

April 4, 2023

Patrick Lennberg
Division of Reclamation, Mining and Safety
Environmental Protection Specialist
1313 Sherman Street, Room 215
Denver, Colorado 80203

Via Email

Re: CEMEX Lyons Mine Permit M-1977-208
Technical Revision No. 12, Revised Groundwater Monitoring Plan
First Quarter 2023 Monitoring Data

Dear Patrick Lennberg:

This letter transmits the surface water and groundwater data associated with the sampling of the cement kiln dust disposal area (C-Pit). This report includes data from the C-Pit ponded water and related groundwater monitoring for the first quarter of 2023, covering the reporting period from January 1, 2023 to March 31, 2023. Table 1 presents data for the last four quarters.

Groundwater samples were collected on February 21, 2023 from the CEM-001 and CEM-004 groundwater monitoring wells and from the C-Pit ponded water. The inspection of groundwater monitoring well CEM-005 on February 21, 2023 indicated that there was not enough water volume to collect a representative sample.

The samples collected from C-Pit ponded water and the groundwater monitoring wells were analyzed for pH, chloride, sulfate, total dissolved solids, selenium, and thallium. The reported pH data are based on the pH analyses performed at the time of sample collection in the field (Table 1). The measured pH at groundwater monitoring well CEM-004 and analytical results for chloride, sulfate, total dissolved solids (TDS), selenium and thallium from the February 21, 2023 groundwater sample were within the target levels prescribed by TR-12, as shown in Table 1.

In addition, a Stiff Diagram of the groundwater cation/anion data from CEM-004 compared to the average and 90th percentile of the cation/anion concentrations from the last four quarterly samples of C-Pit data is provided in Figure 1 for reference. As shown in Figure 1 and consistent with past reports, the signature for CEM-004 continues to be significantly different from that of C-Pit.

