11	67,844	14	179,825	4,833	1,634	0.0002	2.45	0.071	0.024
Nov-11	129,330	584	359,553	40,919	4,782	0.0045	2.45	0.316	0.037
Dec-11	21,894	282	77,664	3,538	675	0.0129	2.45	0.162	0.031
Jan-12	150,669	1,354	380,892	72,734	2,967	0.0090	2.45	0.483	0.020
Feb-12	0	0	0	0	0	0.0000	0.00	0.000	0.000
Mar-12	155,284	1,800	395,621	67,961	2,499	0.0116	2.45	0.438	0.016
Apr-12	42,455	517	111,798	19,065	546	0.0122	2.45	0.449	0.013
May-12	94,429	2,444	237,508	55,807	1,221	0.0259	2.45	0.591	0.013
Jun-12	95,607	6,766	239,347	46,920	1,933	0.0708	2.45	0.491	0.020
Jul-12	151,139	4,492	381,847	45,519	1,678	0.0297	2.45	0.301	0.011
Aug-12	42,885	2,929	96,212	6,076	537	0.0683	2.24	0.142	0.013
Sep-12	114,226	2,516	311,683	20,514	1,842	0.0220	2.45	0.180	0.016
Oct-12	133,582	1,502	360,761	32,013	1,600	0.0112	2.45	0.240	0.012
Nov-12	121,876	2,029	294,432	30,279	1,445	0.0166	2.42	0.248	0.012
Dec-12	110,844	2,612	310,013	27,531	1,324	0.0236	2.45	0.248	0.012
Jan-13	18,698	260	49,921	3,559	178	0.0139	2.45	0.190	0.010
Feb-13	129,087	714	342,781	18,344	1,547	0.0055	2.45	0.142	0.012
Mar-13	49,124	291	126,054	4,590	519	0.0059	2.45	0.093	0.011
Apr-13	128,546	1,142	353,185	28,975	1,573	0.0089	2.45	0.225	0.012
May-13	115,669	1,956	307,599	49,576	1,668	0.0169	2.45	0.429	0.014
Jun-13	177,148	931	419,562	61,945	2,433	0.0053	2.37	0.350	0.014
Jul-13	74,620	572	176,753	24,514	1,317	0.0077	2.37	0.329	0.018
Aug-13	177,185	2,089	394,298	57,789	2,937	0.0118	2.23	0.326	0.017
Sep-13	76,330	703	187,776	38,542	1,285	0.0092	2.45	0.505	0.017
Oct-13	143,340	1,039	336,275	100,350	2,510	0.0072	2.35	0.700	0.018
Nov-13	150,539	1,136	367,364	119,975	2,840	0.0075	2.44	0.797	0.019
Dec-13	62,132	1,051	163,398	30,014	908	0.0169	2.45	0.483	0.015
Jan-14	117,152	1,823	305,156	54,624	3,201	0.0156	2.45	0.466	0.027
Feb-14	83,683	1,052	238,764	41,219	2,151	0.0126	2.45	0.493	0.026
Mar-14	166,272	1,421	405,268	203,419	2,304	0.0085	2.44	1.223	0.014
Apr-14	72,220	552	186,988	45,014	997	0.0077	2.45	0.623	0.014
May-14	163,037	529	451,459	22,416	1,751	0.0032	2.45	0.137	0.011
Jun-14	115,227	730	299,734	51,816	1,247	0.0063	2.45	0.450	0.011
Jul-14	144,750	1,077	352,341	33,739	1,551	0.0074	2.43	0.233	0.011
Aug-14	190,804	2,567	439,030	55,782	1,394	0.0135	2.30	0.292	0.007
Sep-14	69,421	647	165,041	24,931	656	0.0093	2.38	0.359	0.009
Oct-14	139,929	1,646	329,159	141,611	1,112	0.0118	2.35	1.012	0.008
Nov-14	154,693	529	377,612	78,540	1,326	0.0034	2.44	0.508	0.009
Dec-14	87,973	1,052	205,471	80,985	613	0.0120	2.34	0.921	0.007
Jan-15	94,363	243	204,350	184,778	537	0.0026	2.17	1.500	0.006
Feb-15	79,844	615	161,111	43,048	327	0.0077	2.02	0.539	0.004
Mar-15	95,840	1,634	220,247	32,253	1,092	0.0171	2.30	0.337	0.011
Apr-15	180,193	2,493	437,642	61,202	1,786	0.0138	2.43	0.340	0.010
May-15	78,150	1,344	176,913	21,517	1,493	0.0172	2.26	0.275	0.019
Jun-15	130,175	2,546	310,428	11,855	2,222	0.0196	2.38	0.091	0.017
Jul-15	158,630	1,742	357,113	26,253	2,256	0.0110	2.25	0.165	0.014
Aug-15	41,882	606	94,930	3,652	536	0.0145	2.27	0.087	0.013
Sep-15	134,726	1,020	336,481	24,706	1,738	0.0076	2.45	0.183	0.013
Oct-15	68,769	594	166,642	27,997	917	0.0086	2.42	0.407	0.013
Nov-15	115,576	2,005	246,817	41,448	1,480	0.0173	2.14	0.359	0.013
Dec-15	133,428	1,122	314,875	51,861	1,625	0.0084	2.36	0.389	0.012
Jan-16	43,887	68	110,762	15,697	655	0.0015	2.45	0.358	0.015
Feb-16	125,853	39	279,406	49,377	1,462	0.0003	2.22	0.392	0.012
Mar-16	98,824	161	202,379	23,162	1,197	0.0016	2.05	0.234	0.012
Apr-16	61,164	176	137,786	32,503	1,428	0.0029	2.25	0.531	0.023
May-16	175,199	1,372	326,970	70,699	3,280	0.0078	1.87	0.404	0.019
Jun-16	102,462	496	170,738	64,776	2,212	0.0048	1.67	0.632	0.022
Jul-16	56,697	174	90,778	24,054	1,316	0.0031	1.60	0.424	0.023
Aug-16	151,241	465	243,817	49,086	986	0.0031	1.61	0.325	0.007
Sep-16	56,899	407	110,484	13,759	283	0.0071	1.94	0.242	0.005
Oct-16	77,837	267	140,112	27,378	530	0.0034	1.80	0.352	0.007
Nov-16	171,089	963	324,546	69,168	1,155	0.0056	1.90	0.404	0.007
Dec-16	22,149	113	46,954	7,352	88	0.0051	2.12	0.332	0.004
Jan-17	104,165	632	201,073	48,263	652	0.0061	1.93	0.463	0.006
Feb-17	94,611	382	180,036	41,555	574	0.0040	1.90	0.439	0.006
Mar-17	89,069	215	175,433	33,830	608	0.0024	1.97	0.380	0.007
Apr-17	143,034	641	287,370	43,809	1,173	0.0045	2.01	0.306	0.008
May-17	139,451	1,323	273,843	64,024	1,128	0.0095	1.96	0.459	0.008
Jun-17	110,344	1,285	235,273	42,779	896	0.0116	2.13	0.388	0.008
Jul-17	68,405	1,565	138,439	28,028	536	0.0229	2.02	0.410	0.008
Aug-17	161,845	5,009	330,082	55,322	923	0.0309	2.04	0.342	0.006
Sep-17	65,400	432	118,028	14,242	322	0.0066	1.80	0.218	0.005
Oct-17	142,446	1,658	309,337	51,116	733	0.0116	2.17	0.359	0.005
Nov-17	89,981	1,046	176,822	30,300	362	0.0116	1.97	0.337	0.004
Dec-17	135,128	1,985	260,015	59,477	807	0.0147	1.92	0.440	0.006
Jan-18	72,672	458	145,719	34,028	293	0.0063	2.01	0.468	0.004
Feb-18	91,621	245	201,016	27,097	365	0.0027	2.19	0.296	0.004
Mar-18	102,465	550	185,931	49,649	464	0.0054	1.81	0.485	0.005
Apr-18	128,893	778	263,123	41,681	603	0.0060	2.04	0.323	0.005
May-18	79,561	758	174,766	26,490	457	0.0095	2.20	0.333	0.006
Jun-18	149,678	2,107	332,800	58,934	1,014	0.0141	2.22	0.394	0.007
Jul-18	142,589	1,309	317,752	64,114	1,207	0.0092	2.23	0.450	0.008
Aug-18	113,334	1,486	245,244	64,494	634	0.0131	2.16	0.569	0.006
Sep-18	124,007	2,200	255,481	89,380	814	0.0177	2.06	0.721	0.007
Oct-18	171,352	3,721	315,013	73,019	1,077	0.0217	1.84	0.426	0.006
Nov-18	27,869	1,012	117,873	22,013	404	0.0363	2.45	0.790	0.014
Dec-18	155,765	2,939	325,481	54,689	850	0.0189	2.09	0.351	0.005
Jan-19	133,530	2,393	265,287	43,212	1,172	0.0179	1.99	0.324	0.009
Feb-19	94,414	1,349	217,416	37,606	657	0.0143	2.30	0.398	0.007
Mar-19	51,647	532	134,758	22,821	443	0.0103	2.45	0.442	0.009
Apr-19	163,965	1,466	364,376	68,409	1,534	0.0089	2.22	0.417	0.009
May-19	140,078	1,388	274,593	56,621	1,391	0.0099	1.96	0.404	0.010
Jun-19	78,554	853	129,283	23,589	779	0.0109	1.65	0.300	0.010

1. An SO_2, NOx, CO, and VOC CEMS is used to measure emissions of the respective pollutants. The CEMS system returns calculated daily emissions on a lb/ton production or a lb/day basis. Monthly SO_2, NOx, CO, and VOC emissions are calculated as the sum of daily SO_2, NOx, CO, and VOC emissions.

2. CEMS emission factors for SO_2, NOx, CO, and VOC (lb/ton clinker produced) are calculated using the monthly clinker throughout and monthly emissions. Note - if the emission factor calculated based on CEMS data is higher than the permitted emission factor provided in FOP 223900003, Part III, A.44, Condition 3, the permitted emission factor is used in this table, per MDAQMD Rule 1600/40 CFR 52.21 and MDAQMD Rule 1310 requirements.

Table 7. Kiln Gaseous Baseline Actual Emissions Determination [1]

Period Start	24-month Time Period End	BAE Determination (tpy)				Average Clinker Production (tpy)
		SO_2	NO_x	CO	VOC	
Jul-09	Jun-11	4.2	993.8	132.3	6.4	837,469
Aug-09	Jul-11	4.1	1,042.3	136.0	6.7	877,639
Sep-09	Aug-11	4.0	1,050.9	141.4	6.5	886,876
Oct-09	Sep-11	3.4	951.4	128.4	5.4	805,641
Nov-09	Oct-11	2.6	954.8	118.9	5.2	808,469
Dec-09	Nov-11	2.7	1,034.1	129.2	6.4	873,134
Jan-10	Dec-11	2.8	1,047.5	130.1	6.6	884,081
Feb-10	Jan-12	3.1	1,139.7	148.2	7.3	959,415
Mar-10	Feb-12	2.6	1,103.6	143.5	7.0	929,889
Apr-10	Mar-12	2.7	1,093.8	147.7	6.8	921,922
May-10	Apr-12	2.8	1,112.5	150.8	6.8	937,213
Jun-10	May-12	3.3	1,128.5	162.0	6.6	950,265
Jul-10	Jun-12	4.9	1,084.4	165.9	6.6	908,845
Aug-10	Jul-12	5.5	1,076.2	166.1	6.5	902,122
Sep-10	Aug-12	6.3	1,100.2	167.7	6.7	923,565
Oct-10	Sep-12	6.9	1,170.2	172.8	7.1	980,677
Nov-10	Oct-12	7.2	1,229.4	177.8	7.4	1,029,012
Dec-10	Nov-12	7.6	1,204.9	170.3	7.4	1,009,817
Jan-11	Dec-12	8.2	1,272.7	177.2	7.7	1,065,239
Feb-11	Jan-13	8.3	1,284.2	178.1	7.8	1,074,588
Mar-11	Feb-13	8.0	1,308.9	176.6	8.1	1,091,548
Apr-11	Mar-13	7.9	1,282.7	169.5	8.1	1,064,149
May-11	Apr-13	8.1	1,298.5	168.4	8.2	1,070,418
Jun-11	May-13	8.6	1,327.4	169.5	8.5	1,089,131
Jul-11	Jun-13	8.8	1,432.3	185.0	9.1	1,177,705
Aug-11	Jul-13	8.9	1,397.4	182.9	8.9	1,149,863
Sep-11	Aug-13	9.4	1,391.7	180.7	9.2	1,151,069
Oct-11	Sep-13	9.6	1,438.5	190.4	9.5	1,189,234
Nov-11	Oct-13	9.9	1,481.0	214.3	9.8	1,226,982
Dec-11	Nov-13	10.0	1,493.6	234.0	9.3	1,237,587
Jan-12	Dec-13	10.2	1,518.3	240.6	9.3	1,257,707
Feb-12	Jan-14	10.3	1,497.7	236.1	9.4	1,240,948
Mar-12	Feb-14	10.6	1,549.0	246.4	9.9	1,282,790
Apr-12	Mar-14	10.5	1,555.2	280.3	9.9	1,288,284
May-12	Apr-14	10.5	1,573.4	286.8	10.0	1,303,167
Jun-12	May-14	10.0	1,615.4	278.4	10.1	1,337,471
Jul-12	Jun-14	8.5	1,627.5	279.7	9.9	1,347,281
Aug-12	Jul-14	7.7	1,623.0	276.7	9.9	1,344,087
Sep-12	Aug-14	7.6	1,708.7	289.1	10.1	1,418,046
Oct-12	Sep-14	7.1	1,680.0	290.2	9.8	1,395,643
Nov-12	Oct-14	7.1	1,680.5	317.6	9.7	1,398,817
Dec-12	Nov-14	6.8	1,701.2	329.7	9.7	1,415,225
Jan-13	Dec-14	6.4	1,684.7	343.1	9.5	1,403,790
Feb-13	Jan-15	6.4	1,724.4	377.6	9.6	1,441,622
Mar-13	Feb-15	6.3	1,685.6	383.7	9.3	1,417,001
Apr-13	Mar-15	6.7	1,710.5	390.7	9.4	1,440,359
May-13	Apr-15	7.0	1,741.2	398.7	9.5	1,466,183
Jun-13	May-15	6.9	1,714.6	391.7	9.4	1,447,423
Jul-13	Jun-15	7.3	1,687.3	379.2	9.4	1,423,937
Aug-13	Jul-15	7.6	1,732.4	379.6	9.6	1,465,942
Sep-13	Aug-15	7.2	1,657.6	366.1	9.0	1,398,290
Oct-13	Sep-15	7.3	1,693.3	362.6	9.1	1,427,488
Nov-13	Oct-15	7.2	1,650.9	344.5	8.7	1,390,202
Dec-13	Nov-15	7.4	1,620.8	324.9	8.4	1,372,720
Jan-14	Dec-15	7.4	1,661.5	330.4	8.6	1,408,368
Feb-14	Jan-16	7.0	1,616.6	320.6	7.9	1,371,736
Mar-14	Feb-16	6.7	1,635.2	322.7	7.8	1,392,821
Apr-14	Mar-16	6.4	1,584.4	277.6	7.5	1,359,097
May-14	Apr-16	6.3	1,574.7	274.5	7.6	1,353,568
Jun-14	May-16	6.5	1,556.5	286.5	8.0	1,359,650
Jul-14	Jun-16	6.4	1,528.7	289.8	8.2	1,353,267
Aug-14	Jul-16	6.2	1,463.3	287.4	8.2	1,309,241
Sep-14	Aug-16	5.7	1,414.5	285.7	8.1	1,289,460
Oct-14	Sep-16	5.6	1,400.8	282.9	8.0	1,283,199
Nov-14	Oct-16	5.3	1,353.6	254.3	7.8	1,252,153
Dec-14	Nov-16	5.4	1,340.3	252.0	7.8	1,260,351
Jan-15	Dec-16	5.2	1,300.7	233.6	7.6	1,227,439
Feb-15	Jan-17	5.3	1,299.8	210.3	7.7	1,232,340
Mar-15	Feb-17	5.2	1,304.6	209.9	7.7	1,239,724
Apr-15	Mar-17	4.9	1,293.4	210.3	7.6	1,236,338
May-15	Apr-17	4.4	1,255.8	205.9	7.5	1,217,759
Jun-15	May-17	4.4	1,280.0	216.6	7.4	1,248,409
Jul-15	Jun-17	4.1	1,261.2	224.3	7.0	1,238,493
Aug-15	Jul-17	4.0	1,206.6	224.7	6.6	1,193,381
Sep-15	Aug-17	5.1	1,265.4	237.7	6.7	1,253,363
Oct-15	Sep-17	5.0	1,212.4	235.0	6.4	1,218,700
Nov-15	Oct-17	5.2	1,248.0	240.8	6.3	1,255,538
Dec-15	Nov-17	5.0	1,230.5	238.0	6.0	1,242,741
Jan-16	Dec-17	5.2	1,216.8	239.9	5.8	1,243,591
Feb-16	Jan-18	5.3	1,226.4	244.5	5.7	1,257,983
Mar-16	Feb-18	5.4	1,206.8	239.0	5.5	1,240,868
Apr-16	Mar-18	5.5	1,202.7	245.6	5.3	1,242,688
May-16	Apr-18	5.6	1,234.0	247.9	5.1	1,276,553
Jun-16	May-18	5.5	1,195.9	236.8	4.4	1,228,733
Jul-16	Jun-18	5.9	1,236.4	235.4	4.1	1,252,341
Aug-16	Jul-18	6.1	1,293.2	245.4	4.0	1,295,287
Sep-16	Aug-18	6.4	1,293.5	249.2	4.0	1,276,334
Oct-16	Sep-18	6.9	1,329.8	268.1	4.1	1,309,887
Nov-16	Oct-18	7.7	1,373.5	279.5	4.2	1,356,644
Dec-16	Nov-18	7.7	1,309.5	267.7	4.0	1,285,034
Jan-17	Dec-18	8.4	1,379.1	279.6	4.2	1,351,842
Feb-17	Jan-19	8.9	1,395.1	278.3	4.4	1,366,525
Mar-17	Feb-19	9.1	1,404.5	277.3	4.4	1,366,426
Apr-17	Mar-19	9.2	1,392.3	274.6	4.3	1,347,716
May-17	Apr-19	9.4	1,411.5	280.7	4.4	1,358,181
Jun-17	May-19	9.4	1,411.7	278.9	4.5	1,358,495
Jul-17	Jun-19	9.3	1,385.2	274.1	4.5	1,342,600
24-month Annual Average BAE (tpy):		11	1,741	399	10	
Corresponding 24-Month Time Period:		Mar 2012-Feb 2014	May 2013-Apr 2015	May 2013-Apr 2015	Sep 2012-Aug 2014	
BAE Emission Factor (lb/ton):		0.017	2.375	0.544	0.014	

1. BAE calculated pursuant to MDAQMD Rule 1310 (non attainment pollutants) and Rule 1600/40 CFR 52.21 (attainment pollutants).

Table 8. Kiln Gaseous Projected Actual Emissions (PAE) [1]

Projected Clinker Production[2] (tpy)	PAE EF[3] (lb/ton clinker produced)				PAE (tpy)[3]			
	SO_2	NOx	CO	VOC	SO_2	NO_x	CO	VOC
2,200,000	0.025	2.39	0.58	0.03	28	2,629	638	33

1. PAE calculated pursuant to MDAQMD Rule 1310.E(3) and 40 CFR 52.21.
2. Projected clinker production based on the annual amount of clinker that the kiln is capable of producing.
3. PAE Emissions (tpy) = PAE Emission Factor (lb/ton) x Projected Clinker Production (ton/year) / 2000 (lb/ton)

Table 9. Kiln Gaseous Could Have Accommodated (CHA) Emissions [1]

Pollutant	Baseline Period Clinker Production[2] (tpy)	CHA Clinker Production[3] (tpy)	Emission Factor[4] (lb/ton)	CHA Emissions[5] (tons/year)
SO_2	1,282,790	917,210	0.017	7.6
NO_x	1,466,183	733,817	2.375	871.5
CO	1,466,183	733,817	0.544	199.6
VOC	1,418,046	781,954	0.014	5.6

1. CHA Emissions calculated pursuant to MDAQMD Rule 1310 and 40 CFR 52.21.
2. Refer to Table 7 for corresponding clinker production during the respective baseline period selected for the relevant pollutant.
3. CHA Clinker Production is calculated based on the difference between 2,200,000 tons per year clinker and the baseline period clinker production. The maximum monthly clinker production multiplied by 12 is greater than the projected clinker production, indicating the Kiln is capable of accommodating the CHA level of production.
4. Refer to Table 7 for BAE emission factor used in CHA emission calculations.
5. CHA Emissions (tpy) = CHA Clinker Production (ton clinker/year) x BAE Emission Factor (lb pollutant/ton clinker) / 2,000 (lb/ton)

Table 10. Reference Permit Limit Table (lb/ton Clinker) [1]

SO_2	NO_x	CO	VOC
0.13	2.45	1.5	0.06

1. Per FOP 223900003, Part III, A.44, Condition 3

Table 11. Kiln Monthly PM Emissions from July 2010 to June 2019

Month/Year	Clinker Production (ton/month)	Stack Test Emission Factors[1] (lb/ton)			Monthly Emissions[2] (lb/month)		
		PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Jul-10	164,586	0.028	0.028	0.023	4,684	4,684	3,720
Aug-10	0	0.028	0.028	0.023	0	0	0
Sep-10	0	0.028	0.028	0.023	0	0	0
Oct-10	36,912	0.028	0.028	0.023	1,051	1,051	834
Nov-10	160,268	0.028	0.028	0.023	4,561	4,561	3,623
Dec-10	0	0.028	0.028	0.023	0	0	0
Jan-11	0	0.028	0.028	0.023	0	0	0
Feb-11	95,166	0.028	0.028	0.023	2,709	2,709	2,151
Mar-11	103,922	0.028	0.028	0.023	2,958	2,958	2,349
Apr-11	116,008	0.028	0.028	0.023	3,302	3,302	2,622
May-11	78,242	0.028	0.028	0.023	2,227	2,227	1,769
Jun-11	0	0.028	0.028	0.023	0	0	0
Jul-11	130,306	0.028	0.028	0.023	3,709	3,709	2,946
Aug-11	174,772	0.028	0.028	0.023	4,974	4,974	3,951
Sep-11	0	0.028	0.028	0.023	0	0	0
Oct-11	67,844	0.037	0.037	0.027	2,517	2,517	1,836
Nov-11	129,330	0.037	0.037	0.027	4,797	4,797	3,500
Dec-11	21,894	0.037	0.037	0.027	812	812	593
Jan-12	150,669	0.037	0.037	0.027	5,589	5,589	4,078
Feb-12	0	0.037	0.037	0.027	0	0	0
Mar-12	155,284	0.037	0.037	0.027	5,760	5,760	4,203
Apr-12	42,455	0.037	0.037	0.027	1,575	1,575	1,149
May-12	94,429	0.037	0.037	0.027	3,503	3,503	2,556
Jun-12	95,607	0.037	0.037	0.027	3,546	3,546	2,588
Jul-12	151,139	0.012	0.012	0.007	1,851	1,851	1,097
Aug-12	42,885	0.012	0.012	0.007	525	525	311
Sep-12	114,226	0.012	0.012	0.007	1,399	1,399	829
Oct-12	133,582	0.012	0.012	0.007	1,636	1,636	970
Nov-12	121,876	0.012	0.012	0.007	1,493	1,493	885
Dec-12	110,844	0.012	0.012	0.007	1,358	1,358	805
Jan-13	18,698	0.012	0.012	0.007	229	229	136
Feb-13	129,087	0.012	0.012	0.007	1,581	1,581	937
Mar-13	49,124	0.012	0.012	0.007	602	602	357
Apr-13	128,546	0.012	0.012	0.007	1,574	1,574	933
May-13	115,669	0.012	0.012	0.007	1,417	1,417	840
Jun-13	177,148	0.012	0.012	0.007	2,170	2,170	1,286
Jul-13	74,620	0.015	0.015	0.011	1,129	1,129	792
Aug-13	177,185	0.015	0.015	0.011	2,681	2,681	1,881
Sep-13	76,330	0.015	0.015	0.011	1,155	1,155	810
Oct-13	143,340	0.015	0.015	0.011	2,169	2,169	1,522
Nov-13	150,539	0.015	0.015	0.011	2,278	2,278	1,598
Dec-13	62,132	0.015	0.015	0.011	940	940	660
Jan-14	117,152	0.015	0.015	0.011	1,773	1,773	1,244
Feb-14	83,683	0.015	0.015	0.011	1,266	1,266	888
Mar-14	166,272	0.015	0.015	0.011	2,516	2,516	1,765
Apr-14	72,220	0.015	0.015	0.011	1,093	1,093	767
May-14	163,037	0.015	0.015	0.011	2,467	2,467	1,731
Jun-14	115,227	0.015	0.015	0.011	1,744	1,744	1,223
Jul-14	144,750	0.015	0.015	0.011	2,190	2,190	1,537
Aug-14	190,804	0.042	0.042	0.032	8,056	8,056	6,057
Sep-14	69,421	0.042	0.042	0.032	2,931	2,931	2,204
Oct-14	139,929	0.042	0.042	0.032	5,908	5,908	4,442
Nov-14	154,693	0.042	0.042	0.032	6,531	6,531	4,910
Dec-14	87,973	0.042	0.042	0.032	3,714	3,714	2,793
Jan-15	94,363	0.042	0.042	0.032	3,984	3,984	2,995
Feb-15	79,844	0.042	0.042	0.032	3,371	3,371	2,534
Mar-15	95,840	0.042	0.042	0.032	4,046	4,046	3,042
Apr-15	180,193	0.042	0.042	0.032	7,608	7,608	5,720
May-15	78,150	0.042	0.042	0.032	3,299	3,299	2,481
Jun-15	130,175	0.042	0.042	0.032	5,496	5,496	4,132
Jul-15	158,630	0.042	0.042	0.032	6,697	6,697	5,035
Aug-15	41,882	0.028	0.028	0.017	1,162	1,162	723
Sep-15	134,726	0.028	0.028	0.017	3,737	3,737	2,326
Oct-15	68,769	0.028	0.028	0.017	1,908	1,908	1,187
Nov-15	115,576	0.028	0.028	0.017	3,206	3,206	1,995
Dec-15	133,428	0.028	0.028	0.017	3,701	3,701	2,303
Jan-16	43,887	0.028	0.028	0.017	1,217	1,217	758
Feb-16	125,853	0.028	0.028	0.017	3,491	3,491	2,173
Mar-16	98,824	0.028	0.028	0.017	2,741	2,741	1,706
Apr-16	61,164	0.028	0.028	0.017	1,697	1,697	1,056
May-16	175,199	0.028	0.028	0.017	4,860	4,860	3,025
Jun-16	102,462	0.028	0.028	0.017	2,842	2,842	1,769
Jul-16	56,697	0.028	0.028	0.017	1,573	1,573	979
Aug-16	151,241	0.052	0.052	0.030	7,826	7,826	4,504
Sep-16	56,899	0.052	0.052	0.030	2,944	2,944	1,695
Oct-16	77,837	0.052	0.052	0.030	4,028	4,028	2,318
Nov-16	171,089	0.052	0.052	0.030	8,853	8,853	5,095
Dec-16	22,149	0.052	0.052	0.030	1,146	1,146	660
Jan-17	104,165	0.052	0.052	0.030	5,390	5,390	3,102
Feb-17	94,611	0.052	0.052	0.030	4,896	4,896	2,818
Mar-17	89,069	0.052	0.052	0.030	4,609	4,609	2,653
Apr-17	143,034	0.052	0.052	0.030	7,401	7,401	4,260
May-17	139,451	0.052	0.052	0.030	7,216	7,216	4,153
Jun-17	110,344	0.019	0.019	0.015	2,135	2,135	1,650
Jul-17	68,405	0.019	0.019	0.015	1,324	1,324	1,023
Aug-17	161,845	0.019	0.019	0.015	3,132	3,132	2,420
Sep-17	65,400	0.019	0.019	0.015	1,266	1,266	978
Oct-17	142,446	0.019	0.019	0.015	2,756	2,756	2,130
Nov-17	89,981	0.019	0.019	0.015	1,741	1,741	1,345
Dec-17	135,128	0.019	0.019	0.015	2,615	2,615	2,020
Jan-18	72,672	0.019	0.019	0.015	1,406	1,406	1,087
Feb-18	91,621	0.019	0.019	0.015	1,773	1,773	1,370
Mar-18	102,465	0.019	0.019	0.015	1,983	1,983	1,532
Apr-18	128,893	0.019	0.019	0.015	2,494	2,494	1,927
May-18	79,561	0.009	0.009	0.007	734	734	545
Jun-18	149,678	0.009	0.009	0.007	1,382	1,382	1,025
Jul-18	142,589	0.009	0.009	0.007	1,316	1,316	977
Aug-18	113,334	0.009	0.009	0.007	1,046	1,046	776
Sep-18	124,007	0.009	0.009	0.007	1,145	1,145	850
Oct-18	171,352	0.009	0.009	0.007	1,582	1,582	1,174
Nov-18	27,869	0.009	0.009	0.007	257	257	191
Dec-18	155,765	0.009	0.009	0.007	1,438	1,438	1,067
Jan-19	133,530	0.009	0.009	0.007	1,233	1,233	915
Feb-19	94,414	0.009	0.009	0.007	872	872	647
Mar-19	51,647	0.009	0.009	0.007	477	477	354
Apr-19	163,965	0.009	0.009	0.007	1,514	1,514	1,123
May-19	140,078	0.009	0.009	0.007	1,293	1,293	960
Jun-19	78,554	0.009	0.009	0.007	725	725	538

1. Emission Factor (lb/ton) = Fraction of Raw Mill ON x Emission Rate Raw Mill ON (lb/ton) + Fraction of Raw Mill OFF x Emission Rate Raw Mill OFF (lb/ton)
2. Monthly Emission (lb/month) = Emission Factor (lb/ton) x Clinker Produced (ton/month)

Table 12. Kiln PM Baseline Actual Emissions Determination (BAE) [1]

Period Start	24-month Time Period End	BAE Emissions Determination (tpy)			Clinker Produced (ton)
		PM	PM_{10}	$PM_{2.5}$	
Jul-10	Jun-12	14.57	14.57	11.12	908,845.39
Aug-10	Jul-12	13.86	13.86	10.46	902,121.88
Sep-10	Aug-12	13.99	13.99	10.54	923,564.56
Oct-10	Sep-12	14.34	14.34	10.75	980,677.36
Nov-10	Oct-12	14.49	14.49	10.78	1,029,012.26
Dec-10	Nov-12	13.72	13.72	10.10	1,009,816.67
Jan-11	Dec-12	14.06	14.06	10.30	1,065,238.76
Feb-11	Jan-13	14.12	14.12	10.33	1,074,587.73
Mar-11	Feb-13	13.83	13.83	10.03	1,091,547.81
Apr-11	Mar-13	13.25	13.25	9.53	1,064,148.76
May-11	Apr-13	12.81	12.81	9.11	1,070,418.09
Jun-11	May-13	12.61	12.61	8.87	1,089,131.42
Jul-11	Jun-13	13.15	13.15	9.20	1,177,705.49
Aug-11	Jul-13	12.51	12.51	8.66	1,149,862.80
Sep-11	Aug-13	11.94	11.94	8.14	1,151,069.22
Oct-11	Sep-13	12.22	12.22	8.34	1,189,234.13
Nov-11	Oct-13	12.14	12.14	8.26	1,226,982.48
Dec-11	Nov-13	11.51	11.51	7.79	1,237,587.22
Jan-12	Dec-13	11.54	11.54	7.80	1,257,706.55
Feb-12	Jan-14	10.59	10.59	7.10	1,240,948.25
Mar-12	Feb-14	10.90	10.90	7.32	1,282,789.73
Apr-12	Mar-14	10.09	10.09	6.71	1,288,283.75
May-12	Apr-14	9.97	9.97	6.61	1,303,166.64
Jun-12	May-14	9.71	9.71	6.41	1,337,470.50
Jul-12	Jun-14	9.26	9.26	6.07	1,347,280.95
Aug-12	Jul-14	9.35	9.35	6.18	1,344,086.68
Sep-12	Aug-14	11.23	11.23	7.61	1,418,045.81
Oct-12	Sep-14	11.61	11.61	7.96	1,395,643.45
Nov-12	Oct-14	12.68	12.68	8.82	1,398,817.03
Dec-12	Nov-14	13.94	13.94	9.83	1,415,225.34
Jan-13	Dec-14	14.53	14.53	10.33	1,403,789.83
Feb-13	Jan-15	15.47	15.47	11.04	1,441,622.18
Mar-13	Feb-15	15.91	15.91	11.44	1,417,000.80
Apr-13	Mar-15	16.78	16.78	12.11	1,440,359.02
May-13	Apr-15	18.28	18.28	13.31	1,466,182.52
Jun-13	May-15	18.75	18.75	13.72	1,447,423.12
Jul-13	Jun-15	19.59	19.59	14.43	1,423,936.75
Aug-13	Jul-15	20.98	20.98	15.49	1,465,941.63
Sep-13	Aug-15	20.60	20.60	15.20	1,398,289.96
Oct-13	Sep-15	21.24	21.24	15.58	1,427,488.16
Nov-13	Oct-15	21.18	21.18	15.50	1,390,202.28
Dec-13	Nov-15	21.41	21.41	15.60	1,372,720.45
Jan-14	Dec-15	22.10	22.10	16.01	1,408,368.02
Feb-14	Jan-16	21.96	21.96	15.89	1,371,735.75
Mar-14	Feb-16	22.52	22.52	16.21	1,392,820.55
Apr-14	Mar-16	22.57	22.57	16.19	1,359,096.51
May-14	Apr-16	22.73	22.73	16.27	1,353,568.49
Jun-14	May-16	23.32	23.32	16.59	1,359,649.93
Jul-14	Jun-16	23.60	23.60	16.73	1,353,267.41
Aug-14	Jul-16	23.44	23.44	16.59	1,309,241.00
Sep-14	Aug-16	23.39	23.39	16.20	1,289,459.67
Oct-14	Sep-16	23.39	23.39	16.07	1,283,198.96
Nov-14	Oct-16	22.92	22.92	15.54	1,252,153.12
Dec-14	Nov-16	23.50	23.50	15.59	1,260,351.19
Jan-15	Dec-16	22.86	22.86	15.05	1,227,439.17
Feb-15	Jan-17	23.21	23.21	15.08	1,232,340.36
Mar-15	Feb-17	23.59	23.59	15.15	1,239,724.09
Apr-15	Mar-17	23.73	23.73	15.05	1,236,338.44
May-15	Apr-17	23.68	23.68	14.69	1,217,758.61
Jun-15	May-17	24.66	24.66	15.11	1,248,409.09
Jul-15	Jun-17	23.82	23.82	14.49	1,238,493.36
Aug-15	Jul-17	22.48	22.48	13.48	1,193,380.87
Sep-15	Aug-17	22.97	22.97	13.91	1,253,362.81
Oct-15	Sep-17	22.35	22.35	13.57	1,218,699.70
Nov-15	Oct-17	22.56	22.56	13.81	1,255,538.29
Dec-15	Nov-17	22.20	22.20	13.64	1,242,740.93
Jan-16	Dec-17	21.93	21.93	13.57	1,243,590.98
Feb-16	Jan-18	21.97	21.97	13.65	1,257,983.24
Mar-16	Feb-18	21.54	21.54	13.45	1,240,867.51
Apr-16	Mar-18	21.35	21.35	13.41	1,242,688.32
May-16	Apr-18	21.55	21.55	13.63	1,276,552.65
Jun-16	May-18	20.52	20.52	13.01	1,228,733.36
Jul-16	Jun-18	20.16	20.16	12.82	1,252,341.12
Aug-16	Jul-18	20.09	20.09	12.82	1,295,286.98
Sep-16	Aug-18	18.40	18.40	11.89	1,276,333.52
Oct-16	Sep-18	17.95	17.95	11.68	1,309,887.12
Nov-16	Oct-18	17.34	17.34	11.39	1,356,644.42
Dec-16	Nov-18	15.19	15.19	10.17	1,285,034.34
Jan-17	Dec-18	15.26	15.26	10.27	1,351,842.36
Feb-17	Jan-19	14.22	14.22	9.72	1,366,525.01
Mar-17	Feb-19	13.21	13.21	9.18	1,366,426.43
Apr-17	Mar-19	12.18	12.18	8.60	1,347,715.56
May-17	Apr-19	10.71	10.71	7.82	1,358,181.24
Jun-17	May-19	9.23	9.23	7.02	1,358,494.61
Jul-17	Jun-19	8.88	8.88	6.74	1,342,599.56
24-month Annual Average BAE (tpy):		24.7	24.7	16.7	
Corresponding 24-Month Time Period:		Jun-15-May-17	Jun-15-May-17	Jul-14-Jun-16	
Emission Factor (lb/ton):		0.040	0.040	0.025	

1. BAE calculated pursuant to MDAQMD Rule 1310 and Rule 1600/40 CFR 52.21.

Table 13. Projected Actual Emissions of Kiln [1]

Projected Clinker Production[2] (tpy)	PAE Emission Factors (lb/ton)			PAE[3] (tpy)		
	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
2,200,000	0.041	0.041	0.026	45.10	45.10	28.22

1. PAE calculated pursuant to MDAQMD Rule 1310 (non attainment pollutants) and Rule 1600/40 CFR 52.21 (attainment pollutants).
2. Projected clinker production based on the annual amount of clinker that the kiln is capable of producing.
3. PAE Emissions (tpy) = PAE Emission Factor (lb/ton) x Projected Clinker Production (ton/year) / 2000 (lb/ton)

Table 14. PM Speciation Factors for a Dry Kiln Controlled by a Fabric Filter

Pollutant	Mass Percent Speciation of PM[1]
$PM_{2.5}$	0.45

1. AP 42 Chapter 11.6 Table 11.6-5

Table 15. Kiln PM Could Have Accommodated (CHA) Emissions

Pollutant	Baseline Period Clinker Production[2] (tpy)	Could Have Accommodated (CHA) Clinker Production[3] (tpy)	Emission Factor[4] (lb/ton)	Emissions[5] (tons/year)
PM	1,248,409	951,591	0.040	18.8
PM_{10}	1,248,409	951,591	0.040	18.8
$PM_{2.5}$	1,353,267	846,733	0.025	10.5

1. CHA emissions calculated pursuant to MDAQMD Rule 1310.E(3) (non-attainment pollutants) and 40 CFR 52.21 (attainment pollutants).
2. Refer to Table 12 for corresponding clinker production during the respective baseline period selected for the relevant pollutant.
3. CHA Clinker Production is calculated based on the difference between 2,200,000 tons per year clinker and the baseline period clinker production. The maximum monthly clinker production multiplied by 12 is greater than the projected clinker production, indicating the Kiln is capable of accommodating the CHA level of production.
4. Refer to Table 12 for BAE emission factor used in CHA emission calculations.
5. CHA Emissions (tpy) = CHA Clinker Production (ton clinker/year) x BAE Emission Factor (lb pollutant/ton clinker) / 2,000 (lb/ton)

Table 16. New Baghouse Parameters

Process	Baghouse Equipment ID	Flow Rate[1] (acfm)	Temperature[2] (Fahrenheit)	Temperature[3] (Rankine)	Pressure[4] (inHg)	Flow Rate[5] (dscfm)	Maximum Outlet Grain Loading[6] (gr/dscf)
Coke Handling System	231BF301	4,500	70	530	26.82	3,851	0.005
	231BF302	4,500	70	530	26.82	3,851	0.005
	461BF301	6,000	70	530	26.82	5,134	0.005
Silo-Cement Storage	611BF015	7,875	135	595	26.82	6,002	0.005
	611BF016	5,616	150	610	26.82	4,175	0.005
	611BF017	7,875	135	595	26.82	6,002	0.005
Alternate Fuel Handling System	Baghouse 1	5,000	70	530	26.82	4,279	0.005
	Baghouse 2	5,000	70	530	26.82	4,279	0.005
	Baghouse 3	5,000	70	530	26.82	4,279	0.005
	Baghouse 4	5,000	70	530	26.82	4,279	0.005
	Baghouse 5	5,000	70	530	26.82	4,279	0.005

1. Baghouse flow rates are from the Flow Diagrams provided in Appendix C.
2. Baghouse temperatures provided in Appendix A. Silo-Cement Storage baghouse temperatures from FOP 223900003.
3. Temperature (R) = Temperature (F) + 459.67
4. Pressure (inHg) from 2016 Comprehensive Emission Inventory (CEIR) and based on actual site atmospheric conditions
5. Flow Rate (dscfm) = Flow Rate (acfm) x (Standard Temperature (Rankine) / Actual Exhaust Temperature (Rankine)) x (Actual Pressure (inHg) / Standard Pressure (inHg)) x (1 - Moisture of Ambient Air (%) / 100)

Standard Pressure (inHg)	29.92
Standard Temperature (Rankine)	519.67
Moisture Content Ambient Air (%)	2.7

6. Based on baghouse BACT limit established by MDAQMD in Finish Mill 2 Project.

Table 17. New Baghouse Hourly Emissions

Process	Baghouse Equipment ID	PM Emissions[1] (lb/hr)	PM_{10} Emissions[1] (lb/hr)	$PM_{2.5}$ Emissions[1] (lb/hr)
Coke Handling System	231BF301	0.17	0.058	0.0087
	231BF302	0.17	0.058	0.0087
	461BF301	0.22	0.077	0.0117
Silo-Cement Storage	611BF015	0.26	0.237	0.1595
	611BF016	0.18	0.165	0.1109
	611BF017	0.26	0.237	0.1595
Alternate Fuel Handling System	Baghouse 1	0.18	0.090	0.0135
	Baghouse 2	0.18	0.090	0.0135
	Baghouse 3	0.18	0.090	0.0135
	Baghouse 4	0.18	0.090	0.0135
	Baghouse 5	0.18	0.090	0.0135

1. Emissions (lb/hr) = Grain Loading (gr/scf) x Flow Rate (scfm) x 60 (min/hr) / 7,000 (gr/lb)

Table 18. PM Speciation Factors for Petroleum Coke, Cement, and Biosolids

PM Speciation with respect to Total PM	Coke[1]	Cement[2]	Biosolids[3]
Weight Fraction of $PM_{2.5}$	0.053	0.62	0.0734
Weight Fraction of PM_{10}	0.35	0.92	0.49
Weight Fraction of PM	1.00	1.00	1.00

1. Nevada Division of Environmental Protection, Bureau of Air Pollution Control, *Guidance on Emission Factors for the Mining Industry.* May 31, 2017.
2. Yang, Wenli. *PM Size and Chemical Speciation Profile for Concrete Batching - PM3431.* Air Resources Board. October 22, 2013.
3. California Air Resources Board speciation profile 421, for SCC 50400301, Open Refuse Stockpile

Table 19. New Baghouse Potential to Emit

Process	Baghouse Equipment ID	Annual Operating Hours (hr/year)	PTE		
			PM Emissions[1] (tpy)	PM_{10} Emissions[1] (tpy)	$PM_{2.5}$ Emissions[1] (tpy)
Coke Handling System	231BF301	8,760	0.72	0.25	0.04
	231BF302	8,760	0.72	0.25	0.04
	461BF301	8,760	0.96	0.34	0.05
Silo-Cement Storage	611BF015	8,760	1.13	1.04	0.70
	611BF016	8,760	0.78	0.72	0.49
	611BF017	8,760	1.13	1.04	0.70
Alternate Fuel Handling System	Baghouse 1	8,760	0.80	0.39	0.06
	Baghouse 2	8,760	0.80	0.39	0.06
	Baghouse 3	8,760	0.80	0.39	0.06
	Baghouse 4	8,760	0.80	0.39	0.06
	Baghouse 5	8,760	0.80	0.39	0.06
		Total PTE (tpy):	9.46	5.61	2.31

1. PTE (tpy) = Hourly Emissions (lb/hr) x Annual Operating Hours (hr/yr)/ 2000 (lb/ton)

Table 20. Baghouse to be Shutdown Parameters

Process	Baghouse Equipment ID	Flow Rate[1] (acfm)	Temperature[1] (Fahrenheit)	Temperature[2] (Rankine)	Pressure[3] (inHg)	Flow Rate[4] (dscfm)	Maximum Outlet Grain Loading[1] (gr/dscf)
Silo-Cement Storage	611BF015	7,875	135	595	26.82	6,002	0.1
	611BF016	5,616	150	610	26.82	4,175	0.1
	611BF017	7,875	135	595	26.82	6,002	0.1

1. Baghouse flow rate is from Federal Operating Permit #223900003, revised on August 31, 2018.
2. Temperature (R) = Temperature (F) + 459.67
3. Pressure (inHg) from 2016 Comprehensive Emission Inventory (CEIR) and based on actual site atmospheric conditions
4. Flow Rate (dscfm) = Flow Rate (acfm) x (Standard Temperature (Rankine) / Actual Exhaust Temperature (Rankine)) x (Actual Pressure (inHg) / Standard Pressure (inHg)) x (1 - Moisture of Ambient Air (%)/100)

Standard Pressure (inHg)	29.92
Standard Temperature (Rankine)	519.67
Moisture Content Ambient Air (%)	2.7

Table 21. Potential to Emit of Baghouses to be Shutdown

Process	Baghouse Equipment ID	PM Emissions[1] (lb/hr)	PM_{10} Emissions[1] (lb/hr)	$PM_{2.5}$ Emissions[1] (lb/hr)	PM Emissions[1] (tpy)	PM_{10} Emissions[1] (tpy)	$PM_{2.5}$ Emissions[1] (tpy)
Silo-Cement Storage	611BF015	5.14	4.73	3.19	22.53	20.73	13.97
	611BF016	3.58	3.29	2.22	15.67	14.42	9.72
	611BF017	5.14	4.73	3.19	22.53	20.73	13.97

1. Emissions (lb/hr) = Grain Loading (gr/scf) x Flow Rate (scfm) x 60 (min/hr) / 7,000 (gr/lb)

Table 22. PM Speciation Factors

PM Speciation with respect to Total PM[1]	
Weight Fraction of $PM_{2.5}$	0.62
Weight Fraction of PM_{10}	0.92
Weight Fraction of PM	1.00

1. Yang, Wenli. *PM Size and Chemical Speciation Profile for Concrete Batching - PM3431.* Air Resources Board. October 22, 2013.

