

Question 21.

2022 WATER QUALITY DATA

- 2022 DRMS Water Quality Monitoring Plan Evaluation
- Table 1: Indicator Parameters 5-Year Groundwater Quality Monitoring Data
- Table 2: Indicator Parameters 5-Year Surface Water Quality Monitoring Data
- Charts 1-35: POC Five-Year Data Graphs (Metals, pH, Sulfate, TDS, Fluoride)
- Charts 36-40: Well EVMW-1S Five-Year Data Graphs (Metals, pH, Sulfate, TDS, Fluoride)
- Map 5: WQMP Sites Eagle River Watershed
- Map 6: WQMP Sites Tenmile Creek Watershed
- Map 7: WQMP Sites Arkansas River Watershed

Climax Mine Water Quality Monitoring Plan Evaluation - 2022

Sampling Locations

Groundwater

Sample Locations: ARWell, ARK-MW-001D, EVMW-3S, EVMW-3D, EV-MW-004, TM-MW-002D, GW#2, TM-MW-001D, GW#1, ARK-MW-002S, ARK-MW-002D, EVMW-1D, EVMW-1S, EVMW-2, EVS-1, EVS-2, EVS-3

Internal Surface Water

Sample Locations: CC-SW1, EI-SW1

Surface Water

Sample Locations: Arkansas #1, Arkansas #2, AI, BI, EPR Outlet

Duplicate Sample Locations (note Q3 sample was actually collected in Q4):

- First Quarter: ARWell
- Second Quarter: TM-MW-001D
- Fourth Quarter: GW#2
- Fourth Quarter: EV-MW-004

During 2022 water quality samples were successfully collected from the above sample locations except for the following:

First Quarter:

- Inaccessible or frozen due to winter conditions:
 - ARK-MW-001D, EVMW-1D, EVMW-2, EVS-1, EVS-2, EVS-3, EI-SW1, CC-SW1

Second Quarter:

- No Observable Discharge
 - EPR Outlet

Third Quarter:

- None

Fourth Quarter:

- Inaccessible or frozen due to winter conditions:
 - ARK-MW-001D, ARK-MW-002S, ARWell, EVMW-2, EVS-1, EVS-2, EVS-3, EI-SW1, CC-SW1

Discussion of Results: POC Wells

Numeric Protection Limits (NPLs) were implemented at point of compliance (POC) wells in the approved Water Quality Monitoring Plan (WQMP) for the indicator parameter list. Section 5.0 of the WQMP discusses the rationale for selection of the NPLs. A comparison of results to applicable NPLs is provided in attached Table 1 and Charts 1-35 show five-year time series graphs for all indicator parameters. In 2022, all indicator parameter results were below applicable NPLs with the exception of pH at monitoring well GW#2 (see below discussion).

GW#2 pH discussion:

On 4/16/18, pH at GW#2 was measured at 6.18 standard units, which is outside the NPL range of 6.5 to 8.5. Climax notified DRMS on 4/17/18, per section 5.2.1.1 of the WQMP. Climax and DRMS agreed the site should be monitored on a monthly basis until the pH was measured within the NPL range for three consecutive months. Table 1 and Chart 32 present pH results from GW#2. Monthly pH monitoring continued at this location in 2022. Monthly monitoring in 2022 yielded pH measurements below the NPL range in 8 out of 12 months; however, the last two monthly values were above the NPL.

Recently (in 2021 and 2022), Climax has conducted additional work to understand the presence and nature of the lower pH values observed in well GW#2. Work in 2021 consisted of historical operational and lab data analyses, while work in 2022 involved additional field investigation work within lands situated between the Mayflower Tailings Storage Facility (TSF) and well GW#2 to identify possible reasons for the lower pH values. Key findings from this additional work include:

- Lower pH values are not uncommon in GW#2. Readings less than 6.5 have been measured as far back as 1997. The average of all measurements collected since 1997 is about 6.6. Fluctuations above and below the average value are to be expected and values below 6.5 are not necessarily out of line with normal conditions at this location.
- A statistical analysis of GW#2 pH measurements since 2011 (Mann-Kendall) yielded a declining trend. Graphs of pH measurements also suggest a slight declining trend with the decline rate more prominent in later results.
- Despite the lower pH values and declining pH trend, water chemistry data since 2012 have had non-detect or low concentrations for indicator parameters (no other exceedances of NPLs). Relative to pre-2012 data, samples from GW#2 have yielded lower concentrations of most parameters and lower total dissolved solids.
- Climax's 2022 characterization efforts on otherwise uncaptured seeps and surface waters located between Mayflower TSF and GW#2 revealed potential opportunities for additional capture of impacted waters. Findings from the characterization are being used to plan improvements in potentially TSF-related seepage collection in the subject area. These improvements are expected to be implemented in 2023; continued monthly monitoring at GW#2 is expected to determine the impact of these improvements.

Climax will continue to collect monthly pH data from GW#2 in 2023 in addition to regularly scheduled quarterly samples. In addition, Climax intends to conduct a well integrity assessment at GW#2 in 2023; this will include conducting a camera survey of the well and collection of bacteria samples to determine if biological impacts are occurring.

Discussion of Results: Evaluation of Groundwater and Surface Water Data

Tenmile and Arkansas Watersheds

In accordance with Section 5.2.2.1 of the WQMP regarding trend evaluation of data collected in the Tenmile and Arkansas basins, Climax will “routinely evaluate indicator parameter water quality trends for the groundwater monitoring sites identified above on an annual basis, and report findings in the Annual Report to DRMS.”

As requested by DRMS, five-year indicator data sets are presented in data tables (Tables 1 and 2) and depicted on Charts 1-35, are attached for the POC wells. Graph titles are color coordinated, matching the color of the data table to the corresponding POC well. A review of POC groundwater data and graphs do not indicate an apparent decline in 2022 in indicator parameter quality at any of the POC wells in the Tenmile and Arkansas basins. The 4th quarter 2022 sample from EVMW-3D had iron at 0.158 mg/L, which is higher than recent levels; though this value is well below the NPL of 0.3 mg/L; this is likely anomalous and will be confirmed with additional future monitoring efforts.

Eagle River Watershed

In accordance with Section 6.0 of the WQMP, Climax evaluated Eagle River basin POC well data against applicable NPLs. The review did not indicate any exceedances of the NPLs in the Eagle River basin. Likewise, no trends of indicator parameters (suggesting a decline in water quality) were apparent in any of the three POC wells. Laboratory data and graphs depicting indicator parameter concentrations over the last five years are contained in Tables 1 and 2, and Charts 1-35, attached.

Climax also evaluated indicator parameter data from the remaining wells and surface water monitoring locations in the Eagle River basin in accordance with Section 6.3.2 of the WQMP. The first part of this evaluation involved looking for any potential discernable water quality trends over time. No apparent trends at surface water monitoring sites AI, BI or Eagle Park Reservoir Outlet (EPR Outlet) were noted during this evaluation. Similarly, no apparent trends were noted in indicator parameters at seeps EVS-1, EVS-2, or EVS-3. Indicator parameter values at groundwater wells EVMW-1D and EVMW-2 were generally within historic ranges except for the 4th quarter 2022 iron value at well EVMW-1D which was reported at 0.283 mg/L, though iron values in this well have fluctuated up and down more than an order of magnitude over the recent 5-year period.

Eagle River Watershed Well EVMW-1S

During the second and third quarter monitoring events, iron and manganese concentrations in well EVMW-1S in 2022 increased outside the range of data from recent years. Chart 36

presents the most recent five years of data for iron, manganese, and other indicator metals molybdenum, cadmium, copper and zinc. As has been observed in the past iron and manganese show greater variability, while other metals remain consistently low. Concentrations of primary indicator parameters sulfate and TDS, over the last five years are presented on Charts 38 and 39. While the sulfate and TDS data over these recent years show a moderate increasing trend, visually, these concentrations remain lower than historic highs over the full period of record at this location beginning in 1993.

Well EVMW-1S is a shallow internal monitoring well completed through the alluvium and upper weathered bedrock immediately downgradient of the seepage collection cutoff wall below Robinson Lake. Increasing trends of certain parameters (including iron and manganese) were previously observed at well EVMW-1S, EVMW-1D and EVMW-004 beginning in late 2012. In response, monitoring frequency was increased and additional investigations were conducted between 2012 and 2014, including studies to understand the potential quantity of water that is conveyed through this shallow system and its relation to the Robinson Lake seep.

Following the observations noted above, Climax performed further examination of water quality parameters in EVMW-1S as prescribed by Section 6.3.2.1 of the WQMP. This involves an analysis that defines a window of time for evaluating whether a trend exists, including defining the baseline dataset through the most recent sampling period. At this location, the full baseline period is considered to include all data collected since 2001, following the completion of the seepage collection system. Over this period only iron and manganese can be perceived as having any kind of increasing trend, however, previous studies have also established that dissolved iron and manganese concentrations are highly variable and susceptible to phase changes related to redox conditions. Seasonally, lower concentrations of iron and manganese are typically observed in first quarter samples, followed by higher levels in third quarter samples. TDS and sulfate concentrations do not show any strong seasonal variations although first quarter samples have had higher concentrations the last several years followed by lower concentrations in the second quarter samples, potentially related to greater influx from snow melt.

As part of the additional data evaluation prescribed in Section 6.3.2.1 of the WQMP, a statistical evaluation was then performed comparing the most recent 4 sampling results against the 80th percentile upper prediction limit (UPL), and the most recent 2 sampling results against the 95th percentile UPL. The 80th and 95th percentile values were calculated, conservatively using baseline data collected from 2011 through 2021. The table below presents the evaluation of the data collected during 2022 relative to the UPL values. As indicated, the dissolved iron and manganese concentrations observed during both the 2nd and 3rd quarters exceed the 95th percentile UPL values. Despite these observed iron and manganese values, the more stable indicator parameters of sulfate and TDS have remained generally stable over the last several years.

Sample Date	Iron Diss (mg/l)	Manganese Diss (mg/l)	Sulfate Diss (mg/l)	TDS (mg/l)
03/29/2022	1.6	0.87	614	1060
06/16/2022	4.8	1.18	497	934
09/01/2022	5.4	1.37	491	996
12/27/2022	1.8	0.86	505	986
80th % UPL	2.3	0.89	540	1030
95th % UPL	2.7	0.97	593	1074

UPL values calculated using baseline data from 2011 - 2021

Out of an abundance of caution, Climax is implementing increased monitoring frequencies in 2023 at wells EVMW-1S, EVMW-1D and EVMW-004 (wells closest to the above area of evaluation) in accordance with Section 6.3.2.4 of the Climax WQMP. These wells will be monitored monthly for the remainder of 2023 (March through December) in addition to quarterly monitoring of water quality in Robinson Lake and Robinson Lake Seep.

Discussion of Results: Outlier Identification and Data Validation

The 2022 groundwater and surface water data were analyzed for outliers. One possible data quality issue was identified when a duplicate and primary sample in the December 2022 sample from well EV-MW-004 were reported. On the primary sample, fluoride was reported as non-detect while the duplicate sample was reported at 0.31 mg/L. The 0.31 mg/L value is below the practical quantitation limit (0.35 mg/L) but above the method detection limit (0.15 mg/L) and was therefore flagged by the laboratory as an estimated value. As a result, this is not considered a data validation/quality issue. No other potential outliers or invalid data were identified in 2022 data.

Changes Over the Preceding Year Regarding any Disturbances to the Prevailing Hydrologic Balance

Climax has not identified any changes over the preceding year (2022) regarding any disturbances to the prevailing hydrologic balance within the permitted affected area.

Changes Over the Preceding Year Regarding any Disturbances of the Quality and Quantity of Water in Surface and Groundwater Systems

Except as discussed herein (see above discussion regarding water quality at well EVMW-1S), Climax has not identified any changes over the preceding year (2022), regarding any disturbances to the quality and quantity of water in surface and groundwater systems within the permitted affected area.

Table 1 - Indicator Parameters
5-Year Groundwater Quality Monitoring Data
Climax Mine

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Fluoride (mg/L)
ARwell	02/26/2018	0.00005	0.0002	0.08	0.361	0.0127	0.005	7.93	31.1	174	0.51
	06/05/2018	0.00005	0.0006	0.05	0.066	0.0052	0.005	7.11	19.8	142	0.25
	09/16/2019	0.000025	0.0004	0.015	0.07	0.0046	0.005	7.16	33.1	158	0.4
	09/16/2019	0.000025	0.0004	0.015	0.07	0.004	0.005	7.16	32.3	168	0.4
	12/17/2018	0.000025	0.0004	0.01	0.171	0.0058	0.005	7.42	30.8	182	0.52
	03/20/2019	0.000025	0.0004	0.01	0.255	0.0063	0.005	7.25	30.8	184	0.5
	06/12/2019	0.000025	0.0013	0.015	0.02	0.003	0.005	7.01	17.8	156	0.2
	09/16/2019	0.000025	0.0004	0.015	0.07	0.004	0.005	7.16	32.3	168	0.4
	12/11/2019	0.000025	0.0004	0.015	0.1	0.0052	0.005	7.16	28.8	168	0.5
	03/12/2020	0.000025	0.0004	0.015	0.22	0.0062	0.005	7.05	28.1	170	0.5
	03/12/2020	0.000025	0.0004	0.04	0.23	0.0069	0.005	7.05	28.5	182	0.6
	05/19/2020	0.000025	0.0004	0.015	0.05	0.0043	0.01	7.23	24.5	176	0.3
	09/03/2020	0.000025	0.0004	0.015	0.07	0.0043	0.01	7.45	29.5	178	0.4
	11/10/2020	***	***	***	***	***	***	***	***	***	***
	03/25/2021	0.000025	0.0004	0.015	0.22	0.0062	0.005	7.05	28.1	170	0.5
	06/11/2021	0.000025	0.0004	0.04	0.159	0.00731	0.01	7.47	27.3	161	0.71
	09/23/2021	0.000025	0.0004	0.03	0.138	0.0062	0.01	7.39	29.5	172	0.53
	12/02/2021	0.000025	0.00763	0.03	0.157	0.00671	0.01	7.42	28.8	188	0.57
	03/25/2022	0.000025	0.0004	0.03	0.2	0.00716	0.05	7.54	30.9	170	0.53
	03/25/2022	0.000025	0.0004	0.03	0.22	0.00773	0.05	7.54	30.2	170	0.6
	06/20/2022	0.000025	0.0004	0.03	0.121	0.00484	0.01	7.22	29.8	164	0.36
	09/02/2022	0.000025	0.0004	0.03	0.186	0.00536	0.01	7.36	29.5	166	0.39
	12/14/2022	***	***	***	***	***	***	***	***	***	***
Numeric Protection Limit (NPL)		0.005	0.2	0.3	TBD	0.210	2.0	6.5 - 8.5	250	400	2.0

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

*** = No Sample Collected - Not Accessible (or Frozen) due to Winter Conditions

Note: Data in purple represents a duplicate sample

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Fluoride (mg/L)
ARK-MW-001D	02/26/2018	0.00005	0.0002	0.1	0.057	0.0298	0.005	8.22	31.2	193	1.72
	05/14/2018	0.00005	0.0002	0.11	0.055	0.03	0.005	7.66	37.3	203	1.83
	09/18/2018	0.000025	0.0004	0.14	0.132	0.0329	0.005	7.98	41.2	224	1.79
	12/18/2018	0.000025	0.0004	0.12	0.029	0.0303	0.005	7.97	44.5	216	1.9
	03/20/2019	0.000025	0.0004	0.11	0.039	0.0306	0.005	7.87	29.5	220	1.7
	06/12/2019	0.000025	0.0004	0.08	0.005	0.0303	0.005	7.72	41.2	214	1.9
	09/16/2019	0.000025	0.0004	0.09	0.005	0.0324	0.005	7.78	41.2	218	1.7
	12/11/2019	***	***	***	***	***	***	***	***	***	***
	03/16/2020	0.000025	0.0004	0.08	0.005	0.0306	0.005	7.98	42.6	206	1.7
	05/19/2020	0.000025	0.0004	0.11	0.005	0.0301	0.01	7.46	39.3	224	1.7
	09/22/2020	0.000025	0.0004	0.099	0.019	0.0331	0.01	8.17	42.7	212	1.8
	09/22/2020	0.000025	0.0004	0.121	0.061	0.0307	0.01	8.17	43.5	212	1.7
	11/10/2020	0.000025	0.0004	0.097	0.066	0.0289	0.01	7.96	42.8	222	1.84
	03/25/2021	***	***	***	***	***	***	***	***	***	***
	06/23/2021	0.000025	0.0004	0.129	0.091	0.0288	0.01	8.12	38.1	218	1.76
	09/23/2021	0.000025	0.0004	0.075	0.005	0.0313	0.01	7.99	40.8	218	1.89
	12/06/2021	***	***	***	***	***	***	***	***	***	***
	03/25/2022	***	***	***	***	***	***	***	***	***	***
	06/21/2022	0.000025	0.0004	0.105	0.005	0.031	0.01	7.85	45	220	1.87
	09/02/2022	0.000025	0.0004	0.124	0.012	0.0308	0.01	7.98	43.3	210	1.64
	12/14/2022	***	***	***	***	***	***	***	***	***	***
Numeric Protection Limit (NPL)		0.005	0.2	0.3	TBD	0.210	2.0	6.5 - 8.5	250	400	2.0

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

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Table 1 - Indicator Parameters
5-Year Groundwater Quality Monitoring Data
Climax Mine

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Fluoride (mg/L)
EVMW-3S	02/28/2018	0.00005	0.0008	0.03	0.034	0.0039	0.01	6.7	18.8	215	0.08
	06/11/2018	0.00005	0.0002	0.01	0.0025	0.0015	0.005	7.39	6	180	0.05
	08/22/2018	0.00005	0.0011	0.03	0.071	0.006	0.005	7.34	17.8	234	0.07
	12/17/2018	0.000025	0.0004	0.01	0.006	0.0012	0.005	7.17	11	234	0.07
	01/23/2019	***	***	***	***	***	***	***	***	***	***
	06/18/2019	0.000025	0.0004	0.015	0.08	0.0014	0.005	7.26	6.2	180	0.05
	09/17/2019	0.000025	0.0004	0.015	0.01	0.0018	0.005	7.68	11.2	244	0.05
	11/20/2019	0.000025	0.0011	0.015	0.02	0.0026	0.005	7.07	10.1	236	0.05
	03/17/2020	0.000025	0.002	0.015	0.04	0.0012	0.005	7.89	11.7	218	0.05
	06/11/2020	0.000025	0.0013	0.03	0.03	0.0013	0.01	7.54	8.6	186	0.05
	08/18/2020	0.000025	0.0028	0.03	0.02	0.0021	0.01	7.27	11.8	236	0.05
	11/02/2020	0.000025	0.0004	0.03	0.07	0.00146	0.01	7.43	11.5	252	0.06
	03/22/2021	***	***	***	***	***	***	***	***	***	***
	06/18/2021	0.000025	0.004	0.03	0.016	0.00093	0.01	7.23	10.5	200	0.075
	09/16/2021	0.000025	0.004	0.03	0.019	0.00174	0.01	7.1	10.9	268	0.075
	12/08/2021	0.000025	0.004	0.03	0.06	0.00168	0.01	7.48	10.1	240	0.075
	12/08/2021	0.000025	0.004	0.115	0.065	0.00167	0.022	7.48	14.9	246	0.075
	03/22/2022	0.000025	0.004	0.03	0.012	0.00064	0.01	7.16	15.3	246	0.075
	06/15/2022	0.000025	0.00124	0.03	0.018	0.00159	0.01	7.31	7	224	0.075
	09/14/2022	0.000025	0.00424	0.03	0.021	0.00078	0.01	7.14	7.8	106	0.075
	12/13/2022	0.000025	0.004	0.03	0.017	0.00091	0.04	7.02	9.5	244	0.075
Numeric Protection Limit (NPL)		0.005	0.2	0.3	TBD	0.210	2.0	6.5 - 8.5	250	400	None

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

Note: Data in purple represents a duplicate sample

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nd = no data collected for parameter at location during sampling event

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Fluoride (mg/L)
EVMW-3D	02/12/2018	0.00005	0.0012	0.01	0.024	0.0011	0.005	7.66	2.8	233	0.27
	06/11/2018	0.00005	0.0007	0.01	0.027	0.0009	0.005	7.74	2.8	235	0.22
	08/22/2018	0.00005	0.0002	0.01	0.079	0.0025	0.005	7.6	4.1	246	0.26
	11/13/2018	0.000025	0.0012	0.01	0.006	0.0007	0.005	7.77	3	246	0.3
	03/15/2019	***	***	***	***	***	***	***	***	***	***
	06/18/2019	0.000025	0.0004	0.015	0.03	0.0011	0.005	7.69	2.5	238	0.4
	09/17/2019	0.000025	0.0014	0.015	0.02	0.0014	0.005	7.88	5.4	208	0.3
	11/20/2019	0.000025	0.0004	0.015	0.03	0.0011	0.005	7.48	2.3	244	0.3
	03/17/2020	0.000025	0.0004	0.015	0.005	0.0006	0.005	7.78	1.9	246	0.3
	06/11/2020	0.000025	0.0004	0.03	0.02	0.0007	0.01	7.46	5.2	244	0.3
	08/18/2020	0.000025	0.0037	0.03	0.06	0.0016	0.01	7.79	2.9	272	0.2
	11/02/2020	0.000025	0.0004	0.03	0.046	0.0008	0.01	7.39	6.2	272	0.34
	03/22/2021	***	***	***	***	***	***	***	***	***	***
	06/18/2021	0.000025	0.00124	0.03	0.023	0.00078	0.01	7.71	9.4	230	0.34
	06/18/2021	0.000025	0.00129	0.03	0.021	0.00078	0.01	7.71	2.7	234	0.34
	09/16/2021	0.000141	0.0038	0.03	0.024	0.00105	0.01	7.62	4.1	246	0.31
	12/08/2021	0.000025	0.0004	0.03	0.021	0.00062	0.032	7.71	2.3	242	0.38
	03/22/2022	0.00058	0.0004	0.03	0.005	0.00068	0.01	7.92	3.4	232	0.35
	06/15/2022	0.000025	0.00217	0.03	0.017	0.00081	0.01	7.26	2.2	232	0.37
	09/14/2022	0.000142	0.0004	0.03	0.005	0.00062	0.01	7.88	3.3	210	0.27
	12/13/2022	0.000025	0.00092	0.158	0.018	0.0007	0.044	8.02	2	238	0.37
Numeric Protection Limit (NPL)		0.005	0.2	0.3	TBD	0.210	2.0	6.5 - 8.5	250	400	None

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

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Table 1 - Indicator Parameters
5-Year Groundwater Quality Monitoring Data
Climax Mine

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Fluoride (mg/L)
EV-MW-004	03/12/2018	0.00005	0.0002	0.01	0.06	0.0033	0.005	7.08	43.3	281	0.1
	06/18/2018	0.00005	0.0002	0.02	0.054	0.003	0.01	7.24	47.2	287	0.14
	08/27/2018	0.00005	0.0008	0.01	0.036	0.0031	0.01	7.38	55.4	286	0.14
	11/28/2018	0.00007	0.0034	0.01	0.011	0.0026	0.03	7.29	51.8	316	0.27
	03/15/2019	***	***	***	***	***	***	***	***	***	***
	06/20/2019	0.000025	0.0004	0.015	0.09	0.0028	0.02	7.43	49.3	304	0.2
	08/28/2019	0.000025	0.0004	0.015	0.02	0.0028	0.005	7.64	48.9	322	0.1
	11/12/2019	0.000025	0.0004	0.015	0.005	0.0027	0.005	7.23	43.7	288	0.2
	03/03/2020	***	***	***	***	***	***	***	***	***	***
	06/24/2020	0.000025	0.0004	0.03	0.08	0.0032	0.01	6.92	48.8	304	0.2
	09/02/2020	0.000025	0.0004	0.03	0.005	0.0025	0.01	7.59	44.2	286	0.1
	11/03/2020	0.000025	0.0004	0.03	0.005	0.00258	0.01	7.24	47.7	300	0.14
	03/22/2021	***	***	***	***	***	***	***	***	***	***
	06/22/2021	0.000025	0.0004	0.03	0.005	0.00258	0.01	7.52	45.9	296	0.15
	08/31/2021	0.000025	0.0004	0.03	0.017	0.00302	0.041	7.46	51.7	314	0.075
	12/09/2021	0.000025	0.0004	0.03	0.069	0.00361	0.01	7.47	48.6	296	0.15
	03/23/2022	0.000025	0.0004	0.03	0.028	0.00283	0.01	7.4	51	308	0.075
	06/16/2022	0.000025	0.0004	0.03	0.044	0.00339	0.01	7.38	50.7	304	0.075
	09/15/2022	0.000025	0.00138	0.03	0.013	0.00316	0.01	7.41	49.1	292	0.075
	12/13/2022	0.000025	0.0004	0.03	0.015	0.00248	0.01	7.41	44.2	294	0.31
	12/13/2022	0.000025	0.0004	0.03	0.016	0.00247	0.036	7.41	47.1	300	0.075
Numeric Protection Limit (NPL)		0.005	0.2	0.3	TBD	0.210	2.0	6.5 - 8.5	250	400	None

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

Note: Data in purple represents a duplicate sample

*** = No Sample Collected - Not Accessible (or Frozen) due to Winter Conditions

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Fluoride (mg/L)
TM-MW-002D	01/24/2018	0.00005	0.0002	0.01	0.0025	0.0086	0.005	7.94	56.6	158	0.45
	04/16/2018	0.00005	0.0006	0.01	0.0025	0.0092	0.01	7.81	41.7	142	0.46
	07/23/2018	0.00005	0.0002	0.01	0.0025	0.0063	0.005	8.15	59.6	174	0.44
	11/20/2018	0.000025	0.0004	0.01	0.0025	0.0066	0.005	8.32	55.4	186	0.42
	01/16/2019	0.000025	0.0004	0.01	0.005	0.0064	0.005	8.43	63.2	180	0.43
	05/30/2019	0.000025	0.0004	0.015	0.005	0.0068	0.005	8.14	54	152	0.5
	08/26/2019	0.000025	0.0004	0.015	0.005	0.0066	0.005	8.14	57.8	176	0.6
	10/22/2019	0.000025	0.0004	0.015	0.005	0.0072	0.01	7.88	58.6	182	0.4
	01/22/2020	0.000025	0.0004	0.015	0.005	0.0068	0.005	8.26	62.1	162	0.5
	05/12/2020	0.000025	0.0004	0.03	0.005	0.0058	0.01	8.08	55.5	180	0.5
	08/25/2020	0.000025	0.0009	0.03	0.005	0.0074	0.01	8.41	58.2	172	0.5
	11/19/2020	0.000025	0.0004	0.03	0.005	0.0066	0.01	8.31	54.1	172	0.39
	03/24/2021	0.000025	0.0004	0.03	0.005	0.00616	0.01	8.37	63.7	170	0.34
	06/28/2021	0.000025	0.0004	0.03	0.005	0.00636	0.01	8.39	57	182	0.62
	09/02/2021	0.000025	0.0004	0.03	0.005	0.00585	0.01	8.28	58.3	164	0.49
	11/30/2021	0.000025	0.0004	0.03	0.005	0.00596	0.01	8.31	57.6	190	0.4
	03/24/2022	0.000025	0.0004	0.03	0.005	0.00651	0.05	8.35	62.6	168	0.45
	06/13/2022	0.000025	0.00113	0.03	0.005	0.00641	0.01	8.23	59.8	178	0.46
	09/05/2022	0.000025	0.0004	0.03	0.005	0.00608	0.01	8.37	59.6	172	0.41
	12/12/2022	0.000025	0.0004	0.03	0.005	0.00643	0.026	8.48	54.9	178	0.3
Numeric Protection Limit (NPL)		0.005	0.2	0.3	0.050	0.210	2.0	6.5 - 8.5	250	400	None

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

*** = No Sample Collected - Not Accessible (or Frozen) due to Winter Conditions

Table 1 - Indicator Parameters
5-Year Groundwater Quality Monitoring Data
Climax Mine

