

MINERALS PROGRAM INSPECTION REPORT PHONE: (303) 866-3567

The Division of Reclamation, Mining and Safety has conducted an inspection of the mining operation noted below. This report documents observations concerning compliance with the terms of the permit and applicable rules and regulations of the Mined Land Reclamation Board.

MINE NAME:	MINE/PROSPECTING ID#:	MINERAL:	COUNTY:
Lyons Quarry	M-1977-208	Limestone (general)	Boulder
INSPECTION TYPE:	INSPECTOR(S):	INSP. DATE:	INSP. TIME:
Monitoring	Amy Eschberger	March 3, 2022	10:00
OPERATOR:	OPERATOR REPRESENTATIVE:	TYPE OF OPERATION:	
CEMEX, Inc.	Scott Harcus, Patrick Chalupsky, Erik Estrada	112c - Construction Regular Operation	

REASON FOR INSPECTION:	BOND CALCULATION TYPE:	BOND AMOUNT:
Citizen Complaint	None	\$8,953,127.00
DATE OF COMPLAINT:	POST INSP. CONTACTS:	JOINT INSP. AGENCY:
February 8, 2022	None	None
WEATHER:	INSPECTOR'S SIGNATURE:	SIGNATURE DATE:
Clear	any Erchbuger	March 10, 2022

The following inspection topics were identified as having Problems or Possible Violations. OPERATORS SHOULD READ THE FOLLOWING PAGES CAREFULLY IN ORDER TO ASSURE COMPLIANCE WITH THE TERMS OF THE PERMIT AND APPLICABLE RULES AND REGULATIONS. If a Possible Violation is indicated, you will be notified under separate cover as to when the Mined Land Reclamation Board will consider possible enforcement action.

INSPECTION TOPIC: Backfilling & Grading

PROBLEM: All surface areas of the affected land, including spoil piles, shall be stabilized and protected so as to effectively control erosion pursuant to C.R.S. 34-32.5-116(4)(j). There have been multiple fugitive dust events documented at the site over the years (including the most recent event that occurred on January 31, 2022) with dust generating from both the Cement Kiln Dust (CKD) disposal area located in Pit C and the raw material stockpile area. Therefore, the operator does not appear to be effectively controlling wind erosion of these materials in accordance with C.R.S. 34-32.5-116(4)(j).

CORRECTIVE ACTIONS: By the corrective action due date, the operator shall submit a Technical Revision application, with the required \$216 fee, to provide an updated material handling plan that includes fugitive dust control measures to be implemented at the site. This revision shall also include a survey of the current exposed CKD mass in Pit C (including the top surface and side slopes of the backfill area as well as any exposed CKD stockpile areas).

CORRECTIVE ACTION DUE DATE: May 9, 2022

OBSERVATIONS

This inspection of the Lyons Quarry (Permit No. M-1977-208) was conducted by Amy Eschberger of the Division of Reclamation, Mining and Safety (Division) in response to a complaint received from Richard Cargill on February 8, 2022 (see enclosed). The complaint describes a large fugitive dust event that occurred the afternoon of January 31, 2022, potentially from both the cement plant area and the Cement Kiln Dust (CKD) disposal area. The complaint included photos taken from multiple residents in the area documenting the dust event. The operator was represented during the inspection by Scott Harcus, Patrick Chalupsky, and Erik Estrada. The site is located approximately 2 miles southeast of Lyons, CO, south of St. Vrain Creek. Access to the site is from the north off of CO-66/Ute Hwy. **Photos 1-12** taken during the inspection are included with this report.

This is a 112c operation permitted for 979.54 acres to mine limestone. The permit authorizes the on-site operation of a cement manufacturing plant and on-site disposal of CKD generated by the plant. The approved mining plan includes excavating a total of six pits, designated A-F. Pits A-D are located north of Hygeine Rd, while pits E and F are located south of this road. An acreage reduction (AR-1) approved in 2005 released the permit area south of Hygeine Rd, so that only pits A-D remain in the current permit area (see enclosed permit boundary map submitted with AR-1). While mining at this site ceased many years ago, the cement plant continues to be fed by the operator's permitted quarry located north of CO-66/Ute Hwy, called the Dowe Flats Mine (Permit No. M-1993-041). Mined and crushed material from the Dowe Flats Mine is conveyed southward via a covered conveyor system that runs across CO-66/Ute Hwy to the cement plant at the Lyons Quarry.