Table 23. PM Annual Emissions of Baghouses to be Shutdown

Year	Annual Operating Hours[2] (hr/yr)	PM Annual Emissions[1] (tpy)			PM_{10} Annual Emissions[1] (tpy)			$PM_{2.5}$ Annual Emissions[1] (tpy)		
		Baghouse 611BF015	Baghouse 611BF016	Baghouse 611BF017	Baghouse 611BF015	Baghouse 611BF016	Baghouse 611BF017	Baghouse 611BF015	Baghouse 611BF016	Baghouse 611BF017
2017	8,492	21.8	15.2	21.8	20.1	14.0	20.1	13.54	9.42	13.54
2018	8,492	21.8	15.2	21.8	20.1	14.0	20.1	13.54	9.42	13.54
2019	4,320	11.1	7.7	11.1	10.2	7.1	10.2	6.89	4.79	6.89

1. $PM/PM_{10}/PM_{2.5}$ Annual Emissions (tpy) = $PM/PM_{10}/PM_{2.5}$ Emissions (lb/hr) x Annual Operating Hours (hr/yr)/2000 (lb/ton)
2. 2019 Operating hours assume continuous operation from January through June. 180 Days, 24 hours each.

Table 24. Historical Actual Emissions (HAE) of Baghouses to be Shutdown [1]

Baghouse Equipment ID	PM[4] (tpy)			PM_{10}[4] (tpy)			$PM_{2.5}$[4] (tpy)		
	Year 1[2]	Year 2[3]	Average	Year 1[2]	Year 2[3]	Average	Year 1[2]	Year 2[3]	Average
611BF015	21.8	22.0	21.9	20.1	20.3	20.2	13.5	13.7	13.6
611BF016	15.2	15.3	15.3	14.0	14.1	14.0	9.4	9.5	9.5
611BF017	21.8	22.0	21.9	20.1	20.3	20.2	13.5	13.7	13.6

1. HAE calculated pursuant to MDAQMD Rule 1304(D)(2)(a)(i).
2. Year 1 is July 2017 to June 2018.
3. Year 2 is July 2018 to June 2019.
4. It is assumed that annual emissions are split evenly between the months in order to estimate the emissions from Year 1 and Year 2.

Table 25. Fugitive Emissions Comparison

Material	Heating Valve[1, 2] (Btu/ton)	Mass (ton)	Heat[3] (Btu)	Moisture Content[4, 5, 6, 7, 8, 9] (%)	Mean Wind Speed[10] (mph)	Emission Factors[11, 12]			Unit Emission Rate[13]		
						PM (lb/ton)	PM_{10} (lb/ton)	$PM_{2.5}$ (lb/ton)	PM (lb/ton equivalent)	PM_{10} (lb/ton equivalent)	$PM_{2.5}$ (lb/ton equivalent)
Coal	24,034,000	1.00	24,034,000	8.15	7.7	5.81E-04	2.75E-04	4.16E-05	5.81E-04	2.75E-04	4.16E-05
Coke	28,526,000	0.84	24,034,000	7.34	7.7	6.72E-04	3.18E-04	4.82E-05	5.67E-04	2.68E-04	4.06E-05
Tires (Whole and Chipped)	28,000,000	0.86	24,034,000	N/A	7.7	0	0	0	0	0	0
Wood/cardboard/paper	16,081,600	1.49	24,034,000	8	7.7	5.96E-04	2.82E-04	4.27E-05	8.91E-04	4.21E-04	6.38E-05
Biosolids	10,390,000	2.31	24,034,000	5.6	7.7	9.82E-04	4.64E-04	7.03E-05	2.27E-03	1.07E-03	1.63E-04
Yard waste/Ag. Byproducts	8,250,000	2.91	24,034,000	29.84	7.7	9.44E-05	4.46E-05	6.76E-06	2.75E-04	1.30E-04	1.97E-05
Dust Collector Bags	N/A	N/A	N/A	N/A	7.7	0	0	0	0	0	0
Alternate Fuel with Maximum Unit Emission Rate			Biosolids						2.27E-03	1.07E-03	1.63E-04

1. Coal and Coke heating values from May 2016 Standard Laboratories Coal and Coke Analysis, provided in Appendix D.
2. Remaining fuel heating values from 40 CFR 98 Table C-1
3. Heat (Btu) = Heating Value (Btu/ton) x Mass (ton)
4. Coal and Coke Moisture Contents from May 2016 Standard Laboratories Coal and Coke Analysis, provided in Appendix D.
5. Coal and Coke Moisture Contents from May 2016 Standard Laboratories Coal and Coke Analysis, provided in Appendix D.
6. Tire and dust collector bag moisture contents not included - fugitive emissions are not expected from dust collector bag or whole and chipped tire material handling.
7. Wood moisture obtained from https://www.woodproducts.fi/content/moisture-properties-wood
8. Biosolids moisture obtained from https://www.mdpi.com/1996-1073/12/1/60/pdf
9. Yard Waste/Ag Byproducts moisture obtained from https://www.researchgate.net/publication/268510596_Physical_and_chemical_characterization_of_yard_waste
10. Mean wind speed comes from MDAQMD Mineral Industry Emission Inventory Guidance.
11. Emission Factors (lb/ton) = Particle Size Multiplier x 0.0032 x (Mean Wind Speed (mph)/5)^1.3 / (Material Moisture Content (%)/2)^1.4 per AP-42 Chapter 13.2.4, Equation 1.
12. Emissions are not expected from whole or chipped tires or dust collector bags
13. Particulate Unit Emission Rate Emissions (lb/ton equivalent) = Emission Factor (lb/ton) x Equivalent Mass (tons)

Table 26. Particle Size Multiplier [1]

PM	PM_{10}	$PM_{2.5}$
0.74	0.35	0.053

1. Particle Size Multiplier from AP-42 Section 13.2.4 Aggregate Handling and Storage Piles page 13.2.4-4.

Table 27. MSB Stockpile Coke to Coal Comparison [1]

Material	Mass[2] (ton)
Coal	20,744
Coke	17,478

1. Calculation of the amount of coke needed to create the same amount of heat as produced by the maximum coal stockpile size.
2. Heating-equivalent mass of coke calculated by multiplying the coal mass by the ratio of coal and coke heating values.

Table 28. Determination of New Drop Emission Factors

Drop Description	Inputs		Transfer Properties			Emission Factors[5]			Emissions[6]		
	Throughput Basis	Mean Wind Speed[1] (mph)	Material Moisture Content[2] (%)	Maximum Throughput[3] (tph)	Control Efficiency[4] (%)	PM (lb/ton)	PM_{10} (lb/ton)	$PM_{2.5}$ (lb/ton)	PM (lb/hr)	PM_{10} (lb/hr)	$PM_{2.5}$ (lb/hr)
Coke Front Loader Drop	Tons of Coke Used	7.7	7.34	42.13	0	6.72E-04	3.18E-04	4.82E-05	2.83E-02	1.34E-02	2.03E-03
Floor Truck Drop (x2)[7]	Tons of Fuel	7.7	5.6	115.66	0	9.82E-04	4.64E-04	7.03E-05	2.27E-01	1.07E-01	1.63E-02

1. Mean wind speed comes from MDAQMD Mineral Industry Emission Inventory Guidance.
2. Material Moisture Content comes from 2016 April Coal & Coke Grabs.pdf provided by CalPortland.
3. Assuming a Coal Maximum throughput of 50 tph, and corrected for higher heating content as compared to Coal (for alternate fuel, biosolids is assumed to be conservative).
4. Assuming a Control Efficiency of 0%.
5. Emission Factors (lb/ton) = Particle Size Multiplier x 0.0032 x (Mean Wind Speed (mph)/5)^1.3 / (Material Moisture Content (%)/2)^1.4 per AP-42 Chapter 13.2.4, Equation 1.
6. Particulate Emissions (lb/hr) = Emission Factor (lb/ton) x Maximum Throughput (tph) x (1-Control Efficiency/100)
7. The alternate fuel with the highest unit emission rate per ton throughput selected as the representative fuel for fugitve emissions, in this case biosolids. Assuming two drop points.

Table 29. New Drop Potential to Emit

Drop Description	Annual Hours (hr)	PTE (tpy)[1]		
		PM	PM_{10}	$PM_{2.5}$
Coke Front Loader Drop	8,760	1.24E-01	5.87E-02	8.89E-03
Floor Truck Drop (x2)	8,760	9.95E-01	4.71E-01	7.13E-02

1. PTE (tpy) = Emissions (lb/hr) x Annual Hours of Operation (hr) / (2,000 lb/ton)

Table 30. MSB Coke and Coal Stockpile Parameters

Material	Coal[1]	Coke[2]
Silt %	6	21.2
Control Efficiency[1] (%)	50	50

1. 50% control efficieny is from CalPortland 2018 CEIR.
2. Silt % from *City of Chicago Fugitive Dust Study* Table 2-1 Characteristics of Bulk Materials

Table 31. Particulate Aerodynamic Factor for Stockpiles [1]

PM	PM_{10}	$PM_{2.5}$
1.0	0.50	0.20

1. 2013 *MDAQMD Emission Inventory Guidance Mineral Handling and Processing Industries Section G*

Table 32. Meteorological Data [1]

Number of Days with Precipitation > 0.01 in	Percentage of Time with Wind Speed > 12 mph (%)
30	13.3

1. Meteorological Data come from Rows 85 and 86 of the Reference tab of the 2016 CEIR spreadsheet

Table 33. MSB Coal and Coke Stockpile Dimensions and Pile Parameters

Stockpile	Monthly Maximum Amount (ton)	Density[1] (lb/ft^3)	Volume (ft^3)	Maximum Pile Height[2] (ft)	Maximum Length[2] (ft)	Maximum Pile Width[2] (ft)	Maximum Monthly Pile Exposed Surface Area[3] (ft^2)	Maximum Monthly Pile Exposed Surface Area (acre)
Coal MSB	20,744	50	829,764	37	648	110	89,978	2.07
Coke MSB	20,744	50	829,764	37	648	110	89,978	2.07

1. City of Chicago Fugitive Dust Study Table 2-1 Characteristics of Bulk Materials

2. Maximum pile height, length, and width estimated from 8/29/18 Firmatek Report for the Coal MSB, as this is the Firmatek report with the maximum coal volume, which would maximize fugitive emissions. The Coke MSB pile dimensions were estimated using the MSB Coal stock pile dimensions in the 9/28/2018 Firmatek report.

3. Exposed Surface Area is estimated as the surface area of a triangular prism.

Table 34. MSB Coal and Coke Stockpile Potential to Emit

Stockpile	Emission Factor (ton/acre)[1]			Emissions (tpy)[2]		
	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Coal MSB	1.57	0.78	0.31	1.62	0.81	0.32
Coke MSB	5.54	2.77	1.11	5.72	2.86	1.14

1. Emission Factor (ton/acre) = Particulate Aerodynamic Factor x 1.7 x Silt Loading (%) / 1.5 x (365 days - Number of Rain Days) / 235 x Percentage of Strong Wind Days / 15 x 365 / 2000, per 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G

2. PM Emissions (tpy) = Emission Factor (ton/acre) x Maximum Exposed Surface Area (acres) x (1 - Control Efficiency (%) / 100) per 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G

Table 35. Portable Limestone Crushing and Screening Operations

Equipment	Throughputs (ton/hr)	Annual Hours (hr/yr)	Throughputs (tpy)	Emission Factor[1] (lb/ton)			Total Emissions[2] (lb/hr)			Total Emissions[3] (tpy)		
				PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Crusher #1	360	2,080	748,800	0.0012	0.00054	0.0001	0.43	0.19	0.04	0.45	0.20	0.04
Crusher #2	180	2,080	374,400	0.0012	0.00054	0.0001	0.22	0.10	0.02	0.22	0.10	0.02
Screener	540	2,080	1,123,200	0.0022	0.00074	0.00005	1.19	0.40	0.03	1.24	0.42	0.03
						Total	1.84	0.69	0.08	1.91	0.72	0.08

1. Emission factor for crusher and screener operations are from Table 11.19.2-2, AP-42 Section 11.19 for the Mineral Products Industry. Assumed controlled per water sprays that will be utilized.
2. Particulate Emissions (lb/hr) = Emission Factor (lb/ton) x Maximum Throughput (tph)
3. PTE (tpy) = Hourly Emissions (lb/hr) x Annual Operating Hours (hr/yr)/ 2000 (lb/ton). Use of material crushing and transfer operations will not exceed 40 hours/week

Table 36. Portable Limestone Material Handling Operations

Throughputs (ton/hr)	Throughputs (tpy)	Number of Drop Points[1]	Conveyor Cover Control Efficiency	Water-Spray Control Efficiency[2]	Emission Factors[3] (lb/ton)			Total Emissions[4] (lb/hr)			Total Emissions[5] (tpy)		
					PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
180	374,400	4	0%	75%	0.006	0.003	0.001	1.02	0.50	0.15	1.06	0.52	0.16
360	748,800	11	0%	75%	0.006	0.003	0.001	5.62	2.73	0.83	5.84	2.84	0.87
540	1,123,200	1	0%	75%	0.006	0.003	0.001	0.77	0.37	0.11	0.80	0.39	0.12
							Total	7.40	3.60	1.10	7.70	3.75	1.14

1. The PFD for the Limestone Crushing Operation shows the drop points for the crushed material and the mass flow at each drop point, as provided in Appendix C.
2. Water spray has a control efficiency of 75% at the point of application. Control efficiencies from Section E of MDAQMD Emission Inventory Guidance for Mineral Handling and Processing Industries.
3. Emission Factors (lb/ton) = Particle Size Multiplier x 0.0032 x (Mean Wind Speed (mph)/5)^1.3 / (Material Moisture Content (%)/2)^1.4 per AP-42 Chapter 13.2.4, Equation 1.

Wind Speed 7.7 mph

Moisture Content from 2018 CEIR 1.60 w/w%

Particulate Size Multipliers:

PM	PM_{10}	$PM_{2.5}$
0.74	0.36	0.11

4. Particulate Emissions (lb/hr) = Emission Factor (lb/ton) x Maximum Throughput (tph) x (1-Conveyor Cover Control Efficiency/100) x (1-Water Spray Control Efficiency/100)
5. PTE (tpy) = Hourly Emissions (lb/hr) x Annual Operating Hours (hr/yr)/ 2000 (lb/ton). Use of material crushing and transfer operations will not exceed 40 hours/week

Table 37. Portable Limestone Stockpile Parameters

Material	Silt %[1]	Control Efficiency %[2]	Number of Days with Precipitation > 0.01 in[3]	Percentage of Time with Wind Speed > 12 mph (%)[3]	Maximum Monthly Pile Exposed Surface Area[4] (ft^2)	Maximum Monthly Pile Exposed Surface Area (acre)
Limestone	15	50	20	13.3	15,175	0.35

1. Silt % from CalPortland 2018 CEIR.
2. 50% control efficiency assumed from use of water sprays.
3. Conservative days with precipitation and windy hours default from 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G.
4. Assumed maximum monthly stockpile area equal to I-Lime stockpile area max from CalPortland 2018 CEIR.

Table 38. Particulate Aerodynamic Factor for Stockpiles[1]

PM	PM_{10}	$PM_{2.5}$
1.0	0.50	0.20

1. 2013 *MDAQMD Emission Inventory Guidance Mineral Handling and Processing Industries Section G.*

Table 39. Portable Limestone Stockpile Potential to Emit

Stockpile	Emission Factor (ton/acre-year)[1]			Emissions (tpy)[2]		
	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Limestone Pile	4.04	2.02	0.81	0.70	0.35	0.14

1. Emission Factor (ton/acre) = Particulate Aerodynamic Factor x 1.7 x Silt Loading (%) / 1.5 x (365 days - Number of Rain Days) / 235 x Percentage of Strong Wind Days / 15 x 365 / 2000, per 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G

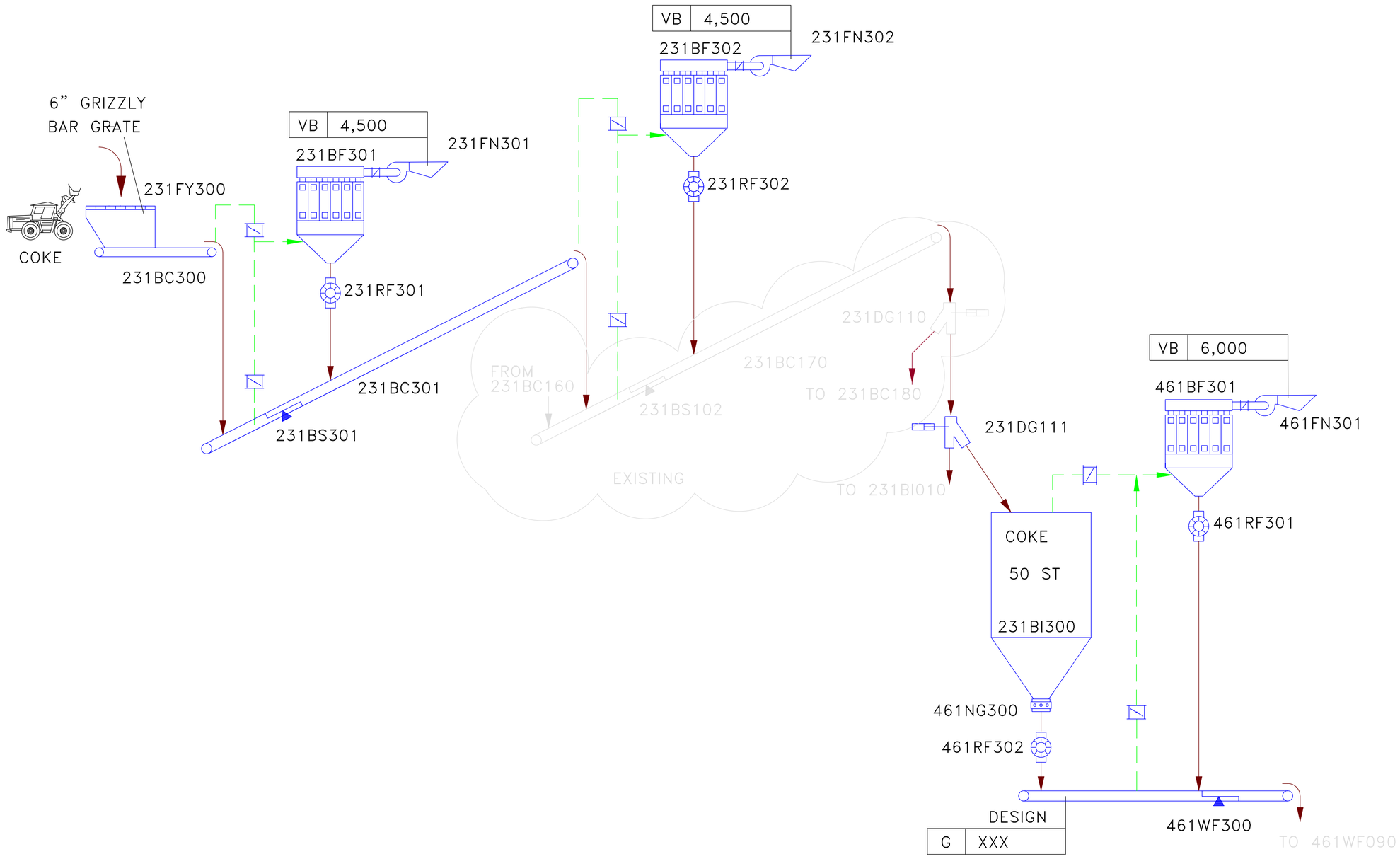
2. PM Emissions (tpy) = Emission Factor (ton/acre-year) x Maximum Exposed Surface Area (acres) x (1 - Control Efficiency (%) / 100) per 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G

Table 40. Emission Offsets

Emissions	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
Emission Increase[1]	26	14	5
Emission Reduction[2]	61	55	37
Offsets[3]	-34	-41	-32
Additional Offsets Required?	No	No	No

1. Emission Increase = PTE of New Emission Sources (Including baghouses, drops, stock piles, limestone crushing plant and associated emissions)
2. Emission Reduction = HAE of shutdown baghouses + HAE of Fugitive Emissions from Existing Coal Stock Pile
3. Offsets = Emission Increase - Emission Reduction, Calculated pursuant to MDAQMD Rule 1305 (E)(3)
4. Kiln emissions are not included in the offset calculations because the kiln has been previously offset, according to MDAQMD.

APPENDIX C: PROCESS FLOW DIAGRAMS



PLANT ELEVATION: 2781 FT.

LEGEND		
B	LB/H	COMBUSTIBLE FLOW
D	FT	DIAMETER
G	ST/H	MATERIAL FLOW
M	%	MATERIAL MOISTURE
HU	BTU/LB	NET CALOR VALUE
K	IN	GRAIN SIZE
KB	CM^2/G	BLAINE
KR	%	RESIDUAL 200 MESH
M	HP	MOTOR POWER
N	RPM	SPEED
P	MMG	STAT PRESSURE
Q	MBTU/H	HEAT QUANTITY
QS	BTU/LB	HEAT QUANTITY
S	G/FT^3	DUST CONTENT
SG	LB/FT^3	BULK DENSITY
T	°F	TEMPERATURE
TP	°F	DEW POINT
UT	°F	AMBIENT TEMPERATURE: 17F MIN. 110F MAX.
V	%	VOLATILE MATTER
VB	ACFM	GAS FLOW
VN	SCFM	GAS FLOW
VS	SCF/LB	GAS FLOW
VV	FT^3/S	GAS FLOW

PLOT DATE
10/24/18

S:\

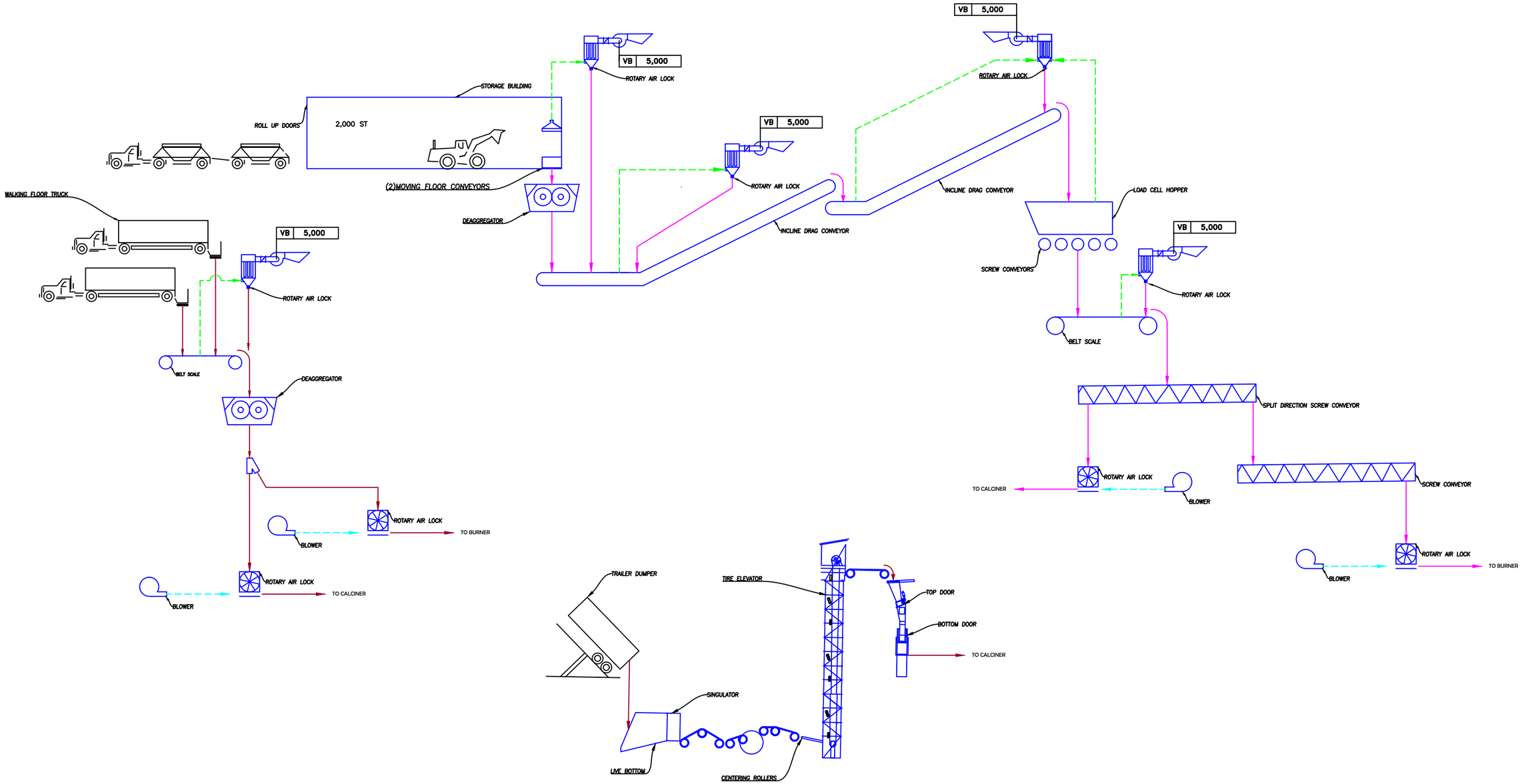
NO.	REVISION	DATE	BY		DATE
				DRAWN KS	10/24/18
				CHK.	
				APPVD.	
				SCALE NONE	

CALPORTLAND
19409 NATIONAL TRAILS
HWY ORO GRANDE, CA
92368

ORO GRANDE
PROPOSED COKE FLOW

DWG. NO. 231F300 COKE FLOW

REV. 1



VB	ACFM	GAS FLOW

PLOT DATE
6/6/2019

S:\

NO.	REVISION	DATE	BY

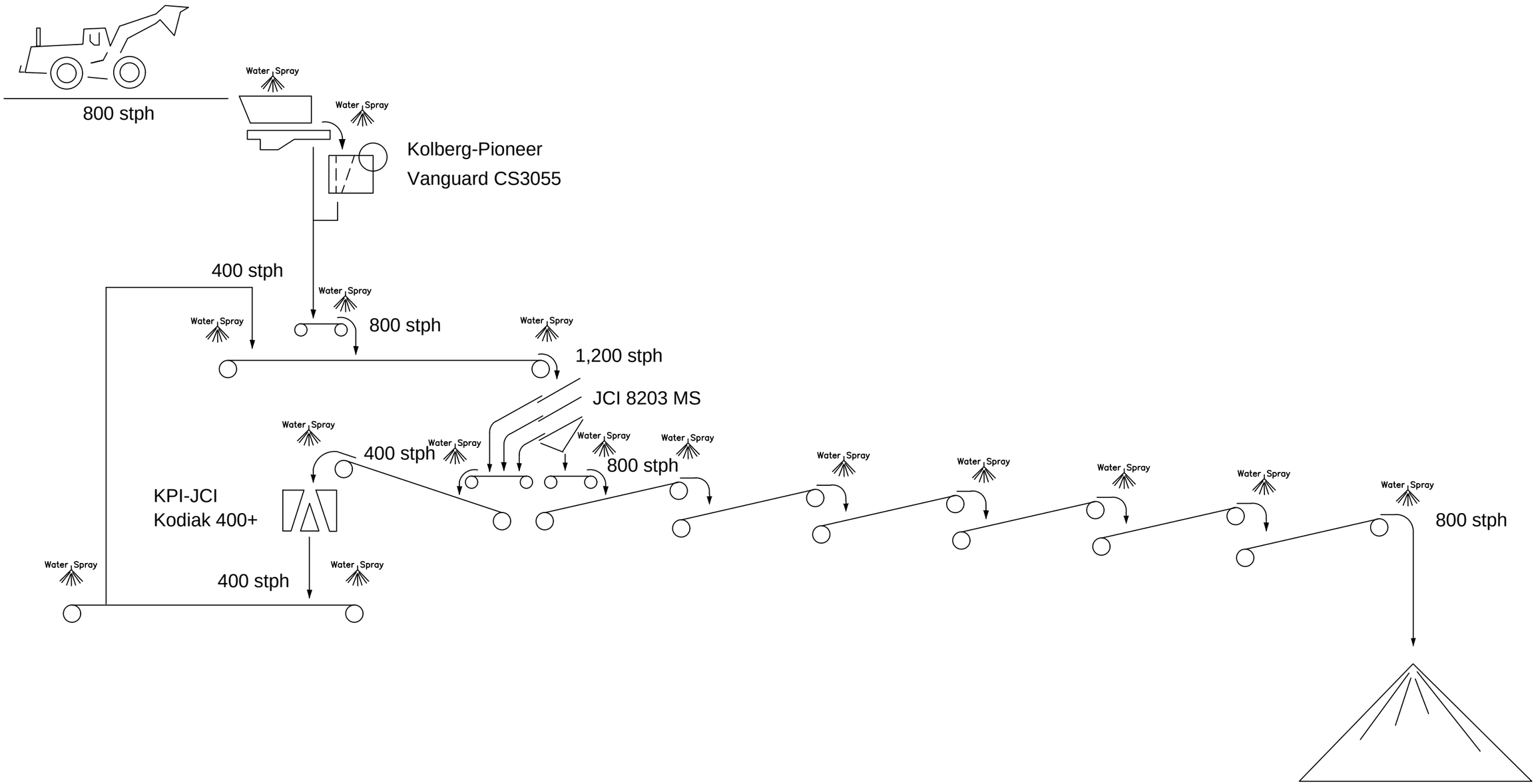
	DATE
DRAWN AHN	6/6/2019
CHK.	
APPVD.	
SCALE AS NOTED	

CALPORTLAND
2025 E. FINANCIAL WAY
GLENDORA, CA
91741

ALTERNATE FUELS PROCESS FLOW DIAGRAM_MECHANICAL AND PNEUMATIC CONVEY OPTIONS

DWG. NO. 975H-G-1001

REV. –



C:\COLTON FLOW DIAGRAMS

NO.	REVISION	DATE	BY
4	Added TPH	9/17/2018	NMM
3	Corrected Name of CS3055	9/11/2018	NMM
2	Water Spray Locations	9/10/2018	NMM
1	Added Conveyors	9/7/2018	NMM

DRAWN: NMM DATE: 9/5/2018
CHK.
APPVD.
SCALE: AS NOTED

CALPORTLAND
2025 E. FINANCIAL WAY
GLENDORA, CA 91741

COLTON CHASSIS CAP PLANT

DWG. NO.: XXXXXXX

REV.

PLOT DATE
9/7/2018

APPENDIX D: COAL AND COKE ANALYSES

STANDARD LABORATORIES, INC.

1880 NORTH LOOP AVENUE CASPER, WY 82601

CERTIFICATE OF ANALYSIS

CUSTOMER: CAL PORTLAND COLTON CEMENT
695 S. RANCHO AVENUE
COLTON CA 92324

05/27/16

JOB NO.:201601417001
APPROVAL: MH

CL 13283 COAL

PROXIMATE ANALYSIS (%)

		AS RECD	DRY
MOISTURE	D3302	8.15	
ASH	D3174	7.82	8.51
VOLATILE	D7582	38.55	41.97
FIXED C	D3172	45.48	49.52
SULFUR	D4239	0.52	0.57
BTU/#	D5865	12017	13083
MAF BTU			14300

EQ MOISTURE D1412

ULTIMATE ANALYSIS (%)

		AS RECD	DRY
MOISTURE	D3302	8.15	
ASH	D3174	7.82	8.51
SULFUR	D4239	0.52	0.57
NITROGEN	D5373	1.41	1.53
CARBON	D5373	67.18	73.14
HYDROGEN	D5373	4.99	5.43
OXYGEN	D3176	9.94	10.82

MINERAL ANALYSIS OF ASH (D6349)(%)

FORMS OF SULFUR (%) D2492

	AS RECD	DRY

ASH FUSION TEMPERATURE (F) D1857[M]

OXIDIZING	REDUCING

ADDITIONAL DATA

AIR DRY LOSS	5.15
LBS H20/MM BTU	6.78
LBS ASH/MM BTU	6.50
LBS SULFUR/MM BTU	0.44
BASE/ACID RATIO	
T250	DEG F
% ALKALI AS Na2O	
SPECIFIC GRAVITY	
FREE SWELLING INDEX D720	

GRINDABILITY (HGI) D409[M]

AT % MOISTURE

WATER SOLUBLE ALKALIES (%) D8010

AS RECD	DRY

[M] denotes modifed method

STANDARD LABORATORIES,INC.

1880 NORTH LOOP AVENUE CASPER, WY 82601

CERTIFICATE OF ANALYSIS

CUSTOMER: CAL PORTLAND COLTON CEMENT
695 S. RANCHO AVENUE
COLTON CA 92324

05/31/16

JOB NO.:201601417002
APPROVAL: MH

CL 13283 COKE

PROXIMATE ANALYSIS (%)

		AS RECD	DRY
MOISTURE	D3302	7.34	
ASH	D3174	0.49	0.53
VOLATILE	D7582	11.72	12.65
FIXED C	D3172	80.45	86.82
SULFUR	D4239	2.18	2.35
BTU/#	D5865	14263	15393
MAF BTU			15475

EQ MOISTURE D1412

ULTIMATE ANALYSIS (%)

		AS RECD	DRY
MOISTURE	D3302	7.34	
ASH	D3174	0.49	0.53
SULFUR	D4239	2.18	2.35
NITROGEN	D5373	2.70	2.91
CARBON	D5373	82.30	88.82
HYDROGEN	D5373	3.52	3.80
OXYGEN	D3176	1.47	1.59

MINERAL ANALYSIS OF ASH (D6349)(%)

FORMS OF SULFUR (%) D2492

	AS RECD	DRY

ASH FUSION TEMPERATURE (F) D1857[M]

	OXIDIZING	REDUCING

ADDITIONAL DATA

AIR DRY LOSS	6.85	
LBS H20/MM BTU	5.15	
LBS ASH/MM BTU	0.34	
LBS SULFUR/MM BTU	1.53	
BASE/ACID RATIO		
T250		DEG F
% ALKALI AS Na2O		
SPECIFIC GRAVITY		
FREE SWELLING INDEX D720		

GRINDABILITY (HGI) D409[M]

AT % MOISTURE

WATER SOLUBLE ALKALIES (%) D8010

AS RECD	DRY

[M] denotes modifed method

August 28, 2019

Chris Anderson
Air Quality Engineer
Mojave Desert Air Quality Management District
14306 Park Avenue
Victorville, CA 92392

RE: Addendum to Authority to Construct and Title V Significant Permit Modification Application
CalPortland Company. – Oro Grande, California
Federal Operating Permit Number: 223900003; MDAQMD Facility Number: 3

Dear Mr. Anderson,

In July 2019, CalPortland Company (CalPortland) submitted an Authority to Construct (ATC) and Title V (TV) Significant Permit Modification Application (the Application) to the Mojave Desert Air Quality Management District (MDAQMD). With this letter, CalPortland is submitting this addendum to the Application to request that two additional emission units associated with the portable limestone crushing operation be included in the Application.

This addendum letter includes the following information:

1. Background information on the two additional emission units as well as two MDAQMD forms for the new units (refer to Attachment 1 of this letter)
2. Updated emission calculations to replace Appendix B of the Application (refer to Attachment 2 of this letter), and
3. Updated regulatory applicability as it pertains to the two new emission units including ATC and TV permitting requirements.

BACKGROUND INFORMATION

In the July application, CalPortland requested that MDAQMD:

Issue an ATC for the portable limestone crushing operation, including two crushers, conveyors, a screen, and a stockpile.

CalPortland will use two portable diesel-fired engines powering generators rated at 779 brake-horsepower (bhp) to power the equipment for the limestone crushing plant. These engines should be included with the original Application. Attachment 3 of this letter includes the specification sheets and other pertinent information regarding the emissions profile of the engines.

UPDATED EMISSION CALCULATIONS

MDAQMD Rule 1310 and Rule 1600 Emission Calculations

As stated in the Application, CalPortland is considered an existing major facility and as such, must perform emission calculations in order to determine if the Project is considered a major modification as defined in Rule 1310 (New Source Review [NSR]) and Rule 1600 (Prevention of Significant Deterioration [PSD]). This determination requires calculating the baseline actual emissions (BAE), projected actual emission (PAE), could have accommodated (CHA), potential to emit (PTE), and projected emissions increase (PEI). The addition of the new portable engines to the Application will not affect the calculation of BAE, PAE, or CHA emissions, which are only calculated for existing emission units. The addition of the engines will affect the calculation of PTE and PEI as detailed in this addendum.

PTE calculations are required for new emission units per MDAQMD Rule 1310 (NSR) and Rule 1600 (PSD). Each engines' PTE is calculated using the rated engine power and emission factors certified by the manufacturer for particulate matter (PM), carbon monoxide (CO), nitrogen oxide (NO_x), and non-methane hydrocarbons (NMHC). It is conservatively assumed that emission factors for particulate matter with an aerodynamic diameter less than 10 microns (PM_{10}) and particulate matter with an aerodynamic diameter less than 2.5 microns ($PM_{2.5}$) are equal to the emission factor for PM. The emission factor for NMHC is assumed to represent the emission factor for volatile organic compounds (VOC). The emission factor for sulfur dioxide (SO_2) is based on AP-42 Section 3.4, Table 3.4-1. PTE calculations are estimated using an assumed 4,200 operating hours per year, consistent with the annual operating hours for the portable limestone crushing operation included in the Application. The PTE of the new sources described in the Application will not change due to the addition of the two engines.