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Fluoride (mg/L)
GW#2	01/24/2018	0.00005	0.0002	0.01	0.0025	0.0011	0.005	6.9	33.6	98.2	0.08
	04/16/2018	0.00005	0.0002	0.01	0.0025	0.0011	0.005	6.2	35.5	110	0.08
	05/09/2018	*	*	*	*	*	*	6.7	*	*	*
	06/14/2018	*	*	*	*	*	*	6.7	*	*	*
	07/23/2018	0.00005	0.0006	0.01	0.0025	0.0013	0.005	6.1	34.5	108	0.08
	08/20/2018	*	*	*	*	*	*	6.7	*	*	*
	09/27/2018	*	*	*	*	*	*	6.7	*	*	*
	10/18/2018	*	*	*	*	*	*	6.7	*	*	*
	11/20/2018	0.000025	0.0004	0.01	0.0025	0.001	0.005	6.5	35.1	138	0.07
	12/05/2018	*	*	*	*	*	*	6.7	*	*	*
	01/16/2019	0.00005	0.0004	0.01	0.0025	0.0013	0.005	6.4	46.6	144	0.08
	02/13/2019	*	*	*	*	*	*	6.7	*	*	*
	03/28/2019	*	*	*	*	*	*	6.7	*	*	*
	04/24/2019	*	*	*	*	*	*	6.7	*	*	*
	05/30/2019	*	*	*	*	*	*	6.7	*	*	*
	06/10/2019	0.000025	0.0004	0.015	0.005	0.0011	0.005	6.9	36.3	136	0.1
	07/22/2019	*	*	*	*	*	*	6.7	*	*	*
	08/26/2019	0.000025	0.0004	0.015	0.005	0.0011	0.005	7.0	37.7	136	0.05
	10/22/2019	0.000025	0.0014	0.015	0.005	0.0011	0.03	6.3	40.6	128	0.05
	11/21/2019	*	*	*	*	*	*	6.7	*	*	*
	12/19/2019	*	*	*	*	*	*	6.7	*	*	*
	01/22/2020	0.000025	0.0004	0.015	0.005	0.0011	0.03	6.72	54.5	138	0.05
	02/18/2020	*	*	*	*	*	*	6.53	*	*	*
	03/19/2020	*	*	*	*	*	*	6.63	*	*	*
	04/13/2020	*	*	*	*	*	*	6.77	*	*	*
	05/12/2020	0.000025	0.0004	0.03	0.005	0.001	0.01	6.79	47.2	142	0.05
	06/10/2020	*	*	*	*	*	*	6.78	*	*	*
	07/08/2020	*	*	*	*	*	*	6.56	*	*	*
	08/25/2020	0.000025	0.0004	0.03	0.005	0.0012	0.01	6.22	42.5	128	0.4
	09/30/2020	*	*	*	*	*	*	6.97	*	*	*
	10/15/2020	*	*	*	*	*	*	6.4	*	*	*
	11/19/2020	0.000025	0.0004	0.03	0.005	0.00122	0.027	6.44	47.4	144	0.06
	12/21/2020	*	*	*	*	*	*	6.23	*	*	*
	01/28/2021	*	*	*	*	*	*	6.57	*	*	*
	02/23/2021	*	*	*	*	*	*	6.65	*	*	*
	03/24/2021	0.000025	0.0004	0.03	0.005	0.001	0.01	6.6	69.8	154	0.08
	04/28/2021	*	*	*	*	*	*	6.77	*	*	*
	05/27/2021	*	*	*	*	*	*	6.65	*	*	*
	06/28/2021	0.000025	0.0004	0.03	0.005	0.00099	0.032	6.53	45.6	115	0.89
	07/27/2021	*	*	*	*	*	*	6.47	*	*	*
	08/17/2021	*	*	*	*	*	*	6.51	*	*	*
	09/02/2021	0.000025	0.0004	0.03	0.005	0.00105	0.01	6.46	60	146	0.08
	10/26/2021	*	*	*	*	*	*	6.64	*	*	*
	11/30/2021	0.000025	0.0004	0.03	0.005	0.00106	0.02	6.51	59.5	176	0.08
	12/22/2021	*	*	*	*	*	*	6.37	*	*	*
	01/31/2022	*	*	*	*	*	*	6.32	*	*	*
	02/22/2022	*	*	*	*	*	*	6.32	*	*	*
	03/24/2022	0.00025	0.0004	0.03	0.005	0.00107	0.01	6.4	72.2	172	0.08
	04/26/2022	*	*	*	*	*	*	6.47	*	*	*
	05/25/2022	*	*	*	*	*	*	6.4	*	*	*
	06/13/2022	0.00025	0.0004	0.03	0.005	0.0011	0.01	6.54	53.3	154	0.08
	07/20/2022	*	*	*	*	*	*	6.19	*	*	*
	08/23/2022	*	*	*	*	*	*	6.43	*	*	*
	09/05/2022	0.00025	0.0004	0.03	0.005	0.00105	0.01	6.57	57.1	152	0.08
	10/28/2022	0.00025	0.0004	0.03	0.005	0.0011	0.027	6.47	57.3	152	0.08
	10/28/2022	0.00025	0.0004	0.03	0.005	0.00113	0.01	6.47	60.1	150	0.08
	11/22/2022	*	*	*	*	*	*	6.53	*	*	*
	12/12/2022	*	*	*	*	*	*	6.61	*	*	*
Numeric Protection Limit (NPL)		0.005	0.2	0.3	0.050	0.210	2.0	6.5 - 8.5	250	400	None

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

Note: Data in purple represents a duplicate sample

Note: Red italicized data are NPL exceedances for site, which have been communicated to DRMS and investigations are currently ongoing.

* Monthly pH data collection at GW#2 did not include sampling for other parameters

Table 1 - Indicator Parameters
5-Year Groundwater Quality Monitoring Data
Climax Mine

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Fluoride (mg/L)
TM-MW-001D	01/24/2018	0.00005	0.0002	0.01	0.005	0.0423	0.005	8.22	178	313	3.08
	04/16/2018	0.00005	0.0002	0.01	0.0025	0.0405	0.005	7.92	176	322	3.16
	07/23/2018	0.00005	0.0002	0.01	0.0025	0.0391	0.005	8.07	182	346	3.28
	11/20/2018	0.000025	0.0004	0.01	0.0025	0.0361	0.005	8.37	184	354	3.29
	01/15/2019	0.00005	0.0004	0.01	0.01	0.0362	0.005	8.56	192	354	3.9
	06/10/2019	0.000025	0.0004	0.015	0.005	0.0413	0.005	8.06	187	354	3.2
	08/26/2019	0.00005	0.0004	0.015	0.005	0.0384	0.005	8.17	183	342	3.1
	10/23/2019	0.000025	0.0004	0.015	0.005	0.0399	0.005	8.06	194	348	3.2
	03/11/2020	0.00009	0.0004	0.015	0.005	0.0398	0.005	8.26	176	336	3.3
	05/12/2020	0.00006	0.0004	0.03	0.005	0.0365	0.01	8.14	174	350	3.3
	08/25/2020	0.000025	0.0004	0.03	0.005	0.0393	0.01	8.5	186	342	3
	11/19/2020	0.000025	0.0004	0.03	0.005	0.037	0.01	8.45	180	338	3.36
	11/19/2020	0.000025	0.0004	0.03	0.081	0.0479	0.01	8.45	179	338	3.34
	03/24/2021	0.000059	0.0004	0.03	0.005	0.0367	0.01	8.44	195	330	3.02
	06/28/2021	0.000025	0.0004	0.03	0.005	0.0369	0.01	8.55	182	318	3.29
	09/02/2021	0.000025	0.0004	0.03	0.005	0.0403	0.01	8.45	183	344	3.31
	12/02/2021	0.000025	0.0004	0.03	0.005	0.0375	0.01	8.48	176	348	3.24
	03/24/2022	0.000025	0.0004	0.03	0.005	0.0378	0.01	8.49	194	334	3.2
	06/13/2022	0.000025	0.0004	0.03	0.005	0.0376	0.01	8.11	192	342	3.27
	06/13/2022	0.000025	0.0004	0.03	0.005	0.0376	0.01	8.11	189	338	3.29
	09/05/2022	0.000025	0.0004	0.03	0.005	0.0368	0.01	8.44	197	336	3.09
	12/12/2022	0.000056	0.0004	0.03	0.005	0.0374	0.023	8.48	186	334	3.23

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

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Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Fluoride (mg/L)
GW#1	01/24/2018	0.0019	0.0011	0.01	0.0025	0.16	0.37	7.79	192	335	1.1
	04/16/2018	0.0013	0.0002	0.01	0.0025	0.145	0.35	5.95	189	332	1.02
	07/23/2018	0.0016	0.0002	0.01	0.0025	0.14	0.37	6.32	194	382	1.05
	11/20/2018	0.00193	0.0012	0.01	0.0025	0.132	0.36	6.2	199	394	1.14
	01/15/2019	0.00219	0.0016	0.01	0.0025	0.137	0.41	6.21	229	396	1.2
	06/10/2019	0.00152	0.0016	0.015	0.005	0.127	0.3	6.93	147	316	1
	08/26/2019	0.00037	0.0004	0.015	0.005	0.127	0.35	6.86	178	346	0.9
	10/23/2019	0.00196	0.0034	0.015	0.005	0.134	0.39	6.96	187	374	1.1
	03/11/2020	0.00209	0.0027	0.015	0.005	0.141	0.46	6.51	205	390	1.1
	05/12/2020	0.00161	0.0013	0.03	0.005	0.118	0.33	6.74	159	346	1.1
	08/25/2020	0.00193	0.0014	0.03	0.005	0.127	0.48	6.48	189	370	0.9
	11/19/2020	0.00211	0.00208	0.03	0.005	0.124	0.453	6.44	189	392	1.14
	03/24/2021	0.00228	0.00213	0.03	0.005	0.126	0.441	6.51	236	392	1.13
	06/28/2021	0.00205	0.00161	0.03	0.005	0.118	0.431	6.43	219	365	1.15
	09/02/2021	0.00227	0.00186	0.03	0.005	0.127	0.432	6.24	230	420	1.23
	12/02/2021	0.00244	0.00202	0.03	0.005	0.129	0.441	6.32	218	428	1.19
	03/24/2022	0.00236	0.00164	0.03	0.005	0.13	0.438	6.3	229	418	1.14
	06/13/2022	0.0021	0.0016	0.03	0.005	0.119	0.398	6.22	202	380	1.1
	09/05/2022	0.00233	0.00188	0.03	0.005	0.125	0.454	6.1	242	422	1.07
	12/12/2022	0.00256	0.00199	0.03	0.005	0.123	0.492	6.38	247	430	1.1

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

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Climax Mine

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Zinc, Dissolved (mg/L)	pH (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Fluoride (mg/L)
ARK-MW-002S	03/12/2018	0.00005	0.0005	1.29	3.38	0.0118	0.01	6.53	1.9	601	0.11
	05/14/2018	0.00005	0.0002	3.17	3.6	0.0143	0.005	7.24	0.5	623	0.12
	09/17/2018	0.00006	0.0004	8.14	4.38	0.0081	0.005	6.89	0.5	680	0.14
	11/21/2018	0.000025	0.0004	6.08	3.45	0.0071	0.005	6.75	1.4	680	0.12
	03/28/2019	0.00006	0.0004	4.82	3.5	0.0076	0.01	7.1	8	638	0.14
	06/12/2019	0.000025	0.0004	1.78	3.74	0.0051	0.005	7.01	4.5	660	0.05
	09/17/2019	0.000025	0.0004	5.78	3.88	0.0041	0.005	7.1	0.5	648	0.1
	12/11/2019	0.000025	0.0004	6.21	4.04	0.0052	0.005	6.77	0.5	678	0.2
	03/16/2020	0.00006	0.0004	0.67	3.26	0.0059	0.005	6.92	8.2	644	0.1
	06/25/2020	0.000025	0.0004	4.36	4.2	0.0037	0.005	7.2	5	666	0.05
	09/03/2020	0.000025	0.0004	4.22	4.28	0.0039	0.01	7.13	0.5	654	0.1
	11/06/2020	0.000093	0.0004	3.7	3.91	0.00313	0.01	6.99	1.5	664	0.14
	03/25/2021	0.00005	0.0004	3.21	3.47	0.00517	0.01	7.15	1.4	650	0.25
	03/25/2021	0.00005	0.0004	3.33	3.71	0.00549	0.01	7.15	0.5	650	0.075
	06/14/2021	0.000025	0.0004	3.65	4.07	0.0104	0.01	6.89	0.5	605	0.075
	09/22/2021	0.000025	0.0004	4.19	4.26	0.00223	0.01	6.93	12.5	648	0.075
	12/06/2021	***	***	***	***	***	***	***	***	***	***
	03/28/2022	0.000025	0.0004	4.55	3.69	0.214	0.01	7.06	0.5	632	0.16
	06/20/2022	0.000025	0.0004	3.45	4.18	0.00493	0.01	6.94	1	628	0.16
	09/02/2022	0.000025	0.0004	2.99	3.82	0.00332	0.01	6.91	0.5	608	0.075
	12/14/2022	***	***	***	***	***	***	***	***	***	***

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

Note: Data in purple represents a duplicate sample

*** = No Sample Collected - Not Accessible (or Frozen) due to Winter Conditions

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Fluoride (mg/L)
ARK-MW-002D	03/12/2018	0.00005	0.0002	0.01	0.047	0.0237	0.005	8.74	22.7	249	7.22
	05/14/2018	0.00005	0.0002	0.01	0.054	0.0232	0.04	8.3	29.9	283	7.95
	09/17/2018	0.000025	0.0004	0.01	0.006	0.0256	0.005	8.59	15.4	262	7.47
	11/21/2018	0.000025	0.0004	0.01	0.037	0.0238	0.005	8.57	28.7	308	7.72
	03/28/2019	0.000025	0.0004	0.01	0.045	0.0245	0.005	8.65	28.3	336	7.83
	03/28/2019	0.000025	0.0004	0.01	0.046	0.0242	0.005	8.65	24.7	348	7.83
	06/12/2019	0.000025	0.0004	0.015	0.02	0.0238	0.005	8.81	17.3	288	8.2
	09/17/2019	0.000025	0.0012	0.11	0.005	0.0233	0.005	8.97	14.6	270	7.4
	12/11/2019	0.000025	0.0004	0.06	0.03	0.0298	0.005	8.31	24.9	286	8
	03/16/2020	0.000025	0.0004	0.015	0.005	0.0231	0.005	8.46	13.1	242	7.6
	06/25/2020	0.000025	0.0004	0.03	0.01	0.0233	0.01	8.68	17	284	8
	09/03/2020	0.000025	0.0004	0.03	0.01	0.0257	0.01	8.49	16.7	294	7.3
	11/06/2020	0.000025	0.0004	0.03	0.005	0.0237	0.01	8.73	15.4	274	7.68
	03/25/2021	0.000025	0.0004	0.03	0.018	0.0273	0.01	8.81	18.5	282	7.82
	06/14/2021	0.000025	0.0004	0.03	0.034	0.0285	0.01	8.83	23.1	286	7.42
	09/22/2021	0.000025	0.0004	0.03	0.005	0.0287	0.01	8.83	18.1	258	8.04
	12/06/2021	0.000025	0.0004	0.03	0.026	0.0325	0.01	8.75	20.8	292	8.11
	03/28/2022	0.000025	0.0004	0.03	0.025	0.0269	0.05	8.68	17.7	272	7.63
	06/17/2022	0.000025	0.0004	0.03	0.012	0.0282	0.01	8.67	16.9	286	8
	09/02/2022	0.000025	0.0004	0.03	0.011	0.0252	0.01	8.65	15.1	238	7.34
	12/15/2022	0.000025	0.0004	0.03	0.005	0.0302	0.01	8.9	14.4	256	7.72

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

Table 1 - Indicator Parameters
5-Year Groundwater Quality Monitoring Data
Climax Mine

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Zinc, Dissolved (mg/L)	pH (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Fluoride (mg/L)
EVMW-1D	01/29/2018	0.00005	0.0002	0.01	0.155	0.0035	0.02	7.49	379	650	0.15
	04/23/2018	0.00005	0.0002	0.03	0.126	0.0023	0.04	7.41	406	674	0.15
	08/27/2018	0.00005	0.0006	0.05	0.187	0.003	0.005	7.68	398	664	0.2
	11/13/2018	0.000025	0.0011	0.01	0.168	0.0022	0.005	7.64	382	718	0.15
	01/22/2019	0.000025	0.0004	0.06	0.181	0.0031	0.01	7.67	356	702	0.2
	06/20/2019	0.000025	0.0004	0.04	0.18	0.0021	0.06	7.94	384	706	0.1
	08/28/2019	0.000025	0.0012	0.19	0.21	0.0031	0.03	7.75	409	712	0.1
	11/12/2019	0.000025	0.0004	0.18	0.13	0.0022	0.005	7.46	433	716	0.1
	03/10/2020	0.000025	0.0004	0.12	0.17	0.0021	0.005	7.89	398	754	0.1
	05/13/2020	0.000025	0.0004	0.07	0.14	0.0024	0.01	8.08	356	718	0.2
	09/02/2020	0.000025	0.0004	0.1	0.24	0.0023	0.01	7.82	394	724	0.1
	11/06/2020	0.000025	0.0004	0.193	0.16	0.00182	0.01	7.73	398	730	0.13
	02/24/2021	0.000025	0.0004	0.093	0.188	0.0024	0.01	7.6	451	732	0.16
	06/15/2021	0.000025	0.0004	0.122	0.298	0.0021	0.01	7.56	413	703	0.075
	08/31/2021	0.000025	0.0004	0.003	0.051	0.00183	0.035	7.61	419	728	0.075
	12/01/2021	0.000025	0.0004	0.108	0.195	0.00187	0.01	7.64	443	712	0.075
	03/30/2022	***	***	***	***	***	***	***	***	***	***
	06/16/2022	0.000025	0.0011	0.102	0.288	0.00236	0.01	7.49	418	738	0.17
	09/01/2022	0.000025	0.0004	0.19	0.3	0.00183	0.01	7.51	386	748	0.075
	12/27/2022	0.000025	0.0004	0.283	0.281	0.00252	0.01	7.46	369	732	0.16

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Fluoride (mg/L)
EVMW-1S	01/29/2018	0.00005	0.0002	1.08	0.609	0.394	0.02	7.4	468	841	0.15
	04/23/2018	0.00005	0.0002	1.47	0.74	0.335	0.01	6.8	520	898	0.2
	09/18/2018	0.000025	0.0004	1.65	0.733	0.424	0.005	7.2	478	916	0.22
	12/17/2018	0.00007	0.0004	1.88	0.672	0.4	0.005	7.38	505	958	0.2
	01/22/2019	0.000025	0.0004	1.83	0.802	0.377	0.005	7.19	509	976	0.24
	06/18/2019	0.00008	0.0004	1.68	0.57	0.372	0.005	7.2	452	896	0.2
	08/28/2019	0.000025	0.0004	2.15	0.88	0.361	0.01	7.42	512	954	0.2
	11/12/2019	0.000025	0.0004	2.19	0.89	0.368	0.005	7.04	507	946	0.2
	03/09/2020	0.00009	0.0004	1.53	0.83	0.338	0.005	7.25	589	1080	0.2
	06/15/2020	0.00007	0.0004	2.08	0.75	0.332	0.01	7.28	493	932	0.2
	09/02/2020	0.00007	0.0004	2.45	0.93	0.366	0.01	7.19	539	1030	0.2
	11/06/2020	0.000025	0.0004	1.7	0.897	0.346	0.01	7.33	541	1030	0.21
	02/24/2021	0.000109	0.0004	1.42	0.798	0.333	0.01	7.41	635	1070	0.2
	06/15/2021	0.000052	0.0004	2.46	0.883	0.338	0.01	7.25	519	911	0.24
	08/31/2021	0.000111	0.0004	2.55	0.996	0.332	0.01	7.25	554	1050	0.26
	12/01/2021	0.000025	0.0004	2.48	0.918	0.328	0.01	7.27	578	1030	0.25
	03/29/2022	0.000061	0.0004	1.6	0.868	0.372	0.01	7.17	614	1060	0.23
	06/16/2022	0.000025	0.0004	4.79	1.18	0.291	0.01	7.03	497	934	0.41
	09/01/2022	0.000084	0.0004	5.39	1.37	0.309	0.01	7.05	491	996	0.41
	12/27/2022	0.000051	0.0004	1.84	0.855	0.374	0.01	7.01	505	986	0.18

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

Table 1 - Indicator Parameters
5-Year Groundwater Quality Monitoring Data
Climax Mine

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Fluoride (mg/L)
EVMW-2	03/12/2018	0.00005	0.0015	0.01	0.033	0.0025	0.005	7.31	20	276	0.025
	06/05/2018	0.00005	0.0016	0.01	0.016	0.0006	0.01	7.58	16.2	277	0.025
	08/27/2018	0.00005	0.0022	0.01	0.021	0.0039	0.005	7.48	52.9	274	0.06
	11/29/2018	0.000025	0.0014	0.01	0.051	0.0045	0.005	7.69	40.4	304	0.11
	01/23/2019	***	***	***	***	***	***	***	***	***	***
	06/20/2019	0.000025	0.0004	0.015	0.06	0.0027	0.005	7.65	26.8	292	0.05
	08/28/2019	0.000025	0.0011	0.015	0.02	0.0013	0.005	7.81	19.4	288	0.05
	12/10/2019	0.000025	0.0019	0.015	0.06	0.0184	0.01	7.73	32	326	0.05
	12/10/2019	0.000025	0.0021	0.015	0.1	0.0263	0.01	7.73	34.6	328	0.05
	03/03/2020	***	***	***	***	***	***	***	***	***	***
	06/24/2020	0.000025	0.0009	0.03	0.04	0.0029	0.01	7.28	24	304	0.05
	09/02/2020	0.000025	0.0012	0.03	0.02	0.003	0.01	7.76	22.6	286	0.05
	11/03/2020	0.000025	0.0013	0.03	0.022	0.00623	0.01	7.8	37.2	322	0.06
	02/24/2021	***	***	***	***	***	***	***	***	***	***
	06/04/2021	0.000025	0.00098	0.03	0.028	0.0074	0.01	7.72	41.6	338	0.075
	08/31/2021	0.000025	0.00104	0.03	0.017	0.00225	0.01	7.74	25.5	308	0.075
	12/08/2021	0.000025	0.0004	0.03	0.038	0.00242	0.03	7.75	25.2	286	0.075
	03/23/2022	***	***	***	***	***	***	***	***	***	***
	06/21/2022	0.000025	0.0004	0.03	0.055	0.00319	0.01	7.61	31.8	302	0.075
	09/01/2022	0.000025	0.00296	0.03	0.028	0.0023	0.01	7.59	16.2	288	0.075
	12/27/2022	***	***	***	***	***	***	***	***	***	***

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

*** = No Sample Collected - Not Accessible (or Frozen) due to Winter Conditions

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Fluoride (mg/L)
EVS-1	03/19/2018	***	***	***	***	***	***	***	***	***	***
	06/11/2018	0.00005	0.0002	0.01	0.0025	0.0055	0.005	8.09	19.9	130	0.23
	08/27/2018	**	**	**	**	**	**	**	**	**	**
	11/13/2018	***	***	***	***	***	***	***	***	***	***
	03/15/2019	***	***	***	***	***	***	***	***	***	***
	06/26/2019	0.000025	0.0011	0.015	0.005	0.0921	0.005	7.83	37.7	226	0.4
	09/18/2019	**	**	**	**	**	**	**	**	**	**
	11/12/2019	0.000025	0.0004	2.19	0.89	0.368	0.005	7.04	507	946	0.2
	03/15/2020	**	**	**	**	**	**	**	**	**	**
	06/25/2020	0.000025	0.0017	0.03	0.005	0.109	0.01	7.65	41	268	0.4
	06/25/2020	0.000025	0.0017	0.03	0.005	0.11	0.01	7.65	41.5	260	0.5
	09/01/2020	**	**	**	**	**	**	**	**	**	**
	10/05/2020	**	**	**	**	**	**	**	**	**	**
	02/24/2021	***	***	***	***	***	***	***	***	***	***
	06/22/2021	0.000025	0.00207	0.03	0.005	0.12	0.01	7.79	88.7	350	0.44
	09/02/2021	**	**	**	**	**	**	**	**	**	**
	12/09/2021	***	***	***	***	***	***	***	***	***	***
	03/30/2022	***	***	***	***	***	***	***	***	***	***
	06/22/2022	0.000025	0.0004	0.03	0.005	0.00561	0.01	7.99	29.7	152	0.55
	09/01/2022	0.000051	0.00164	0.03	0.005	0.138	0.01	7.93	31.5	322	0.49
	12/13/2022	***	***	***	***	***	***	***	***	***	***

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

Note: Data in purple represents a duplicate sample

** = No Sample Collected - Insufficient flow (or dry) due to late summer dry conditions

*** = No Sample Collected - Not Accessible (or Frozen) due to Winter Conditions

Table 1 - Indicator Parameters
5-Year Groundwater Quality Monitoring Data
Climax Mine

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Fluoride (mg/L)
EVS-2	03/19/2018	***	***	***	***	***	***	***	***	***	***
	06/11/2018	0.00005	0.0002	0.01	0.0025	0.0061	0.005	7.8	11.2	113	0.14
	08/27/2018	0.00005	0.0002	0.01	0.0025	0.0087	0.005	8.27	28.6	174	0.32
	11/13/2018	***	***	***	***	***	***	***	***	***	***
	03/15/2019	***	***	***	***	***	***	***	***	***	***
	06/26/2019	0.000025	0.0004	0.015	0.005	0.0071	0.005	7.87	10.7	116	nd
	09/18/2019	0.000025	0.0004	0.015	0.005	0.0077	0.005	8.26	30.4	184	0.3
	11/13/2019	0.000025	0.0004	0.015	0.005	0.006	0.005	7.85	39.2	220	0.2
	03/15/2020	***	***	***	***	***	***	***	***	***	***
	06/25/2020	0.000025	0.0004	0.03	0.005	0.0071	0.01	7.51	13	128	0.2
	09/01/2020	0.000025	0.0004	0.03	0.005	0.0073	0.01	8.21	30.9	192	0.3
	10/05/2020	0.000025	0.0004	0.03	0.005	0.00728	0.01	7.79	31.6	198	0.3
	02/24/2021	***	***	***	***	***	***	***	***	***	***
	06/22/2021	0.000025	0.0004	0.03	0.005	0.00749	0.01		17.7	158	0.27
	09/02/2021	0.000025	0.0004	0.03	0.005	0.00863	0.01	8.16	31.3	194	0.32
	12/09/2021	***	***	***	***	***	***	***	***	***	***
	03/30/2022	***	***	***	***	***	***	***	***	***	***
	06/22/2022	0.000025	0.0004	0.03	0.005	0.00757	0.01	7.48	13.8	142	0.3
	09/01/2022	0.000025	0.0004	0.03	0.005	0.00887	0.01	8.06	33.2	216	0.26
	12/13/2022	***	***	***	***	***	***	***	***	***	***

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

*** = No Sample Collected - Not Accessible (or Frozen) due to Winter Conditions

nd = no data collected for parameter at location during sampling event

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Fluoride (mg/L)
EVS-3	03/19/2018	***	***	***	***	***	***	***	***	***	***
	06/11/2018	0.00005	0.0015	0.01	0.0025	0.0751	0.005	7.84	20.9	247	0.44
	08/27/2018	0.00005	0.0007	0.01	0.0025	0.0065	0.005	8.08	45.5	210	0.38
	11/13/2018	***	***	***	***	***	***	***	***	***	***
	03/15/2019	***	***	***	***	***	***	***	***	***	***
	06/26/2019	0.000025	0.0004	0.01	0.0025	0.0064	0.005	7.86	18.7	128	0.3
	09/18/2019	0.000025	0.0004	0.01	0.0025	0.0065	0.005	8.34	37.5	214	0.4
	11/13/2019	***	***	***	***	***	***	***	***	***	***
	03/15/2020	***	***	***	***	***	***	***	***	***	***
	06/25/2020	0.000025	0.0004	0.03	0.005	0.0051	0.01	7.99	17.1	138	0.3
	09/01/2020	0.000025	0.0004	0.03	0.005	0.006	0.01	7.98	39	214	0.3
	10/05/2020	0.000025	0.0004	0.03	0.018	0.00512	0.01	7.62	39.9	238	0.3
	02/24/2021	***	***	***	***	***	***	***	***	***	***
	06/22/2021	0.000025	0.0004	0.03	0.005	0.0064	0.01	8.01	24	147	0.39
	09/02/2021	***	***	***	***	***	***	***	***	***	***
	12/09/2021	***	***	***	***	***	***	***	***	***	***
	03/30/2022	***	***	***	***	***	***	***	***	***	***
	06/22/2022	0.000025	0.00183	0.03	0.005	0.133	0.01	7.71	34.1	268	0.54
	09/01/2022	0.000025	0.0004	0.03	0.005	0.00746	0.01	8.05	39.9	236	0.37
	12/13/2022	***	***	***	***	***	***	***	***	***	***

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

** = No Sample Collected - Insufficient flow (or dry) due to late summer dry conditions

*** = No Sample Collected - Not Accessible (or Frozen) due to Winter Conditions

Table 2 - Indicator Parameters
5-Year Surface Water Quality Monitoring Data
Climax Mine

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Iron, Total Recoverable (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)
Arkansas #1	03/15/2018	***	***	***	***	***	***
	06/18/2018	0.00005	0.0008	0.04	0.09	0.012	0.0013
	09/10/2018	0.00005	0.0002	0.08	0.1	0.012	0.0019
	07/15/2019	0.000025	0.0004	0.015	0.06	0.005	0.0014
	11/06/2019	0.000025	0.0004	0.05	0.08	0.02	0.002
	06/22/2020	0.000025	0.001	0.03	0.08	0.01	0.0015
	08/31/2020	0.000025	0.0004	0.06	0.1	0.02	0.0017
	06/17/2021	0.000052	0.00093	0.03	0.075	0.05	0.00147
	09/21/2021	0.000025	0.0004	0.101	0.151	0.02	0.00195
	06/21/2022	0.000025	0.0004	0.068	0.091	0.05	0.00139
	09/26/2022	0.000051	0.0004	0.03	0.097	0.05	0.0018

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

*** = No Sample Collected - Not Accessible (or Frozen) due to Winter Conditions

Location	Sample Date	Molybdenum, Total Recoverable (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Hardness (mg/L)
Arkansas #1	03/15/2018	***	***	***	***	***	***
	06/18/2018	nd	0.01	7.02	5.7	24	19
	09/10/2018	0.0019	0.005	7.33	23.7	140	65
	07/15/2019	0.0014	0.01	7.51	4.4	24	18
	11/06/2019	0.0019	0.02	8.46	20.1	70	51
	06/22/2020	0.0014	0.01	6.82	5.4	50	21
	08/31/2020	0.0016	0.01	7.99	24.4	60	51
	06/17/2021	0.00127	0.01	7.6	5.4	34	20
	09/21/2021	0.002	0.01	7.94	27.2	76	58
	06/21/2022	0.00124	0.01	7.6	17.4	28	22
	09/26/2022	0.00185	0.01	7.59	34.9	92	69

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

*** = No Sample Collected - Not Accessible (or Frozen) due to Winter Conditions

nd = No Data. Pre-dates data collection at location.