The approved post-mining land use for the site is pastureland. For final reclamation, the plant and all associated structures will be removed from the site, all pits except Pit A will be backfilled, and all disturbed land will be retopsoiled and revegetated to pastureland (see enclosed reclamation plan map). A few small pre-existing ponds (not created by the operation) will remain. Currently, Pit A is an unlined groundwater reservoir, Pits B and D have been backfilled and reclaimed to pastureland, and Pit C is being utilized for CKD disposal. Pit C is the only approved location on site for CKD disposal. The operator is required to cover CKD material with an interim "cap" of two feet of compacted shale and clay, and to limit the working disposal area to 7 surface acres at a maximum 20 foot lift. Once backfilling of Pit C is complete, and the entire backfilled area has been capped with the shale/clay material, this area will be retopsoiled and revegetated to pastureland.

Pit C is located just south of the cement plant and raw material stockpile area (see enclosed Google Earth image of site showing close-up of Pit C and raw material stockpile area). CKD is pug-milled with water at the plant and then directly backfilled into the pit or temporarily stockpiled adjacent to the pit. The operation is backfilling the pit generally from west to east. The most recent backfilling activity appears to have occurred at the southwestern edge of the pit. The Division estimates the open (unbackfilled) portion of the pit to be approximately 10 acres in size. Water is ponded in the lower portions of the open pit. This water is described in the permit as a mixture of surface runoff, collected precipitation, runoff from a sprinkler system (which operates during summer months), and possibly inflows from the adjacent Boulder Feeder Canal which runs along the western edge of the pit. The operator controls water levels in Pit C by pumping the water via a floating pump to the cement plant.

Dust control methods implemented on site include:

- Daily water truck operations [water access roads and active disposal area at least every 3 hours during the day, and as necessary at night (except during freezing conditions)].
- Limiting vehicle speeds on all unpaved roads and disturbed areas to < 20 mph.
- Monitoring wind speeds on site (operation alerted for high wind events).

- Suspending hauling activities causing fugitive dust emissions when wind speeds reach or exceed 30 mph, averaged over a 60 minute period.
- Establishing interlocks in Lyons Plant Electronic Control System to shut down operations at average wind speeds of 28 mph.
- Treating haul roads and disturbed areas with chemical dust suppressants as needed.
- Using automated sprinkler systems on Pit C active disposal area from approximately mid-April through mid-October, and water trucks during winter months.
- Limiting active CKD disposal area to < 3 acres when possible (mine permit requires < 7 acres).
- Periodically capping exposed CKD not in active disposal area with a 2-foot layer of compacted shale and clay to minimize exposed surface area.
- Ensuring CKD material is properly compacted and stabilized to target gradient.

Air emissions in the state of Colorado are regulated by the Colorado Department of Public Health and Environment (CDPHE), Air Pollution Control Division (APCD). The operator maintains an air quality permit for the site with the CDPHE, APCD which requires activities causing fugitive dust emissions to be suspended when wind speeds reach or exceed 30 mph, averaged over a 60 minute period. The complaint indicates wind speeds on the day of the recent dust event were approximately 15-20 mph when swirls of dust were first observed south of the plant, and then wind gusts exceeded 20 mph, creating a large dust plume that obscured the plant area. The operator was unable to provide wind speed data for the date of the dust event (January 31, 2022), but agreed that wind gusts exceeded 20 mph that day.

The operator also stated that operations were suspended that day due to an accident that had occurred on site. A haul truck returning to the plant after having dumped CKD material at Pit C accidentally left its bed in a raised position which collided with the overhead conveyor that runs across the access road. According to the operator, operations were suspended for 4 days while the damaged portions of the conveyor were being repaired. During this time, equipment access to the CKD disposal area was limited, as the road beneath the conveyor is the only access road to the area south of the plant. This meant that water trucks were unable to access Pit C to water the freshly dumped CKD material. Considering the high wind gusts that occurred on January 31, 2022 and the operator's inability to get water trucks to the CKD disposal area during that time, it seems likely the dust was generated from the CKD disposal area (as well as from the raw material stockpile area). The photos provided with the complaint appear to support this.

