

STATE OF
COLORADO

Lennberg - DNR, Patrick <patrick.lennberg@state.co.us>

Lyons Q3 C-Pit Monitoring

1 message

Greg M Bridge <gregm.bridge@cemex.com>

Fri, Oct 20, 2023 at 11:41 AM

To: "Lennberg - DNR, Patrick" <patrick.lennberg@state.co.us>

Cc: Erik Estrada <erik.estrada@cemex.com>, Natalie Thompson <natalie.thompson@cemex.com>

Patrick,

Please find attached C-Pit Monitoring for Q3 2023, please let me know if you have any questions.

Regards,

Greg

**Greg Bridge**

Environmental Cement - USA

Corporate Environmental Manager

352-442-5375

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Houston, TX 77043

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**2023.10.20 2023 3rd Qtr Monitoring Data Report - CEMEX Lyons Mine Permit M-1977-208.pdf**

782K

October 20, 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
Third 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 third quarter of 2023, covering the reporting period from July 1, 2023 to September 30, 2023. Table 1 presents data for the last four quarters.

Groundwater samples were collected on August 29, 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 August 29, 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 August 29, 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.

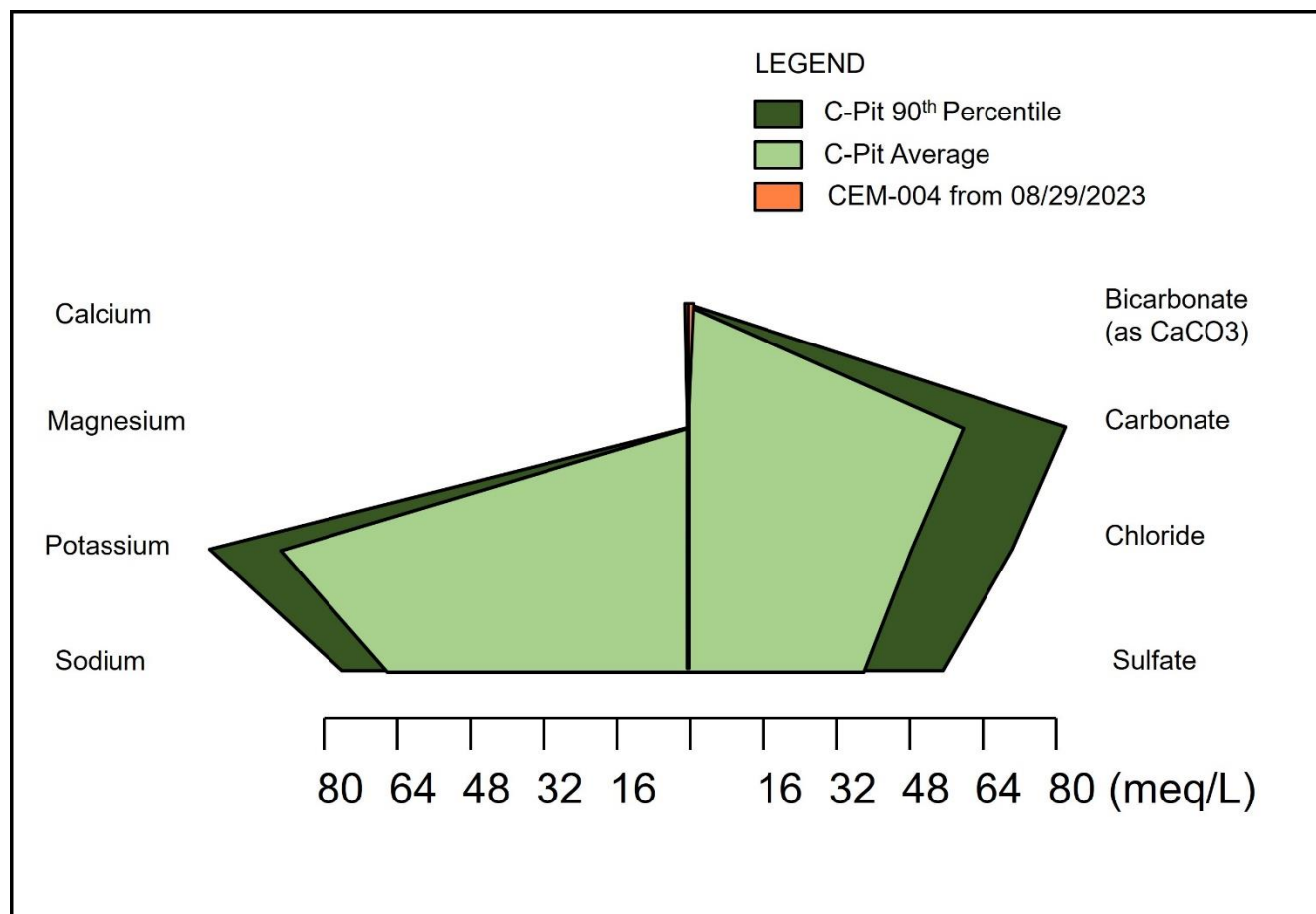


Figure 1: Third quarter 2023 cation/anion data for CEM-004 compared to C-Pit

Please contact me at 352-442-5375 or by email at gregm.bridge@cemex.com for any questions or concerns regarding this submittal.