Table 1. PTE of the New Engines

Emission Source	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Portable Diesel Engine Powering Generator 1	0.08	0.08	0.08	0.02	1.79	9.36	0.51
Portable Diesel Engine Powering Generator 2	0.08	0.08	0.08	0.02	1.79	9.36	0.51

The PEI for each pollutant is calculated as follows: PAE minus CHA plus PTE minus BAE. The PEI is then compared to the Significant Emission Rate (SER) as defined in MDAQMD Rule 1310(D)(2)(a) and 40 CFR 52.21(b)(23)(i) to determine if the Project will result in a major modification to the Facility. The PEI has changed as a result of the addition of the portable engines to the Project. As shown in Table 2 below, the Project will not result in a PEI greater than the SER for any criteria pollutant. Additionally, CO now shows a reasonable possibility of being part of a major modification, in addition to PM and PM_{10} as established in the Application. CalPortland will follow the same recordkeeping procedures outlined for PM and PM_{10} in the Application for CO as well.

Table 2. PEI of Project

Description	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Project Emissions Increase	23.6	12.0	3.9	9.4	19.9	58.5	18.3
Significant Emission Rate (SER)	25	15	10	40	40	100	40
In Attainment of NAAQS?[1]	N/A	No	Yes	Yes	Yes	Yes	No
Emission Increases Emissions > SER?	**No**	**No**	**No**	**No**	**No**	**No**	**No**

1. According to EPA Greenbook. https://www3.epa.gov/airquality/greenbook/ancl.html. Accessed 8/23/2019.

MDAQMD Rule 1303, Rule 1304, and Rule 1305 Emission Calculations

Pursuant to MDAQMD Rule 1303(B), emissions of nonattainment air pollutants and their precursors are required to be offset if there is an emissions increase from the Project for the applicable pollutant. As defined in MDAQMD Rule 1301, ozone and PM_{10} are considered nonattainment air pollutants and VOC, NO_x, and SO_x are their precursors. As such, CalPortland is required to evaluate if emissions of PM_{10}, VOC, NO_x, and SO_x are required to be offset. CalPortland can offset the emissions through use of simultaneous emission reductions or emission reduction credits.

Pursuant to MDAQMD Rule 1305(A)(2)(b)(iii), offsets for the Project are determined by taking the difference between the PTE for the new emission units and the historical actual emissions (HAE) for the emission units to be shutdown or modified, consistent with MDAQMD Rule 1404(A)(2)(a). The PTE and HAE are calculated as detailed in the Application. PM_{10} is the only pollutant with a decrease in the emissions change; as such PM_{10} emissions will not need to be offset. Per guidance provided by Alan de Salvio of MDAQMD on August 22, 2019, simultaneous emission reductions of PM_{10} may be applied to SO_2 emission increases at a ratio of 2:1. As such, CalPortland is proposing to offset SO_2 emission increases by using the available PM_{10} simultaneous emission reduction.

Offsets will be required for the Project due to emissions of NOx and VOC from the portable engines. Pursuant to MDAQMD Rule (C)(2), the largest applicable offset ratio for each nonattainment air pollutant shall apply when a source is located in more than one nonattainment area. Pursuant to MDAQMD Rule 1305(C)(1), CalPortland is required to offset NO_x and VOC emission increases at a ratio of 1.3 to 1.0; this means that the project emission increase will be multiplied by a factor of 1.3 to determine the amount of emission reductions credits (ERCs) that must be surrendered to MDAQMD. CalPortland owns ERC Number 0103 (853.95 tpy NO_x) and 0111 (0.006 tpy VOC). Therefore, CalPortland will use a portion of ERC Number 0103 to surrender the required ERCs to offset the NOX emissions increase from the Project. CalPortland proposes to use the available VOC ERCs from ERC Number 0111 and to work with MDAQMD to establish an interpollutant offset ratio to use available NOX ERCs to offset the remaining emissions of VOC.

Table 3. Emission Offsets Calculation

Emissions[1]	PM_{10} (tpy)	SO_2 (tpy)	NO_x[4] (tpy)	VOC[4] (tpy)
Proposed Emissions	13.91	0.04	3.58	1.02
HAE	55.22	0.00	0.00	0.00
Emissions Change	**-41.31**	**0.04**	**3.58**	**1.02**
Simultaneous Emission Reductions	**41.23**	**0.04**	**0.00**	**0.00**
Amount of Offsets Required	**--**	**0.00**	**3.58**	**1.02**
Amount of ERCs Required to be Surrendered	**--**	**--**	**4.66**	**1.32**

1. Kiln emissions are not included in the offset calculations because the kiln has been previously offset, according to MDAQMD.

REGULATORY APPLICABILITY

Only regulations that needed additional explanation as a result of the two new portable engines are included in this section of the letter. All other regulatory conclusions provided in the Application continue to hold even with the addition of the new emission units.

Federal Regulations

In addition to the federal regulations detailed in the Application, the portable engines will be subject to various federal and local air quality regulations. This section summarizes the air quality regulations that will apply to the impacted units. Specifically, the applicability of Federal New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP), and California Airborne Toxic Control Measures (ATCM).

NSPS Subpart IIII

NSPS Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*, applies to any owner or operator of a stationary compression ignition (CI) internal combustion engine (ICE) for which construction has commenced after July 11, 2005 and is manufactured after April 1, 2006 (non-fire pump engines) or July 1, 2016 (fire pump engines). Per 40 CFR 60.4219, a stationary CI ICE is defined as follows:

any internal combustion engine … that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition) … .

Pursuant to 40 CFR 1068.30, a portable engine is not a non-road engine (and therefore a stationary engine) if it remains or will remain at a location for more than 12 consecutive months. The portable engines to be installed at the Facility will routinely move locations throughout the Facility and as such qualify as non-road, non-stationary engines and are not subject to NSPS Subpart IIII.

NESHAP Subpart ZZZZ

NESHAP Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, applies to any new or existing stationary reciprocating internal combustion engine (RICE) operated at a major or area source. Per 40 CFR 63.6675, a stationary RICE is defined as follows:

any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, … .

Pursuant to 40 CFR 1068.30, a portable engine is not a non-road engine (and therefore a stationary engine) if it remains or will remain at a location for more than 12 consecutive months. The EPA has issued one site-specific applicability determination for a portable engine regularly moved throughout a mining facility (Control Number M090038) in which it was determined that the engines qualified as non-road, non-stationary engines and as such, were not subject to the requirements of NESHAP Subpart ZZZZ.[1] The portable engines to be installed at the Facility will routinely move locations throughout the Facility and as such qualify as non-road, non-stationary engines and are not subject to NESHAP Subpart ZZZZ.

State Regulations

ATCM for Portable CI Engines

ATCM § 93116, *Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater* (Portable Engine ATCM), applies to any owner or operator of a portable CI engine in California with a rated bhp greater than or equal to 50. The portable engines to be installed at the Facility meet the above criteria and are therefore subject to the requirements under the Portable Engine ATCM, including the emission standards listed in Section 93116.3(b). The portable engines are certified as Tier 4 final (see Attachment 3 for certification sheet) and therefore meet these emission standards.

MDAQMD Regulations

Regulation II – Permits

Pursuant to MDAQMD Rule 201, *Permit to Construct*, the Facility will be required to obtain written authorization from the MDAQMD before building, installing, or altering equipment which may cause the issuance of air contaminants. This addendum to the Application and subsequent issuance of an ATC by MDAQMD serves to fulfill the requirements of this rule.

Pursuant to MDAQMD Rule 203, *Permit to Operate,* the Facility will be required to obtain written authorization from the MDAQMD before operating equipment, which may cause the issuance of air contaminants. This addendum to the Application and subsequent issuance of a permit to operate by MDAQMD serves to fulfill the requirements of this rule.

Regulation III – Fees

Pursuant to MDAQMD Rule 301, *Permit Fees,* specific fees must be paid as part of this addendum to the permit application. Applicable fees calculated as $576[2] pursuant to this rule are enclosed as part of this addendum. CalPortland will pay all applicable additional fees associated with this permitting effort upon invoice from MDAQMD.

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[1] https://cfpub.epa.gov/adi/index.cfm?fuseaction=home.dsp_show_file_contents&CFID=106215391&CFTOKEN=82541318&id=M090038, Accessed August 26, 2019.

[2] The filing fee is calculated as $288 x the number of permits (2) to be issued by MDAQMD. For this application, two permits will be required: two new internal combustion engine ATCs for the limestone crushing operation.

Regulation IV – Prohibitions

Pursuant to MDAQMD Rule 401, *Visible Emissions,* requires that no single source emit any air contaminant as dark or darker than No 1 on the Ringelmann Chart for a period or periods aggregating more than three minutes in any one hour. All sources, including the proposed sources included in this addendum, at the Facility are subject to this requirement and CalPortland will continue to operate all sources such that the visible emissions comply with Rule 401.

Pursuant to MDAQMD Rule 402, *Nuisance,* requires that no person shall discharge emissions that may cause a nuisance. CalPortland will operate the proposed equipment, including the proposed sources included in this addendum, in a manner that does not cause a nuisance.

Pursuant to MDAQMD Rule 405, *Solid Particulate Matter Weight,* requires that no person exceed the particulate matter process weights provided in Table 405(a). Because the proposed engines meet BACT (as described in this addendum), it is not anticipated that they will exceed the limits in Table 405(a) and will therefore meet the requirements of this rule.

Pursuant to MDAQMD Rule 409*, Combustion Contaminants,* requires that no person shall discharge combustion contaminants exceeding 0.23 g/m^3 (0.1 g/scf) of gas calculated to 12 percent of CO_2 at standard conditions averaged over a minimum of 25 consecutive minutes. Because the proposed engines meet BACT (as described in this addendum), it is anticipated that the units will meet the requirements of this rule.

Pursuant to MDAQMD Rule 431*, Sulfur Content of Fuels*, requires that no person shall burn any gaseous fuel containing sulfur compounds in excess of 800 ppm calculated as hydrogen sulfide at standard conditions, or any liquid or solid fuel having a sulfur content in excess of 0.5 percent by weight. Because the engines will burn only ULSD, which has a sulfur content of 0.0015 percent by weight, as defined under 40 CFR, Subpart I, the requirements of this rule will be met.

Regulation IX – Standards for Performance for New Stationary Sources

Pursuant to MDAQMD Rule 900, *Standards of Performance For New Stationary Source (NSPS),* incorporates by reference the NSPS requirements from 40 CFR 60. As described previously, the two portable engines are not subject to the NSPS requirements.

Regulation X – Emission Standards for Additional Specific Air Contaminants

Pursuant to MDAQMD Rule 1000, *National Emission Standards for Hazardous Air Pollutants (NESHAP),* incorporates by reference the NESHAP requirements from 40 CFR 61. As described, the two portable engines are not subject to the NESHAP requirements.

Regulation XI – Source Specific Standards

MDAQMD Rule 1160, *Internal Combustion Engines*, limits the emissions of NO_x, CO, and VOC from the operation of internal combustion engines operating within the Federal Ozone Non-Attainment Area of the MDAQMD. Per Rule 1160(A)(2)(a)(iii), engines subject to the Portable Engine ATCM are exempt from the requirements of Rule 1160. As previously stated, the portable engines will be subject to and comply with the Portable Engine ATCM. As such, Rule 1160 does not apply to the portable engines.

Regulation XIII – New Source Review

Regulation XII outlines MDAQMD's preconstruction New Source Review requirements for new or modified facilities. This section discusses applicability of MDAQMD's Regulation XIII.

Rule 1302 – Procedure

Rule 1302 includes provisions related to application elements and applies to new or modified facilities. The information, including applicable analysis and calculations, necessary to deem the Application complete was provided as part of the Application. Specific applicable portions of Rule 1302 are outlined below:

Pursuant to Rule 1302(B)(1)(a)(i)(a), all facilities must submit a Comprehensive Emissions Inventory in conjunction with the application for an ATC or modification to a permit to operate (PTO). However, per Rule 1302(B)(1)(a)(i)(b), if a facility has a current, approved Comprehensive Emissions Inventory on file with MDAQMD, the Facility may request to update the Comprehensive Emission Inventory to reflect the addition, deletion, or modification of all emissions units affected by the application. The submission of this application serves as CalPortland's written request to update the Comprehensive Emission Inventory to reflect the new and modified emission units at the Facility.

Rule 1303 - Requirements

Rule 1303(A) - BACT
MDAQMD Rule 1303(A)(3), *Best Available Control Technology,* requires BACT for each new Permit Unit located at a facility that has a PTE of 25 tons per year or more of any non-attainment pollutant. The Facility is located in an area that is in non-attainment of the PM_{10} and ozone NAAQS. Because the Facility has a PTE greater than 25 tons per year for PM_{10} and VOC, BACT will be required for the new Permit Units associated with these projects. In addition to the initial BACT determinations provided in the Application, the portable engines will be required to meet BACT for the following non-attainment pollutants: VOC and PM_{10}.

Per MDAQMD Rule 1301(K), BACT is defined as follows:

(a) The most stringent emission limit or control technique which has been achieved in practice, for such permit unit class or category of source; or
(b) Any other emission limitation or control technique, and/or different fuel demonstrated in practice to be technologically feasible and cost-effective by the APCO or by CARB.

The first criterion listed above is referred to as the "achieved in practice" standard, and the second is commonly known as the "technologically feasible" standard. Moreover, BACT must not be less stringent than the emission control(s) required by any applicable provisions of District, State, or federal laws or regulations, unless the applicant demonstrates to the satisfaction of the District that such limits are not achievable.

The proposed engines are certified to meet Tier 4 Final diesel engine standards. Tier 4 Final represents the current most stringent emission standards for diesel engines and as such, CalPortland will meet BACT for these emission units through the documentation of the engine certifications. Please refer to Attachment 3 for documentation of the engine certification.

Rule 1303(B), Rule 1304, and Rule 1305 - Offsets

MDAQMD Rule 1303(B), *Offsets,* requires that all emissions increases be offset for facilities that have PTEs for nonattainment air pollutants and their precursors greater than the thresholds in this rule (i.e., 15 tpy PM_{10}). The

Facility has emissions greater than the offset thresholds, and therefore, CalPortland is required to evaluate offset requirements. Offset amounts are quantified pursuant to MDAQMD Rule 1304, *Emission Calculations* and MDAQMD Rule 1305, *Emissions Offsets.* Per MDAQMD Rule 1305(2)(b)(iii), offset quantities are determined based on the difference between the Facilities Proposed Emissions and the HAE. Per MDAQMD Rule 1305(B)(2), CalPortland can generate Actual Emission Reductions (AERs) by simultaneous reductions at the Facility by shutting down equipment so long as the respective air permit is surrendered and voided by MDAQMD. As stated previously, no offsets will be needed for PM_{10} because the emission reductions from the replacement of the cement silo baghouses will fully offset the installation of the new coke handling system, the new alternate fuels handling system, the limestone crushing plant, the portable engines, and all associated fugitive emissions. Additionally, CalPortland is using AERs of PM_{10} at a ratio of 2:1 to offset the SOx emissions from the engines

Offsets will be required for the Project due to emissions of NOx and VOC from the portable engines. CalPortland owns ERC Number 0103 (853.95 tpy NO_x) and 0111 (0.006 tpy VOC). Therefore, CalPortland will use a portion of ERC Number 0103 to surrender the required ERCs to offset the NOX emissions increase from the Project. CalPortland proposes to use the available VOC ERCs from ERC Number 0111 and to work with MDAQMD to establish an interpollutant offset ratio to use available NOX ERCs to offset the remaining emissions of VOC.

Rule 1310 – Federal Major Facilities and Federal Major Modifications

MDAQMD Rule 1310, *Federal Major Facilities and Federal Major Modifications,* sets forth additional requirements for federal major modifications or federal major facilities which request a plant wide applicability limit. Pursuant to MDAQMD Rule 1310(D)(1)(a), the Facility is considered a Federal Major Facility. Additionally, pursuant MDAQMD Rule 1310(D)(2)(a), a modification to a major facility that results in a significant emissions increase greater than or equal to a specified SER is considered a Federal Major Modification. As such, it is necessary to evaluate the Project emissions to determine if a Federal Major Modification will occur as a result of the Project. As stated previously, the Project along with the addition of engines will not be considered a Federal Major Modification as defined under MDAQMD Rule 1310.

Regulation XVI – Prevention of Significant Deterioration

MDAQMD Rule 1600 incorporates the federal PSD regulations by reference of 40 CFR 52.21. Pursuant to 40 CFR 52.21(a)(2), these regulations apply to any new major stationary source or any existing major stationary source where a project results in a significant net emissions increase and the facility is located in an unclassifiable or attainment area. The PSD regulations only apply to attainment or unclassifiable pollutants which, for this Facility, are PM, $PM_{2.5}$, SO_2, NO_X, and CO. As discussed previously, there is not a significant emission increase as a result of this Project, including the addition of the engines. Therefore, PSD review is not required.

I certify that, based on information and belief formed after reasonable inquiry, the statements contained in this letter are true, accurate, and complete.

If you have questions or comments about the information presented in this submittal, please do not hesitate to call me at (760) 269-1183 or Ms. Desirea Haggard at (626) 691-1966.

Sincerely,

Richard P. Walters
Plant Manager
CalPortland Company

cc: Jessica Gammett, CalPortland
Desirea Haggard, CalPortland
Melissa Hillman, Trinity Consultants

Attachments

ATTACHMENT 1: MDAQMD FORMS - ENGINES

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
BRAD POIRIEZ, *EXECUTIVE DIRECTOR*
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • Fax 760.245.2022
Email: **engineering@mdaqmd.ca.gov**
www.MDAQMD.ca.gov • @MDAQMD

Application for internal combustion engine (I.C.E.) only

Remit **$288.00** with this document *($164.00 for change of owner)*

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 95-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): CalPortland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 km E/ 3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: (760) 269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310

Type of Organization
☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency
☐ Federal agency

Section 2: Nature of application

Application is hereby made for the following equipment:
Portable diesel engine powering generator 1

Application is for what type of permit:
☑ New construction ☐ Modification ☐ Change of owner

For modification or change of owner:
_____ Current Permit Number

Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)

Section 3: Equipment information

Engine function: ☑ Prime ☐ Emergency (check one) ☐ Low-use (<80 hr/yr) ☑ Portable ☐ Stand-by (as defined in Rule 301[E][10]) (check all that apply)

Engine manufacturer: Caterpillar Inc. | Engine model: C18 | Engine serial number: CM800172

Engine year of manufacture: 2018 | Date installed: _____

Rating (BHP): 779 | Speed (RPM): 1800 | Number of cylinders: 6

Fuel type: ☑ CARB diesel ☐ Natural gas ☐ Propane/LPG ☐ Gasoline ☐ Digester gas ☐ Landfill gas
☐ Other (specify): _____ Alternative fuel/back-up fuel, if applicable (specify): _____

Engine meter: ☐ Hour meter ☐ Dedicated fuel meter ☐ None

Cycle type: ☐ two cycle ☑ four cycle | Combustion type: ☐ Rich burn ☑ Lean burn

Check all that apply: ☐ Naturally aspirated ☑ Turbocharged ☐ Aftercooled ☑ Intercooled ☐ Air-to-fuel ratio controller
☐ Smoke puff limiter ☑ Electronic control module ☐ Direct fuel injection ☐ Pre-combustion chamber ☐ Piston scavenging
☐ Other(s) (specify): _____

Add-on emission control technology: ☑ Yes ☐ No (if applicable, attach manufacturer's specifications and CARB certification or source test results)

If yes: Manufacturer: _____ Model: _____ Serial No.: _____ CARB EO#: U-R-001-0545

Type: ☑ SCR ☐ Non-SCR ☐ Particulate trap ☐ EGR ☐ Oxidation catalyst ☐ Other (specify): _____

Stack data Exhaust stack height from ground: _____ feet Exhaust stack diameter: _____ feet

Stack is: ☐ horizontal ☐ vertical ☐ weather cap Vent data: Exhaust temp. 914 °F Maximum exhaust rate (ACFM): 3185

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

USEPA family name JCPXL18.1HTH CARB family name _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☑ USEPA AP-42

☐ Other (please specify): _____

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x			0.67	g/kw-hr
NMHC			0.19	g/kw-hr
CO			3.5	g/kw-hr
PM_{10}			0.03	g/kw-hr
SO_x			1.21E-05	lb/bhp-hr

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Powered Item

This ICE is used to power: ☑ Electrical generator ☐ Compressor ☐ Pump ☐ Paint spray gun ☐ Conveyor or drive

☐ Fire pump ☐ Other (specify): _____

PERP registration (if applicable): _____

Manufacturer: _____ Model: _____ Serial No.: _____ Type/size/rating: _____

Section 6: Operation information

Fuel Consumption: 33.2 at max rated load ☑ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent):

☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun

_____% Jul-Sep _____% Oct-Dec

Expected operating hours of equipment

24 Hrs/day 7 Days/wk 52 Wk/yr

Total annual hours 4,200

Section 7: Receptor information

Distance (feet) and direction to the property line of closest: _____ residence _____ business _____ school

Name of closest school (K-12) _____

If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 8: Certification

I hereby certify that all information contained herein is true and correct.

Name of responsible official	Official title	Signature of responsible official	Date signed
Richard P. Walters	Plant manager		

Phone: Email:

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov

2) Pay the corresponding application fee of $288 per permit for new or modified permit (or $164 for change of owner) via check or credit card.

Payment by check:
Make check payable to ***Mojave Desert AQMD***
Mail the check with a copy of this completed application to:
Mojave Desert AQMD
14306 Park Avenue
Victorville, CA 92392

Payment by credit card:
Pay online at **http://www.mdaqmd.ca.gov**
Click ***"Pay Fees"***
Please note: ***a surcharge applies for all credit card payments.***

3) If payment is made online via credit card, please email the receipt to Engineering@mdaqmd.ca.gov

Should you have any additional questions, please, do not hesitate to contact the permitting division at 760-245-1661, or via email at **engineering@mdaqmd.ca.gov**

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
BRAD POIRIEZ, *EXECUTIVE DIRECTOR*
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • Fax 760.245.2022
Email: **engineering@mdaqmd.ca.gov**
www.MDAQMD.ca.gov • @MDAQMD

Application for internal combustion engine (I.C.E.) only

Remit **$288.00** with this document (***$164.00*** *for change of owner)*

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c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): CalPortland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 km E/ 3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: (760) 269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310

Type of Organization
☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency
☐ Federal agency

Section 2: Nature of application

Application is hereby made for the following equipment:
Portable diesel engine powering generator 2

Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number

Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)

Section 3: Equipment information

Engine function: ☑ Prime ☐ Emergency (check one) ☐ Low-use (<80 hr/yr) ☑ Portable ☐ Stand-by (as defined in Rule 301[E][10]) (check all that apply)

Engine manufacturer: Caterpillar Inc	Engine model: C18	Engine serial number: CM800172
Engine year of manufacture: 2018	Date installed:	
Rating (BHP): 779	Speed (RPM): 1800	Number of cylinders: 6

Fuel type: ☑ CARB diesel ☐ Natural gas ☐ Propane/LPG ☐ Gasoline ☐ Digester gas ☐ Landfill gas
☐ Other (specify): _____ Alternative fuel/back-up fuel, if applicable (specify): _____

Engine meter: ☐ Hour meter ☐ Dedicated fuel meter ☐ None

Cycle type: ☐ two cycle ☑ four cycle | Combustion type: ☐ Rich burn ☑ Lean burn

Check all that apply: ☐ Naturally aspirated ☑ Turbocharged ☐ Aftercooled ☑ Intercooled ☐ Air-to-fuel ratio controller
☐ Smoke puff limiter ☑ Electronic control module ☐ Direct fuel injection ☐ Pre-combustion chamber ☐ Piston scavenging
☐ Other(s) (specify): _____

Add-on emission control technology: ☑ Yes ☐ No (if applicable, attach manufacturer's specifications and CARB certification or source test results)

If yes: Manufacturer: _____ Model: _____ Serial No.: _____ CARB EO#: U-R-001-0545

Type: ☑ SCR ☐ Non-SCR ☐ Particulate trap ☐ EGR ☐ Oxidation catalyst ☐ Other (specify): _____

Stack data Exhaust stack height from ground: _____ feet Exhaust stack diameter: _____ feet

Stack is: ☐ horizontal ☐ vertical ☐ weather cap Vent data: Exhaust temp. 914 °F Maximum exhaust rate (ACFM): 3185

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

USEPA family name JCPXL18.1HTH CARB family name _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☑ USEPA AP-42

☐ Other (please specify): _____

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x			0.67	g/kw-hr
NMHC			0.19	g/kw-hr
CO			3.5	g/kw-hr
PM_{10}			0.03	g/kw-hr
SO_x			1.21E-05	lb/bhp-hr

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Powered Item

This ICE is used to power: ☑ Electrical generator ☐ Compressor ☐ Pump ☐ Paint spray gun ☐ Conveyor or drive

☐ Fire pump ☐ Other (specify): _____

PERP registration (if applicable): _____

Manufacturer: _____ Model: _____ Serial No.: _____ Type/size/rating: _____

Section 6: Operation information

Fuel Consumption: 33.2 at max rated load ☑ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent):

☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun

_____ % Jul-Sep _____ % Oct-Dec

Expected operating hours of equipment

24 Hrs/day 7 Days/wk 52 Wk/yr

Total annual hours 4,200

Section 7: Receptor information

Distance (feet) and direction to the property line of closest: _____ residence _____ business _____ school

Name of closest school (K-12) _____

If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 8: Certification

I hereby certify that all information contained herein is true and correct.

Name of responsible official	Official title	Signature of responsible official	Date signed
Richard P. Walters	Plant manager		

Phone: Email:

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov

2) Pay the corresponding application fee of $288 per permit for new or modified permit (or $164 for change of owner) via check or credit card.

Payment by check:
Make check payable to ***Mojave Desert AQMD***
Mail the check with a copy of this completed application to:
Mojave Desert AQMD
14306 Park Avenue
Victorville, CA 92392

Payment by credit card:
Pay online at **http://www.mdaqmd.ca.gov**
Click ***"Pay Fees"***
Please note: ***a surcharge applies for all credit card payments.***

3) If payment is made online via credit card, please email the receipt to Engineering@mdaqmd.ca.gov

Should you have any additional questions, please, do not hesitate to contact the permitting division at 760-245-1661, or via email at **engineering@mdaqmd.ca.gov**

ATTACHMENT 2: UPDATED EMISSION CALCULATIONS

Table 1. Project Emissions Increase

Description	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Project Emissions Increase[1]	23.6	12.0	3.9	9.4	19.9	58.5	18.3
Significant Emission Rate (SER)[2, 3]	25	15	10	40	40	100	40
In Attainment of NAAQS?[4]	N/A	No	Yes	Yes	Yes	Yes	No
Emission Increases Emissions > SER?	**No**	**No**	**No**	**No**	**No**	**No**	**No**

1. Project emissions increase is calculated as follows: PAE + PTE of New Emission Sources - BAE - CHA.
2. SER as defined in 40 CFR 52.21(b)(23)(i).
3. Significant as defined in MDAQMD Rule 1310 and Rule 1600/40 CFR 52.21.
4. According to EPA Greenbook. https://www3.epa.gov/airquality/greenbook/ancl.html. Accessed 1/15/2019.

Table 2. Baseline Actual Emissions (BAE) of Existing Units

Emission Source	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Kiln	25	25	17	11	1,741	399	10
Coal MSB Stock Pile	1.6	0.8	0.3	0	0	0	0

Table 3. Projected Actual Emissions (PAE) of Existing Unit [1]

Emission Source	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Kiln	45	45	28	28	2,629	638	33

1. Coal Stockpile PAE assumed to be 0 tpy since Coke MSB Stockpile PTE is included in PEI calculations.

Table 4. Could Have Accommodated Emissions (CHA) of Existing Unit [1]

Emission Source	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Kiln	19	19	10	8	871	200	6

1. Conservatively only includes emissions from the Kiln, although CHA emissions from the existing stockpile could have been included in this evaluation.

Table 5. Potential to Emit (PTE) of New Emission Sources

Emission Source	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
231BF301	0.72	0.25	0.04				
231BF302	0.72	0.25	0.04				
461BF301	0.96	0.34	0.05				
Alternate Fuel Handling - Baghouse 1	0.80	0.39	0.06				
Alternate Fuel Handling - Baghouse 2	0.80	0.39	0.06				
Alternate Fuel Handling - Baghouse 3	0.80	0.39	0.06				
Alternate Fuel Handling - Baghouse 4	0.80	0.39	0.06				
Alternate Fuel Handling - Baghouse 5	0.80	0.39	0.06				
Worst Case Fuel Drop Point[1]	0.99	0.47	0.07				
Coke MSB Stockpile	5.72	2.86	1.14				
Portable Limestone Crushing and Screening	1.91	0.72	0.08				
Portable Limestone Material Transfer Emissions	7.70	3.75	1.14				
Portable Limestone Stockpile Emissions	0.70	0.35	0.14				
Diesel Engine Powering Generator 1	0.08	0.08	0.08	0.02	1.79	9.36	0.51
Diesel Engine Powering Generator 2	0.08	0.08	0.08	0.02	1.79	9.36	0.51
Total	23.6	11.1	3.2	0.0	3.6	18.7	1.0

1. Worst case fuel drop point is based on the maximum emissions from either the coke handling system or the alternate fuel handling system.

Table 6. Kiln Monthly CEMS Emissions From July 2009 to June 2019

Month/Year	Clinker Produced (ton/month)	Monthly Emissions (lb/month)[1]				CEMS Emission Factor (lb/ton clinker)[2]			
		SO_2	NO_x	CO	VOC	SO_2	NO_x	CO	VOC
Jul-09	49,964	204	143,538	17,680	952	0.0041	2.45	0.354	0.019
Aug-09	156,300	615	382,894	45,088	2,430	0.0039	2.45	0.288	0.016
Sep-09	162,469	2,565	434,223	51,678	4,541	0.0158	2.45	0.318	0.028
Oct-09	62,187	3,237	207,737	42,768	2,191	0.0521	2.45	0.688	0.035
Nov-09	0	0	0	0	0	0.0000	0.00	0.000	0.000
Dec-09	0	0	0	0	0	0.0000	0.00	0.000	0.000
Jan-10	0	0	0	0	0	0.0000	0.00	0.000	0.000
Feb-10	59,052	2,036	159,402	19,001	1,341	0.0345	2.45	0.322	0.023
Mar-10	171,219	1,208	443,600	50,991	3,322	0.0071	2.45	0.298	0.019
Apr-10	11,873	190	29,688	6,645	337	0.0160	2.45	0.560	0.028
May-10	68,323	603	183,647	11,142	2,139	0.0088	2.45	0.163	0.031
Jun-10	178,446	438	410,720	31,358	1,997	0.0025	2.30	0.176	0.011
Jul-10	164,586	1,822	410,496	44,534	1,903	0.0111	2.45	0.271	0.012
Aug-10	0	0	0	0	0	0.0000	0.00	0.000	0.000
Sep-10	0	0	0	0	0	0.0000	0.00	0.000	0.000
Oct-10	36,912	215	104,923	11,934	383	0.0058	2.45	0.323	0.010
Nov-10	160,268	556	393,090	60,180	1,598	0.0035	2.45	0.375	0.010
Dec-10	0	0	59	2	1	0.0000	0.00	0.000	0.000
Jan-11	0	0	0	0	0	0.0000	0.00	0.000	0.000
Feb-11	95,166	1,797	217,543	24,449	129	0.0189	2.29	0.257	0.001
Mar-11	103,922	803	225,100	32,823	611	0.0077	2.17	0.316	0.006
Apr-11	116,008	323	251,720	33,444	1,048	0.0028	2.17	0.288	0.009
May-11	78,242	16	167,604	45,334	534	0.0002	2.14	0.579	0.007
Jun-11	0	0	306	20	23	0.0000	0.00	0.000	0.000
Jul-11	130,306	144	316,361	32,706	2,438	0.0011	2.43	0.251	0.019
Aug-11	174,772	46	417,113	66,425	1,488	0.0003	2.39	0.380	0.009
Sep-11	0	0	0	0	0	0.0000	0.00	0.000	0.000
Oct-11	67,844	14	179,825	4,833	1,634	0.0002	2.45	0.071	0.024
Nov-11	129,330	584	359,553	40,919	4,782	0.0045	2.45	0.316	0.037
Dec-11	21,894	282	77,664	3,538	675	0.0129	2.45	0.162	0.031
Jan-12	150,669	1,354	380,892	72,734	2,967	0.0090	2.45	0.483	0.020
Feb-12	0	0	0	0	0	0.0000	0.00	0.000	0.000
Mar-12	155,284	1,800	395,621	67,961	2,499	0.0116	2.45	0.438	0.016
Apr-12	42,455	517	111,798	19,065	546	0.0122	2.45	0.449	0.013
May-12	94,429	2,444	237,508	55,807	1,221	0.0259	2.45	0.591	0.013
Jun-12	95,607	6,766	239,347	46,920	1,933	0.0708	2.45	0.491	0.020
Jul-12	151,139	4,492	381,847	45,519	1,678	0.0297	2.45	0.301	0.011
Aug-12	42,885	2,929	96,212	6,076	537	0.0683	2.24	0.142	0.013
Sep-12	114,226	2,516	311,683	20,514	1,842	0.0220	2.45	0.180	0.016
Oct-12	133,582	1,502	360,761	32,013	1,600	0.0112	2.45	0.240	0.012
Nov-12	121,876	2,029	294,432	30,279	1,445	0.0166	2.42	0.248	0.012
Dec-12	110,844	2,612	310,013	27,531	1,324	0.0236	2.45	0.248	0.012
Jan-13	18,698	260	49,921	3,559	178	0.0139	2.45	0.190	0.010
Feb-13	129,087	714	342,781	18,344	1,547	0.0055	2.45	0.142	0.012
Mar-13	49,124	291	126,054	4,590	519	0.0059	2.45	0.093	0.011
Apr-13	128,546	1,142	353,185	28,975	1,573	0.0089	2.45	0.225	0.012
May-13	115,669	1,956	307,599	49,576	1,668	0.0169	2.45	0.429	0.014
Jun-13	177,148	931	419,562	61,945	2,433	0.0053	2.37	0.350	0.014
Jul-13	74,620	572	176,753	24,514	1,317	0.0077	2.37	0.329	0.018
Aug-13	177,185	2,089	394,298	57,789	2,937	0.0118	2.23	0.326	0.017
Sep-13	76,330	703	187,776	38,542	1,285	0.0092	2.45	0.505	0.017
Oct-13	143,340	1,039	336,275	100,350	2,510	0.0072	2.35	0.700	0.018
Nov-13	150,539	1,136	367,364	119,975	2,840	0.0075	2.44	0.797	0.019
Dec-13	62,132	1,051	163,398	30,014	908	0.0169	2.45	0.483	0.015
Jan-14	117,152	1,823	305,156	54,624	3,201	0.0156	2.45	0.466	0.027
Feb-14	83,683	1,052	238,764	41,219	2,151	0.0126	2.45	0.493	0.026
Mar-14	166,272	1,421	405,268	203,419	2,304	0.0085	2.44	1.223	0.014
Apr-14	72,220	552	186,988	45,014	997	0.0077	2.45	0.623	0.014
May-14	163,037	529	451,459	22,416	1,751	0.0032	2.45	0.137	0.011
Jun-14	115,227	730	299,734	51,816	1,247	0.0063	2.45	0.450	0.011
Jul-14	144,750	1,077	352,341	33,739	1,551	0.0074	2.43	0.233	0.011
Aug-14	190,804	2,567	439,030	55,782	1,394	0.0135	2.30	0.292	0.007
Sep-14	69,421	647	165,041	24,931	656	0.0093	2.38	0.359	0.009
Oct-14	139,929	1,646	329,159	141,611	1,112	0.0118	2.35	1.012	0.008
Nov-14	154,693	529	377,612	78,540	1,326	0.0034	2.44	0.508	0.009
Dec-14	87,973	1,052	205,471	80,985	613	0.0120	2.34	0.921	0.007
Jan-15	94,363	243	204,350	184,778	537	0.0026	2.17	1.500	0.006
Feb-15	79,844	615	161,111	43,048	327	0.0077	2.02	0.539	0.004
Mar-15	95,840	1,634	220,247	32,253	1,092	0.0171	2.30	0.337	0.011
Apr-15	180,193	2,493	437,642	61,202	1,786	0.0138	2.43	0.340	0.010
May-15	78,150	1,344	176,913	21,517	1,493	0.0172	2.26	0.275	0.019
Jun-15	130,175	2,546	310,428	11,855	2,222	0.0196	2.38	0.091	0.017
Jul-15	158,630	1,742	357,113	26,253	2,256	0.0110	2.25	0.165	0.014
Aug-15	41,882	606	94,930	3,652	536	0.0145	2.27	0.087	0.013
Sep-15	134,726	1,020	336,481	24,706	1,738	0.0076	2.45	0.183	0.013
Oct-15	68,769	594	166,642	27,997	917	0.0086	2.42	0.407	0.013
Nov-15	115,576	2,005	246,817	41,448	1,480	0.0173	2.14	0.359	0.013
Dec-15	133,428	1,122	314,875	51,861	1,625	0.0084	2.36	0.389	0.012
Jan-16	43,887	68	110,762	15,697	655	0.0015	2.45	0.358	0.015
Feb-16	125,853	39	279,406	49,377	1,462	0.0003	2.22	0.392	0.012
Mar-16	98,824	161	202,379	23,162	1,197	0.0016	2.05	0.234	0.012
Apr-16	61,164	176	137,786	32,503	1,428	0.0029	2.25	0.531	0.023
May-16	175,199	1,372	326,970	70,699	3,280	0.0078	1.87	0.404	0.019
Jun-16	102,462	496	170,738	64,776	2,212	0.0048	1.67	0.632	0.022
Jul-16	56,697	174	90,778	24,054	1,316	0.0031	1.60	0.424	0.023
Aug-16	151,241	465	243,817	49,086	986	0.0031	1.61	0.325	0.007
Sep-16	56,899	407	110,484	13,759	283	0.0071	1.94	0.242	0.005
Oct-16	77,837	267	140,112	27,378	530	0.0034	1.80	0.352	0.007
Nov-16	171,089	963	324,546	69,168	1,155	0.0056	1.90	0.404	0.007
Dec-16	22,149	113	46,954	7,352	88	0.0051	2.12	0.332	0.004
Jan-17	104,165	632	201,073	48,263	652	0.0061	1.93	0.463	0.006
Feb-17	94,611	382	180,036	41,555	574	0.0040	1.90	0.439	0.006
Mar-17	89,069	215	175,433	33,830	608	0.0024	1.97	0.380	0.007
Apr-17	143,034	641	287,370	43,809	1,173	0.0045	2.01	0.306	0.008
May-17	139,451	1,323	273,843	64,024	1,128	0.0095	1.96	0.459	0.008
Jun-17	110,344	1,285	235,273	42,779	896	0.0116	2.13	0.388	0.008
Jul-17	68,405	1,565	138,439	28,028	536	0.0229	2.02	0.410	0.008
Aug-17	161,845	5,009	330,082	55,322	923	0.0309	2.04	0.342	0.006
Sep-17	65,400	432	118,028	14,242	322	0.0066	1.80	0.218	0.005
Oct-17	142,446	1,658	309,337	51,116	733	0.0116	2.17	0.359	0.005
Nov-17	89,981	1,046	176,822	30,300	362	0.0116	1.97	0.337	0.004
Dec-17	135,128	1,985	260,015	59,477	807	0.0147	1.92	0.440	0.006
Jan-18	72,672	458	145,719	34,028	293	0.0063	2.01	0.468	0.004
Feb-18	91,621	245	201,016	27,097	365	0.0027	2.19	0.296	0.004
Mar-18	102,465	550	185,931	49,649	464	0.0054	1.81	0.485	0.005
Apr-18	128,893	778	263,123	41,681	603	0.0060	2.04	0.323	0.005
May-18	79,561	758	174,766	26,490	457	0.0095	2.20	0.333	0.006
Jun-18	149,678	2,107	332,800	58,934	1,014	0.0141	2.22	0.394	0.007
Jul-18	142,589	1,309	317,752	64,114	1,207	0.0092	2.23	0.450	0.008
Aug-18	113,334	1,486	245,244	64,494	634	0.0131	2.16	0.569	0.006
Sep-18	124,007	2,200	255,481	89,380	814	0.0177	2.06	0.721	0.007
Oct-18	171,352	3,721	315,013	73,019	1,077	0.0217	1.84	0.426	0.006
Nov-18	27,869	1,012	117,873	22,013	404	0.0363	2.45	0.790	0.014
Dec-18	155,765	2,939	325,481	54,689	850	0.0189	2.09	0.351	0.005
Jan-19	133,530	2,393	265,287	43,212	1,172	0.0179	1.99	0.324	0.009
Feb-19	94,414	1,349	217,416	37,606	657	0.0143	2.30	0.398	0.007
Mar-19	51,647	532	134,758	22,821	443	0.0103	2.45	0.442	0.009
Apr-19	163,965	1,466	364,376	68,409	1,534	0.0089	2.22	0.417	0.009
May-19	140,078	1,388	274,593	56,621	1,391	0.0099	1.96	0.404	0.010
Jun-19	78,554	853	129,283	23,589	779	0.0109	1.65	0.300	0.010

1. An SO_2, NOx, CO, and VOC CEMS is used to measure emissions of the respective pollutants. The CEMS system returns calculated daily emissions on a lb/ton production or a lb/day basis. Monthly SO_2, NOx, CO, and VOC emissions are calculated as the sum of daily SO_2, NOx, CO, and VOC emissions.

2. CEMS emission factors for SO_2, NOx, CO, and VOC (lb/ton clinker produced) are calculated using the monthly clinker throughout and monthly emissions. Note - if the emission factor calculated based on CEMS data is higher than the permitted emission factor provided in FOP 223900003, Part III, A.44, Condition 3, the permitted emission factor is used in this table, per MDAQMD Rule 1600/40 CFR 52.21 and MDAQMD Rule 1310 requirements.

