ANNUAL GROUNDWATER REPORT

2021 - 2022

US GYPSUM, IMPERIAL COUNTY

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1. INTRODUCTION

In 1999, US Gypsum (USG) began an expansion of their Plaster City Plant, located outside of Ocotillo, California. This expansion replaced the production line from 1956 with a more modern and efficient gypsum wallboard manufacturing facility. An environmental impact report and study (EIR/EIS) of the expansion was approved in 2008. This EIR/EIS showed that groundwater levels were declining in the Coyote Wells Valley Basin (**Figure 1**) prior to the Plaster City Plant expansion, and it suggested that the Plant expansion and operations could exacerbate the groundwater level declines. In 2015, USG developed a Groundwater Monitoring Program in response to the EIR/EIS (Todd, 2015). This plan was updated in 2018 following a settlement agreement with the Sierra Club (Imperial County Superior Court, 2018). As detailed in the Monitoring Program, annual reports are submitted to Imperial County by the first business day of October.

This annual report details groundwater conditions in the Coyote Wells Valley Basin and documents any changes that occurred between Spring 2021 through Spring 2022. It analyzes and summarizes groundwater levels and groundwater quality measurements collected by the United States Geologic Survey (USGS) each spring, as well as additional groundwater level and groundwater quality data collected by USG.

In Spring 2022, the USGS monitored groundwater in 26 wells throughout the basin and sampled groundwater quality from 18 wells. Field water quality measurements were available for all 18 wells, but lab results, including TDS concentrations, were only available for 15 wells, as of September 9, 2022. USG also measured daily water levels in five of these wells and additional groundwater contaminants in three of the wells. One well showed groundwater level declines over 4 years. Because this well constitutes less than ten percent of all monitored wells, this does not exceed the threshold for regional water decline. No significant adverse trends that indicate regional groundwater level decline or groundwater quality degradation were observed.

2. PHYSICAL SETTING

2.1. DESCRIPTION OF GROUNDWATER BASIN

The Coyote Wells Groundwater Basin is located in the Yuha Desert, west of Imperial Valley, California (**Figure 1**). This Basin, DWR Groundwater Basin No. 7-29 (DWR, 2003), has an area of 64,400 acres (100 square miles). It is bounded by impermeable rocks to the north, west, and southwest, while its southern and eastern borders are political, as opposed to geologic, boundaries. **Appendix A** contains a more detailed description of the Basin's hydrogeology. Groundwater from this Basin is pumped for the Plaster City Plant, the community of Ocotillo, domestic wells, and, more recently, dewatering of a construction project by US Customs and Border Protection that has since been abandoned.

2.2. HYDROLOGY

The Coyote Wells Valley Basin has an arid climate. Over the period of record from 1933-2022, the average spring to spring rainfall at the El Centro precipitation station (Western Regional Climate Center, 2022) is 2.6 inches (**Figure 2**). Annual rainfall ranges from 0.05 inches in 2001-2002 water year to 7.3 inches during the 1982-1983 water year. Annual precipitation was 0.93 inches From April 2021 through March 2022. The Basin receives limited natural recharge.

2.3. GROUNDWATER PUMPING

The Plaster City Plant pumps groundwater from the Coyote Wells Valley Basin for primarily industrial use. Its three production wells (USG- 4, 5, and 6) located near the center of the Basin (**Figure 3**). Monitoring wells, shown in **Figure 3**, observe groundwater conditions throughout the Basin. **Figure 4** provides a closer view of well locations near Ocotillo.

Figure 5 shows annual USG production, by calendar year, from 1970 to 2021. Annual production totals by well for the 2005 through 2021 calendar years are tabulated in **Table 1**. The total groundwater production reported by USG in the 2021 calendar year was 351-acre feet (AF). This is a slight increase from the 347 AF of production in calendar year 2020.

The total water pumped by USG during the time covered by this Annual Report, from the end of Spring 2021 (Q3 and Q4 2021) through Spring 2022 (Q1 and Q2 2022), was 329 AF. **Table 2** shows pumping during this period, as well as during the first two quarters of 2022. Quarterly production between 2021 Q3 and 2022 Q2 ranged from 79 AF (2021 Q4 and 2022 Q1) to 89 AF (2022 Q2). The totalizer at Well 4 broke in May 2022 and its replacement has been backordered due to supply chain issues. However, USG collects weekly data from the water meter, which provides data to the totalizer. The water meter readings at Well 4 were used to complete the total production log from May 2022 through the end of Q2.

2.4. Pumping from Other Sources

Groundwater pumping from the Basin has traditionally been for residential and industrial uses. There are no publicly available data for the annual pumping from the two mutual water companies and domestic wells in the Basin. However, a previous study estimated production from these sources to be 127 AFY as of 2004 (Todd, 2007).

In 2020, a large volume of pumping by the United States Customs and Border Protection (USCBP) for a construction project was reported along the southern portion of the Coyote Wells Basin. No further updates have been provided by the USCBP, and this report assumes that pumping has ceased in 2021 due to project abandonment.

3. MONITORING PROGRAM

The USGS measures water levels and water quality semi-annually and reports results publicly on the National Water Information System (NWIS) at https://waterdata.usgs.gov/. USG monitors water levels in the three production wells (USG-4, USG-5, and USG-6) and for two nearby monitoring wells (36A1/MW-2B and 36A2/ MW-2A). **Table 3** identifies all recently monitored wells within and just east of the Basin. In Spring 2022, USGS monitored quarterly water levels in 26 wells and USG monitored daily water levels in five of these wells. Two wells that were recently monitored but were not monitored in Spring 2022 are listed at the bottom of **Table 3**.

The USGS monitored water quality in 18 wells during March 2022. Field measurements were reported online for every well, but lab results for most wells (major and minor ion concentrations) had not yet been published online for most wells by September 2, 2022. Preliminary lab results for USGS wells were collected via direct communication with the USGS and were available for all but three wells-25M2, 26F1, and 36A1[MW-2B] (Clark, 2022). USG monitored additional contaminants, including organic constituents, in the three USG production wells.

Figure 3 shows recently monitored wells in and surrounding the Coyote Wells Valley Basin, and **Figure 4** shows monitoring wells, zoomed in on Ocotillo. In these figures blue indicates wells that have both water level (WL) and water quality (WQ) data from 2022, yellow indicates wells with water level data only and green indicates water quality data only.

Water level measurements in the three production wells may not be representative of regional water levels because the water level fluctuates significantly due to pumping. When the well is pumped, the groundwater levels in and near the well decline. The resultant drawdown is dependent on several variables, including the pumping rate, well efficiency, and the type of pump. Hydrographs for all wells are found in **Appendix B**, and fluctuations in the production wells due to pumping are evident in these hydrographs.

3.1. WATER LEVELS

Appendix B contains hydrographs for all monitoring wells. The hydrographs are presented in two sets. The first set shows hydrographs for all active wells with the same scale for easy comparison. The second set shows the same water levels and wells, but with a vertical range of 25 feet (ft) to highlight subtle changes in the water levels.

Several key wells, shown with their hydrographs in **Figure 6**, were selected to show trends across the groundwater basin. These wells were chosen as key wells because they have relatively complete water level histories and locations representative of the groundwater basin. For easy comparison, the hydrographs in **Figure 6** all use the same vertical scale (40 ft).

Drawdown from pumping in the USG wells is observed in the nearby monitoring Wells 31B1 and 36D2. These wells show slight decreasing trends from the 1990s through 2008 and then a slight increase in response to lower pumping rates in 2008-2015. From 2015-2022 water levels show a slightly decreasing trend, likely due to recent increases in USG production.

Wells further away from the USG wells do not show a clear response to USG pumping rates. For example, Well 24D1, north of the USG wells, shows steadily decreasing water levels over the past 30 years while water levels in Well 16J1 have steadily increased during this time period. Towards the eastern edge of the Basin, Well 42L1 reflects seasonal variations and shows sharp increases after peak precipitation events in 1993 and 1997.

Table 4 lists the 26 wells that were monitored in both Spring 2021 and Spring 2022 and the annual change in average water level. USG production wells 4, 5, and 6 are excluded from trend analysis because the trend may be more reflective of recent pumping. For the monitoring wells 36A1 (MW-2B) and 36A2 (MW-2A), which are monitored by both the USGS and USG, the Spring USGS measurements were used for trend analysis to maintain consistent methodology.

Of the 23 wells analyzed, thirteen wells showed declining water levels from Spring 2021 to Spring 2022. Four of these wells had water levels decline by greater than 0.1875 during this period. The wells with notable groundwater level declines are not concentrated within a single portion of the Basin. The maximum water level decline was 0.46 ft at well 42L1, located in the southeastern portion of the Basin, seven miles away from the USG production wells.

Ten wells show increasing groundwater levels over the past year, and four of these wells showed increases by greater than 0.1875 ft from Spring 2021 to Spring 2022. The wells with notable increasing groundwater levels are clustered in the southern portion of the Basin, near Yuha Estates. The maximum water level increase was 0.51 ft at well 11B1.

The groundwater contours and flow direction near Ocotillo are shown in **Figure 7**. Like previous years, the groundwater flows, in general, from west to east. A pumping depression on the west is likely due to recent pumping in one or more private, non-USG wells.

3.2. Assessment of Groundwater Level Declines

Groundwater level declines in the Coyote Wells Valley Basin have been previously characterized as either short-term or long-term declines. Short-term drawdowns correspond to nearby pumping and quickly recover after nearby pumping has ceased. Production wells have alternating periods where the well is on and off. When the well pump is operating, groundwater levels in and around the pumping well will decline. As shown in hydrographs for the production wells USG-4, USG-5, and USG-6 (**Appendix B**), water levels vary significantly while the wells are pumping, but levels recover within days.

Short-term declines in water levels can adversely affect surrounding wells. This drawdown is called well interference. The monitoring program developed for USG addresses well interference with the following performance standard:

> *Well interference is defined as the combined pumping from all USG pumping wells so as **not to exceed 5 feet of drawdown at the nearest water-supply well.***

No private wells have reported well interference issues due to USG pumping thus far. Long-term declines do not quickly recover, and long-term declines are exacerbated by additional pumping. Several wells in the Coyote Wells Valley Basin exhibit long-term declines. The performance standard to evaluate long-term regional decline in the Coyote Wells Valley Basin is as following:

> *Water level decline is defined as four consecutive **annual** groundwater measurements (**spring only**) declining at a rate that is greater **than 0.1875 feet per year**, occurring at more than **10 percent of wells** in the regional monitoring program.*

Spring measurements are used to calculate the rate of decline to avoid seasonal effects on groundwater levels, and USGS measurements are used to maintain consistent methodology. The calculated rate of decline for the period of record (2010-2022), is listed by well in **Table 4**. Declines greater than 0.1875 feet in a year are highlighted. Well 42L1 is the only well in the monitoring program to show water level declines over at least four consecutive years since annual reporting began. This well reported a water level decrease of 0.46 ft from 2021 to 2022 and a decline of greater than 0.1875 feet per year for the past six years. The average decline was 0.43 ft during this six-year period. Well 42L1 is the only well in the monitoring program to show water level declines over at least four consecutive years since annual reporting began.

The groundwater level data shown in **Table 4** and **Figure 6** indicate that the pattern and rates of groundwater level changes in Well 42L1 differ from that of other monitoring wells in the Basin, including wells closer to USG wells. This suggests that local factors may be affecting water level declines in addition to regional decline. The hydrographs in **Figure 6** shows that historical water level trends in the Basin vary by location. Comparison between the Well 42L1 hydrograph on **Figure 6** and the annual rainfall amounts on **Figure 2** show that high rainfall years correspond with short-term increases in groundwater levels at Well 42L1. This well is located along Yuha Wash, which concentrates and percolates rainfall-induced runoff from surrounding uplands and may make this well's water levels susceptible to precipitation trends, despite the arid environment. This well may be particularly vulnerable to shifting precipitation trends due to climate change.

Despite declines at a rate greater than 0.1875 feet per year for six years, Well 42L1 represents less than 10 percent of the total wells monitored (excluding USG production wells). The performance standard for assessing long-term regional decline has not been exceeded.

In subsequent annual reports, attention should be given to Well 31B1. Water levels in this well have decreased for the past five years. For three consecutive years, the groundwater levels decreased by more than 0.1875 ft, followed by a decrease of 0.17 ft from 2020-2021 and 0.14 ft from 2021-2022. Because the most recent annual groundwater level decrease was less than 0.1875 ft, this well does not meet the criteria for groundwater level decline. Well 31B1 is located near the USG production wells, and local water level decreases may be linked to USG production. Even if water levels in Well 31B1 had decreased by 0.1875 feet for five consecutive years, Wells 31B1 and 42L1 would still constitute less than 10 percent of all monitored wells.

4. WATER QUALITY

4.1. GROUNDWATER QUALITY

The EIR/EIS indicated that increased groundwater production can lead to groundwater quality degradation. Outcrops of Tertiary marine sediments occur in the Ocotillo area and the No Mirage area in the east of the groundwater basin, and these sediments are present beneath the alluvial aquifer. Groundwater stored in these sediments naturally has a higher salinity level. Increases in groundwater production could increase groundwater salinity in the Coyote Wells Valley Basin through two processes:

- lateral migration of saline water from near-surface Tertiary marine sediments
- vertical migration of saline water from the Tertiary marine sediments present at depth below the alluvial aquifer.

The monitoring program is designed to detect changes in total dissolved solids (TDS) concentrations due to increased pumping by USG wells. TDS is used as an indicator for general mineral groundwater quality. Tracking TDS changes is a simplified, but widely accepted, method to detect changes in general water quality.

4.2. POTENTIAL WATER QUALITY DEGRADATION

Table 5 shows TDS concentrations for the active USGS monitoring wells, and tables of other constituents are presented in **Appendix C.** The water quality data shows clear spatial trends in the Basin, with little change over recent years. While higher TDS concentrations exist in the eastern portion of the Basin, the stable TDS concentrations throughout the Basin suggest that saline eastern water is most likely not migrating west.

The following performance standard has been developed as an early warning of changing conditions from USG pumping and its potential effect on water quality:

*A significant increasing trend in **total dissolved solids** (TDS) concentrations is defined as TDS concentrations in groundwater from any well in the groundwater basin whereby **four consecutive annual samples (collected each spring)** show a cumulative increase greater than **20 percent of the long-term average** for that well.*

No wells show increasing TDS concentrations, as defined by the updated 2018 USG performance standard listed above. Overall, wells sampled in the Basin had lower TDS concentrations in 2022 than in 2021. Twelve wells measured lower TDS concentrations in Spring 2022 compared to Spring 2021. Four of these wells (11H3, 24D1, and 31B1, and 36C2) showed a decrease in TDS concentrations that was greater than five percent of the long-term average TDS at that well. For the three wells with higher TDS concentrations in 2022, the maximum TDS increase was by 11 mg/L (less than five percent of the long-term average for that well). As of September 2, 2022, TDS concentrations were not available for wells 25M2, 26F1, and 36A1 (MW-2B) due to USGS reporting delays.

Figures 8A and **8B** show springtime TDS concentrations. **Figure 8A** shows every well with a scale of 0 to 1,600 mg/L. All active wells in the monitoring network have satisfied the performance standard for TDS, meaning that cumulative 4-year increases in TDS concentrations (if any) have been less than 20 percent of the well's average TDS concentration. **Figure 8B** shows Well 31B1, a key well that has shown salinity fluctuations over the past several years. In March 2022, the TDS measurement at Figure 8A was 278 mg/L, a decrease from the March 2021 TDS measurement of 293 mg/L.

Figure 9 shows TDS concentrations within the groundwater basin for Spring 2022 data are provided in **Appendix C**. Although the maximum TDS concentration is used as the metric for reporting TDS concentrations, every well in the monitoring network only had TDS concentrations measured once in Spring 2022. As documented in **Table 5**, one well with previously high TDS concentrations (42A8) showed a decline from a high of 1,220 mg/L in April 2011 to 535 mg/L in March 2022. Well 24B1, located north of Ocotillo, had the highest March 2022 TDS concentration at 1,275 mg/L. This concentration is consistent with the Spring 2020 and Spring 2021 measurements of 1,280 mg/L TDS.

5. SUSTAINABLE GROUNDWATER MANAGEMENT ACT (SGMA)

Pursuant to the Sustainable Groundwater Management Act (SGMA), Imperial County assumed the role of Groundwater Sustainability Agency (GSA) for all groundwater basins and sub-basins within the county. Consequently, the County has been deemed the exclusive GSA for the Coyote Wells Valley Basin.

The County has continued to work cooperatively with local agencies, water providers, and other interested stakeholders within the Basin in this role. DWR has determined Coyote Wells Valley Basin to be very low priority basin and is therefore not required to prepare a Groundwater Sustainability Plan (GSP). Should the County choose to prepare a GSP for the Basin, the County will consider the interests of all beneficial uses and users of groundwater, as directed by California Water Code section 10723.2. USG is a beneficial user of groundwater and should remain aware of and participate in any GSP process; groundwater management may change how groundwater is monitored, reported, or allocated in the Basin.

As of September 2022, there is no initial notification for a GSP of Coyote Wells Valley Basin and there are no other indications that the County is moving ahead in the process (DWR, 2022).

6. CONCLUSIONS

The USG monitoring program meets every objective established in the EIR/EIS. Continued data collection by the USGS is crucial for maintaining monitoring. The current monitoring network and program is sufficient to identity the occurrence of regional water level declines and identify regional water level declines related to the Plaster City Plant production. This annual report identified one well that has shown declining water levels over the past five years. However, this well represents less than 10 percent of the actively monitored wells in the monitoring network.

The current monitoring program meets the objectives set forth in EIR/EIS, noting the importance of continued USGS data collection. The water level data collected are sufficient to identify increases in the rate of water-level decline and for potential water quality degradation. In summary, none of the performance standards have been exceeded, and no significant adverse trends have been identified.

US Gypsum will prepare the next Annual Report due to the County of Imperial by the first business day in October 2023.

7. REFERENCES

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TABLES

Table 1. Annual USG Pumping by Well (AFY)

Calendar Year Pumping	Well #4	Well #5	Well #6	Total
2005	226	199	149	575
2006	199	188	162	549
2007	192	174	135	501
2008	140	136	125	400
2009	75	84	78	237
2010	78	82	79	239
2011	81	83	82	247
2012	69	109	70	248
2013	106	66	78	250
2014	98	59	82	239
2015	87	93	91	271
2016	115	118	106	339
2017	93	148	121	362
2018	154	127	92	374
2019	145	101	141	388
2020	109	108	130	347
2021	94	121	137	351

Table 2. Quarterly USG Pumping by Well (AF per quarter)

Year	Quarter	#4	#5	#6	TOTAL	Annual Distribution
2021	**Q1**	28	30	33	91	--
2021	**Q2**	26	36	38	100	--
2021	**Q3**	25	23	34	82	24.8%
2021	**Q4**	15	31	33	79	24.2%
2022	**Q1**	29	21	29	79	24.0%
2022	**Q2**	19[1]	30	41	89	27.0%

1. Well 4 totalizer broke in May 2022. Subsequent pumping data from water meter.

Table 3. List of Actively Monitored Wells and Available Data for 2021

Well Name	Short Name	Active WL Network	Active WQ Network	First WL Measurement	First WQ Measurement	Agency
17S11E22E2	22E2	Y		1975	1975	USGS
17S10E11B1	11B1	Y		1975	*	USGS
17S10E11G1	11G1	Y		1967	1967	USGS
17S10E11G4	11G4	Y		1978	*	USGS
17S10E11H3	11H3	Y	Y	1987	1987	USGS
17S11E16J1	16J1	Y		1970	1972	USGS
16S11E23B1	23B1	Y		1974	1964	USGS
16S9E24B1	24B1	Y	Y	1976	1977	USGS
16S9E24D1	24D1	Y	Y	1976	1977	USGS
16S9E25K2	25K2	Y	Y	1972	1972	USGS
16S9E25M2	25M2	Y	Y**	1991	1971	USGS
16S9E26F1	26F1	Y	Y**	1998	2013	USGS
16S11E27F1	27F1	Y		1975	*	USGS
16S10E27R1	27R1	Y		1975	1975	USGS
16S10E29H1	29H1	Y		1975	1975	USGS
16S10E20R1	30R1		Y	1959	1959	USGS
16S10E31B1	31B1	Y	Y	1993	2013	USGS
16S01E32N1	32N1		Y	2018	2018	USGS
16S10E32P2	32P2	Y		2017	*	USGS
16S01E32P3	32P3		Y	2016	2016	USGS
15S11E32R1	32R1	Y		1974	1964	USGS
16S9E34B1	34B1		Y	1998	1997	USGS
16S9E35M1	35M1	Y		1962	1962	USGS
16S9E36A1	36A1(MW-2B)	Y	Y**	2012	2013	USGS, USG
16S9E36A2	36A2 (MW-2A)	Y	Y	2012	2013	USGS, USG
16S9E36B1	36B1 / USG-6	Y	Y	1969	1963	USGS, USG
16S9E36C2	36C2		Y	1975	1961	USGS
16S9E36D2	36D2	Y		1975	1975	USGS
16S9E36G3	36G3 / USG-4	Y	Y	1969	1963	USGS, USG
16S9E36H2	36H2 / USG-5	Y	Y	1954	1963	USGS, USG
16S10E42A8	42A8		Y	1994	1994	USGS
16S11E42L1	42L1	Y		1975	1975	USGS

* No WQ data collected

**Samples collected by USGS and field measurements reported, but lab results not released as of August 31, 2022

Wells Not Monitored in 2022 that were recently active

Well Name	Short Name	Agency	Reason
16S10E28D1	28D1	USGS	No reason given by USGS, Last monitored 2020
16S10E32P1	32P1	USGS	No reason given by USGS, Last monitored 2017