The cement plant was active during the inspection. However, the Division did not observe the operation dumping CKD material into Pit C. The operator has placed the required 2 foot thick shale and clay cap on the backfilled western and southern portions of the pit. Additional shale material is stockpiled in the capped area for future use. The Division estimates approximately 8.25 acres of the backfilled area has been capped at this time. An accurate estimate of the current exposed CKD surface area could not be obtained from the most recent aerial imagery available of the site (from June 10, 2021). However, the Division believes the current exposed CKD surface area could be as small as 5.5 acres and as large as 9 acres, depending on whether the side slopes of the backfill lift are included with the total surface area, and whether current site conditions are reflected on the June 10, 2021 aerial imagery (e.g., exposed CKD areas, capped areas, water levels in pit). Therefore, the Division could not confirm whether the operation is limiting exposed CKD to less than 7 acres, as required. The sprinkler system described above was not in use as it had been winterized for the season. However, the surface of the uncapped portion of the CKD disposal area was wet, indicating it had been recently watered. The Division did observe water trucks spraying the haul roads and raw material stockpile area during the inspection. No fugitive dust was observed; although, wind speeds were low during the inspection.

C.R.S. 34-32.5-116(4)(j) requires that all surface areas of the affected land, including spoil piles, be stabilized and protected so as to effectively control erosion. Given the multiple fugitive dust events that have been

PERMIT #: M-1977-208 INSPECTOR'S INITIALS: AME INSPECTION DATE: March 3, 2022

documented at the site over the years (including the most recent event that occurred on January 31, 2022), with dust generating from both the CKD disposal area and the raw material stockpile area, it appears the operator is not effectively controlling wind erosion of these materials. Therefore, the Division is citing a problem in this report (see page 1), requiring the operator to submit a Technical Revision, with the required \$216 fee, to provide an updated material handling plan that includes fugitive dust control measures to be implemented at the site. This revision shall also include a survey of the current exposed CKD mass in Pit C (including the top surface and side slopes of the uncapped backfill area as well as any exposed CKD stockpile areas). This revision must be submitted within 60 days of the signature date of this report.

This concludes the report.

Any questions or comments regarding this inspection report should be forwarded to Amy Eschberger at the Colorado Division of Reclamation, Mining and Safety, 1313 Sherman Street, Room 215, Denver, CO 80203, via telephone at 303-866-3567, ext. 8129, or via email at amy.eschberger@state.co.us.

PHOTOGRAPHS



Photo 1. View looking south from main access road at cement plant.



Photo 2. View looking west at raw material stockpile area (indicated) located south of cement plant.



Photo 3. View looking north across northeastern unbackfilled portion of Pit C with ponded water. Note water truck (circled in background) spraying raw material stockpile area located north of Pit C.



Photo 4. View looking northeast across northeastern unbackfilled portion of Pit C with ponded water.



Photo 5. View looking south across southwestern portion of Pit C which has been backfilled with CKD but not yet capped with shale and clay material.



Photo 6. View looking west at CKD material temporarily stockpiled in uncapped portion of Pit C.



Photo 7. View looking north across western backfilled portion of Pit C which has been capped with shale and clay material. Note additional capping material (indicated) stockpiled in this area for future use.



Photo 8. View looking north across southwestern backfilled portion of Pit C which has been capped with shale and clay material.



Photo 9. View looking south across southern backfilled portion of Pit C which has been capped with shale and clay material.



Photo 10. Ground view of shale and clay cap placed on backfilled portion of Pit C.



Photo 11. View looking north at access road connecting cement plant area in the north to pit areas in the south (including Pit C). Note overhead conveyor crossing this road (in background).