Table 7. Kiln Gaseous Baseline Actual Emissions Determination [1]

Period Start	24-month Time Period End	BAE Determination (tpy)				Average Clinker Production (tpy)
		SO_2	NO_x	CO	VOC	
Jul-09	Jun-11	4.2	993.8	132.3	6.4	837,469
Aug-09	Jul-11	4.1	1,042.3	136.0	6.7	877,639
Sep-09	Aug-11	4.0	1,050.9	141.4	6.5	886,876
Oct-09	Sep-11	3.4	951.4	128.4	5.4	805,641
Nov-09	Oct-11	2.6	954.8	118.9	5.2	808,469
Dec-09	Nov-11	2.7	1,034.1	129.2	6.4	873,134
Jan-10	Dec-11	2.8	1,047.5	130.1	6.6	884,081
Feb-10	Jan-12	3.1	1,139.7	148.2	7.3	959,415
Mar-10	Feb-12	2.6	1,103.6	143.5	7.0	929,889
Apr-10	Mar-12	2.7	1,093.8	147.7	6.8	921,922
May-10	Apr-12	2.8	1,112.5	150.8	6.8	937,213
Jun-10	May-12	3.3	1,128.5	162.0	6.6	950,265
Jul-10	Jun-12	4.9	1,084.4	165.9	6.6	908,845
Aug-10	Jul-12	5.5	1,076.2	166.1	6.5	902,122
Sep-10	Aug-12	6.3	1,100.2	167.7	6.7	923,565
Oct-10	Sep-12	6.9	1,170.2	172.8	7.1	980,677
Nov-10	Oct-12	7.2	1,229.4	177.8	7.4	1,029,012
Dec-10	Nov-12	7.6	1,204.9	170.3	7.4	1,009,817
Jan-11	Dec-12	8.2	1,272.7	177.2	7.7	1,065,239
Feb-11	Jan-13	8.3	1,284.2	178.1	7.8	1,074,588
Mar-11	Feb-13	8.0	1,308.9	176.6	8.1	1,091,548
Apr-11	Mar-13	7.9	1,282.7	169.5	8.1	1,064,149
May-11	Apr-13	8.1	1,298.5	168.4	8.2	1,070,418
Jun-11	May-13	8.6	1,327.4	169.5	8.5	1,089,131
Jul-11	Jun-13	8.8	1,432.3	185.0	9.1	1,177,705
Aug-11	Jul-13	8.9	1,397.4	182.9	8.9	1,149,863
Sep-11	Aug-13	9.4	1,391.7	180.7	9.2	1,151,069
Oct-11	Sep-13	9.6	1,438.5	190.4	9.5	1,189,234
Nov-11	Oct-13	9.9	1,481.0	214.3	9.8	1,226,982
Dec-11	Nov-13	10.0	1,493.6	234.0	9.3	1,237,587
Jan-12	Dec-13	10.2	1,518.3	240.6	9.3	1,257,707
Feb-12	Jan-14	10.3	1,497.7	236.1	9.4	1,240,948
Mar-12	Feb-14	10.6	1,549.0	246.4	9.9	1,282,790
Apr-12	Mar-14	10.5	1,555.2	280.3	9.9	1,288,284
May-12	Apr-14	10.5	1,573.4	286.8	10.0	1,303,167
Jun-12	May-14	10.0	1,615.4	278.4	10.1	1,337,471
Jul-12	Jun-14	8.5	1,627.5	279.7	9.9	1,347,281
Aug-12	Jul-14	7.7	1,623.0	276.7	9.9	1,344,087
Sep-12	Aug-14	7.6	1,708.7	289.1	10.1	1,418,046
Oct-12	Sep-14	7.1	1,680.0	290.2	9.8	1,395,643
Nov-12	Oct-14	7.1	1,680.5	317.6	9.7	1,398,817
Dec-12	Nov-14	6.8	1,701.2	329.7	9.7	1,415,225
Jan-13	Dec-14	6.4	1,684.7	343.1	9.5	1,403,790
Feb-13	Jan-15	6.4	1,724.4	377.6	9.6	1,441,622
Mar-13	Feb-15	6.3	1,685.6	383.7	9.3	1,417,001
Apr-13	Mar-15	6.7	1,710.5	390.7	9.4	1,440,359
May-13	Apr-15	7.0	1,741.2	398.7	9.5	1,466,183
Jun-13	May-15	6.9	1,714.6	391.7	9.4	1,447,423
Jul-13	Jun-15	7.3	1,687.3	379.2	9.4	1,423,937
Aug-13	Jul-15	7.6	1,732.4	379.6	9.6	1,465,942
Sep-13	Aug-15	7.2	1,657.6	366.1	9.0	1,398,290
Oct-13	Sep-15	7.3	1,693.3	362.6	9.1	1,427,488
Nov-13	Oct-15	7.2	1,650.9	344.5	8.7	1,390,202
Dec-13	Nov-15	7.4	1,620.8	324.9	8.4	1,372,720
Jan-14	Dec-15	7.4	1,661.5	330.4	8.6	1,408,368
Feb-14	Jan-16	7.0	1,616.6	320.6	7.9	1,371,736
Mar-14	Feb-16	6.7	1,635.2	322.7	7.8	1,392,821
Apr-14	Mar-16	6.4	1,584.4	277.6	7.5	1,359,097
May-14	Apr-16	6.3	1,574.7	274.5	7.6	1,353,568
Jun-14	May-16	6.5	1,556.5	286.5	8.0	1,359,650
Jul-14	Jun-16	6.4	1,528.7	289.8	8.2	1,353,267
Aug-14	Jul-16	6.2	1,463.3	287.4	8.2	1,309,241
Sep-14	Aug-16	5.7	1,414.5	285.7	8.1	1,289,460
Oct-14	Sep-16	5.6	1,400.8	282.9	8.0	1,283,199
Nov-14	Oct-16	5.3	1,353.6	254.3	7.8	1,252,153
Dec-14	Nov-16	5.4	1,340.3	252.0	7.8	1,260,351
Jan-15	Dec-16	5.2	1,300.7	233.6	7.6	1,227,439
Feb-15	Jan-17	5.3	1,299.8	210.3	7.7	1,232,340
Mar-15	Feb-17	5.2	1,304.6	209.9	7.7	1,239,724
Apr-15	Mar-17	4.9	1,293.4	210.3	7.6	1,236,338
May-15	Apr-17	4.4	1,255.8	205.9	7.5	1,217,759
Jun-15	May-17	4.4	1,280.0	216.6	7.4	1,248,409
Jul-15	Jun-17	4.1	1,261.2	224.3	7.0	1,238,493
Aug-15	Jul-17	4.0	1,206.6	224.7	6.6	1,193,381
Sep-15	Aug-17	5.1	1,265.4	237.7	6.7	1,253,363
Oct-15	Sep-17	5.0	1,212.4	235.0	6.4	1,218,700
Nov-15	Oct-17	5.2	1,248.0	240.8	6.3	1,255,538
Dec-15	Nov-17	5.0	1,230.5	238.0	6.0	1,242,741
Jan-16	Dec-17	5.2	1,216.8	239.9	5.8	1,243,591
Feb-16	Jan-18	5.3	1,226.4	244.5	5.7	1,257,983
Mar-16	Feb-18	5.4	1,206.8	239.0	5.5	1,240,868
Apr-16	Mar-18	5.5	1,202.7	245.6	5.3	1,242,688
May-16	Apr-18	5.6	1,234.0	247.9	5.1	1,276,553
Jun-16	May-18	5.5	1,195.9	236.8	4.4	1,228,733
Jul-16	Jun-18	5.9	1,236.4	235.4	4.1	1,252,341
Aug-16	Jul-18	6.1	1,293.2	245.4	4.0	1,295,287
Sep-16	Aug-18	6.4	1,293.5	249.2	4.0	1,276,334
Oct-16	Sep-18	6.9	1,329.8	268.1	4.1	1,309,887
Nov-16	Oct-18	7.7	1,373.5	279.5	4.2	1,356,644
Dec-16	Nov-18	7.7	1,309.5	267.7	4.0	1,285,034
Jan-17	Dec-18	8.4	1,379.1	279.6	4.2	1,351,842
Feb-17	Jan-19	8.9	1,395.1	278.3	4.4	1,366,525
Mar-17	Feb-19	9.1	1,404.5	277.3	4.4	1,366,426
Apr-17	Mar-19	9.2	1,392.3	274.6	4.3	1,347,716
May-17	Apr-19	9.4	1,411.5	280.7	4.4	1,358,181
Jun-17	May-19	9.4	1,411.7	278.9	4.5	1,358,495
Jul-17	Jun-19	9.3	1,385.2	274.1	4.5	1,342,600
24-month Annual Average BAE (tpy):		11	1,741	399	10	
Corresponding 24-Month Time Period:		Mar 2012-Feb 2014	May 2013-Apr 2015	May 2013-Apr 2015	Sep 2012-Aug 2014	
BAE Emission Factor (lb/ton):		0.017	2.375	0.544	0.014	

1. BAE calculated pursuant to MDAQMD Rule 1310 (non attainment pollutants) and Rule 1600/40 CFR 52.21 (attainment pollutants).

Table 8. Kiln Gaseous Projected Actual Emissions (PAE) [1]

Projected Clinker Production[2] (tpy)	PAE EF[3] (lb/ton clinker produced)				PAE (tpy)[3]			
	SO_2	NOx	CO	VOC	SO_2	NO_x	CO	VOC
2,200,000	0.025	2.39	0.58	0.03	28	2,629	638	33

1. PAE calculated pursuant to MDAQMD Rule 1310.E(3) and 40 CFR 52.21.
2. Projected clinker production based on the annual amount of clinker that the kiln is capable of producing.
3. PAE Emissions (tpy) = PAE Emission Factor (lb/ton) x Projected Clinker Production (ton/year) / 2000 (lb/ton)

Table 9. Kiln Gaseous Could Have Accommodated (CHA) Emissions [1]

Pollutant	Baseline Period Clinker Production[2] (tpy)	CHA Clinker Production[3] (tpy)	Emission Factor[4] (lb/ton)	CHA Emissions[5] (tons/year)
SO_2	1,282,790	917,210	0.017	7.6
NO_x	1,466,183	733,817	2.375	871.5
CO	1,466,183	733,817	0.544	199.6
VOC	1,418,046	781,954	0.014	5.6

1. CHA Emissions calculated pursuant to MDAQMD Rule 1310 and 40 CFR 52.21.
2. Refer to Table 7 for corresponding clinker production during the respective baseline period selected for the relevant pollutant.
3. CHA Clinker Production is calculated based on the difference between 2,200,000 tons per year clinker and the baseline period clinker production. The maximum monthly clinker production multiplied by 12 is greater than the projected clinker production, indicating the Kiln is capable of accommodating the CHA level of production.
4. Refer to Table 7 for BAE emission factor used in CHA emission calculations.
5. CHA Emissions (tpy) = CHA Clinker Production (ton clinker/year) x BAE Emission Factor (lb pollutant/ton clinker) / 2,000 (lb/ton)

Table 10. Reference Permit Limit Table (lb/ton Clinker) [1]

SO_2	NO_x	CO	VOC
0.13	2.45	1.5	0.06

1. Per FOP 223900003, Part III, A.44, Condition 3

Table 11. Kiln Monthly PM Emissions from July 2010 to June 2019

Month/Year	Clinker Production (ton/month)	Stack Test Emission Factors[1] (lb/ton)			Monthly Emissions[2] (lb/month)		
		PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Jul-10	164,586	0.028	0.028	0.023	4,684	4,684	3,720
Aug-10	0	0.028	0.028	0.023	0	0	0
Sep-10	0	0.028	0.028	0.023	0	0	0
Oct-10	36,912	0.028	0.028	0.023	1,051	1,051	834
Nov-10	160,268	0.028	0.028	0.023	4,561	4,561	3,623
Dec-10	0	0.028	0.028	0.023	0	0	0
Jan-11	0	0.028	0.028	0.023	0	0	0
Feb-11	95,166	0.028	0.028	0.023	2,709	2,709	2,151
Mar-11	103,922	0.028	0.028	0.023	2,958	2,958	2,349
Apr-11	116,008	0.028	0.028	0.023	3,302	3,302	2,622
May-11	78,242	0.028	0.028	0.023	2,227	2,227	1,769
Jun-11	0	0.028	0.028	0.023	0	0	0
Jul-11	130,306	0.028	0.028	0.023	3,709	3,709	2,946
Aug-11	174,772	0.028	0.028	0.023	4,974	4,974	3,951
Sep-11	0	0.028	0.028	0.023	0	0	0
Oct-11	67,844	0.037	0.037	0.027	2,517	2,517	1,836
Nov-11	129,330	0.037	0.037	0.027	4,797	4,797	3,500
Dec-11	21,894	0.037	0.037	0.027	812	812	593
Jan-12	150,669	0.037	0.037	0.027	5,589	5,589	4,078
Feb-12	0	0.037	0.037	0.027	0	0	0
Mar-12	155,284	0.037	0.037	0.027	5,760	5,760	4,203
Apr-12	42,455	0.037	0.037	0.027	1,575	1,575	1,149
May-12	94,429	0.037	0.037	0.027	3,503	3,503	2,556
Jun-12	95,607	0.037	0.037	0.027	3,546	3,546	2,588
Jul-12	151,139	0.012	0.012	0.007	1,851	1,851	1,097
Aug-12	42,885	0.012	0.012	0.007	525	525	311
Sep-12	114,226	0.012	0.012	0.007	1,399	1,399	829
Oct-12	133,582	0.012	0.012	0.007	1,636	1,636	970
Nov-12	121,876	0.012	0.012	0.007	1,493	1,493	885
Dec-12	110,844	0.012	0.012	0.007	1,358	1,358	805
Jan-13	18,698	0.012	0.012	0.007	229	229	136
Feb-13	129,087	0.012	0.012	0.007	1,581	1,581	937
Mar-13	49,124	0.012	0.012	0.007	602	602	357
Apr-13	128,546	0.012	0.012	0.007	1,574	1,574	933
May-13	115,669	0.012	0.012	0.007	1,417	1,417	840
Jun-13	177,148	0.012	0.012	0.007	2,170	2,170	1,286
Jul-13	74,620	0.015	0.015	0.011	1,129	1,129	792
Aug-13	177,185	0.015	0.015	0.011	2,681	2,681	1,881
Sep-13	76,330	0.015	0.015	0.011	1,155	1,155	810
Oct-13	143,340	0.015	0.015	0.011	2,169	2,169	1,522
Nov-13	150,539	0.015	0.015	0.011	2,278	2,278	1,598
Dec-13	62,132	0.015	0.015	0.011	940	940	660
Jan-14	117,152	0.015	0.015	0.011	1,773	1,773	1,244
Feb-14	83,683	0.015	0.015	0.011	1,266	1,266	888
Mar-14	166,272	0.015	0.015	0.011	2,516	2,516	1,765
Apr-14	72,220	0.015	0.015	0.011	1,093	1,093	767
May-14	163,037	0.015	0.015	0.011	2,467	2,467	1,731
Jun-14	115,227	0.015	0.015	0.011	1,744	1,744	1,223
Jul-14	144,750	0.015	0.015	0.011	2,190	2,190	1,537
Aug-14	190,804	0.042	0.042	0.032	8,056	8,056	6,057
Sep-14	69,421	0.042	0.042	0.032	2,931	2,931	2,204
Oct-14	139,929	0.042	0.042	0.032	5,908	5,908	4,442
Nov-14	154,693	0.042	0.042	0.032	6,531	6,531	4,910
Dec-14	87,973	0.042	0.042	0.032	3,714	3,714	2,793
Jan-15	94,363	0.042	0.042	0.032	3,984	3,984	2,995
Feb-15	79,844	0.042	0.042	0.032	3,371	3,371	2,534
Mar-15	95,840	0.042	0.042	0.032	4,046	4,046	3,042
Apr-15	180,193	0.042	0.042	0.032	7,608	7,608	5,720
May-15	78,150	0.042	0.042	0.032	3,299	3,299	2,481
Jun-15	130,175	0.042	0.042	0.032	5,496	5,496	4,132
Jul-15	158,630	0.042	0.042	0.032	6,697	6,697	5,035
Aug-15	41,882	0.028	0.028	0.017	1,162	1,162	723
Sep-15	134,726	0.028	0.028	0.017	3,737	3,737	2,326
Oct-15	68,769	0.028	0.028	0.017	1,908	1,908	1,187
Nov-15	115,576	0.028	0.028	0.017	3,206	3,206	1,995
Dec-15	133,428	0.028	0.028	0.017	3,701	3,701	2,303
Jan-16	43,887	0.028	0.028	0.017	1,217	1,217	758
Feb-16	125,853	0.028	0.028	0.017	3,491	3,491	2,173
Mar-16	98,824	0.028	0.028	0.017	2,741	2,741	1,706
Apr-16	61,164	0.028	0.028	0.017	1,697	1,697	1,056
May-16	175,199	0.028	0.028	0.017	4,860	4,860	3,025
Jun-16	102,462	0.028	0.028	0.017	2,842	2,842	1,769
Jul-16	56,697	0.028	0.028	0.017	1,573	1,573	979
Aug-16	151,241	0.052	0.052	0.030	7,826	7,826	4,504
Sep-16	56,899	0.052	0.052	0.030	2,944	2,944	1,695
Oct-16	77,837	0.052	0.052	0.030	4,028	4,028	2,318
Nov-16	171,089	0.052	0.052	0.030	8,853	8,853	5,095
Dec-16	22,149	0.052	0.052	0.030	1,146	1,146	660
Jan-17	104,165	0.052	0.052	0.030	5,390	5,390	3,102
Feb-17	94,611	0.052	0.052	0.030	4,896	4,896	2,818
Mar-17	89,069	0.052	0.052	0.030	4,609	4,609	2,653
Apr-17	143,034	0.052	0.052	0.030	7,401	7,401	4,260
May-17	139,451	0.052	0.052	0.030	7,216	7,216	4,153
Jun-17	110,344	0.019	0.019	0.015	2,135	2,135	1,650
Jul-17	68,405	0.019	0.019	0.015	1,324	1,324	1,023
Aug-17	161,845	0.019	0.019	0.015	3,132	3,132	2,420
Sep-17	65,400	0.019	0.019	0.015	1,266	1,266	978
Oct-17	142,446	0.019	0.019	0.015	2,756	2,756	2,130
Nov-17	89,981	0.019	0.019	0.015	1,741	1,741	1,345
Dec-17	135,128	0.019	0.019	0.015	2,615	2,615	2,020
Jan-18	72,672	0.019	0.019	0.015	1,406	1,406	1,087
Feb-18	91,621	0.019	0.019	0.015	1,773	1,773	1,370
Mar-18	102,465	0.019	0.019	0.015	1,983	1,983	1,532
Apr-18	128,893	0.019	0.019	0.015	2,494	2,494	1,927
May-18	79,561	0.009	0.009	0.007	734	734	545
Jun-18	149,678	0.009	0.009	0.007	1,382	1,382	1,025
Jul-18	142,589	0.009	0.009	0.007	1,316	1,316	977
Aug-18	113,334	0.009	0.009	0.007	1,046	1,046	776
Sep-18	124,007	0.009	0.009	0.007	1,145	1,145	850
Oct-18	171,352	0.009	0.009	0.007	1,582	1,582	1,174
Nov-18	27,869	0.009	0.009	0.007	257	257	191
Dec-18	155,765	0.009	0.009	0.007	1,438	1,438	1,067
Jan-19	133,530	0.009	0.009	0.007	1,233	1,233	915
Feb-19	94,414	0.009	0.009	0.007	872	872	647
Mar-19	51,647	0.009	0.009	0.007	477	477	354
Apr-19	163,965	0.009	0.009	0.007	1,514	1,514	1,123
May-19	140,078	0.009	0.009	0.007	1,293	1,293	960
Jun-19	78,554	0.009	0.009	0.007	725	725	538

1. Emission Factor (lb/ton) = Fraction of Raw Mill ON x Emission Rate Raw Mill ON (lb/ton) + Fraction of Raw Mill OFF x Emission Rate Raw Mill OFF (lb/ton)
2. Monthly Emission (lb/month) = Emission Factor (lb/ton) x Clinker Produced (ton/month)

Table 12. Kiln PM Baseline Actual Emissions Determination (BAE) [1]

Period Start	24-month Time Period End	BAE Emissions Determination (tpy)			Clinker Produced (ton)
		PM	PM_{10}	$PM_{2.5}$	
Jul-10	Jun-12	14.57	14.57	11.12	908,845.39
Aug-10	Jul-12	13.86	13.86	10.46	902,121.88
Sep-10	Aug-12	13.99	13.99	10.54	923,564.56
Oct-10	Sep-12	14.34	14.34	10.75	980,677.36
Nov-10	Oct-12	14.49	14.49	10.78	1,029,012.26
Dec-10	Nov-12	13.72	13.72	10.10	1,009,816.67
Jan-11	Dec-12	14.06	14.06	10.30	1,065,238.76
Feb-11	Jan-13	14.12	14.12	10.33	1,074,587.73
Mar-11	Feb-13	13.83	13.83	10.03	1,091,547.81
Apr-11	Mar-13	13.25	13.25	9.53	1,064,148.76
May-11	Apr-13	12.81	12.81	9.11	1,070,418.09
Jun-11	May-13	12.61	12.61	8.87	1,089,131.42
Jul-11	Jun-13	13.15	13.15	9.20	1,177,705.49
Aug-11	Jul-13	12.51	12.51	8.66	1,149,862.80
Sep-11	Aug-13	11.94	11.94	8.14	1,151,069.22
Oct-11	Sep-13	12.22	12.22	8.34	1,189,234.13
Nov-11	Oct-13	12.14	12.14	8.26	1,226,982.48
Dec-11	Nov-13	11.51	11.51	7.79	1,237,587.22
Jan-12	Dec-13	11.54	11.54	7.80	1,257,706.55
Feb-12	Jan-14	10.59	10.59	7.10	1,240,948.25
Mar-12	Feb-14	10.90	10.90	7.32	1,282,789.73
Apr-12	Mar-14	10.09	10.09	6.71	1,288,283.75
May-12	Apr-14	9.97	9.97	6.61	1,303,166.64
Jun-12	May-14	9.71	9.71	6.41	1,337,470.50
Jul-12	Jun-14	9.26	9.26	6.07	1,347,280.95
Aug-12	Jul-14	9.35	9.35	6.18	1,344,086.68
Sep-12	Aug-14	11.23	11.23	7.61	1,418,045.81
Oct-12	Sep-14	11.61	11.61	7.96	1,395,643.45
Nov-12	Oct-14	12.68	12.68	8.82	1,398,817.03
Dec-12	Nov-14	13.94	13.94	9.83	1,415,225.34
Jan-13	Dec-14	14.53	14.53	10.33	1,403,789.83
Feb-13	Jan-15	15.47	15.47	11.04	1,441,622.18
Mar-13	Feb-15	15.91	15.91	11.44	1,417,000.80
Apr-13	Mar-15	16.78	16.78	12.11	1,440,359.02
May-13	Apr-15	18.28	18.28	13.31	1,466,182.52
Jun-13	May-15	18.75	18.75	13.72	1,447,423.12
Jul-13	Jun-15	19.59	19.59	14.43	1,423,936.75
Aug-13	Jul-15	20.98	20.98	15.49	1,465,941.63
Sep-13	Aug-15	20.60	20.60	15.20	1,398,289.96
Oct-13	Sep-15	21.24	21.24	15.58	1,427,488.16
Nov-13	Oct-15	21.18	21.18	15.50	1,390,202.28
Dec-13	Nov-15	21.41	21.41	15.60	1,372,720.45
Jan-14	Dec-15	22.10	22.10	16.01	1,408,368.02
Feb-14	Jan-16	21.96	21.96	15.89	1,371,735.75
Mar-14	Feb-16	22.52	22.52	16.21	1,392,820.55
Apr-14	Mar-16	22.57	22.57	16.19	1,359,096.51
May-14	Apr-16	22.73	22.73	16.27	1,353,568.49
Jun-14	May-16	23.32	23.32	16.59	1,359,649.93
Jul-14	Jun-16	23.60	23.60	16.73	1,353,267.41
Aug-14	Jul-16	23.44	23.44	16.59	1,309,241.00
Sep-14	Aug-16	23.39	23.39	16.20	1,289,459.67
Oct-14	Sep-16	23.39	23.39	16.07	1,283,198.96
Nov-14	Oct-16	22.92	22.92	15.54	1,252,153.12
Dec-14	Nov-16	23.50	23.50	15.59	1,260,351.19
Jan-15	Dec-16	22.86	22.86	15.05	1,227,439.17
Feb-15	Jan-17	23.21	23.21	15.08	1,232,340.36
Mar-15	Feb-17	23.59	23.59	15.15	1,239,724.09
Apr-15	Mar-17	23.73	23.73	15.05	1,236,338.44
May-15	Apr-17	23.68	23.68	14.69	1,217,758.61
Jun-15	May-17	24.66	24.66	15.11	1,248,409.09
Jul-15	Jun-17	23.82	23.82	14.49	1,238,493.36
Aug-15	Jul-17	22.48	22.48	13.48	1,193,380.87
Sep-15	Aug-17	22.97	22.97	13.91	1,253,362.81
Oct-15	Sep-17	22.35	22.35	13.57	1,218,699.70
Nov-15	Oct-17	22.56	22.56	13.81	1,255,538.29
Dec-15	Nov-17	22.20	22.20	13.64	1,242,740.93
Jan-16	Dec-17	21.93	21.93	13.57	1,243,590.98
Feb-16	Jan-18	21.97	21.97	13.65	1,257,983.24
Mar-16	Feb-18	21.54	21.54	13.45	1,240,867.51
Apr-16	Mar-18	21.35	21.35	13.41	1,242,688.32
May-16	Apr-18	21.55	21.55	13.63	1,276,552.65
Jun-16	May-18	20.52	20.52	13.01	1,228,733.36
Jul-16	Jun-18	20.16	20.16	12.82	1,252,341.12
Aug-16	Jul-18	20.09	20.09	12.82	1,295,286.98
Sep-16	Aug-18	18.40	18.40	11.89	1,276,333.52
Oct-16	Sep-18	17.95	17.95	11.68	1,309,887.12
Nov-16	Oct-18	17.34	17.34	11.39	1,356,644.42
Dec-16	Nov-18	15.19	15.19	10.17	1,285,034.34
Jan-17	Dec-18	15.26	15.26	10.27	1,351,842.36
Feb-17	Jan-19	14.22	14.22	9.72	1,366,525.01
Mar-17	Feb-19	13.21	13.21	9.18	1,366,426.43
Apr-17	Mar-19	12.18	12.18	8.60	1,347,715.56
May-17	Apr-19	10.71	10.71	7.82	1,358,181.24
Jun-17	May-19	9.23	9.23	7.02	1,358,494.61
Jul-17	Jun-19	8.88	8.88	6.74	1,342,599.56
24-month Annual Average BAE (tpy):		24.7	24.7	16.7	
Corresponding 24-Month Time Period:		Jun-15-May-17	Jun-15-May-17	Jul-14-Jun-16	
Emission Factor (lb/ton):		0.040	0.040	0.025	

1. BAE calculated pursuant to MDAQMD Rule 1310 and Rule 1600/40 CFR 52.21.

Table 13. Projected Actual Emissions of Kiln [1]

Projected Clinker Production[2] (tpy)	PAE Emission Factors (lb/ton)			PAE[3] (tpy)		
	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
2,200,000	0.041	0.041	0.026	45.10	45.10	28.22

1. PAE calculated pursuant to MDAQMD Rule 1310 (non attainment pollutants) and Rule 1600/40 CFR 52.21 (attainment pollutants).
2. Projected clinker production based on the annual amount of clinker that the kiln is capable of producing.
3. PAE Emissions (tpy) = PAE Emission Factor (lb/ton) x Projected Clinker Production (ton/year) / 2000 (lb/ton)

Table 14. PM Speciation Factors for a Dry Kiln Controlled by a Fabric Filter

Pollutant	Mass Percent Speciation of PM[1]
$PM_{2.5}$	0.45

1. AP 42 Chapter 11.6 Table 11.6-5

Table 15. Kiln PM Could Have Accommodated (CHA) Emissions

Pollutant	Baseline Period Clinker Production[2] (tpy)	Could Have Accommodated (CHA) Clinker Production[3] (tpy)	Emission Factor[4] (lb/ton)	Emissions[5] (tons/year)
PM	1,248,409	951,591	0.040	18.8
PM_{10}	1,248,409	951,591	0.040	18.8
$PM_{2.5}$	1,353,267	846,733	0.025	10.5

1. CHA emissions calculated pursuant to MDAQMD Rule 1310.E(3) (non-attainment pollutants) and 40 CFR 52.21 (attainment pollutants).
2. Refer to Table 12 for corresponding clinker production during the respective baseline period selected for the relevant pollutant.
3. CHA Clinker Production is calculated based on the difference between 2,200,000 tons per year clinker and the baseline period clinker production. The maximum monthly clinker production multiplied by 12 is greater than the projected clinker production, indicating the Kiln is capable of accommodating the CHA level of production.
4. Refer to Table 12 for BAE emission factor used in CHA emission calculations.
5. CHA Emissions (tpy) = CHA Clinker Production (ton clinker/year) x BAE Emission Factor (lb pollutant/ton clinker) / 2,000 (lb/ton)

Table 16. New Baghouse Parameters

Process	Baghouse Equipment ID	Flow Rate[1] (acfm)	Temperature[2] (Fahrenheit)	Temperature[3] (Rankine)	Pressure[4] (inHg)	Flow Rate[5] (dscfm)	Maximum Outlet Grain Loading[6] (gr/dscf)
Coke Handling System	231BF301	4,500	70	530	26.82	3,851	0.005
	231BF302	4,500	70	530	26.82	3,851	0.005
	461BF301	6,000	70	530	26.82	5,134	0.005
Silo-Cement Storage	611BF015	7,875	135	595	26.82	6,002	0.005
	611BF016	5,616	150	610	26.82	4,175	0.005
	611BF017	7,875	135	595	26.82	6,002	0.005
Alternate Fuel Handling System	Baghouse 1	5,000	70	530	26.82	4,279	0.005
	Baghouse 2	5,000	70	530	26.82	4,279	0.005
	Baghouse 3	5,000	70	530	26.82	4,279	0.005
	Baghouse 4	5,000	70	530	26.82	4,279	0.005
	Baghouse 5	5,000	70	530	26.82	4,279	0.005

1. Baghouse flow rates are from the Flow Diagrams provided in Appendix C.
2. Baghouse temperatures provided in Appendix A. Silo-Cement Storage baghouse temperatures from FOP 223900003.
3. Temperature (R) = Temperature (F) + 459.67
4. Pressure (inHg) from 2016 Comprehensive Emission Inventory (CEIR) and based on actual site atmospheric conditions
5. Flow Rate (dscfm) = Flow Rate (acfm) x (Standard Temperature (Rankine) / Actual Exhaust Temperature (Rankine)) x (Actual Pressure (inHg) / Standard Pressure (inHg)) x (1 - Moisture of Ambient Air (%) / 100)

Standard Pressure (inHg)	29.92
Standard Temperature (Rankine)	519.67
Moisture Content Ambient Air (%)	2.7

6. Based on baghouse BACT limit established by MDAQMD in Finish Mill 2 Project.

Table 17. New Baghouse Hourly Emissions

Process	Baghouse Equipment ID	PM Emissions[1] (lb/hr)	PM_{10} Emissions[1] (lb/hr)	$PM_{2.5}$ Emissions[1] (lb/hr)
Coke Handling System	231BF301	0.17	0.058	0.0087
	231BF302	0.17	0.058	0.0087
	461BF301	0.22	0.077	0.0117
Silo-Cement Storage	611BF015	0.26	0.237	0.1595
	611BF016	0.18	0.165	0.1109
	611BF017	0.26	0.237	0.1595
Alternate Fuel Handling System	Baghouse 1	0.18	0.090	0.0135
	Baghouse 2	0.18	0.090	0.0135
	Baghouse 3	0.18	0.090	0.0135
	Baghouse 4	0.18	0.090	0.0135
	Baghouse 5	0.18	0.090	0.0135

1. Emissions (lb/hr) = Grain Loading (gr/scf) x Flow Rate (scfm) x 60 (min/hr) / 7,000 (gr/lb)

Table 18. PM Speciation Factors for Petroleum Coke, Cement, and Biosolids

PM Speciation with respect to Total PM	Coke[1]	Cement[2]	Biosolids[3]
Weight Fraction of $PM_{2.5}$	0.053	0.62	0.0734
Weight Fraction of PM_{10}	0.35	0.92	0.49
Weight Fraction of PM	1.00	1.00	1.00

1. Nevada Division of Environmental Protection, Bureau of Air Pollution Control, *Guidance on Emission Factors for the Mining Industry.* May 31, 2017.
2. Yang, Wenli. *PM Size and Chemical Speciation Profile for Concrete Batching - PM3431.* Air Resources Board. October 22, 2013.
3. California Air Resources Board speciation profile 421, for SCC 50400301, Open Refuse Stockpile

Table 19. New Baghouse Potential to Emit

Process	Baghouse Equipment ID	Annual Operating Hours (hr/year)	PTE		
			PM Emissions[1] (tpy)	PM_{10} Emissions[1] (tpy)	$PM_{2.5}$ Emissions[1] (tpy)
Coke Handling System	231BF301	8,760	0.72	0.25	0.04
	231BF302	8,760	0.72	0.25	0.04
	461BF301	8,760	0.96	0.34	0.05
Silo-Cement Storage	611BF015	8,760	1.13	1.04	0.70
	611BF016	8,760	0.78	0.72	0.49
	611BF017	8,760	1.13	1.04	0.70
Alternate Fuel Handling System	Baghouse 1	8,760	0.80	0.39	0.06
	Baghouse 2	8,760	0.80	0.39	0.06
	Baghouse 3	8,760	0.80	0.39	0.06
	Baghouse 4	8,760	0.80	0.39	0.06
	Baghouse 5	8,760	0.80	0.39	0.06
		Total PTE (tpy):	9.46	5.61	2.31

1. PTE (tpy) = Hourly Emissions (lb/hr) x Annual Operating Hours (hr/yr)/ 2000 (lb/ton)

Table 20. Baghouse to be Shutdown Parameters

Process	Baghouse Equipment ID	Flow Rate[1] (acfm)	Temperature[1] (Fahrenheit)	Temperature[2] (Rankine)	Pressure[3] (inHg)	Flow Rate[4] (dscfm)	Maximum Outlet Grain Loading[1] (gr/dscf)
Silo-Cement Storage	611BF015	7,875	135	595	26.82	6,002	0.1
	611BF016	5,616	150	610	26.82	4,175	0.1
	611BF017	7,875	135	595	26.82	6,002	0.1

1. Baghouse flow rate is from Federal Operating Permit #223900003, revised on August 31, 2018.
2. Temperature (R) = Temperature (F) + 459.67
3. Pressure (inHg) from 2016 Comprehensive Emission Inventory (CEIR) and based on actual site atmospheric conditions
4. Flow Rate (dscfm) = Flow Rate (acfm) x (Standard Temperature (Rankine) / Actual Exhaust Temperature (Rankine)) x (Actual Pressure (inHg) / Standard Pressure (inHg)) x (1 - Moisture of Ambient Air (%)/100)

Standard Pressure (inHg)	29.92
Standard Temperature (Rankine)	519.67
Moisture Content Ambient Air (%)	2.7

Table 21. Potential to Emit of Baghouses to be Shutdown

Process	Baghouse Equipment ID	PM Emissions[1] (lb/hr)	PM_{10} Emissions[1] (lb/hr)	$PM_{2.5}$ Emissions[1] (lb/hr)	PM Emissions[1] (tpy)	PM_{10} Emissions[1] (tpy)	$PM_{2.5}$ Emissions[1] (tpy)
Silo-Cement Storage	611BF015	5.14	4.73	3.19	22.53	20.73	13.97
	611BF016	3.58	3.29	2.22	15.67	14.42	9.72
	611BF017	5.14	4.73	3.19	22.53	20.73	13.97

1. Emissions (lb/hr) = Grain Loading (gr/scf) x Flow Rate (scfm) x 60 (min/hr) / 7,000 (gr/lb)

Table 22. PM Speciation Factors

PM Speciation with respect to Total PM[1]	
Weight Fraction of $PM_{2.5}$	0.62
Weight Fraction of PM_{10}	0.92
Weight Fraction of PM	1.00

1. Yang, Wenli. *PM Size and Chemical Speciation Profile for Concrete Batching - PM3431.* Air Resources Board. October 22, 2013.

Table 23. PM Annual Emissions of Baghouses to be Shutdown

Year	Annual Operating Hours[2] (hr/yr)	PM Annual Emissions[1] (tpy)			PM_{10} Annual Emissions[1] (tpy)			$PM_{2.5}$ Annual Emissions[1] (tpy)		
		Baghouse 611BF015	Baghouse 611BF016	Baghouse 611BF017	Baghouse 611BF015	Baghouse 611BF016	Baghouse 611BF017	Baghouse 611BF015	Baghouse 611BF016	Baghouse 611BF017
2017	8,492	21.8	15.2	21.8	20.1	14.0	20.1	13.54	9.42	13.54
2018	8,492	21.8	15.2	21.8	20.1	14.0	20.1	13.54	9.42	13.54
2019	4,320	11.1	7.7	11.1	10.2	7.1	10.2	6.89	4.79	6.89

1. $PM/PM_{10}/PM_{2.5}$ Annual Emissions (tpy) = $PM/PM_{10}/PM_{2.5}$ Emissions (lb/hr) x Annual Operating Hours (hr/yr)/2000 (lb/ton)
2. 2019 Operating hours assume continuous operation from January through June. 180 Days, 24 hours each.

Table 24. Historical Actual Emissions (HAE) of Baghouses to be Shutdown [1]

Baghouse Equipment ID	PM[4] (tpy)			PM_{10}[4] (tpy)			$PM_{2.5}$[4] (tpy)		
	Year 1[2]	Year 2[3]	Average	Year 1[2]	Year 2[3]	Average	Year 1[2]	Year 2[3]	Average
611BF015	21.8	22.0	21.9	20.1	20.3	20.2	13.5	13.7	13.6
611BF016	15.2	15.3	15.3	14.0	14.1	14.0	9.4	9.5	9.5
611BF017	21.8	22.0	21.9	20.1	20.3	20.2	13.5	13.7	13.6

1. HAE calculated pursuant to MDAQMD Rule 1304(D)(2)(a)(i).
2. Year 1 is July 2017 to June 2018.
3. Year 2 is July 2018 to June 2019.
4. It is assumed that annual emissions are split evenly between the months in order to estimate the emissions from Year 1 and Year 2.

Table 25. Fugitive Emissions Comparison

Material	Heating Valve[1, 2] (Btu/ton)	Mass (ton)	Heat[3] (Btu)	Moisture Content[4, 5, 6, 7, 8, 9] (%)	Mean Wind Speed[10] (mph)	Emission Factors[11, 12]			Unit Emission Rate[13]		
						PM (lb/ton)	PM_{10} (lb/ton)	$PM_{2.5}$ (lb/ton)	PM (lb/ton equivalent)	PM_{10} (lb/ton equivalent)	$PM_{2.5}$ (lb/ton equivalent)
Coal	24,034,000	1.00	24,034,000	8.15	7.7	5.81E-04	2.75E-04	4.16E-05	5.81E-04	2.75E-04	4.16E-05
Coke	28,526,000	0.84	24,034,000	7.34	7.7	6.72E-04	3.18E-04	4.82E-05	5.67E-04	2.68E-04	4.06E-05
Tires (Whole and Chipped)	28,000,000	0.86	24,034,000	N/A	7.7	0	0	0	0	0	0
Wood/cardboard/paper	16,081,600	1.49	24,034,000	8	7.7	5.96E-04	2.82E-04	4.27E-05	8.91E-04	4.21E-04	6.38E-05
Biosolids	10,390,000	2.31	24,034,000	5.6	7.7	9.82E-04	4.64E-04	7.03E-05	2.27E-03	1.07E-03	1.63E-04
Yard waste/Ag. Byproducts	8,250,000	2.91	24,034,000	29.84	7.7	9.44E-05	4.46E-05	6.76E-06	2.75E-04	1.30E-04	1.97E-05
Dust Collector Bags	N/A	N/A	N/A	N/A	7.7	0	0	0	0	0	0
Alternate Fuel with Maximum Unit Emission Rate			Biosolids						2.27E-03	1.07E-03	1.63E-04

1. Coal and Coke heating values from May 2016 Standard Laboratories Coal and Coke Analysis, provided in Appendix D.
2. Remaining fuel heating values from 40 CFR 98 Table C-1
3. Heat (Btu) = Heating Value (Btu/ton) x Mass (ton)
4. Coal and Coke Moisture Contents from May 2016 Standard Laboratories Coal and Coke Analysis, provided in Appendix D.
5. Coal and Coke Moisture Contents from May 2016 Standard Laboratories Coal and Coke Analysis, provided in Appendix D.
6. Tire and dust collector bag moisture contents not included - fugitive emissions are not expected from dust collector bag or whole and chipped tire material handling.
7. Wood moisture obtained from https://www.woodproducts.fi/content/moisture-properties-wood
8. Biosolids moisture obtained from https://www.mdpi.com/1996-1073/12/1/60/pdf
9. Yard Waste/Ag Byproducts moisture obtained from https://www.researchgate.net/publication/268510596_Physical_and_chemical_characterization_of_yard_waste
10. Mean wind speed comes from MDAQMD Mineral Industry Emission Inventory Guidance.
11. Emission Factors (lb/ton) = Particle Size Multiplier x 0.0032 x (Mean Wind Speed (mph)/5)^1.3 / (Material Moisture Content (%)/2)^1.4 per AP-42 Chapter 13.2.4, Equation 1.
12. Emissions are not expected from whole or chipped tires or dust collector bags
13. Particulate Unit Emission Rate Emissions (lb/ton equivalent) = Emission Factor (lb/ton) x Equivalent Mass (tons)

Table 26. Particle Size Multiplier [1]

PM	PM_{10}	$PM_{2.5}$
0.74	0.35	0.053

1. Particle Size Multiplier from AP-42 Section 13.2.4 Aggregate Handling and Storage Piles page 13.2.4-4.

Table 27. MSB Stockpile Coke to Coal Comparison [1]

Material	Mass[2] (ton)
Coal	20,744
Coke	17,478

1. Calculation of the amount of coke needed to create the same amount of heat as produced by the maximum coal stockpile size.
2. Heating-equivalent mass of coke calculated by multiplying the coal mass by the ratio of coal and coke heating values.