Table 4. Water Level Trends

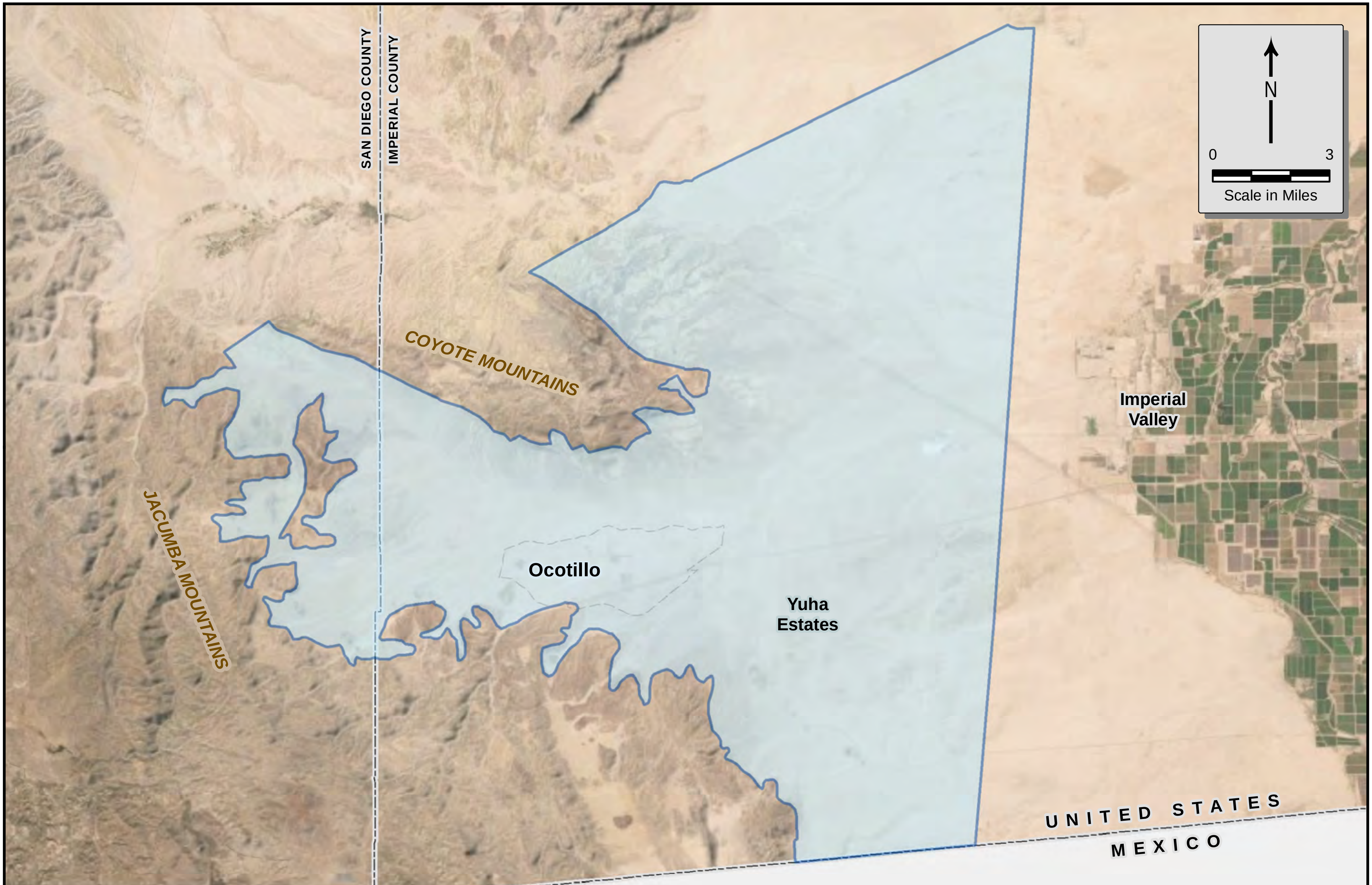
Well	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Maximum consecutive years of declines greater than 0.1875 ft/year
11B1	0.60	0.52	0.56	0.44	0.37	0.60	0.62	0.43	0.42	0.37	0.47	0.49	0.51	
11G1		0.83	-0.18	0.84	0.64	-0.39	1.46	-0.89			1.13	0.99	0.36	
11G4	0.62	0.29	0.30	0.60	0.55	0.42	0.62	-0.48	1.70	0.28	0.24	0.57	0.47	
11H3			-1.09	2.05	0.29	0.84	0.66	-0.05	0.79	0.24	0.39	0.37	0.22	
16J1	0.38	0.46	0.12	0.27	0.13	0.03	0.20	0.08	0.27	0.06	0.06	0.21	0.07	
22E2	0.38	0.41	0.16	0.24	0.46	-0.27	0.20	0.71	-0.34	0.03	0.09	0.17	0.09	
23B1	-0.30	0.26	-0.45	-0.06	-0.63	0.55	-0.10	3.74	-3.80	0.05	-0.06	-0.32	-0.12	
24B1	-0.07	-0.23	-0.16			-0.14	-0.09	-0.10	-0.13	-0.13	-0.11	-0.01	-0.18	
24D1	-0.08	-0.18	-0.11			-0.51	0.30	-0.04	-0.13	-0.11	-0.14	-0.1	-0.11	
25K2								-0.20	-0.12			-0.17	0.03	
25M2		-0.88	1.17	-0.33	0.29	-0.80	0.69	-0.94					-0.41	1
26F1	-0.07	-0.05	-0.11	-0.07	-0.10	-0.06	-0.08	-1.21			-0.15	-0.15	-0.09	
27F1	-0.10	-0.25	-0.28	0.13	-0.10	-0.15	0.05	-0.08	0.13	-0.02	-0.21	0.29	-0.19	1
27R1	-0.12	0.01	-0.09	0.01	0.41	0.05	0.13	-0.13	0.22	0.30	-0.16	0.14	-0.13	
29H1	0.35	-0.31	-0.09	-0.01	0.01	0.00	-0.02	-0.08	0.08	0.03	0.04	0.82	-0.03	
31B1	0.35	0.27	0.18	0.03	-0.02	-0.78	-2.37	2.73	-0.35	-0.20	-0.20	-0.17	-0.14	
32P2										-0.16	0.00	-0.52	-0.11	
32R1	0.01	0.02	-0.09	0.22	0.12	-0.07	-0.01			-0.26	-0.02	-0.64	0.15	
35M1		4.30	0.00	2.83	1.10	-0.07	-0.26	-0.10	-0.05	0.05	-0.39	0.02	-0.2	1
36A1(MW-2B)					0.25	-0.88	-0.31	-1.22	-0.01	-1.26	-0.42	0.14	0.15	
36A2 (MW-2A)					-0.32	3.58	-0.50	-1.03	-0.13	-1.41	0.05	-0.16	0.22	
36D2	0.48	0.36	0.17	0.11	-0.03	0.03	-0.17	-0.25	-0.15	-0.23	-0.24	-0.14	-0.11	
42L1	-0.97	-1.01	-0.29	3.03	0.19	-0.05	0.01	-0.43	-0.40	-0.40	-0.44	-0.48	-0.46	6
USG-4				0.38	1.02	2.56	-1.64							Pumping
USG-5	2.99	0.93						-3.17656	0.8122					Pumping
USG-6				39.93	-0.20	-2.46	2.51	-0.11						Pumping

Table 5: Total Dissolved Solids Concentrations (mg/L)

Date	Chem	11H3	24B1	24D1	25K2	25M2	26F1	30R1	31B1	32N01S	32P03S	34B1	36A1 (MW-2B)	36A2 (MW-2A)	36C2	36D3	42A8	USG-4	USG-5	USG-6
Mar-09	Total Dissolved Soilds	287	1210		335			517				302			359	365	910		305	
Mar-10	Total Dissolved Soilds	307	1200		306			498				300			349	346	1100		304	
Apr-11	Total Dissolved Soilds	280	1220		325			525				298			485	359	1220		306	
Mar-12	Total Dissolved Soilds	315	1210	486				511				303			359		886		320	
Feb-13	Total Dissolved Soilds	284	1220	497	302			530	299			306					739			
Apr-14	Total Dissolved Soilds	292	1290	499	309			543	284			314			360		728		327	
Mar-15	Total Dissolved Soilds	297	1350	492					298			315								
Mar-16	Total Dissolved Soilds	280	1350	484	291		356	559	271			303	298	399	362		654	362	334	309
May-17	Total Dissolved Soilds	298	1350	495	323		353	567	283			300	303	412	357		594		328	314
Mar-18	Total Dissolved Soilds	288	1310	439	304	352	342	565	274	469	612	305	291	396	350		564	343	323	
Mar-19	Total Dissolved Soilds	322	1310	503	309	373	365	583	273	477	621	322	307	423	368		575	361	331	317
Mar-20	Total Dissolved Soilds	289	1280	431	296	367	366	572	288	474		305	303	420	369		555	372	324	309
Mar-21	Total Dissolved Soilds	310	1280	464	304	359	358	598	293	472	618	319	308	409	369		556	350	335	314
Mar-22	Total Dissolved Soilds	287	1275	416	297	**	**	600	278	474	566	310	**	420	353		535	337	300	302
	Average	295	1,275	473	308	363	357	551	284	473	604	307	302	411	370	357	740	354	320	311
	Change from 2021-2022	(23)	(5)	(48)	(7)			2	(15)	2	(52)	(9)		11	(16)		(21)	(13)	(35)	(12)
	20 percent of average	59	255	95	62		71	110	57			61	60	82	74	71	148	71	64	62

**Samples collected by USGS and field measurements reported, but lab results not released as of August 31, 2022

FIGURES

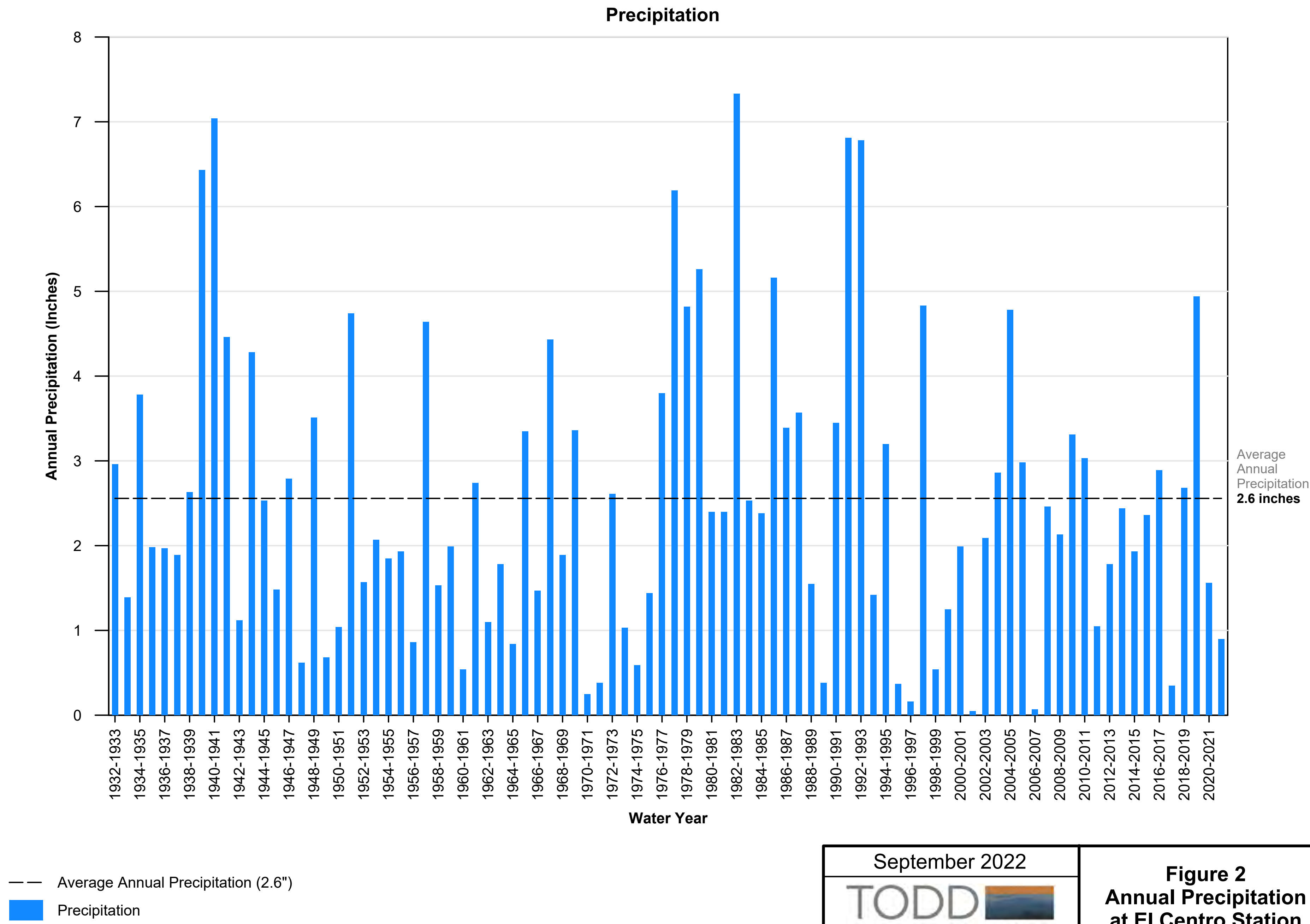


Coyote Wells Groundwater Basin

September 2022

TODD GROUNDWATER

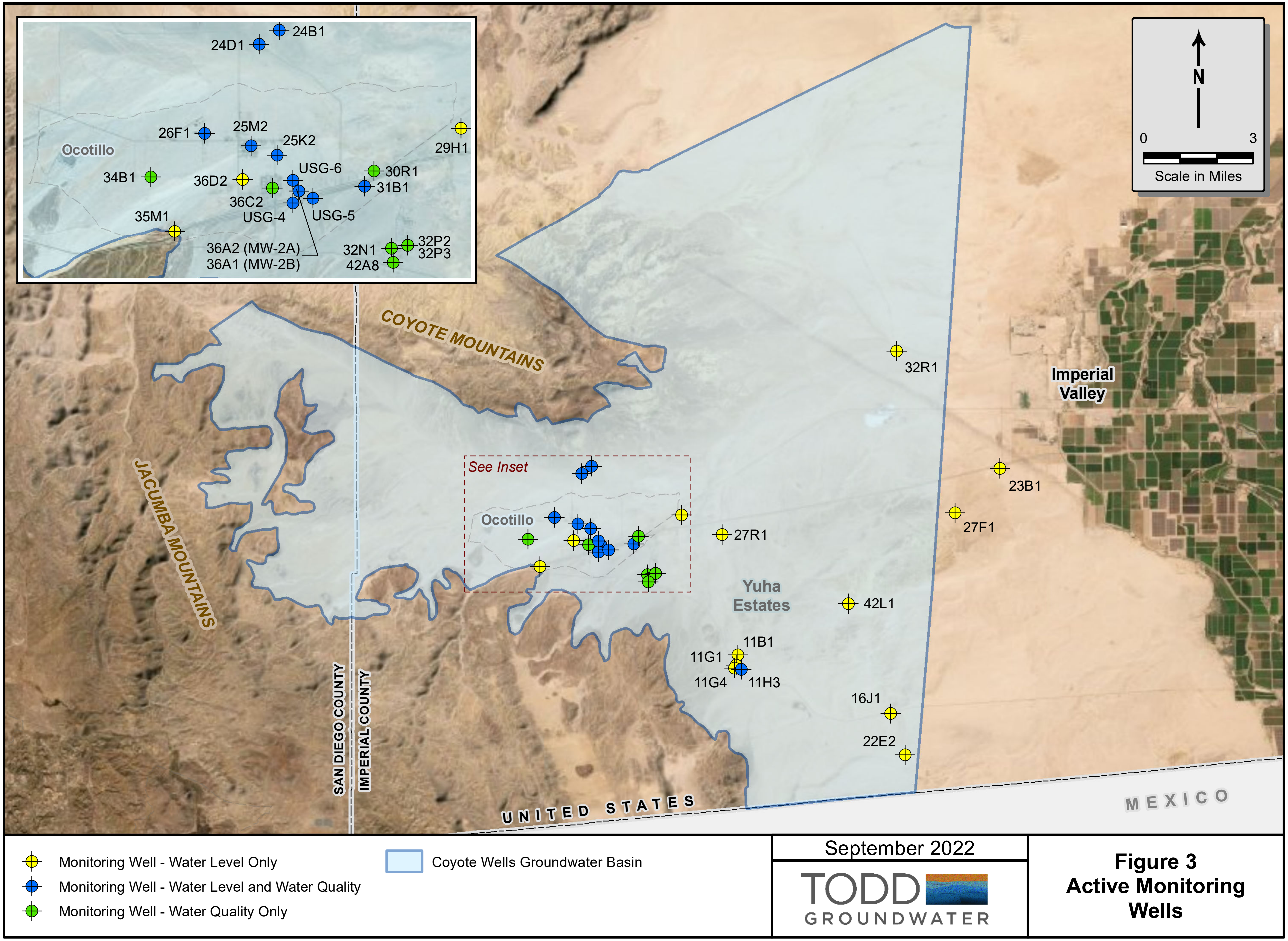
Figure 1
Groundwater Basin Boundary



September 2022

TODD GROUNDWATER

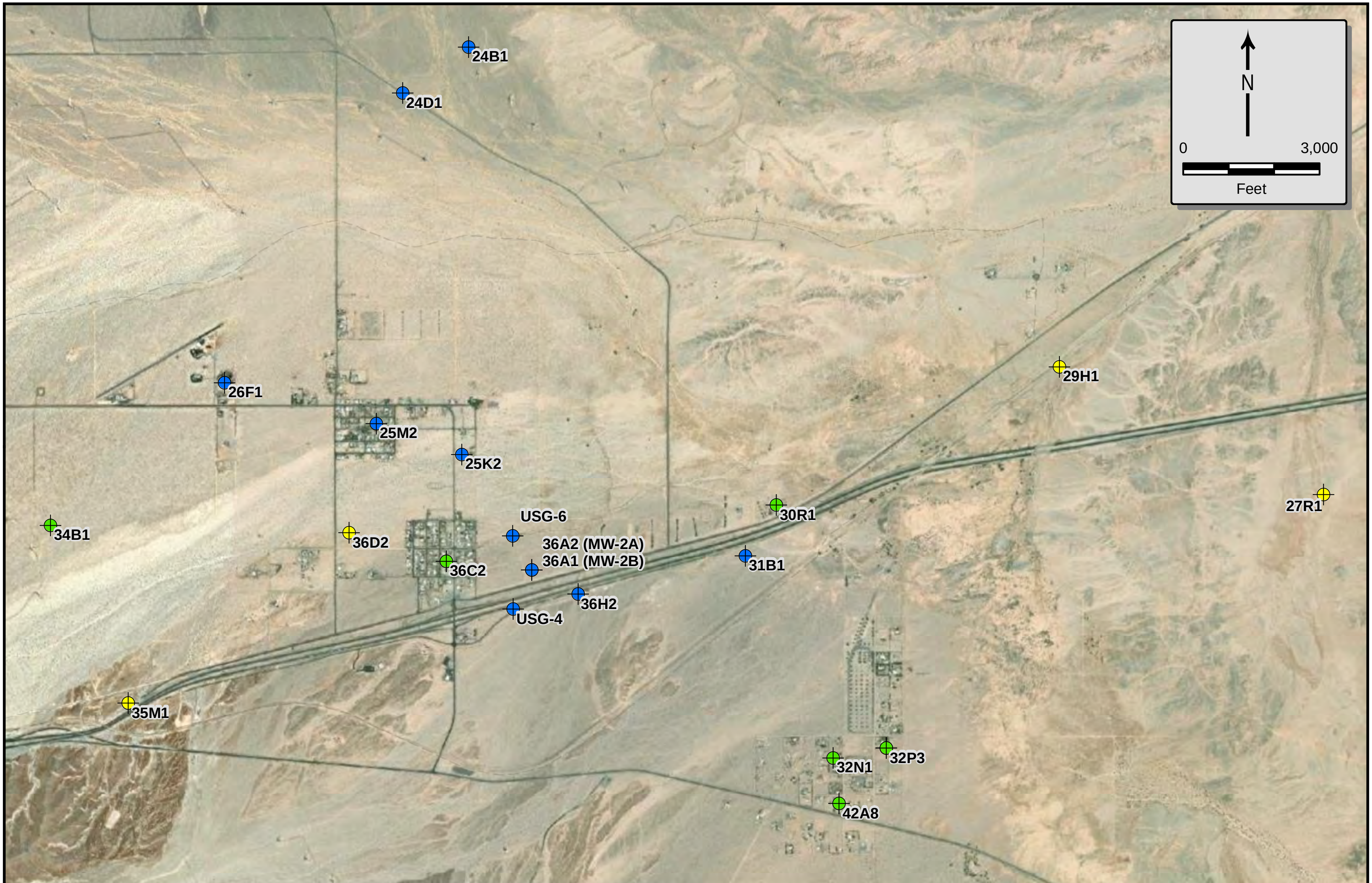
Figure 2
Annual Precipitation at El Centro Station



September 2022

TODD GROUNDWATER

Figure 3
Active Monitoring Wells

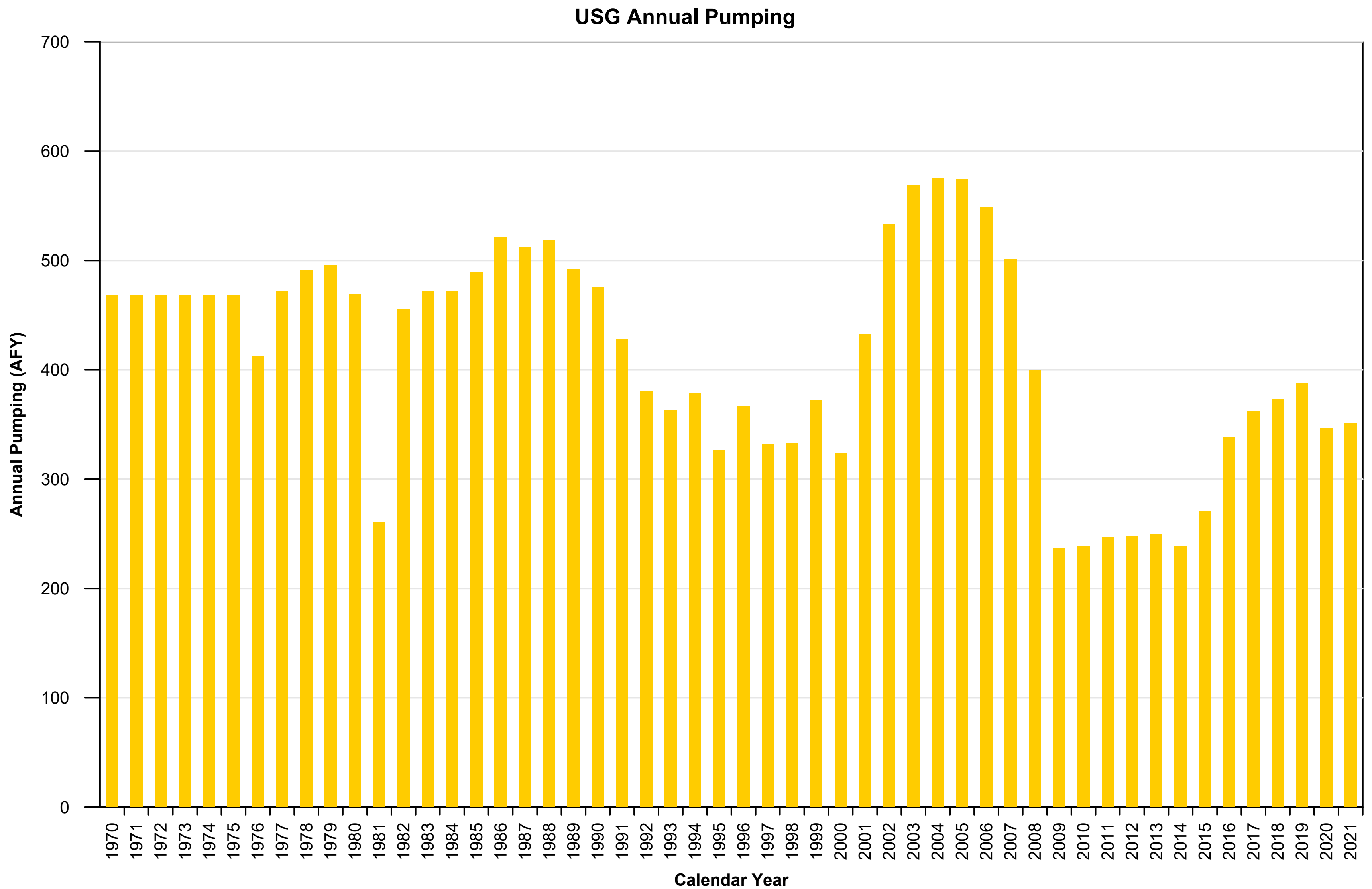


Monitoring Well - Water Level Only
Monitoring Well - Water Level and Water Quality
Monitoring Well - Water Quality Only