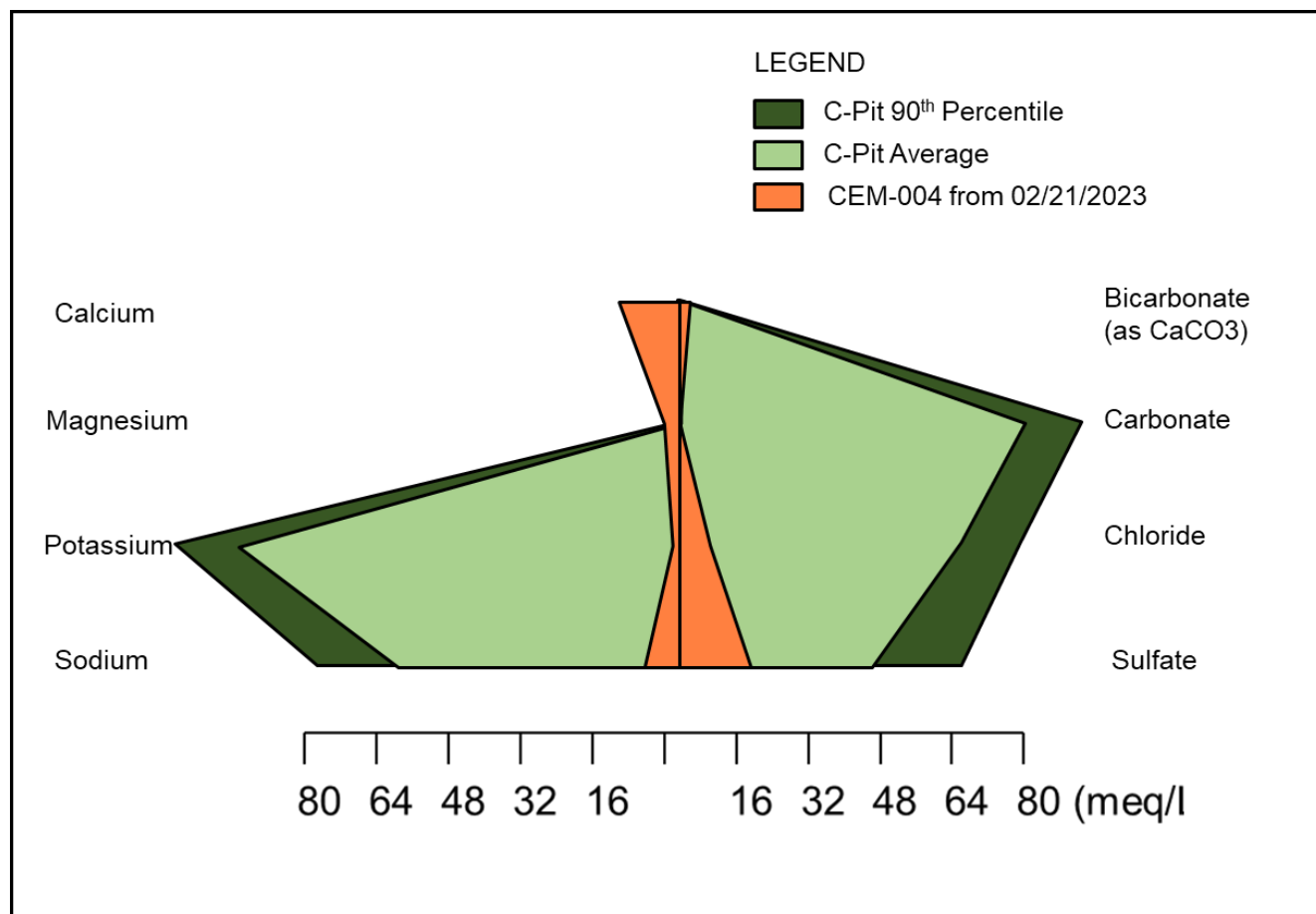


Figure 1: First quarter 2023 cation/anion data for CEM-004 compared to C-Pit

Please contact me at 303-823-2124 or by email at scotta.harcus@cemex.com for any questions or concerns regarding this submittal.

Sincerely,

Scott A. Harcus
Environmental Manager

Encs. Y23Q1C-Pit Monitoring Report and associated Stiff Plot (Fig.1), and Summary of Analytical Results (Table 1), Field Notes, and Time Trend Plots (Figs. A, B, C)

Table 1
Summary of Analytical Results

Parameter	Units	C-Pit				CEM-001				CEM-004				CEM-005				CEM-004, CEM-005 Triggers (TR-12)
		2022 Q2	2022 Q3	2022 Q4	2023 Q1	2022 Q2	2022 Q3	2022 Q4	2023 Q1	2022 Q2	2022 Q3	2022 Q4	2023 Q1	2022 Q2	2022 Q3	2022 Q4	2023 Q1	
		5/18/2022	9/6/2022	11/2/2022	2/21/2023	5/18/2022	9/6/2022	11/2/2022	2/21/2023	5/18/2022	9/6/2022	11/2/2022	2/21/2023	a See dates below	a See dates below	a See dates below	a See dates below	
		value	value	value	value	value	value	value	value	value	value	value	value	value	value	value	value	
pH (On-site)	su	11.81	11	10.3	12.31	7.85	7.86	7.44	8.01	7.72	6.97	6.88	7.26	insufficient water to sample	insufficient water to sample	insufficient water to sample	insufficient water to sample	6.5-8.5
Chloride	mg/L	2270	2660	2580	1820	1580	1700	1630	1640	5.6	234	61.9	257					1,053
Sulfate	mg/L	1910	3060	2710	1930	3.2	18.5	33.9	<13	12.4	744	334	715					2,641
Total Dissolved Solids	mg/L	11100	11000	10700	9290	3930	3730	3490	4330	66	1560	701	1580					501-10,000 or 1.25 times background
Dissolved Selenium	mg/L	0.688	0.793	0.692	0.454	<0.0008	<0.004	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	0.0023					0.05
Dissolved Thallium	mg/L	0.0020	0.0048	0.0037	0.0015	<0.0004	<0.002	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.001					0.002

Notes and Qualifiers:

H

U

UJ

X

NA

value

Sample analyzed beyond recommended hold time

Detection limit is estimated

Estimated low

Data may not be representative due to nonstandard field sampling protocol

Not analyzed.