Table 28. Determination of New Drop Emission Factors

Drop Description	Inputs		Transfer Properties			Emission Factors[5]			Emissions[6]		
	Throughput Basis	Mean Wind Speed[1] (mph)	Material Moisture Content[2] (%)	Maximum Throughput[3] (tph)	Control Efficiency[4] (%)	PM (lb/ton)	PM_{10} (lb/ton)	$PM_{2.5}$ (lb/ton)	PM (lb/hr)	PM_{10} (lb/hr)	$PM_{2.5}$ (lb/hr)
Coke Front Loader Drop	Tons of Coke Used	7.7	7.34	42.13	0	6.72E-04	3.18E-04	4.82E-05	2.83E-02	1.34E-02	2.03E-03
Floor Truck Drop (x2)[7]	Tons of Fuel	7.7	5.6	115.66	0	9.82E-04	4.64E-04	7.03E-05	2.27E-01	1.07E-01	1.63E-02

1. Mean wind speed comes from MDAQMD Mineral Industry Emission Inventory Guidance.
2. Material Moisture Content comes from 2016 April Coal & Coke Grabs.pdf provided by CalPortland.
3. Assuming a Coal Maximum throughput of 50 tph, and corrected for higher heating content as compared to Coal (for alternate fuel, biosolids is assumed to be conservative).
4. Assuming a Control Efficiency of 0%.
5. Emission Factors (lb/ton) = Particle Size Multiplier x 0.0032 x (Mean Wind Speed (mph)/5)^1.3 / (Material Moisture Content (%)/2)^1.4 per AP-42 Chapter 13.2.4, Equation 1.
6. Particulate Emissions (lb/hr) = Emission Factor (lb/ton) x Maximum Throughput (tph) x (1-Control Efficiency/100)
7. The alternate fuel with the highest unit emission rate per ton throughput selected as the representative fuel for fugitve emissions, in this case biosolids. Assuming two drop points.

Table 29. New Drop Potential to Emit

Drop Description	Annual Hours (hr)	PTE (tpy)[1]		
		PM	PM_{10}	$PM_{2.5}$
Coke Front Loader Drop	8,760	1.24E-01	5.87E-02	8.89E-03
Floor Truck Drop (x2)	8,760	9.95E-01	4.71E-01	7.13E-02

1. PTE (tpy) = Emissions (lb/hr) x Annual Hours of Operation (hr) / (2,000 lb/ton)

Table 30. MSB Coke and Coal Stockpile Parameters

Material	Coal[1]	Coke[2]
Silt %	6	21.2
Control Efficiency[1] (%)	50	50

1. 50% control efficieny is from CalPortland 2018 CEIR.
2. Silt % from *City of Chicago Fugitive Dust Study* Table 2-1 Characteristics of Bulk Materials

Table 31. Particulate Aerodynamic Factor for Stockpiles [1]

PM	PM_{10}	$PM_{2.5}$
1.0	0.50	0.20

1. 2013 *MDAQMD Emission Inventory Guidance Mineral Handling and Processing Industries Section G*

Table 32. Meteorological Data [1]

Number of Days with Precipitation > 0.01 in	Percentage of Time with Wind Speed > 12 mph (%)
30	13.3

1. Meteorological Data come from Rows 85 and 86 of the Reference tab of the 2016 CEIR spreadsheet

Table 33. MSB Coal and Coke Stockpile Dimensions and Pile Parameters

Stockpile	Monthly Maximum Amount (ton)	Density[1] (lb/ft^3)	Volume (ft^3)	Maximum Pile Height[2] (ft)	Maximum Length[2] (ft)	Maximum Pile Width[2] (ft)	Maximum Monthly Pile Exposed Surface Area[3] (ft^2)	Maximum Monthly Pile Exposed Surface Area (acre)
Coal MSB	20,744	50	829,764	37	648	110	89,978	2.07
Coke MSB	20,744	50	829,764	37	648	110	89,978	2.07

1. City of Chicago Fugitive Dust Study Table 2-1 Characteristics of Bulk Materials

2. Maximum pile height, length, and width estimated from 8/29/18 Firmatek Report for the Coal MSB, as this is the Firmatek report with the maximum coal volume, which would maximize fugitive emissions. The Coke MSB pile dimensions were estimated using the MSB Coal stock pile dimensions in the 9/28/2018 Firmatek report.

3. Exposed Surface Area is estimated as the surface area of a triangular prism.

Table 34. MSB Coal and Coke Stockpile Potential to Emit

Stockpile	Emission Factor (ton/acre)[1]			Emissions (tpy)[2]		
	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Coal MSB	1.57	0.78	0.31	1.62	0.81	0.32
Coke MSB	5.54	2.77	1.11	5.72	2.86	1.14

1. Emission Factor (ton/acre) = Particulate Aerodynamic Factor x 1.7 x Silt Loading (%) / 1.5 x (365 days - Number of Rain Days) / 235 x Percentage of Strong Wind Days / 15 x 365 / 2000, per 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G

2. PM Emissions (tpy) = Emission Factor (ton/acre) x Maximum Exposed Surface Area (acres) x (1 - Control Efficiency (%) / 100) per 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G

Table 35. Portable Limestone Crushing and Screening Operations

Equipment	Throughputs (ton/hr)	Annual Hours (hr/yr)	Throughputs (tpy)	Emission Factor[1] (lb/ton)			Total Emissions[2] (lb/hr)			Total Emissions[3] (tpy)		
				PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Crusher #1	360	2,080	748,800	0.0012	0.00054	0.0001	0.43	0.19	0.04	0.45	0.20	0.04
Crusher #2	180	2,080	374,400	0.0012	0.00054	0.0001	0.22	0.10	0.02	0.22	0.10	0.02
Screener	540	2,080	1,123,200	0.0022	0.00074	0.00005	1.19	0.40	0.03	1.24	0.42	0.03
						Total	1.84	0.69	0.08	1.91	0.72	0.08

1. Emission factor for crusher and screener operations are from Table 11.19.2-2, AP-42 Section 11.19 for the Mineral Products Industry. Assumed controlled per water sprays that will be utilized.
2. Particulate Emissions (lb/hr) = Emission Factor (lb/ton) x Maximum Throughput (tph)
3. PTE (tpy) = Hourly Emissions (lb/hr) x Annual Operating Hours (hr/yr)/ 2000 (lb/ton). Use of material crushing and transfer operations will not exceed 40 hours/week

Table 36. Portable Limestone Material Handling Operations

Throughputs (ton/hr)	Throughputs (tpy)	Number of Drop Points[1]	Conveyor Cover Control Efficiency	Water-Spray Control Efficiency[2]	Emission Factors[3] (lb/ton)			Total Emissions[4] (lb/hr)			Total Emissions[5] (tpy)		
					PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
180	374,400	4	0%	75%	0.006	0.003	0.001	1.02	0.50	0.15	1.06	0.52	0.16
360	748,800	11	0%	75%	0.006	0.003	0.001	5.62	2.73	0.83	5.84	2.84	0.87
540	1,123,200	1	0%	75%	0.006	0.003	0.001	0.77	0.37	0.11	0.80	0.39	0.12
							Total	7.40	3.60	1.10	7.70	3.75	1.14

1. The PFD for the Limestone Crushing Operation shows the drop points for the crushed material and the mass flow at each drop point, as provided in Appendix C.
2. Water spray has a control efficiency of 75% at the point of application. Control efficiencies from Section E of MDAQMD Emission Inventory Guidance for Mineral Handling and Processing Industries.
3. Emission Factors (lb/ton) = Particle Size Multiplier x 0.0032 x (Mean Wind Speed (mph)/5)^1.3 / (Material Moisture Content (%)/2)^1.4 per AP-42 Chapter 13.2.4, Equation 1.

Wind Speed 7.7 mph

Moisture Content from 2018 CEIR 1.60 w/w%

Particulate Size Multipliers:

PM	PM_{10}	$PM_{2.5}$
0.74	0.36	0.11

4. Particulate Emissions (lb/hr) = Emission Factor (lb/ton) x Maximum Throughput (tph) x (1-Conveyor Cover Control Efficiency/100) x (1-Water Spray Control Efficiency/100)
5. PTE (tpy) = Hourly Emissions (lb/hr) x Annual Operating Hours (hr/yr)/ 2000 (lb/ton). Use of material crushing and transfer operations will not exceed 40 hours/week

Table 37. Portable Limestone Stockpile Parameters

Material	Silt %[1]	Control Efficiency %[2]	Number of Days with Precipitation > 0.01 in[3]	Percentage of Time with Wind Speed > 12 mph (%)[3]	Maximum Monthly Pile Exposed Surface Area[4] (ft^2)	Maximum Monthly Pile Exposed Surface Area (acre)
Limestone	15	50	20	13.3	15,175	0.35

1. Silt % from CalPortland 2018 CEIR.
2. 50% control efficiency assumed from use of water sprays.
3. Conservative days with precipitation and windy hours default from 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G.
4. Assumed maximum monthly stockpile area equal to I-Lime stockpile area max from CalPortland 2018 CEIR.

Table 38. Particulate Aerodynamic Factor for Stockpiles[1]

PM	PM_{10}	$PM_{2.5}$
1.0	0.50	0.20

1. 2013 *MDAQMD Emission Inventory Guidance Mineral Handling and Processing Industries Section G.*

Table 39. Portable Limestone Stockpile Potential to Emit

Stockpile	Emission Factor (ton/acre-year)[1]			Emissions (tpy)[2]		
	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Limestone Pile	4.04	2.02	0.81	0.70	0.35	0.14

1. Emission Factor (ton/acre) = Particulate Aerodynamic Factor x 1.7 x Silt Loading (%) / 1.5 x (365 days - Number of Rain Days) / 235 x Percentage of Strong Wind Days / 15 x 365 / 2000, per 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G

2. PM Emissions (tpy) = Emission Factor (ton/acre-year) x Maximum Exposed Surface Area (acres) x (1 - Control Efficiency (%) / 100) per 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G

Table 40. Diesel Generator Potential to Emit

Model	Emission Source Description	Process Description	Annual Hours (hr)	Power Output (bhp)[1]	Power Output (kw)[1]	Pollutant	PTE Annual Emission Factor	Emission Factor Units	Potential Emissions (lb/hr)[5,6]	Potential Emissions (tpy)[7]
LIME PROCESSING										
Cat C18	Diesel Engine Powering Generator 1	Diesel Combustion	4,200	779	579	$PM/PM_{10}/PM_{2.5}$[1,2]	0.03	g/kw-hr	0.04	0.08
						CO[1]	3.5	g/kw-hr	4.46	9.36
						NOx[1,2]	0.67	g/kw-hr	0.85	1.79
						VOC[1,3]	0.19	g/kw-hr	0.24	0.51
						SO_2[4]	1.21E-05	lb/bhp-hr	0.01	0.02
Cat C18	Diesel Engine Powering Generator 2	Diesel Combustion	4,200	779	579	$PM/PM_{10}/PM_{2.5}$[1,2]	0.03	g/kw-hr	0.04	0.08
						CO[1]	3.5	g/kw-hr	4.46	9.36
						NOx[1,2]	0.67	g/kw-hr	0.85	1.79
						VOC[1,3]	0.19	g/kw-hr	0.24	0.51
						SO_2[4]	1.21E-05	lb/bhp-hr	0.01	0.02

1. Based on Tier 4 Final emission standards and information found in Attachment 3 of this Addendum.
2. It is conservatively assumed that the emission factors for PM_{10} and $PM_{2.5}$ are equivalent to the emission factor for PM.
3. Manufacturer provided a NMHC factor of 0.02 grams/kw-hr. Assumed all NMHC are VOCs.
4. The engine uses ultra low sulfur diesel fuel per the manufacturer specification sheet. The emission factor is based on a fuel sulfur content of 0.0015% for ultra low sulfur diesel fuel, as defined under 40 CFR 80, Subpart I. The SO_2 emission factor from AP-42 Section 3.4, Table 3.4-1 (10/96) is used in lieu of that in AP-42 Section 3.3, Table 3.3-1 (10/96) in order to account for the fuel sulfur content.
5. Conversion from gram to pound: 1 g = 0.0022 lbs
6. Potential emissions (lb/hr) = Diesel Emission Factor (gram/kw-hr) * 0.0022 lbs/gram * Power Output (kw).
7. Potential emissions (tpy) = Potential Emissions (lb/hr) * Annual Hours of Operation (hr/yr) / 2000 (lb/ton).

Table 41. Emission Offsets [1, 2]

Emissions	PM_{10} (tpy)	SO_2 (tpy)	NO_x (tpy)	VOC (tpy)
Proposed Emissions[3]	13.91	0.04	3.58	1.02
Historical Actual Emissions[4]	55.22	0.00	0.00	0.00
Emission Change[5]	-41.31	0.04	3.58	1.02
Simultaneous Emission Reductions[6]	41.23	0.04	0.00	0.00
Amount of Offsets Required[7]	--	0.00	3.58	1.02
Amount of ERCs Required to be Surrendered[8, 9]	--	--	**4.66**	**1.32**

1. Per MDAQMD Rule 1303(B), offsets are required for nonattainment air pollutants and their precursors. As such, only those relevant pollutants are listed in this table.

2. Kiln emissions are not included in the offset calculations because the kiln has been previously offset, according to MDAQMD.

3. Proposed Emissions = PTE of New Emission Sources (Including baghouses, drops, stock piles, limestone crushing plant, including portable engines, and associated emissions)

4. Historical Actual Emissions (HAE) = HAE of shutdown baghouses + HAE of Fugitive Emissions from Existing Coal Stock Pile

5. Per MDAQMD Rule 1304(B), Emissions Change = Proposed Emissions - Historical Actual Emission

6. Simultaneous emission reduction (SER) of PM_{10} applied to SO_2 at a ratio of 2:1 according to guidance provided by Alan de Salvio on 8/22/2019 in a conversation with Jeremias Szust (Trinity Consultants). As such, 0.04 tpy of the PM_{10} SER are used to simultaneously reduce 0.02 tpy of SO_2.

7. Amount of Offsets Required = Emission Change - Simultaneous Emission Reductions

8. Amount of ERCs Required to be Surrendered = Amount of Offsets Required * 1.3. NO_X and VOC offset ratio of 1.3 to 1.0 due to ozone nonattainment pursuant to MDAQMD Rule 1305 (C)(1).

9. CalPortland will surrender the required portion of NOx ERCs as issued by MDAQMD under ERC Certificate Number 0103 on January 20, 2016. CalPortland is proposing to surrender the required portion of VOC ERCs using ERC Certificate Number 0111 (0.006 tpy VOC) and ERC Certificate Number 0103 along with an agreed upon VOC: NOx interpollutant offset ratio.

ATTACHMENT 3: ENGINE SPECIFICATION SHEETS AND EMISSIONS DATA

Cat® XQ570 Rental Generator Set

Standby 500 kW
Prime 455 kW
60 Hz 1800 rpm 480V

Image shown may not reflect actual configuration

Specifications

Frequency	Voltage	Standby kW (kVA)	Prime kW (kVA)	Speed rpm
480V 60 Hz Rating				
60 Hz	480/277V	500 (625)	455 (568)	1800
60 Hz	240/139V	500 (625)	455 (568)	1800
60 Hz	208/120V	500 (625)	455 (568)	1800
600V 60 Hz Rating				
60 Hz	600V	500 (625)	455 (568)	1800
60 Hz	480V	400 (500)	365 (456)	1800

Cat® C18 ACERT™ Diesel Engine	Metric	Imperial (English)
Configuration	I-6, 4-Stroke-Cycle Water Cooled Diesel	
Bore	145 mm	5.7 in
Stroke	183 mm	7.2 in
Displacement	18.1 L	1106.4 in^3
Aspiration	Turbocharged-Aftercooled	
Compression Ratio	14.5:1	
Engine rpm	1800	
Fuel System	MEUI	
Governor Type	ADEM™ A4	
Fuel	Requires Ultra Low Sulfur Diesel (ULSD)	

Benefits & Features

Fuel/Emissions Strategy
- Meets U.S. EPA Tier 4 Final emission standards and CARB certified for non-road mobile applications at all 60 Hz ratings

Design Criteria
- Meets ISO 8528 transient response
- Canadian Standards Association (CSA) Certified

Single-source Supplier
- Package is factory designed and production tested
- Manufactured in ISO 9001:2000 facility

Cat C18 ACERT Diesel Engine
- Uses ACERT Technology
- Reliable, rugged, durable design
- Four-stroke diesel engine combines consistent performance and excellent fuel economy with minimum weight
- Electronic ADEM A4 engine control

Cat Clean Emissions Module (CEM)
- Aftertreatment module consists of Caterpillar Regeneration System (CRS), Diesel Oxidation Catalyst (DOC), Diesel Particulate Filter (DPF), and Selective Catalytic Reduction (SCR)

Diesel Exhaust Fluid (DEF) Tank
- 25 gallon DEF tank with on-tank fill and integrated pump, level sensor and heating elements
- Electrically heated DEF lines from DEF tank to CEM

Cat Generator
- Matched to the performance and output characteristics of Cat engines
- Single point access to accessory connections
- UL 1446 Recognized Class H insulation

Cat EMCP 4.4 Control Panel
- Fully featured power metering, protective relaying engine/generator control and monitoring
- Simple user-friendly interface and navigation
- Automatic set-point adjustment integrated with voltage and frequency selection

Cat Integrated Voltage Regulator (Cat IVR)
- Three-phase sensing
- Adjustable volts-per-hertz regulation
- Provides precise control, excellent block loading, and constant voltage in the normal operating range

Sound Attenuated Container
- Provides ease of transportation and protection
- Sound levels are 74 dB(A) or less at 7 meters per SAE J1074 measured at 75% prime load

Reduced Environmental Impact
- 110% spill containment of onboard engine fluids
- Variable speed cooling fan for reduced fuel consumption and reduced sound at partial loads

Asset Monitoring and Management (Available 3Q2016)
- Product Link™ Generation (PLG) hardware provides two-way communication for remote control and equipment monitoring via cellular network
- Customer-defined, equipment-based, real-time status updates and alerts
- Flexible and customer-configurable user interface
- GPS provides asset location and geo-fencing

Factory-installed Standard Equipment

- Cat C18 ACERT heavy-duty diesel engine meets Tier 4 Final emission standards

Air Inlet

- Heavy-duty air cleaner with precleaner, two-stage cyclonic paper with dust cup and service indicator
- Turbocharger and air-to-air aftercooler

Cat CEM

- CEM comes with integrated CRS, DOC, DPF, and SCR and is located in separate compartment

DEF System

- 25 gal plastic DEF tank provides capacity to meet or exceed fuel tank runtime @ 75% prime
- DEF tank is equipped with integrated pump, level sensor to display the DEF level in EMCP panel, and electrically heated lines from DEF tank to CEM
- Equipped with low and critically low level alarms with a critically low shutdown

Fuel System

- 700 gal (2650 L) double-wall fuel tank, UL 142 and ULC 601 Listed and complies with Transport Canada requirements, 27-hour runtime @ 75% prime, internal fuel fill
- Fuel cooler
- Switch operated, electric priming pump
- Auxiliary connections for customer-supplied fuel transfer system with 2-way fuel transfer valve
- Primary fuel filters (2) with integral water separator and differential pressure gauge
- Engine-mounted secondary fuel filters

Generator

- Three-phase, random wound, coastal insulation protection, 0.6667 pitch, permanent magnet excited, Class H insulation with Class F temperature rise
- Includes anti-condensation heaters (120V, 1.2 kW)
- 12-lead design, with voltage changeover link board (480V)
- 6-lead design, (600V)
- Cat IVR with VAR/PF control

Charging System

- UL Listed and CSA Certified 120V, 20 amp battery charger, shock-mounted and enclosed in dust-proof housing
- Charging alternator; 24V-100A, heavy duty with integral regulator and belt guards
- Solar maintainer for batteries

Lube System

- Pump, integral oil cooler, lube oil, filter, filler and dipstick, and oil sampling valve
- Open crankcase breather with cartridge filter
- Oil drain line with internal brass ball valve routed to connection point accessible from exterior
- 500-hour oil change intervals

Mounting System

- Generator set soft mounted to the heavy duty, fabricated steel base frame
- Steel base frame with tie-down eyes contains integral fuel tank

Starting System

- Single electric starting motor, 24V
- Dual 12V (1400 CCA) maintenance-free batteries with disconnect switch, battery rack, and cables
- UL Listed, 120V single-phase jacket water heater with thermostat and shut-off valves

Factory-installed Standard Equipment (continued)

Containerized Module
- 20' ISO standard cube container
- Sound attenuated air intake louvers and two lockable personnel doors with panic release
- Interior walls and ceilings insulated with 100 mm of acoustic paneling
- Floor of container insulated with acoustic glass and covered with galvanized steel
- Side bus bar access door, external access load connection bus bars
- Shore power connection via distribution block connections for jacket water heater, battery charger, space heaters, generator condensate heaters, and internal duplex service receptacle
- Customer convenience panel with multiple receptacles
- External Emergency Stop pushbuttons (2)
- Duplex service receptacle (1), 120V, connected to shore power with automatic switchover to generator power
- Two internal DC lights with one timer
- Corrosion resistant hardware and hinges
- Cat Rental Power decals
- Painted standard Cat power module white
- External drain access to coolant, oil, and DEF fluids
- Auxiliary connections for customer-supplied fuel transfer system

Shore Power
- One 110V shore power connection for jacket water heater
- One 110V shore power connection for generator space heater, battery charger, and single duplex service receptacle
- Includes controls to de-energize jacket water heaters and generator space heater when the engine is running

Cooling
- Provides 43°C ambient capability
- Vertically mounted radiator with vertical air discharge from the container
- Coolant drain line with internal valve and low-level shutdown switch
- Coolant sight gauge and low-level shutdown switch
- 50/50 Extended Life Coolant

Generator Set Controls and Protection
- EMCP 4.4 generator set mounted controller
- Automatic start/stop with cooldown timer
- Generator features: 32, 32RV, 46, 50/51, 27/59, 81 O/U
- Utility Multi-function Relay (UMR) protective features: 24, 25, 27, 27G, 32, 40, 43, 46, 47, 50, 51, 51N, 59, 59G, 60FL, 67, 79, 81O/U with 4 programmable relay inputs and 5 programmable relay outputs (optional)
- Reverse compatible for interface to legacy power modules
- 2000A electrically operated generator circuit breaker
- Multi-mode operation (island, multi-island and utility parallel (with optional UMR), load sharing (multi-unit only)
- Manual and automatic paralleling capability
- Metering display: voltage, current, frequency, power factor, kW, WHM, kVAR, and synchroscope

Trailer
- Two-axle, air-rid chassis with anti-lock brake system

Quality
- Factory testing of standard generator set and complete power module
- UL, NEMA, ISO, and IEEE standards
- O&M manuals
- CSA Certified
- Full manufacturer's warranty

Technical Data

Cat Generator	
Frame size	LC6134G
Pitch	0.6667
No. of poles	4
Excitation	Static regulated brushless PM excited
Number of bearings	Single bearing, close coupled
Insulation	Class H
Enclosure	Drip proof IP23
Alignment	Pilot shaft
Overspeed capability – % of rated	125% of rated
Voltage regulator	3-phase sensing with volts-per-hertz
Voltage regulation (adjustable to compensate for engine speed droop and line loss)	Less than ± 1⁄2% voltage gain
Wave form deviation	3%
Telephone Influence Factor (TIF)	Less than 50
Harmonic Distortion (THD)	Less than 5%

Cat Generator Set			
	Units	**60 Hz — Standby**	**60 Hz — Prime**
Power Rating	**kW (kVA)**	**500 (625)**	**455 (568)**
Performance Specification			
Lubricating System			
Oil pan capacity	L (gal)	74 (19.5)	74 (19.5)
Fuel System			
Fuel consumption — 100% Load	L/hr (gal/hr)	136 (35.9)	126 (33.2)
75% Load	L/hr (gal/hr)	107 (28.3)	99 (26.2)
50% Load	L/hr (gal/hr)	78 (20.5)	72 (19)
Fuel tank capacity	L (gal)	2650 (700)	2650 (700)
Running time @ 75% rating	Hr	24	27
Cooling System			
Ambient capability	°C (°F)	43 (109)	48 (118)
Engine & radiator coolant capacity	L (gal)	100.7 (26.6)	100.7 (26.6)
Engine coolant capacity	L (gal)	26.9 (7.1)	26.9 (7.1)
Air Requirements			
Combustion air flow	m^3/min (cfm)	35.2 (1243)	34.6 (1223)
Max dirty air cleaner restriction	kPa (in H_2O)	6.2 (24.9)	6.2 (24.9)
Exhaust System			
Exhaust flow at rated	m^3/min (cfm)	90.2 (3185)	86.7 (3063)
Exhaust temp at rated kW – dry exhaust	°C (°F)	490 (914)	472 (882)
Noise Rating (with enclosure)*			
@ 7 meters (23 feet) @ 75% rating	dB(A)	74	74

*Noise level stated at maximum ambient capability. Sound level decreases with ambient temperature due to variable speed fan drive. Contact the factory for sound levels at other ratings and distances.

Technical Data (continued)

XQ570 — Dimensions			
	Length mm (in)	Width mm (in)	Height mm (in)
Without chassis	6096 (240)	2438 (96)	2591 (102)
With chassis	7182 (282)	2438 (96)	3810 (150)

XQ570 — Weight	
	Weight— kg (lb)
Lube oil & coolant – empty fuel DEF tank	14,400 (31,900)
Chassis weight addition	3,379 (7,450)

Standard Features

EMCP 4.4 Local Control Panel

- Generator-mounted EMCP 4.4 provides power metering, protective relaying, and engine and generator control and monitoring.
- NEMA 12, IP44 dust-proof enclosure
- Convenient service access for Cat service tools (service tools not included)
- Integration with the Cat IVR provides enhanced system monitoring
- Ability to view and reset diagnostics of all controls networked on primary CAN data link eliminates need for separate service tools for troubleshooting.
- True RMS AC metering, 3 phase

EMCP 4.4 Engine Operator Interface

- Controls
  - Run/auto/stop
  - Speed adjust
  - Voltage adjust
  - Emergency stop
  - Cycle crank
  - Cool-down timer
- Engine monitoring
  - rpm
  - Operating hours
  - Coolant temperature
  - DC volts
  - Oil pressure
  - Oil temperature
- Generator monitoring
  - L-L volts, L-N volts, phase amps
  - Average volts, amps, frequency
  - ekW, kVA, kVAR, kW-hr, %kW
  - Power factor (average, phase)
  - kW-hr, kVA-hr (total)
- Shutdowns with common indicating light for
  - Low oil pressure
  - High coolant temp
  - Failure to start (overcrank)
  - Low coolant level
  - Overspeed
  - High oil temp
  - Emergency stop
- Emergency stop pushbutton
- Panel illuminating lights
- Display navigation keys including two shortcut keys for engine parameters or generator parameters
- Fuel level monitoring and control

EMCP 4.4 Generator Protective Relaying

- Generator protective features provided by EMCP 4.4
  - Phase over/under voltage (device 27/59)
  - Over/under frequency (device 81 O/U)
  - Reverse power (device 32/32RV)
  - Current balance (46)
  - Overcurrent (device 50/51) (GCB trip unit)
  - Loss of excitation (device 40) (Cat DVR)
  - Generator phase sequence

Standard Features (continued)

Voltage Regulation and Power Factor Control Circuitry

- Manual raise/lower voltage adjust capability and VAR/power factor control circuitry for maintaining constant generator power factor while paralleled with the utility. Voltage and power factor adjustments are performed on the generator paralleling control
- Includes RFI suppression, exciter limiter, and exciter diode monitoring

Circuit Breaker

- 2000A fixed type, 3 poles, generator set mounted, electrically operated, insulated case
- Solid state trip unit for overload (time overcurrent) and fault (instantaneous) overcurrent protection
- Includes DC shunt trip coil activated on any monitored engine or electrical fault, 100 KA-interrupting capacity at 480 VAC
- Undervoltage release

Distribution

- Three-phase, plus full rated neutral, bus bars are tin-plated copper with NEMA standard hole pattern for connection of customer load cables and generator cables
- Bus bars are sized for full load capacity of the generator set at 0.8 power factor
- Includes ground bus, tin-plated copper, for connection to the generator frame ground and field ground cable
- Customer convenience panel with multiple output receptacles
  1 – 240V, 50A twist lock
  1 – 240V, 20A twist lock
  2 – 120V, 20A twist lock
  2 – 120V, 20A ground fault interrupters
  2 – 120V, 15A GFCI protected duplex receptacles
- CTs rated 2000:5

Link Board Assembly (480V Only)

- Link board for 208/240/400/480 wye operation
- Reconnection via movable link board
- Includes switch to determine operation mode

UMR (Optional)

- Basler UMR IPS-100 provides the following utility/intertie protection features:
  - Synch check (device 25)
  - Phase undervoltage, 2-stage (device 27)
  - Reverse power (device 32)
  - Negative sequence overvoltage (device 47)
  - Phase time overcurrent (device 51)
  - Neutral overcurrent (device 51N)
  - Phase overvoltage, 2-stage (device 59)
  - Under frequency, 2-stage (device 81U)
  - Over frequency (device 81O)
- Potential transformers 4:1 ratio with primary and secondary fuse protection
- CTs rated 1200:5 wired to shorting terminal strips

Modes of Operation

- Provides for single unit standalone operation, island mode paralleling and load sharing with other power modules, and single unit-to-utility mode paralleling for base load control (with open transition between paralleling modes)
- Island mode paralleling features:
  - Lead unit select control allows single unit to connect to a dead bus or Hard Wired Dead Bus Arbitration (HWDBA) to allow first unit up to voltage and speed to be first unit to connect to a dead bus
  - Auto synchronization (voltage and phase matching)
  - Load sharing (kW) analog signal (like units and legacy compatible)
  - Load sharing (kVAR) analog signal (like units only)
- Utility mode paralleling features:
  - Auto synchronization (voltage and phase matching)
  - Base-load control (programmable set-point or potentiometer adjust)
  - Soft load/unload (programmable, shared set-point)
  - Power factor control (programmable set-point)

Single Unit Standalone and Multi-unit Island Operation

- Utility standby mode (normal)
  - The utility is providing power for the plant loads
  - The PM generator breaker is open
  - The PM is in automatic standby mode to respond to a utility failure
- Emergency mode (emergency)
  - Utility failure
    a. The customer protective relaying senses a utility abnormal condition
    b. A run request is sent to the PM generator plant
    c. The first PM generator to reach rated voltage and frequency is closed to the bus
    d. In multi-unit island mode, the remaining PM generators are paralleled to the bus as they reach rated voltage and frequency. This function is performed via the lead unit select jumper and interconnect wiring connected between the power modules.
    e. Plant load is transferred to the power modules, which share load equally via load share lines.

Single Unit Base Load Operation

- Utility mode (normal)
  - The utility is providing power for the plant loads
  - The PM is in auto mode and the generator breaker is open
  - The PM is interconnected to the utility breaker aux contact, lead unit jumper is not installed and load share lines are not connected
  - The paralleling controls automatically detect utility parallel mode when the utility aux contact is closed
- Base load mode
  - Unit receives remote run request and starts
  - Unit reaches rated voltage and frequency
  - UMR performs sync-check to permit generator breaker to close
  - Unit ramps to base-load set point at programmed ramp time
  - Unit continues to run until remote run request is removed or unit is stopped at control panel

Ratings Definitions and Conditions

Meets or Exceeds International Specifications: AS1359, CSA, IEC60034-1, ISO3046, ISO8528, NEMA MG 1-33.

Prime — Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year. Prime power in accordance with ISO3046. Prime ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature below the alarm temperature.

Standby — Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions.

Fuel rates are based on fuel oil of 35º API [16ºC (60ºF)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29ºC (85ºF) and weighing 838.9 g/liter (7.001 lbs/U.S. gal).

Additional ratings may be available for specific customer requirements, contact your Cat representative for details. For information regarding low sulfur fuel and biodiesel capability, please consult your Cat dealer.

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California Environmental Protection Agency Air Resources Board	CATERPILLAR INC.	EXECUTIVE ORDER U-R-001-0545 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-14-012;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2018	JCPXL18.1HTH	18.1	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Engine Control Module, Oxidation Catalyst, Selective Catalytic Reduction-Urea, Exhaust Gas Recirculation, Periodic Trap Oxidizer, Ammonia Oxidation Catalyst	Generator

The engine models and codes are attached.

The following are the exhaust certification standards (STD), or family emission limit(s) (FEL) as applicable, and certification levels (CERT) for non-methane hydrocarbon (NMHC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			NMHC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
560 kW<GEN≤ 900 kW	Tier 4 Final	STD	0.19	0.67	N/A	3.5	0.03	N/A	N/A	N/A
		FEL	N/A	N/A	--	N/A	0.01	N/A	N/A	N/A
		CERT	0.02	0.10	--	0.01	0.01	--	--	--

BE IT FURTHER RESOLVED: That the family emission limit(s) (FEL) is an emission level declared by the manufacturer for use in any averaging, banking and trading program and in lieu of an emission standard for certification. It serves as the applicable emission standard for determining compliance of any engine within this engine family under 13 CCR Sections 2423 and 2427.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 22 day of September 2017.

Annette Hebert, Chief
Emissions Compliance, Automotive Regulations and Science Division

ATTACHMENT 1 OF 1 **Engine Model Summary Template** U-R-001-0545

8/30/2017

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
JCPXL18.1HTH	Cert Test 1	C18	778@1800	451.3	273.3	NA	NA	NA	DFI,TC,ECM,CAC,EGR,PTOx, OC,SCR-U,AMOX
JCPXL18.1HTH	1	C18	778@1800	451.3	273.3	NA	NA	NA	DFI,TC,ECM,CAC,EGR,PTOx, OC,SCR-U,AMOX
JCPXL18.1HTH	2	C18	778@1800	451.3	273.3	NA	NA	NA	DFI,TC,ECM,CAC,EGR,PTOx, OC,SCR-U,AMOX

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2018 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT

OFFICE OF TRANSPORTATION AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105

Certificate Issued To: **Caterpillar Inc.**
(U.S. Manufacturer or Importer)

Certificate Number: JCPXL18.1HTH-026

Effective Date: 10/30/2017

Expiration Date: 12/31/2018

Byron J. Bunker, Division Director
Compliance Division

Issue Date: 10/30/2017

Revision Date: N/A

Model Year: 2018
Manufacturer Type: Original Engine Manufacturer
Engine Family: JCPXL18.1HTH

Mobile/Stationary Indicator: Both
Emissions Power Category: 560<kW<=900
Fuel Type: Diesel
After Treatment Devices: Diesel Oxidation Catalyst, PTOX-DPF-Active, Ammonia Slip Catalyst, Selective Catalytic Reduction
Non-after Treatment Devices: Electronic Control, Electronic/Electric EGR - Cooled, Engine Design Modification
FELs: PM 0.01 g/kW-hr

Pursuant to Section 111 and Section 213 of the Clean Air Act (42 U.S.C. sections 7411 and 7547) and 40 CFR Parts 60 and 1039, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following engines, by engine family, more fully described in the documentation required by 40 CFR Parts 60 and 1039 and produced in the stated model year.

This certificate of conformity covers only those new compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Parts 60 and 1039 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Parts 60 and 1039.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Parts 60 and 1039. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Parts 60 and 1039.

This certificate does not cover engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

This certificate of conformity is conditional upon compliance of said manufacturer with the averaging, banking and trading provisions of 40 CFR Part 1039, Subpart H. Failure to comply with these provisions may render this certificate void *ab initio*.

Engine Emissions Data

For Emissions / Certification feedback and questions, please submit a ticket via our ERC Request Portal

This emission data is Caterpillar's best estimate for this rating. If actual emissions are required then an emission test needs to be run on your engine.

Serial Number (Machine)	
Serial Number (Engine)	**CM800170**
Sales Model	C18
Regulatory Build Date	05/31/2018
Interlock Code Progression	No Interlock Code Progression
As Shipped Data	
Engine Arrangement Number	5194410
Certification Arrangement	
Test Spec Number	4150867
Regulatory Status	EPA/CARB @ Constant Speed
Labeled Model Year	2018
EPA Family Code	JCPXL18.1HTH
EPA Emissions Level	EPA TIER 4f
Flash File	5175575
Flash File Progression	5563089
CORR FL Power at RPM	776 HP (579.0 KW)1800 RPM
Advertised Power	779 HP 1,800RPM
Total Displacement	18.1

This is not an official emission certificate. This is for emission data information only.

Need emission replacement label? Click here!

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Data Privacy Statement.

Engine Emissions Data

For Emissions / Certification feedback and questions, please submit a ticket via our ERC Request Portal

This emission data is Caterpillar's best estimate for this rating. If actual emissions are required then an emission test needs to be run on your engine.

Serial Number (Machine)	
Serial Number (Engine)	**CM800172**
Sales Model	C18
Regulatory Build Date	06/15/2018
Interlock Code Progression	No Interlock Code Progression
As Shipped Data	
Engine Arrangement Number	5194410
Certification Arrangement	
Test Spec Number	4150867
Regulatory Status	EPA/CARB @ Constant Speed
Labeled Model Year	2018
EPA Family Code	JCPXL18.1HTH
EPA Emissions Level	EPA TIER 4f
Flash File	5175575
Flash File Progression	5563089
CORR FL Power at RPM	776 HP (579.0 KW)1800 RPM
Advertised Power	779 HP 1,800RPM
Total Displacement	18.1

This is not an official emission certificate. This is for emission data information only.

Need emission replacement label? Click here!

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April 27, 2020

Chris Anderson
Air Quality Engineer III
Mojave Desert Air Quality Management District
14306 Park Avenue
Victorville, CA 92392

RE: Second Addendum to Application for an Authority to Construct and a Significant Modification to a Federal Operating Permit
CalPortland Company. – Oro Grande, California
Federal Operating Permit Number: 223900003; MDAQMD Facility Number: 3

Dear Mr. Anderson,

In July 2019, CalPortland Company (CalPortland) submitted an Authority to Construct (ATC) and Title V (TV) Significant Permit Modification Application (the Application) to the Mojave Desert Air Quality Management District (MDAQMD). In August 2019, CalPortland submitted an addendum to the Application (First Addendum) to request that two additional emission units associated with the portable limestone crushing operation be included in the Application. MDAQMD provided a draft TV permit and statement of basis (SOB) to CalPortland on February 26, 2020 which included all permit changes requested in the Application and the First Addendum. That said, CalPortland has identified additional process changes and equipment additions that need to be made to the TV permit.[1] With this letter, CalPortland is submitting a second addendum to the Application (Second Addendum).

With this Second Addendum, CalPortland proposes the following changes to the Facility:

1. Finish Mill No. 2 Project: Addition of a 130-ton additive storage bin with two associated baghouses to the Finish Mill 2 Storage and Feed Bin permit (T007433)
2. Cement Variability Project:
    a. Addition of a portable additive crushing operation;
    b. Addition to two new clinker storage silos and four associated baghouses; and
    c. Addition of four new cement storage silos, one cement storage dome, and ten associated baghouses;
3. Modification to the Portable Limestone Crushing Project which was initially included in the Application:
    a. Increase the hours of operation of the limestone crushing plant to 4,160 hours per year;
    b. Add a second limestone storage pile to the operation design; and
    c. Remove the 779 BHP portable engine from the design configuration.
4. Incorporate changes to the process flow and emission control description for Truck Loadout System Silos and Bins (T013016) into the TV permit. [2]

---

[1] CalPortland has reviewed the SOB provided by MDAQMD and will provide MDAQMD with recommended changes via email.

[2] PTO T013016 includes baghouse 611BF726 which has not yet been incorporated into the TV permit.

In accordance with MDAQMD Regulation III, Rule 301.C.1.a, CalPortland has enclosed the total filing fee of $6,040.[3] CalPortland will pay all applicable additional fees associated with this permitting effort upon invoice from MDAQMD.

This application letter includes the following information:

1. Project information on the proposed changes to the Application as well as MDAQMD forms for the new units (refer to Attachment 1 of this letter);
2. Updated emission calculations for each emission unit impacted by the Second Addendum (refer to Attachment 2 of this letter); and
3. Proposed changes to the draft SOB and TV Permit.

Regulatory applicability for each of the units being proposed in the Application and subsequent Addendums has been detailed in previous communications with MDAQMD. PSD and offset applicability have been addressed for the emissions increases from each project in the Emissions Calculations section of this letter. As such, no further review of regulatory applicability will be included in this letter. All other regulatory conclusions provided in the Application and First Addendum continue to hold even with the addition of the new emission units.

PROJECT DESCRIPTIONS

CalPortland intends to complete four projects at the Facility as follows: (1) modification to the Finish Mill No. 2 which was previously permitted modernization project (July 16, 2018 permitting action), (2) the Alternate Fuels Project included in the Application and First Addendum, (3) a new Portable Limestone Crushing Project included in the Application and First Addendum, and (4) a new Cement Variability Project included in this Second Addendum. All projects are described in more detail below.

Finish Mill No. 2 Project

As previously permitted in the Finish Mill No. 2 Project, CalPortland has completed construction on the majority of the Finish Mill No. 2, including all associated equipment and control devices. CalPortland is requesting that MDAQMD revise PTO T007433 to include one additional 130-ton storage bin controlled by two baghouses. The complete design of the addition to the Finish Mill No. 2 system is provided in the process flow diagrams (PFDs) included in Attachment 3. Table 1 provides additional details on the baghouses that will control the new bin associated with the Finish Mill No. 2.