Photo 12. Closer view (looking north) of overhead conveyor which was damaged in truck accident, after which, equipment access to Pit C was restricted until the conveyor was repaired.

GENERAL INSPECTION TOPICS

The following list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each

(AR) RECORDS <u>Y</u>	(FN) FINANCIAL WARRANTY N	(RD) ROADS <u>Y</u>
(HB) HYDROLOGIC BALANCE <u>N</u>	(BG) BACKFILL & GRADING PB	(EX) EXPLOSIVES <u>N</u>
(PW) PROCESSING WASTE/TAILING <u>Y</u>	(SF) PROCESSING FACILITIES N	(TS) TOPSOIL <u>N</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>Y</u>	(FW) FISH & WILDLIFE <u>N</u>	(RV) REVEGETATION N
(SM) SIGNS AND MARKERS <u>N</u>	(SP) STORM WATER MGT PLAN N	(RS) RECL PLAN/COMP <u>Y</u>
(ES) OVERBURDEN/DEV. WASTE <u>N</u>	(SC) EROSION/SEDIMENTATION N	(ST) STIPULATIONS <u>N</u>
(AT) ACID OR TOXIC MATERIALS <u>N</u>	(OD) OFF-SITE DAMAGE <u>N</u>	

Inspection Contact Address

Scott Harcus CEMEX, Inc. P.O. Box 529 Lyons, CO 80540

Encls: Complaint from Richard Cargill, received on February 8, 2022

Permit boundary map submitted with AR-1

Approved reclamation plan map

Google Earth image showing close-up of Pit C and raw material stockpile area

CC: Patrick Chalupsky, CEMEX
Erik Estrada, CEMEX
David Huber, CDPHE, APCD
Gabi Hoefler, Boulder County Public Health
Michael Cunningham, DRMS

Y = Inspected / N = Not inspected / NA = Not applicable to this operation / PB = Problem cited / PV = Possible violation cited



Dust complaint, January 31, 2021

RCargill@aol.com <rcargill@aol.com>

Tue, Feb 8, 2022 at 3:13 PM

Reply-To: "RCargill@aol.com" <rcargill@aol.com>

To: "ghoefler@bouldercounty.org" <ghoefler@bouldercounty.org>, "David.huber@state.co.us" <David.huber@state.co.us>, "Amy.eschberger@state.co.us" < Amy.eschberger@state.co.us>

Cc: "jmalinowski@bouldercounty.org" <jmalinowski@bouldercounty.org>, "dcase@bouldercounty.org" <dcase@bouldercounty.org>

Dear Inspectors,

Community members are filing this air pollution complaint with you regarding a January 31, 2021 dust event at Cemex-Lyons. Cemex was notified via phone at the time of the incident. Four residents photographed the incident; three of their photos are attached, and the remainder will be emailed under separate cover.

The dust on January 31 appeared to originate near the CKD disposal site, stock piled materials site, and vicinity of the A-Frame structure. Wind speed was approximately 15-20mph when swirls of dust were first noticed in an area south of the stocked piled materials. As the wind became blustery, the plume became horrific, and the plant's buildings were obscured by the plume.

Portland cement product contains crystalline silica and the product bears a disclaimer on the packaging that breathing the dust may cause lung disease or cancer. Is there a public safety concern associated with this January 31 incident?

Will Cemex-Lyons' Title V Operating Permit be up for review this year? Community members may be counted on to advocate for actions that increase the plant's housekeeping activities, decrease its CO2 emissions, and require air quality management programs for clean and healthy air.

Please share the results of your investigation with us.

Sincerely,

Richard Cargill

cc: community members.