September 2022

TODD GROUNDWATER

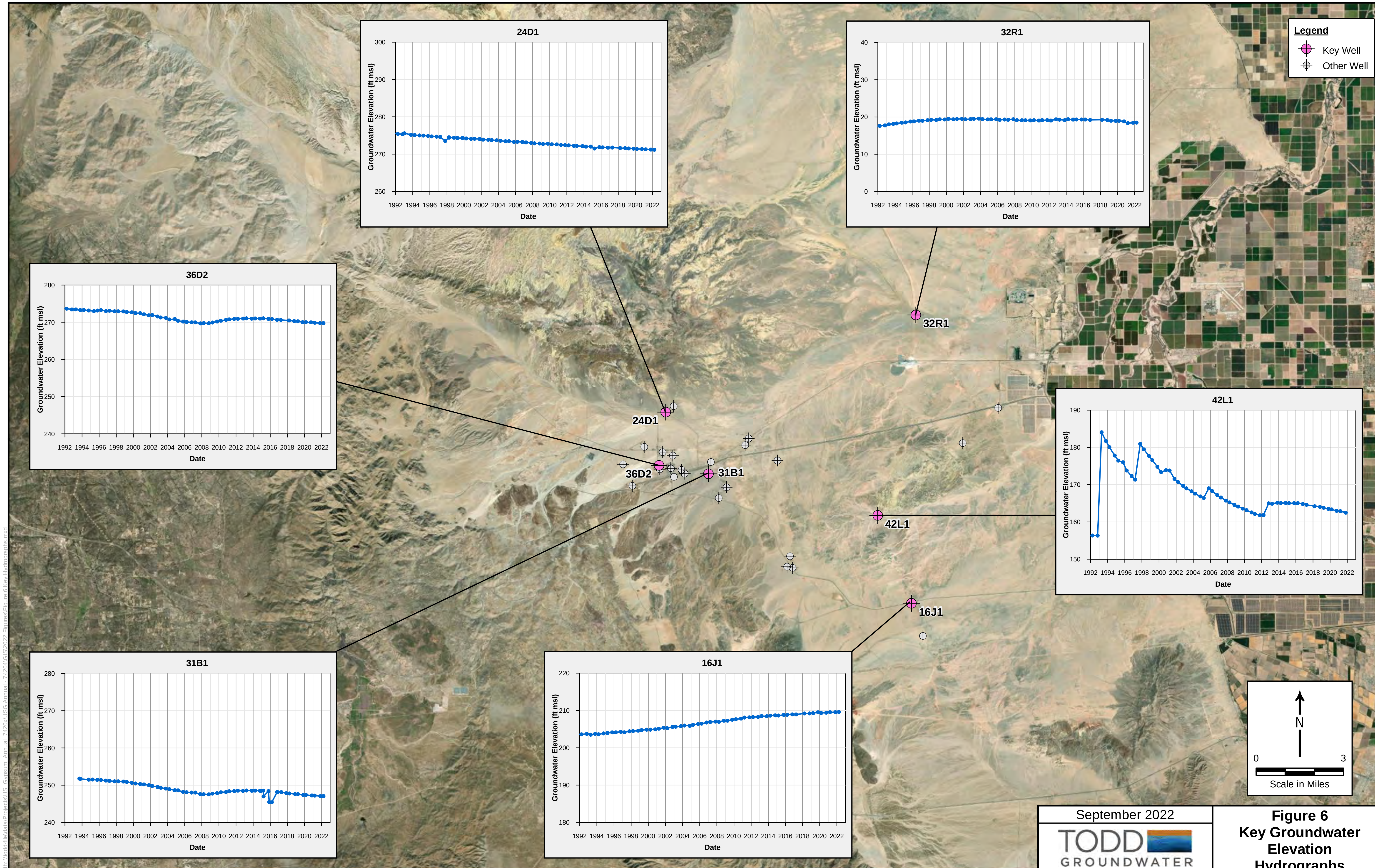
Figure 4
Monitoring Wells Near Ocotillo



August 2022

TODD GROUNDWATER

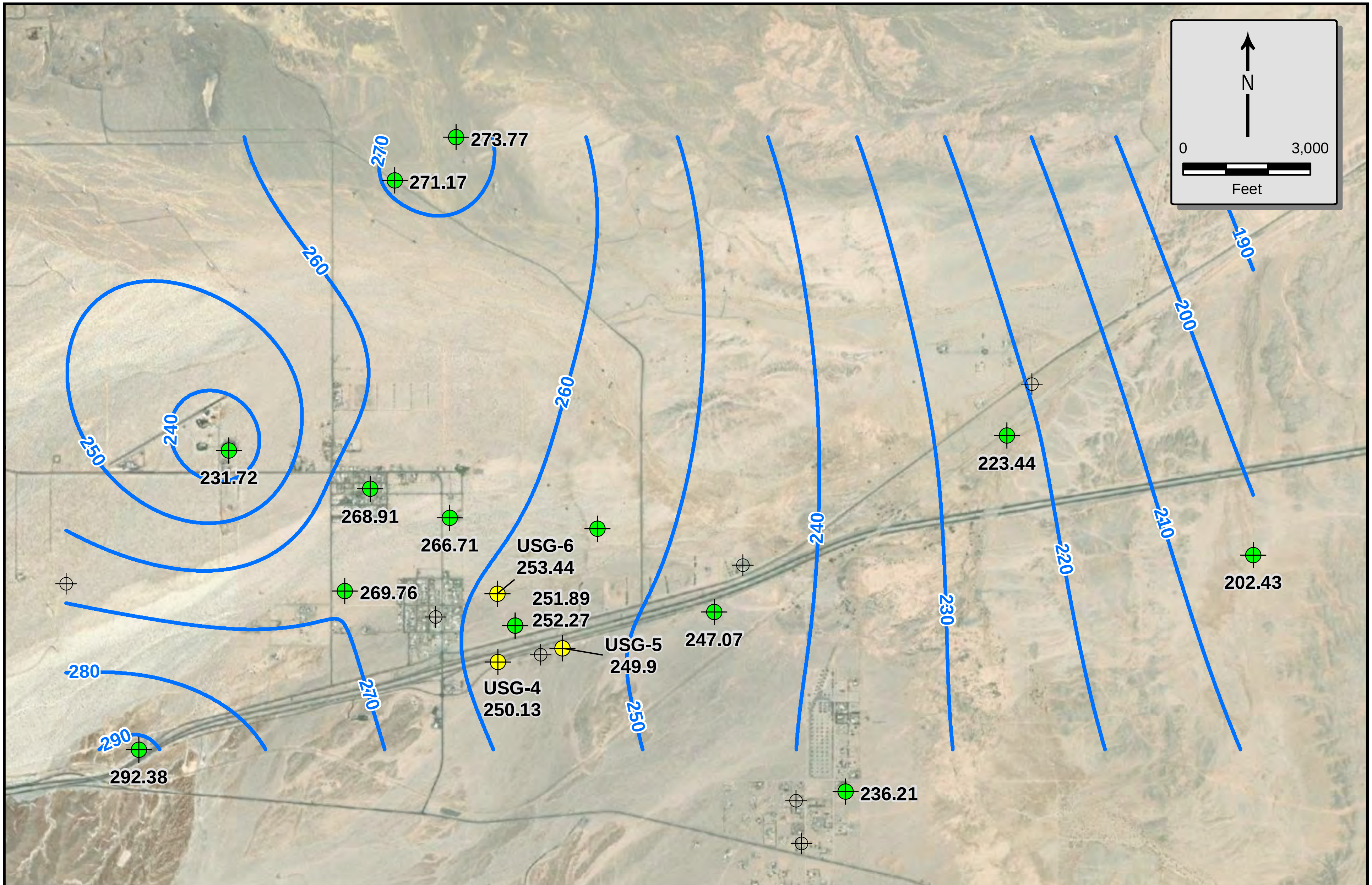
Figure 5
USG Annual Pumping



September 2022

TODD GROUNDWATER

Figure 6
Key Groundwater Elevation Hydrographs



Monitoring Well

USG Production Well

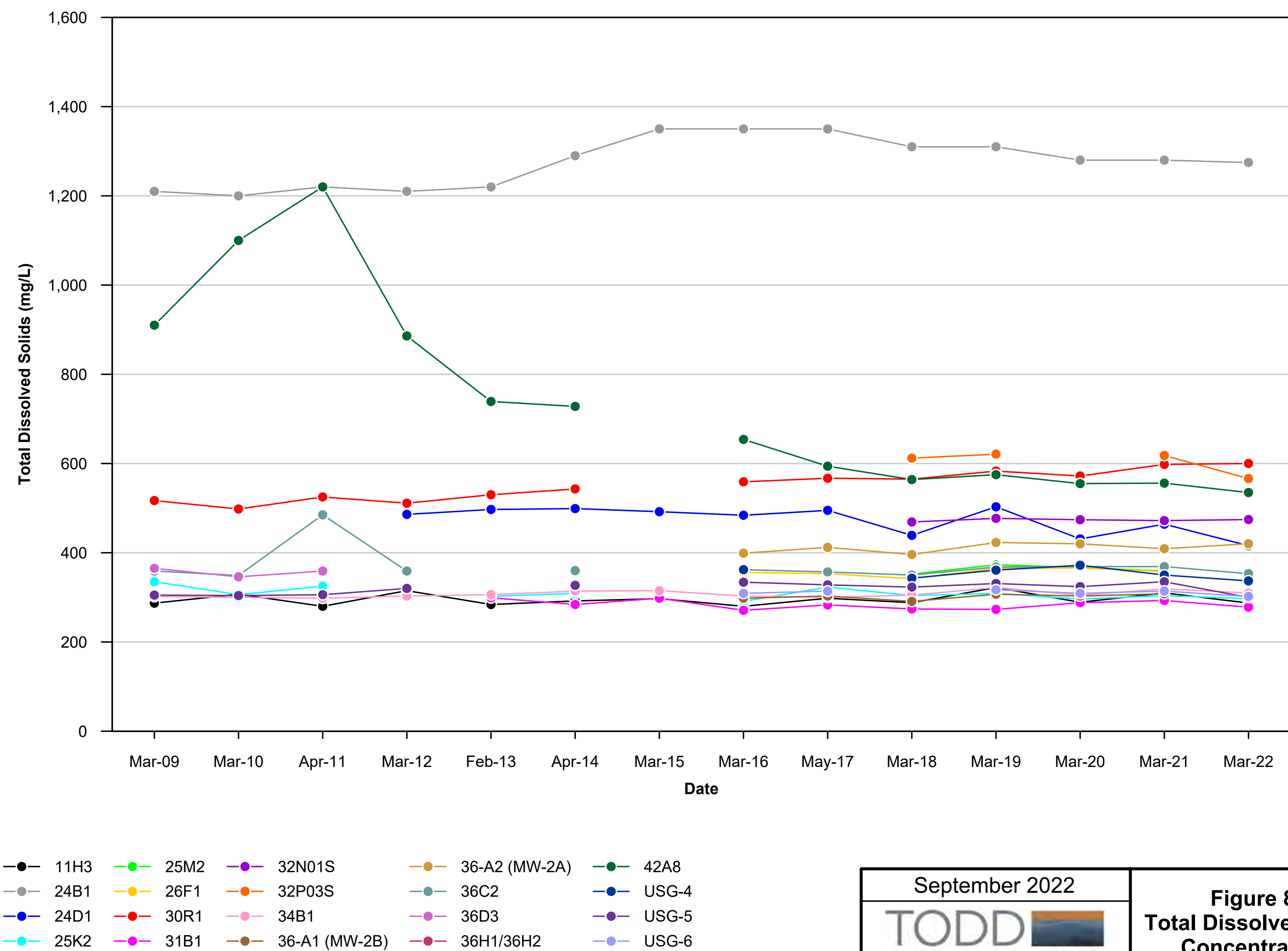
Not Monitored

Spring 2022 Groundwater Contour (feet msl)

September 2022

TODD GROUNDWATER

Figure 7
Groundwater Contours and Flow Direction
Spring 2022



Path: \\todd-file\data\Projects\US_Gypsum_Annual_7420x\USG Annual - 74204\GRAPHICS\2022\Figure 8A TDS Time-Concentration Plot.grf

September 2022

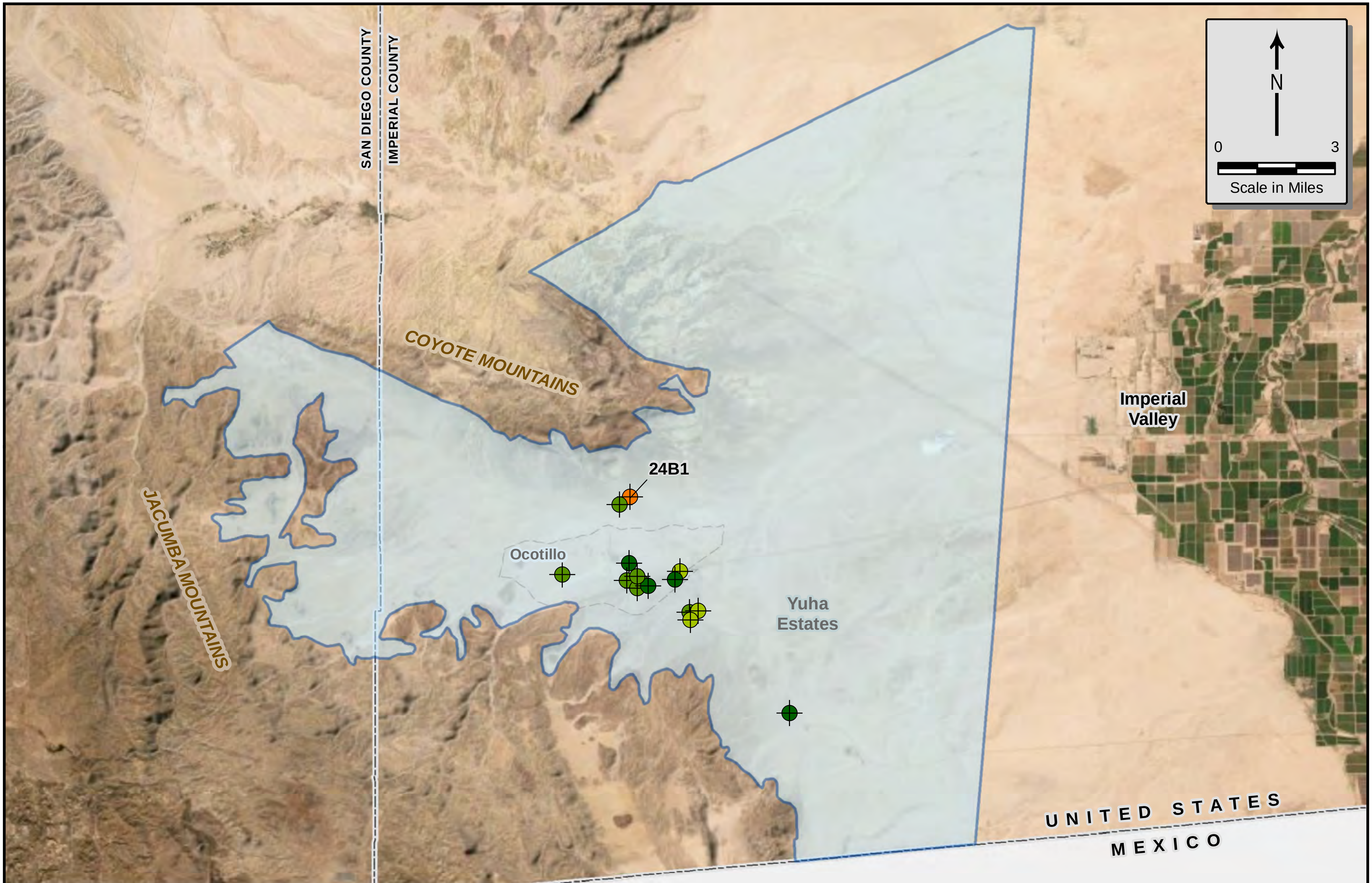
TODD GROUNDWATER

Figure 8A
Total Dissolved Solids Concentrations

September 2022

TODD GROUNDWATER

Figure 8B
Total Dissolved Solids Concentrations in Well 31B1



TDS Concentration, Spring 2022

- <300
- 300-500
- 500-700
- 700-900
- 900-1,100
- 1,100-1,300
- >1,300

Coyote Wells Groundwater Basin

September 2022

TODD GROUNDWATER

Figure 9
Total Dissolved Solids Concentrations in Groundwater

APPENDIX A

BASIN DESCRIPTION AND HYDROGEOLOGY

Basin Description

Groundwater for the Plaster City Plant, community of Ocotillo, and local domestic wells is pumped from the Coyote Wells Valley Groundwater Basin (No. 7-29), as defined by the California Department of Water Resources (DWR, 2003)[1]. DWR generally defines groundwater basins based on the extent of alluvial deposits. As depicted in **Figure A-1,** the Basin encompasses 64,000 acres (100 square miles) in the Yuha desert west of Imperial Valley, California. It is located mostly in Imperial County, with the western edge extending into San Diego County. The Basin is bounded by the Coyote Mountains to the north and the Jacumba Mountains to the west and southwest. These boundaries correspond to the geologic contacts between alluvium and less permeable geologic formations as mapped by DWR. The southern basin boundary is the United States-Mexico border and the eastern boundary is a roughly north-south line from Superstition Mountain on the north to the international border. Part of the northeastern boundary is a surface drainage divide connecting the Coyote Mountains with Superstition Mountain.

HYDROGEOLOGY

Figure A-2 shows the surficial geology within the Coyote Wells Valley Groundwater Basin, as mapped by the USGS (Loeltz, 1975). The groundwater basin boundaries on the north, west, and southwest generally coincide with the low-permeability formations of the mountain ranges; some discrepancies reflect the scale and interpretation of geologic mapping. The main water-bearing units of the Basin are the Quaternary alluvial deposits forming the Basin floor. In many areas, alluvium and lake deposits overlie older Quaternary/Tertiary formations including the Palm Springs and Imperial formations. As shown in **Figure A-2**, these crop out to the west and east.

Figure A-3 is a general cross-section illustrating the major formations in the basin. This cross-section is reproduced from the Final EIR/EIS and shows two layers defined for groundwater flow modeling. The upper layer (Layer 1) consists of alluvial deposits (Qa/Qof) and the lower layer (Layer 2) is composed of the Palm Springs and Imperial formations (QTp/QTi), which have been uplifted in the area east of Ocotillo and are relatively near the ground surface. The water-bearing alluvial deposits (Layer 1) are primarily restricted to the center of the Basin, with thickness of 550 feet or greater in the Ocotillo area. As shown, the alluvium was previously indicated to be 650 feet thick; however, monitoring wells recently drilled near USG pumping encountered alluvium to a depth of 800 feet. The alluvial deposits thin toward the margins of the Basin where they become unsaturated. Along the Basin margins, the saturated zones occur in the Palm Springs and Imperial formations.

In brief, the alluvial Layer 1 aquifer near Ocotillo is generally characterized by relatively high permeability, good water quality, and rapid recovery from pumping. The less permeable Layer 2 (Palm Springs/Imperial formations) east of Ocotillo and in the Yuha Estates area is characterized by relatively poor water quality and greater, more persistent impacts from pumping. In the Ocotillo area, groundwater levels in Layer 1 have been indicated to be higher than those in Layer 2. However, continued groundwater level declines in Layer 1—at more rapid rates than those in Layer 2—present the potential for significant change in that

[1] The EIR/EIS refers to the area as the Ocotillo/Coyote Wells Groundwater Basin as defined by USGS.

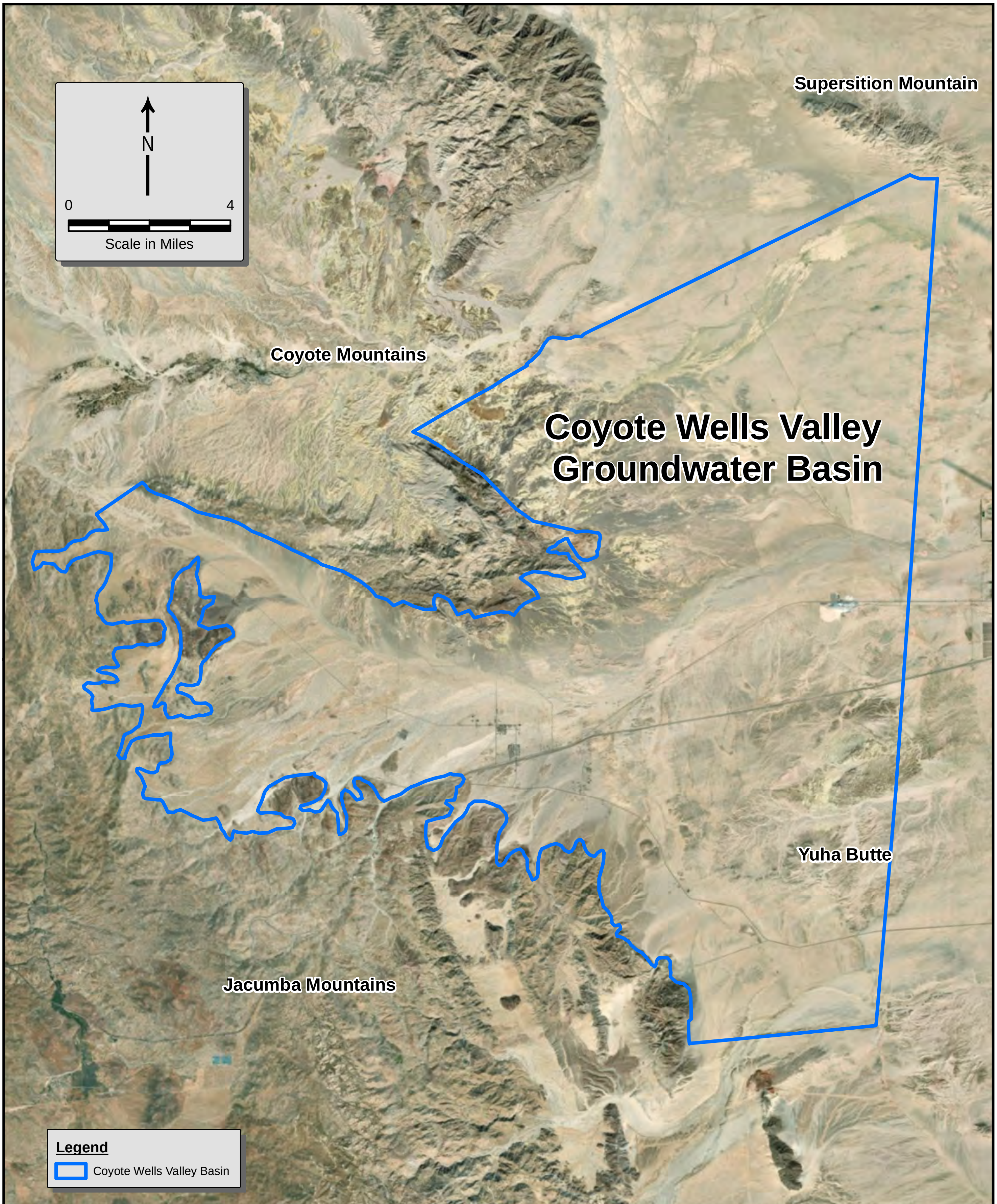
vertical gradient. In that case, relatively poor groundwater from Layer 2 could migrate into Layer 1, resulting in water quality deterioration in Layer 1.