[3] The filing fee is calculated as $302 x the number of permits (20) to be issued by MDAQMD. For this application, it is anticipated that 20 permits will be required: 16 baghouses, modification of permit T007433, and new permits for the additive crushing plant, the new clinker storage units, and the new cement storage units.

Table 1. Baghouses Associated with the Finish Mill No. 2 New Storage Bin

Process Description	Permit Number(s)	Baghouse ID	Baghouse Control Description	Flowrate (dscfm)	Outlet Grain Loading (gr/scf)
Finish Mill No. 2 Storage and Feed Bins	T007433	551BF105	New Bin Baghouse 1	3,423	0.003
		551BF106	New Bin Baghouse 2	1,711	0.003

Alternate Fuels Project

As described in the Application, CalPortland intends to install one new fuel handling system that will allow the kiln to be fueled with petroleum coke (coke) and one new fuel handling system that will allow the kiln and/or precalciner to be fueled with whole tires, chipped tires, biomass fuels (including but not limited to construction and demolition wood, as well as pistachio shells, almond shells and yard clippings), paper cardboard, engineered fuel, biosolids, and dust collector bags generated on-site at the Facility as alternate fuels. In the Application and First Addendum, CalPortland also included the portable limestone crushing operation to be located in the mining area of the Facility as part of the Alternate Fuels Project. With this letter, CalPortland requests that MDAQMD treat the limestone crushing operation and associated engine as a separate project from the Alternate Fuels Project. Further details on this separation is provided in the Portable Limestone Crushing Project description below. No other changes are requested relating to the Alternate Fuels project.

Portable Limestone Crushing Plant Project

As described in the Application and First Addendum, CalPortland intends to install a new portable limestone crushing plant and one portable diesel engine rated at 437 bhp used to power the plant. The crushing plant includes conveyor transfer points, two crushers, a screener, and a stockpile. The portable limestone crushing plant will be operated at different locations within the quarry on an as-needed basis.

With this Second Addendum, CalPortland is requesting that the portable limestone crushing plant be considered a separate project as it has neither a technical nor an economic interrelationship to the Alternate Fuels Project as described in the 2009 NSR Aggregation Action which was reinstated by EPA on November 15, 2018.[4]

In addition to the separation of the projects, CalPortland is proposing to increase the hours of operation of the plant from what was included in the Application and First Addendum and utilize only one engine to power the plant rather than two engines. The PFDs for the portable limestone crushing plant is provided in Attachment 3; note that the PFDs are unchanged from what was provided in the Application.

Cement Variability Project

CalPortland intends to install a new portable additive crushing plant, new clinker storage units, and new cement storage units (Cement Variability Project). The purpose of these additions is to provide additional flexibility in operations allowing for the possibility of making additional types of clinker and cement in the future and allowing for storage during extended maintenance periods and temporary plant shut-down events. The portable additive crushing plant includes conveyor transfer points, two crushers, a screener, and a stockpile. The plant will be operated at different locations within the quarry on an as-needed basis and is intended to crush and screen additives to be added to the finish mill to make cement. The clinker storage units will consist of two silos each

[4] https://www.govinfo.gov/content/pkg/FR-2018-11-15/pdf/2018-24820.pdfm, Accessed April 23, 2020

controlled by two baghouses. The cement storage units will consist of four silos and one dome, each controlled by two baghouses. The complete designs of the additive crushing plant, the clinker storage silos, the cement storage silos, and the cement storage dome are provided in Attachment 3. Table 2 provides additional details on the baghouses that will control the particulate emissions associated with this project.

Table 2. Baghouses Associated with the Clinker Storage Silos

Process Description	Baghouse ID	Baghouse Control Description	Flowrate (dscfm)	Outlet Grain Loading (gr/scf)
Clinker Storage Silos	TBD	Baghouse 1	8,300	0.003
	TBD	Baghouse 2	3,320	0.003
	TBD	Baghouse 3	8,300	0.003
	TBD	Baghouse 4	3,320	0.003
Cement Storage Silos	TBD	Baghouse 1	3,332	0.005
	TBD	Baghouse 2	1,000	0.005
	TBD	Baghouse 3	3,332	0.005
	TBD	Baghouse 4	1,000	0.005
	TBD	Baghouse 5	3,332	0.005
	TBD	Baghouse 6	1,000	0.005
	TBD	Baghouse 7	3,332	0.005
	TBD	Baghouse 8	1,000	0.005
Cement Storage Dome	TBD	Baghouse 1	11,663	0.005
	TBD	Baghouse 2	2,666	0.005

With this Second Addendum, CalPortland is requesting that the Cement Variability Project be considered a separate project as it has neither a technical nor an economic interrelationship to the Alternate Fuels Project or the Portable Limestone Crushing Plant Project as described in the 2009 NSR Aggregation Action which was reinstated by EPA on November 15, 2018.[5]

EMISSION CALCULATIONS

Emission calculations are described for each relevant regulation and each respective project in the following subsections. Detailed emission calculations can be found in Attachment 2 of this Second Addendum.

MDAQMD Rule 1310 and Rule 1600 Emission Calculations

CalPortland is considered an existing major facility and as such, must perform emission calculations in order to determine if each Project is considered a major modification as defined in Rule 1310 (New Source Review [NSR]) and Rule 1600 (Prevention of Significant Deterioration [PSD]). This determination requires calculating the baseline actual emissions (BAE), projected actual emission (PAE), could have accommodated (CHA), potential to emit (PTE), and projected emissions increase (PEI). For the purposes of these Rules, there are four projects included in this application as previously described in this letter.

[5] Ibid.

Finish Mill No. 2 Project

Because the potential to emit (PTE) of the Finish Mill No. 2 system will change with the addition of an additive storage bin as compared to what was represented in the July 16, 2018 permitting action, the net emission increase associated with the project needs to be reevaluated. Table 3 below shows the original project emission increase provided in the November 2017 Application submitted to MDAQMD, the PTE of the new storage bin baghouses, and the updated project emission increase (PEI) for the project. As shown in Table 3 below, the project will not result in a PEI greater than the Significant Emission Rate (SER) as defined in MDAQMD Rule 1310(D)(2)(a) and Rule 1600/40 CFR 52.21(b)(23)(i) for any criteria pollutant.

Table 3. Revised Finish Mill No. 2 PEI

Description	**PM (tpy)**	**$PM_{2.5}$ (tpy)**
July 2018 FM 2 Modernization PEI[1]	**-547.21**	**-32.63**
New Baghouses PTE	0.63	0.39
Updated Modernization PEI[2]	-546.6	-32.2
Significant Emission Rate (SER)[3]	25	10
Emission Increases > SER?	**No**	**No**

1. Per the NSR/FOP Evaluation Document for Finish Mill 2 Modification dated July 16, 2018.
2. Updated Modernization PEI = July 2018 FM2 Modernization PEI + New Baghouses PTE
3. Significant as defined in MDAQMD Rule 1600/40 CFR 52.21.

Alternate Fuels Project

Due to the removal of the limestone crushing operations from the Alternate Fuels Project, the PEI needs to be reevaluated as compared to what was presented in the Application and First Addendum. The only change to the emission calculations is the removal of the emissions associated with the portable limestone crushing plant. As shown in Table 4 below, the updated project emissions will not result in a PEI greater than the SER for any criteria pollutant.

Table 4. Revised Alternate Fuels Emissions

Description	**PM (tpy)**	**PM_{10} (tpy)**	**$PM_{2.5}$ (tpy)**	**SO_2 (tpy)**	**NO_x (tpy)**	**CO (tpy)**	**VOC (tpy)**
Project Emissions Increase[1]	13.3	7.0	2.4	9.3	16.3	39.7	17.3
Significant Emission Rate (SER)[2, 3]	25	15	10	40	40	100	40
In Attainment of NAAQS?[4]	N/A	No	Yes	Yes	Yes	Yes	No
Emission Increases > SER?	**No**	**No**	**No**	**No**	**No**	**No**	**No**

1. Project emissions increase is calculated as follows: PAE + PTE of New Emission Sources - BAE - CHA.
2. SER as defined in 40 CFR 52.21(b)(23)(i).
3. Significant as defined in MDAQMD Rule 1310 and Rule 1600/40 CFR 52.21.

Portable Limestone Crushing Plant Project

Because the PTE of the portable limestone crushing plant will change with (1) the increase in annual throughput and (2) the removal of the 779 BHP portable engine from the design configuration, the emissions associated with the limestone crushing operations will need to be reevaluated and compared independently to the SER. As shown in Table 5 below, the Portable Limestone Crushing Plant Project will not result in a PEI greater than the SER for any regulated pollutant.

Table 5. Revised Portable Limestone Crushing Emissions

Description	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Revised Limestone Crushing Plant PTE[1]	21.18	9.92	2.85	0.01	0.60	5.27	0.28
Significant Emission Rate (SER)[2]	25	15	10	40	40	100	40
Emission Increases > SER?	**No**	**No**	**No**	**No**	**No**	**No**	**No**

1. Revised Limestone Crushing PTE = Portable Limestone Crushing and Screening Operations PTE + Limestone Material Handling Operations PTE + Portable Limestone Stockpile PTE + Revised Emergency Engine PTE
2. Significant as defined in MDAQMD Rule 1310 and Rule 1600/40 CFR 52.21.

Cement Variability Project

The Cement Variability Project includes a new portable additive crushing plant, new clinker storage units, and new cement storage units expected to cause emissions of PM, PM_{10}, and $PM_{2.5}$. The emissions are conservatively calculated assuming 8,760 hours of operation per year, maximum air flow from each baghouse, and a maximum grain loading as listed in Table 2 of this letter. As shown in Table 6 below, the Cement Variability Project will not result in a PEI greater than the SER for any regulated pollutant.

Table 6. Cement Variability Emissions

Description	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
Portable Additive Crushing Plant	7.6	3.6	1.1
Additional Clinker Storage	2.8	2.6	1.8
Additional Cement Storage	9.4	8.6	5.8
Project Emissions Increase[1]	**19.8**	**14.8**	**8.7**
Significant Emission Rate (SER)[2]	25	15	10
Emission Increases > SER?	**No**	**No**	**No**

1. Project emissions increase is equal to PTE of New Emission Sources
2. Significant as defined in MDAQMD Rule 1310 and Rule 1600/40 CFR 52.21.
3. According to EPA Greenbook. https://www3.epa.gov/airquality/greenbook/ancl.html. Accessed 4/16/2020.

MDAQMD Rule 1303, Rule 1304, and Rule 1305 Emission Calculations

Pursuant to MDAQMD Rule 1303(B), emissions of nonattainment air pollutants and their precursors are required to be offset if there is an emissions increase from the Project for the applicable pollutant. As defined in MDAQMD Rule 1301, ozone and PM_{10} are considered nonattainment air pollutants and VOC, NO_x, and SO_x are their

precursors. As such, CalPortland is required to evaluate if emissions of PM_{10}, VOC, NO_x, and SO_x are required to be offset. CalPortland can offset the emissions through use of simultaneous emission reductions or emission reduction credits from unrelated changes that occur at the Facility not related to the project(s) being currently permitted.

Pursuant to MDAQMD Rule 1305(A)(2)(b)(iii), offsets for the Project are determined by taking the difference between the PTE for the new emission units and the historical actual emissions (HAE) for the emission units to be shutdown or modified, consistent with MDAQMD Rule 1404(A)(2)(a). For offset applicability purposes, there are four projects included in this application: (1) Finish Mill No. 2 as part of the previously permitted modernization project, (2) the Alternate Fuels Project included in the Application, (3) the new Portable Limestone Crushing Project included in the Application, and (4) the new Cement Variability Project included in this Second Addendum.

Offsets were evaluated for the Finish Mill No. 2 Project by adding the new baghouse PTE to the July 2018 total proposed emissions for the Finish Mill 2 and subtracting the July 2018 HAE. The total proposed emissions and the HAE for the July 2018 project are as detailed in the NSR/FOP Evaluation Document for the Finish Mill 2 Modification dated July 16, 2018. As demonstrated in Table 7 below, offsets are not required for the Finish Mill No 2 permitting action.

Table 7. Finish Mill 2 Bin Baghouse Offset Summary

Description	**PM_{10} (tpy)**	**$PM_{2.5}$ (tpy)**
July 2018 FM2 Total Proposed Emissions[1]	26.34	3.95
July 2018 Total HAE[1]	48.06	4.41
New Baghouses PTE	0.58	0.39
Emissions Change[2]	-21.14	-0.07
Offsets Required?	**No**	**No**

1. Per the NSR/FOP Evaluation Document for Finish Mill 2 Modification dated July 16, 2018.
2. Emission Change = July 2018 Total HAE - July 2018 FM 2 Total Proposed Emissions - New Baghouse Total Proposed Emissions

Emission increases will result from the Alternate Fuels Project, the Portable Limestone Crushing Project, and the Cement Variability Project. The HAE is the same as what was calculated in the Application. PM_{10} is the only pollutant with a decrease in the emissions change; as such PM_{10} emissions will not need to be offset. Per guidance provided by Alan de Salvio of MDAQMD on August 22, 2019 and consistent with the conclusions reached in the Application, simultaneous emission reductions of PM_{10} may be applied to SO_2 emission increases at a ratio of 2:1. As such, CalPortland is proposing to offset SO_2 emission increases from the Limestone Crushing Project by using the available PM_{10} simultaneous emission reduction. The calculation methodology to determine the emission change is provided in MDAQMD Rule1304(B).

Offsets will be required for the Limestone Crushing Project due to emissions of NO_X and VOC from the portable engine. Pursuant to MDAQMD Rule 1305(C)(2), the largest applicable offset ratio for each nonattainment air pollutant shall apply when a source is located in more than one nonattainment area. Pursuant to MDAQMD Rule 1305(C)(1), CalPortland is required to offset NO_x and VOC emission increases at a ratio of 1.3 to 1.0; this means that the project emission increase will be multiplied by a factor of 1.3 to determine the amount of emission

reductions credits (ERCs) that must be surrendered to MDAQMD. CalPortland owns ERC Number 0103 (853.95 tpy NO_X) and 0111 (0.006 tpy VOC). Therefore, CalPortland will use a portion of ERC Number 0103 to surrender the required ERCs to offset the NO_X emissions increase from the Project. CalPortland proposes to use the available VOC ERCs from ERC Number 0111 and to work with MDAQMD to establish an interpollutant offset ratio to use available NO_X ERCs to offset the remaining emissions of VOC. This methodology was previously proposed and accepted by MDAQMD for the offset of emissions from portable engines associated with limestone crushing operations.

Table 8. Emission Offsets Calculation

Description	PM_{10} (tpy)	SO_2 (tpy)	NO_x (tpy)	VOC (tpy)
Limestone Crushing PEI	9.92	0.01	0.60	0.28
Clinker and Cement Storage PEI	14.84	--	--	--
Alternate Fuels PEI	6.23	--	--	--
Historical Actual Emissions (AF Project)[3]	59.98	0.00	0.00	0.00
Emission Change[4]	-28.99	0.01	0.6	0.3
Simultaneous Emission Reductions[5, 6]	28.97	0.01	0.0	0.0
Pollutant Offset Ratio	--	--	1.3	1.3
Interpollutant Offset Ratio (NOx for VOC)	--	--	--	1.00
Amount of Offsets Required[7]	--	--	0.78	0.37
Amount of ERCs Required to be Surrendered[8,9]	--	--	1.15	

1. Per MDAQMD Rule 1303(B), offsets are required for nonattainment air pollutants and their precursors. As such, only those relevant pollutants are listed in this table.
2. Kiln emissions from the AF Project are not included in the offset calculations because the kiln has been previously offset, according to MDAQMD.
3. Per July 2019 Alternate Fuels Project Application.
4. Per MDAQMD Rule 1304(B), Emissions Change = Proposed Emissions (i.e. Limestone Crushing PEI + Additive Crushing PEI + Clinker Storage PEI + Cement Storage PEI) - Historical Actual Emission
6. Simultaneous emission reduction (SER) of PM10 applied to SO2 at a ratio of 2:1 according to guidance provided by Alan de Salvio on 8/22/2019 in a conversation with Jeremias Szust (Trinity Consultants). As such, 0.02 tpy of the PM10 SER are used to simultaneously reduce 0.01 tpy of SO2.
7. Amount of Offsets Required = Emission Change - Simultaneous Emission Reductions
8. Amount of ERCs Required to be Surrendered = Amount of Offsets Required * 1.3 (NO_X and VOC offset ratio of 1.3 to 1.0 due to ozone nonattainment pursuant to MDAQMD Rule 1305 (C)(1)) * 2.0 (Interpollutant NOx for VOC ratio 2:1.0.)
9. CalPortland will surrender the required portion of NOx ERCs as issued by MDAQMD under ERC Certificate Number 0103 on January 20, 2016. CalPortland is proposing to surrender the required portion of VOC ERCs using ERC Certificate Number 0111 (0.006 tpy VOC) and ERC Certificate Number 0103 along with an agreed upon VOC: NOx interpollutant offset ratio.

PROPOSED CHANGES TO STATEMENT OF BASIS

MDAQMD provided CalPortland with a Preliminary Determination/Decision – SOB for the Alternate Fuels Project on February 27, 2020. Section C. *Title V Permit/FOP – Significant Permit Modification* includes proposed changed to the FOP. CalPortland requests that MDAQMD update the draft permit and SOB to reflect the changes requested

in this Second Addendum. CalPortland will also provide MDAQMD with requested edits to the SOB for the equipment included in the Application and First Addendum via electronic communications.

In addition to the items addressed in the Application, the First Addendum, and the Second Addendum, CalPortland recently submitted a letter to MDAQMD on March 3, 2020 requesting a temporary relaxation of the requirement to concurrently run dust collectors while cement silos 25 and 26 (MDAQMD Authorities to Construct [ATCs] Permits C013011 and T013016)are filled with cement. CalPortland requests that MDAQMD update ATC C013011 (baghouse 661BF726) and ATC T013016 (Truck Loadout System Silos and Bins) to reflect the "as built" changes to the equipment. CalPortland has provided "marked-up" versions of the ATCs in Attachment 4 of this letter. Additionally, a PFD for the equipment is included in Attachment 3 of this letter Finally, CalPortland requests that MDAQMD incorporate these changes into the revised TV permit.

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I certify that, based on information and belief formed after reasonable inquiry, the statements contained in this letter are true, accurate, and complete.

If you have questions or comments about the information presented in this submittal, please do not hesitate to call me at (760) 269-1183 or Ms. Desirea Haggard at (626) 691-1966.

Sincerely,

Richard P. Walters
Plant Manager
CalPortland Company

cc: Jessica Gammett, CalPortland
Desirea Haggard, CalPortland
Melissa Hillman, Trinity Consultants