Exceeds trigger

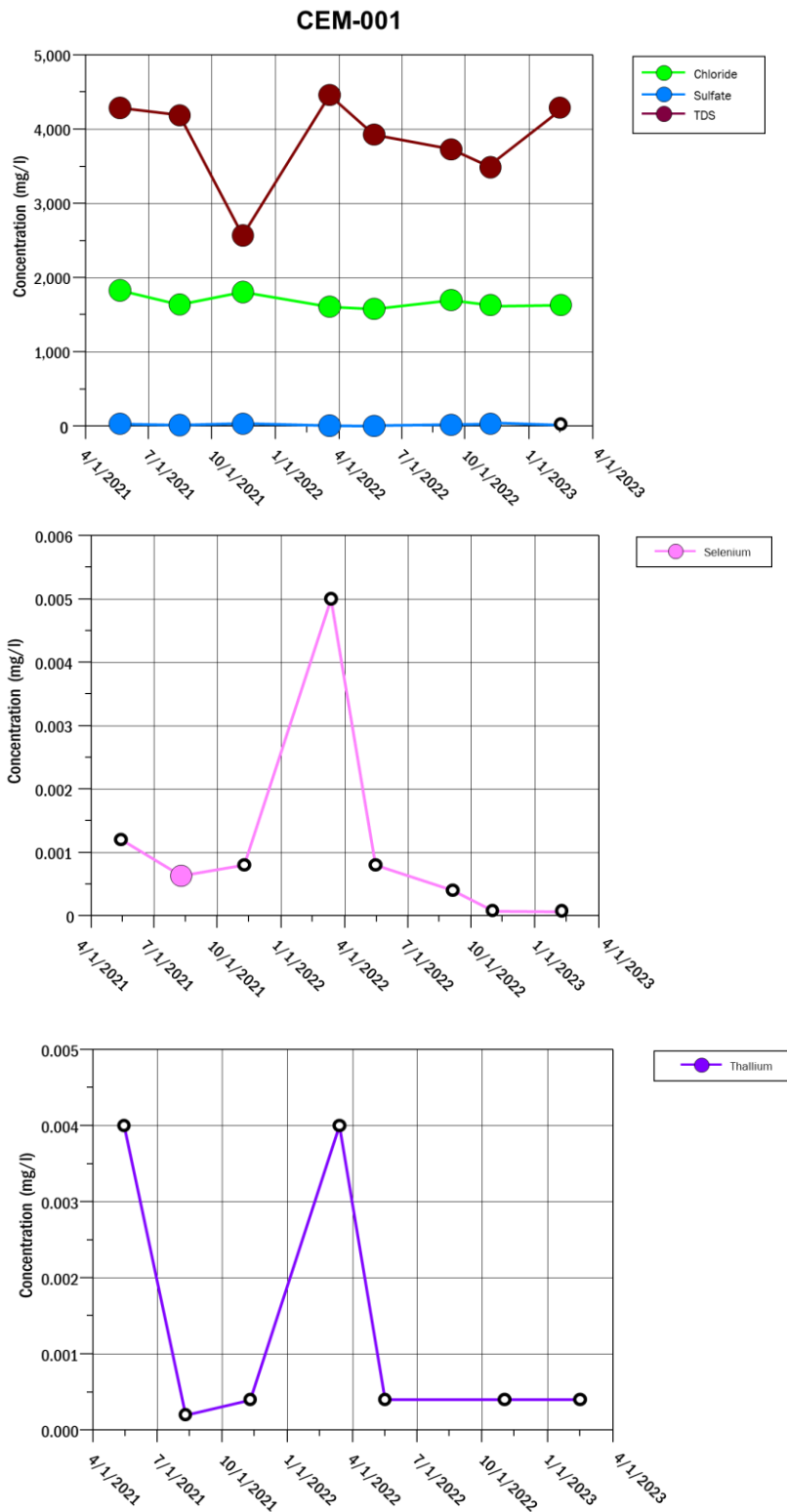
aCEM 005 Y22 Q2Well Sounding: 5/18/2022
a CEM 005 Y22 Q3 Well Sounding: 9/6/2022
a CEM 005 Y22 Q4 Well Sounding: 11/3/2022
a CEM 005 Y23 Q1 Well Sounding: 2/21/2023