Geologic units in the Ocotillo/Coyote Wells Groundwater Basin can be grouped as follows:

- Quaternary Alluvium (Layer 1), composed of poorly consolidated older alluvial fan deposits and sand, underlies much of the basin floor and extends locally into large canyons of the surrounding mountains. Lake deposits also are mapped by USGS. Most wells drilled in the Ocotillo area are completed within the alluvium. The alluvial wells are noted for high yields and relatively good water quality.
- The Palm Springs Formation (in Layer 2) is composed of fluvial and deltaic sand, silt, and clay deposits deposited by the ancestral Colorado River during the early Pleistocene. Thicknesses can range up to several thousand feet. No pumping test data were found for the Palm Springs Formation, but the aquifer properties (e.g., transmissivity and specific yield) are likely similar to those of the Imperial Formation.
- The Late Miocene to Pliocene Imperial Formation (in Layer 2) is generally described as interbedded claystone and sandstone of dominantly marine origin. The Imperial Formation has an exposed thickness of over 1,500 feet in the Yuha area. Wells drilled into the Imperial Formation typically have low yields and produce poor quality water.

Significant differences have been noted in the hydrogeologic properties, water levels, and water quality between the area around the community of Ocotillo and areas to the east. Near Ocotillo, transmissivities (aquifer properties describing the ease with which groundwater flows through the aquifer) have been noted as significantly higher than those to the east. Transmissivities have been measured in the range of 5,800 to 6,700 ft^2/day near Ocotillo, whereas transmissivities of 34 to 957 ft^2/day have been noted in the eastern areas. These variations are reflected in groundwater gradients: shallower (flatter) hydraulic gradients have been mapped in the Ocotillo area and steeper hydrologic gradients have been mapped in the area east of Ocotillo.

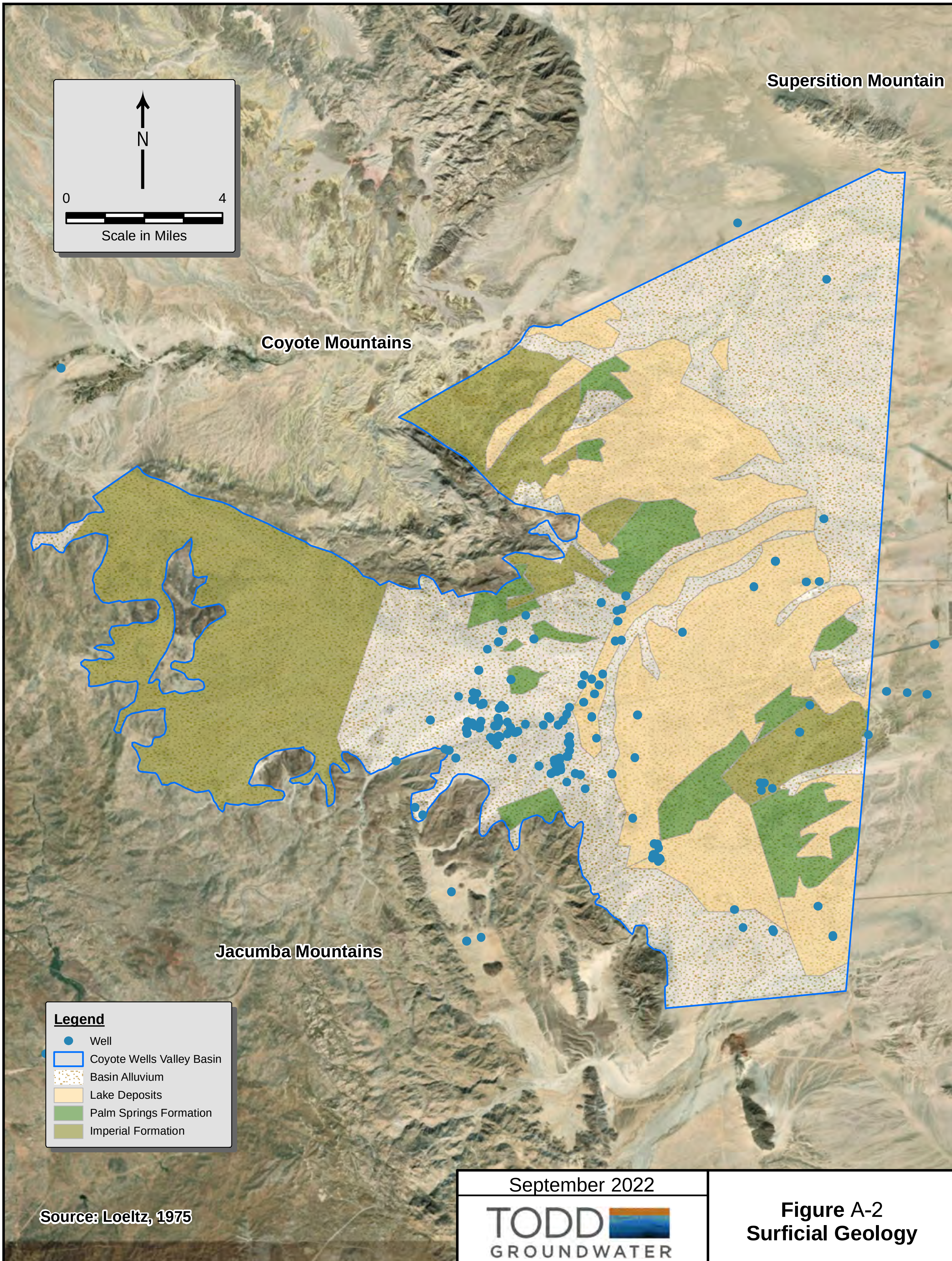
While there is an occurrence of unconfined groundwater in other parts of the basin, water quality these areas are generally poor, with existing wells drilled in confined groundwater showing improved water quality. Groundwater generally flows southeast through the basin, with the principal recharge derived from percolation from precipitation and ephemeral runoff from the surrounding mountains (Skrivan, 1977).



September 2022

TODD GROUNDWATER

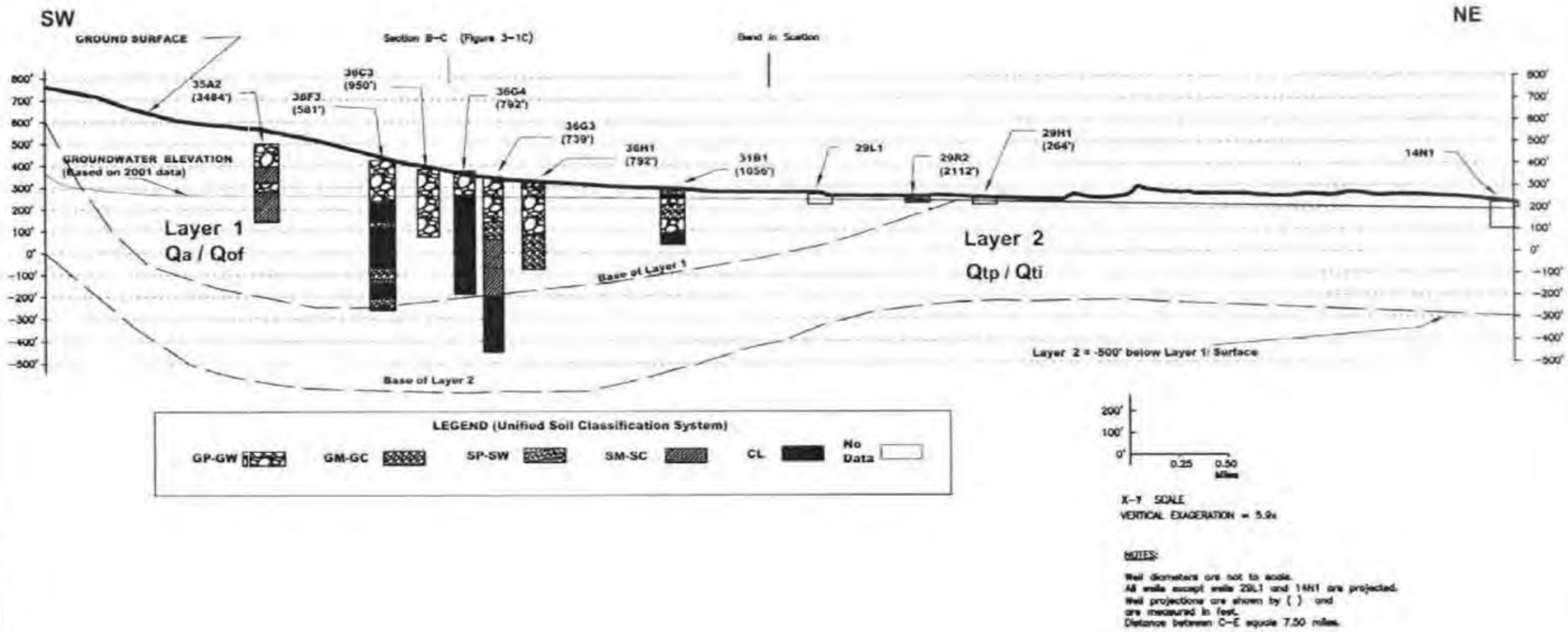
Figure A-1
Groundwater Basin Boundary



September 2022

TODD GROUNDWATER

Figure A-2
Surficial Geology



Bookman-Edmonston
A Division of GEI Consultants, Inc.

Ocotillo/Coyote Wells Groundwater Study

Geologic Cross-Section (Ocotillo-Transverse)