Attachments
~~~~~~~~~~~~~~~~~~

ATTACHMENT 1: MDAQMD FORMS

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
BRAD POIRIEZ, *EXECUTIVE DIRECTOR*
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • Fax 760.245.2022
Email: **engineering@mdaqmd.ca.gov**
www.MDAQMD.ca.gov • @MDAQMD

General Application Form

Remit **$302.00** with this document (***$172.00*** *for change of owner*)

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 95-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): CalPortland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 kmE/ 3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: 760-269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310

Type of Organization
☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency
☐ Federal agency

Section 2: Nature of application

Application is hereby made for the following equipment:

Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number

Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)

Section 3: Equipment information

Equipment description (give a brief description of the equipment and/or process):
A new additive crushing plant, including conveyors, hoppers, and silos.

Manufacturer: _____ Model: _____ Serial number: _____

Add-on air pollution control equipment? ☐ Yes ☑ No (Note: *most APCE require a separate application*)

If yes: Manufacturer: _____ Model: _____ Serial #: _____ CARB EO#: _____

Type (specify): _____

Stack data Exhaust stack height from ground: _____ feet Exhaust stack diameter: _____ feet

Stack is: ☐ horizontal ☐ vertical ☑ open ☐ weather cap

Vent data: Exhaust temp. Ambient °F Maximum exhaust rate (CFM): _____

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42
☐ Other (please specify): _____

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}				
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent):
☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun
_____ % Jul-Sep _____ % Oct-Dec

Expected operating hours of equipment
24 Hrs/day 7 Days/wk 52 Wk/yr
Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest: _____ residence _____ business _____ school

Name of closest school (K-12) _____

If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.

Richard P. Walters, Jr.	Plant Manager	Richard P. Walters	4/22/20
Name of responsible official	Official title	Signature of responsible official	Date signed

Phone: (760) 269-1183 | Email: rwalters@calportland.com

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov
2) Pay the corresponding application fee of $302 per permit for new or modified permit (or $172 for change of owner) via check or credit card.

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Mail the check with a copy of this completed application to:
Mojave Desert AQMD
14306 Park Avenue
Victorville, CA 92392

Payment by credit card:
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Click ***"Pay Fees"***
Please note: ***a surcharge applies for all credit card payments.***

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Should you have any additional questions, please, do not hesitate to contact the permitting division at 760-245-1661, or via email at **engineering@mdaqmd.ca.gov**

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c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): Cal Portland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 kmE/ 3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: 760-269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310

Type of Organization
☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency
☐ Federal agency

Section 2: Nature of application

Application is hereby made for the following equipment: Two clinker storage silos controlled by baghouses	
Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information

Equipment description (give a brief description of the equipment and/or process):
Two new clinker silos, including conveyors all controlled by baghouses. See the application letter and APCE forms for additional details on baghouses.

Manufacturer: _____ Model: _____ Serial number: _____

Add-on air pollution control equipment? ☑ Yes ☐ No (Note: *most APCE require a separate application*)

If yes: Manufacturer: TBA Model: _____ Serial #: _____ CARB EO#: _____

Type (specify): _____

Stack data Exhaust stack height from ground: _____ feet Exhaust stack diameter: _____ feet

Stack is: ☐ horizontal ☐ vertical ☑ open ☐ weather cap

Vent data: Exhaust temp. Ambient °F Maximum exhaust rate (CFM): _____

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42
☐ Other (please specify): _____

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}				
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent):	Expected operating hours of equipment
☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun _____ % Jul-Sep _____ % Oct-Dec	24 Hrs/day 7 Days/wk 52 Wk/yr Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest: _____ residence _____ business _____ school

Name of closest school (K-12) _____

If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.

Richard P. Walters, Jr.	Plant Manager	Richard P. Walters	4/22/20
Name of responsible official	Official title	Signature of responsible official	Date signed

Phone: (760) 269-1183	Email: rwalters@calportland.com

Application submission instructions:

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2) Pay the corresponding application fee of $302 per permit for new or modified permit (or $172 for change of owner) via check or credit card.

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Victorville, CA 92392

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Click ***"Pay Fees"***
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www.MDAQMD.ca.gov • @MDAQMD

Application for air pollution control equipment only

Remit **$302.00** with this document (***$172.00*** *for change of owner)*

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 95-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): Cal Portland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 kmE/3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: 760-269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310

Type of Organization
☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency
☐ Federal agency

Section 2: Nature of application

Application is hereby made for the following equipment: Clinker Silo Baghouse 1	
Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*
Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____	Weight of adsorbent per bed: _____	
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____	☐ other, specify: _____	
Minimum control efficiency: _____ %	_____ ppmv	_____ mg/m³
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____	Operating temperature of combustion chamber in °F: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD	Filtering area: TBD	
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 8,300 _____ dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no	Manufacturer's specified pressure differential range: _____ inches H2O	
Control efficiency: _____ % _____ ppmv 6.87 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emissions Calculations

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}			.003	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent): ☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun _____ % Jul-Sep _____ % Oct-Dec	Expected operating hours of equipment 24 Hrs/day 7 Days/wk 52 Wk/yr Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest:	_____	residence	_____	business	_____ school
Name of closest school (K-12) _____					
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)					

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters, Jr. Name of responsible official	Plant Manager Official title	Richard P. Walters Signature of responsible official	4/22/20 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov
2) Pay the corresponding application fee of $302 per permit for new or modified permit (or $172 for change of owner) via check or credit card.

   Payment by check:
   Make check payable to the Mojave Desert AQMD
   Mail the check with a copy of this completed application to:
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   14306 Park Avenue
   Victorville, CA 92392

   Payment by credit card:
   Pay online at **http://www.mdaqmd.ca.gov**
   Click ***"Pay Fees"***
   Please note: ***a surcharge applies for all credit card payments.***
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Should you have any additional questions, please, do not hesitate to contact the permitting division at 760-245-1661, or via email at **engineering@mdaqmd.ca.gov**

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Application for air pollution control equipment only

Remit **$302.00** with this document *(**$172.00** for change of owner)*

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c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): Cal Portland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 kmE/3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: 760-269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310

Type of Organization
☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency
☐ Federal agency

Section 2: Nature of application

Application is hereby made for the following equipment:
Clinker Silo Baghouse 2

Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number

Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)

Section 3: Equipment information — *Complete sections A-G as applicable*
Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____	Weight of adsorbent per bed: _____	
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____	☐ other, specify: _____	
Minimum control efficiency: _____ %	_____ ppmv	_____ mg/m³
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____	Operating temperature of combustion chamber in °F: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD	Filtering area: TBD	
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 3,320 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no	Manufacturer's specified pressure differential range: _____ inches H2O	
Control efficiency: _____ % _____ ppmv 6.87 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ppmv _____mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ppmv _____mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emissions Calculations

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}			.003	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent):	Expected operating hours of equipment
☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun	24 Hrs/day 7 Days/wk 52 Wk/yr
_____% Jul-Sep _____% Oct-Dec	Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest:	_____ residence	_____ business	_____ school
Name of closest school (K-12) _____			
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)			

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters, Jr. Name of responsible official	Plant Manager Official title	Signature of responsible official	4/22/20 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov
2) Pay the corresponding application fee of $302 per permit for new or modified permit (or $172 for change of owner) via check or credit card.

Payment by check:
Make check payable to the Mojave Desert AQMD
Mail the check with a copy of this completed application to:
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14306 Park Avenue
Victorville, CA 92392

Payment by credit card:
Pay online at **http://www.mdaqmd.ca.gov**
Click ***"Pay Fees"***
Please note: ***a surcharge applies for all credit card payments.***

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Should you have any additional questions, please, do not hesitate to contact the permitting division at 760-245-1661, or via email at **engineering@mdaqmd.ca.gov**

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
BRAD POIRIEZ, *EXECUTIVE DIRECTOR*
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • Fax 760.245.2022
Email: **engineering@mdaqmd.ca.gov**
www.MDAQMD.ca.gov • @MDAQMD

Application for air pollution control equipment only

Remit **$302.00** with this document *($172.00 for change of owner)*

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 95-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): Cal Portland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 kmE/3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: 760-269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310

Type of Organization
☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency
☐ Federal agency

Section 2: Nature of application

Application is hereby made for the following equipment: Clinker Silo Baghouse 3	
Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*
Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____	Weight of adsorbent per bed: _____	
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____	☐ other, specify: _____	
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____	Operating temperature of combustion chamber in °F: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD	Filtering area: TBD	
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 8,300 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no	Manufacturer's specified pressure differential range: _____ inches H2O	
Control efficiency: _____ % _____ ppmv 6.87 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emissions Calculations

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}			.003	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent):	Expected operating hours of equipment
☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun	24 Hrs/day 7 Days/wk 52 Wk/yr
_____ % Jul-Sep _____ % Oct-Dec	Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest:	_____	residence	_____	business	_____ school
Name of closest school (K-12) _____					
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)					

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters, Jr. Name of responsible official	Plant Manager Official title	Richard P. Walters Signature of responsible official	4/22/20 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov
2) Pay the corresponding application fee of $302 per permit for new or modified permit (or $172 for change of owner) via check or credit card.

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   Mail the check with a copy of this completed application to:
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MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
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Email: **engineering@mdaqmd.ca.gov**
www.MDAQMD.ca.gov • @MDAQMD

Application for air pollution control equipment only

Remit **$302.00** with this document *(**$172.00** for change of owner)*

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 95-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): Cal Portland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 kmE/3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: 760-269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310

Type of Organization
☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency
☐ Federal agency

Section 2: Nature of application

Application is hereby made for the following equipment: Clinker Silo Baghouse 4	
Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*
Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____	Weight of adsorbent per bed: _____	
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____	☐ other, specify: _____	
Minimum control efficiency: _____ %	_____ ppmv	_____ mg/m³
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____	Operating temperature of combustion chamber in °F: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD	Filtering area: TBD	
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 3,320 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no	Manufacturer's specified pressure differential range: _____ inches H2O	
Control efficiency: _____ % _____ ppmv 6.87 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emissions Calculations

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}			.003	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent):	Expected operating hours of equipment
☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun	24 Hrs/day 7 Days/wk 52 Wk/yr
_____ % Jul-Sep _____ % Oct-Dec	Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest:	_____	residence	_____	business	_____ school
Name of closest school (K-12) _____					
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)					

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters, Jr. Name of responsible official	Plant Manager Official title	Richard P. Walters Signature of responsible official	4/22/20 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov
2) Pay the corresponding application fee of $302 per permit for new or modified permit (or $172 for change of owner) via check or credit card.

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Email: **engineering@mdaqmd.ca.gov**
www.MDAQMD.ca.gov • @MDAQMD

General Application Form

Remit **$302.00** with this document *($172.00 for change of owner)*

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 95-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): Cal Portland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 kmE/ 3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: 760-269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310

Type of Organization
☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency
☐ Federal agency

Section 2: Nature of application

Application is hereby made for the following equipment:
One cement storage dome and four cement storage silos controlled by baghouses

Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number

Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)

Section 3: Equipment information

Equipment description (give a brief description of the equipment and/or process):
One new cement storage dome and four new cement storage silos all controlled by baghouses. See the application letter and APCE forms for additional details on baghouses.

Manufacturer: _____ Model: _____ Serial number: _____

Add-on air pollution control equipment? ☑ Yes ☐ No (Note: *most APCE require a separate application*)

If yes: Manufacturer: TBA Model: _____ Serial #: _____ CARB EO#: _____

Type (specify): _____

Stack data Exhaust stack height from ground: _____ feet Exhaust stack diameter: _____ feet

Stack is: ☐ horizontal ☐ vertical ☑ open ☐ weather cap

Vent data: Exhaust temp. _____ °F Maximum exhaust rate (CFM): _____

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42
☐ Other (please specify): _____

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}				
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent):	Expected operating hours of equipment
☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun _____ % Jul-Sep _____ % Oct-Dec	24 Hrs/day 7 Days/wk 52 Wk/yr Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest: _____ residence _____ business _____ school

Name of closest school (K-12) _____

If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.

Richard P. Walters, Jr.	Plant Manager	Richard P. Walters	4/22/20
Name of responsible official	Official title	Signature of responsible official	Date signed

Phone: (760) 269-1183	Email: rwalters@calportland.com

Application submission instructions:

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2) Pay the corresponding application fee of $302 per permit for new or modified permit (or $172 for change of owner) via check or credit card.

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14306 Park Avenue
Victorville, CA 92392

Payment by credit card:
Pay online at **http://www.mdaqmd.ca.gov**
Click ***"Pay Fees"***
Please note: ***a surcharge applies for all credit card payments.***

3) If payment is made online via credit card, please email the receipt to Engineering@mdaqmd.ca.gov

Should you have any additional questions, please, do not hesitate to contact the permitting division at 760-245-1661, or via email at **engineering@mdaqmd.ca.gov**

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www.MDAQMD.ca.gov • @MDAQMD

Application for air pollution control equipment only

Remit **$302.00** with this document (***$172.00*** *for change of owner)*

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 95-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): Cal Portland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 kmE/3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: 760-269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310
Type of Organization ☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency ☐ Federal agency			

Section 2: Nature of application

Application is hereby made for the following equipment: Cement Silo Baghouse 1	
Application is for what type of permit: ☐ New construction ☐ Modification ☑ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*

Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____	Weight of adsorbent per bed: _____	
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____	☐ other, specify: _____	
Minimum control efficiency: _____ %	_____ ppmv	_____ mg/m³
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____	Operating temperature of combustion chamber in °F: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD	Filtering area: TBD	
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☑ other, specify: TBD		
Gas flow rate: 3,332 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no	Manufacturer's specified pressure differential range: _____ inches H2O	
Control efficiency: _____ % _____ ppmv 11.44 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emissions Calculations

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}			0.005	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent):	Expected operating hours of equipment
☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun	24 Hrs/day 7 Days/wk 52 Wk/yr
_____ % Jul-Sep _____ % Oct-Dec	Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest:	_____ residence	_____ business	_____ school	
Name of closest school (K-12) _____				
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)				

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters, Jr. Name of responsible official	Plant Manager Official title	Richard P. Walters Signature of responsible official	4/22/20 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov
2) Pay the corresponding application fee of $302 per permit for new or modified permit (or $172 for change of owner) via check or credit card.

   Payment by check:
   Make check payable to the Mojave Desert AQMD
   Mail the check with a copy of this completed application to:
   Mojave Desert AQMD
   14306 Park Avenue
   Victorville, CA 92392

   Payment by credit card:
   Pay online at **http://www.mdaqmd.ca.gov**
   Click ***"Pay Fees"***
   Please note: ***a surcharge applies for all credit card payments.***
3) If payment is made online via credit card, please email the receipt to Engineering@mdaqmd.ca.gov

Should you have any additional questions, please, do not hesitate to contact the permitting division at 760-245-1661, or via email at **engineering@mdaqmd.ca.gov**

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
BRAD POIRIEZ, *EXECUTIVE DIRECTOR*
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • Fax 760.245.2022
Email: **engineering@mdaqmd.ca.gov**
www.MDAQMD.ca.gov • @MDAQMD

Application for air pollution control equipment only

Remit **$302.00** with this document *($172.00 for change of owner)*

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 95-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): Cal Portland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 kmE/3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: 760-269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310

Type of Organization
☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency
☐ Federal agency

Section 2: Nature of application

Application is hereby made for the following equipment: Cement Silo Baghouse 2	
Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*
Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____	Weight of adsorbent per bed: _____	
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____	☐ other, specify: _____	
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____	Operating temperature of combustion chamber in °F: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD	Filtering area: TBD	
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 1,000 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no	Manufacturer's specified pressure differential range: _____ inches H2O	
Control efficiency: _____ % _____ ppmv 11.44 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emissions Calculations

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}			0.005	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent): ☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun _____ % Jul-Sep _____ % Oct-Dec	Expected operating hours of equipment 24 Hrs/day 7 Days/wk 52 Wk/yr Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest:	_____	residence	_____	business	_____ school
Name of closest school (K-12) _____					
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)					

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters, Jr. Name of responsible official	Plant Manager Official title	Richard P. Walters Signature of responsible official	4/22/20 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov
2) Pay the corresponding application fee of $302 per permit for new or modified permit (or $172 for change of owner) via check or credit card.

   Payment by check:
   Make check payable to the Mojave Desert AQMD
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   Pay online at **http://www.mdaqmd.ca.gov**
   Click ***"Pay Fees"***
   Please note: ***a surcharge applies for all credit card payments.***
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Should you have any additional questions, please, do not hesitate to contact the permitting division at 760-245-1661, or via email at **engineering@mdaqmd.ca.gov**

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
BRAD POIRIEZ, *EXECUTIVE DIRECTOR*
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • Fax 760.245.2022
Email: **engineering@mdaqmd.ca.gov**
www.MDAQMD.ca.gov • @MDAQMD

Application for air pollution control equipment only

Remit **$302.00** with this document *($172.00 for change of owner)*

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 95-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): Cal Portland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 kmE/3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: 760-269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310

Type of Organization
☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency
☐ Federal agency

Section 2: Nature of application

Application is hereby made for the following equipment:
Cement Silo Baghouse 3

Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number

Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)

Section 3: Equipment information — *Complete sections A-G as applicable*

Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____	Weight of adsorbent per bed: _____	
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____	☐ other, specify: _____	
Minimum control efficiency: _____ %	_____ ppmv	_____ mg/m³
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____	Operating temperature of combustion chamber in °F: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m^3		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft^2		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m^3		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft^2		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD	Filtering area: TBD	
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 3,332 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no	Manufacturer's specified pressure differential range: _____ inches H2O	
Control efficiency: _____ % _____ ppmv 11.44 mg/m^3		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emissions Calculations

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}			0.005	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent): ☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun _____% Jul-Sep _____% Oct-Dec	Expected operating hours of equipment 24 Hrs/day 7 Days/wk 52 Wk/yr Total annual hours 6760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest:	_____	residence	_____	business	_____ school
Name of closest school (K-12) _____					
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)					

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters, Jr. Name of responsible official	Plant Manager Official title	Signature of responsible official	4/22/20 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov
2) Pay the corresponding application fee of $302 per permit for new or modified permit (or $172 for change of owner) via check or credit card.

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   Victorville, CA 92392

   Payment by credit card:
   Pay online at **http://www.mdaqmd.ca.gov**
   Click ***"Pay Fees"***
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3) If payment is made online via credit card, please email the receipt to Engineering@mdaqmd.ca.gov

Should you have any additional questions, please, do not hesitate to contact the permitting division at 760-245-1661, or via email at **engineering@mdaqmd.ca.gov**

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
BRAD POIRIEZ, *EXECUTIVE DIRECTOR*
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • Fax 760.245.2022
Email: **engineering@mdaqmd.ca.gov**
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Application for air pollution control equipment only

Remit **$302.00** with this document (***$172.00*** *for change of owner)*

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 95-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): Cal Portland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 kmE/3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: 760-269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310

Type of Organization
☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency
☐ Federal agency

Section 2: Nature of application

Application is hereby made for the following equipment: Cement Silo Baghouse 4	
Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*
Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____	Weight of adsorbent per bed: _____	
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____	☐ other, specify: _____	
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____	Operating temperature of combustion chamber in °F: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD	Filtering area: TBD	
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 1,000 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no	Manufacturer's specified pressure differential range: _____ inches H2O	
Control efficiency: _____ % _____ ppmv 11.44 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emissions Calculations

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}			0.005	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent):	Expected operating hours of equipment
☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun	24 Hrs/day 7 Days/wk 52 Wk/yr
_____ % Jul-Sep _____ % Oct-Dec	Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest: _____ residence	_____ business	_____ school	
Name of closest school (K-12) _____			
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)			

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters, Jr.	Plant Manager	Richard P. Walters	4/22/20
Name of responsible official	Official title	Signature of responsible official	Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov
2) Pay the corresponding application fee of $302 per permit for new or modified permit (or $172 for change of owner) via check or credit card.

   Payment by check:
   Make check payable to the Mojave Desert AQMD
   Mail the check with a copy of this completed application to:
   Mojave Desert AQMD
   14306 Park Avenue
   Victorville, CA 92392

   Payment by credit card:
   Pay online at **http://www.mdaqmd.ca.gov**
   Click ***"Pay Fees"***
   Please note: ***a surcharge applies for all credit card payments.***
3) If payment is made online via credit card, please email the receipt to Engineering@mdaqmd.ca.gov

Should you have any additional questions, please, do not hesitate to contact the permitting division at 760-245-1661, or via email at **engineering@mdaqmd.ca.gov**

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
BRAD POIRIEZ, *EXECUTIVE DIRECTOR*
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • Fax 760.245.2022
Email: **engineering@mdaqmd.ca.gov**
www.MDAQMD.ca.gov • @MDAQMD

Application for air pollution control equipment only

Remit **$302.00** with this document *(**$172.00** for change of owner)*

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 95-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): Cal Portland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 kmE/3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: 760-269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310

Type of Organization
☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency
☐ Federal agency

Section 2: Nature of application

Application is hereby made for the following equipment:
Cement Silo Baghouse 5

Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number

Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)

Section 3: Equipment information — *Complete sections A-G as applicable*

Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____	Weight of adsorbent per bed: _____	
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____	☐ other, specify: _____	
Minimum control efficiency: _____ %	_____ ppmv	_____ mg/m³
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____	Operating temperature of combustion chamber in °F: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD	Filtering area: TBD	
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 3,332 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no	Manufacturer's specified pressure differential range: _____ inches H2O	
Control efficiency: _____ % _____ ppmv 11.44 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ppmv _____mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ppmv _____mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emissions Calculations

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}			0.005	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent): ☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun _____% Jul-Sep _____% Oct-Dec	Expected operating hours of equipment 24 Hrs/day 7 Days/wk 52 Wk/yr Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest:	_____	residence	_____	business	_____ school
Name of closest school (K-12) _____					
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)					

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters, Jr. Name of responsible official	Plant Manager Official title	Richard P. Walters Signature of responsible official	4/22/20 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov
2) Pay the corresponding application fee of $302 per permit for new or modified permit (or $172 for change of owner) via check or credit card.

   Payment by check:
   Make check payable to the Mojave Desert AQMD
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   14306 Park Avenue
   Victorville, CA 92392

   Payment by credit card:
   Pay online at **http://www.mdaqmd.ca.gov**
   Click ***"Pay Fees"***
   Please note: ***a surcharge applies for all credit card payments.***
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Should you have any additional questions, please, do not hesitate to contact the permitting division at 760-245-1661, or via email at **engineering@mdaqmd.ca.gov**

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
BRAD POIRIEZ, *EXECUTIVE DIRECTOR*
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • Fax 760.245.2022
Email: **engineering@mdaqmd.ca.gov**
www.MDAQMD.ca.gov • @MDAQMD

Application for air pollution control equipment only

Remit **$302.00** with this document *(**$172.00** for change of owner)*

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 95-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): Cal Portland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 kmE/3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: 760-269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310

Type of Organization
☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency
☐ Federal agency

Section 2: Nature of application

Application is hereby made for the following equipment:
Cement Silo Baghouse 6

Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number

Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)

Section 3: Equipment information — *Complete sections A-G as applicable*
Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____	Weight of adsorbent per bed: _____	
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____	☐ other, specify: _____	
Minimum control efficiency: _____ %	_____ ppmv	_____ mg/m³
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____	Operating temperature of combustion chamber in °F: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD	Filtering area: TBD	
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 1,000 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no	Manufacturer's specified pressure differential range: _____ inches H2O	
Control efficiency: _____ % _____ ppmv 11.44 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emissions Calculations

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}			0.005	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent):	Expected operating hours of equipment
☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun	24 Hrs/day 7 Days/wk 52 Wk/yr
_____ % Jul-Sep _____ % Oct-Dec	Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest: _____	residence _____	business _____	school
Name of closest school (K-12) _____			
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)			

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters, Jr. Name of responsible official	Plant Manager Official title	Richard P. Walters Signature of responsible official	4/22/20 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov
2) Pay the corresponding application fee of $302 per permit for new or modified permit (or $172 for change of owner) via check or credit card.

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   Payment by credit card:
   Pay online at **http://www.mdaqmd.ca.gov**
   Click ***"Pay Fees"***
   Please note: ***a surcharge applies for all credit card payments.***
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MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
BRAD POIRIEZ, *EXECUTIVE DIRECTOR*
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • Fax 760.245.2022
Email: **engineering@mdaqmd.ca.gov**
www.MDAQMD.ca.gov • @MDAQMD

Application for air pollution control equipment only

Remit **$302.00** with this document *(**$172.00** for change of owner)*

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 95-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): Cal Portland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 kmE/3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: 760-269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310

Type of Organization
☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency
☐ Federal agency

Section 2: Nature of application

Application is hereby made for the following equipment: Cement Silo Baghouse 7	
Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*
Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____	Weight of adsorbent per bed: _____	
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____	☐ other, specify: _____	
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____	Operating temperature of combustion chamber in °F: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD	Filtering area: TBD	
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 3,332 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no	Manufacturer's specified pressure differential range: _____ inches H2O	
Control efficiency: _____ % _____ ppmv 11.44 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emissions Calculations

Emissions data: _____

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NO_x				
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CO				
PM_{10}			0.005	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent): ☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun _____ % Jul-Sep _____ % Oct-Dec	Expected operating hours of equipment 24 Hrs/day 7 Days/wk 52 Wk/yr Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest:	_____	residence	_____	business	_____ school
Name of closest school (K-12) _____					
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Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters, Jr. Name of responsible official	Plant Manager Official title	Richard P. Walters Signature of responsible official	4/22/20 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov
2) Pay the corresponding application fee of $302 per permit for new or modified permit (or $172 for change of owner) via check or credit card.

   Payment by check:
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   Mail the check with a copy of this completed application to:
   Mojave Desert AQMD
   14306 Park Avenue
   Victorville, CA 92392

   Payment by credit card:
   Pay online at **http://www.mdaqmd.ca.gov**
   Click ***"Pay Fees"***
   Please note: ***a surcharge applies for all credit card payments.***
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Should you have any additional questions, please, do not hesitate to contact the permitting division at 760-245-1661, or via email at **engineering@mdaqmd.ca.gov**

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
BRAD POIRIEZ, *EXECUTIVE DIRECTOR*
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • Fax 760.245.2022
Email: **engineering@mdaqmd.ca.gov**
www.MDAQMD.ca.gov • @MDAQMD

Application for air pollution control equipment only

Remit **$302.00** with this document *($172.00 for change of owner)*

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 95-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): Cal Portland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 kmE/3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: 760-269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310

Type of Organization
☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency
☐ Federal agency

Section 2: Nature of application

Application is hereby made for the following equipment: Cement Silo Baghouse 8	
Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*
Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____	Weight of adsorbent per bed: _____	
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____	☐ other, specify: _____	
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____	Operating temperature of combustion chamber in °F: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD	Filtering area: TBD	
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 1,000 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no	Manufacturer's specified pressure differential range: _____ inches H2O	
Control efficiency: _____ % _____ ppmv 11.44 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emissions Calculations

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}			0.005	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent):	Expected operating hours of equipment
☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun	24 Hrs/day 7 Days/wk 52 Wk/yr
_____ % Jul-Sep _____ % Oct-Dec	Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest:	_____	residence	_____	business	_____ school
Name of closest school (K-12) _____					
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)					

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

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I hereby certify that all information contained herein is true and correct.			
Richard P. Walters, Jr. Name of responsible official	Plant Manager Official title	Richard P. Walters Signature of responsible official	4/22/20 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

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c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): Cal Portland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 kmE/3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: 760-269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310
Type of Organization ☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency ☐ Federal agency			

Section 2: Nature of application

Application is hereby made for the following equipment: Cement Storage Dome Baghouse #1	
Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*

Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____	Weight of adsorbent per bed: _____	
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____	☐ other, specify: _____	
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____	Operating temperature of combustion chamber in °F: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD	Filtering area: TBD	
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 11,663 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no	Manufacturer's specified pressure differential range: _____ inches H2O	
Control efficiency: _____ % _____ ppmv 11.44 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emissions Calculations

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}			0.005	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent):	Expected operating hours of equipment
☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun	24 Hrs/day 7 Days/wk 52 Wk/yr
_____ % Jul-Sep _____ % Oct-Dec	Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest:	_____	residence	_____	business	_____ school
Name of closest school (K-12) _____					
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)					

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters, Jr. Name of responsible official	Plant Manager Official title	Signature of responsible official	4/22/20 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

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Application for air pollution control equipment only

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PLEASE TYPE OR PRINT

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d. Facility or business license name (for equipment location): Cal Portland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 kmE/3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: 760-269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310
Type of Organization ☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency ☐ Federal agency			

Section 2: Nature of application

Application is hereby made for the following equipment: Cement Storage Dome Baghouse #2	
Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*

Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____	Weight of adsorbent per bed: _____	
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____	☐ other, specify: _____	
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____	Operating temperature of combustion chamber in °F: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD	Filtering area: TBD	
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 2,666 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no	Manufacturer's specified pressure differential range: _____ inches H2O	
Control efficiency: _____ % _____ ppmv 11.44 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ ppmv _____ mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

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Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
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CO				
PM_{10}			0.005	gr/dscf
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Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

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Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

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General Application Form

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d. Facility or business license name (for equipment location): Cal Portland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 kmE/ 3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: 760-269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310

Type of Organization
☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency
☐ Federal agency

Section 2: Nature of application

Application is hereby made for the following equipment:
One additive storage bin associated with Finish Mill No. 2