CEMEX Lyons Quarterly Groundwater Monitoring
Field Data Sheet

Date: 2/21/2023
Personnel: S. Tatum / S. Becker

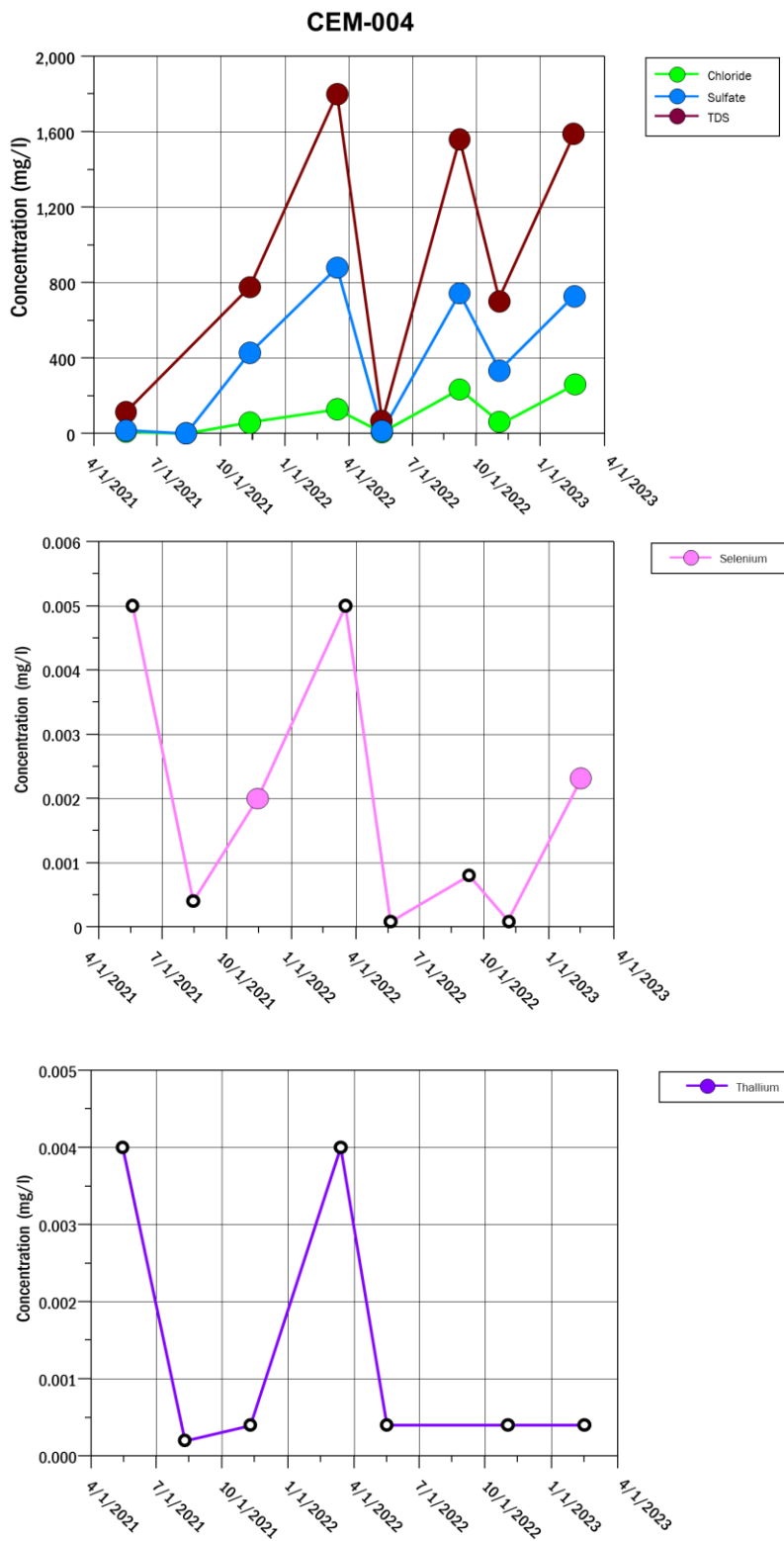
Project Number: 159440

Location	Time	pH	Temp (°C)	Cond. (uS/cm)	DO (mg/L)	Total Depth (ft below top of casing)	Depth to Water (ft)	Notes
CEM-001	11:30	7.95	11.2	5872	2.18	143 (3.5' from top of casing to ground)	0.0	← Sample
	11:40	8.01	11.5	5958	2.03		0.0	
CEM-004	12:45	7.32	8.8	1892	5.05	23.5	11.32	Purge 5.6 gallons ← Sample
	12:50	7.26	8.4	1891	2.89			
CEM-005	10:30					400 (2.62' from top of casing to ground)	397.8	= 400.42 - 2.62 Retrieved 2 bailers w/ too little H ₂ O recovered to sample/parameters
	10:45						398.3	
A-Pit	10:50	8.17	3.8	7.966	10.38	N/A	—	
C-Pit	11:25	12.32	4.4	12312	9.99	N/A	—	