Sincerely,

Greg M. Bridge
Environmental Manager

Encs. Y23Q3C-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)

Parameter	Units	C-Pit				CEM-001				CEM-004				CEM-005				CEM-004, CEM-005 Triggers (TR-12)
		2022 Q4	2023 Q1	2023 Q2	2023 Q3	2022 Q4	2023 Q1	2023 Q2	2023 Q3	2022 Q4	2023 Q1	2023 Q2	2023 Q3	2022 Q4	2023 Q1	2023 Q2	2023 Q3	
		11/2/2022	2/21/2023	5/2/2023	8/29/2023	11/2/2022	2/21/2023	5/2/2023	8/29/2023	11/2/2022	2/21/2023	5/2/2023	8/29/2023	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	10.3	12.31	10.47	10.65	7.44	8.01	7.46	7.96	6.88	7.26	7.45	7.77	insufficient water to sample	insufficient water to sample	insufficient water to sample	insufficient water to sample	6.5-8.5
Chloride	mg/L	2580	1820	2270	214	1630	1640	1650	1510	61.9	257	79.9	2.9					1,053
Sulfate	mg/L	2710	1930	2460	241	33.9	<13	19.9	38.3	334	715	268	7.4					2,641
Total Dissolved Solids	mg/L	10700	9290	10900	8850	3490	4330	4890	3360	701	1580	662	96					501-10,000 or 1.25 times background
Dissolved Selenium	mg/L	0.692	0.454	0.518	0.5300	<0.0008	<0.0008	<0.0008	<0.0004	<0.0008	0.0023	0.0012	<0.0004					0.05
Dissolved Thallium	mg/L	0.0037	0.0015	0.0014	<0.0025	<0.0004	<0.0004	<0.0004	<0.0002	<0.0004	<0.001	<0.0004	<0.0002					0.002

Notes and Qualifiers:

- H
- Sample analyzed beyond recommended hold time
- U
- Detection limit is estimated
- UJ
- Estimated low
- X
- Data may not be representative due to nonstandard field sampling protocol
- NA
- Not analyzed.
- value
- Exceeds trigger