Table 2 - Indicator Parameters
5-Year Surface Water Quality Monitoring Data
Climax Mine

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Iron, Total Recoverable (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)
Arkansas #2	03/15/2018	***	***	***	***	***	***
	06/18/2018	<i>0.00005</i>	0.0007	0.05	0.08	0.021	0.0029
	09/10/2018	<i>0.00005</i>	0.0004	0.07	0.1	0.049	0.0075
	07/15/2019	<i>0.000025</i>	<i>0.0004</i>	0.03	0.07	0.02	0.0027
	11/06/2019	<i>0.000025</i>	<i>0.0004</i>	0.05	0.13	0.14	0.0143
	06/22/2020	0.00006	0.0009	<i>0.03</i>	0.09	0.03	0.0038
	08/31/2020	<i>0.000025</i>	<i>0.0004</i>	<i>0.03</i>	0.09	0.04	0.0056
	03/30/2021	***	***	***	***	***	***
	06/17/2021	0.00005	<i>0.0004</i>	<i>0.03</i>	0.072	0.017	0.00278
	09/21/2021	<i>0.000025</i>	<i>0.0004</i>	0.062	0.113	0.059	0.00759
	06/21/2022	<i>0.000025</i>	0.0009	<i>0.03</i>	0.071	0.023	0.00313
	09/02/2022	<i>0.000025</i>	<i>0.0004</i>	0.076	<i>0.03</i>	0.03	0.00489

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

*** = No Sample Collected - Not Accessible (or Frozen) due to Winter Conditions

Location	Sample Date	Molybdenum, Total Recoverable (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Hardness (mg/L)
Arkansas #2	03/15/2018	***	***	***	***	***	***
	06/18/2018	<i>nd</i>	0.01	7.58	6.2	36	25
	09/10/2018	0.0081	<i>0.005</i>	8.2	<i>0.5</i>	76	58
	07/15/2019	0.0031	0.01	7.39	16.5	26	20
	11/06/2019	0.0132	0.01	7.82	25.1	94	64
	06/22/2020	0.0036	0.02	6.99	8.2	50	26
	08/31/2020	0.0054	<i>0.01</i>	8.12	16.9	58	47
	06/17/2021	0.00272	<i>0.01</i>	7.68	5.8	38	22
	09/21/2021	0.00776	<i>0.01</i>	8.94	23.2	78	60
	06/21/2022	0.0028	<i>0.01</i>	7.72	8.3	28	25
	09/02/2022	0.00504	<i>0.01</i>	8.23	26.2	74	56

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

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nd = No Data. Pre-dates data collection at location.

Table 2 - Indicator Parameters
5-Year Surface Water Quality Monitoring Data
Climax Mine

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Iron, Total Recoverable (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)
AI	02/12/2018	0.00005	0.0002	0.01	0.01	0.0025	0.0006
	06/11/2018	0.00005	0.0002	0.04	0.07	0.0025	0.0006
	09/10/2018	0.00005	0.0002	0.01	0.01	0.0025	0.00025
	06/26/2019	0.000025	0.0004	0.04	0.13	0.005	0.0006
	11/20/2019	0.000025	0.0004	0.015	0.015	0.01	0.0315
	06/11/2020	0.000025	0.0004	0.03	0.03	0.005	0.0101
	09/21/2020	0.000025	0.0004	0.03	0.03	0.005	0.025
	06/18/2021	0.000025	0.0004	0.03	0.089	0.005	0.0016
	09/16/2021	0.000025	0.0004	0.03	0.03	0.005	0.0336
	06/15/2022	0.000025	0.0004	0.03	0.188	0.005	0.0272
	09/14/2022	0.000025	0.0004	0.03	0.03	0.005	0.0327

Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

*** = No Sample Collected - Not Accessible (or Frozen) due to Winter Conditions

Location	Sample Date	Molybdenum, Total Recoverable (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Hardness (mg/L)
AI	02/12/2018	<i>nd</i>	0.01	7.92	9.5	100	83
	06/11/2018	<i>nd</i>	0.005	7.47	0.5	258	43
	09/10/2018	0.00025	0.005	7.68	1.1	92	74
	06/26/2019	0.0009	0.005	7.84	0.5	50	36
	11/20/2019	0.0319	0.005	7.81	30.2	120	54
	06/11/2020	0.0115	0.01	7.39	13	88	61
	09/21/2020	0.0264	0.01	8.48	24.8	120	93
	06/18/2021	0.00345	0.01	7.98	6.1	60	49
	09/16/2021	0.0325	0.01	8.22	23.4	116	104
	06/15/2022	0.0275	0.01	7.85	24.2	120	94
	09/14/2022	0.0336	0.01	8.22	26.2	178	102

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

*** = No Sample Collected - Not Accessible (or Frozen) due to Winter Conditions

nd = No Data. Pre-dates data collection at location.

Table 2 - Indicator Parameters
5-Year Surface Water Quality Monitoring Data
Climax Mine

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Iron, Total Recoverable (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)
BI	02/12/2018	0.00005	0.0002	0.01	0.02	0.0025	0.0318
	06/11/2018	0.00005	0.0002	0.04	0.08	0.0025	0.0012
	09/10/2018	0.00005	0.0006	0.01	0.07	0.0025	0.0218
	06/26/2019	0.000025	0.0004	0.04	0.13	0.005	0.0016
	11/20/2019	0.000025	0.0004	0.015	0.015	0.005	0.0004
	06/11/2020	0.000025	0.0004	0.03	0.19	0.005	0.0102
	09/21/2020	0.000025	0.0004	0.03	0.03	0.005	0.0005
	06/18/2021	0.000025	0.0004	0.03	0.03	0.005	0.00041
	09/16/2021	0.000025	0.0004	0.03	0.03	0.005	0.00061
	06/15/2022	0.000025	0.0004	0.03	0.083	0.005	0.0059
	09/14/2022	0.000025	0.0004	0.03	0.03	0.005	0.00068

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

*** = No Sample Collected - Not Accessible (or Frozen) due to Winter Conditions

Location	Sample Date	Molybdenum, Total Recoverable (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Hardness (mg/L)
BI	02/12/2018	<i>nd</i>	0.005	7.94	24.9	132	107
	06/11/2018	<i>nd</i>	0.005	7.64	0.5	64	46
	09/10/2018	0.0221	0.005	8.07	0.5	108	89
	06/26/2019	0.002	0.005	7.9	3.7	60	42
	11/20/2019	0.0004	0.005	7.49	13.1	84	80
	06/11/2020	0.0133	0.01	7.2	12.6	86	59
	09/21/2020	0.0005	0.01	8.42	10.3	84	77
	06/18/2021	0.00036	0.01	7.96	5.4	48	44
	09/16/2021	0.00092	0.01	8.03	8.9	90	81
	06/15/2022	0.0061	0.01	7.73	9.9	70	53
	09/14/2022	0.00046	0.01	8.13	11.1	82	73

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

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nd = No Data. Pre-dates data collection at location.

Table 2 - Indicator Parameters
5-Year Surface Water Quality Monitoring Data
Climax Mine

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Iron, Total Recoverable (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)
EPR Outlet	02/12/2018	<i>0.00005</i>	0.0005	<i>0.01</i>	<i>0.01</i>	<i>0.0025</i>	0.0361
	06/11/2018	**	**	**	**	**	**
	09/10/2018	<i>0.00005</i>	0.0005	<i>0.01</i>	0.02	<i>0.0025</i>	0.0231
	09/25/2019	<i>0.000025</i>	<i>0.0004</i>	<i>0.015</i>	<i>0.015</i>	<i>0.005</i>	0.028
	09/30/2019	<i>0.000025</i>	<i>0.0004</i>	<i>0.015</i>	0.03	<i>0.005</i>	0.0292
	12/18/2019	<i>0.000025</i>	0.001	<i>0.015</i>	<i>0.015</i>	<i>0.005</i>	0.0322
	06/25/2020	**	**	**	**	**	**
	09/21/2020	<i>0.000025</i>	<i>0.0004</i>	<i>0.03</i>	<i>0.03</i>	<i>0.005</i>	0.0252
	06/30/2021	**	**	**	**	**	**
	09/02/2021	<i>0.000025</i>	<i>0.0004</i>	<i>0.03</i>	<i>0.06</i>	<i>0.005</i>	0.0329
	06/15/2022	**	**	**	**	**	**
	09/14/2022	<i>0.000025</i>	<i>0.0004</i>	<i>0.03</i>	<i>0.06</i>	<i>0.005</i>	0.0334

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

** = No Sample Collected - No flow at Outlet

Location	Sample Date	Molybdenum, Total Recoverable (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Hardness (mg/L)
EPR Outlet	02/12/2018	<i>nd</i>	<i>0.005</i>	8.08	27.3	138	109
	06/11/2018	**	**	**	**	**	**
	09/10/2018	0.0235	<i>0.005</i>	8.01	<i>0.5</i>	116	88
	09/25/2019	0.0288	<i>0.005</i>	7.67	24.3	92	94
	09/30/2019	0.0311	<i>0.005</i>	7.59	25.2	114	101
	12/18/2019	0.0305	<i>0.005</i>	7.76	23.1	118	99
	06/25/2020	**	**	**	**	**	**
	09/21/2020	0.025	<i>0.01</i>	8.38	21.7	112	93
	06/30/2021	**	**	**	**	**	**
	09/02/2021	0.0355	<i>0.01</i>	7.97	25.5	118	103
	06/15/2022	**	**	**	**	**	**
	09/14/2022	0.0038	<i>0.01</i>	7.99	26.3	108	102

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

** = No Sample Collected - No flow at Outlet

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Table 2 - Indicator Parameters
5-Year Surface Water Quality Monitoring Data
Climax Mine

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Iron, Total Recoverable (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)
CC-SW1	03/19/2018	***	***	***	***	***	***
	06/18/2018	0.00005	0.0007	0.03	<i>nd</i>	0.01	0.0012
	08/20/2018	0.00005	0.0002	0.03	0.04	0.0025	0.002
	10/24/2018	0.00008	0.0004	0.01	0.97	0.0025	0.0018
	06/25/2019	0.00008	0.0008	0.015	0.15	0.005	0.001
	09/24/2019	0.00007	0.0004	0.015	0.015	0.005	0.0019
	12/17/2019	***	***	***	***	***	***
	03/24/2020	***	***	***	***	***	***
	06/22/2020	0.00011	0.001	0.03	0.07	0.005	0.0014
	08/31/2020	0.00007	0.0004	0.03	0.03	0.005	0.0017
	10/19/2020	0.000094	0.0004	0.03	0.063	0.005	0.00249
	03/31/2021	***	***	***	***	***	***
	06/17/2021	0.000108	0.0004	0.03	0.115	0.005	0.00128
	09/21/2021	0.000079	0.0004	0.03	0.03	0.005	0.00173
	09/21/2021	0.000076	0.0004	0.03	0.03	0.005	0.00178
	10/29/2021	***	***	***	***	***	***
	03/15/2022	***	***	***	***	***	***
	06/22/2022	0.000097	0.0004	0.03	0.098	0.005	0.00144
	09/26/2022	0.000087	0.0004	0.03	0.03	0.005	0.00168
	11/28/2022	***	***	***	***	***	***

Note: Bold italicized data are results below Lab Method Detection Limits (MDL) and are reported as 1/2 the MDL.

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nd = No Data. Pre-dates data collection at location.

Note: Data in purple represents a duplicate sample

Location	Sample Date	Molybdenum, Total Recoverable (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Hardness (mg/L)
CC-SW1	03/19/2018	***	***	***	***	***	***
	06/18/2018	<i>nd</i>	0.02	7.96	11.4	32	31
	08/20/2018	0.0022	0.01	8.24	27.9	68	57
	10/24/2018	0.0107	0.01	7.58	38.1	98	63
	06/25/2019	0.002	0.02	7.44	11.1	50	33
	09/24/2019	0.0021	0.01	7.64	31.9	62	65
	12/17/2019	***	***	***	***	***	***
	03/24/2020	***	***	***	***	***	***
	06/22/2020	0.0012	0.02	6.94	5	62	32
	08/31/2020	0.0016	0.01	7.31	30.8	80	54
	10/19/2020	0.00176	0.01	7.24	35.1	100	66
	03/31/2021	***	***	***	***	***	***
	06/17/2021	0.00119	0.024	7.52	17.7	52	33
	09/21/2021	0.00163	0.01	7.57	35.6	86	69
	09/21/2021	0.0168	0.01	7.57	35.7	90	68
	10/29/2021	***	***	***	***	***	***
	03/15/2022	***	***	***	***	***	***
	06/22/2022	0.0013	0.023	7.56	20.6	58	37
	09/26/2022	0.00155	0.01	7.73	38.7	96	68
	11/28/2022	***	***	***	***	***	***

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*** = Not Accessible (or Frozen) due to Winter Conditions

nd = No Data. Pre-dates data collection at location.

Note: Data in purple represents a duplicate sample

Table 2 - Indicator Parameters
5-Year Surface Water Quality Monitoring Data
Climax Mine

Location	Sample Date	Cadmium, Dissolved (mg/L)	Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Iron, Total Recoverable (mg/L)	Manganese, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)
EI-SW1	03/26/2018	***	***	***	***	***	***
	06/18/2018	0.00005	0.0002	0.01	nd	0.005	0.0014
	08/20/2018	0.00005	0.0002	0.01	0.01	0.0025	0.0013
	10/24/2018	***	***	***	***	***	***
	06/25/2019	0.000025	0.0004	0.015	0.13	0.005	0.0016
	09/24/2019	0.000025	0.0004	0.015	0.03	0.005	0.0015
	12/17/2019	***	***	***	***	***	***
	03/24/2020	***	***	***	***	***	***
	06/22/2020	0.000025	0.0004	0.03	0.12	0.005	0.0014
	08/31/2020	0.000025	0.0004	0.03	0.03	0.005	0.0016
	10/19/2020	0.000025	0.0004	0.03	0.156	0.005	0.00201
	03/31/2021	***	***	***	***	***	***
	05/27/2021	***	***	***	***	***	***
	06/08/2021	0.000025	0.0004	0.03	0.134	0.005	0.00247
	07/29/2021	0.000095	0.0273	0.03	0.03	0.005	0.0013
	08/12/2021	0.000025	0.0004	0.03	0.03	0.005	0.00129
	09/15/2021	0.000025	0.0004	0.03	0.03	0.005	0.0017
	10/29/2021	0.000025	0.0004	0.03	0.03	0.005	0.00141
	03/15/2022	***	***	***	***	***	***
	06/29/2022	0.000025	0.0004	0.03	0.03	0.005	0.00134
	07/28/2022	0.000025	0.0004	0.03	0.03	0.005	0.00049
	09/26/2022	0.000025	0.0004	0.03	0.271	0.005	0.00436
	11/28/2022	***	***	***	***	***	***

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nd = No Data. Pre-dates data collection at location.

Location	Sample Date	Molybdenum, Total Recoverable (mg/L)	Zinc, Dissolved (mg/L)	pH, Field Measurement (Standard Units)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Hardness (mg/L)
EI-SW1	03/26/2018	***	***	***	***	***	***
	06/18/2018	nd	0.005	7.67	5.6	116	114
	08/20/2018	0.0014	0.005	7.84	6	178	166
	10/24/2018	***	***	***	***	***	***
	06/25/2019	0.0028	0.005	7.74	5	102	88
	09/24/2019	0.0019	0.005	8.01	7.2	158	180
	12/17/2019	***	***	***	***	***	***
	03/24/2020	***	***	***	***	***	***
	06/22/2020	0.0014	0.01	7.77	14.3	152	107
	08/31/2020	0.0015	0.01	8.31	7.7	180	156
	10/19/2020	0.00191	0.02	8.33	11.4	184	160
	03/31/2021	***	***	***	***	***	***
	05/27/2021	***	***	***	***	***	***
	06/08/2021	0.00250	0.01	8.35	0.5	94	85
	07/29/2021	0.00135	0.01	8.41	9.4	154	149
	08/12/2021	0.00124	0.01	8.4	7.4	156	149
	09/15/2021	0.0168	0.01	8.36	7.7	172	181
	10/29/2021	0.00131	0.01	8.33	7.7	176	153
	03/15/2022	***	***	***	***	***	***
	06/29/2022	0.00129	0.01	8.11	6.1	128	121
	07/28/2022	0.0028	0.01	8.41	6	144	140
	09/26/2022	0.00494	0.01	8.29	7.9	170	150
	11/28/2022	***	***	***	***	***	***

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Chart 1
ARwell: Metals
Climax Mine

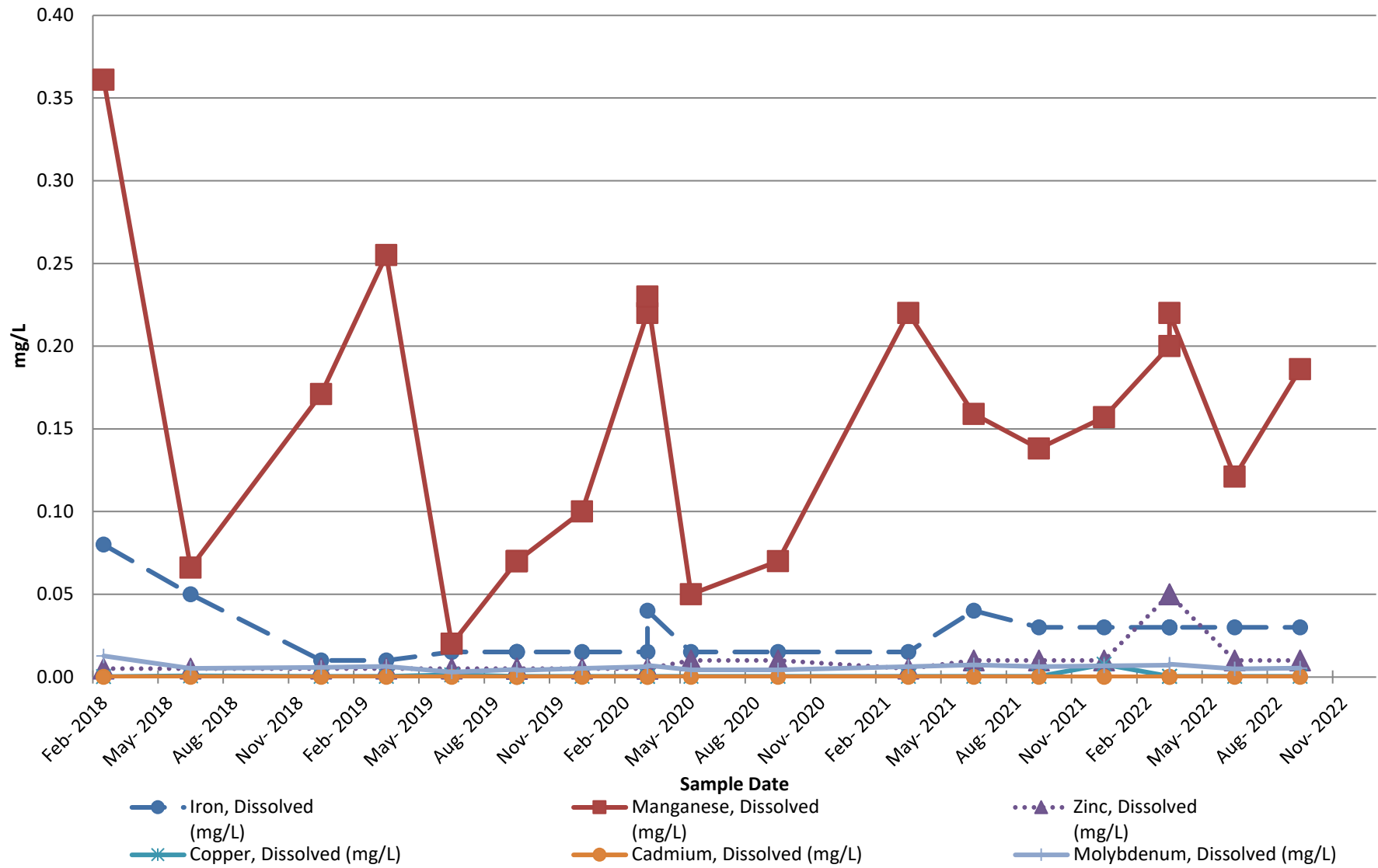


Chart 2
ARwell: pH
Climax Mine

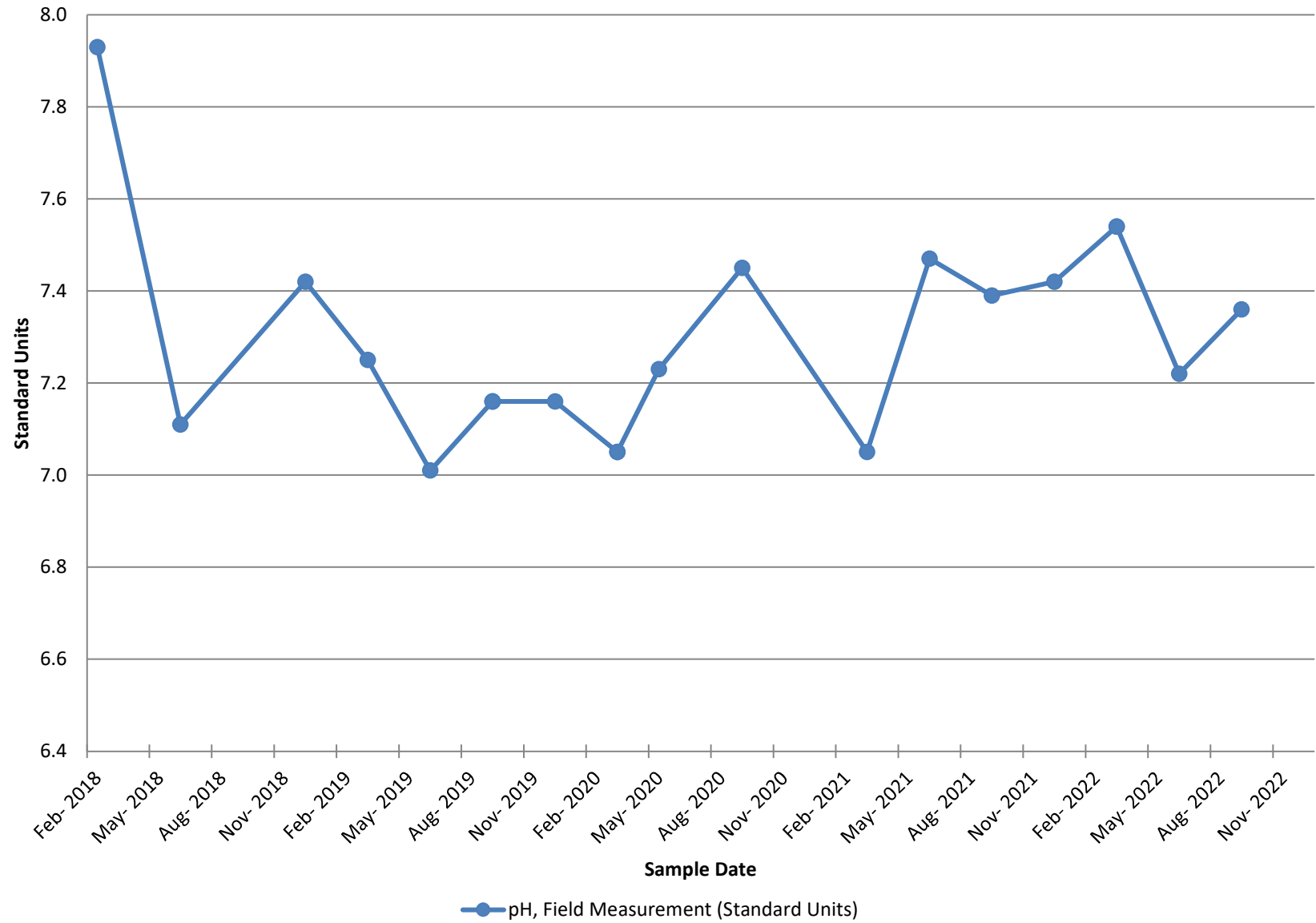
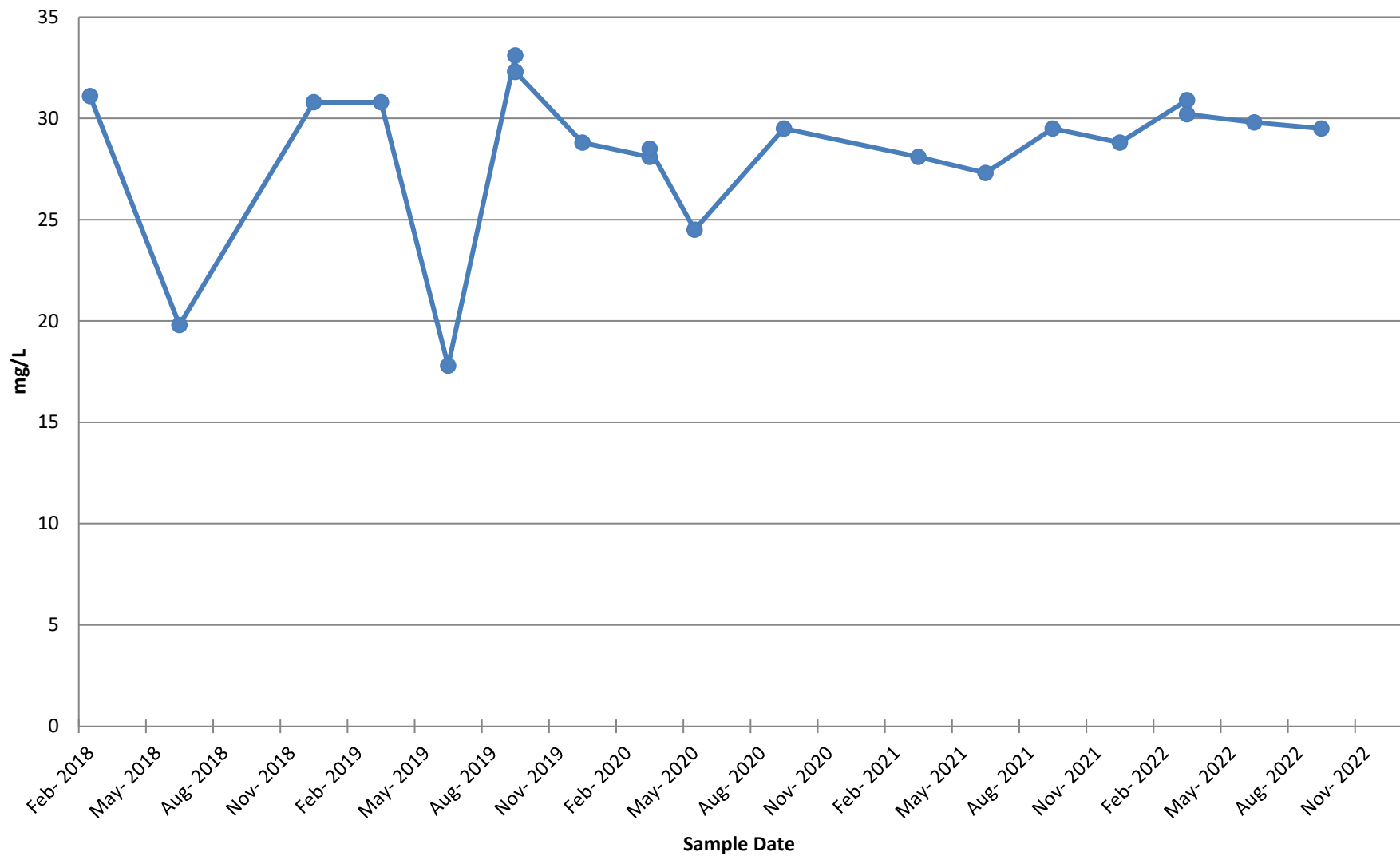