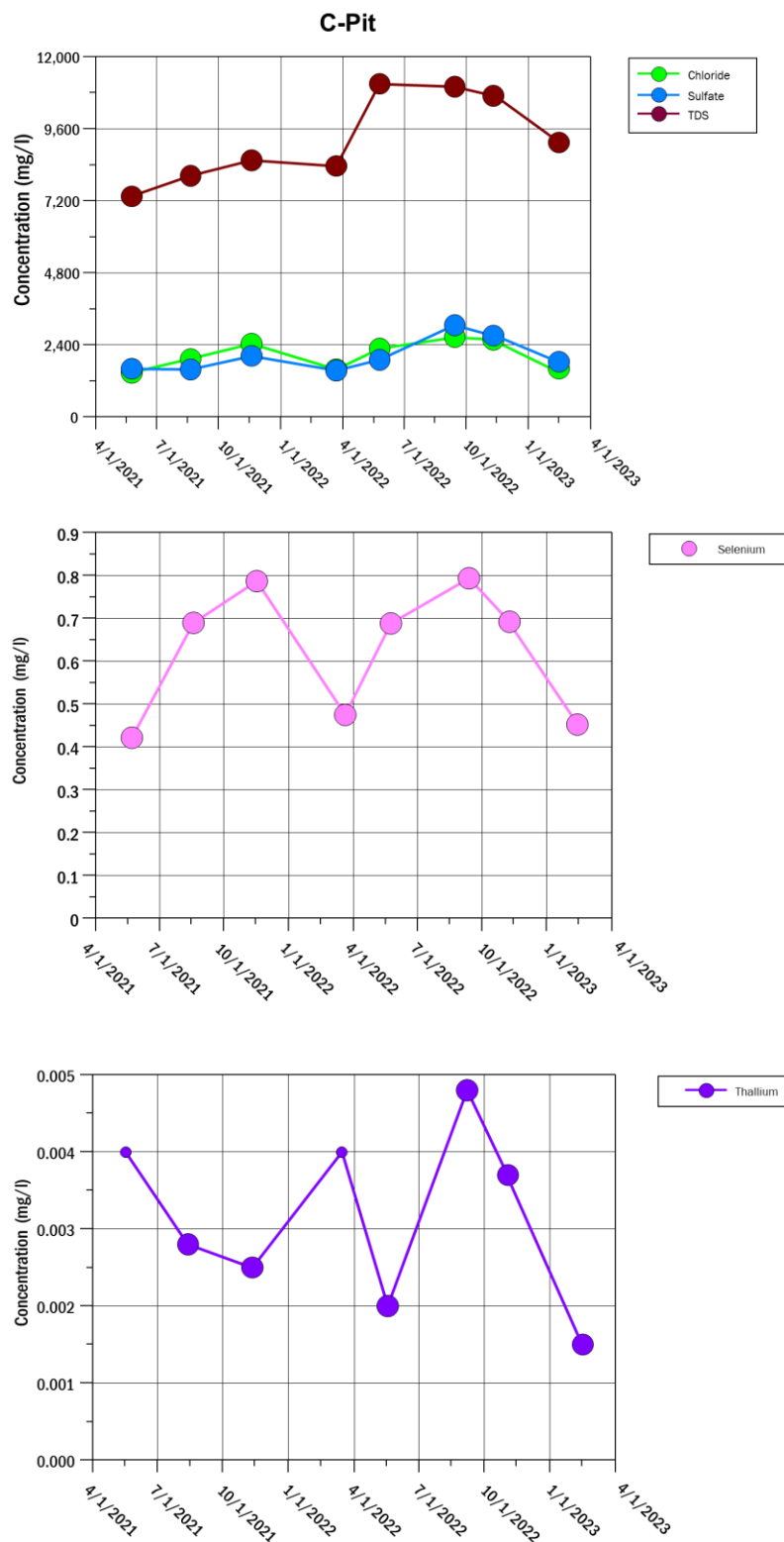
Note: Concentrations reported below the detection limit are plotted as open symbols

Figure A Time trend plots for CEM-001



Note: Concentrations reported below the detection limit are plotted as open symbols

Figure B Time trend plots for CEM-004



Note: Concentrations reported below the detection limit are plotted as open symbols

Figure C Time trend plots for C-Pit