U.S. Gypsum Company

9/24/03

FIGURE 3-1E

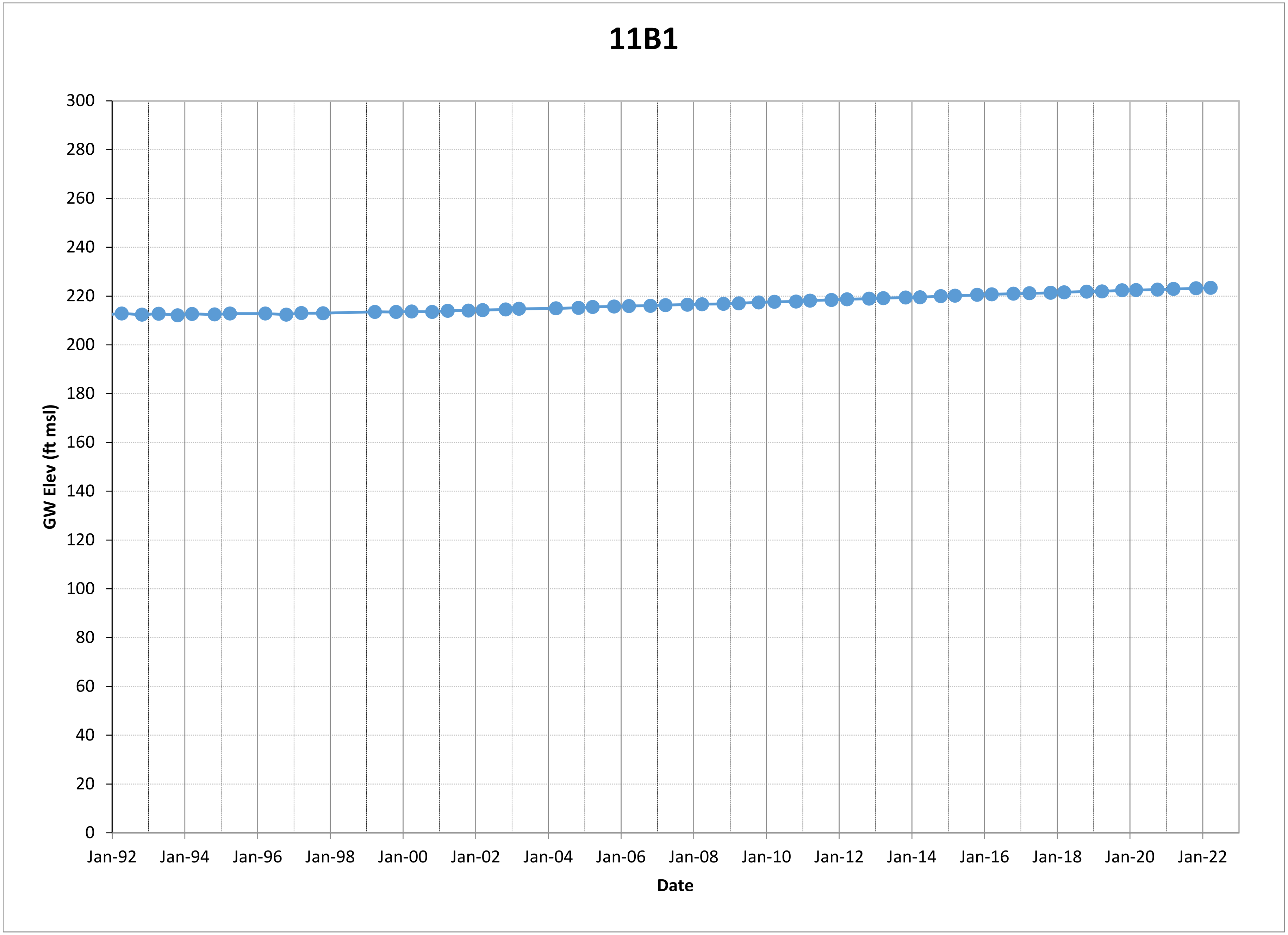
September 2022

TODD GROUNDWATER

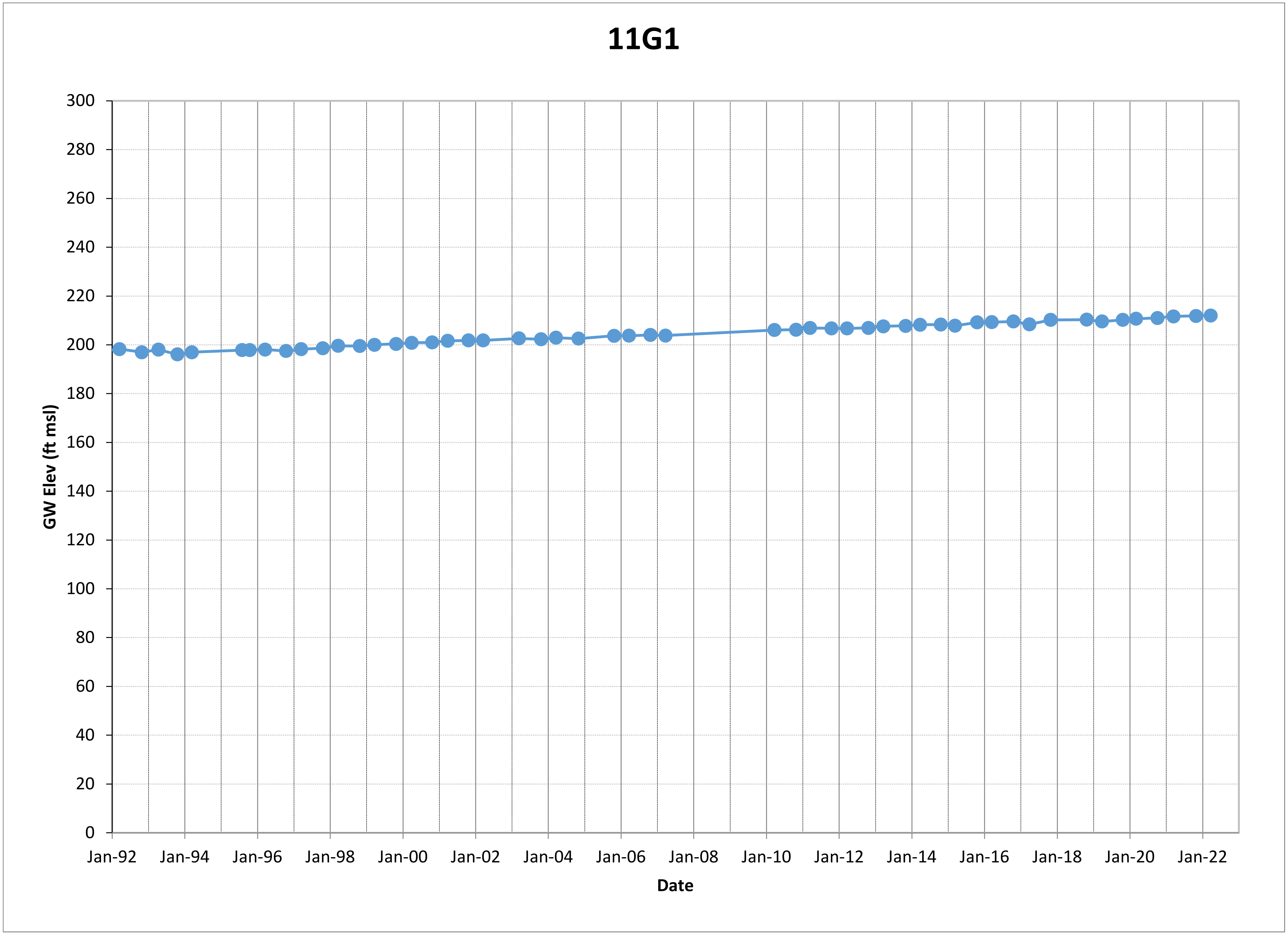
Figure A-3
Geologic Cross Section

APPENDIX B

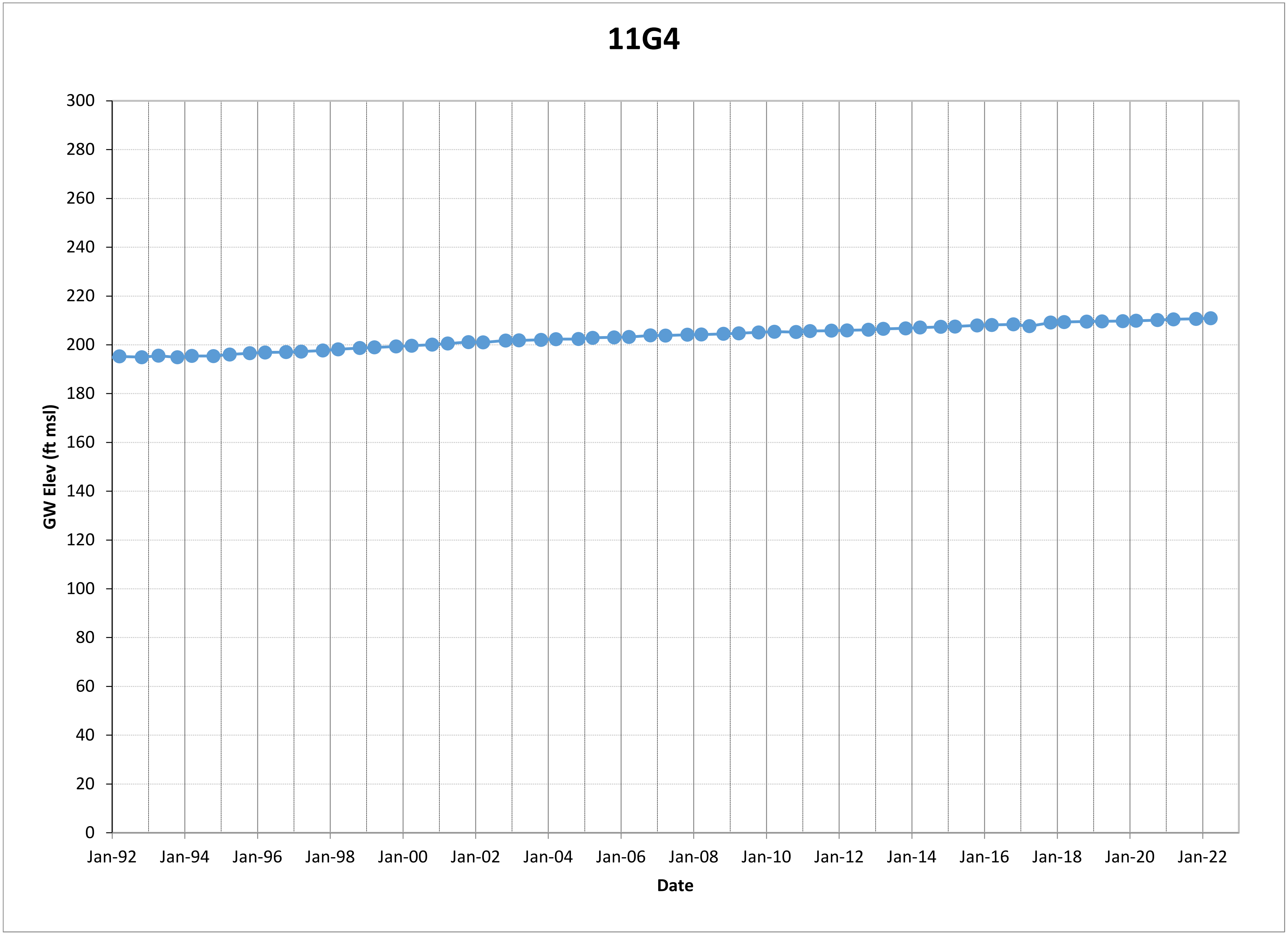
GROUNDWATER ELEVATION HYDROGRAPHS

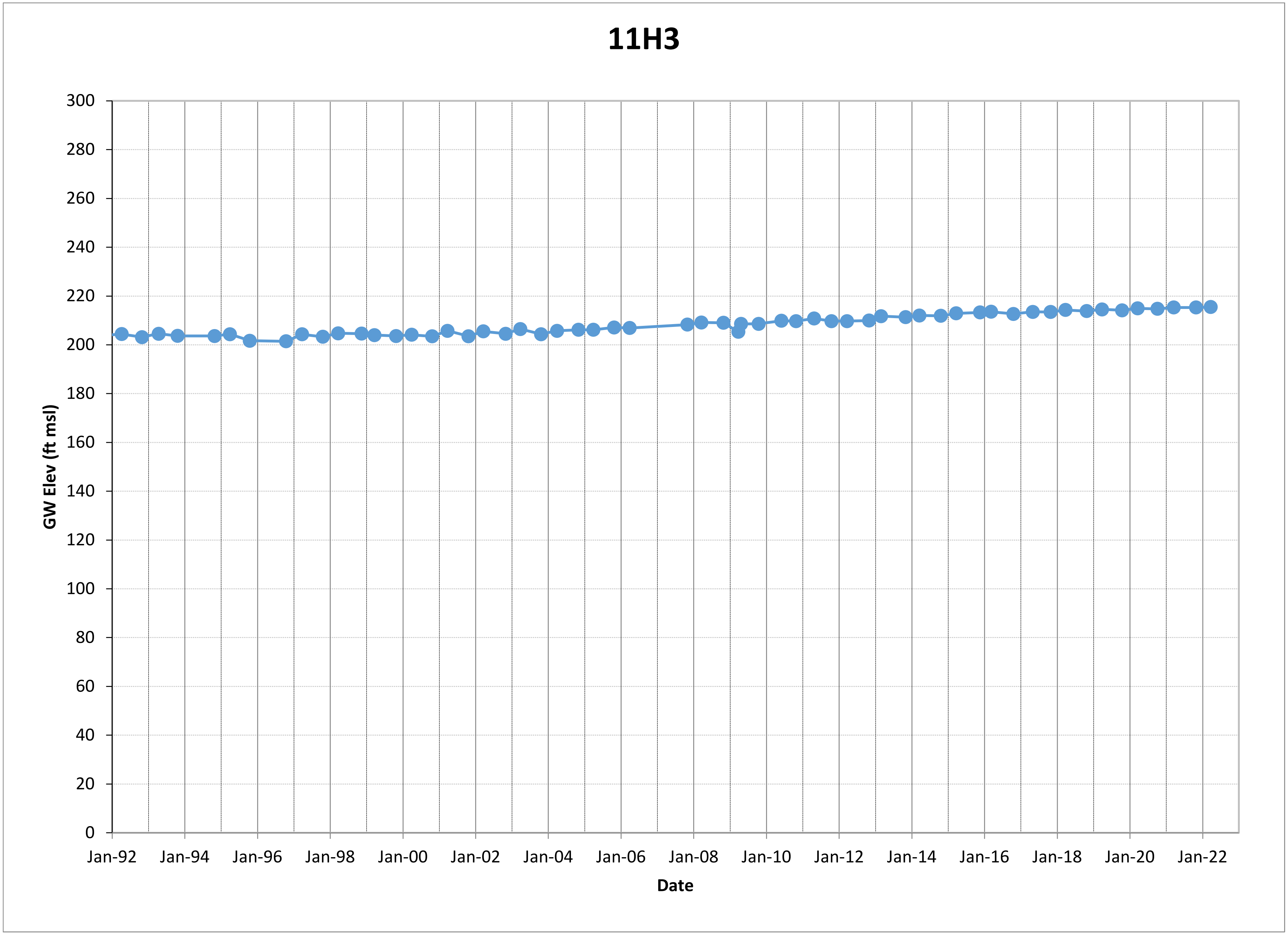


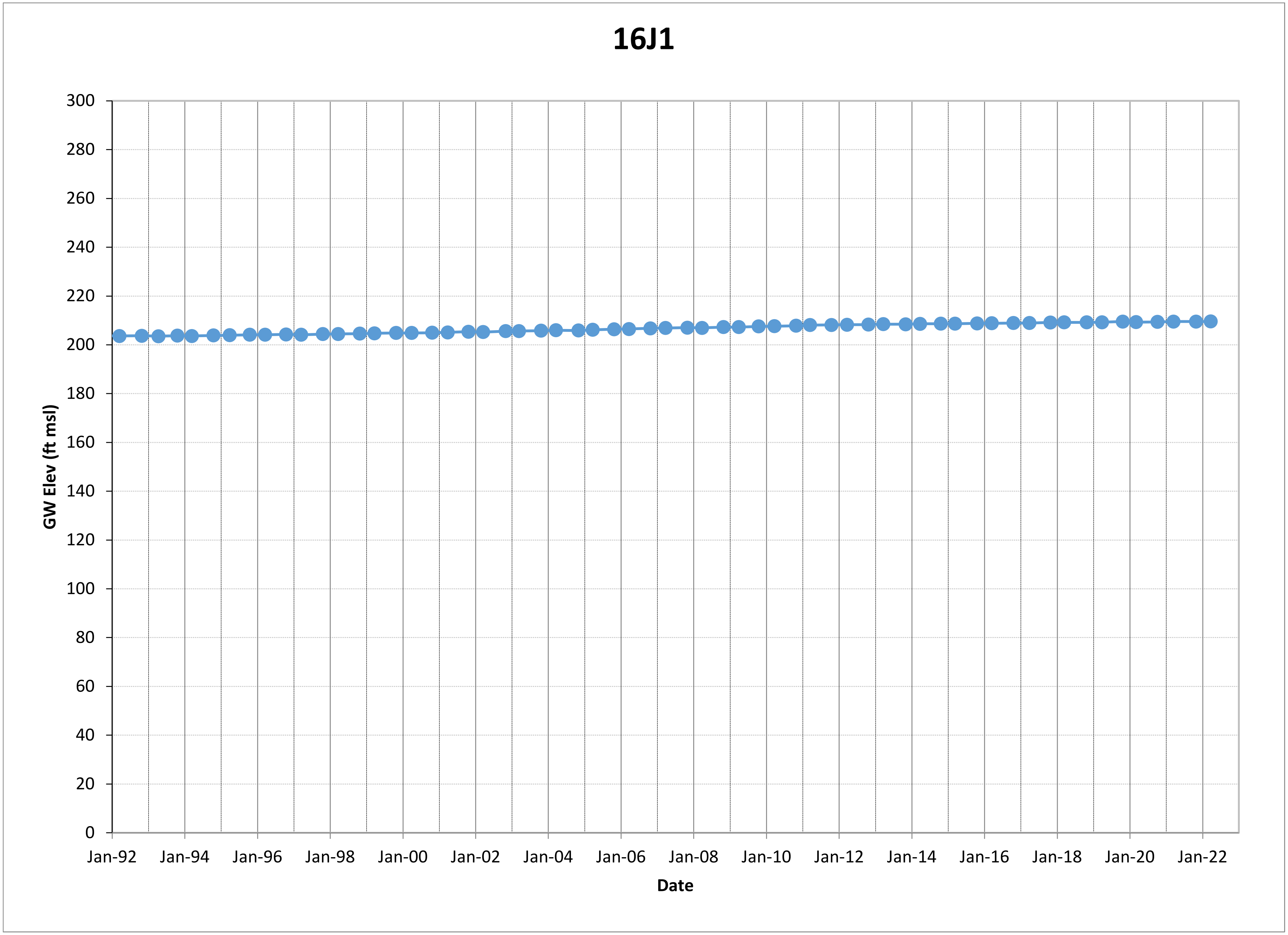
11B1
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date



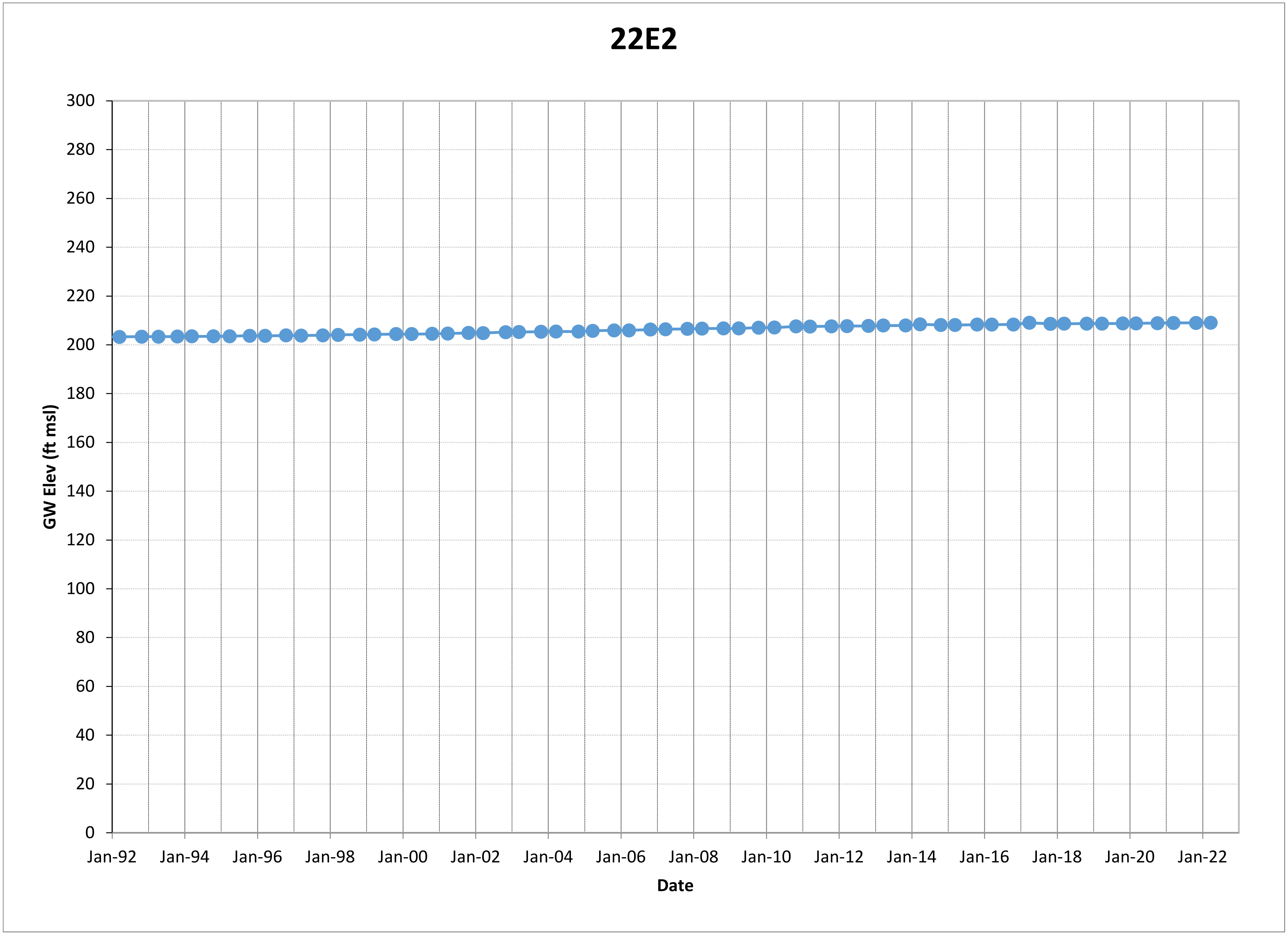
11G1
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date

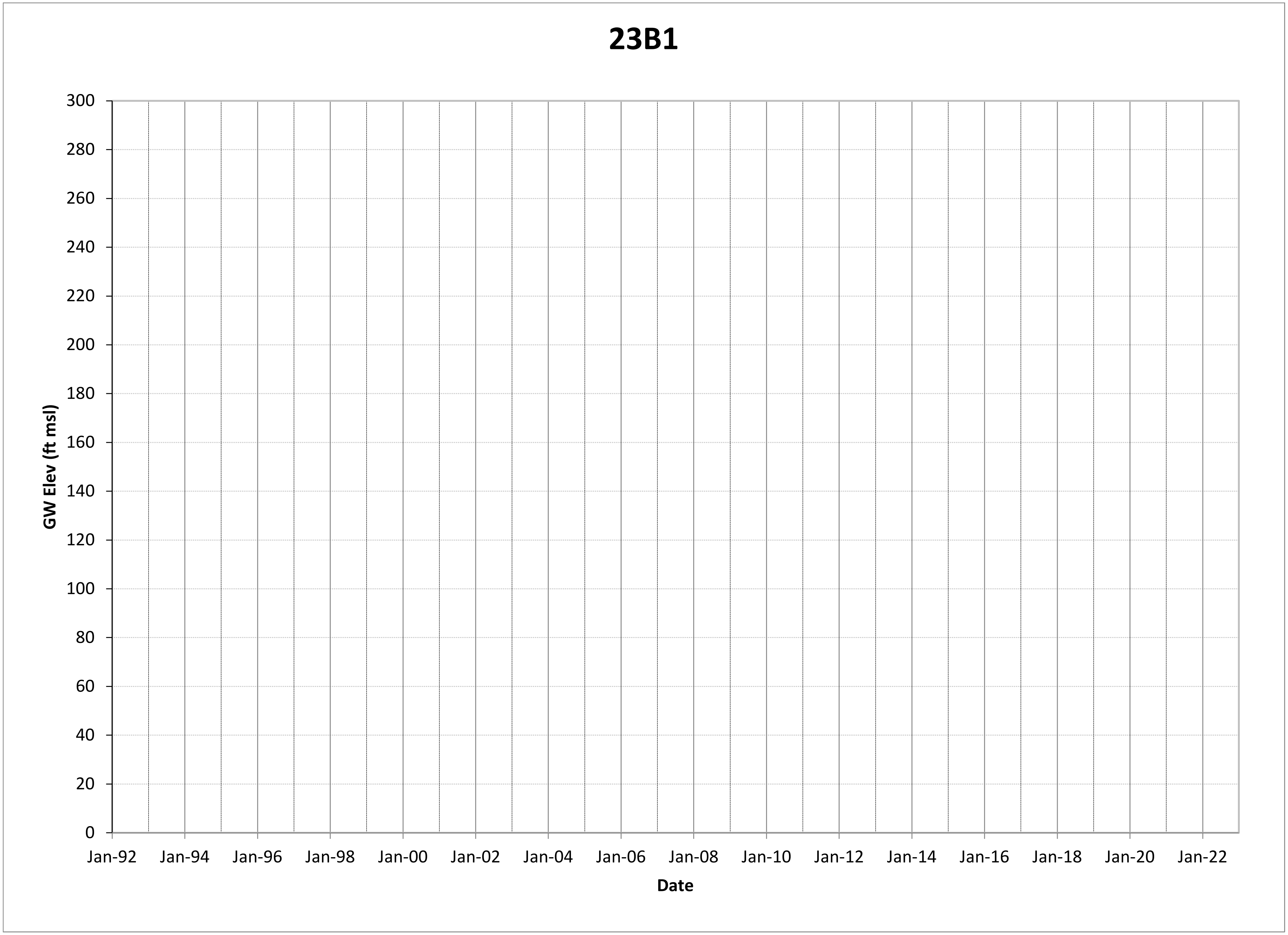

11G4
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date

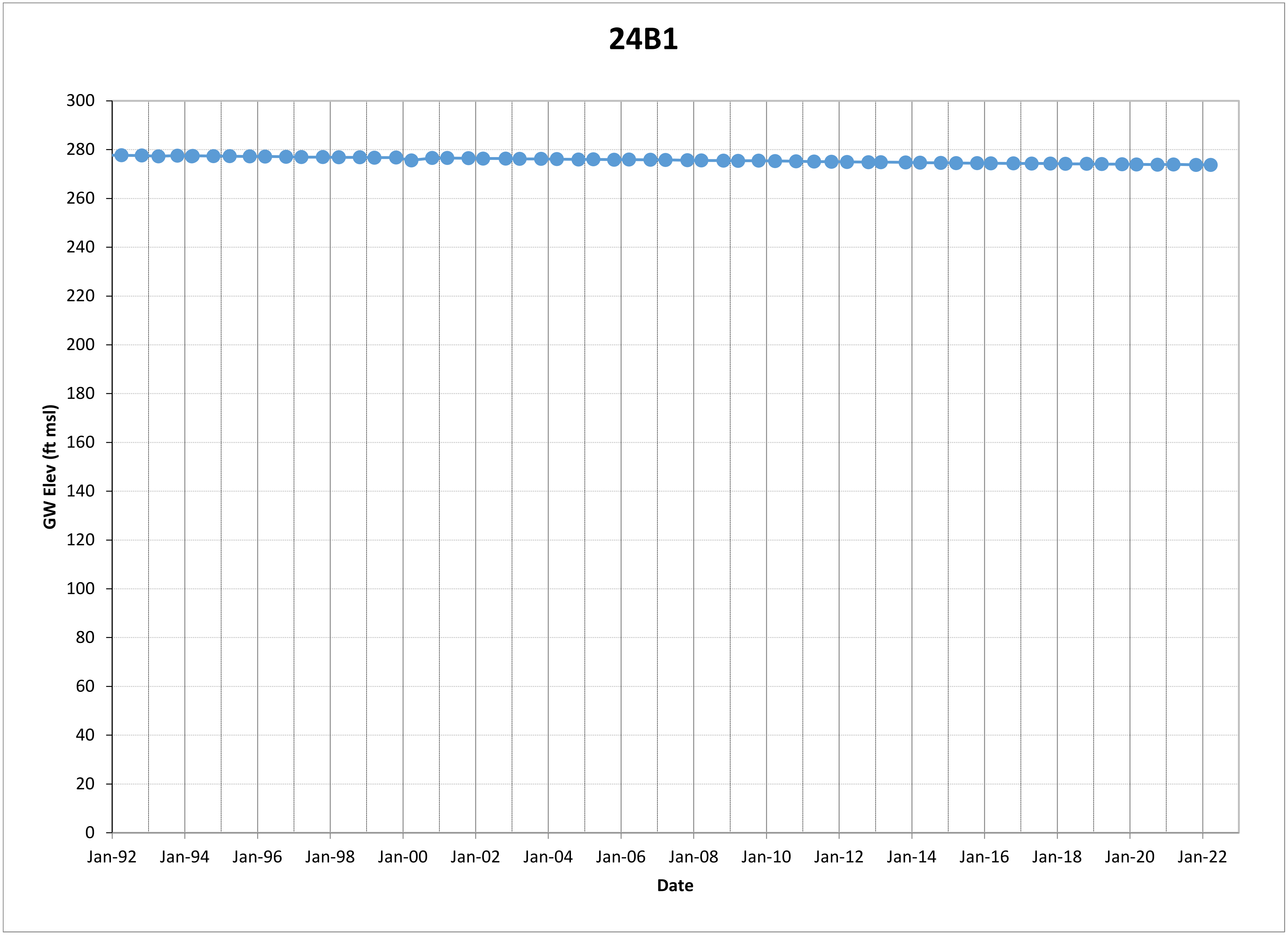

11H3
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date



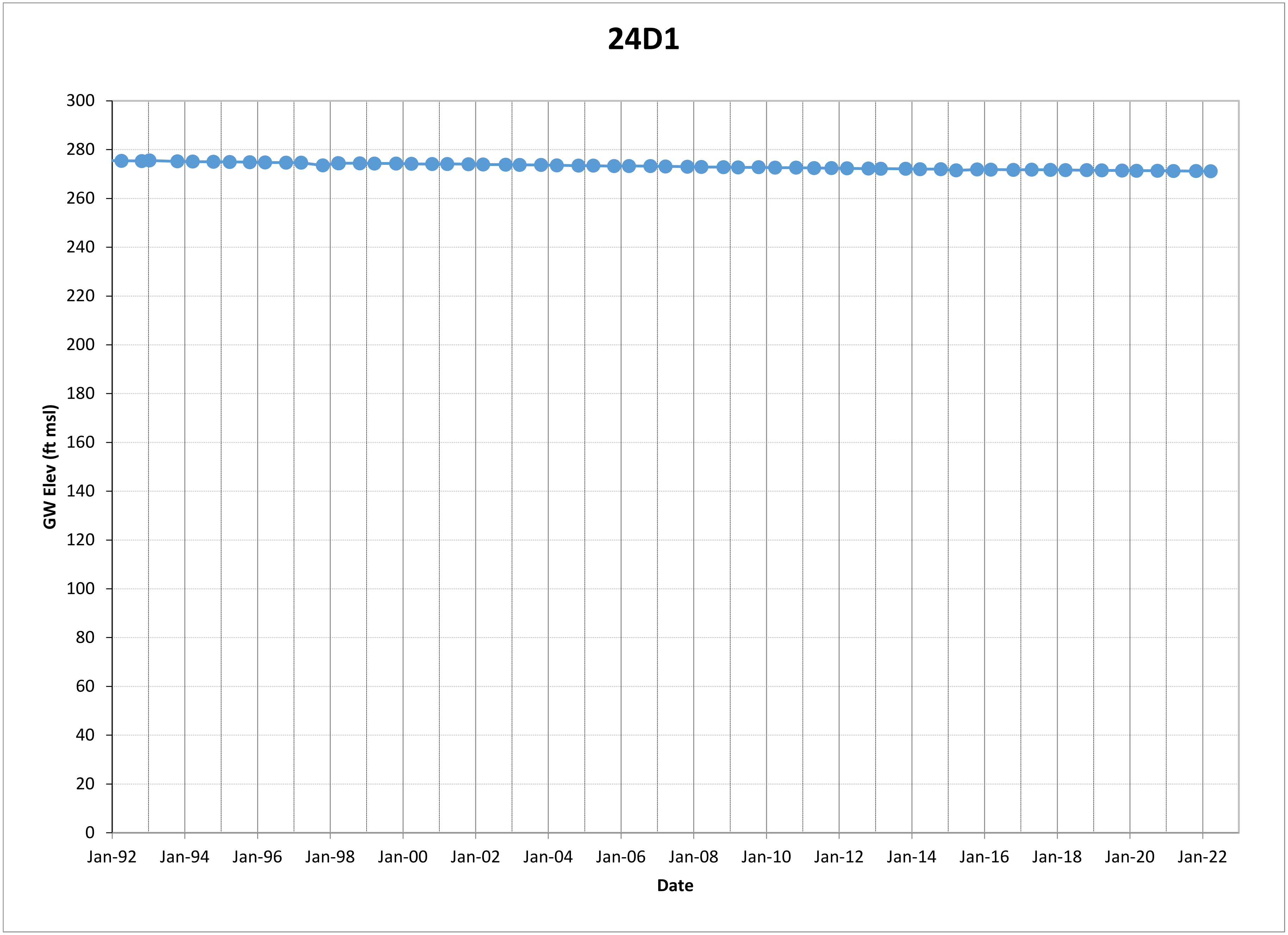
16J1
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date