Application is for what type of permit: ☐ New construction ☑ Modification ☐ Change of owner	For modification or change of owner: T007433 Current Permit Number

Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)

Section 3: Equipment information

Equipment description (give a brief description of the equipment and/or process):
A new additive storage bin including conveyors all controlled by baghouses. See the application letter and APCE forms for additional details on baghouses.

Manufacturer: _____ Model: _____ Serial number: _____

Add-on air pollution control equipment? ☐ Yes ☑ No (Note: *most APCE require a separate application*)

If yes: Manufacturer: TBA Model: _____ Serial #: _____ CARB EO#: _____

Type (specify): _____

Stack data Exhaust stack height from ground: _____ feet Exhaust stack diameter: _____ feet

Stack is: ☐ horizontal ☐ vertical ☑ open ☐ weather cap

Vent data: Exhaust temp. _____ °F Maximum exhaust rate (CFM): _____

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42
☐ Other (please specify): _____

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}				
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent):	Expected operating hours of equipment
☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun _____ % Jul-Sep _____ % Oct-Dec	24 Hrs/day 7 Days/wk 52 Wk/yr Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest: _____ residence _____ business _____ school

Name of closest school (K-12) _____

If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.

Richard P. Walters, Jr.	Plant Manager	Richard P. Walters	4/22/20
Name of responsible official	Official title	Signature of responsible official	Date signed

Phone: (760) 269-1183	Email: rwalters@calportland.com

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov
2) Pay the corresponding application fee of $302 per permit for new or modified permit (or $172 for change of owner) via check or credit card.

Payment by check:
Make check payable to the Mojave Desert AQMD
Mail the check with a copy of this completed application to:
Mojave Desert AQMD
14306 Park Avenue
Victorville, CA 92392

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Pay online at **http://www.mdaqmd.ca.gov**
Click ***"Pay Fees"***
Please note: ***a surcharge applies for all credit card payments.***

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Should you have any additional questions, please, do not hesitate to contact the permitting division at 760-245-1661, or via email at **engineering@mdaqmd.ca.gov**

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
BRAD POIRIEZ, *EXECUTIVE DIRECTOR*
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • Fax 760.245.2022
Email: **engineering@mdaqmd.ca.gov**
www.MDAQMD.ca.gov • @MDAQMD

Application for air pollution control equipment only

Remit **$302.00** with this document (***$172.00*** *for change of owner)*

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 95-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): Cal Portland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 kmE/3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: 760-269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310
Type of Organization ☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency ☐ Federal agency			

Section 2: Nature of application

Application is hereby made for the following equipment: 551BF105 Baghouse	
Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*

Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____	Weight of adsorbent per bed: _____	
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____	☐ other, specify: _____	
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____	Operating temperature of combustion chamber in °F: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD	Filtering area: TBD	
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☑ other, specify: TBD		
Gas flow rate: 3,423 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no	Manufacturer's specified pressure differential range: _____ inches H2O	
Control efficiency: _____ % _____ ppmv 6.87 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ppmv _____mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ppmv _____mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emissions Calculations

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}			.003	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent):	Expected operating hours of equipment
☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun	24 Hrs/day 7 Days/wk 52 Wk/yr
_____% Jul-Sep _____% Oct-Dec	Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest:	_____	residence	_____	business	_____ school
Name of closest school (K-12) _____					
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)					

***Please note:** *District staff may contact you for further information. Failure to provide additional information as requested in a timely manner may result in delays in the processing of this permit application.*

Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters, Jr. Name of responsible official	Plant Manager Official title	Signature of responsible official	4/22/20 Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

Application submission instructions:

1) Submit completed application to Engineering@mdaqmd.ca.gov
2) Pay the corresponding application fee of $302 per permit for new or modified permit (or $172 for change of owner) via check or credit card.

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Application for air pollution control equipment only

Remit **$302.00** with this document (***$172.00*** *for change of owner)*

PLEASE TYPE OR PRINT

Section 1: Owner information

a. Permit to be issued to (company name): CalPortland Company			b. Federal tax ID #: 95-0597220
c. Mailing/billing address (for above company name) *include city, state and zip code:* P.O. Box 146 Oro Grande, CA 92368			
d. Facility or business license name (for equipment location): Cal Portland Oro Grande			
e. Facility Address — Location of equipment (if same as for company, enter "Same"): 19409 National Trails Hwy, Oro Grande, CA 92368			Equip. coordinates (lat/long): 469 kmE/3828 km N
f. Contact name: Jessica Gammett	Title: Environmental Manager	Email address: jgammett@calportland.com	Phone: 760-269-1135
General nature of business: Portland Cement Manufacturing			Company NAICS: 327310

Type of Organization
☐ Individual owner ☐ Partnership ☑ Corporation ☐ Utility ☐ Local agency ☐ State agency
☐ Federal agency

Section 2: Nature of application

Application is hereby made for the following equipment: 551BF106 Baghouse	
Application is for what type of permit: ☑ New construction ☐ Modification ☐ Change of owner	For modification or change of owner: _____ Current Permit Number
Do you claim Confidentiality of Data? ☑ No ☐ Yes (attach explanation; specify which information provided is confidential)	

Section 3: Equipment information — *Complete sections A-G as applicable*
Note: Each control unit requires a separate application

A. Adsorption units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Adsorbent: ☐ Activated charcoal: type _____	☐ Other: specify _____	
Adsorbate(s): _____		
Number of beds: _____	Weight of adsorbent per bed: _____	
Dimensions of bed: thickness: _____	surface area: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Regeneration: ☐ Replacement ☐ Steam ☐ Other, specify: _____		
Regeneration method: ☐ shut down ☐ alternate use, specify: _____	☐ other, specify: _____	
Minimum control efficiency: _____ %	_____ ppmv	_____ mg/m³
Describe method to monitor control efficiency and breakthrough:		

-For District use only-

Application number:	Invoice number:	Permit number:	Company/facility number:

B. Afterburner units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Combustion chamber dimensions: length: _____ in. Cross sectional area: _____ sq. in.		
Fuel: ☐ natural gas ☐ propane ☐ CARB diesel ☐ other, specify: _____		
Number and rating of burners: _____	Operating temperature of combustion chamber in °F: _____	
Inlet temperature: _____ °F	Pressure drop across unit: _____ inches H_2O	
Gas flow rate: _____ dscfm		
Catalyst used: ☐, please describe: _____		
Heat exchanger used: ☐, please describe: _____		
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

C: Condenser units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Heat exchange area: _____ ft²		
Coolant rate: _____ units _____ type: ☐ water ☐ air ☐ CARB diesel ☐ other, specify: _____		
Gas flow rate: _____ dscfm	Coolant temp.: inlet _____ °F outlet _____ °F	Gas temp.: inlet _____ °F outlet _____ °F
Minimum control efficiency: _____ % _____ ppmv _____ mg/m³		
Describe method to monitor control efficiency and breakthrough:		

D. Electrostatic precipitator units:

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____
Collecting electrode area: _____ ft²		
Gas flow rate: _____ dscfm		
Describe method to monitor control efficiency and breakthrough:		

E. Filter units

Flow diagram of emissions source and control unit: ☑ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: TBD	Model: TBD	Serial No.: _____
Filtering material: TBD	Filtering area: TBD	
Number and dimension of filters: TBD		
Cleaning method: ☐ shaker ☐ reverse air ☐ pulse air ☐ pulse jet ☐ other, specify: TBD		
Gas flow rate: 1,711 dscfm		
Unit measured with a manometer gauge? ☐ yes ☐ no	Manufacturer's specified pressure differential range: _____ inches H2O	
Control efficiency: _____ % _____ ppmv 6.87 mg/m³		
Motor size: _____ bhp Fan size: _____ inches		
Describe method to monitor control efficiency and breakthrough:		

F. Scrubber units

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Type of scrubber:

☐ high energy, gas stream pressure drop: _____ inches H_2O

☐ packed: packing type _____ packing size _____ packing material height _____

☐ spray: number of nozzles _____ nozzle pressure _____ PSIG

☐ other, specify: _____

Flow type: ☐ concurrent ☐ countercurrent ☐ crossflow

Scrubber dimensions: length in direction of gas flow _____ in. cross sectional area _____ sq. in.

Scrubbant: _____ Scrubbant flow rate: _____ dscfm

Control efficiency: _____ % _____ppmv _____mg/m³

Describe method to monitor control efficiency and breakthrough:

G. Other types:

Equipment description: _____

Flow diagram of emissions source and control unit: ☐ included	Manufacturer specifications/guarantee: ☐ included	
Manufacturer: _____	Model: _____	Serial No.: _____

Gas flow rate: _____ dscfm

Control efficiency: _____ % _____ppmv _____mg/m³

Describe method to monitor control efficiency and breakthrough:

Section 4: Emissions data

Emission Factor Basis (attach any source specified): _____

☐ Manufacturer ☐ Source test ☐ MDAQMD default ☐ USEPA AP-42

☑ Other (please specify): Emissions Calculations

Emissions data: _____

Pollutant	Pre-control max. emissions	Units	Post control max. emissions	Units
NO_x				
NMHC				
CO				
PM_{10}			.003	gr/dscf
SO_x				

Toxic pollutants — Please include a list of all toxic air pollutants and their emission rates if known.

Section 5: Operation information

Fuel Consumption: _____ at max rated load ☐ gal/hour ☐ SCF/hour ☐ MMBtu/hr

Typical load: _____

Facility annual operation by quarters (percent):	Expected operating hours of equipment
☑ Uniform OR _____ % Jan-Mar _____ % Apr-Jun	24 Hrs/day 7 Days/wk 52 Wk/yr
_____% Jul-Sep _____% Oct-Dec	Total annual hours 8760

Section 6: Receptor information

Distance (feet) and direction to the property line of closest:	_____	residence	_____	business	_____ school
Name of closest school (K-12) _____					
If the proposed equipment operates within 1,000 feet of a school site and operation results in the emission of hazardous air pollutants, a public notice will be required at the expense of the applicant (CH&S §42301.6)					

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Section 7: Certification

I hereby certify that all information contained herein is true and correct.			
Richard P. Walters, Jr.	Plant Manager	Richard P. Walters	4/22/20
Name of responsible official	Official title	Signature of responsible official	Date signed
Phone: (760) 269-1183		Email: rwalters@calportland.com	

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2) Pay the corresponding application fee of $302 per permit for new or modified permit (or $172 for change of owner) via check or credit card.

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   Payment by credit card:
   Pay online at **http://www.mdaqmd.ca.gov**
   Click ***"Pay Fees"***
   Please note: ***a surcharge applies for all credit card payments.***
3) If payment is made online via credit card, please email the receipt to Engineering@mdaqmd.ca.gov

Should you have any additional questions, please, do not hesitate to contact the permitting division at 760-245-1661, or via email at **engineering@mdaqmd.ca.gov**

ATTACHMENT 2: EMISSION CALCULATIONS

Table 1. Finish Mill 2 Bin Baghouse Parameters

Unit	Baghouse	Flow Rate[1] (acfm)	Temperature[2] (Fahrenheit)	Temperature[3] (Rankine)	Pressure[4] (inHg)	Flow Rate[5] (dscfm)	Maximum Outlet Grain Loading[6] (gr/dscf)
Finish Mill No 2 Storage and Feed Bin	551BF105	4,000	70	529.67	26.82	3,423	0.003
	551BF106	2,000	70	529.67	26.82	1,711	0.003

1. Baghouse flow rates are from the Flow Diagrams provided in Attachment 3.
2. Baghouse temperatures as provided by CalPortland
3. Temperature (R) = Temperature (F) + 459.67
4. Pressure (inHg) from 2016 Comprehensive Emission Inventory (CEIR) and based on actual site atmospheric conditions
5. Flow Rate (dscfm) = Flow Rate (acfm) x (Standard Temperature (Rankine) / Actual Exhaust Temperature (Rankine)) x (Actual Pressure (inHg) / Standard Pressure (inHg)) x (1 - Moisture of Ambient Air (%) / 100)

Standard Pressure (inHg)	29.92
Standard Temperature (Rankine)	519.67
Moisture Content Ambient Air (%)	2.7

6. Based on baghouse BACT limit established by MDAQMD in Finish Mill 2 Project, refer to MDAQMD Permit #T007433.

Table 2. PM Speciation Factors [1]

Weight Fraction of PM	Weight Fraction of PM_{10}	Weight Fraction of $PM_{2.5}$
1	0.92	0.62

1. Yang, Wenli. *PM Size and Chemical Speciation Profile for Concrete Batching - PM3431.* Air Resources Board. October 22, 2013.

Table 3. Finish Mill 2 Bin Baghouse PTE

Unit	Baghouse	Annual Operating Hours (hr/year)	Hourly PTE (lb/hr)			Annual PTE (tpy)		
			PM [1]	PM_{10} [1]	$PM_{2.5}$ [1]	PM [2]	PM_{10} [2]	$PM_{2.5}$ [2]
Finish Mill No 2 Storage and Feed Bin	551BF105	8,760	0.096	0.088	0.059	0.42	0.39	0.26
	551BF106	8,760	0.048	0.044	0.030	0.21	0.19	0.13
		Total PTE:	**0.14**	**0.13**	**0.09**	**0.63**	**0.58**	**0.39**

1. Hourly PTE (lb/hr) = Weight Fraction of PM/PM10/PM2.5 * PM_{10} Grain Loading (gr/scf) x Flow Rate (scfm) x 60 (min/hr) / 7,000 (gr/lb)
2. PTE (tpy) = Hourly Emissions (lb/hr) x Annual Operating Hours (hr/yr)/ 2000 (lb/ton)

Table 4. Finish Mill 2 Project - Updated PSD Applicability

Description	PM (tpy)	$PM_{2.5}$ (tpy)
July 2018 FM 2 Modernization PEI[1]	**-547.21**	**-32.63**
New Baghouses PTE	0.63	0.39
Updated Modernization PEI[2]	-546.6	-32.2
Significant Emission Rate (SER)[3]	25	10
In Attainment of NAAQS?[4]	N/A	Yes
Emission Increases > SER?	**No**	**No**

1. Per the NSR/FOP Evaluation Document for Finish Mill 2 Modification dated July 16, 2018.
2. Updated Modernization PEI = July 2018 FM2 Modernization PEI + New Baghouses PTE
3. Significant as defined in MDAQMD Rule 1600/40 CFR 52.21.
4. According to EPA Greenbook. https://www3.epa.gov/airquality/greenbook/ancl.html. Accessed 4/16/2020.

Table 5. Finish Mill 2 Bin Baghouse Offset Summary

Description	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
July 2018 FM2 Total Proposed Emissions[1]	26.34	3.95
July 2018 Total HAE[1]	48.06	4.41
New Baghouses PTE	0.58	0.39
Emissions Change[2]	-21.14	-0.07
Offsets Required?	**No**	**No**

1. Per the NSR/FOP Evaluation Document for Finish Mill 2 Modification dated July 16, 2018.
2. Emission Change = July 2018 Total HAE - July 2018 FM 2 Total Proposed Emissions - New Baghouse Total Proposed Emissions

Table 6. Portable Limestone Crushing and Screening Operations

Equipment	Throughputs (ton/hr)	Annual Hours (hr/yr)	Throughputs (tpy)	Emission Factor[1] (lb/ton)			Total Emissions[2] (lb/hr)			Total Emissions[3] (tpy)		
				PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Crusher #1	360	4,160	1,497,600	0.0012	0.00054	0.0001	0.43	0.19	0.04	0.90	0.40	0.07
Crusher #2	180	4,160	748,800	0.0012	0.00054	0.0001	0.22	0.10	0.02	0.45	0.20	0.04
Screener	540	4,160	2,246,400	0.0022	0.00074	0.00005	1.19	0.40	0.03	2.47	0.83	0.06
						Total	1.84	0.69	0.08	3.82	1.44	0.17

1. Emission factor for crusher and screener operations are from Table 11.19.2-2, AP-42 Section 11.19 for the Mineral Products Industry. Assumed controlled per water sprays that will be utilized.
2. Particulate Emissions (lb/hr) = Emission Factor (lb/ton) x Maximum Throughput (tph)
3. PTE (tpy) = Hourly Emissions (lb/hr) x Annual Operating Hours (hr/yr)/ 2000 (lb/ton). Use of material crushing and transfer operations will not exceed 40 hours/week

Table 7. Portable Limestone Material Handling Operations

Throughputs (ton/hr)	Throughputs (tpy)	Number of Drop Points[1]	Conveyor Cover Control Efficiency	Water-Spray Control Efficiency[2]	Emission Factors[3] (lb/ton)			Total Emissions[4] (lb/hr)			Total Emissions[5] (tpy)		
					PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
180	748,800	5	0%	75%	0.006	0.003	0.001	1.28	0.62	0.19	2.66	1.29	0.39
360	1,497,600	2	0%	75%	0.006	0.003	0.001	1.02	0.50	0.15	2.12	1.03	0.32
540	2,246,400	7	0%	75%	0.006	0.003	0.001	5.36	2.61	0.80	11.15	5.42	1.66
							Total	**7.66**	**3.73**	**1.14**	**15.93**	**7.75**	**2.37**

1. The PFD for the Limestone Crushing Operation shows the drop points for the crushed material and the mass flow at each drop point, as provided in Attachment 3.
2. Water spray has a control efficiency of 75% at the point of application. Control efficiencies from Section E of MDAQMD Emission Inventory Guidance for Mineral Handling and Processing Industries.
3. Emission Factors (lb/ton) = Particle Size Multiplier x 0.0032 x (Mean Wind Speed (mph)/5)^1.3 / (Material Moisture Content (%)/2)^1.4 per AP-42 Chapter 13.2.4, Equation 1.

Wind Speed 7.7 mph

Moisture Content from 2018 CEIR 1.60 w/w%

Particulate Size Multipliers:

PM	PM_{10}	$PM_{2.5}$
0.74	0.36	0.11

4. Particulate Emissions (lb/hr) = Emission Factor (lb/ton) x Maximum Throughput (tph) x (1-Conveyor Cover Control Efficiency/100) x (1-Water Spray Control Efficiency/100)
5. PTE (tpy) = Hourly Emissions (lb/hr) x Annual Operating Hours (hr/yr)/ 2000 (lb/ton). Use of material crushing and transfer operations will not exceed 40 hours/week

Table 8. Portable Limestone Stockpile Parameters

Material	Silt %[1]	Control Efficiency %[2]	Number of Days with Precipitation > 0.01 in[3]	Percentage of Time with Wind Speed > 12 mph (%)[3]	Maximum Monthly Pile Exposed Surface Area[4] (ft^2)	Maximum Monthly Pile Exposed Surface Area (acre)
Limestone	15	50	20	13.3	15,175	0.35

1. Silt % from CalPortland 2018 CEIR.
2. 50% control efficiency assumed from use of water sprays.
3. Conservative days with precipitation and windy hours default from 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G.
4. Assumed maximum monthly stockpile area equal to I-Lime stockpile area max from CalPortland 2018 CEIR.

Table 9. Particulate Aerodynamic Factor for Stockpiles [1]

PM	PM_{10}	$PM_{2.5}$
1.0	0.50	0.20

1. 2013 *MDAQMD Emission Inventory Guidance Mineral Handling and Processing Industries Section G.*

Table 10. Portable Limestone Stockpile Potential to Emit

Stockpile	Emission Factor (ton/acre-year)[1]			Emissions (tpy)[2]		
	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Limestone Pile 1	4.04	2.02	0.81	0.70	0.35	0.14
Limestone Pile 2	4.04	2.02	0.81	0.70	0.35	0.14

1. Emission Factor (ton/acre) = Particulate Aerodynamic Factor x 1.7 x Silt Loading (%) / 1.5 x (365 days - Number of Rain Days) / 235 x Percentage of Strong Wind Days / 15 x 365 / 2000, per 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G

2. PM Emissions (tpy) = Emission Factor (ton/acre-year) x Maximum Exposed Surface Area (acres) x (1 - Control Efficiency (%) / 100) per 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G

Table 11. Diesel Generator Potential to Emit

Model	Emission Source Description	Process Description	Annual Hours (hr)	Power Output (bhp)[1]	Power Output (kw)[1]	Pollutant	PTE Annual Emission Factor	Emission Factor Units	Potential Emissions (lb/hr)[5,6]	Potential Emissions (tpy)[7]
John Deere 6090HFG06	Diesel Engine	Diesel Combustion	4,200	437	326	$PM/PM_{10}/PM_{2.5}$[1,2]	0.014	g/bhp-hr	0.01	0.03
						CO[1]	2.609	g/bhp-hr	2.51	5.27
						NOx[1,2]	0.298	g/bhp-hr	0.29	0.60
						VOC[1,3]	0.141	g/bhp-hr	0.14	0.285
						SO_2[4]	1.21E-05	lb/bhp-hr	5.31E-03	0.01

1. Based on Tier 4 Final emission standards and information found in Attachment 3 of this Addendum.
2. It is conservatively assumed that the emission factors for PM_{10} and $PM_{2.5}$ are equivalent to the emission factor for PM.
3. Manufacturer provided a NMHC factor of 0.002 grams/bhp-hr. Assumed all NMHC are VOCs.
4. The engine uses ultra low sulfur diesel fuel per the manufacturer specification sheet. The emission factor is based on a fuel sulfur content of 0.0015% for ultra low sulfur diesel fuel, as defined under 40 CFR 80, Subpart I. The SO_2 emission factor from AP-42 Section 3.4, Table 3.4-1 (10/96) is used in lieu of that in AP-42 Section 3.3, Table 3.3-1 (10/96) in order to account for the fuel sulfur content.
5. Conversion from gram to pound: 1 g = 0.0022 lbs
6. Potential emissions (lb/hr) = Diesel Emission Factor (grams/bhp-hr) * 0.0022 lbs/gram * Power Output (bhp).
7. Potential emissions (tpy) = Potential Emissions (lb/hr) * Annual Hours of Operation (hr/yr) / 2000 (lb/ton).

Table 12. Portable Limestone Crushing Plant Project Emission Increase

Description	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Revised Limestone Crushing Plant PTE[1]	21.18	9.92	2.85	0.01	0.60	5.27	0.28
Significant Emission Rate (SER)[2]	25	15	10	40	40	100	40
In Attainment of NAAQS?[3]	N/A	No	Yes	Yes	Yes	Yes	No
Emission Increases > SER?	**No**	**No**	**No**	**No**	**No**	**No**	**No**

1. Revised Limestone Crushing PTE = Portable Limestone Crushing and Screening Operations PTE + Limestone Material Handling Operations PTE + Portable Limestone Stockpile PTE + Revised Emergency Engine PTE
2. Significant as defined in MDAQMD Rule 1310 and Rule 1600/40 CFR 52.21.
3. According to EPA Greenbook. https://www3.epa.gov/airquality/greenbook/ancl.html. Accessed 4/16/2020.

Table 13. Portable Additive Crushing and Screening Operations

Equipment	Throughputs (ton/hr)	Throughputs (tpy)	Emission Factor[1] (lb/ton)			Total Emissions[2] (lb/hr)			Total Emissions[3] (tpy)		
			PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Crusher #1	360	432,000	0.0012	0.00054	0.0001	0.43	0.19	0.04	0.26	0.12	0.02
Crusher #2	180	216,000	0.0012	0.00054	0.0001	0.22	0.10	0.02	0.13	0.06	0.01
Screener	540	648,000	0.0022	0.00074	0.00005	1.19	0.40	0.03	0.71	0.24	0.02
					Total	**1.84**	**0.69**	**0.08**	**1.10**	**0.41**	**0.05**

1. Emission factor for crusher and screener operations are from Table 11.19.2-2, AP-42 Section 11.19 for the Mineral Products Industry. Assumed controlled per water sprays that will be utilized.
2. Particulate Emissions (lb/hr) = Emission Factor (lb/ton) x Maximum Throughput (tph)
3. PTE (tpy) = Hourly Emissions (lb/hr) x Annual Operating Hours (hr/yr)/ 2000 (lb/ton). Use of material crushing and transfer operations will not exceed 40 hours/week

Table 14. Portable Additive Material Handling Operations

Throughputs (ton/hr)	Throughputs (tpy)	Number of Drop Points[1]	Conveyor Cover Control Efficiency	Water-Spray Control Efficiency[2]	Emission Factors[3] (lb/ton)			Total Emissions[4] (lb/hr)			Total Emissions[5] (tpy)		
					PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
180	432,000	5	0%	75%	0.006	0.003	0.001	1.28	0.62	0.19	1.53	0.75	0.23
360	216,000	2	0%	75%	0.006	0.003	0.001	1.02	0.50	0.15	0.31	0.15	0.05
540	648,000	7	0%	75%	0.006	0.003	0.001	5.36	2.61	0.80	3.22	1.56	0.48
							Total	**7.66**	**3.73**	**1.14**	**5.05**	**2.46**	**0.75**

1. The Additive Crushing Operation will utilize the same configuration as the Limestone Crushing Operation. The PFD for the Limestone Crushing Operation shows the drop points for the crushed material and the mass flow at each drop point, as provided in Attachment 3.
2. Water spray has a control efficiency of 75% at the point of application. Control efficiencies from Section E of MDAQMD Emission Inventory Guidance for Mineral Handling and Processing Industries.
3. Emission Factors (lb/ton) = Particle Size Multiplier x 0.0032 x (Mean Wind Speed (mph)/5)^1.3 / (Material Moisture Content (%)/2)^1.4 per AP-42 Chapter 13.2.4, Equation 1.

Wind Speed 7.7 mph

Moisture Content from 2018 CEIR 1.60 w/w%

Particulate Size Multipliers:

PM	PM_{10}	$PM_{2.5}$
0.74	0.36	0.11

4. Particulate Emissions (lb/hr) = Emission Factor (lb/ton) x Maximum Throughput (tph) x (1-Conveyor Cover Control Efficiency/100) x (1-Water Spray Control Efficiency/100)
5. PTE (tpy) = Hourly Emissions (lb/hr) x Annual Operating Hours (hr/yr)/ 2000 (lb/ton). Use of material crushing and transfer operations will not exceed 40 hours/week

Table 15. Portable Additive Stockpile Parameters

Material	Silt %[1]	Control Efficiency %[2]	Number of Days with Precipitation > 0.01 in[3]	Percentage of Time with Wind Speed > 12 mph (%)[3]	Maximum Monthly Pile Exposed Surface Area[4] (ft^2)	Maximum Monthly Pile Exposed Surface Area (acre)
Additive	15	50	20	13.3	15,175	0.35

1. Conservative Silt % per 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G.
2. 50% control efficiency assumed from use of water sprays.
3. Conservative days with precipitation and windy hours default from 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G.
4. Assumed maximum monthly stockpile area equal to I-Lime stockpile area max from CalPortland 2018 CEIR.

Table 16. Particulate Aerodynamic Factor for Stockpiles [1]

PM	PM_{10}	$PM_{2.5}$
1.0	0.50	0.20

1. 2013 *MDAQMD Emission Inventory Guidance Mineral Handling and Processing Industries Section G.*

Table 17. Portable Additive Stockpile Plant Potential to Emit

Stockpile	Emission Factor (ton/acre-year)[1]			Emissions (tpy)[2]		
	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Stockpile 1	4.04	2.02	0.81	0.70	0.35	0.14
Stockpile 2	4.04	2.02	0.81	0.70	0.35	0.14

1. Emission Factor (ton/acre) = Particulate Aerodynamic Factor x 1.7 x Silt Loading (%) / 1.5 x (365 days - Number of Rain Days) / 235 x Percentage of Strong Wind Days / 15 x 365 / 2000, per 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G
2. PM Emissions (tpy) = Emission Factor (ton/acre-year) x Maximum Exposed Surface Area (acres) x (1 - Control Efficiency (%) / 100) per 2013 MDAQMD Emissions Inventory Guidance, Mineral Handling and Processing Industries, Section G

Table 18. Clinker Storage Baghouse Parameters

Unit	Baghouse	Flow Rate[1] (acfm)	Temperature[2] (Fahrenheit)	Temperature[3] (Rankine)	Pressure[4] (inHg)	Flow Rate[5] (dscfm)	Maximum Outlet Grain Loading[6] (gr/dscf)
Clinker Storage Silos	Baghouse 1	9,700	70	529.67	26.82	8,300	0.003
	Baghouse 2	3,880	70	529.67	26.82	3,320	0.003
	Baghouse 3	9,700	70	529.67	26.82	8,300	0.003
	Baghouse 4	3,880	70	529.67	26.82	3,320	0.003

1. Baghouse flow rates are from the Flow Diagrams provided in Attachment 3.
2. Baghouse temperatures as provided by CalPortland
3. Temperature (R) = Temperature (F) + 459.67
4. Pressure (inHg) from 2016 Comprehensive Emission Inventory (CEIR) and based on actual site atmospheric conditions
5. Flow Rate (dscfm) = Flow Rate (acfm) x (Standard Temperature (Rankine) / Actual Exhaust Temperature (Rankine)) x (Actual Pressure (inHg) / Standard Pressure (inHg)) x (1 - Moisture of Ambient Air (%) / 100)

Standard Pressure (inHg)	29.92
Standard Temperature (Rankine)	519.67
Moisture Content Ambient Air (%)	2.7

6. Based on baghouse BACT limit established by MDAQMD in Finish Mill 2 Project, refer to MDAQMD Permit # C001708.

Table 19. PM Speciation Factors [1]

Weight Fraction of PM	Weight Fraction of PM_{10}	Weight Fraction of $PM_{2.5}$
1	0.92	0.62

1. Yang, Wenli. *PM Size and Chemical Speciation Profile for Concrete Batching - PM3431.* Air Resources Board. October 22, 2013.

Table 20. Clinker Storage Baghouse PTE

Unit	Baghouse	Annual Operating Hours (hr/year)	Hourly PTE (lb/hr)			Annual PTE (tpy)		
			PM [1]	PM_{10} [1]	$PM_{2.5}$ [1]	PM [2]	PM_{10} [2]	$PM_{2.5}$ [2]
Clinker Storage Silos	Baghouse 1	8,760	0.23	0.21	0.14	1.02	0.93	0.63
	Baghouse 2	8,760	0.09	0.09	0.06	0.41	0.37	0.25
	Baghouse 3	8,760	0.23	0.21	0.14	1.02	0.93	0.63
	Baghouse 4	8,760	0.09	0.09	0.06	0.41	0.37	0.25
		Total PTE:	**0.65**	**0.60**	**0.40**	**2.85**	**2.62**	**1.76**

1. Hourly PTE (lb/hr) = Weight Fraction of PM/PM10/PM2.5 * PM_{10} Grain Loading (gr/scf) x Flow Rate (scfm) x 60 (min/hr) / 7,000 (gr/lb)
2. PTE (tpy) = Hourly Emissions (lb/hr) x Annual Operating Hours (hr/yr)/ 2000 (lb/ton)

Table 21. Cement Storage Baghouse Parameters

Unit	Baghouse	Flow Rate[1] (acfm)	Temperature[2] (Fahrenheit)	Temperature[3] (Rankine)	Pressure[4] (inHg)	Flow Rate[5] (dscfm)	Maximum Outlet Grain Loading[6] (gr/dscf)
Cement Storage Silos	Baghouse 1	4,850	200	659.67	26.82	3,332	0.005
	Baghouse 2	1,455	200	659.67	26.82	1,000	0.005
	Baghouse 3	4,850	200	659.67	26.82	3,332	0.005
	Baghouse 4	1,455	200	659.67	26.82	1,000	0.005
	Baghouse 5	4,850	200	659.67	26.82	3,332	0.005
	Baghouse 6	1,455	200	659.67	26.82	1,000	0.005
	Baghouse 7	4,850	200	659.67	26.82	3,332	0.005
	Baghouse 8	1,455	200	659.67	26.82	1,000	0.005
Cement Storage Dome	Baghouse 1	16,975	200	659.67	26.82	11,663	0.005
	Baghouse 2	3,880	200	659.67	26.82	2,666	0.005

1. Baghouse flow rates are from the Flow Diagrams provided in Attachment 3.
2. Baghouse temperatures as provided by CalPortland.
3. Temperature (R) = Temperature (F) + 459.67
4. Pressure (inHg) from 2016 Comprehensive Emission Inventory (CEIR) and based on actual site atmospheric conditions
5. Flow Rate (dscfm) = Flow Rate (acfm) x (Standard Temperature (Rankine) / Actual Exhaust Temperature (Rankine)) x (Actual Pressure (inHg) / Standard Pressure (inHg)) x (1 - Moisture of Ambient Air (%) / 100)

Standard Pressure (inHg)	29.92
Standard Temperature (Rankine)	519.67
Moisture Content Ambient Air (%)	2.7

6. Based on baghouse BACT limit established by MDAQMD in Finish Mill 2 Project, refer to MDAQMD Permit # C013011.

Table 22. PM Speciation Factors [1]

Weight Fraction of PM	Weight Fraction of PM_{10}	Weight Fraction of $PM_{2.5}$
1	0.92	0.62

1. Yang, Wenli. *PM Size and Chemical Speciation Profile for Concrete Batching - PM3431.* Air Resources Board. October 22, 2013.

Table 23. Cement Storage Baghouse Hourly Emissions

Unit	Baghouse	Annual Operating Hours (hr/year)	Hourly PTE (lb/hr)			Annual PTE (tpy)		
			PM [1]	PM_{10} [1]	$PM_{2.5}$ [1]	PM [2]	PM_{10} [2]	$PM_{2.5}$ [2]
Cement Storage Silos	Baghouse 1	8,760	0.23	0.21	0.14	0.99	0.91	0.61
	Baghouse 2	8,760	0.07	0.06	0.04	0.30	0.27	0.18
	Baghouse 3	8,760	0.23	0.21	0.14	0.99	0.91	0.61
	Baghouse 4	8,760	0.07	0.06	0.04	0.30	0.27	0.18
	Baghouse 5	8,760	0.23	0.21	0.14	0.99	0.91	0.61
	Baghouse 6	8,760	0.07	0.06	0.04	0.30	0.27	0.18
	Baghouse 7	8,760	0.23	0.21	0.14	0.99	0.91	0.61
	Baghouse 8	8,760	0.07	0.06	0.04	0.30	0.27	0.18
Cement Storage Dome	Baghouse 1	8,760	0.79	0.73	0.49	3.46	3.19	2.15
	Baghouse 2	8,760	0.18	0.17	0.11	0.79	0.73	0.49
		Total PTE:	**2.15**	**1.97**	**1.33**	**9.40**	**8.65**	**5.83**

1. Hourly PTE (lb/hr) = Weight Fraction of PM/PM10/PM2.5 * Grain Loading (gr/scf) x Flow Rate (scfm) x 60 (min/hr) / 7,000 (gr/lb)
2. PTE (tpy) = Hourly Emissions (lb/hr) x Annual Operating Hours (hr/yr)/ 2000 (lb/ton)

Table 24. Cement Variability Project - Emission Increase

Description	**PM (tpy)**	**PM_{10} (tpy)**	**$PM_{2.5}$ (tpy)**
Portable Additive Crushing Plant	7.6	3.6	1.1
Additional Clinker Storage	2.8	2.6	1.8
Additional Cement Storage	9.4	8.6	5.8
Project Emissions Increase[1]	**19.8**	**14.8**	**8.7**
Significant Emission Rate (SER)[2]	25	15	10
In Attainment of NAAQS?[3]	N/A	No	Yes
Emission Increases > SER?	**No**	**No**	**No**

1. Project emissions increase is equal to PTE of New Emission Sources
2. Significant as defined in MDAQMD Rule 1310 and Rule 1600/40 CFR 52.21.
3. According to EPA Greenbook. https://www3.epa.gov/airquality/greenbook/ancl.html. Accessed 4/16/2020.

Table 25. Alternate Fuels Project Emissions Increase

Description	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Project Emissions Increase[1]	13.3	7.0	2.4	9.3	16.3	39.7	17.3
Significant Emission Rate (SER)[2, 3]	25	15	10	40	40	100	40
In Attainment of NAAQS?[4]	N/A	No	Yes	Yes	Yes	Yes	No
Emission Increases > SER?	**No**	**No**	**No**	**No**	**No**	**No**	**No**

1. Project emissions increase is calculated as follows: PAE + PTE of New Emission Sources - BAE - CHA.
2. SER as defined in 40 CFR 52.21(b)(23)(i).
3. Significant as defined in MDAQMD Rule 1310 and Rule 1600/40 CFR 52.21.
4. According to EPA Greenbook. https://www3.epa.gov/airquality/greenbook/ancl.html. Accessed 1/15/2019.

Table 26. Alternate Fuels Project - Baseline Actual Emissions (BAE) of Existing Units

Emission Source	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Kiln	25	25	17	11	1,741	399	10
Coal MSB Stock Pile	1.7	0.8	0.3	0	0	0	0

Table 27. Alternate Fuels Project - Projected Actual Emissions (PAE) of Existing Unit[1]

Emission Source	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Kiln	45	45	28	28	2,629	638	33

1. Coal Stockpile PAE assumed to be 0 tpy since Coke MSB Stockpile PTE is included in PEI calculations.

Table 28. Alternate Fuels Project - Could Have Accommodated Emissions (CHA) of Existing Unit[1]

Emission Source	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Kiln	19	19	10	8	871	200	6

1. Conservatively only includes emissions from the Kiln, although CHA emissions from the existing stockpile could have been included in this evaluation.

Table 29. Alternate Fuels Project - Potential to Emit (PTE) of New Emission Sources

Emission Source	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	VOC (tpy)
Coke Fuel Handling System Baghouse 231BF301	0.72	0.25	0.04				
Coke Fuel Handling System Baghouse 231BF302	0.72	0.25	0.04				
Coke Fuel Handling System Baghouse 461BF301	0.96	0.34	0.05				
Alternate Fuel Handling - Baghouse 1	0.80	0.39	0.06				
Alternate Fuel Handling - Baghouse 2	0.80	0.39	0.06				
Alternate Fuel Handling - Baghouse 3	0.80	0.39	0.06				
Alternate Fuel Handling - Baghouse 4	0.80	0.39	0.06				
Alternate Fuel Handling - Baghouse 5	0.80	0.39	0.06				
Worst Case Fuel Drop Point[1]	0.99	0.47	0.07				
Coke MSB Stockpile	5.90	2.95	1.18				
Total	**13.3**	**6.2**	**1.7**				

1. Worst case fuel drop point is based on the maximum emissions from either the coke handling system or the alternate fuel handling system.

Table 30. Emission Offsets Calculation [1,2]

Description	PM_{10} (tpy)	SO_2 (tpy)	NO_x (tpy)	VOC (tpy)
Limestone Crushing PEI	9.92	0.01	0.60	0.28
Clinker and Cement Storage PEI	14.84	--	--	--
Alternate Fuels PEI	6.23	--	--	--
Historical Actual Emissions (AF Project)[3]	59.98	0.00	0.00	0.00
Emission Change[4]	-28.99	0.01	0.6	0.3
Simultaneous Emission Reductions[5, 6]	28.97	0.01	0.0	0.0
Pollutant Offset Ratio	--	--	1.3	1.3
Interpollutant Offset Ratio (NOx for VOC)	--	--	--	1.00
Amount of Offsets Required[7]	--	--	0.78	0.37
Amount of ERCs Required to be Surrendered[8,9]	--	--	1.15	

1. Per MDAQMD Rule 1303(B), offsets are required for nonattainment air pollutants and their precursors. As such, only those relevant pollutants are listed in this table.

2. Kiln emissions from the AF Project are not included in the offset calculations because the kiln has been previously offset, according to MDAQMD.

3. Per July 2019 Alternate Fuels Project Application.

4. Per MDAQMD Rule 1304(B), Emissions Change = Proposed Emissions (i.e. Limestone Crushing PEI + Additive Crushing PEI + Clinker Storage PEI + Cement Storage PEI) - Historical Actual Emission

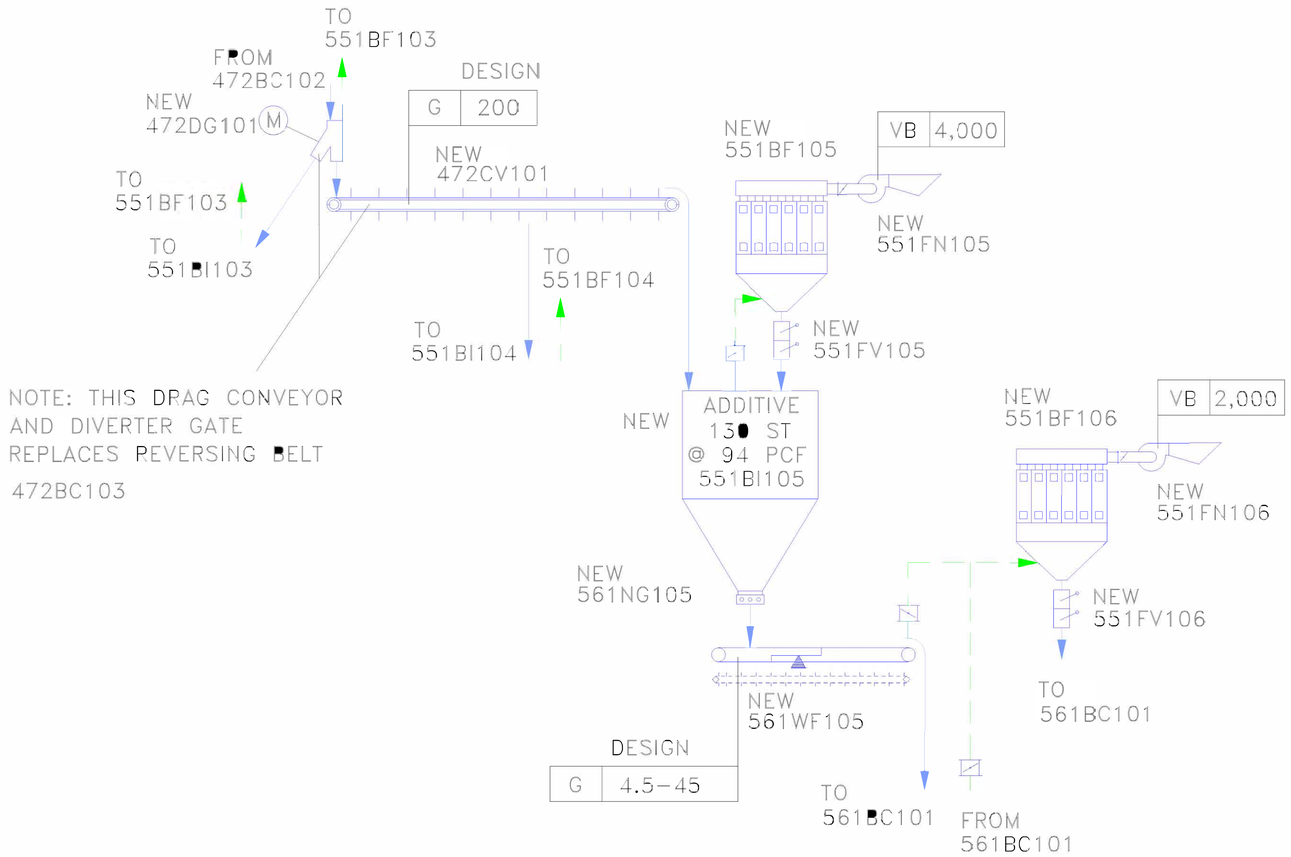
6. Simultaneous emission reduction (SER) of PM10 applied to SO2 at a ratio of 2:1 according to guidance provided by Alan de Salvio on 8/22/2019 in a conversation with Jeremias Szust (Trinity Consultants). As such, 0.02 tpy of the PM10 SER are used to simultaneously reduce 0.01 tpy of SO2.

7. Amount of Offsets Required = Emission Change - Simultaneous Emission Reductions

8. Amount of ERCs Required to be Surrendered = Amount of Offsets Required * 1.3 (NO_X and VOC offset ratio of 1.3 to 1.0 due to ozone nonattainment pursuant to MDAQMD Rule 1305 (C)(1)) * 2.0 (Interpollutant NOx for VOC ratio 2:1.0.)

9. CalPortland will surrender the required portion of NOx ERCs as issued by MDAQMD under ERC Certificate Number 0103 on January 20, 2016. CalPortland is proposing to surrender the required portion of VOC ERCs using ERC Certificate Number 0111 (0.006 tpy VOC) and ERC Certificate Number 0103 along with an agreed upon VOC: NOx interpollutant offset ratio.

ATTACHMENT 3: PROCESS FLOW DIAGRAMS



PLANT ELEVATION: 2781 FT.

LEGEND		
B	LB/H	COMBUSTIBLE FLOW
D	FT	DIAMETER
G	ST/H	MATERIAL FLOW
H	%	MATERIAL MOISTURE
HU	BTU/LB	NET CALOR VALUE
K	IN	GRAIN SIZE
KB	CM^2/G	BLAINE
KR	%	RESIDUAL 200 MESH
M	HP	MOTOR POWER
N	RPM	SPEED
P	INWG	STAT PRESSURE
Q	MBTU/H	HEAT QUANTITY
QS	BTU/LB	HEAT QUANTITY
S	G/FT^3	DUST CONTENT
SG	LB/FT^3	BULK DENSITY
T	°F	TEMPERATURE
TP	°F	DEW POINT
UT	°F	AMBIENT TEMPERATURE: 0°F MIN 110°F MAX
V	%	VOLATILE MATTER
VB	ACFM	GAS FLOW
VN	SCFM	GAS FLOW
VS	SCF/LB	GAS FLOW
VV	FT^3/S	GAS FLOW

PLOT DATE

NA

S:\

NO.	REVISION	DATE	BY
1	ADDED DC LINES	4-16-20	KS

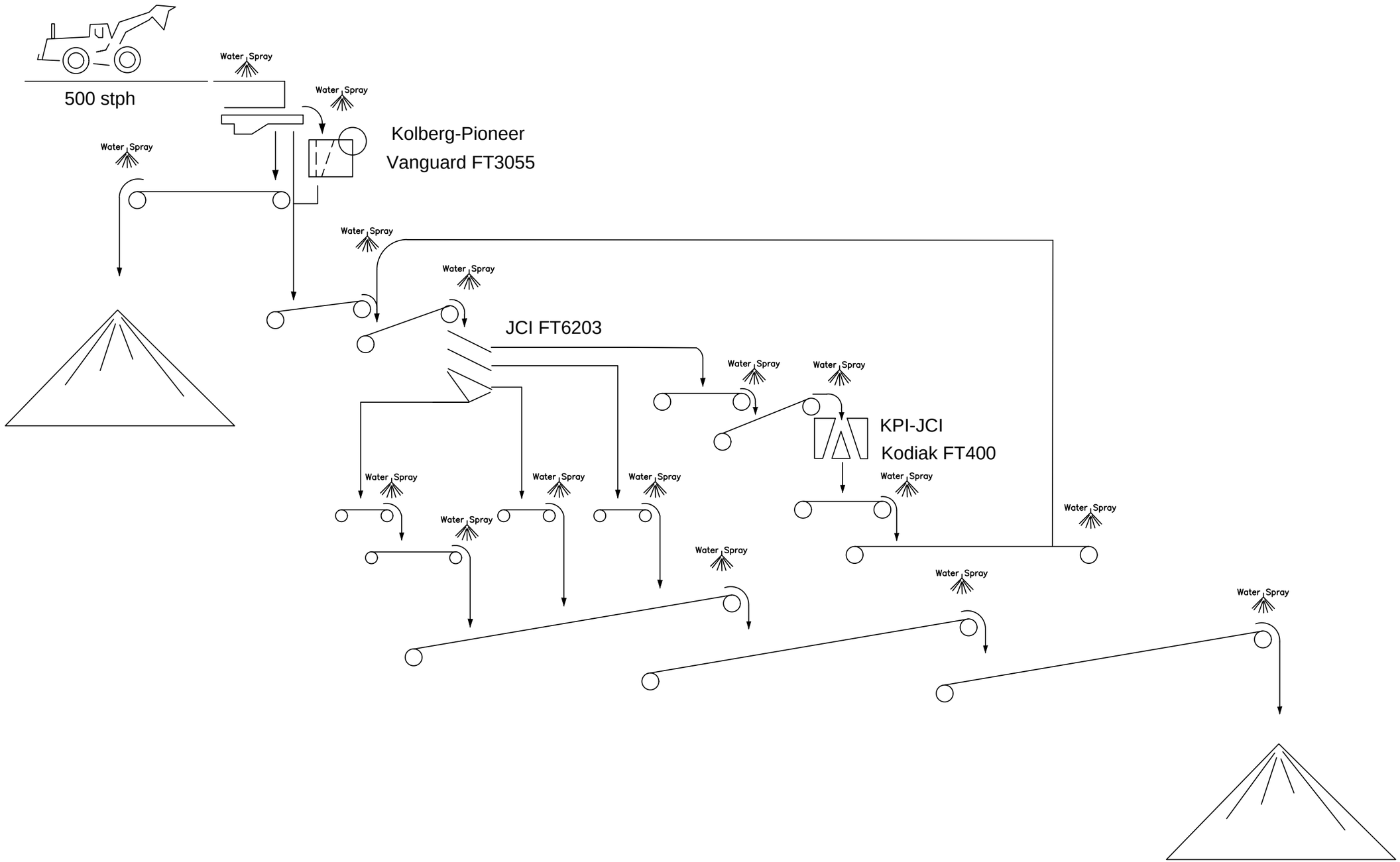
		DATE
DRAWN	KS	4-10-2020
CHK.		
APPVD.		
SCALE	NONE	

CALPORTLAND
19409 NATIONAL TRAILS
HWY ORO GRANDE, CA
92368

ORO GRANDE
PROPOSED FM2 5TH BIN FLOW DIAGRAM

DWG. NO. 700-F-503 R1dwg

REV. 1



C:\COLTON FLOW DIAGRAMS

NO.	REVISION	DATE	BY
1	Added Conveyors	9/10/2018	NMM

	DATE
DRAWN NMM	9/5/2018
CHK.	
APPVD.	
SCALE AS NOTED	

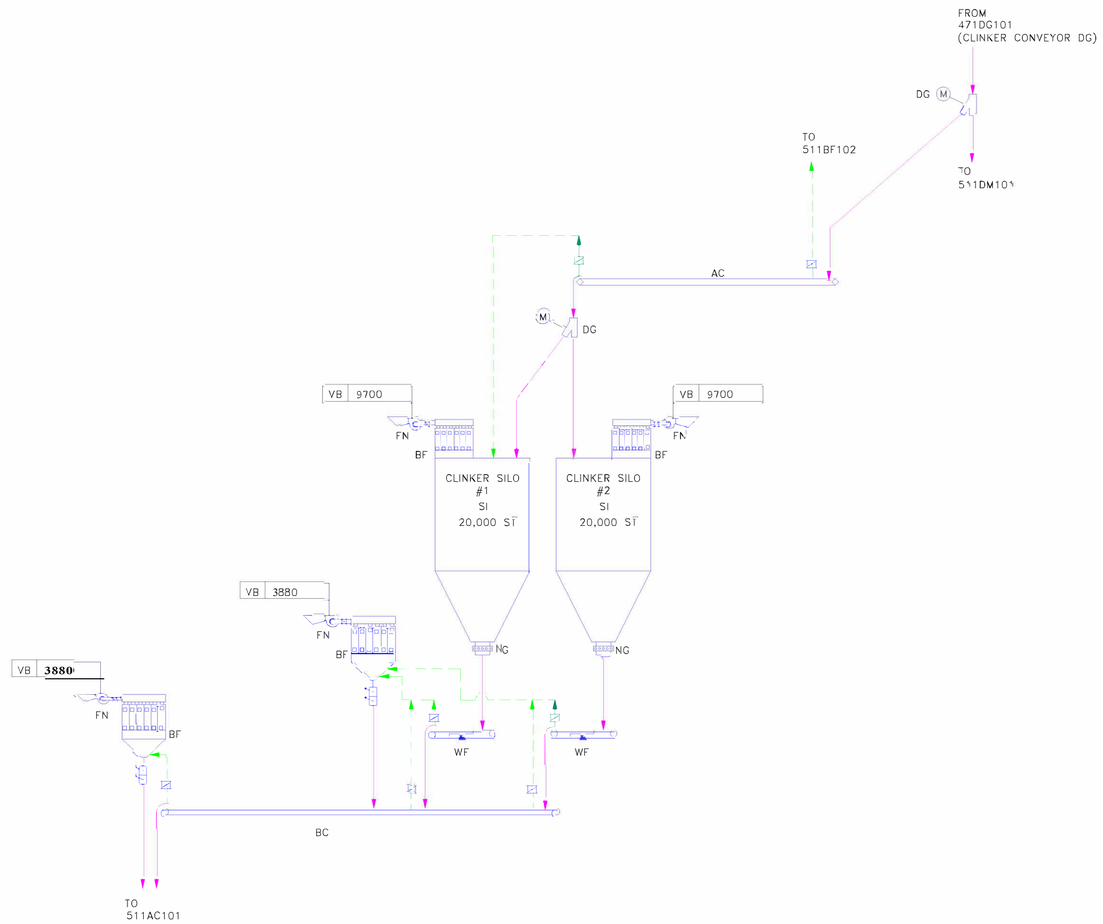
CALPORTLAND
2025 E. FINANCIAL WAY
GLENDORA, CA 91741

COLTON TRACK CAP PLANT

DWG. NO. XXXXXXX

REV.

PLOT DATE
9/5/2018



PLANT ELEVATION: 2781 FT.

LEGEND		
B	LB/H	COMBUSTIBLE FLOW
D	FT	DIAMETER
G	ST/H	MATERIAL FLOW
H	%	MATERIAL MOISTURE
HU	BTU/LB	NET CALOR VALUE
K	IN	GRAIN SIZE
KB	CM^2/G	BLAINE
KR	%	RESIDUAL 200 MESH
M	HP	MOTOR POWER
N	RPM	SPEED
P	INWG	STAT PRESSURE
Q	MBTU/H	HEAT QUANTITY
QS	BTU/LB	HEAT QUANTITY
S	G/FT^3	DUST CONTENT
SG	LB/FT^3	BULK DENSITY
T	°F	TEMPERATURE
TP	°F	DEW POINT
UT	°F	AMBIENT TEMPERATURE: 0°F MIN 110°F MAX
V	%	VOLATILE MATTER
VB	ACFM	GAS FLOW
VN	SCFM	GAS FLOW
VS	SCF/LB	GAS FLOW
VV	FT^3/S	GAS FLOW

PLOT DATE

NA

S:\

NO.	REVISION	DATE	BY

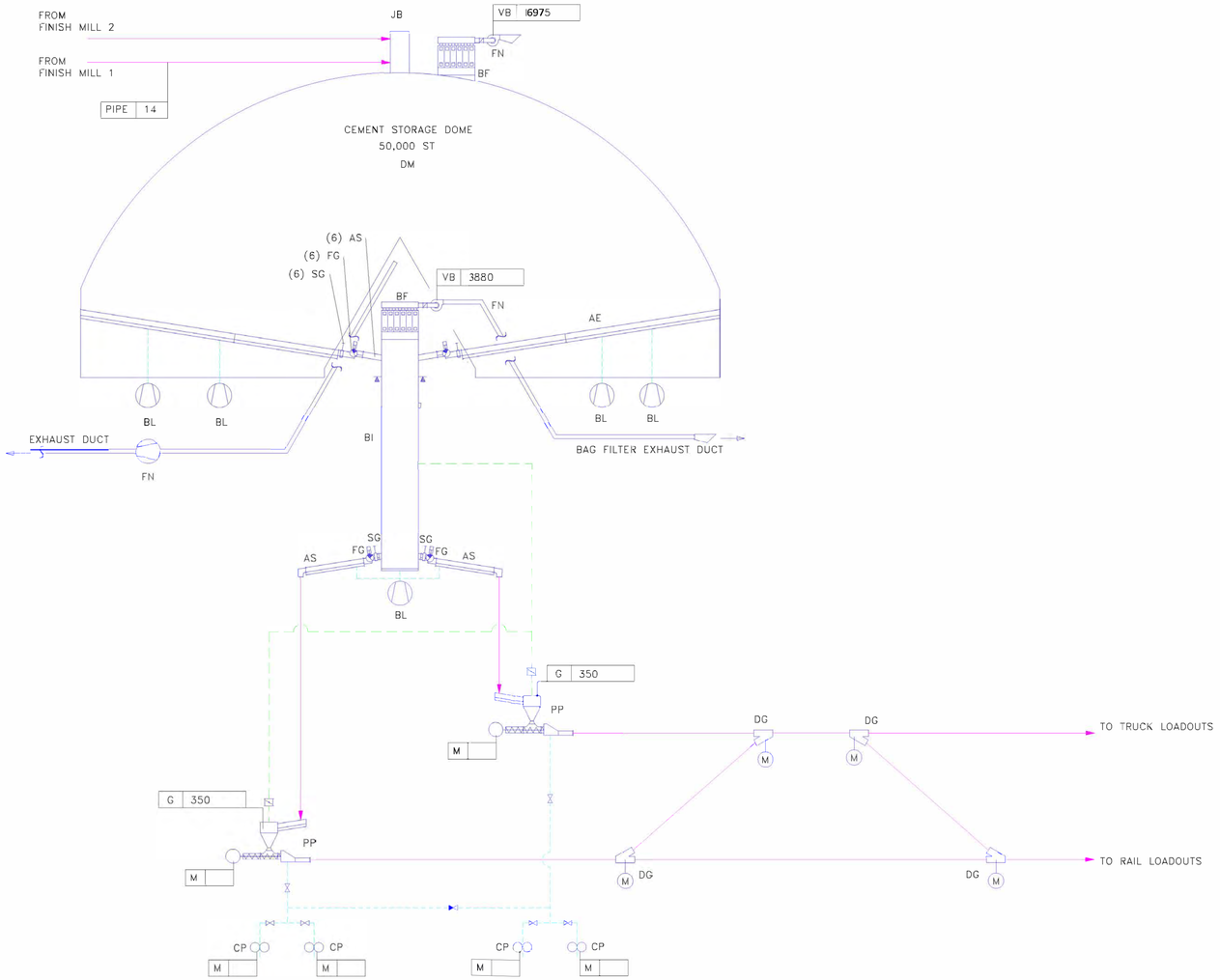
		DATE
DRAWN	KS	4-3-2020
CHK.		
APPVD.		
SCALE	NONE	

CALPORTLAND
19409 NATIONAL TRAILS HWY ORO GRANDE, CA 92368

ORO GRANDE
PROPOSED 40K CLINKER SILOS FLOW DIAGRAM

DWG. NO. 700-F-502 PO.dwg

REV. 0



PLANT ELEVATION: 2781 FT.

LEGEND		
B	LB/H	COMBUSTIBLE FLOW
D	FT	DIAMETER
G	ST/H	MATERIAL FLOW
H	%	MATERIAL MOISTURE
HU	BTU/LB	NET CALOR VALUE
K	IN	GRAIN SIZE
KB	CM^2/G	BLAINE
KR	%	RESIDUAL 200 MESH
M	HP	MOTOR POWER
N	RPM	SPEED
P	INWG	STAT PRESSURE
Q	MBTU/H	HEAT QUANTITY
QS	BTU/LB	HEAT QUANTITY
S	G/FT^3	DUST CONTENT
SG	LB/FT^3	BULK DENSITY
T	°F	TEMPERATURE
TP	°F	DEW POINT
UT	°F	AMBIENT TEMPERATURE: 0°F MIN 110°F MAX
V	%	VOLATILE MATTER
VB	ACFM	GAS FLOW
VN	SCFM	GAS FLOW
VS	SCF/LB	GAS FLOW
VV	FT^3/S	GAS FLOW

PLOT DATE

NA

S:\

NO.	REVISION	DATE	BY

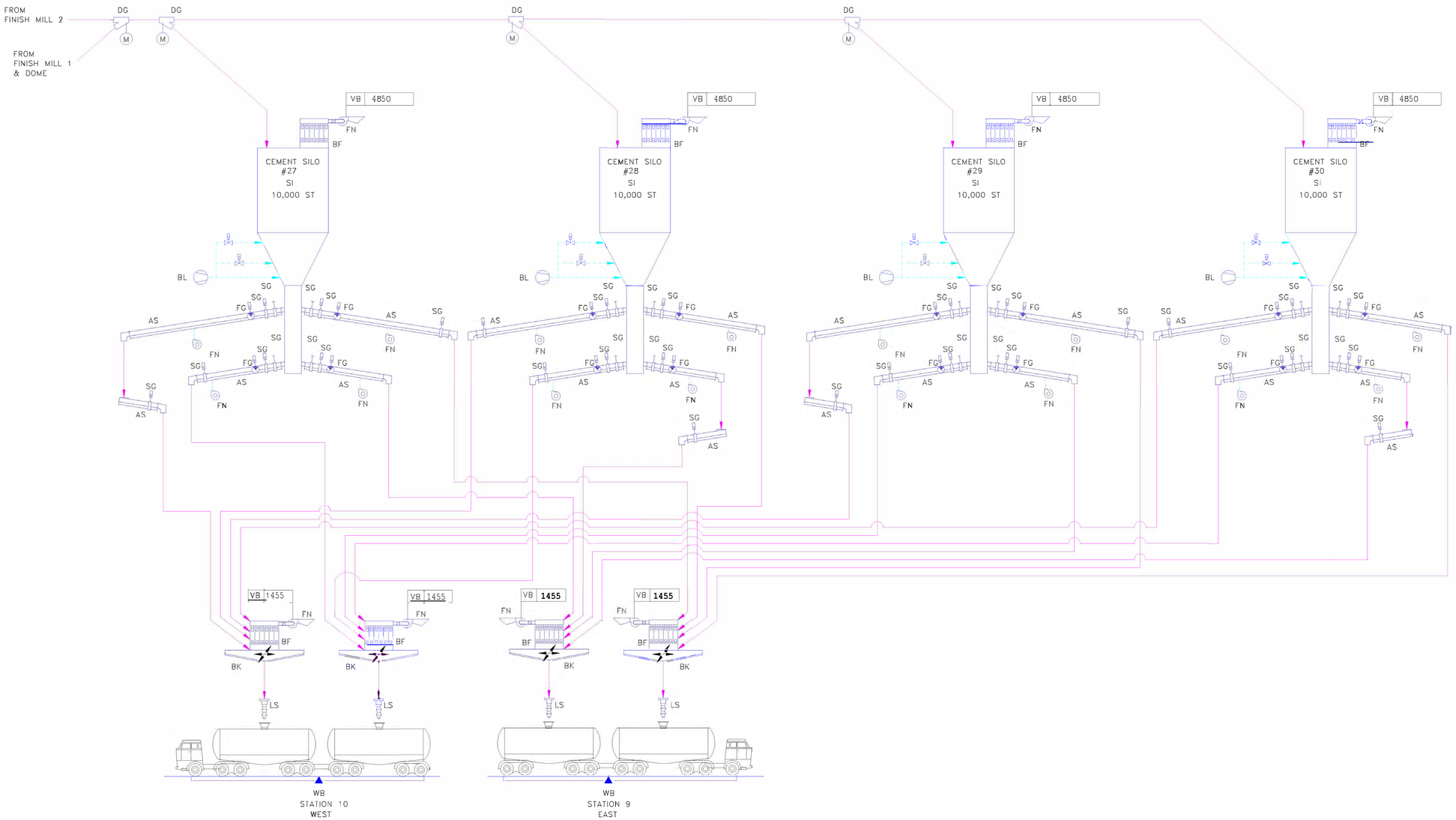
		DATE
DRAWN	KS	4-3-2020
CHK.		
APPVD.		
SCALE	NONE	

CALPORTLAND
19409 NATIONAL TRAILS
HWY ●RTO ●RANDE, CA
92368

ORO GRANDE
PROPOSED 50K DOME FLOW DIAGRAM

DWG. NO. 700-F-501 PO.dwg

REV. 0



TRUCK LOADING STATION 9 & 10

PLANT ELEVATION: 2781 FT.

LEGEND

B	LB/H	COMBUSTIBLE FLOW
D	FT	DIAMETER
G	ST/H	MATERIAL FLOW
H	%	MATERIAL MOISTURE
HU	BTU/LB	NET CALOR VALUE
K	IN	GRAIN SIZE
KB	CM^2/G	BLAINE
KR	%	RESIDUAL 200 MESH
M	HP	MOTOR POWER
N	RPM	SPEED
P	INWG	STAT PRESSURE
Q	MBTU/H	HEAT QUANTITY
QS	BTU/LB	HEAT QUANTITY
S	G/FT^3	DUST CONTENT
SG	LB/FT^3	BULK DENSITY
T	°F	TEMPERATURE
TP	°F	DEW POINT
UT	°F	AMBIENT TEMPERATURE: 0°F MIN 110°F MAX
V	%	VOLATILE MATTER
VB	ACFM	GAS FLOW
VN	SCFM	GAS FLOW
VS	SCF/LB	GAS FLOW
VV	FT^3/S	GAS FLOW

PLOT DATE

NA

S:\

NO.	REVISION	DATE	BY

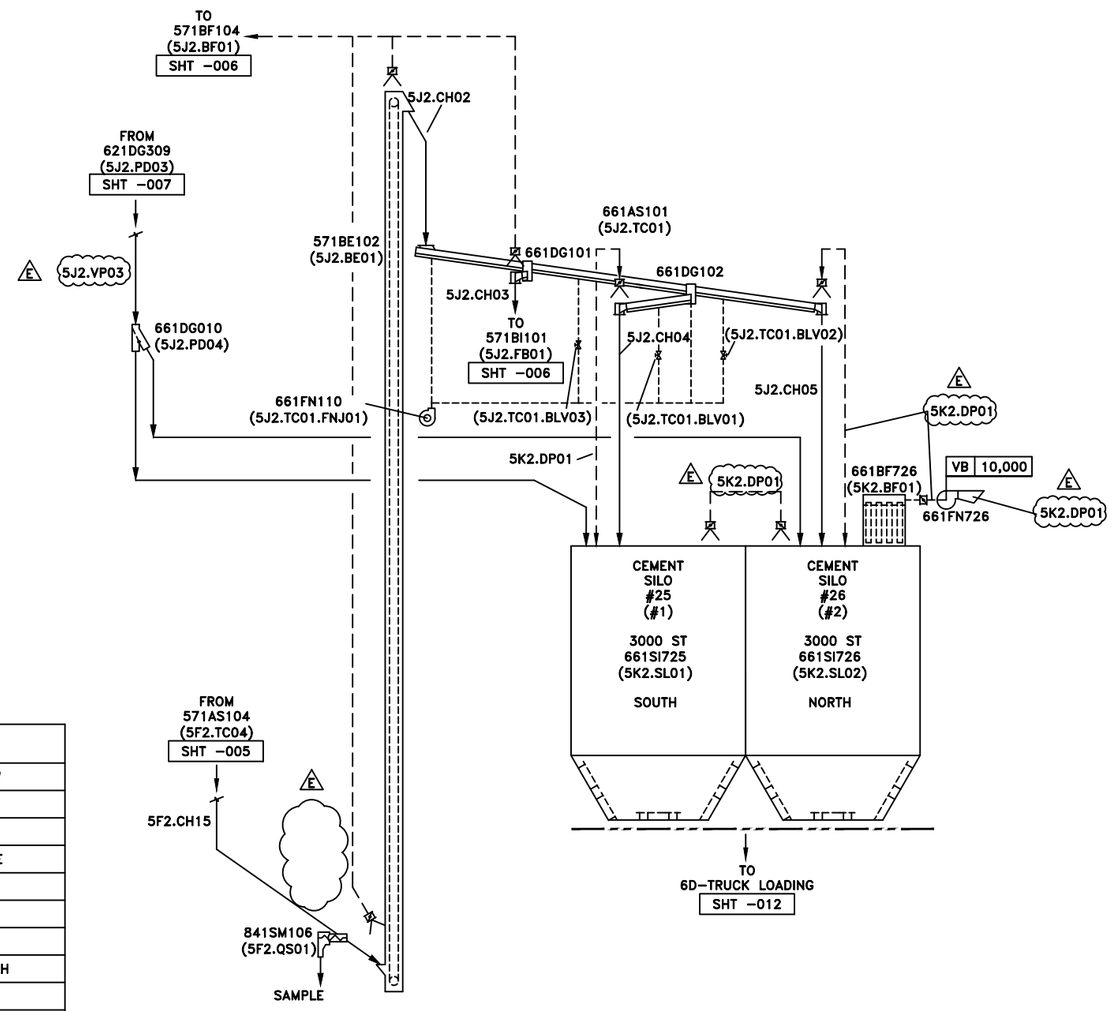
		DATE
DRAWN	KS	4-3-2020
CHK.		
APPVD.		
SCALE	NONE	

CALPORTLAND
19409 NATIONAL TRAILS HWY ORO GRANDE, CA 92368

ORO GRANDE
PROPOSED 4 SILO FLOW DIAGRAM

DWG. NO. 700-F-500 PO.dwg

REV. 0



LEGEND

B	LB/H	COMBUSTIBLE FLOW
D	FT	DIAMETER
G	ST/H	MATERIAL FLOW
H	%	MATERIAL MOISTURE
HU	BTU/LB	NET CALOR VALUE
K	IN	GRAIN SIZE
KB	CM^2/G	BLAINE
KR	%	RESIDUAL 200 MESH
M	HP	MOTOR POWER
N	RPM	SPEED
P	INWG	STAT PRESSURE
Q	MBTU/H	HEAT QUANTITY
QS	BTU/LB	HEAT QUANTITY
S	G/FT^3	DUST CONTENT
SG	LB/FT^3	BULK DENSITY
T	°F	TEMPERATURE
TP	°F	DEW POINT
V	%	VOLATILE MATTER
VB	ACFM	GAS FLOW
VN	SCFM	GAS FLOW
VS	SCF/LB	GAS FLOW
VV	FT^3/S	GAS FLOW

= BY CLIENT

Rev	Description	Dwn	Date	Chkd	Date	Appd	Date
E	REVISED AS NOTED	NER	4/13/18	ARB	5/23/18	ARB	5/23/18
D	REVISED AS NOTED	NER	10/30/17	SEA	10/30/17	ARB	10/30/17
C	REVISED AS NOTED & BLOWER WAS ADDED	SEA	09/12/17	ARB	09/12/17	ARB	09/12/17
B	REVISED AS NOTED & CLIENT NUMBERS UPDATED	NER	04/10/17	SEA	06/14/17	ARB	06/14/17
A	ADDED CLIENT NAMES	NER	3/20/17	SEA	03/31/17	ARB	03/31/17

Revisions

CALPORTLAND COMPANY
ORO GRANDE, CA

General Tolerances to ISO 2768mK
Rough Castings to ISO 8062, Group –
Surface finish to ISO 1302
Avg peak to valley height Ra (µm)

ThyssenKrupp

ThyssenKrupp Industrial Solutions (USA), Inc.
Atlanta, Georgia

The information contained herein is confidential and the property of ThyssenKrupp Industrial Solutions (USA), Inc. It is not intended for publication. The information is issued with the understanding that no part thereof shall be communicated to a third party without written authorization from ThyssenKrupp Industrial Solutions (USA), Inc.

Welded Construction to ISO 13920
Grade – for Lengths
Grade – for Angles

Third Angle Projection

Contract Name OROCEM
Contract No D000781

MECHANICAL PROCESS FLOW SHEET
5J– CONVEYING TO CEMENT SILOS
200 STPH CEMENT PRODUCTION

Dwn ARB 03JAN17
Chkd
Appd

Size D
Drg No 1134165
Rev E
Ref –
Scale NONE
Sheet 011 of 012

ATTACHMENT 4: MARKED UP ATCS – T013016, C013011

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
14306 Park Avenue Victorville, CA 92392-2310
760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

AUTHORITY TO CONSTRUCT

T013016

If construction is not completed by the expiration date of this permit, it may be renewed for one additional year upon payment of applicable fees. Any additional extension will require the written approval of the Air Pollution Control Officer. This Authority to Construct may serve as a temporary Permit to Operate provided the APCO is given prior notice of intent to operate and the Permit to Operate is not specifically denied.

EXPIRES LAST DAY OF: MAY 2020

OWNER OF OPERATOR (Co.#2239)

CalPortland Company
19409 National Trails Hwy
Oro Grande, CA 92368

EQUIPMENT LOCATION (Fac.#3)

CalPortland Oro Grande
19409 National Trails Hwy
Oro Grande, CA 92368

Description:
TRUCK LOADOUT SYSTEM SILOS AND BINS consisting of:

EQUIPMENT

Capacity	Equipment Description
48	Cement Silo #25 (South #1) 661SI725, 3000 ST (48000 gal)
48	Cement Silo #26 (North #1) 661SI726, 3000 ST (48000 gal)
0	22kW Fan (661FN726) for 661BF726, 7,086 SCFM & [illegible]W Fan (571FN104) for 571BF104,1852 DSCFM

CONDITIONS:

1. The owner/operator, o/o, shall install, operate and maintain this permit unit in strict accord with these recommendations of the manufacturer/supplier and/or sound engineering principles which produce the minimum emissions of air contaminants. [District Rule 204]

2. Process equipment shall not be operated unless it is vented to its associated control equipment (C0130[illegible]) when pneumatically filled from the cement dome (T007498) or Finish Mill #1 cement system (B007471) or from control equipment (C0130[illegible]) when filled by bucket elevator 571BE102. [District Rules 204 and1303(A)]

3. For dust collectors under this permit the o/o shall conduct a minimum program of inspection and maintenance on the equipment. The o/o shall maintain current and on-site for five (5) years a log of the following information, which shall be provided to district personnel

Fee Schedule: 5 (b) Rating: 96000 gallons SIC: 3241 SCC: 30500719 Location/UTM(Km): 469E/3830N

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

CalPortland Company
P.O. Box 146
Oro Grande, CA 92368

By: **COPY**
Brad Poiriez
Air Pollution Control Officer

UNOFFICIAL

upon request:
a. Weekly reading of baghouse pressure drop, date and value;
b. Monthly baghouse stack observation date and result (using USEPA Method 22, and USEPA Method 9 if necessary). If no visible emissions are observed for six consecutive months the frequency can change to semi-annually. If no emissions are observed semi-annually the frequency can be changed to annually. If any visible emissions are observed frequency reverts to monthly until no visible emissions are observed for six consecutive months; [40 CFR 63.1350(f)]
c. Annual bag and bag suspension system inspection date and results;
d. Date of bag replacements; and,
e. Date and nature of any system repairs. [40 CFR 63.1355(g)]
[40 CFR Part 63 subpart LLL; Rule 1303(A); District Rule 1203(D)(1)(d)(ii)]

4. These baghouses shall be operated in compliance with applicable requirements of 40 CFR 60 Subpart F - Standards of Performance for Portland Cement Plants and 40 CFR 63 Subpart LLL - National Emission Standard for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry. [40 CFR Part 60 subpart F; 40 CFR Part 63 subpart LLL; District Rule 1303(A)]

5. These baghouses shall not discharge into the atmosphere an exhaust stream that exhibits greater than ten percent opacity. [40 CFR 63.1345; District Rule 401]

6. These baghouses shall discharge no more than a maximum concentration of 0.005 grains/dscf at the operating conditions given in the above description (BACT). This equipment does not require a regularly scheduled emission compliance test. However, emission compliance testing may be required at the discretion of the District. [District Rules 1303(A) and Rule 404]

7. These units shall be equipped with a device to measure the pressure differential across the bags (manometer). [District Rule 1303(A)]

8. The o/o shall maintain on-site a minimum inventory of replacement bags that assures compliance with these conditions. [District Rule 1303(A)]

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
14306 Park Avenue Victorville, CA 92392-2310
760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

AUTHORITY TO CONSTRUCT

C013011

If construction is not completed by the expiration date of this permit, it may be renewed for one additional year upon payment of applicable fees. Any additional extension will require the written approval of the Air Pollution Control Officer. This Authority to Construct may serve as a temporary Permit to Operate provided the APCO is given prior notice of intent to operate and the Permit to Operate is not specifically denied.

EXPIRES LAST DAY OF: MAY 2020

OWNER OF OPERATOR (Co.#2239)

CalPortland Company
19409 National Trails Hwy
Oro Grande, CA 92368

EQUIPMENT LOCATION (Fac.#3)

CalPortland Oro Grande
19409 National Trails Hwy
Oro Grande, CA 92368

Description:
BAGHOUSE 661BF726 c[illegible]sting o[illegible] Scheuch Mod[illegible] sfbd 05/09-d-02, pulse jet baghouse with polyester felt bags whose total filter area is 2260 square feet, equipped [illegible]th a 22kW fan ge[illegible]erating 10,000 acfm (7086 dscfm of flow at 180 degrees Fahrenheit) (for an air to cloth ratio of 4.42:1 based on act[illegible]l flow rates). Th[illegible] unit ser[illegible]s the truck loadout system silos ~~and 661AS101~~ when pneumatically filled from the cement dome (T0074[illegible]) or Finish Mi[illegible] cem[illegible]tem (B007471).

CONDITIONS:

1. This baghouse shall be operated concurrently wh[illegible] the truck [illegible]dout sys[illegible]ilos are being filled pneumatically filled from the cement dome (T007498) or Finish Mill #1 (B00747[illegible]). [District Rules 204[illegible] 130[illegible]]

2. This baghouse shall discharge no more than 0.30 lb/hr PM10 at [illegible]maximu[illegible] concentrati[illegible] of 0.005 grains/dscf at the operating conditions given in the above description (BACT). This equipmen[illegible] does not require a re[illegible]ly scheduled emission compliance test. However, emission ompliance testing may be required at the discretion of the District. [illegible]strict Rules 1303(A) and 404]

Fee Schedule: 7 (h)	Rating: 0 device	SIC: 3241	SCC: 30500618	Location/UTM(Km): 469E/3830N

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

CalPortland Company
P.O. Box 146
Oro Grande, CA 92368

By: **COPY**
Brad Poiriez
Air Pollution Control Officer

UNOFFICIAL