Chart 3
ARwell: Sulfate
Climax Mine



—●— Sulfate (mg/L)

Chart 4
ARwell: TDS
Climax Mine

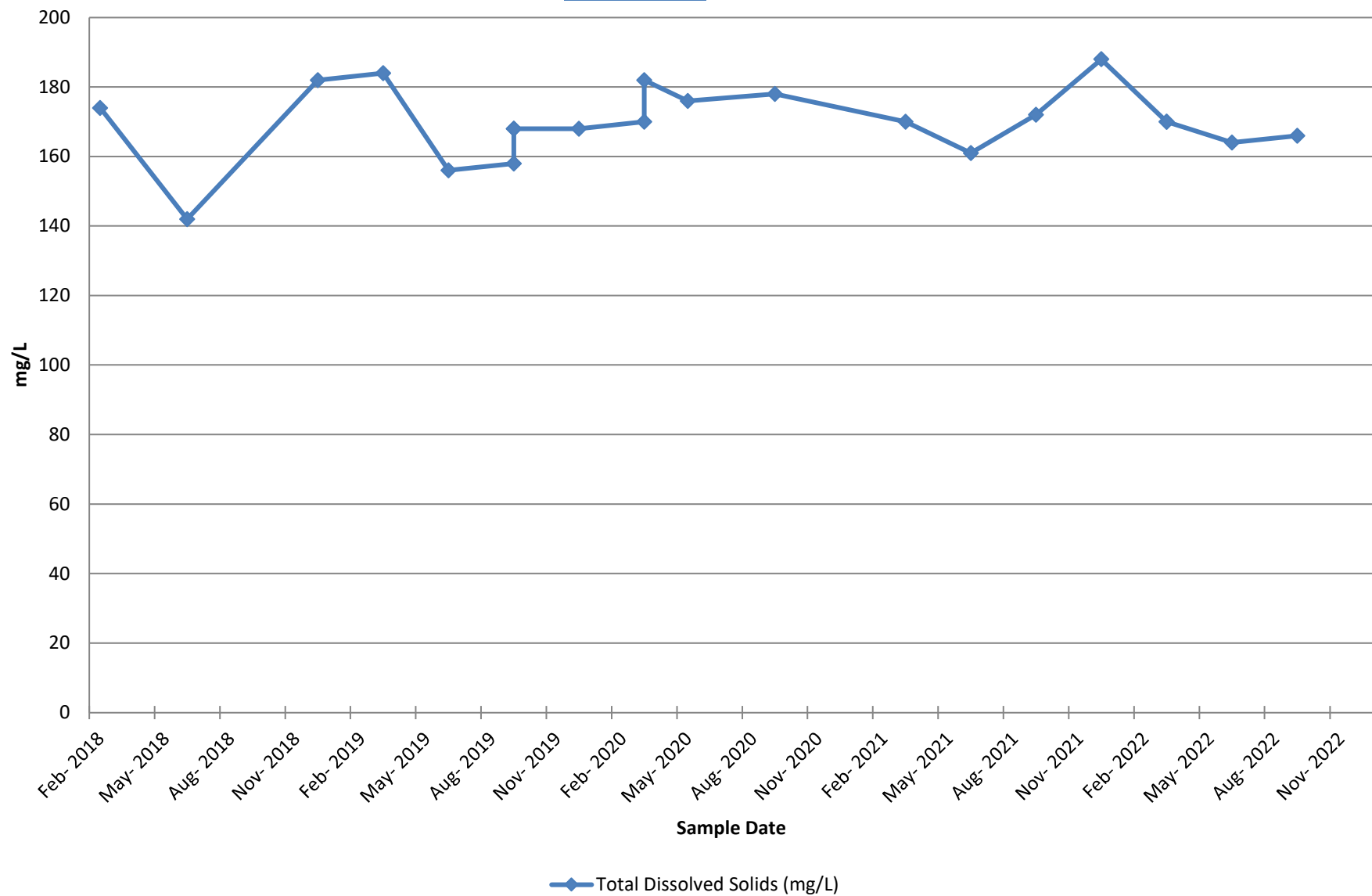


Chart 5
ARwell: Fluoride
Climax Mine

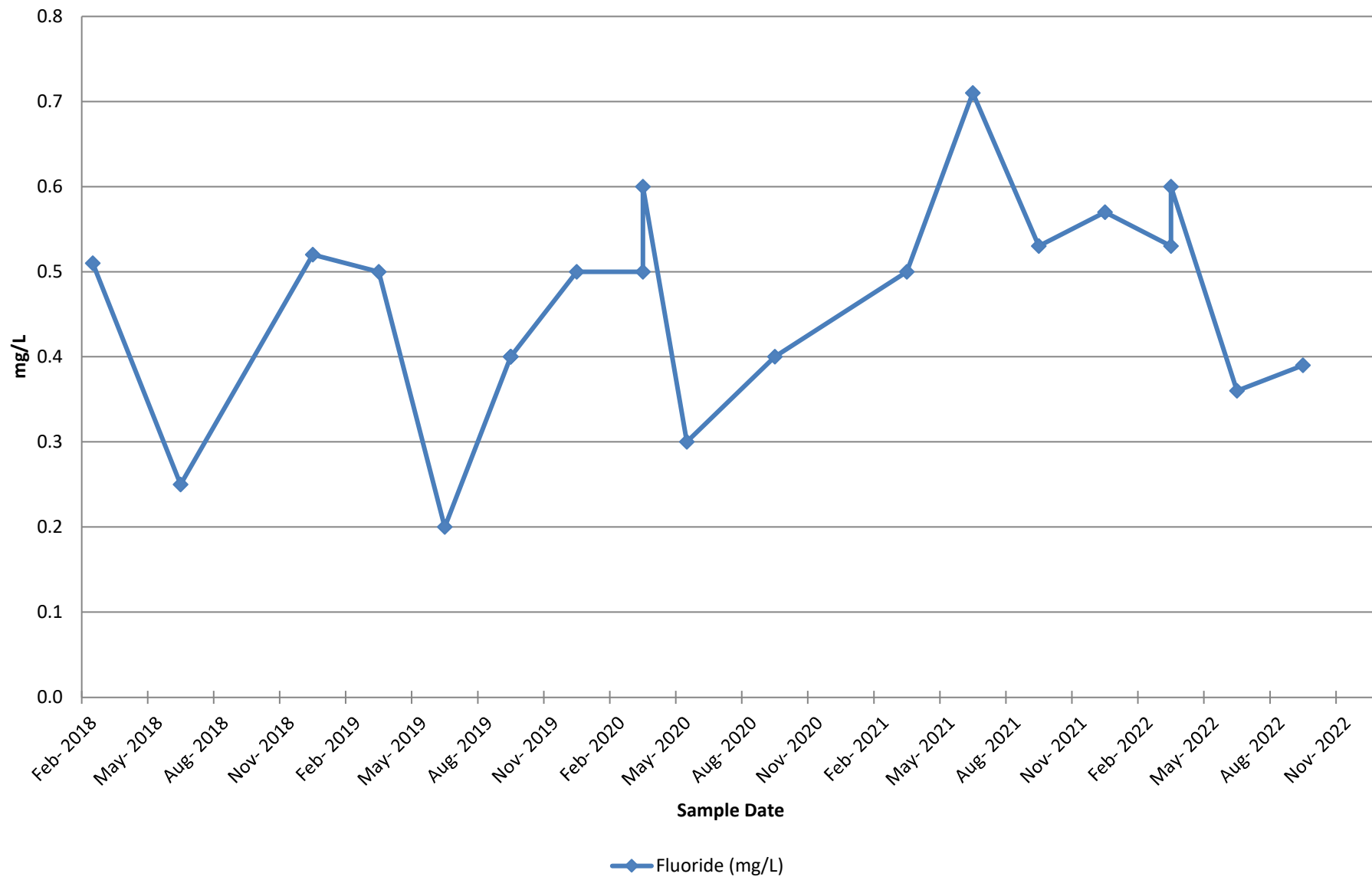


Chart 6
ARK-MW-001D: Metals
Climax Mine

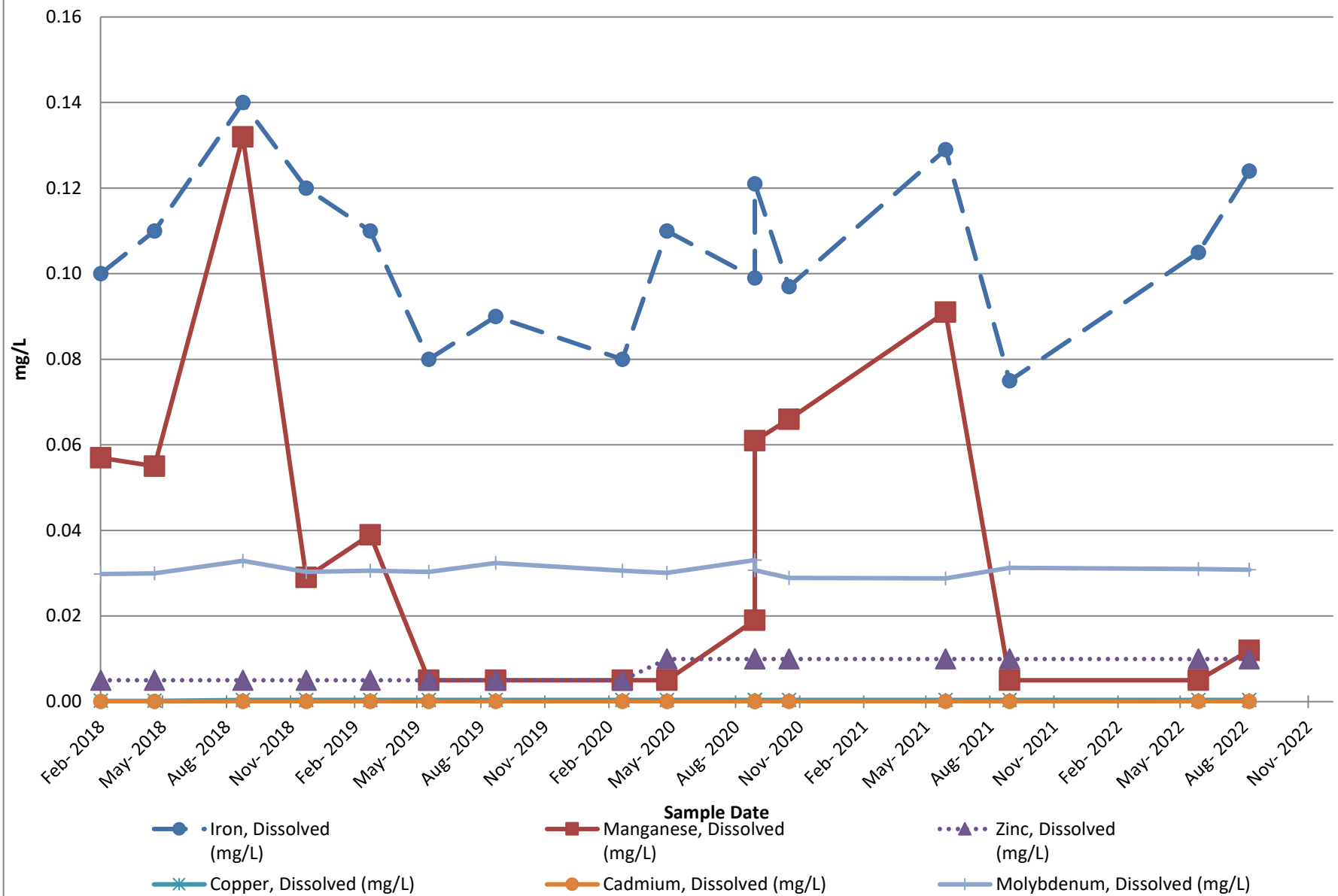


Chart 7
ARK-MW-001D: pH
Climax Mine

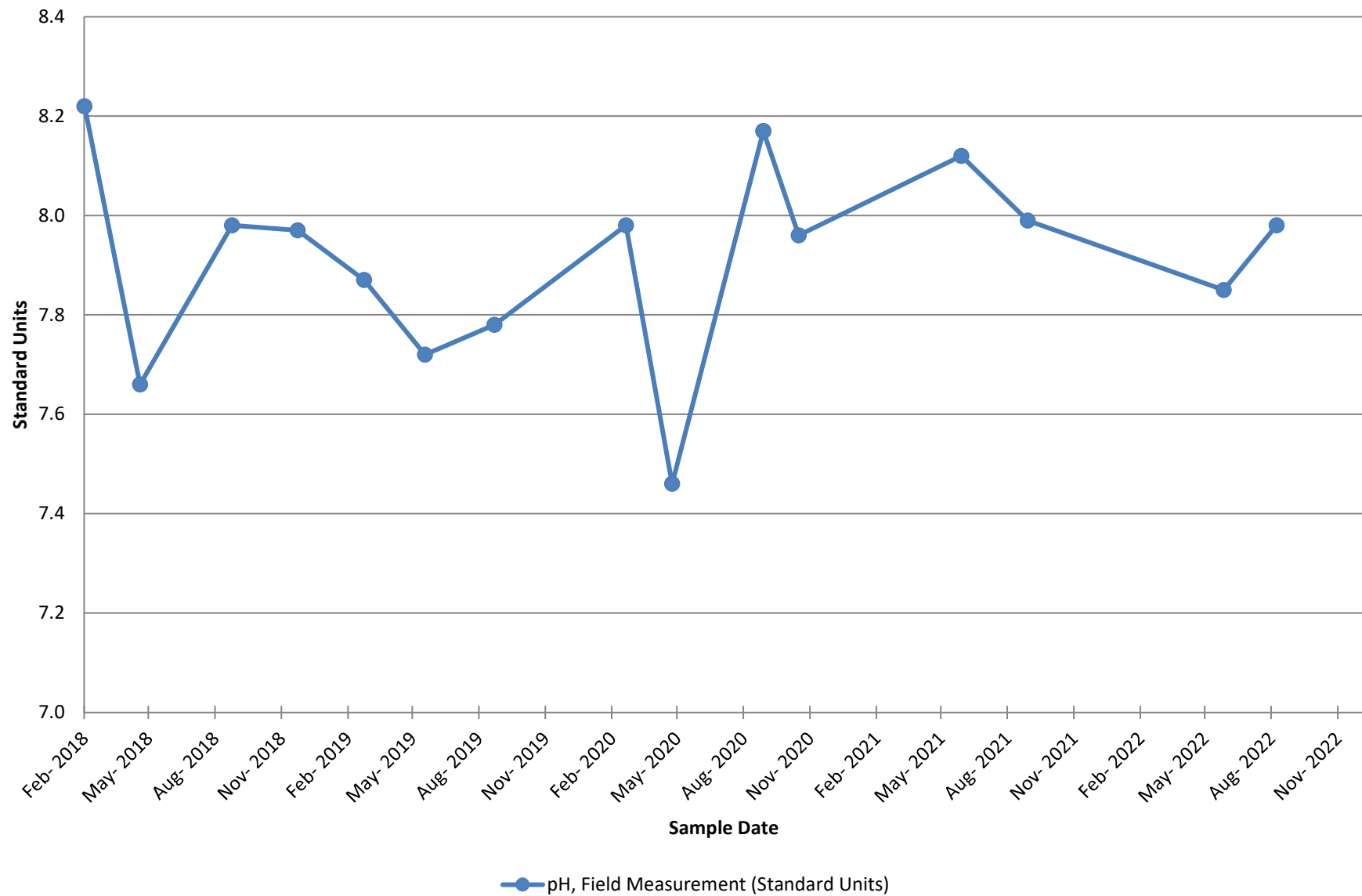


Chart 8
ARK-MW-001D: Sulfate
Climax Mine

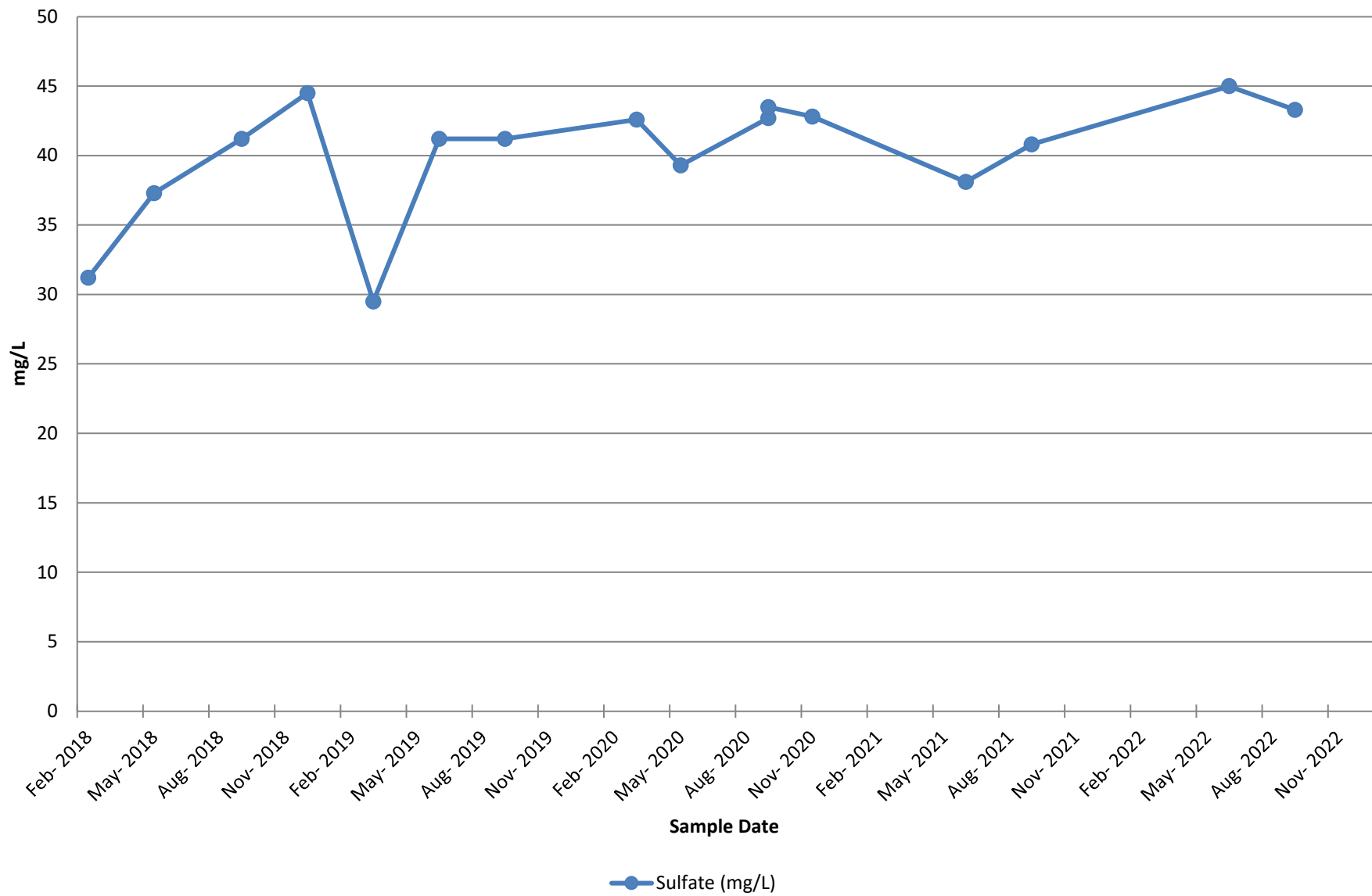


Chart 9
ARK-MW-001D: TDS
Climax Mine

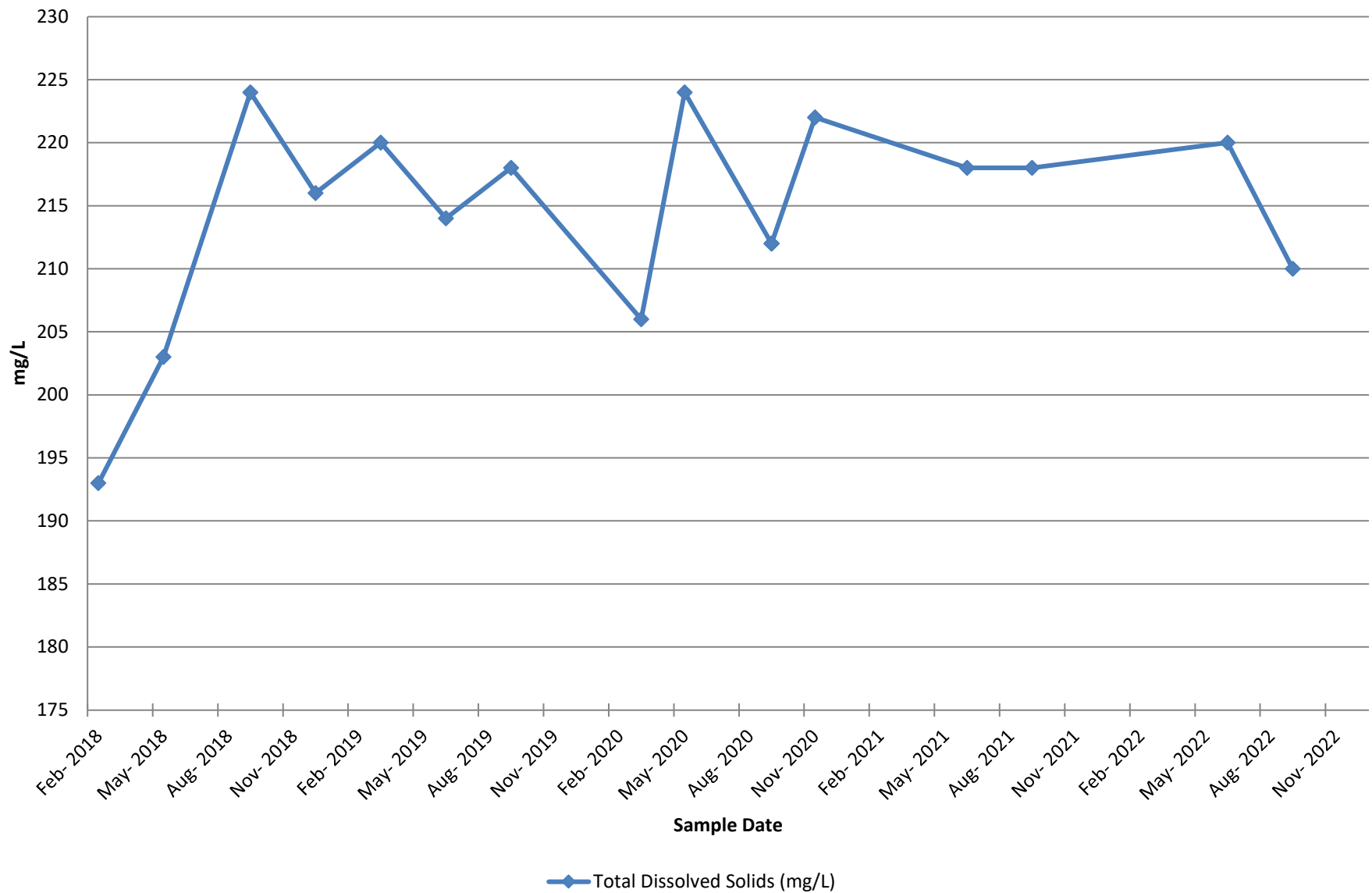