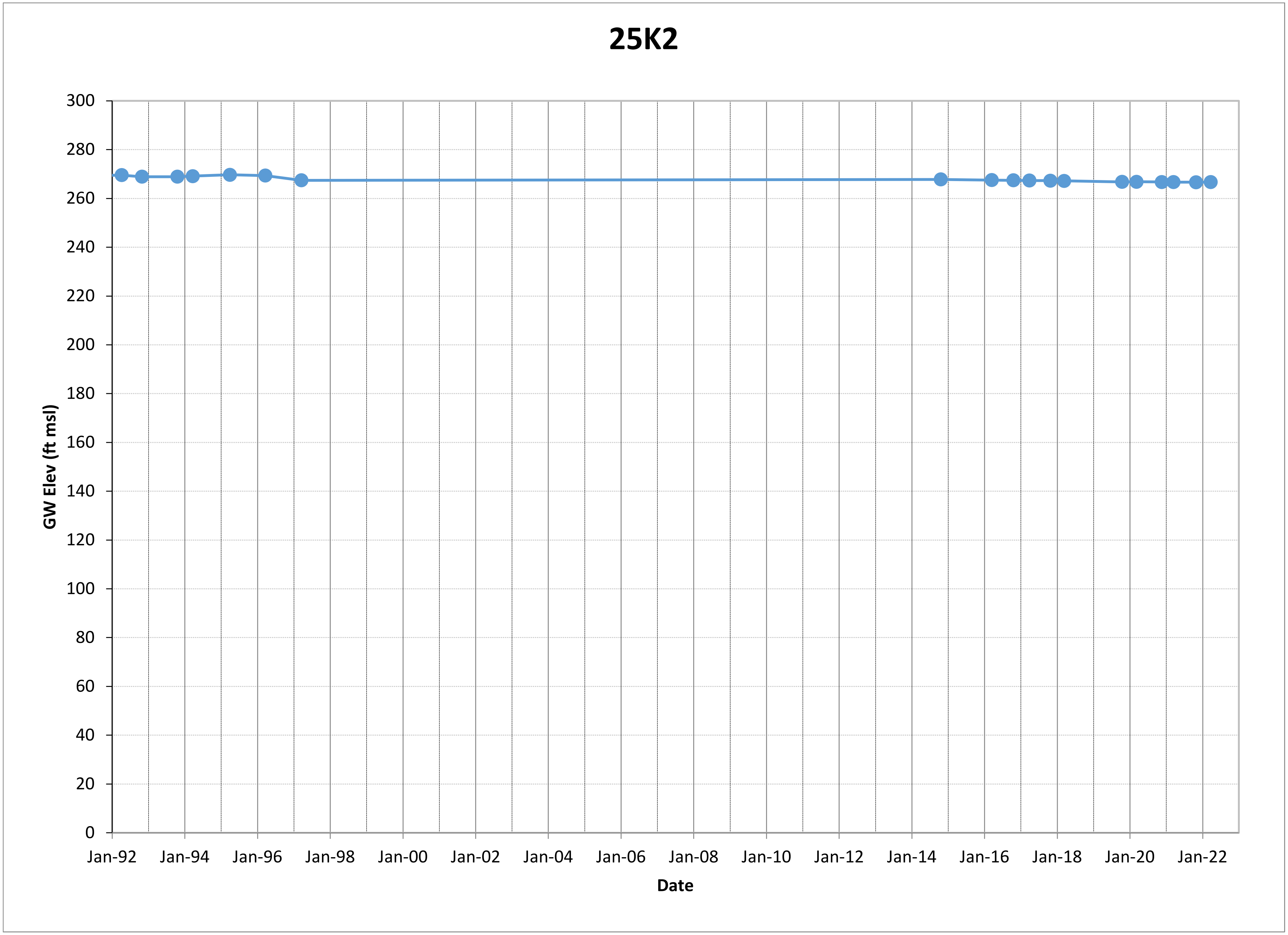

22E2
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date


23B1
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date

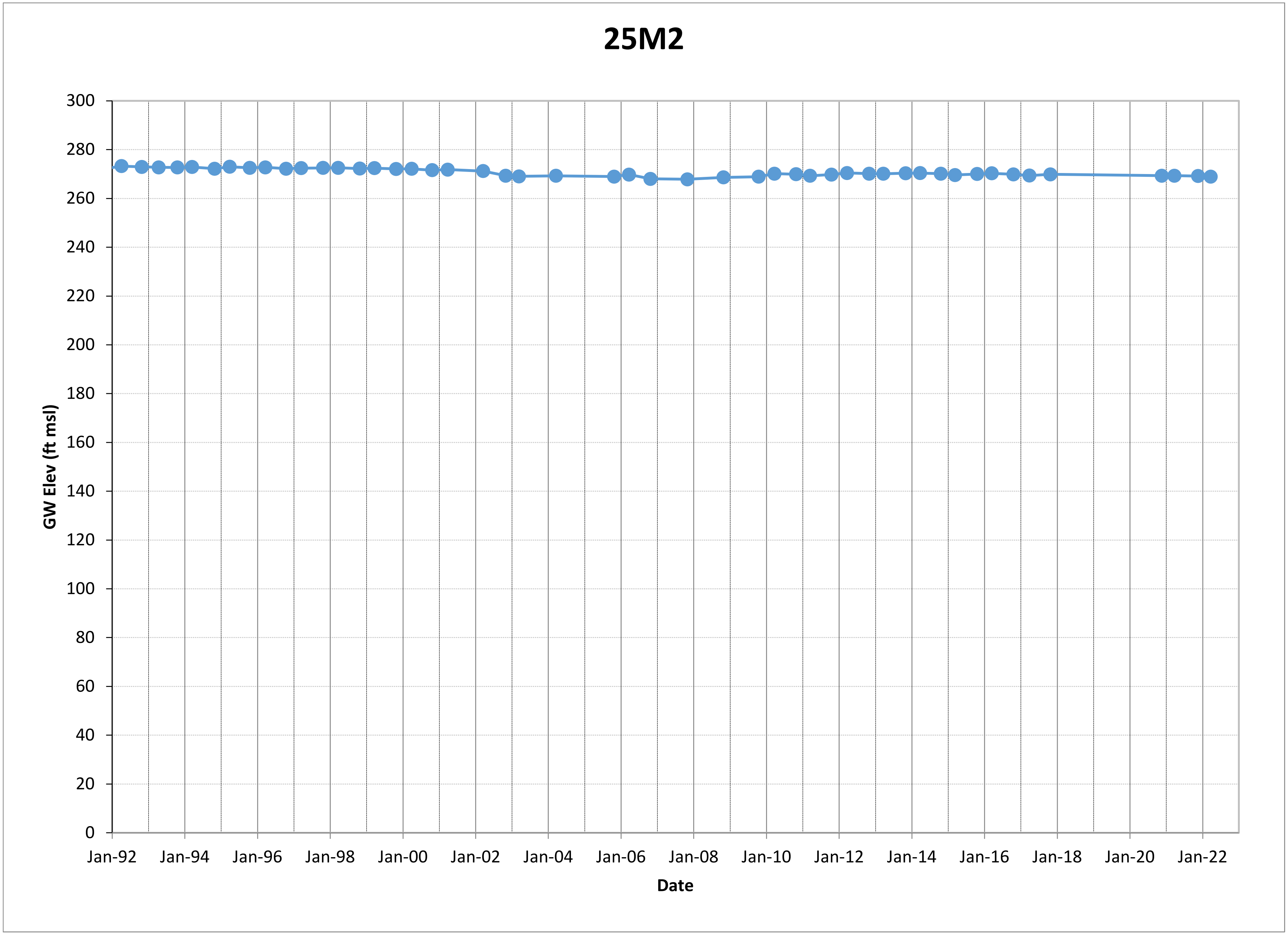


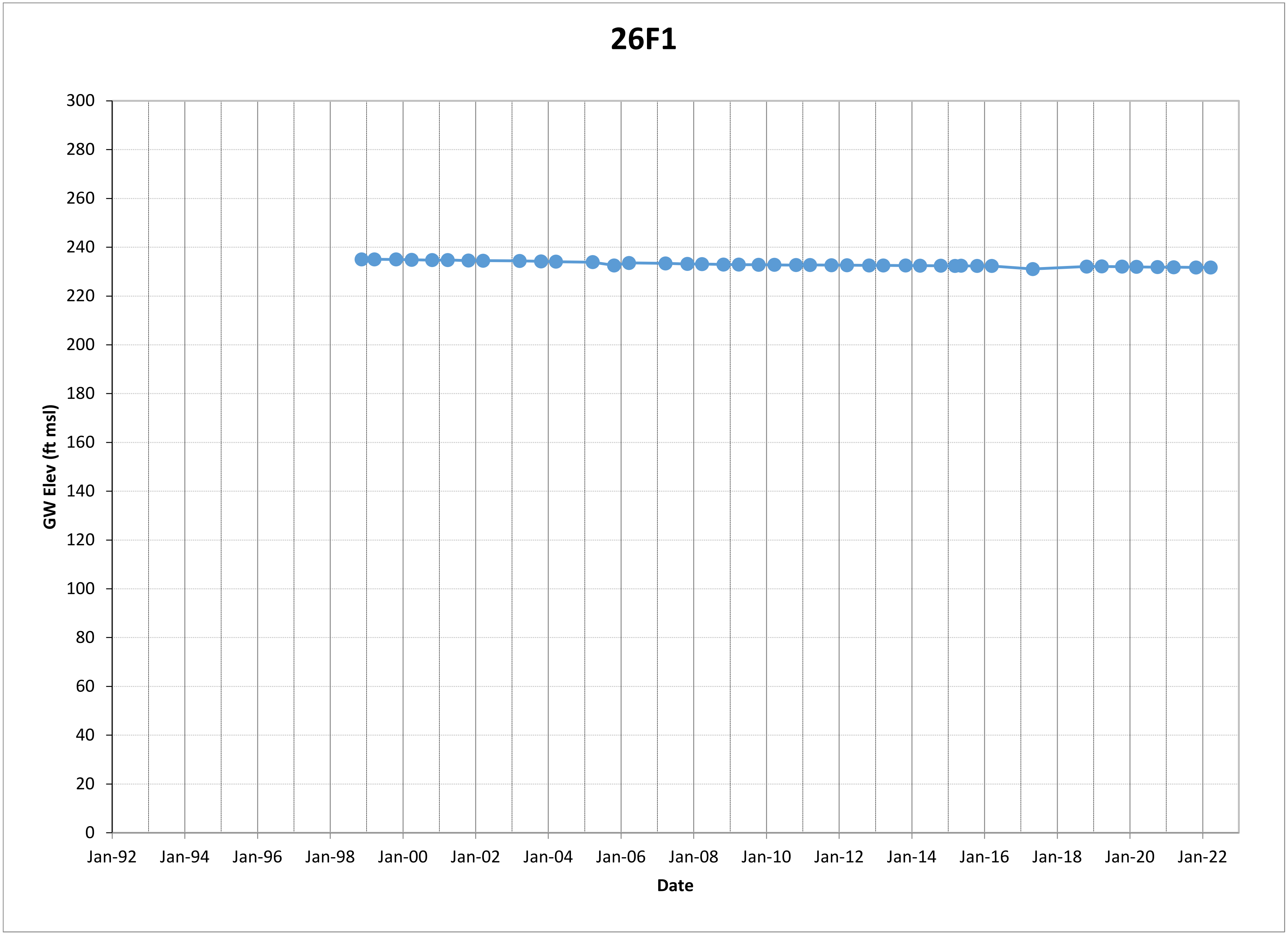
24B1
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date