3 attachments



20220131_145959.jpg 927K



20220131_150002.jpg 928K

cemex dust 1 31 22 1 final final final.jpg 53K











Fwd: Cemex violation 1/31/2022

RCargill@aol.com <rcargill@aol.com>

Tue, Feb 8, 2022 at 3:56 PM

Reply-To: "RCargill@aol.com" <rcargill@aol.com>
To: "ghoefler@bouldercounty.org" <ghoefler@bouldercounty.org>, "David.huber@state.co.us" <David.huber@state.co.us>,
"Amy.eschberger@state.co.us" <Amy.eschberger@state.co.us>

fyi

----Original Message----

From: Mars Mcclung <marsredeemer@gmail.com>

To: RCargill@aol.com <rcargill@aol.com>

Sent: Mon, Jan 31, 2022 3:13 pm Subject: Cemex violation 1/31/2022

3 attachments



20220131_150002.jpg 928K



20220131_145959.jpg 927K



20220131_145823.jpg 1286K









Fwd: Today Cemex plant

2 messages

RCargill@aol.com <rcargill@aol.com>

Tue, Feb 8, 2022 at 3:58 PM

Reply-To: "RCargill@aol.com" <rcargill@aol.com>

To: "ghoefler@co.boulder.co.us" <ghoefler@co.boulder.co.us>, "David.huber@state.co.us" <David.huber@state.co.us>, "Amy.eschberger@state.co.us" < Amy.eschberger@state.co.us>

fyi

----Original Message-----

From: Lisa Rollo lisarollomsp@gmail.com>

To: rcargill@aol.com

Sent: Mon, Jan 31, 2022 3:01 pm Subject: Today Cemex plant

Hello Richard I thought maybe a fire was happening-But, I believe this is Cemex letting out dust! I shot this photo for you-Hoping you and Barbra are well Lisa Rollo

Sent from Lisa's iPhone. Have a great day!



IMG_3255.jpg 2015K

Hoefler, Gabi <ghoefler@bouldercounty.org>

Tue, Feb 8, 2022 at 4:05 PM

To: "RCargill@aol.com" <rcargill@aol.com>, "David.huber@state.co.us" <David.huber@state.co.us>,

"Amy.eschberger@state.co.us" < Amy.eschberger@state.co.us>

Hi Richard,

What time was the picture taken today?

Gabi

[Quoted text hidden]





Fwd: cemex dust event pics 1 31 22

1 message

RCargill@aol.com <rcargill@aol.com>

Tue, Feb 8, 2022 at 3:49 PM

Reply-To: "RCargill@aol.com" <rcargill@aol.com>

To: "ghoefler@co.boulder.co.us" <ghoefler@co.boulder.co.us>, "David.huber@state.co.us" <David.huber@state.co.us>, "Amy.eschberger@state.co.us" < Amy.eschberger@state.co.us>

----Original Message-----

From: M Dobbs <whitedovefarm@gmail.com>

To: richardcargill@aol.com; RCargill@aol.com <rcargill@aol.com>

Sent: Tue, Feb 1, 2022 12:50 pm Subject: cemex dust event pics 1 31 22

Here are some of the pics

L

4 attachments



cemex dust 1 31 22 1 final final final.jpg 53K



cemex dust 1 31 22 1 final final.jpg 53K



cemex sust 1 31 22 3 copy 2.jpg 22K

cemex dust 1 31 22 4.jpg 86K







Fwd: 2:55 pm dust event

1 message

RCargill@aol.com <rcargill@aol.com>

Reply-To: "RCargill@aol.com" <rcargill@aol.com>

----Original Message----

Sent: Mon, Jan 31, 2022 3:30 pm Subject: Fwd: 2:55 pm dust event

Thank you for taking my call this afternoon. Here are the photos from the dust event at CEMEX at 2:55PM today. I took two photos from the east looking northwest and two from the west coming off of the piles which are uncovered, as well as from baghouse dust material in the plant itself. Thank you for the followup. You can reach me at 9870-218-4683.

Sincerely, Kristin Powell

------ Forwarded message ------From: Kristin Powell <kpowell@fcgov.com>
Date: Mon, Jan 31, 2022 at 3:16 PM
Subject: Fwd: 2:55 pm dust event

To: pioneerfamilyllc@gmail.com <pioneerfamilyllc@gmail.com>

Sent from my iPhone

Begin forwarded message:

From: Kristin Powell kpowell@fcgov.com>
Date: January 31, 2022 at 3:15:29 PM MST
To: Kristin Powell kpowell@fcgov.com>
Subject: 2:55 pm dust event

CEMEX



















Sent from my iPhone