Chart 10
ARK-MW-001D: Fluoride
Climax Mine

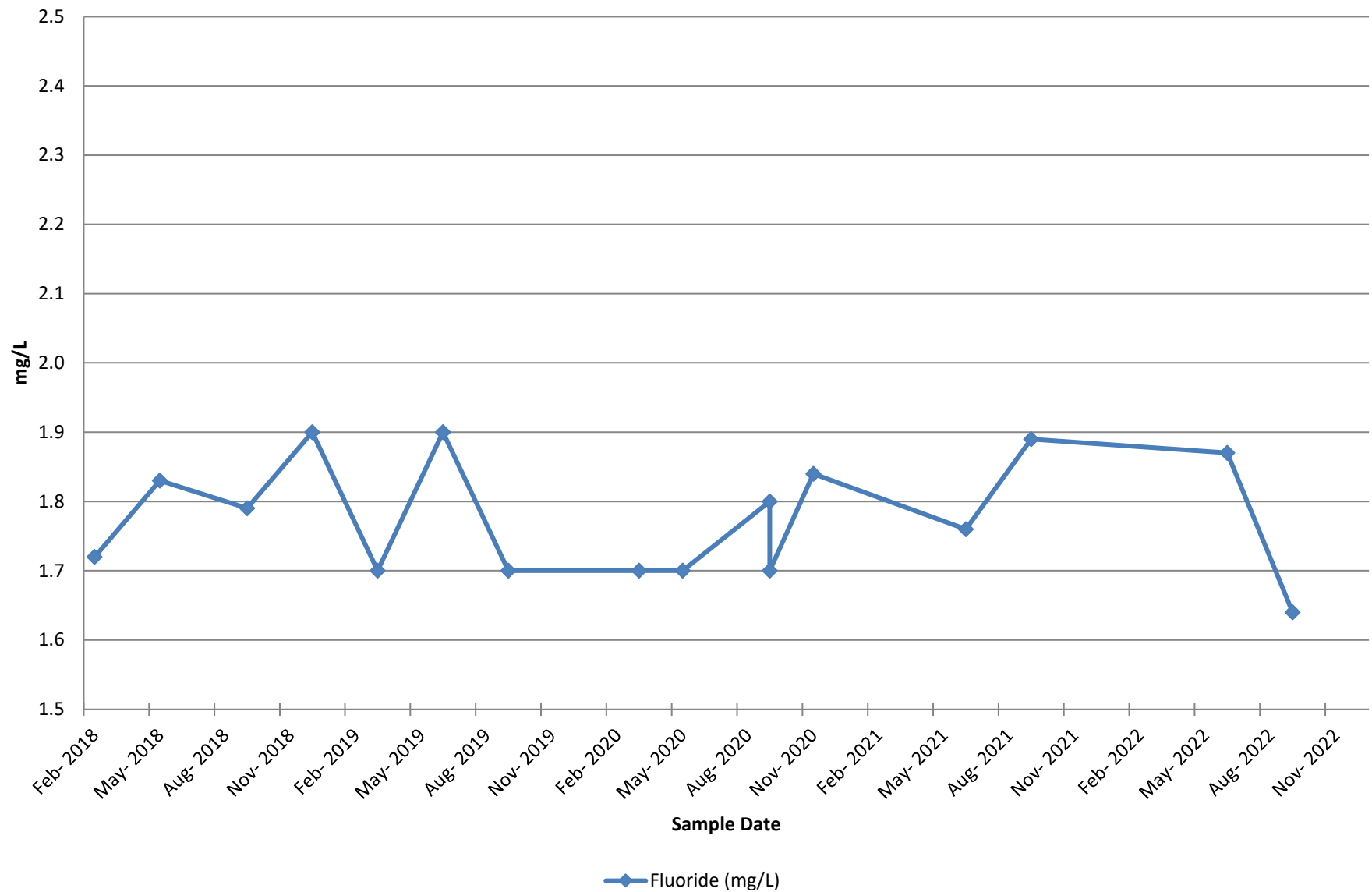


Chart 11
EVMW-3S: Metals
Climax Mine

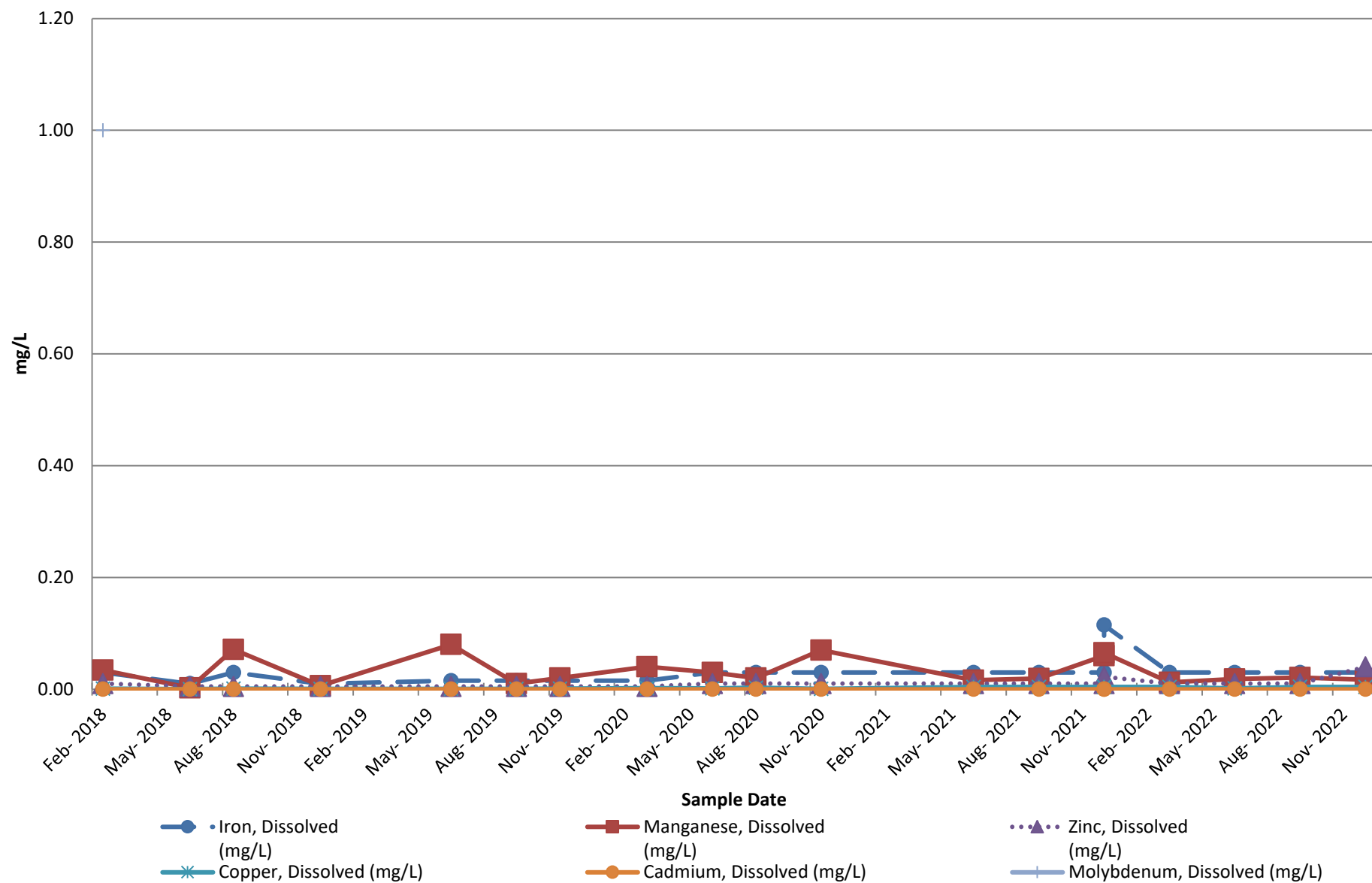


Chart 12
EVMW-3S: pH
Climax Mine

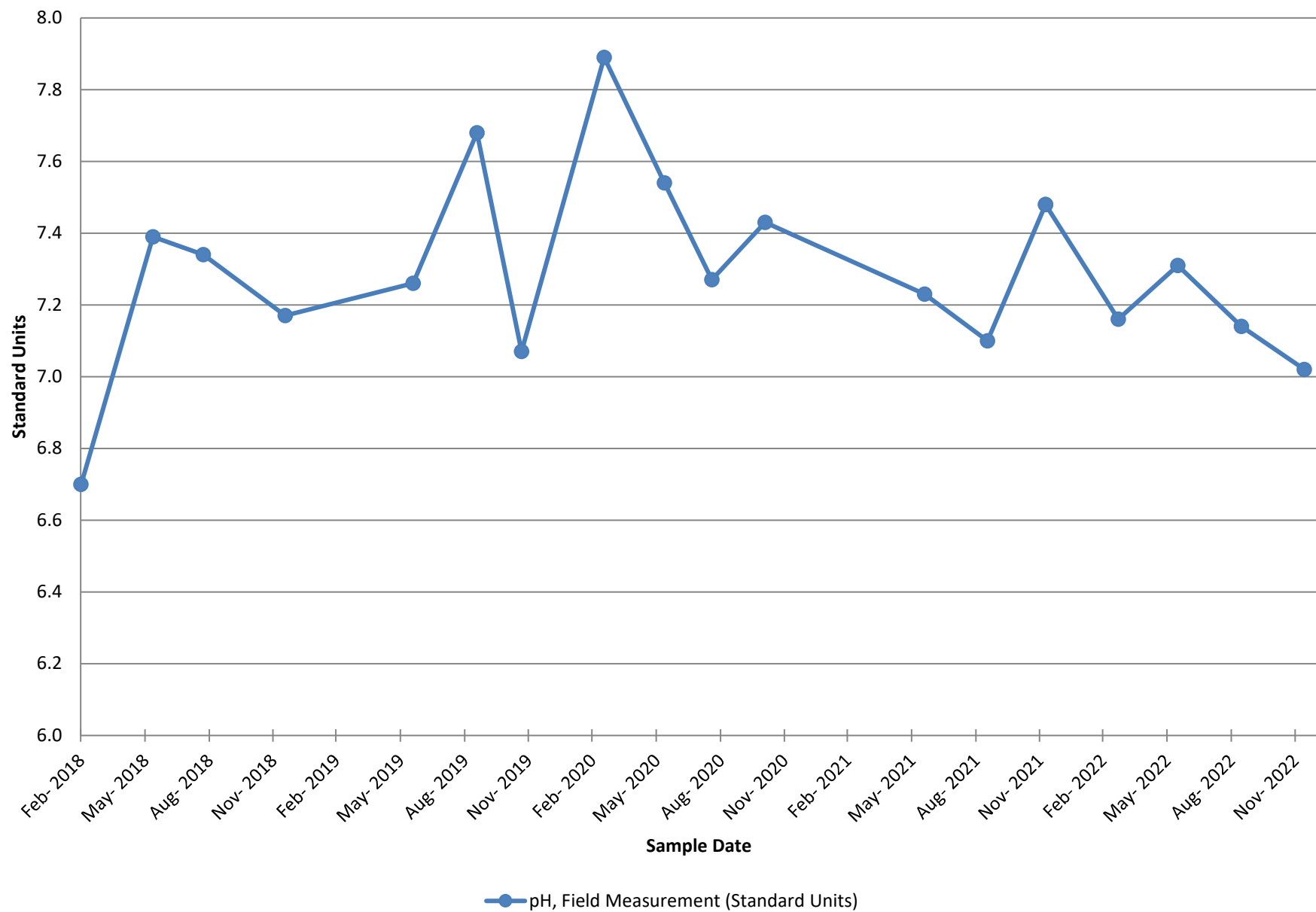


Chart 13
EVMW-3S: Sulfate
Climax Mine

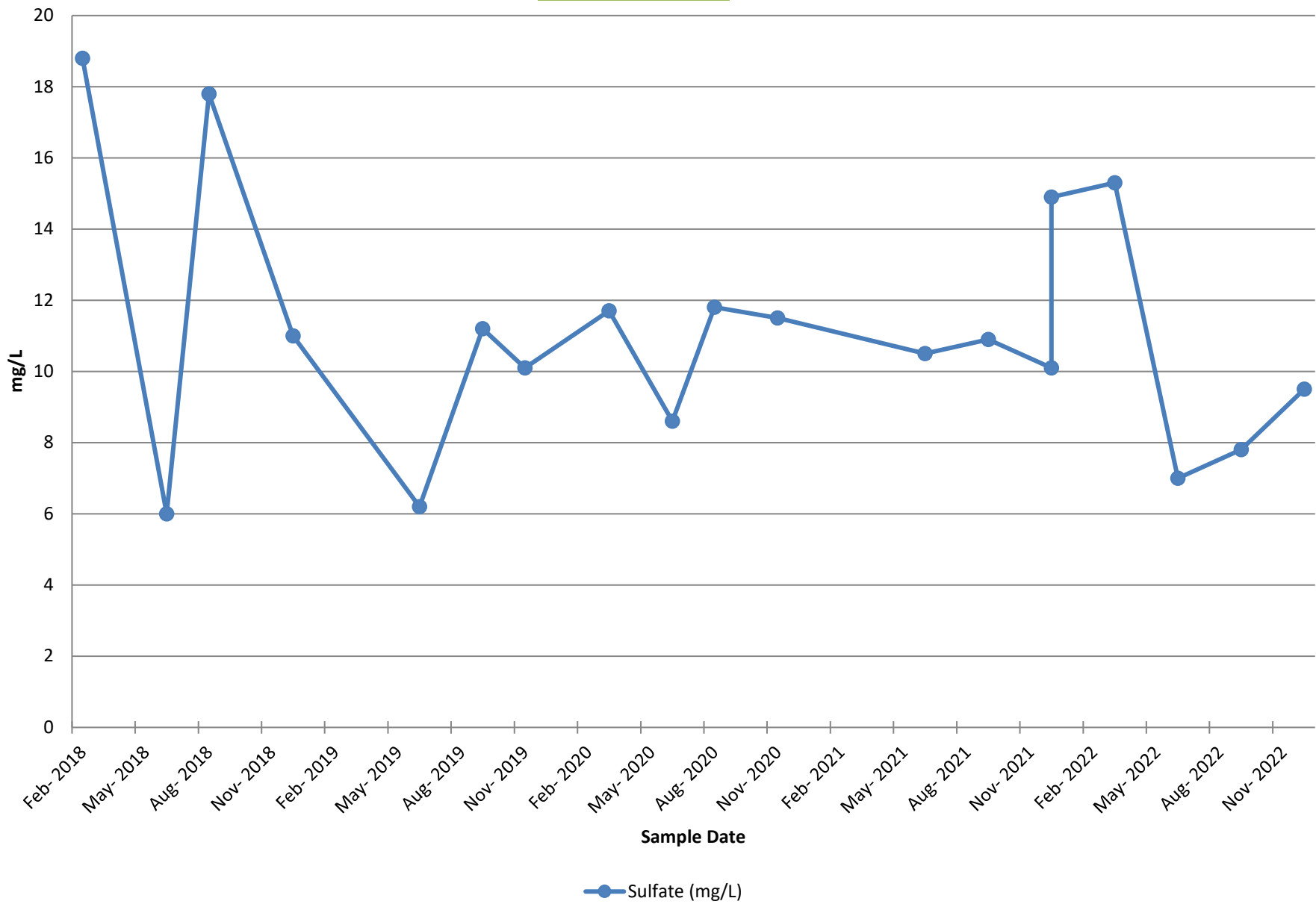


Chart 14
EVMW-3S: TDS
Climax Mine

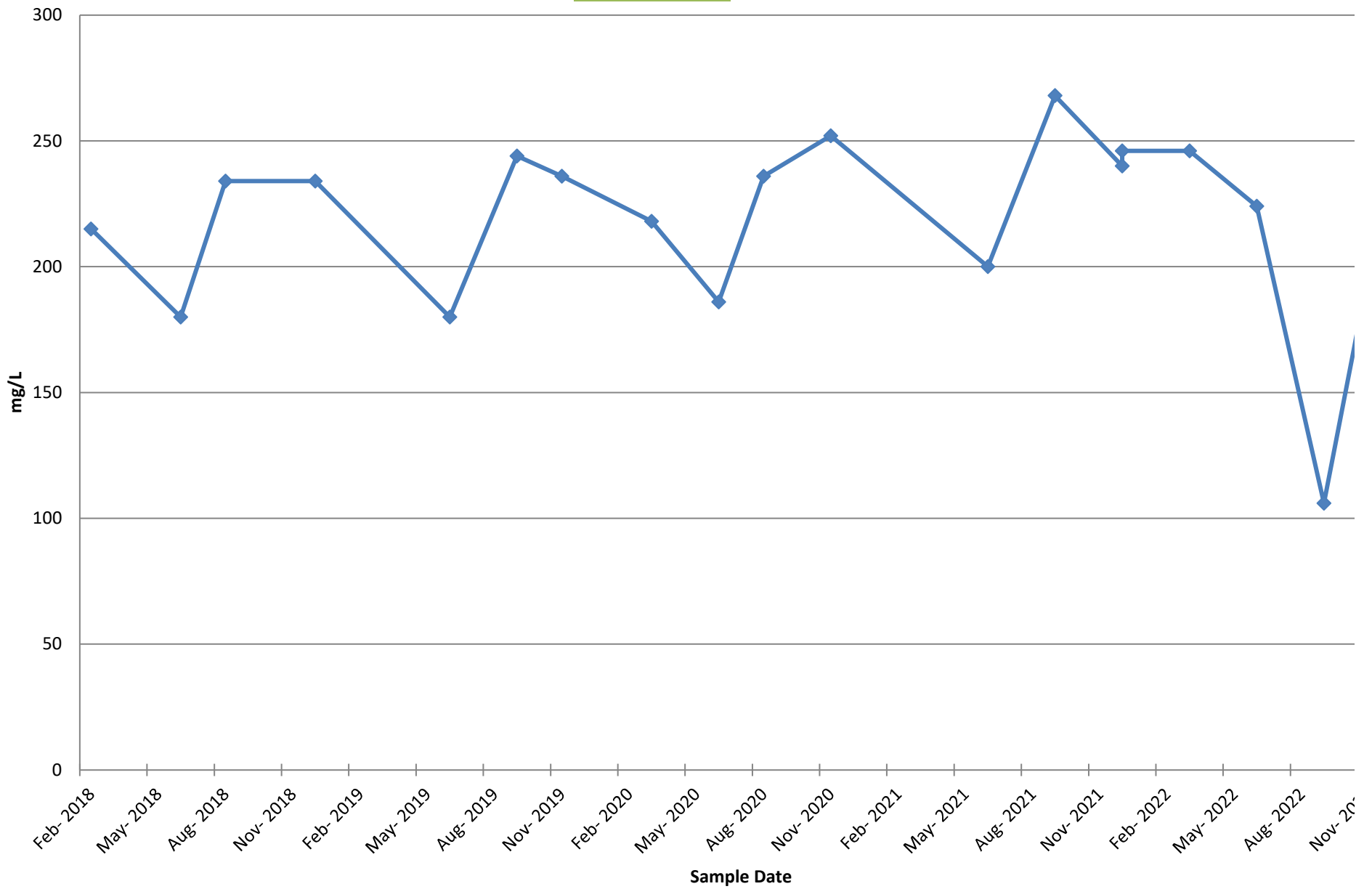
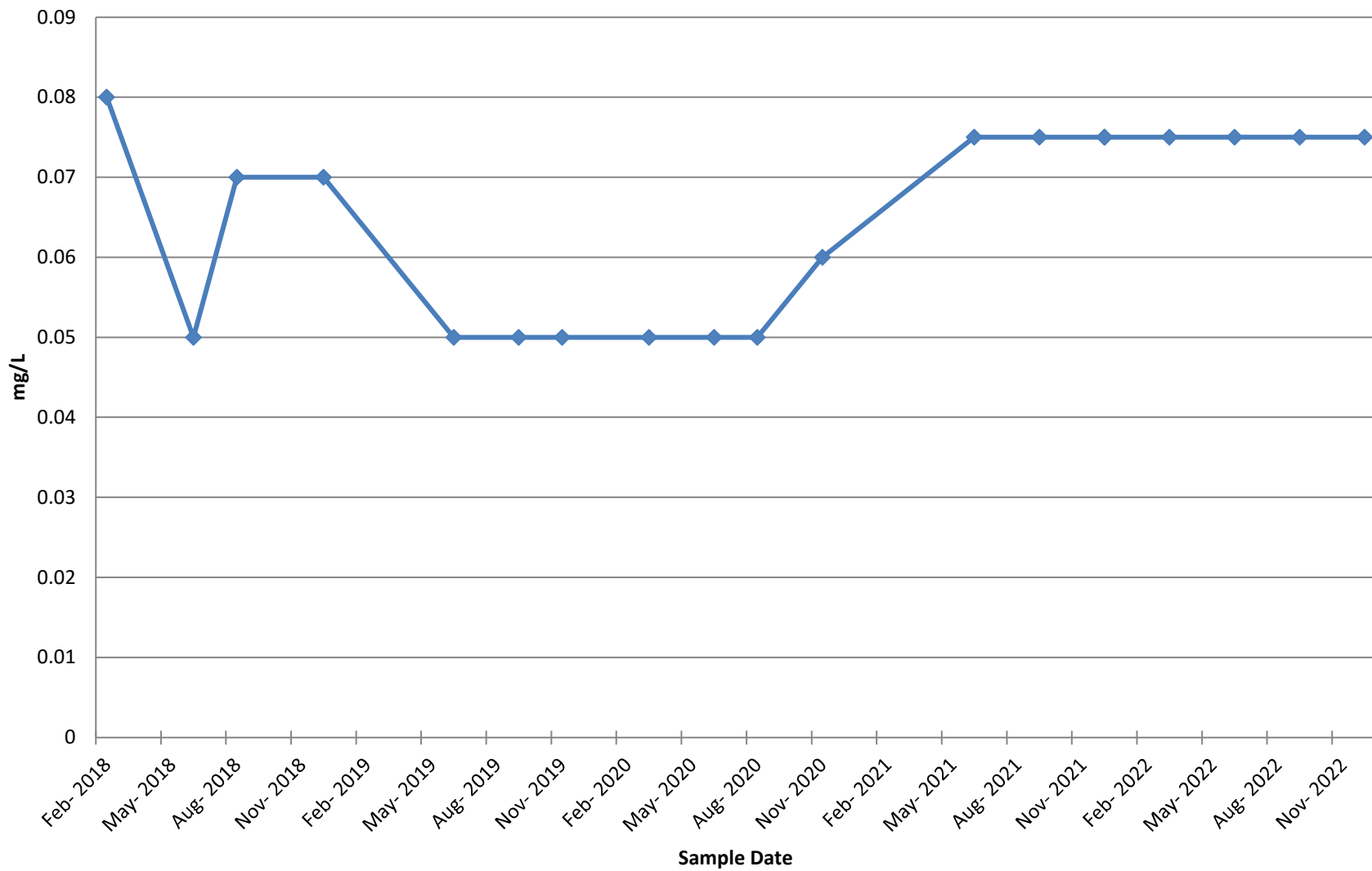


Chart 15
EVMW-3S: Fluoride
Climax Mine



—◆— Fluoride (mg/L)