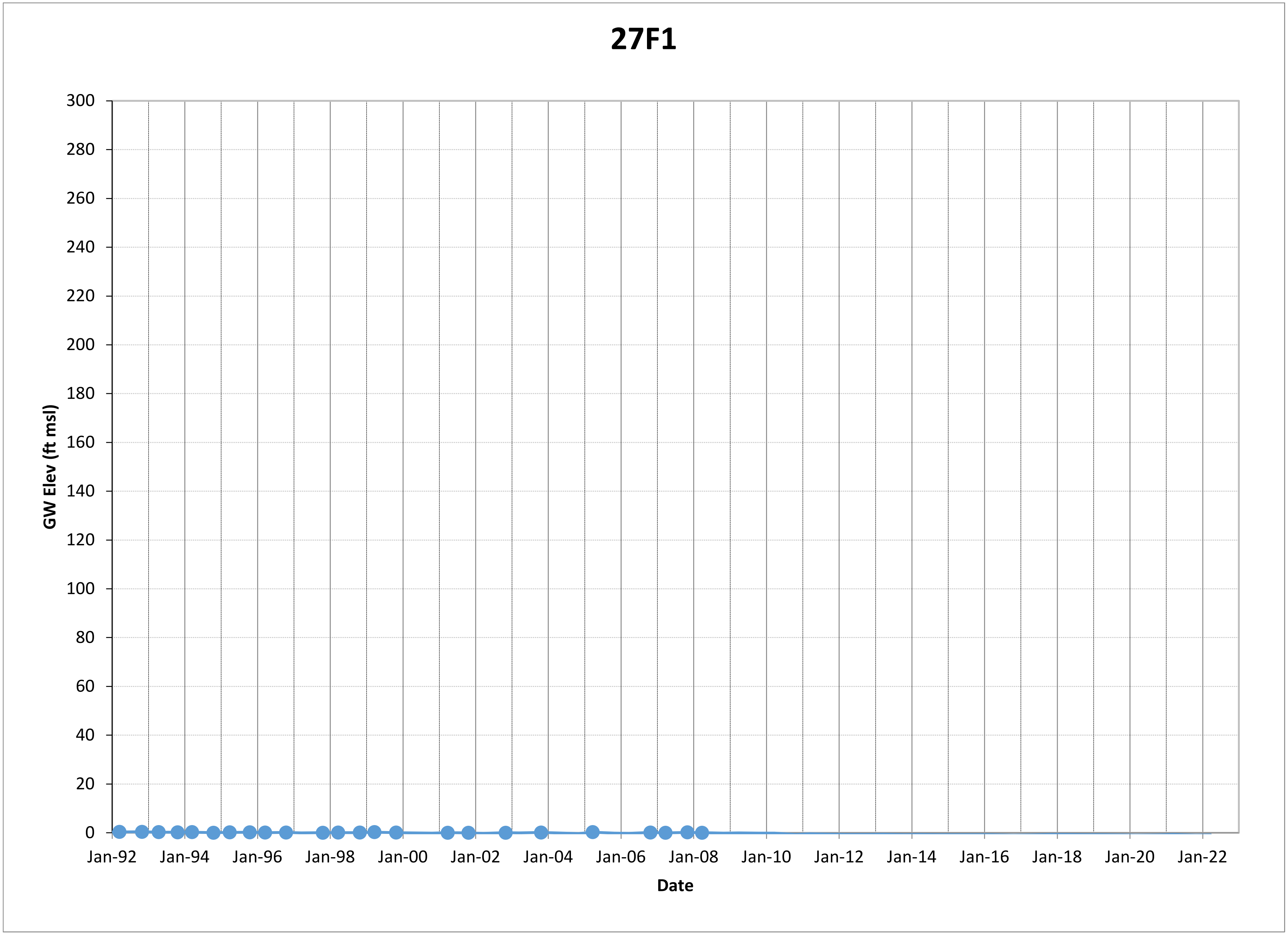

24D1
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date

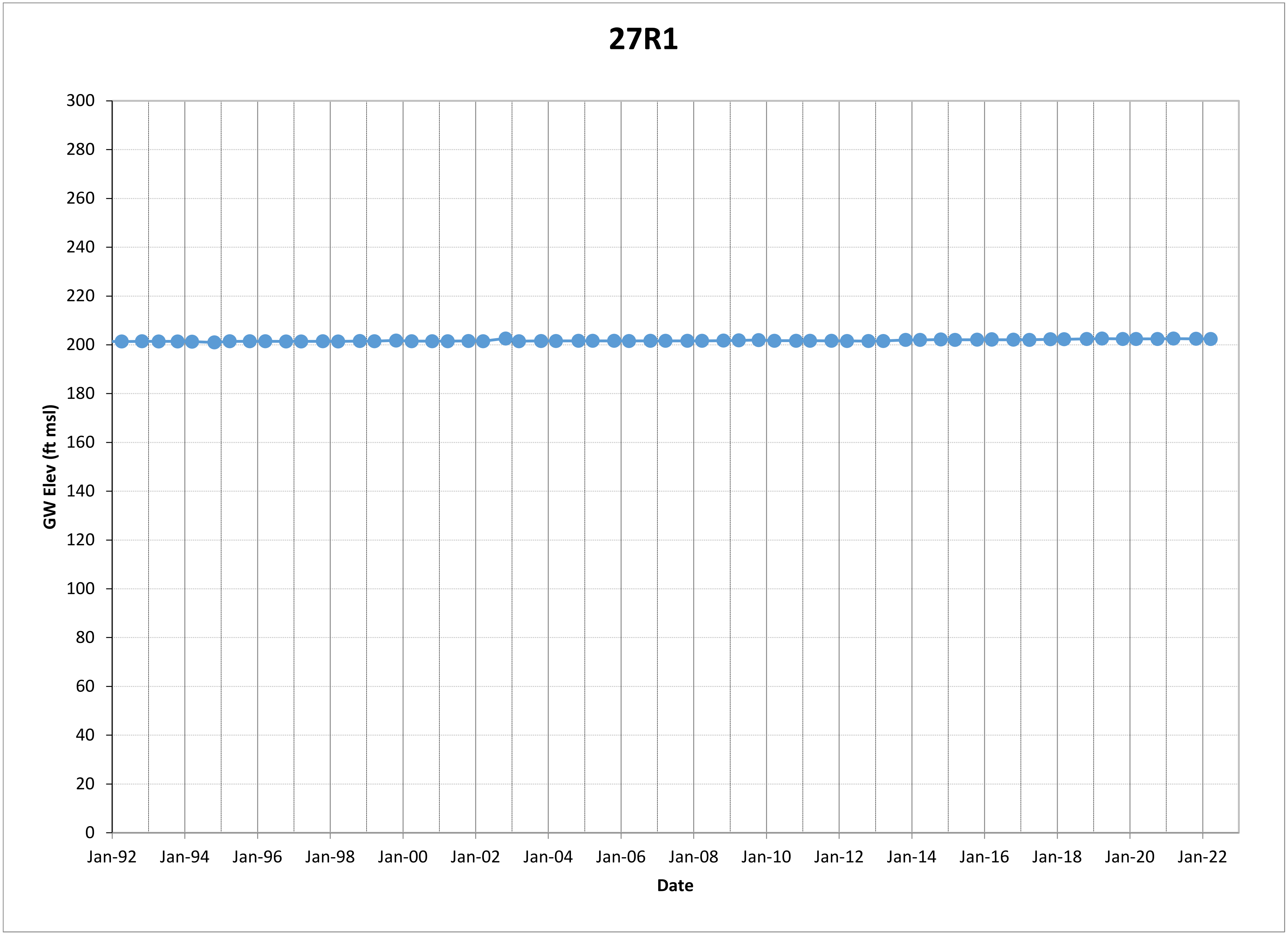


25K2
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date


25M2
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date


26F1
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date


27F1
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date


27R1
GW Elev (ft msl)
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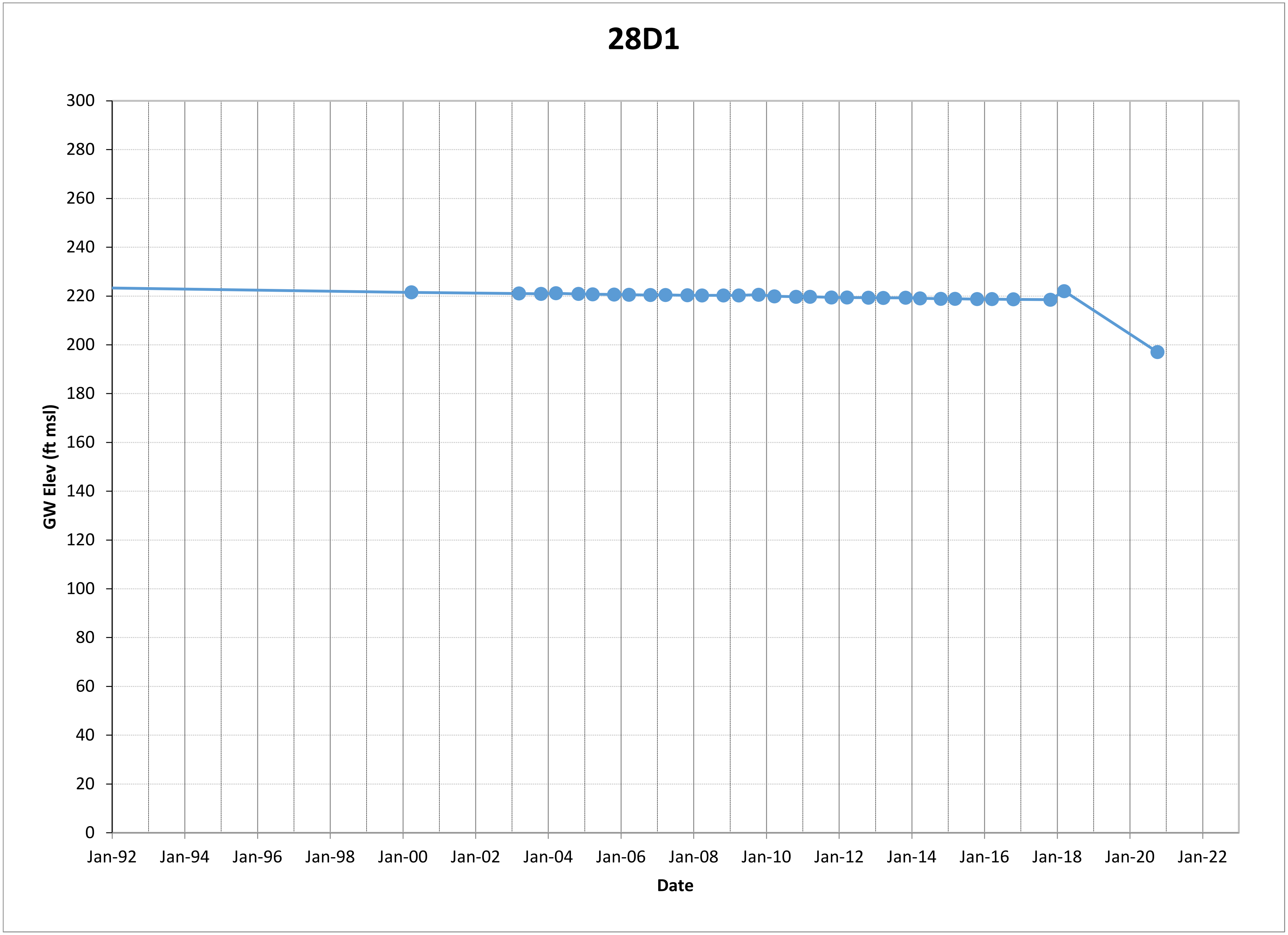
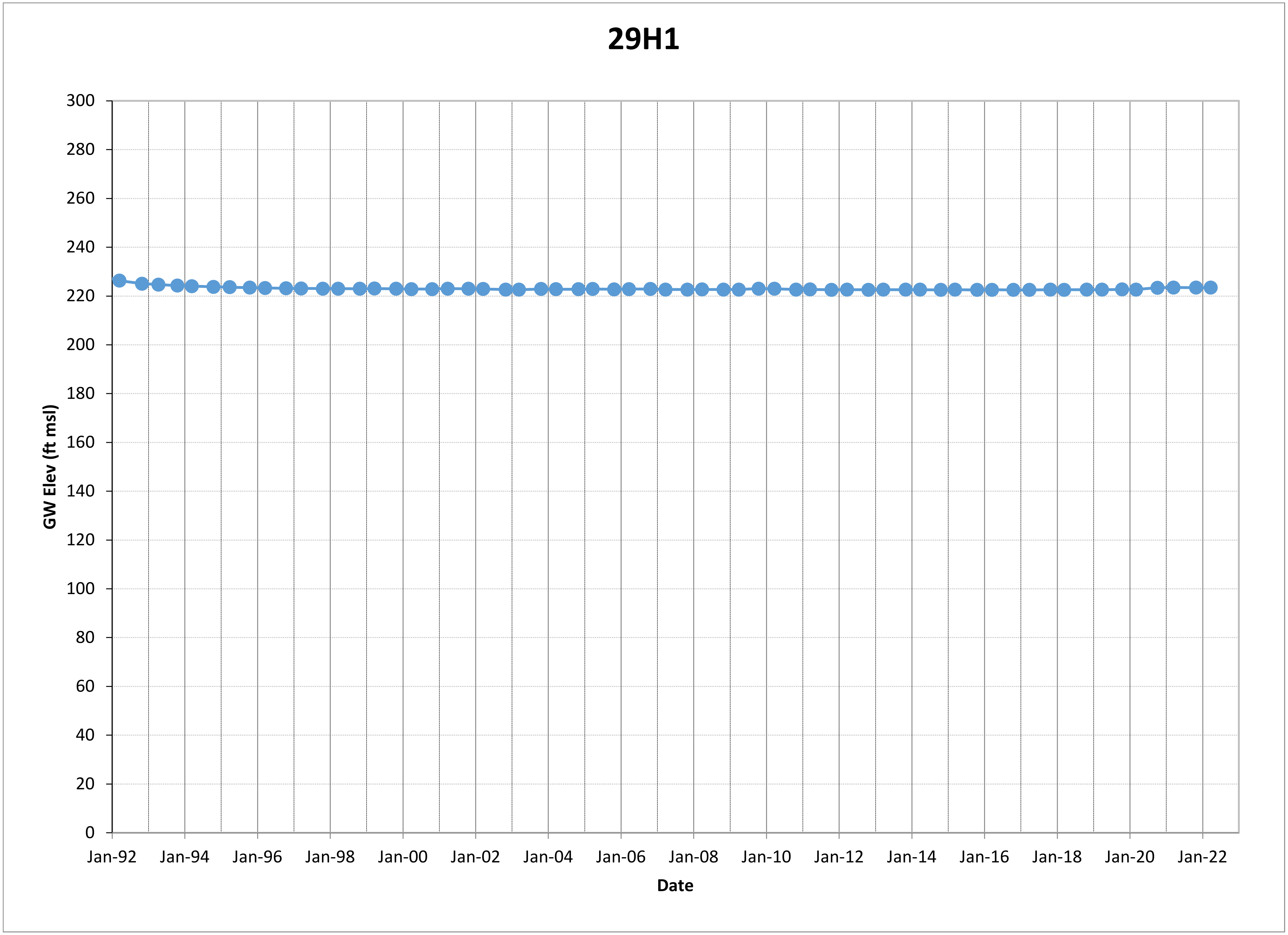
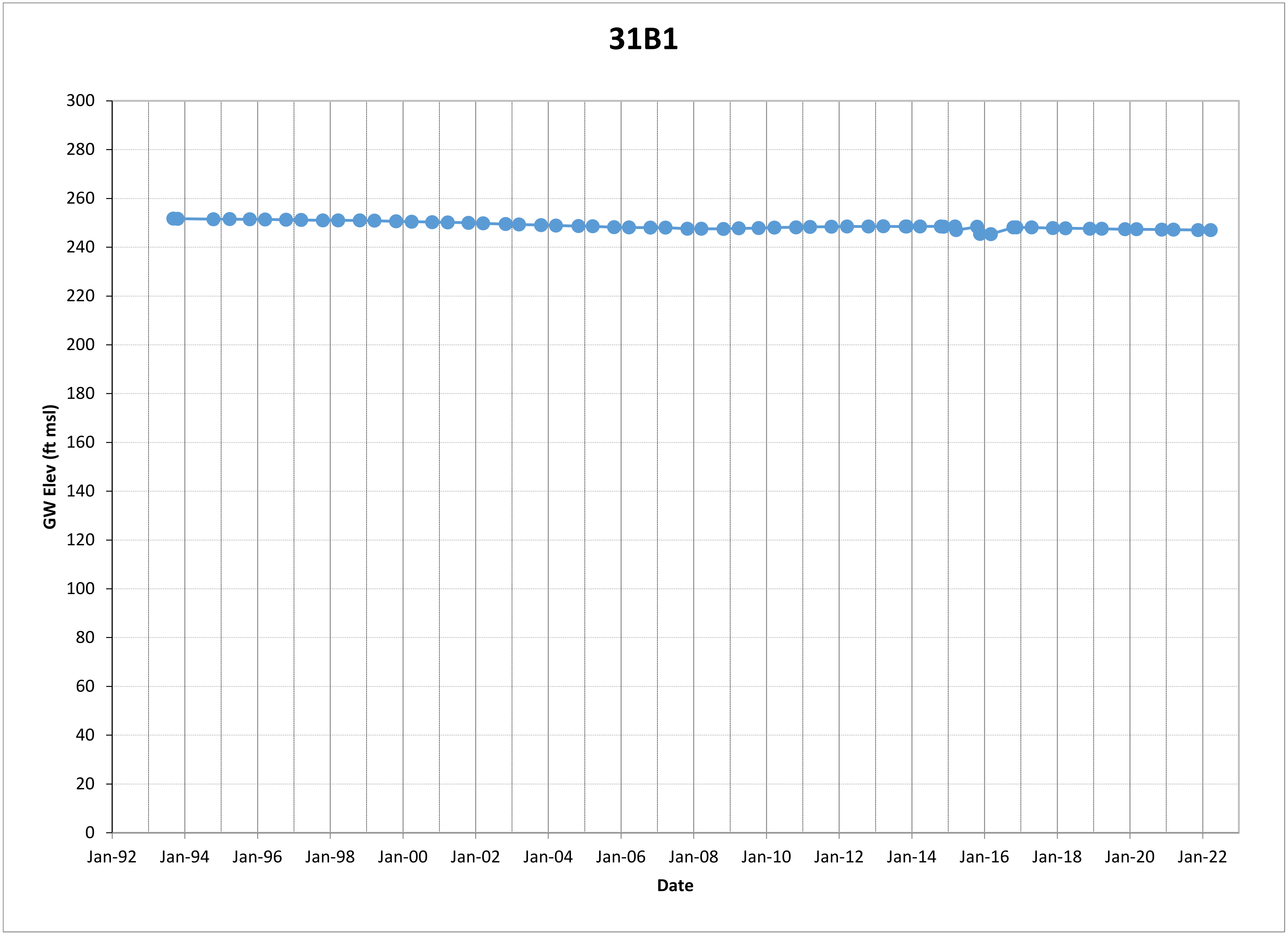
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date

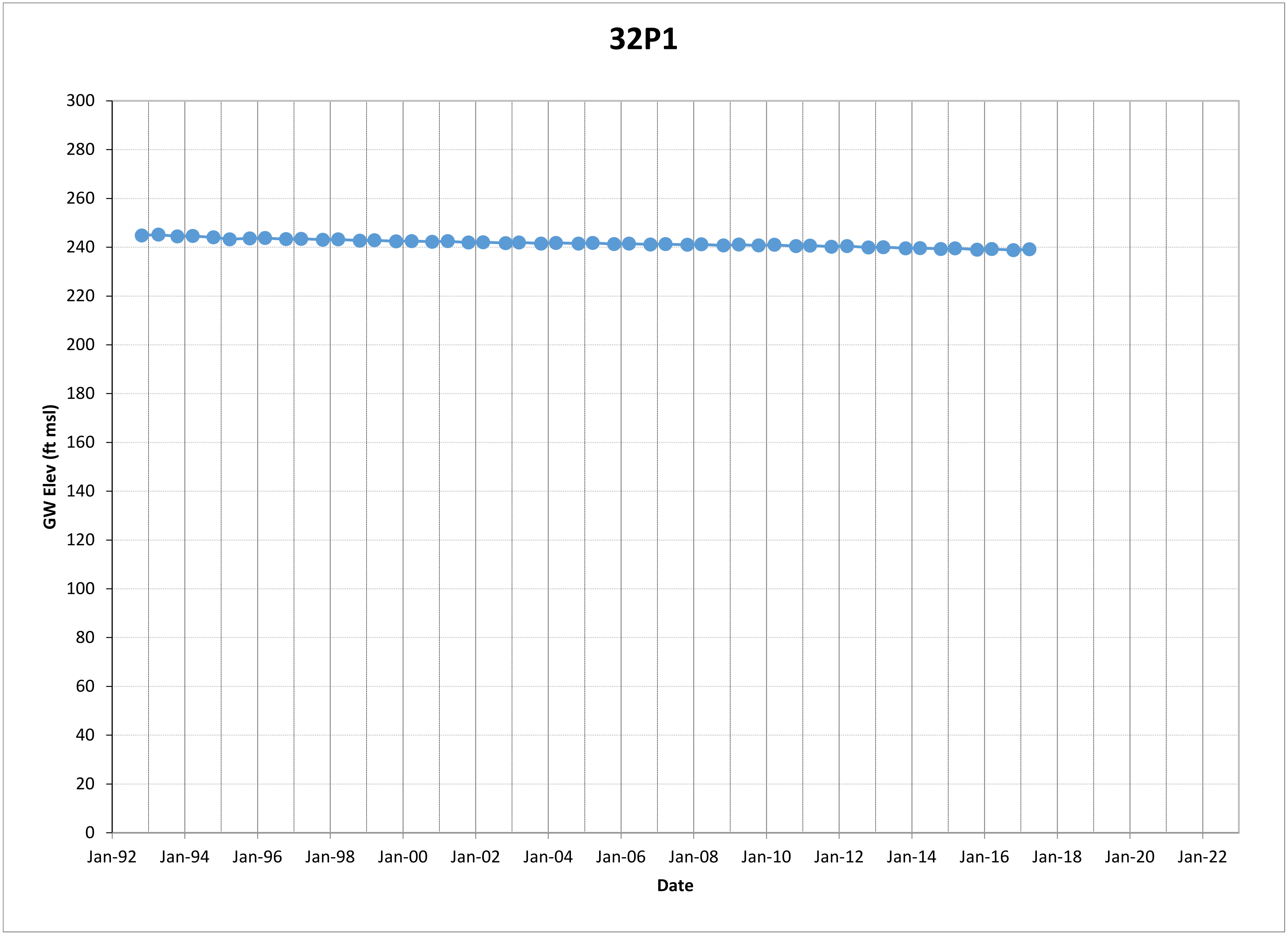

28D1
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date



29H1
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date



31B1
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date



32P1
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
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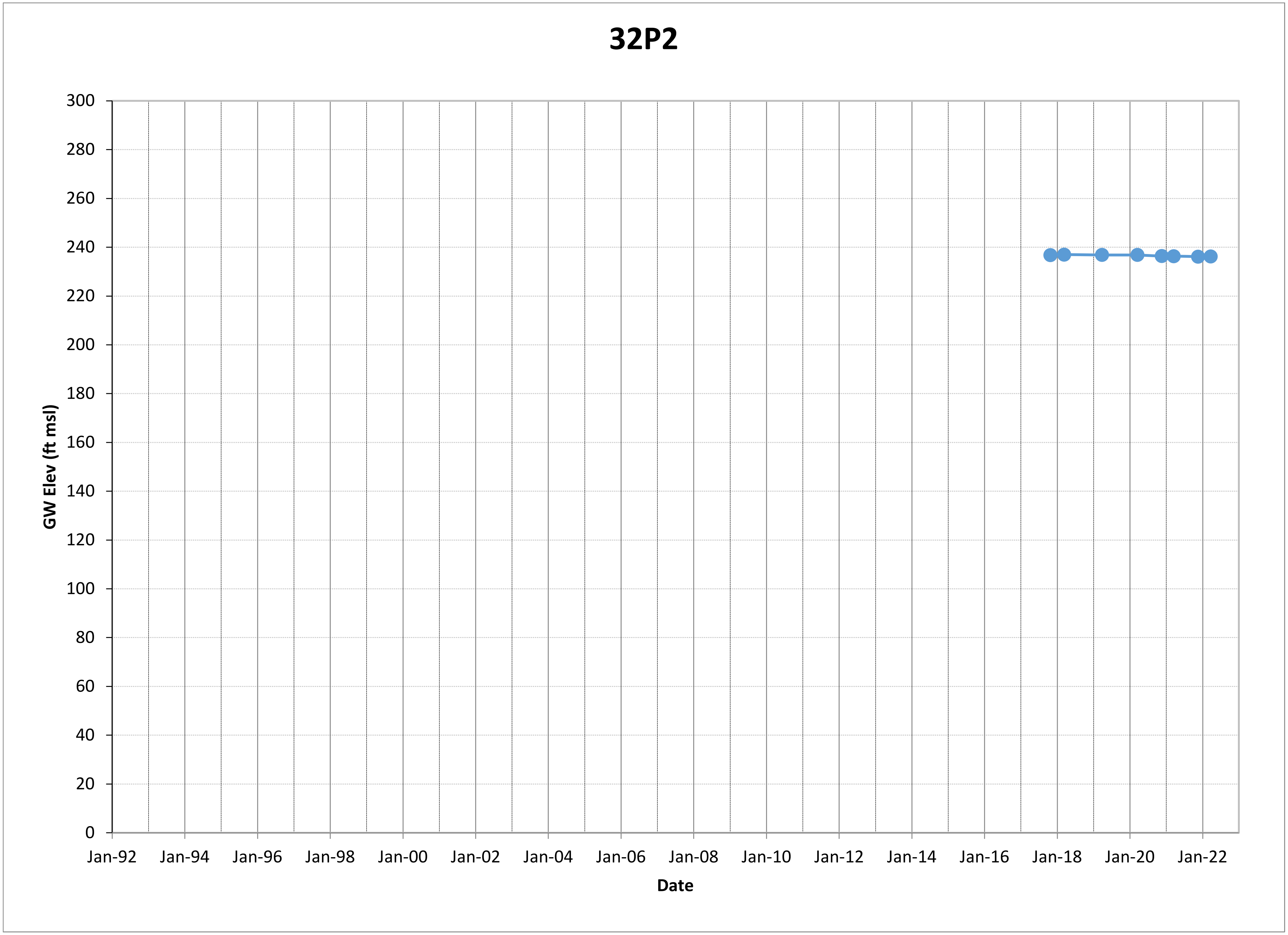
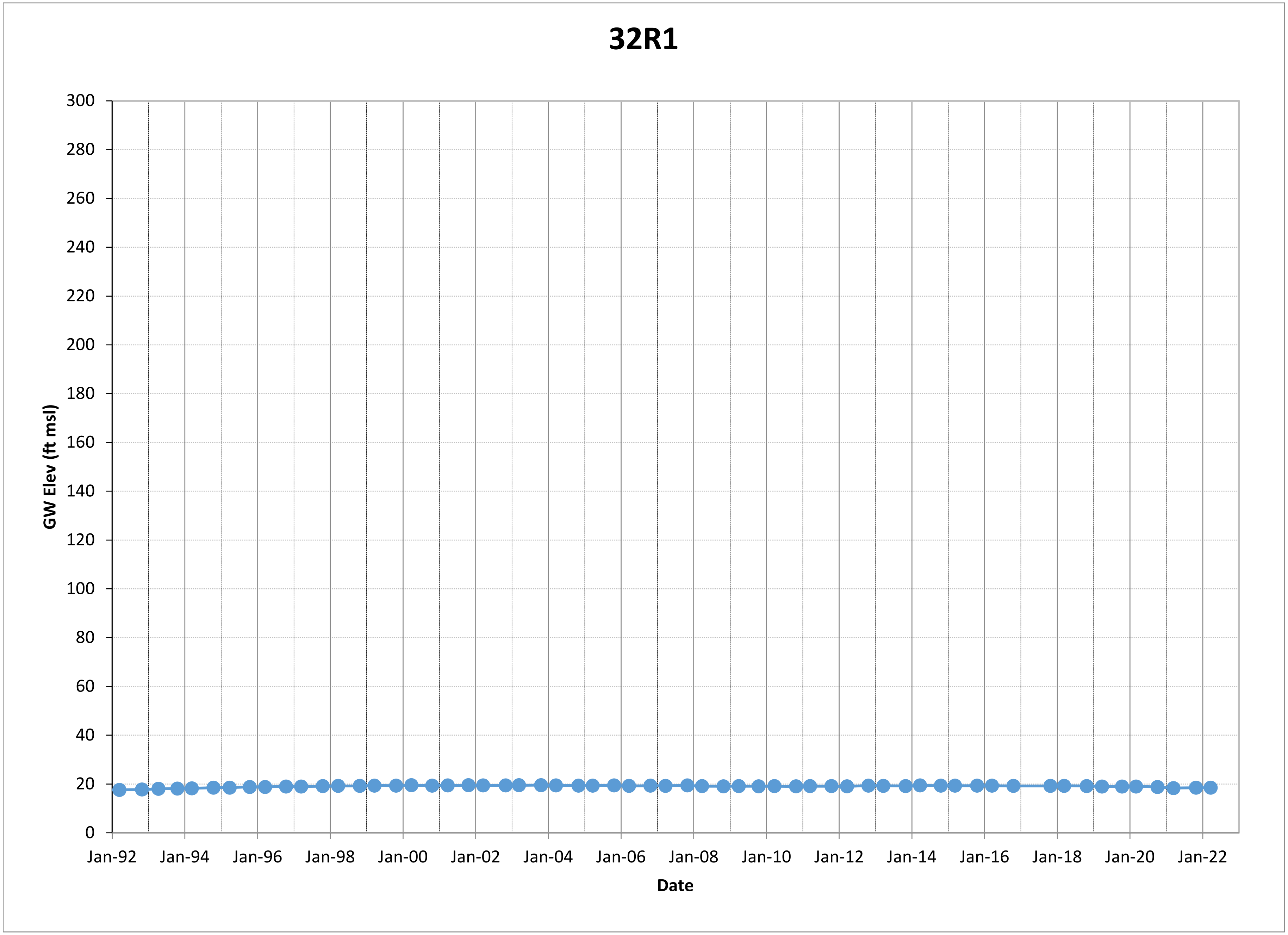
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date


32P2
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date


32R1
GW Elev (ft msl)
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280
300
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
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Jan-06
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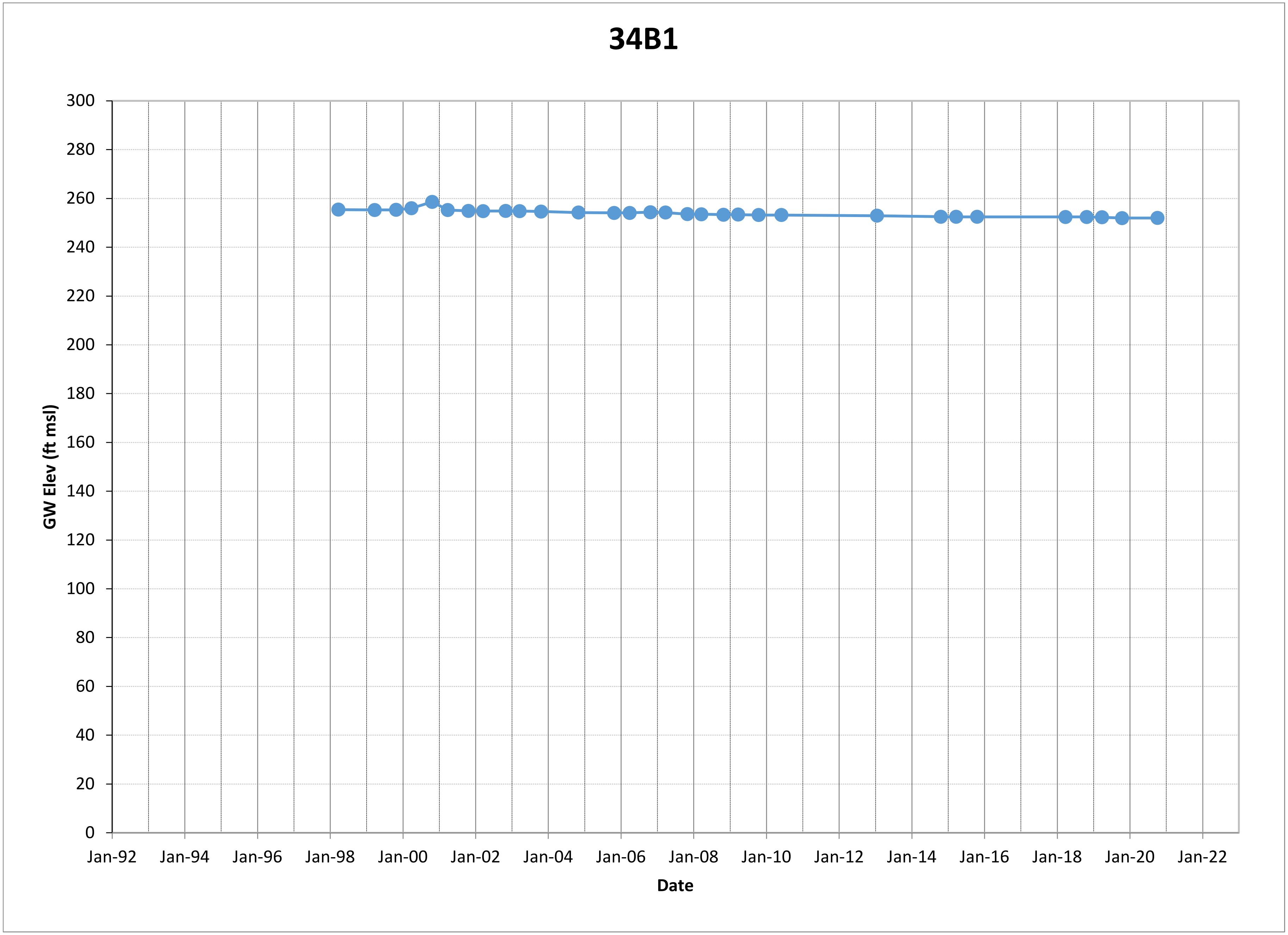
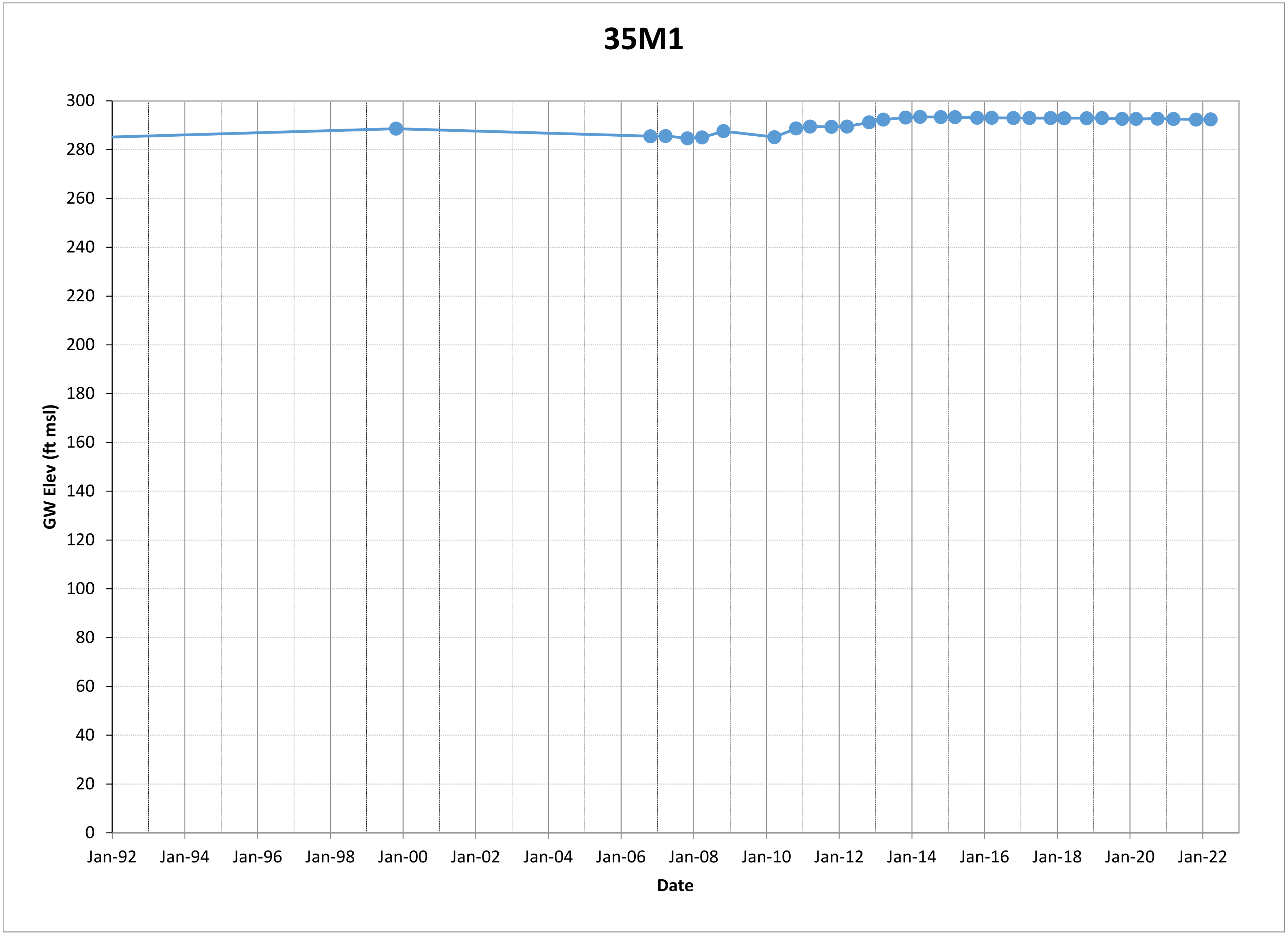
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date