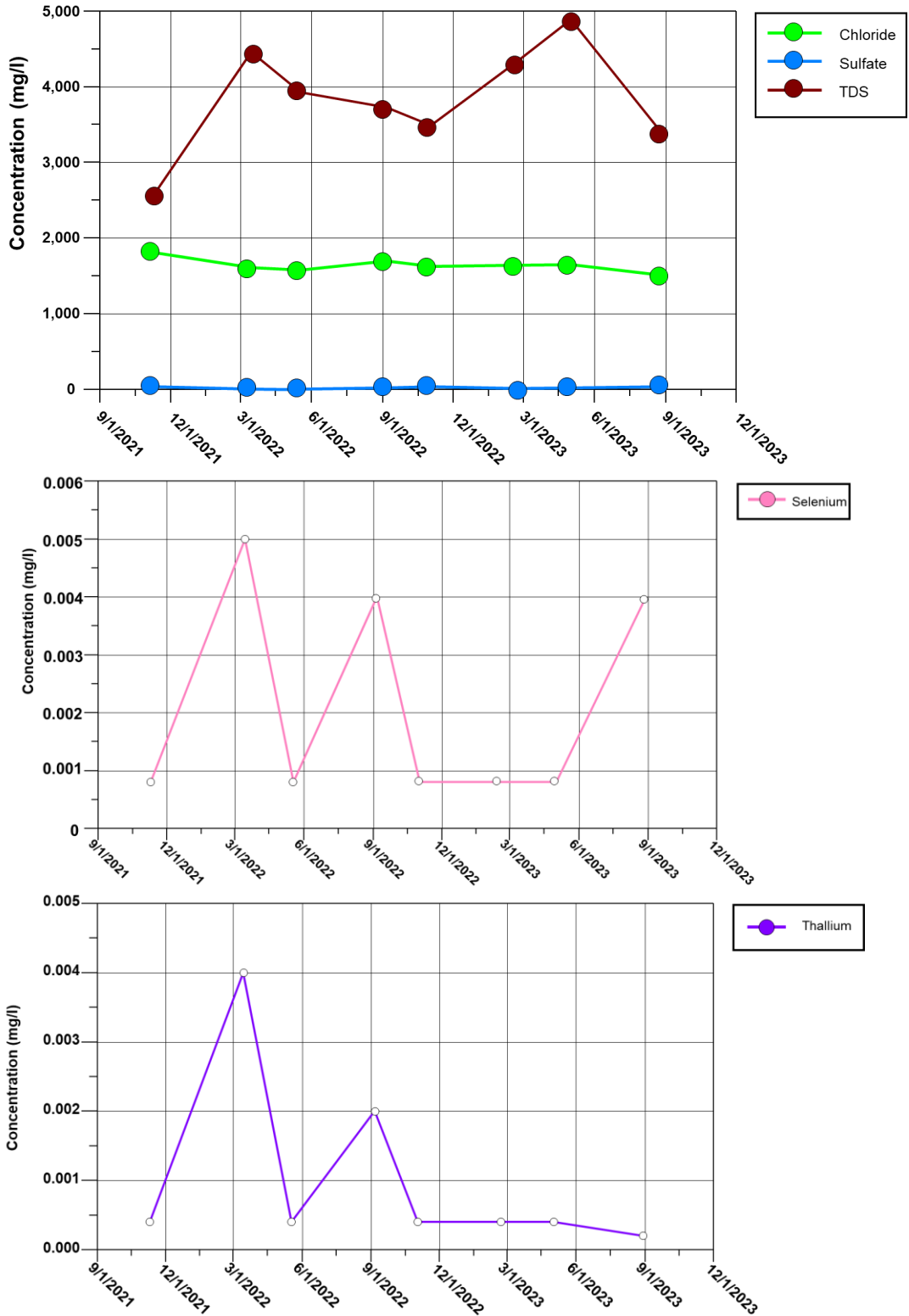
a CEM 005 Y22 Q4 Well Sounding: 11/3/2022
a CEM 005 Y23 Q1 Well Sounding: 2/21/2023
a CEM 005 Y23 Q2 Well Sounding: 5/2/2023
a CEM 005 Y23 Q3 Well Sounding: 8/29/2023

**CEMEX Lyons Quarterly Groundwater Monitoring
Field Data Sheet**

Date: 8/29/23 Project Number: 159440
 Personnel: (SUB/JT)
Steffan Becker
& Jesse Tatum

Location	Time	pH	Temp (°C)	Cond. (µS/cm) ms	DO (mg/L)	Total Depth (ft) below top of casing	Depth to Water (ft)	Notes
CEM-001	12:45 12:55	7.77	17.5	7.88		143		
	13:30	7.96	16.8	7.76		(3.5' from top of casing to ground)		
CEM-004	14:05	7.87	18.3	0.19		23.5	4.35	
	14:15	7.77	17.2	0.20			4.36	
CEM-005 8/30	8/29 10:50	7.15	21.6	11.87		400 (2.62' from top of casing to ground)	395.58	398.2' - 2.62'
	11:20	7.28	20.9	10.87			400.72	399.45' - 2.62' = 396.83'
	12:00	7.23	20.7	10.79			400.72	400.72' - 2.62' = 398.10'
	12:00							
								400.55' - 2.62' = 397.93'
A-Pit	12:30	8.18	26.2	1.83		N/A		
C-Pit	13:00	10.65	24.2	15.47		N/A		