Chart 16
EVMW-3D: Metals
Climax Mine

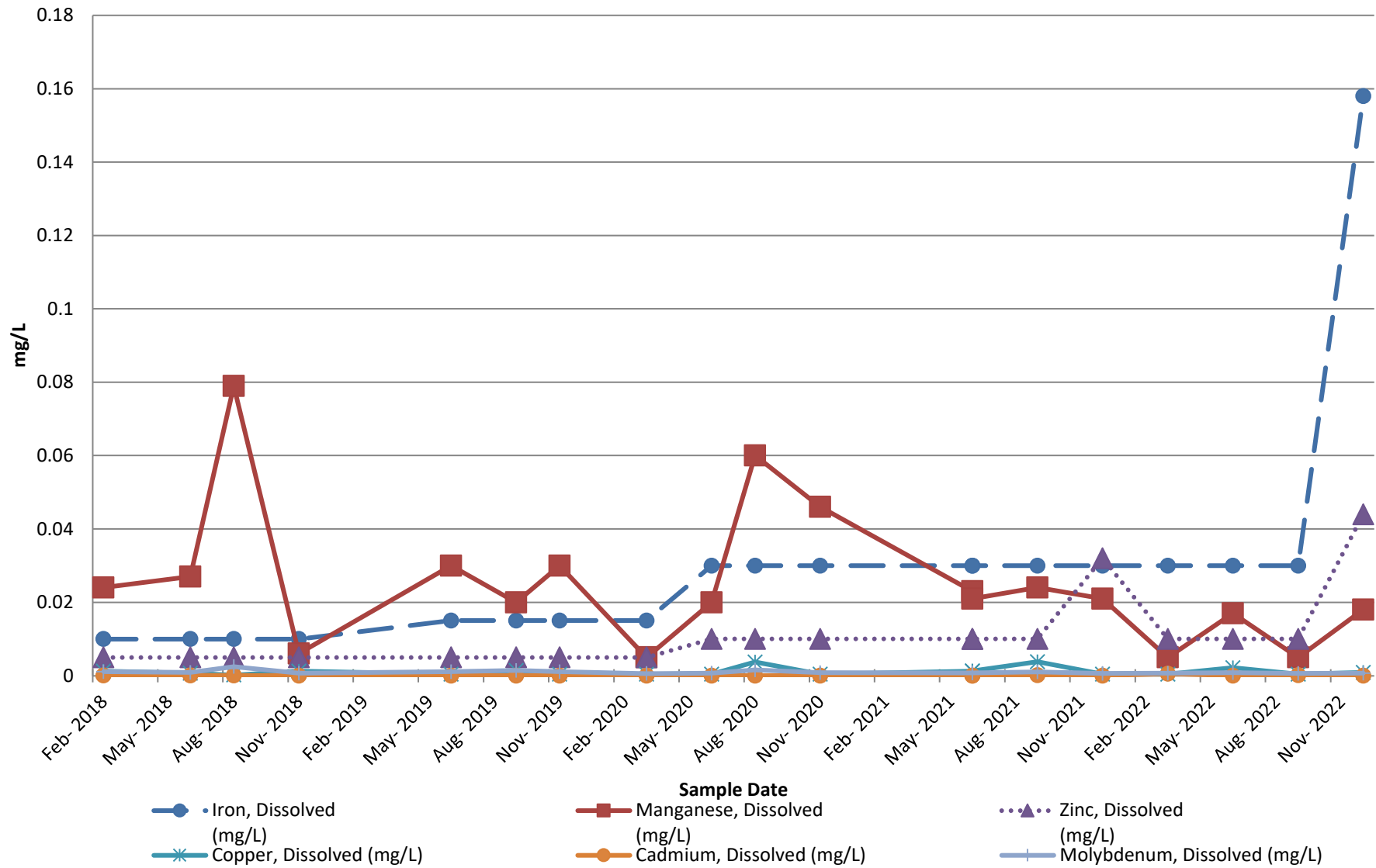


Chart 17
EVMW-3D: pH
Climax Mine

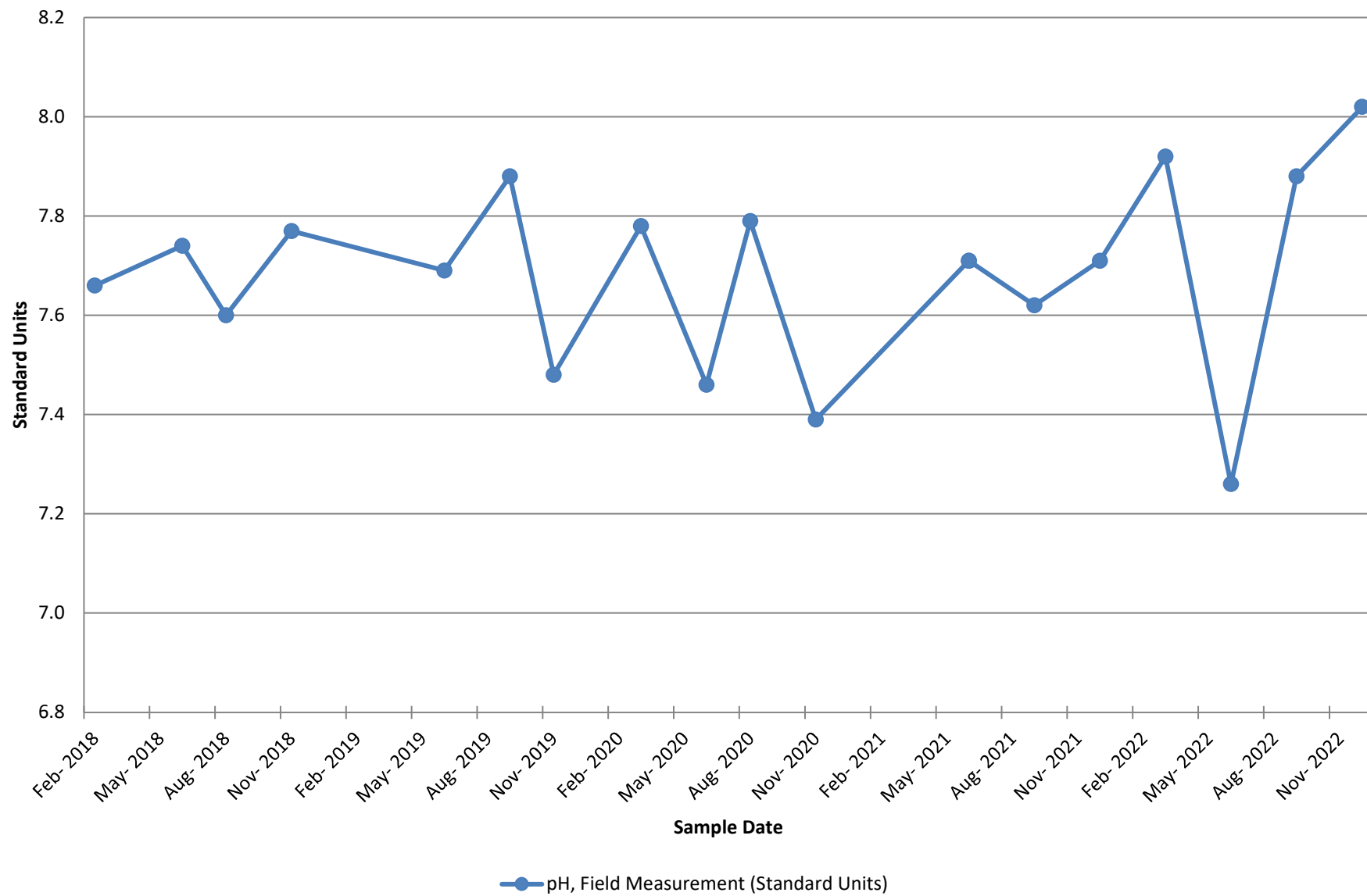


Chart 18
EVMW-3D: Sulfate
Climax Mine

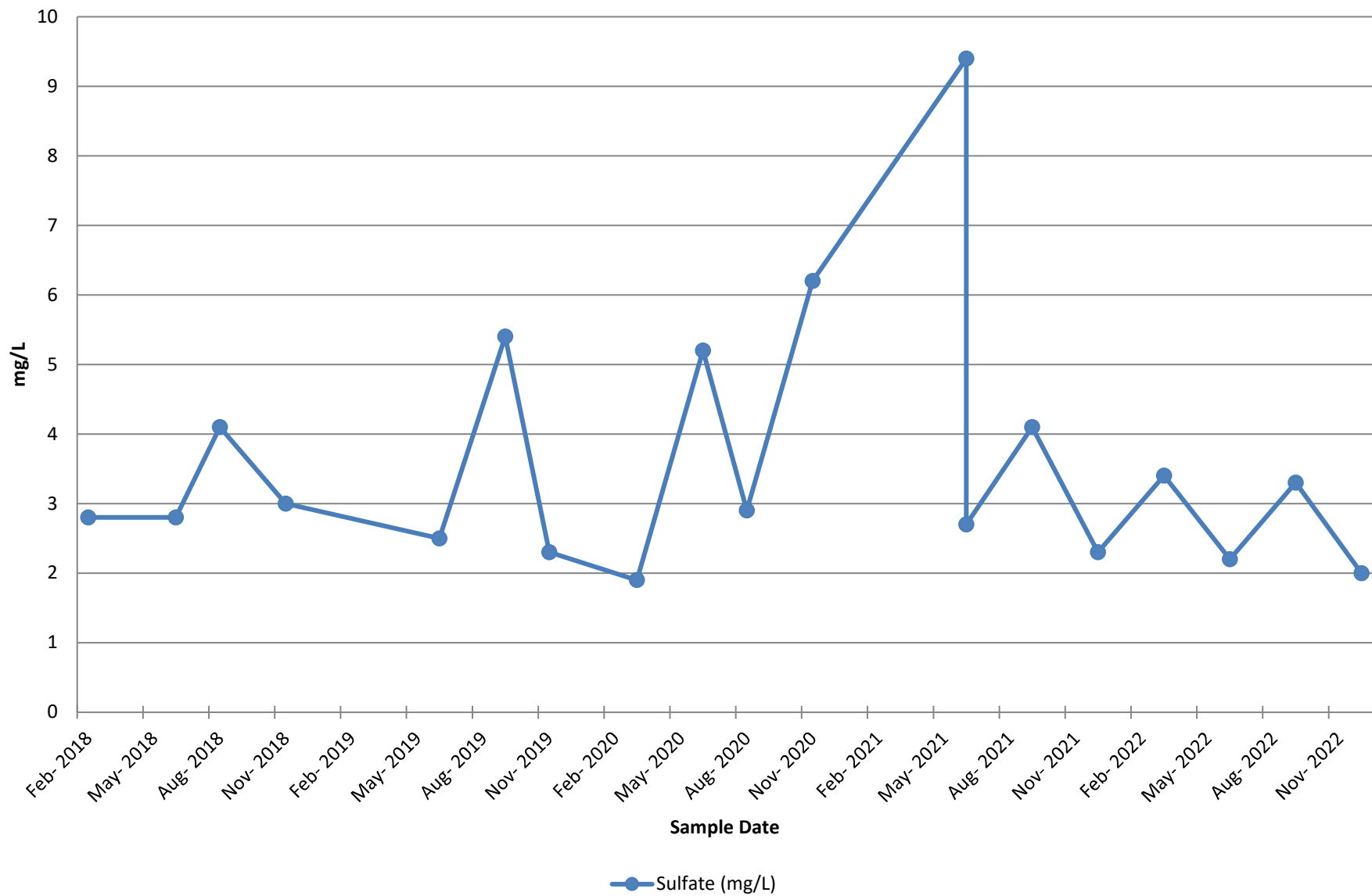


Chart 19
EVMW-3D: TDS
Climax Mine

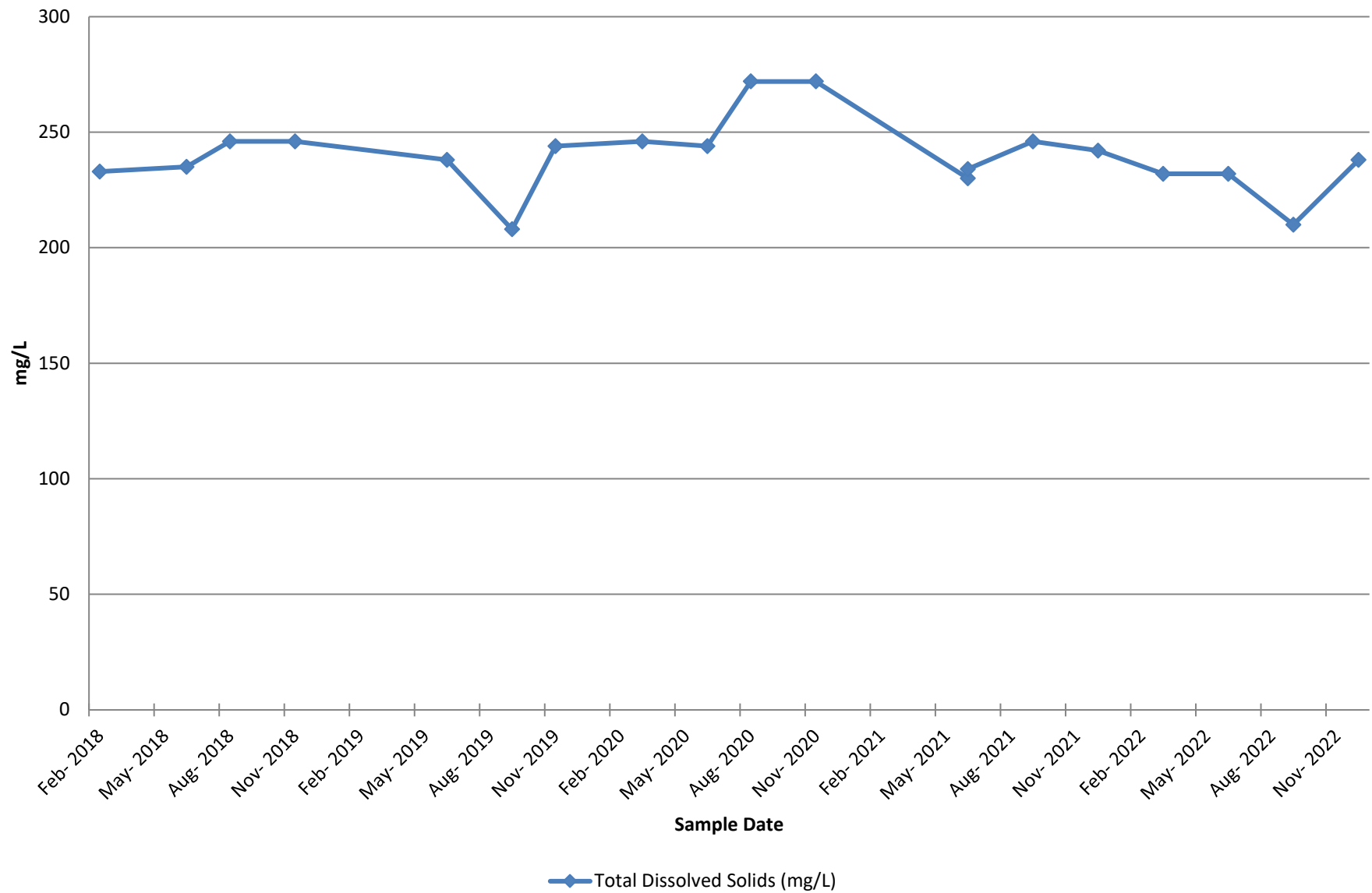


Chart 20
EVMW-3D: Fluoride
Climax Mine

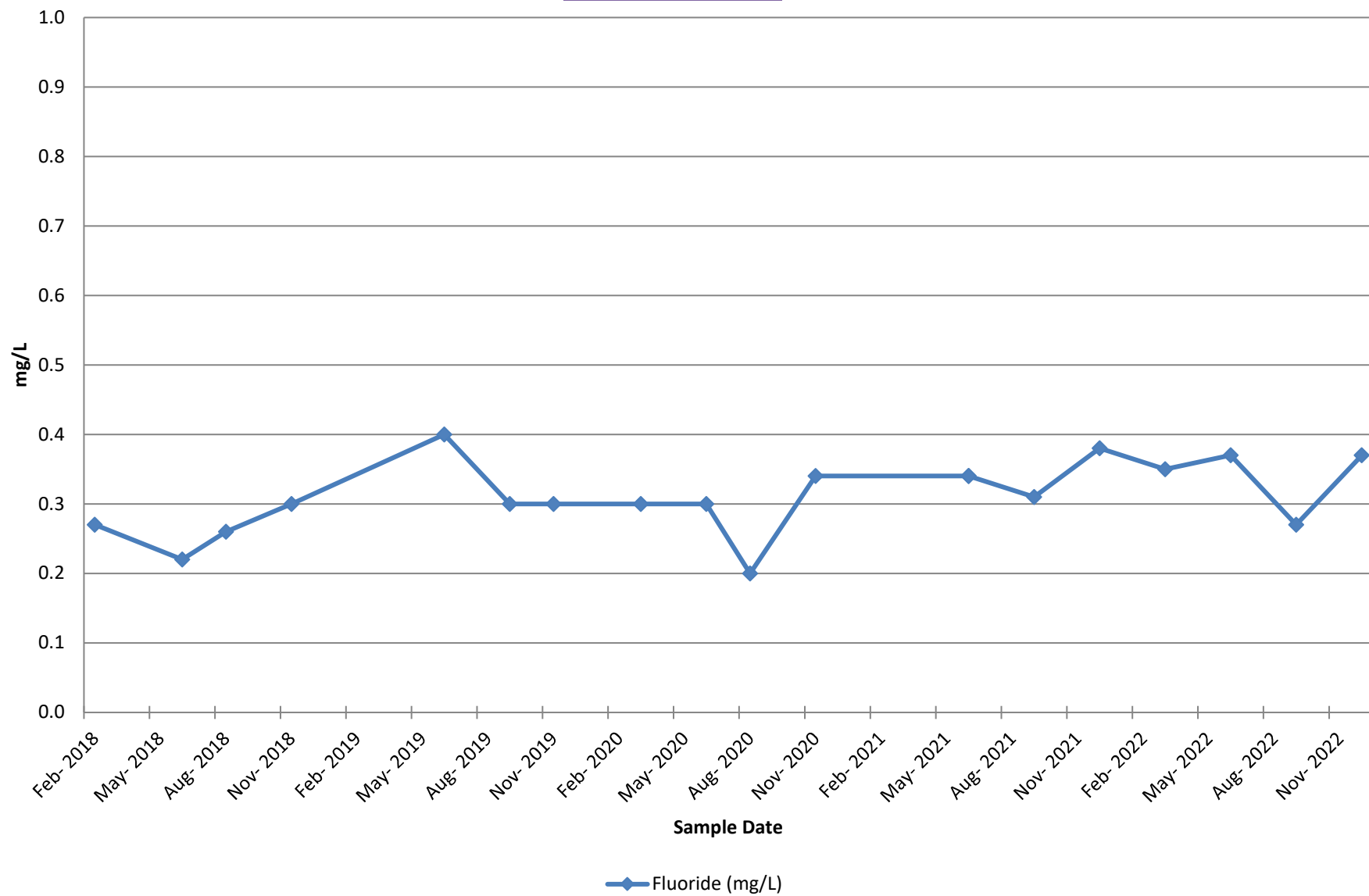


Chart 21
EV-MW-004: Metals
Climax Mine

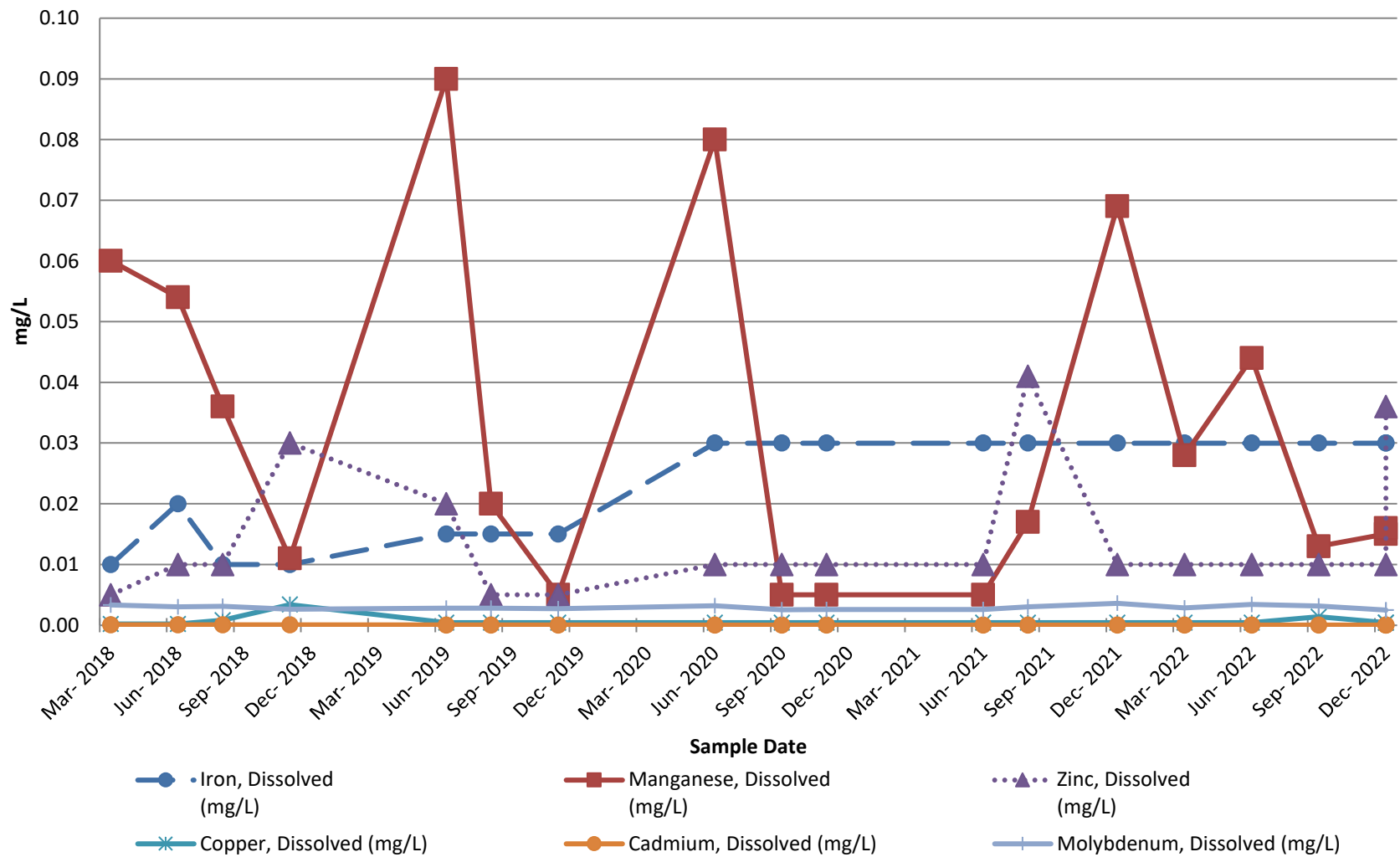


Chart 22
EV-MW-004: pH
Climax Mine

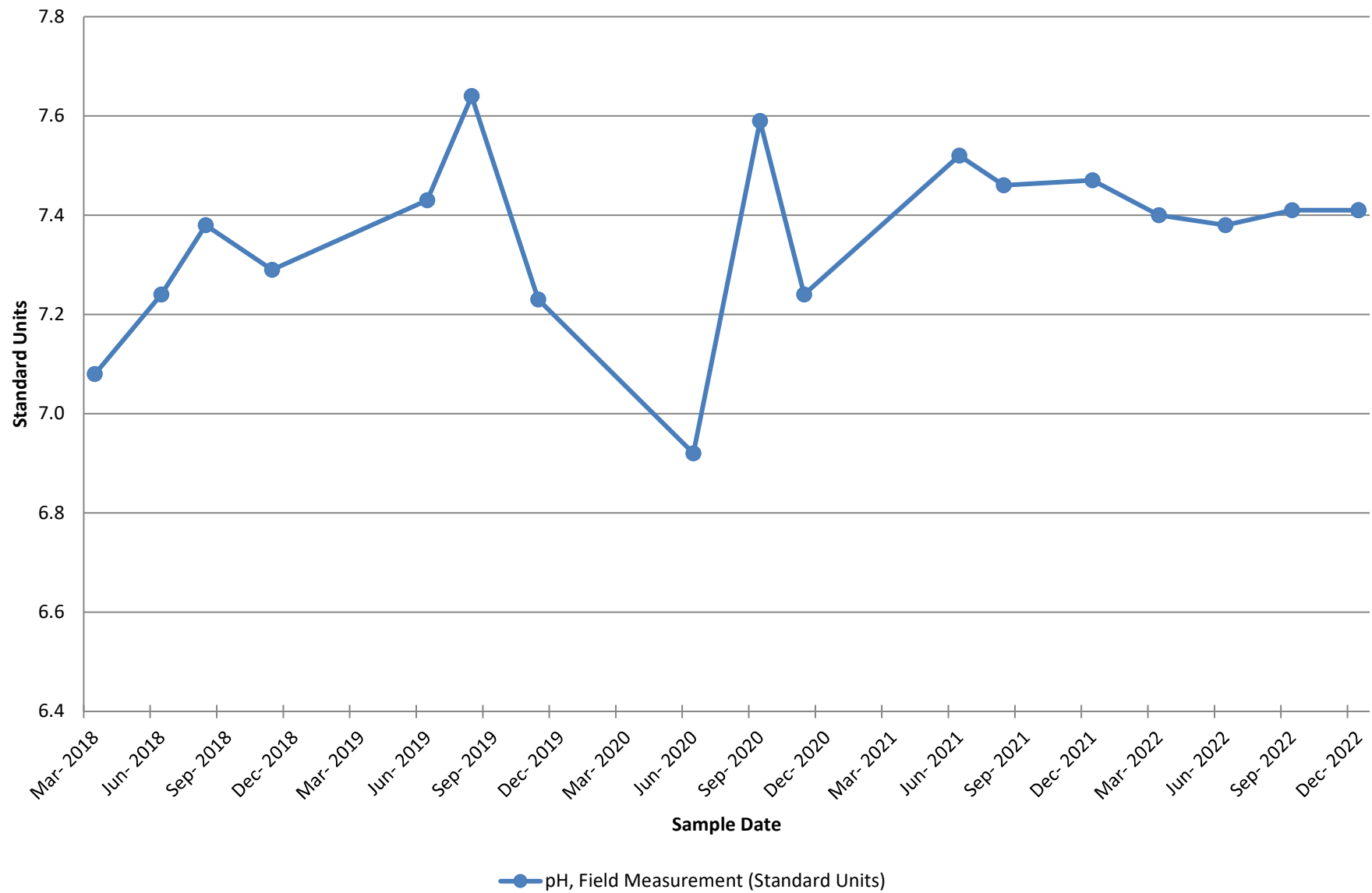


Chart 23
EV-MW-004: Sulfate
Climax Mine

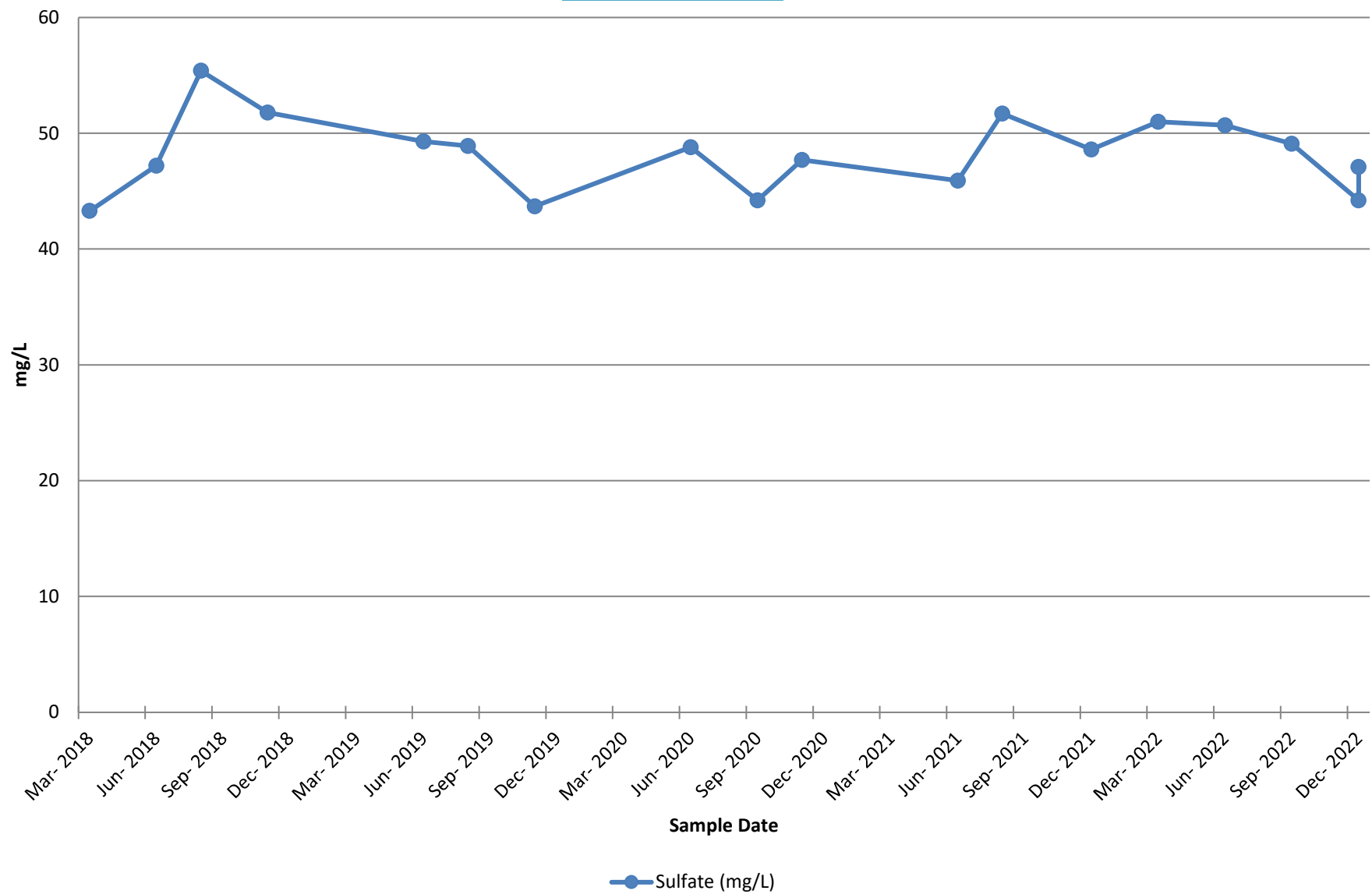


Chart 24
EV-MW-004: TDS
Climax Mine

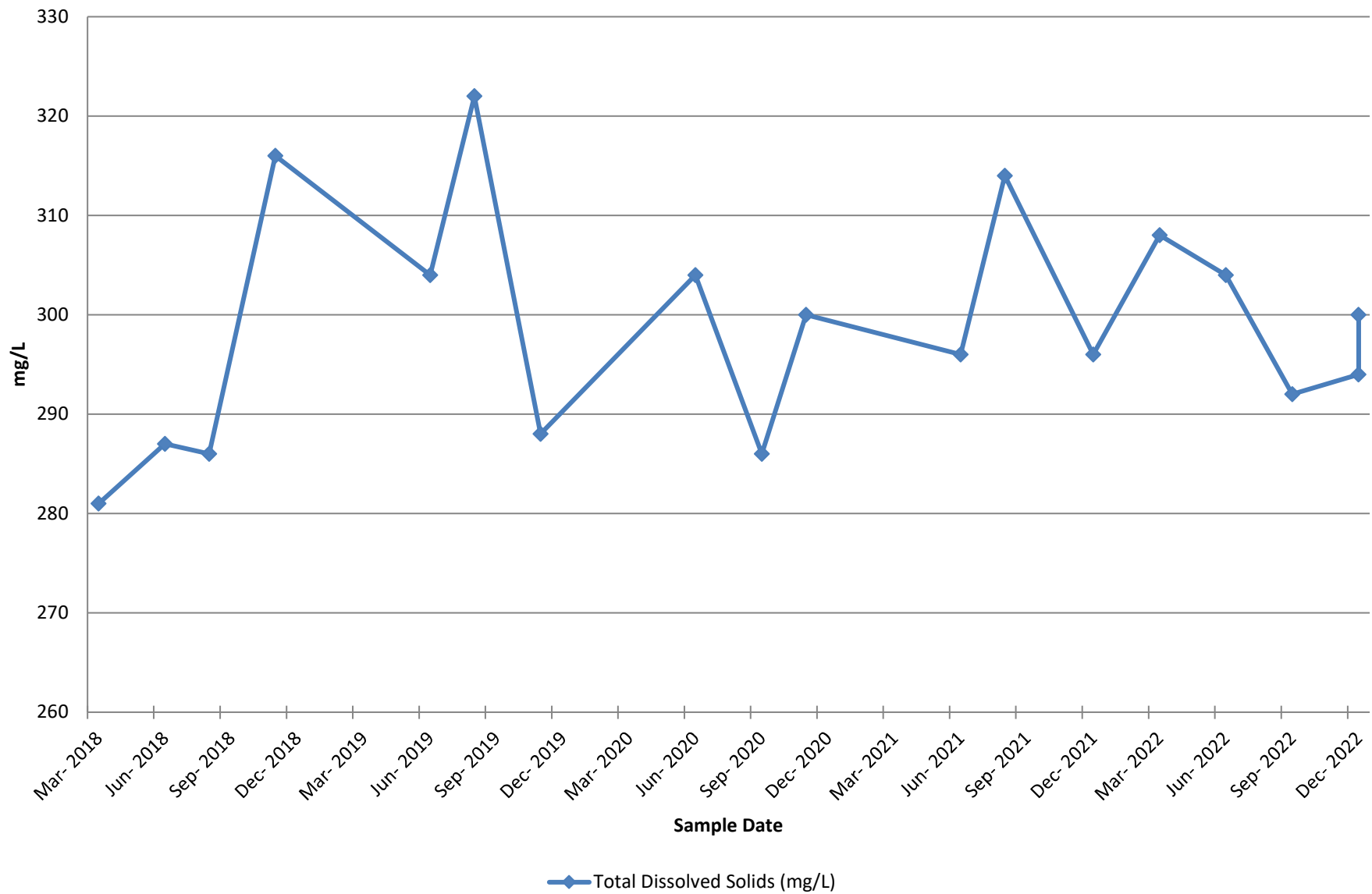


Chart 25
EV-MW-004: Fluoride
Climax Mine

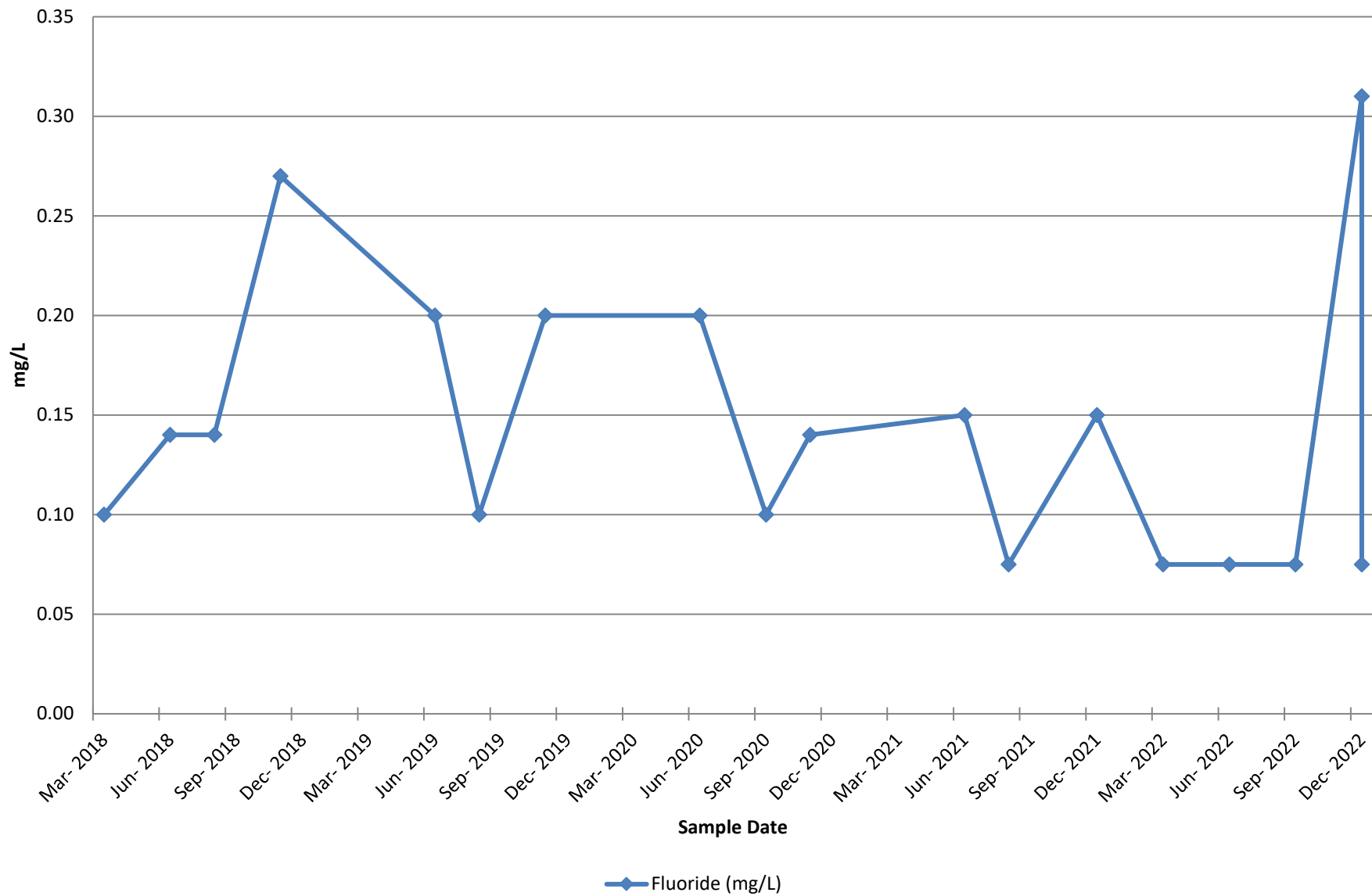


Chart 26
TM-MW-002D: Metals
Climax Mine

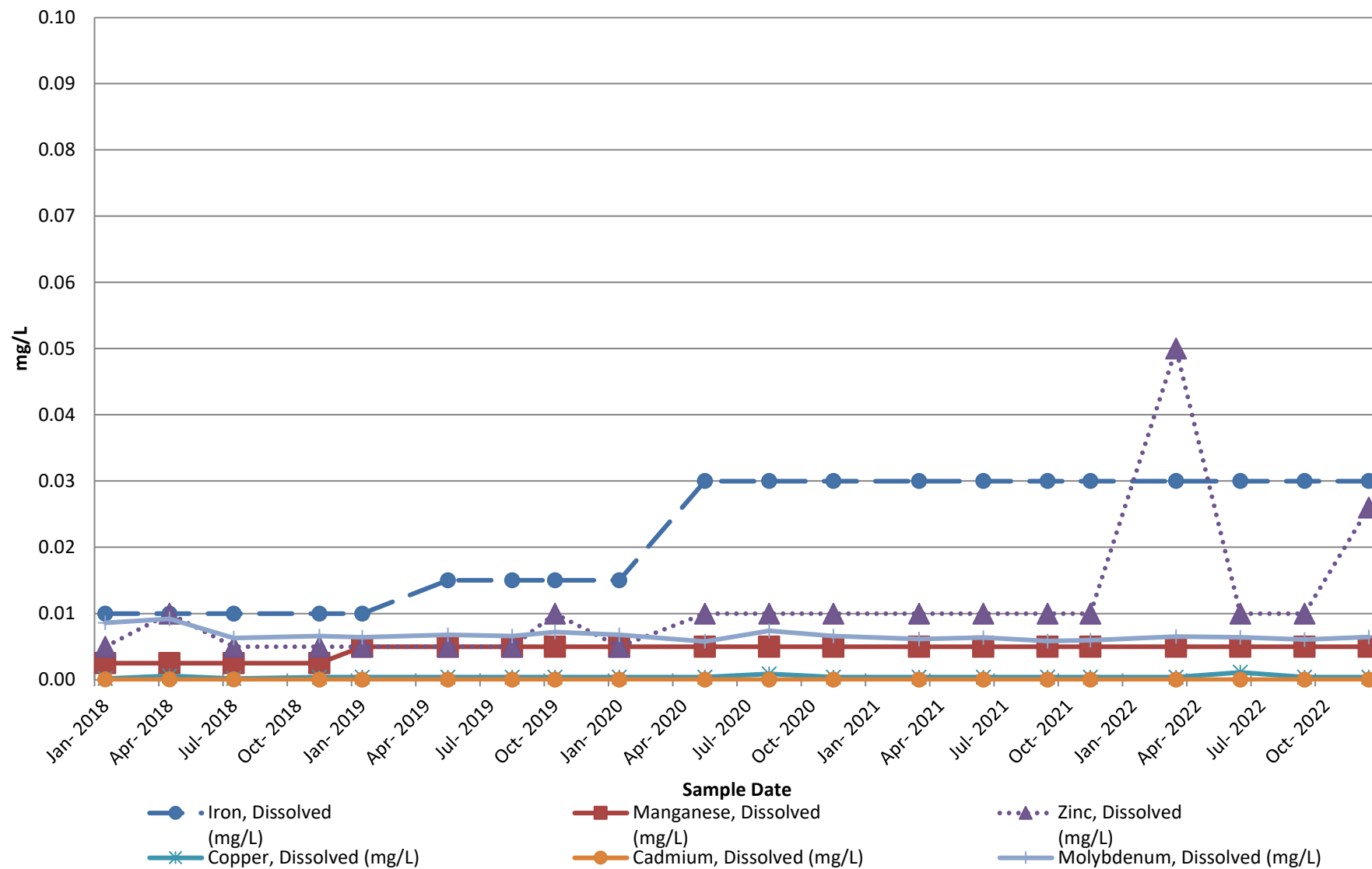


Chart 27
TM-MW-002D: pH
Climax Mine

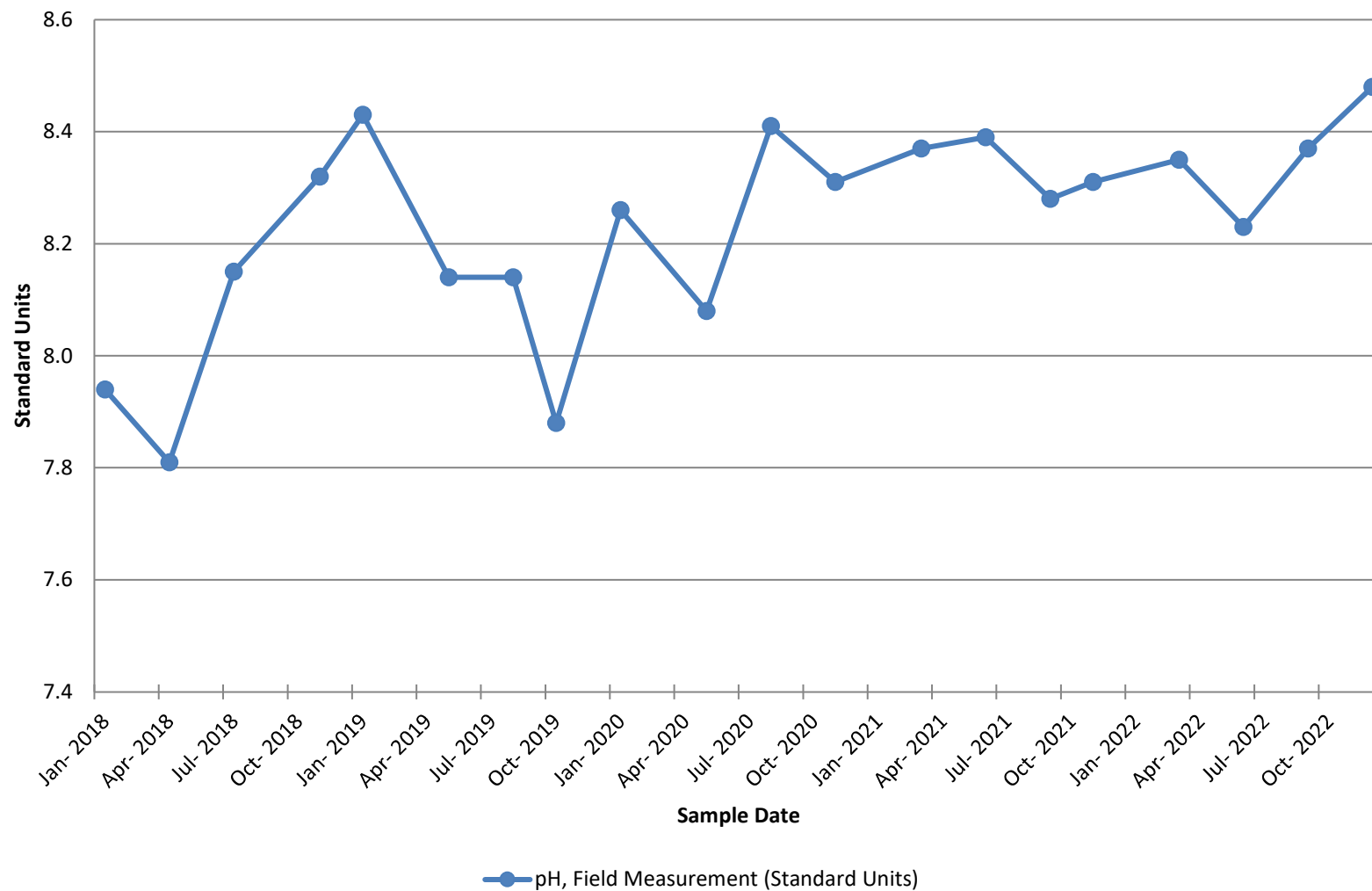


Chart 28
TM-MW-002D: Sulfate
Climax Mine

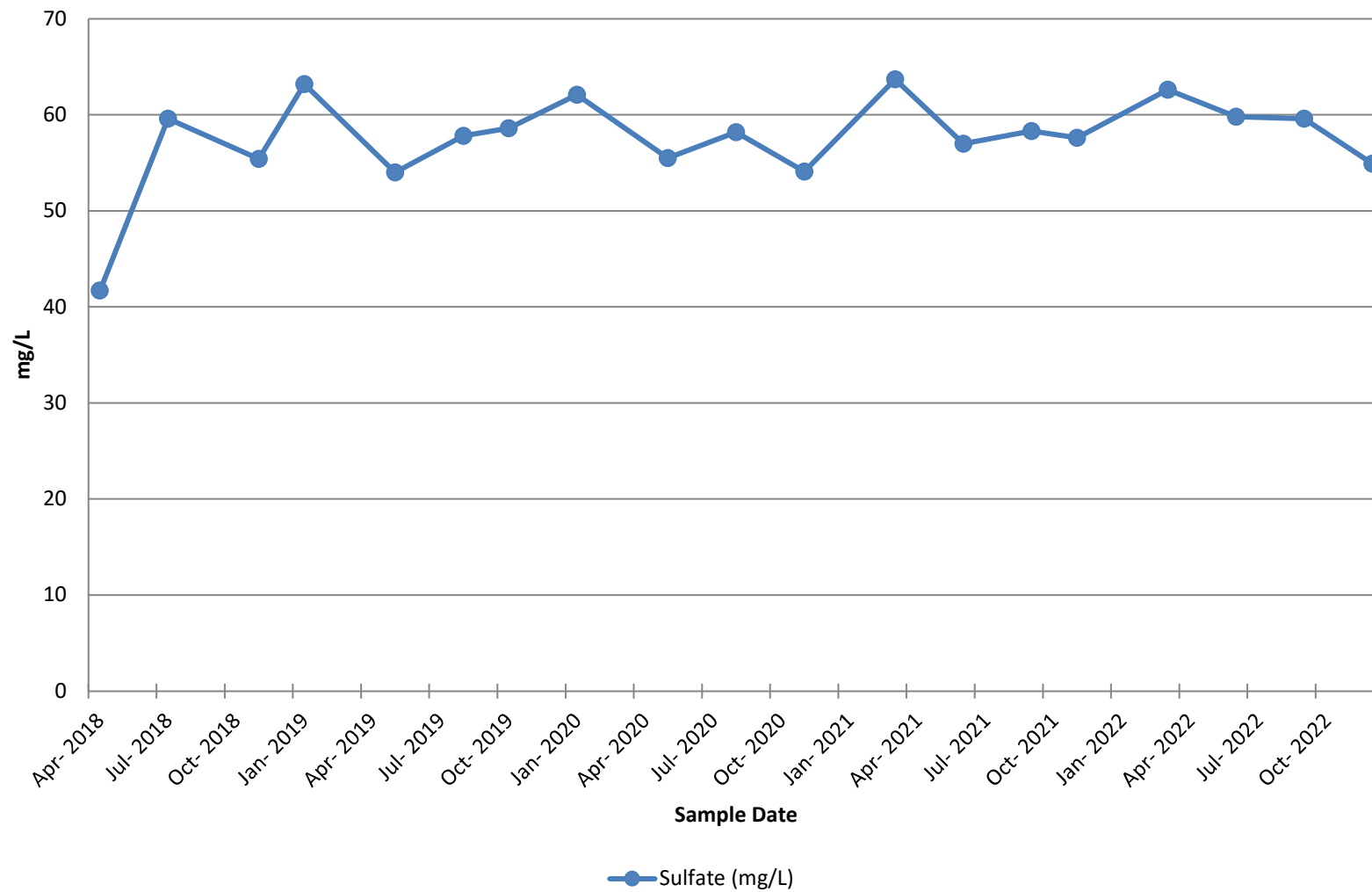


Chart 29
TM-MW-002D: TDS
Climax Mine

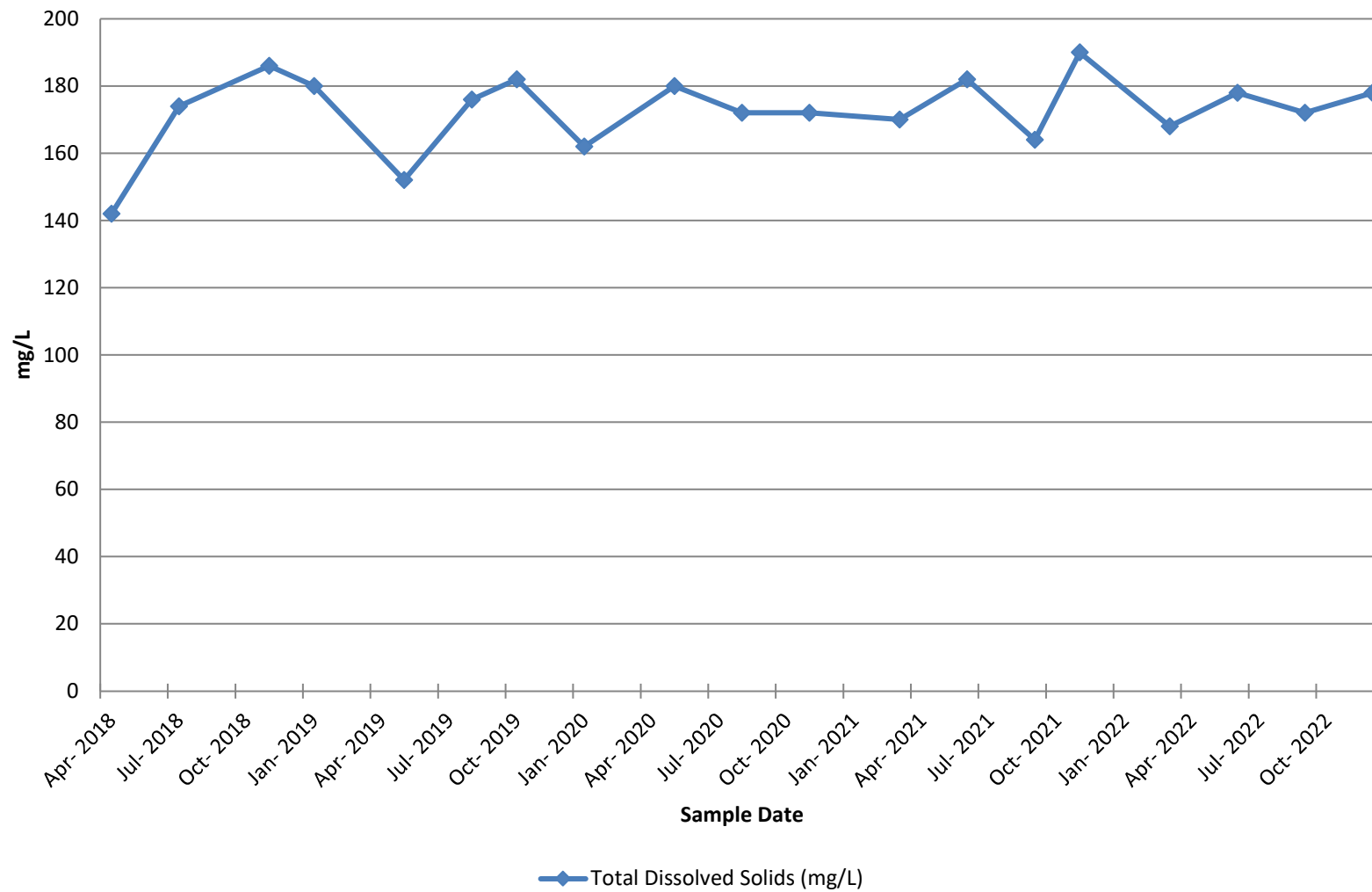


Chart 30
TM-MW-002D: Fluoride
Climax Mine

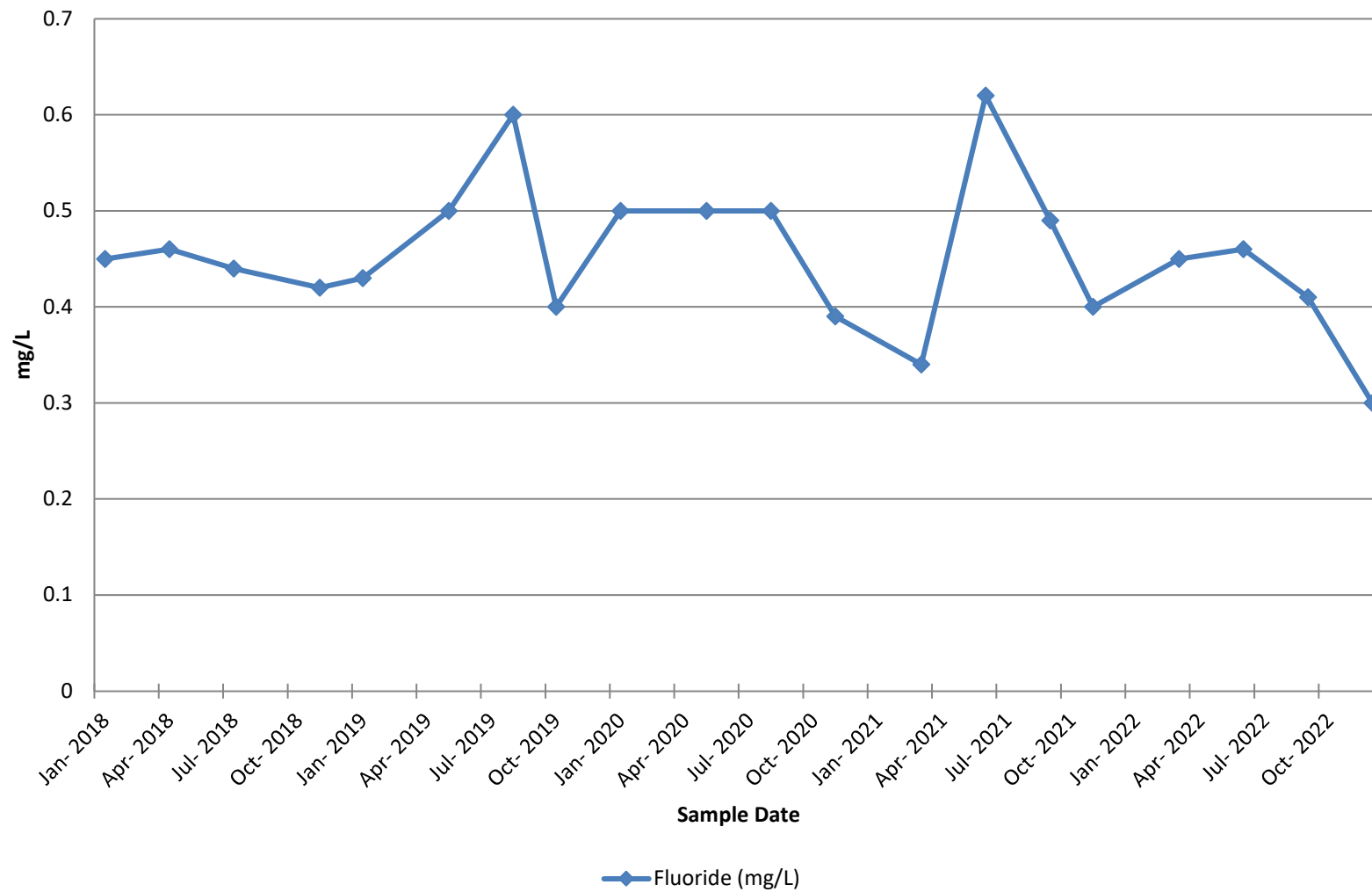


Chart 31
GW#2: Metals
Climax Mine

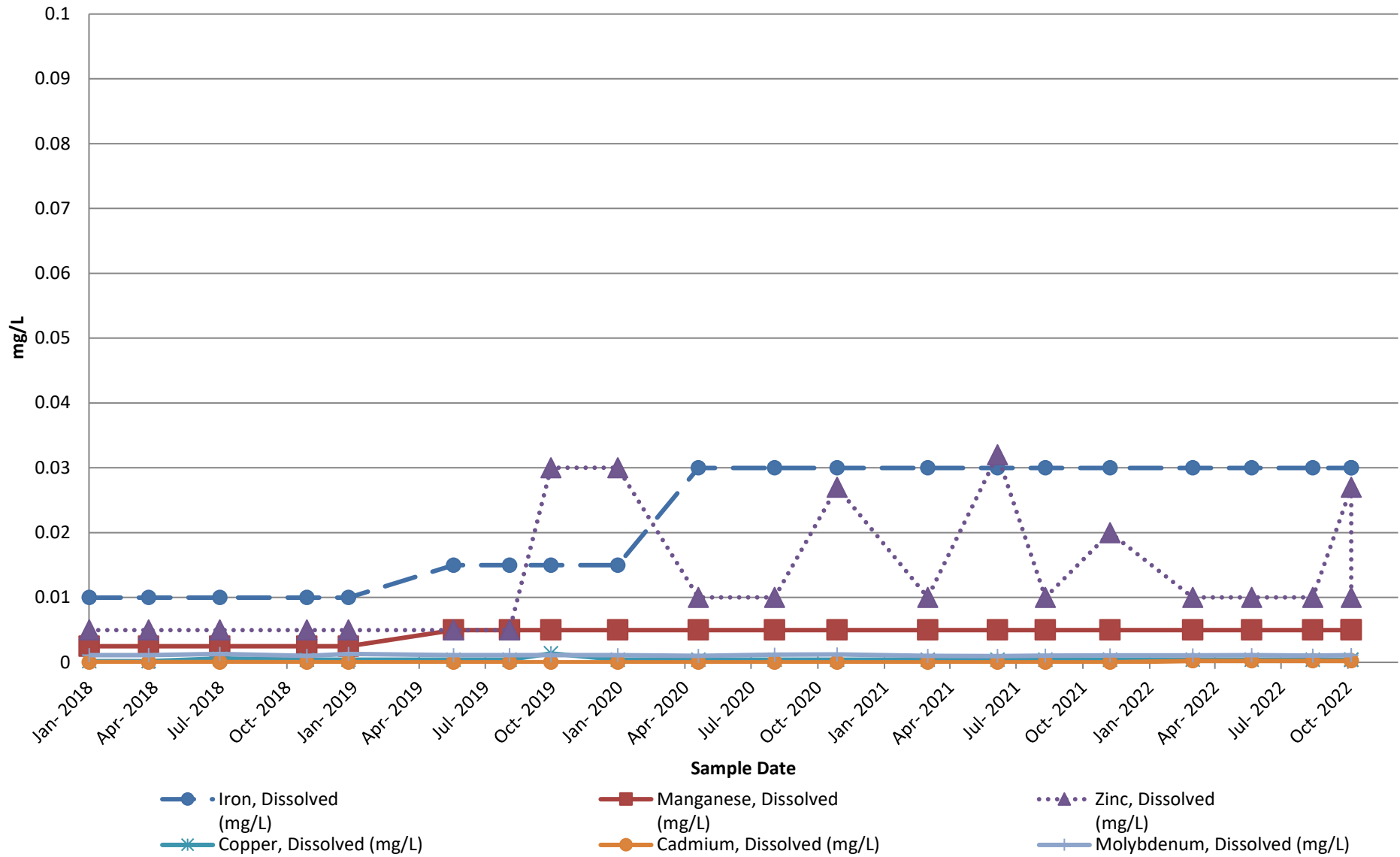


Chart 32
GW#2: pH
Climax Mine

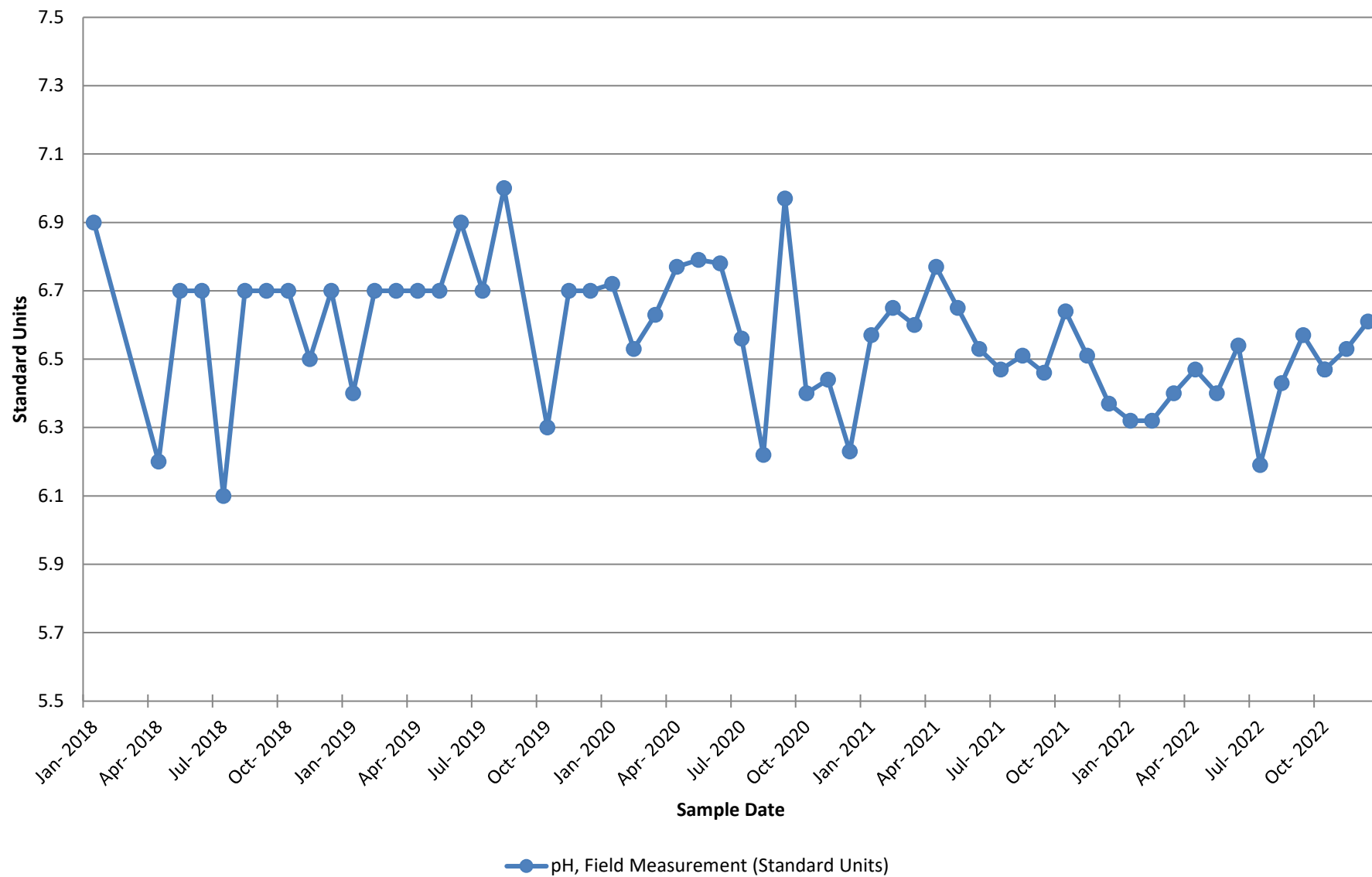


Chart 33
GW#2: Sulfate
Climax Mine

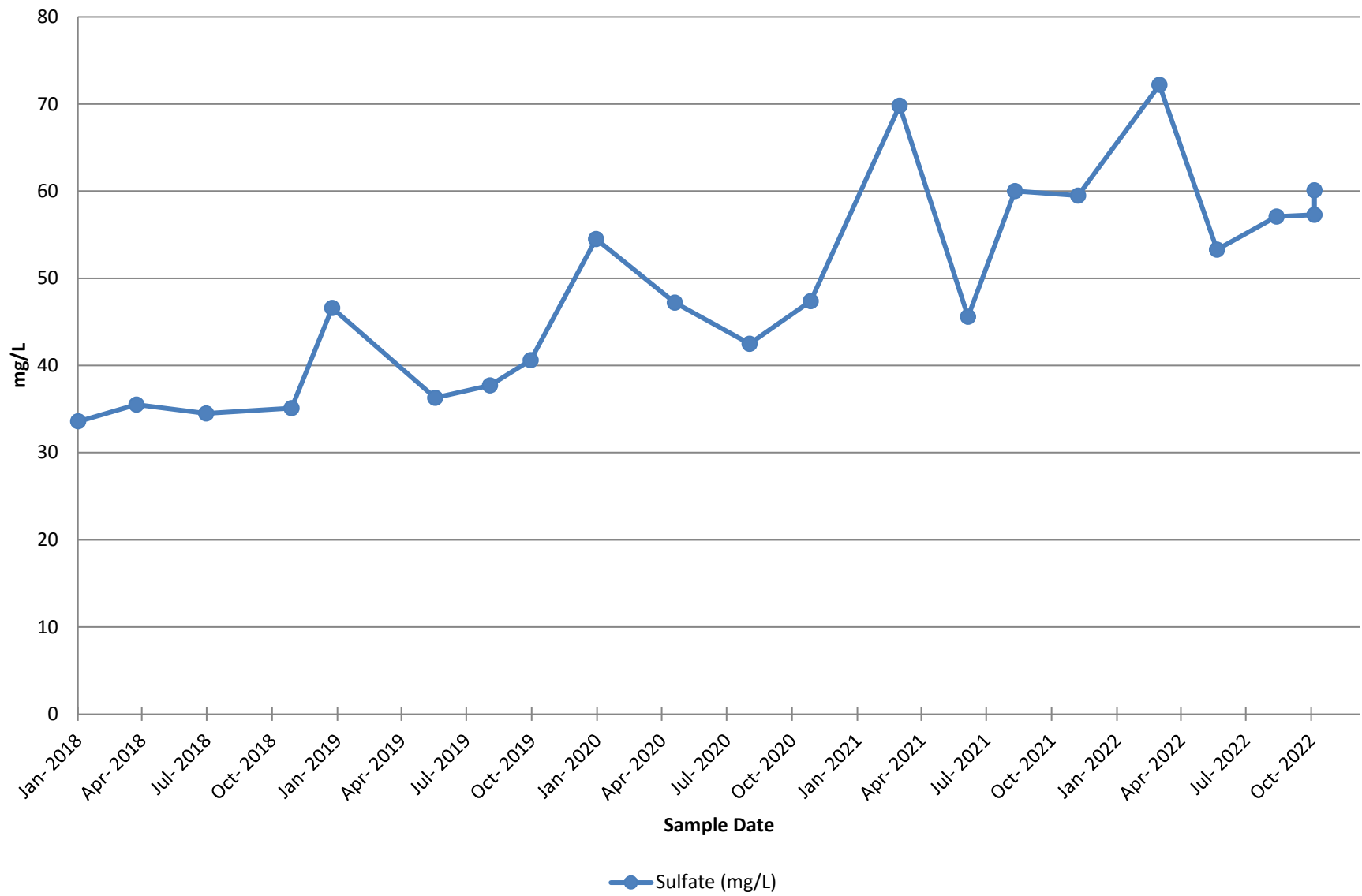


Chart 34
GW#2: TDS
Climax Mine

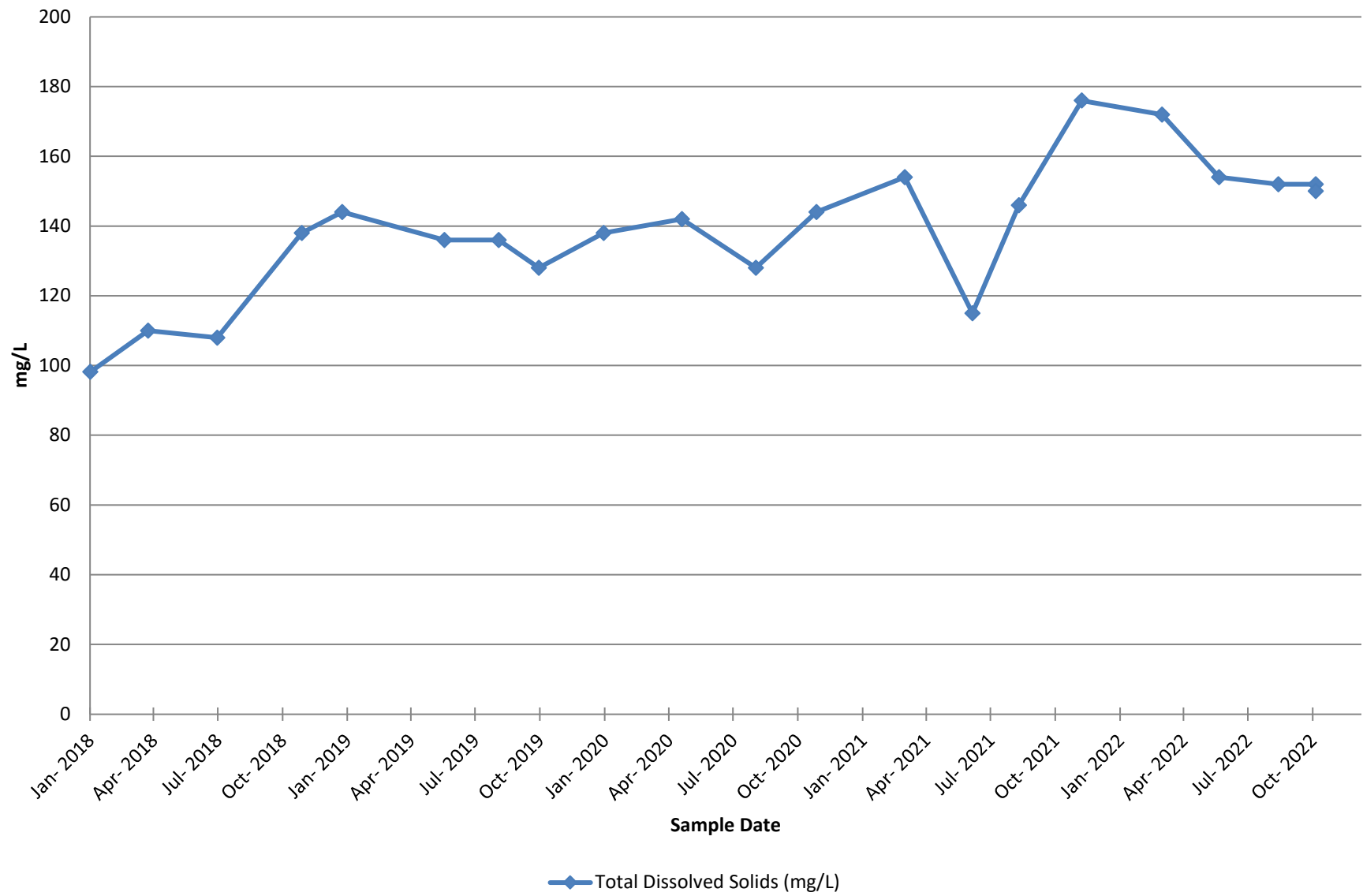


Chart 35
GW#2: Fluoride
Climax Mine

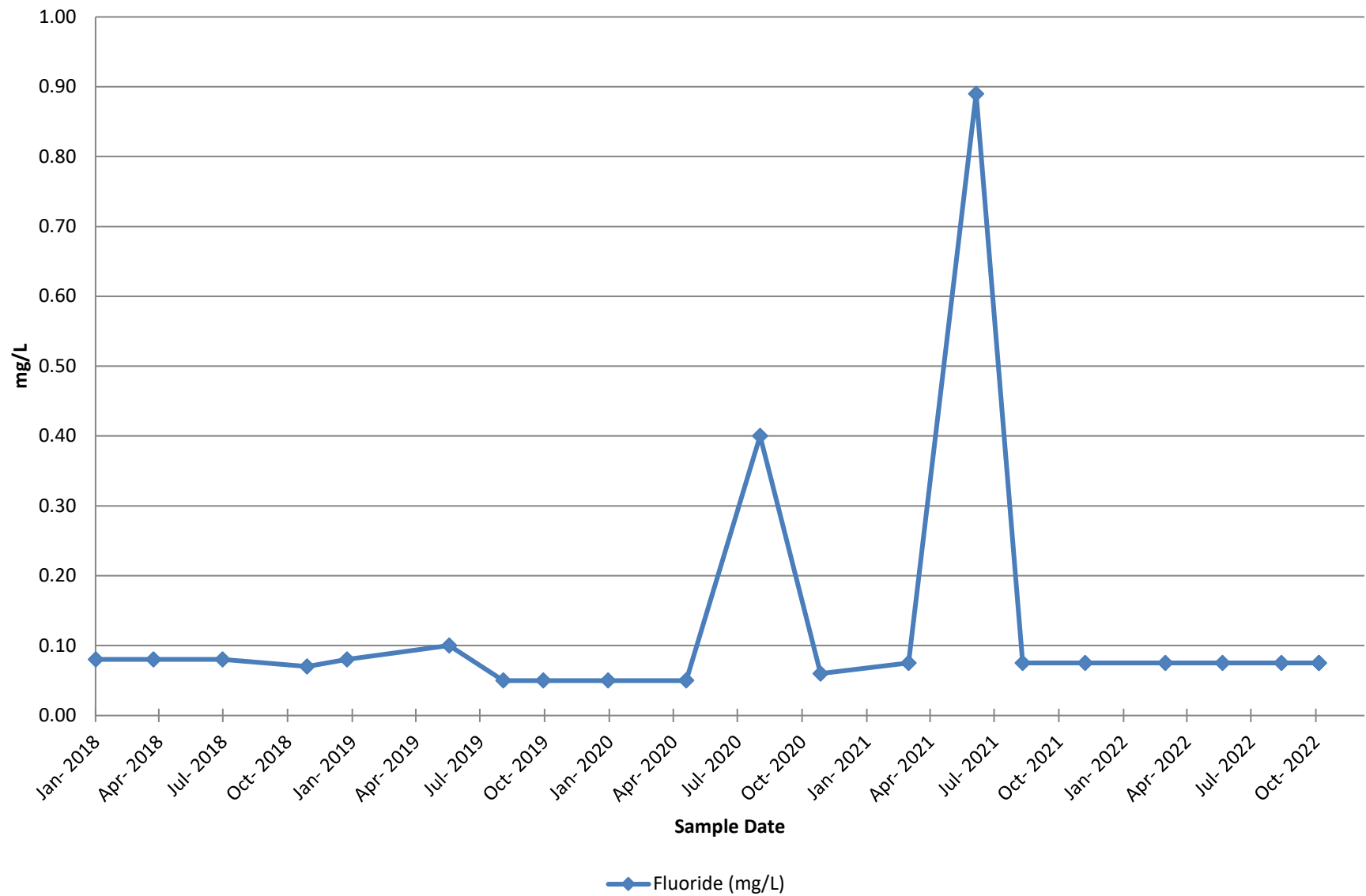


Chart 36
EVMW-1S: Metals
Climax Mine

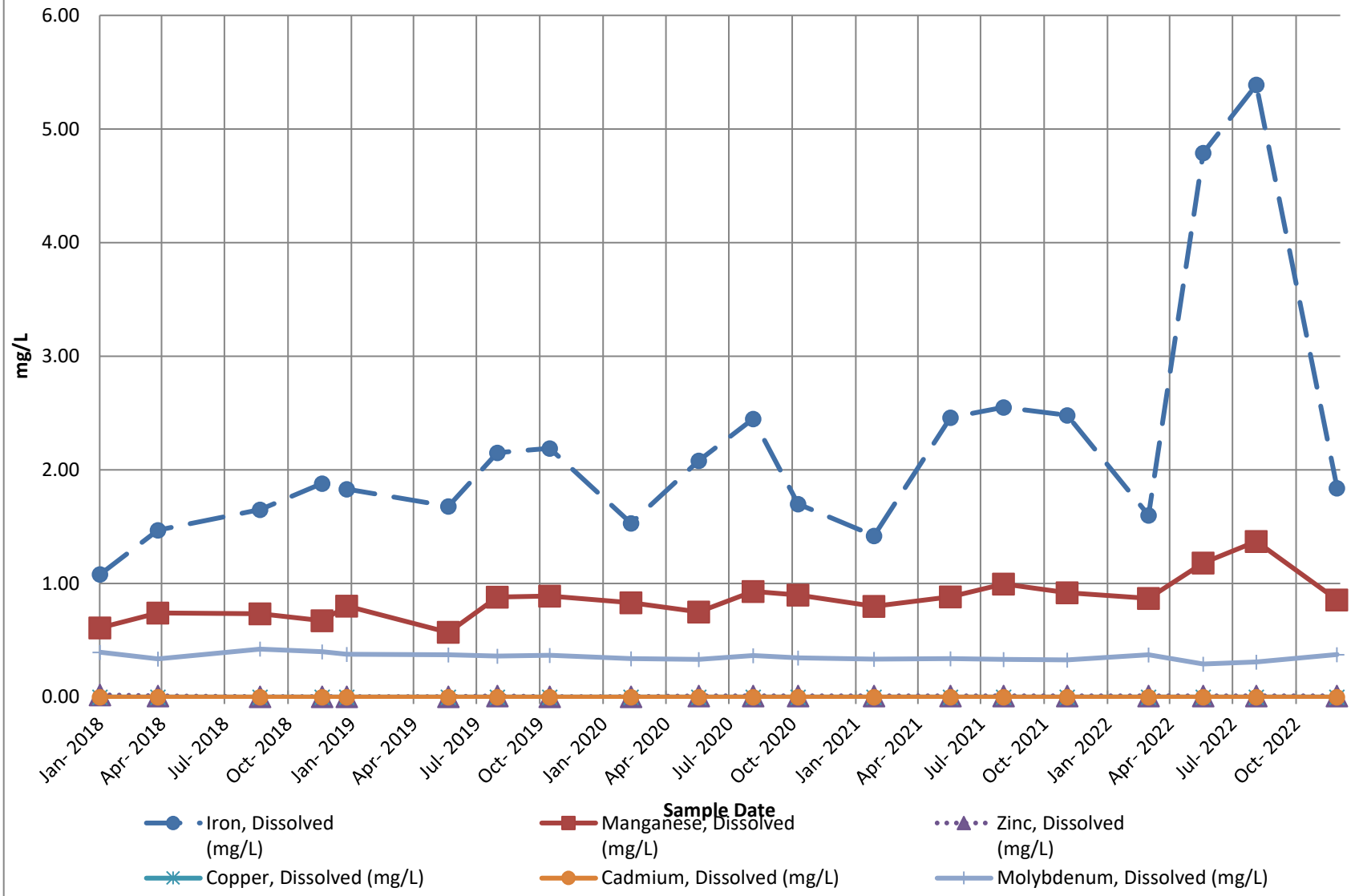


Chart 37
EVMW-1S: pH
Climax Mine

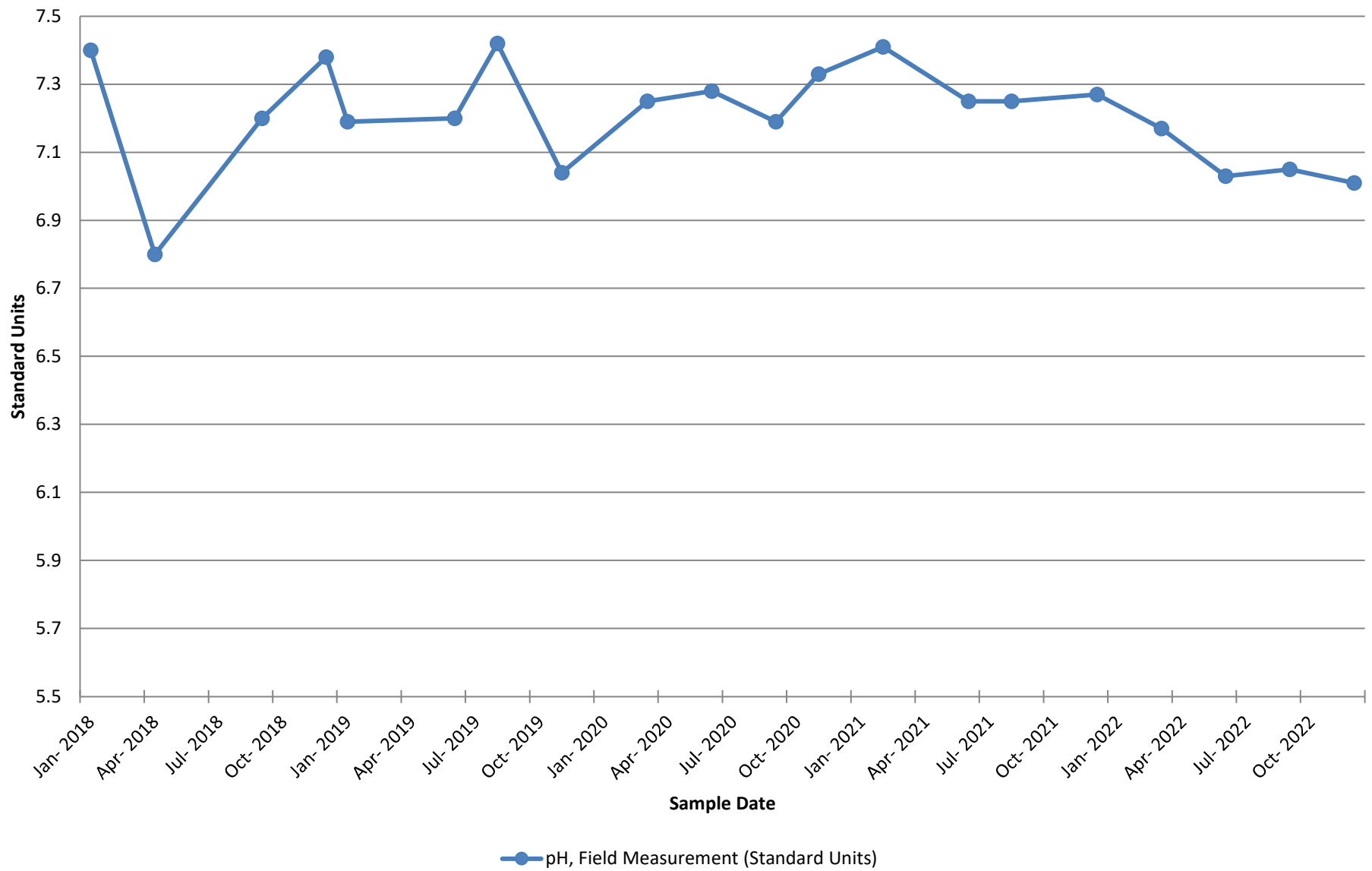


Chart 38
EVMW-1S: Sulfate
Climax Mine

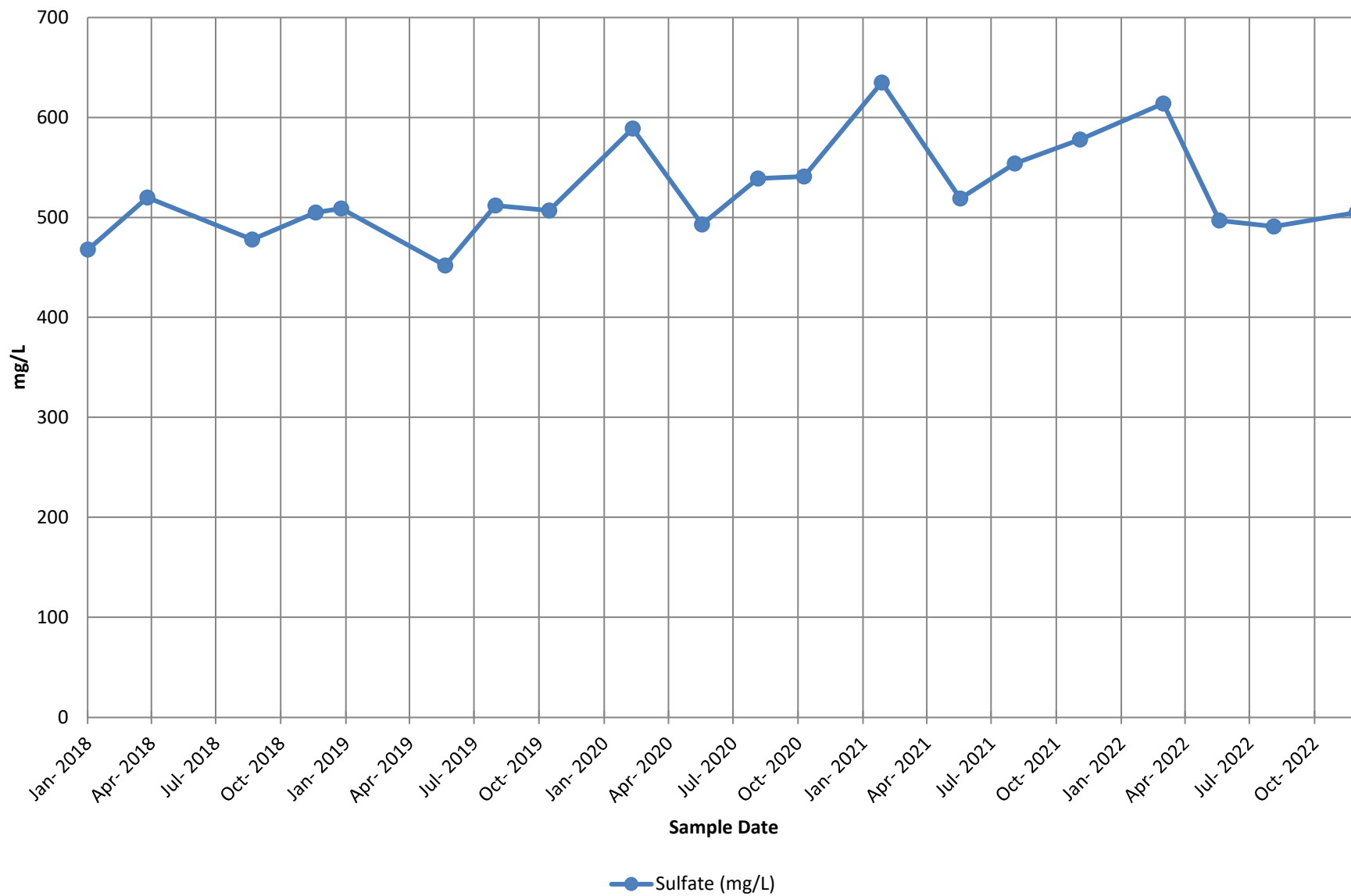


Chart 39
EVMW-1S: TDS
Climax Mine

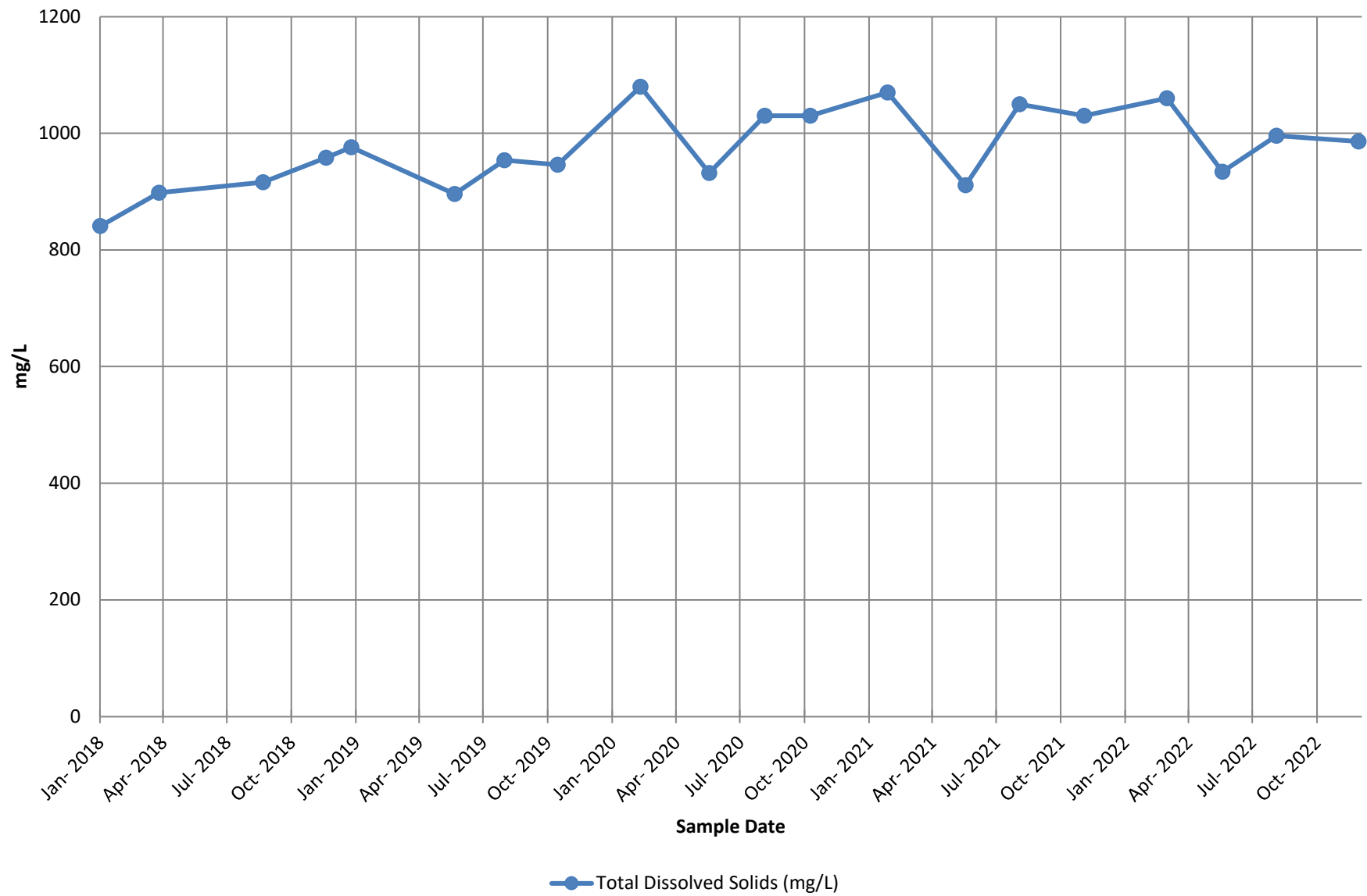
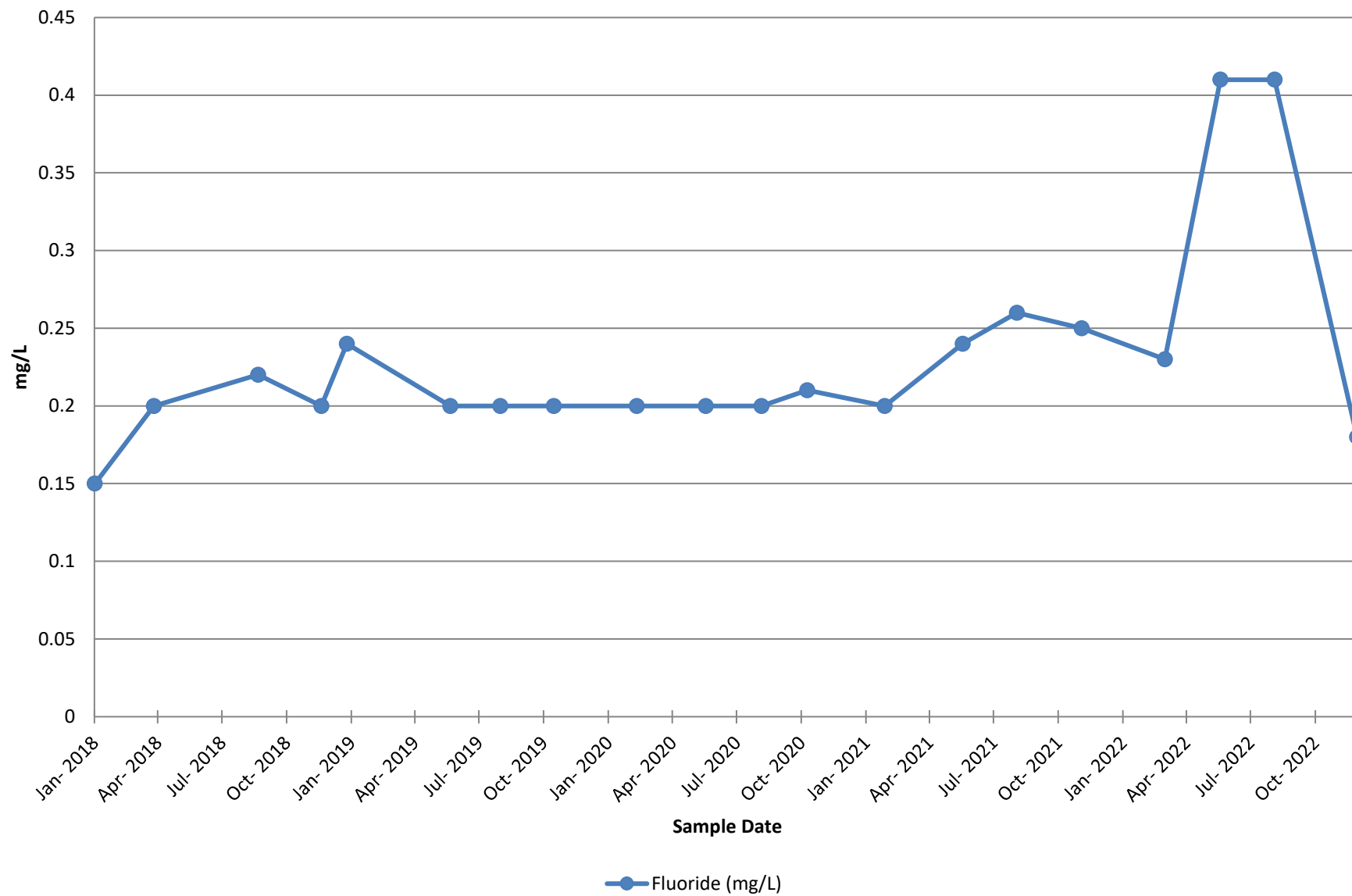


Chart 40
EVMW-1S: Fluoride
Climax Mine





REVISIONS				CLIMAX OPERATIONS		DIVISION: ENVIRONMENTAL DEPT.	
REV No		BY	DATE	SCALE: 1:13,655	SHEET SIZE: ANSIB	AREA:	
1	MODIFIED LAYOUT	JD	1/23/18	ENG'D BY:	DATE:	TITLE:	DWG. NO.