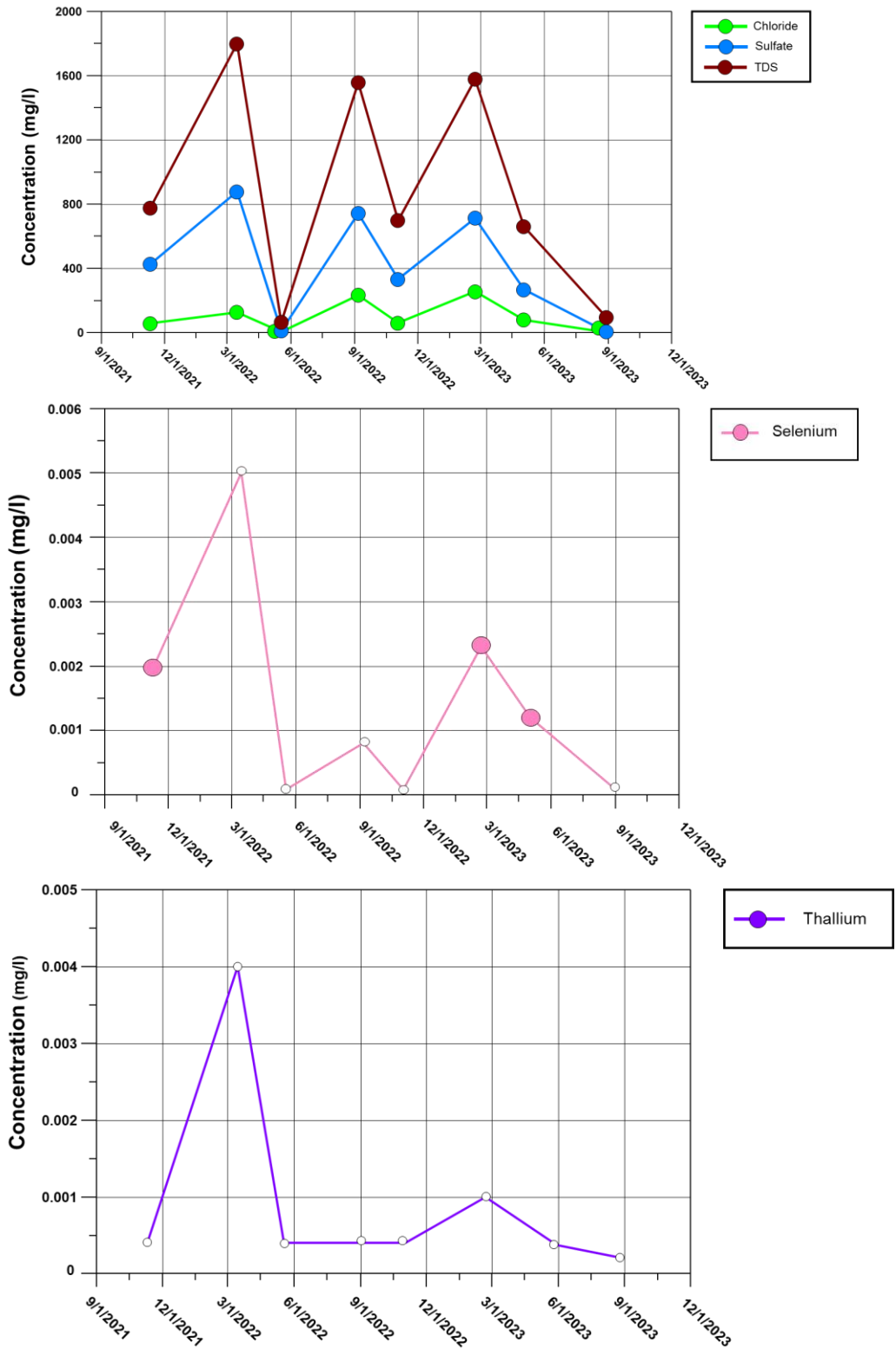
CEM-001



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

Figure A Time trend plots for CEM-001

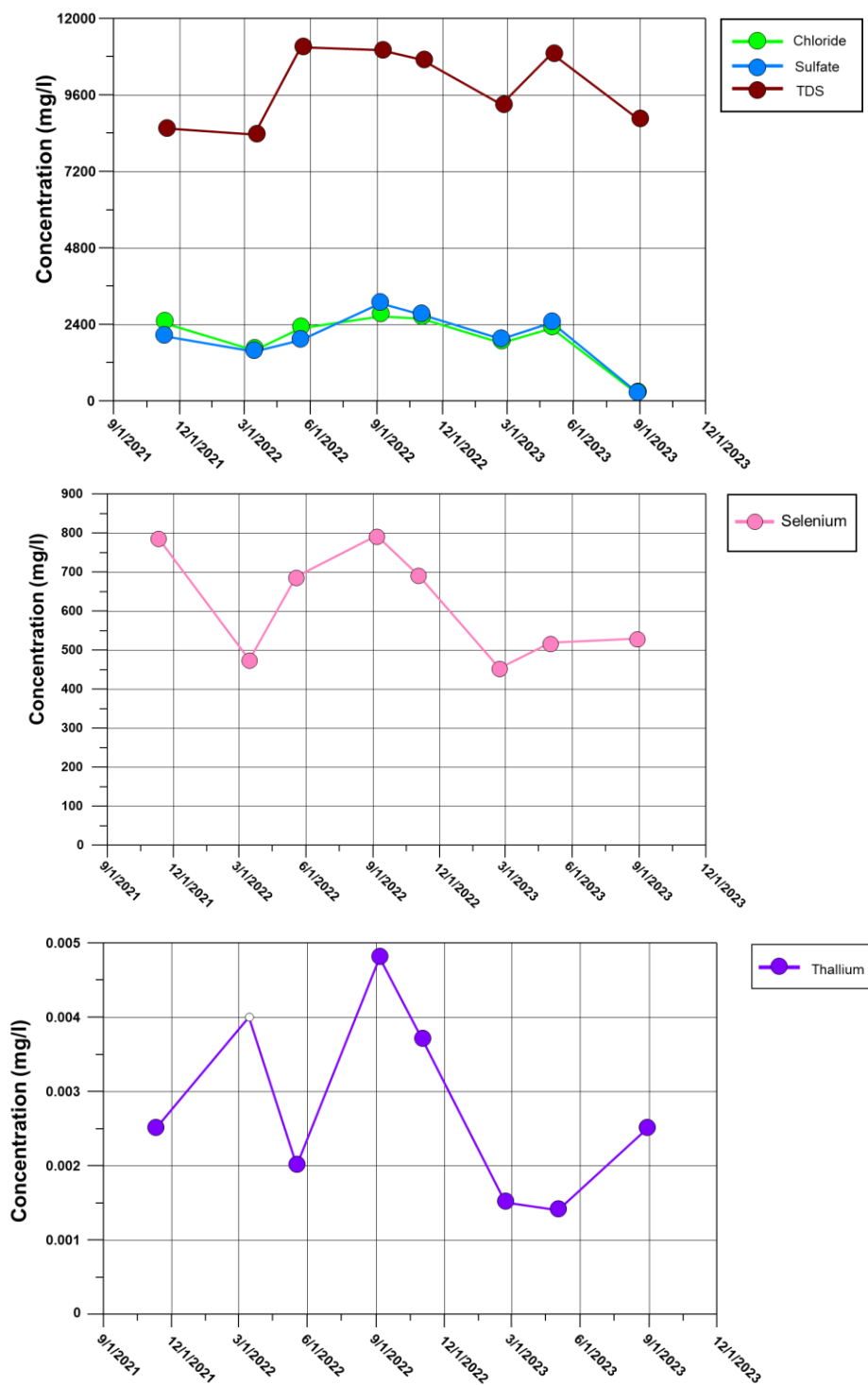
CEM-004



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

Figure B Time trend plots for CEM-004

C-Pit



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

Figure C Time trend plots for C-Pit