2				DWN BY: JD	DATE: 1/23/18	ANNUAL REPORT MAP 5 - WQMP SITES EAGLE RIVER WATERSHED	
3				CHKD BY: JH	DATE: 2/8/18		
				APVD BY: JH	DATE: 2/8/18	REVISION:	
						SHT. OF	



A Freeport-McMoRan Company



REVISIONS				SCALE:		SHEET SIZE		DIVISION:	
REV No		BY	DATE	1:30,000	ANSI B			AREA:	
A	MODIFIED LAYOUT	JD	1/23/18	ENG'D BY:	DATE:	CLIMAX OPERATIONS  Climax Molybdenum A Freeport-McMoRan Company			
1				DWN BY: JD	DATE: 1/23/18				
2				CHKD BY: JH	DATE: 2/8/18				
3				APVD BY: JH	DATE: 2/8/18				
								TITLE:	
								ANNUAL REPORT	
								MAP 6 - WQMP SITES	
								TENMILE CREEK WATERSHED	
								DWG. NO.	
								REVISION:	
								SHT.	OF



REVISIONS				SCALE: 1:20,000		SHEET SIZE		DIVISION: ENVIRONMENTAL DEPT.	
REV No		BY	DATE	ANSI B	DATE:	AREA:		TITLE:	
A	MODIFIED LAYOUT	JD	1/23/18	ENG'D BY:	DATE:	ANNUAL REPORT		DWG. NO.	
1				DWN BY: JD	DATE: 1/23/18	MAP 7 - WQMP SITES		REVISION:	
2				CHKD BY: JH	DATE: 2/8/18	ARKANSAS RIVER WATERSHED		SHT. OF	
3				APVD BY: JH	DATE: 2/8/18				

 **Climax Molybdenum**
A Freeport-McMoRan Company