34B1
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date


35M1
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
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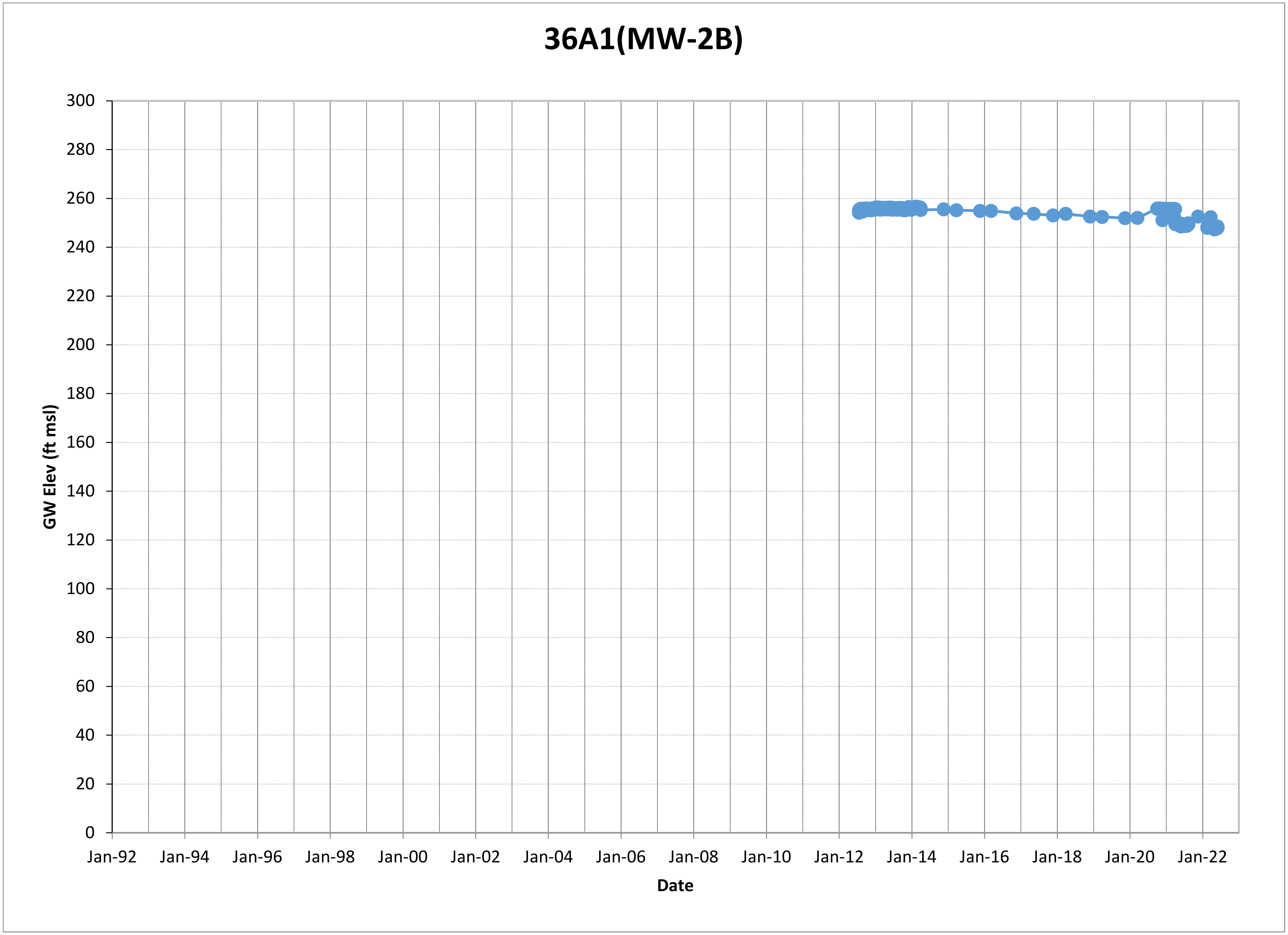
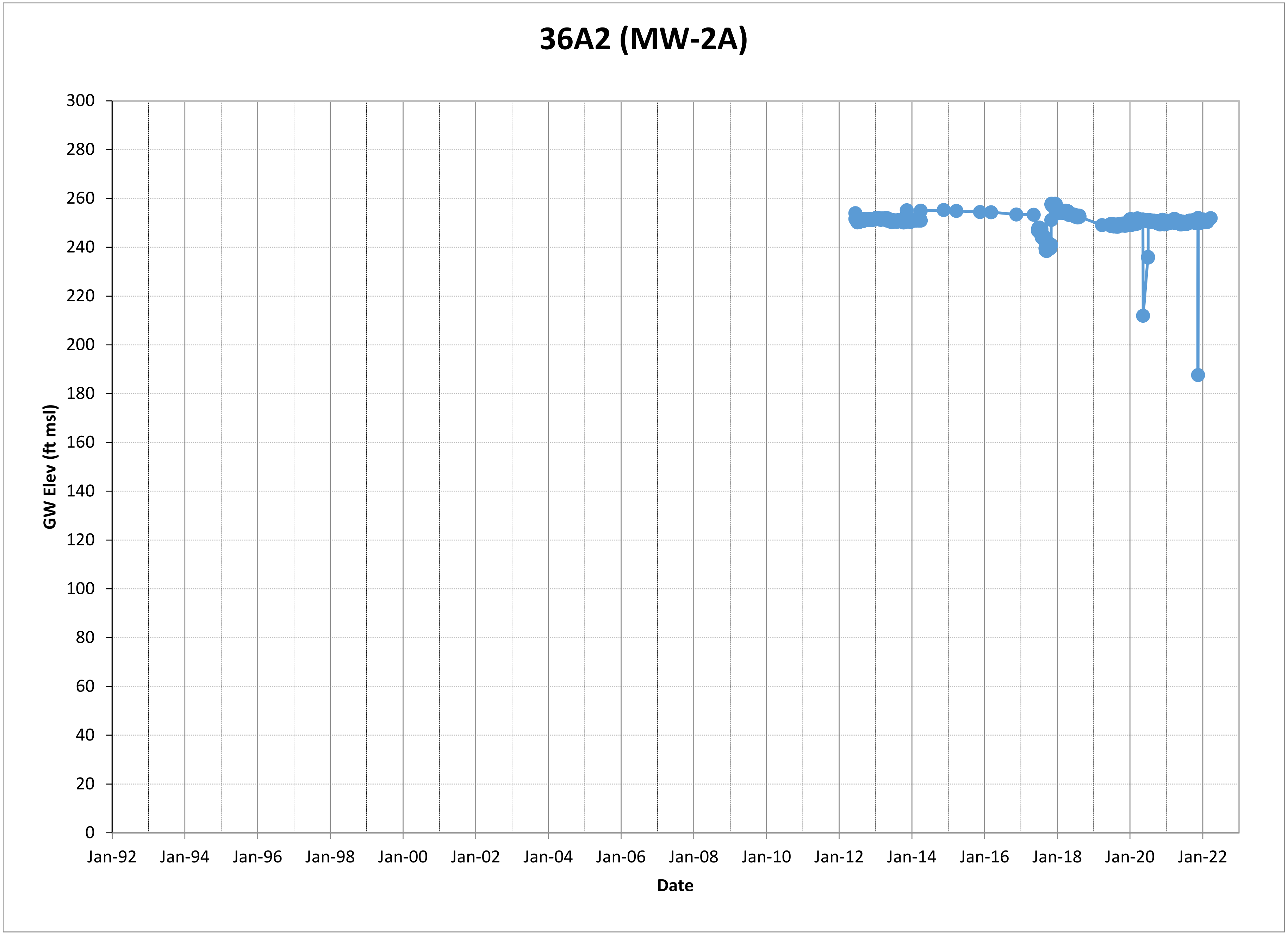
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date


36A1(MW-2B)
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date


36A2 (MW-2A)
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
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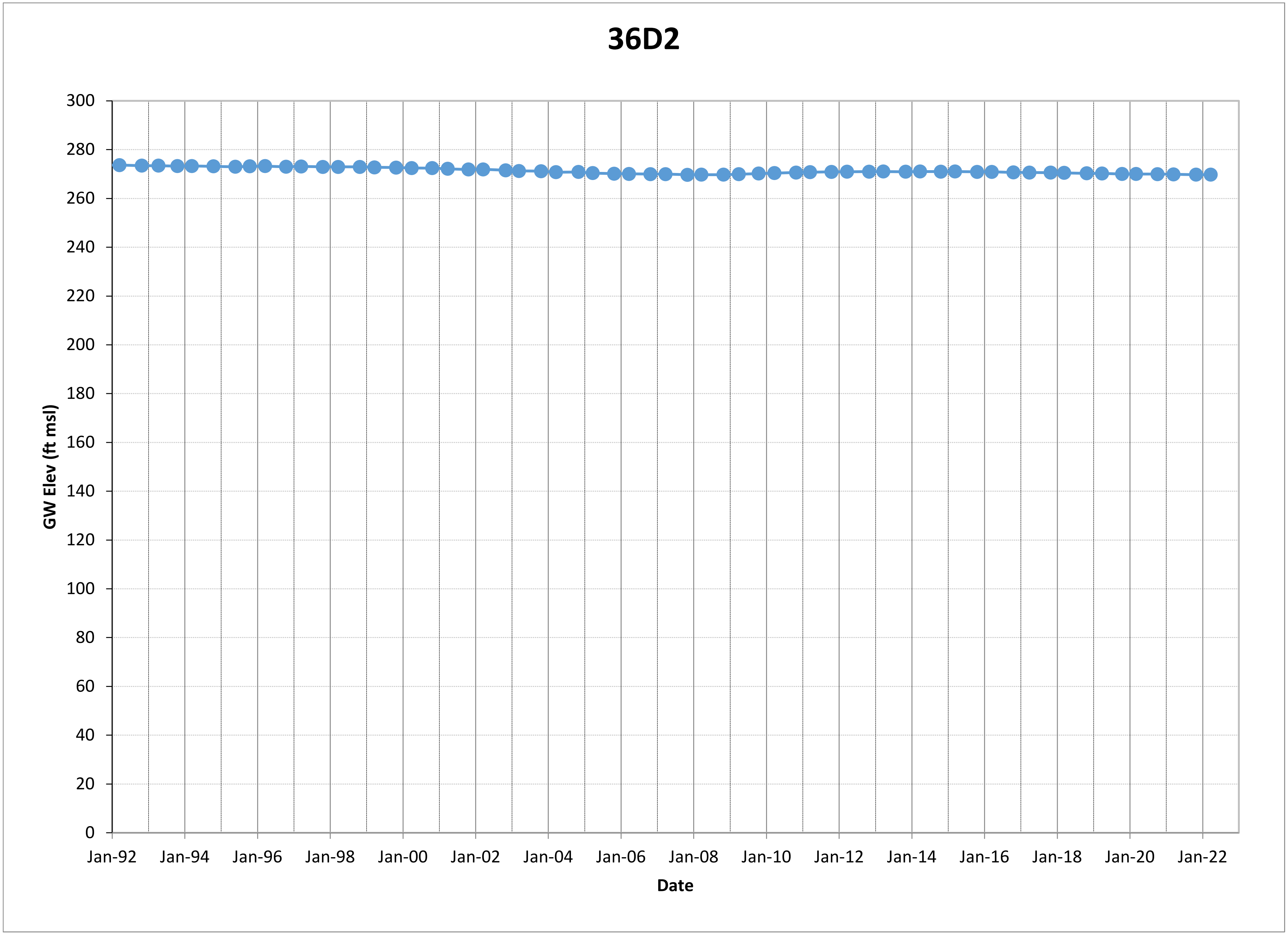
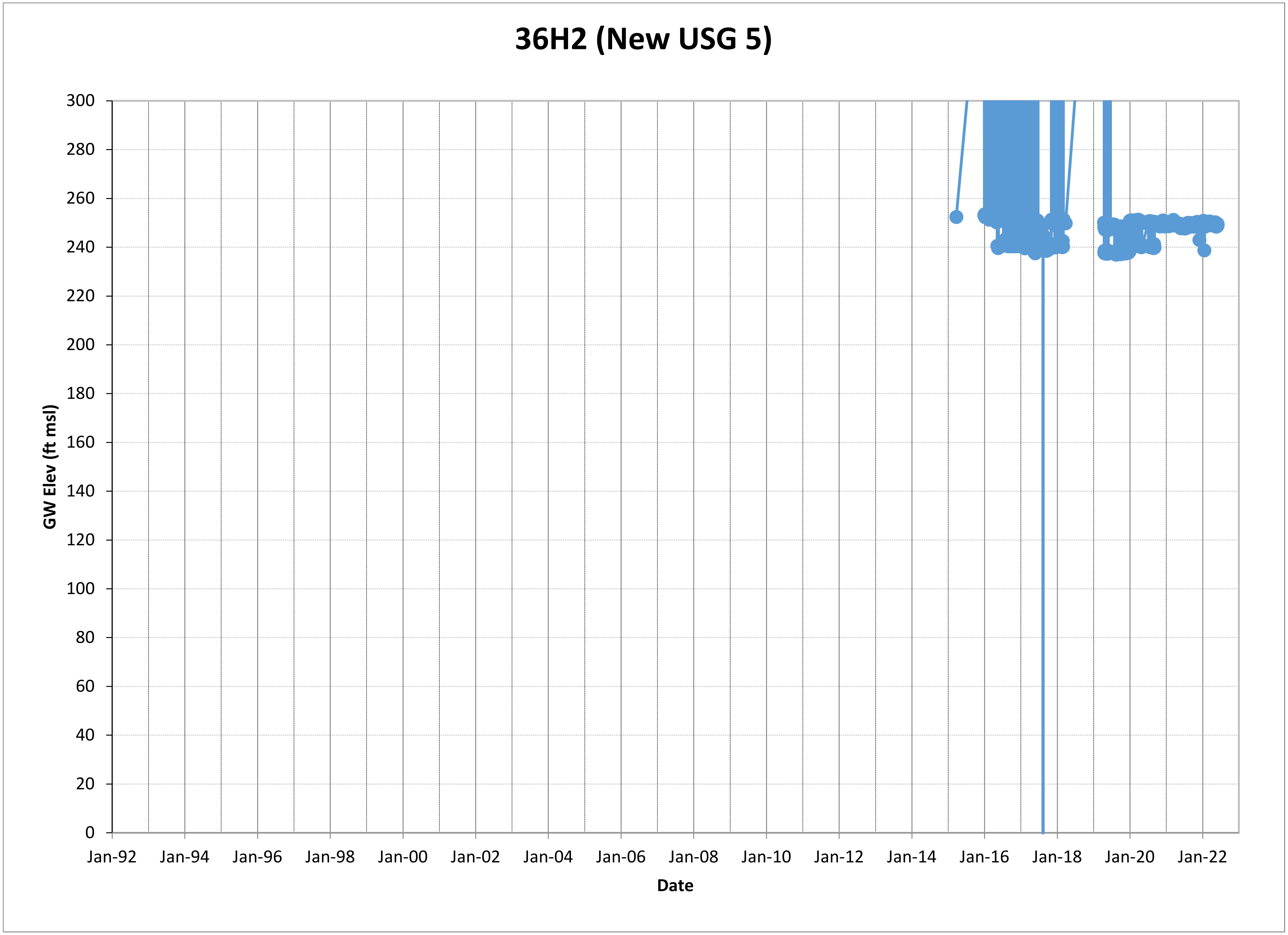
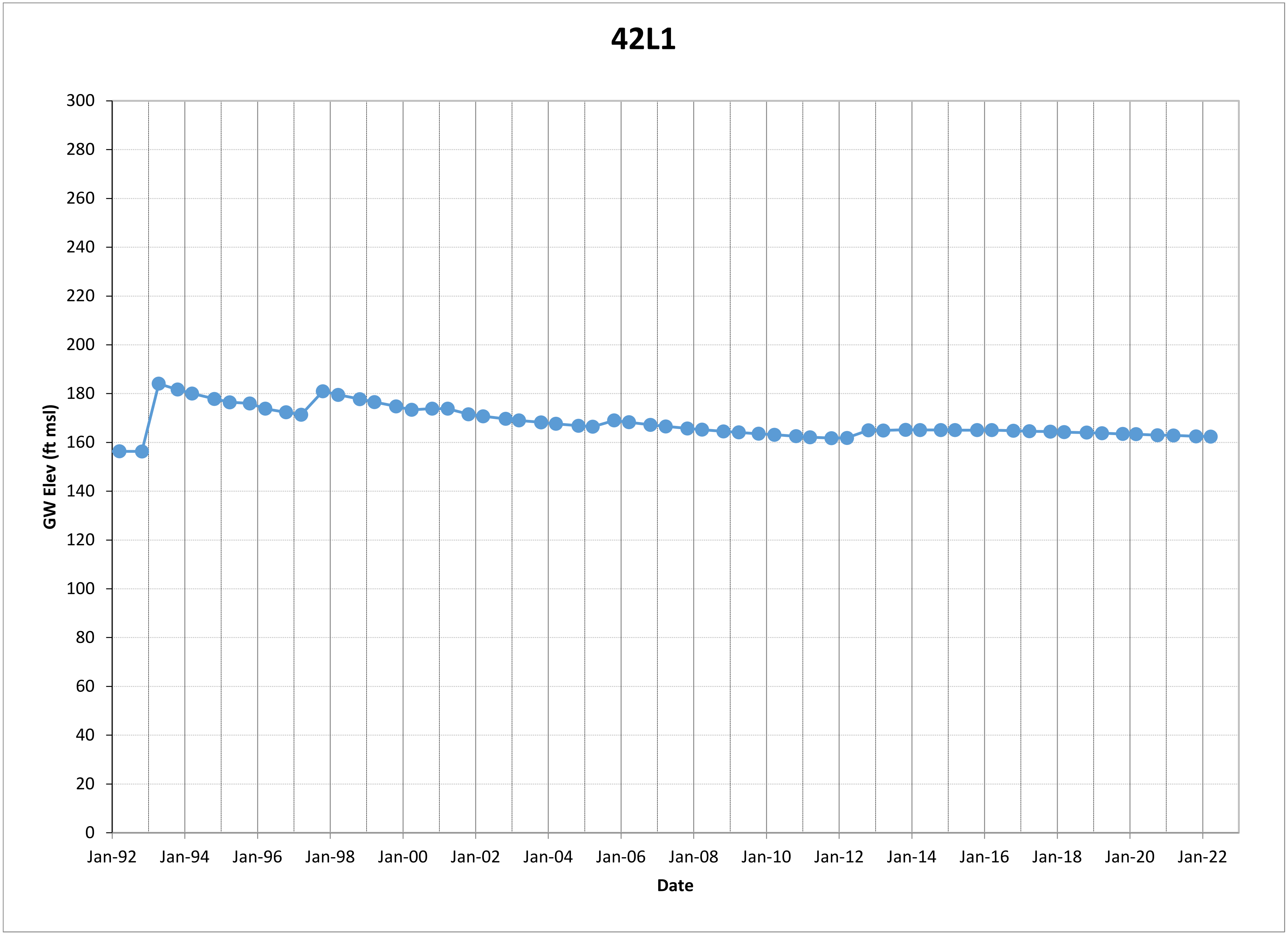
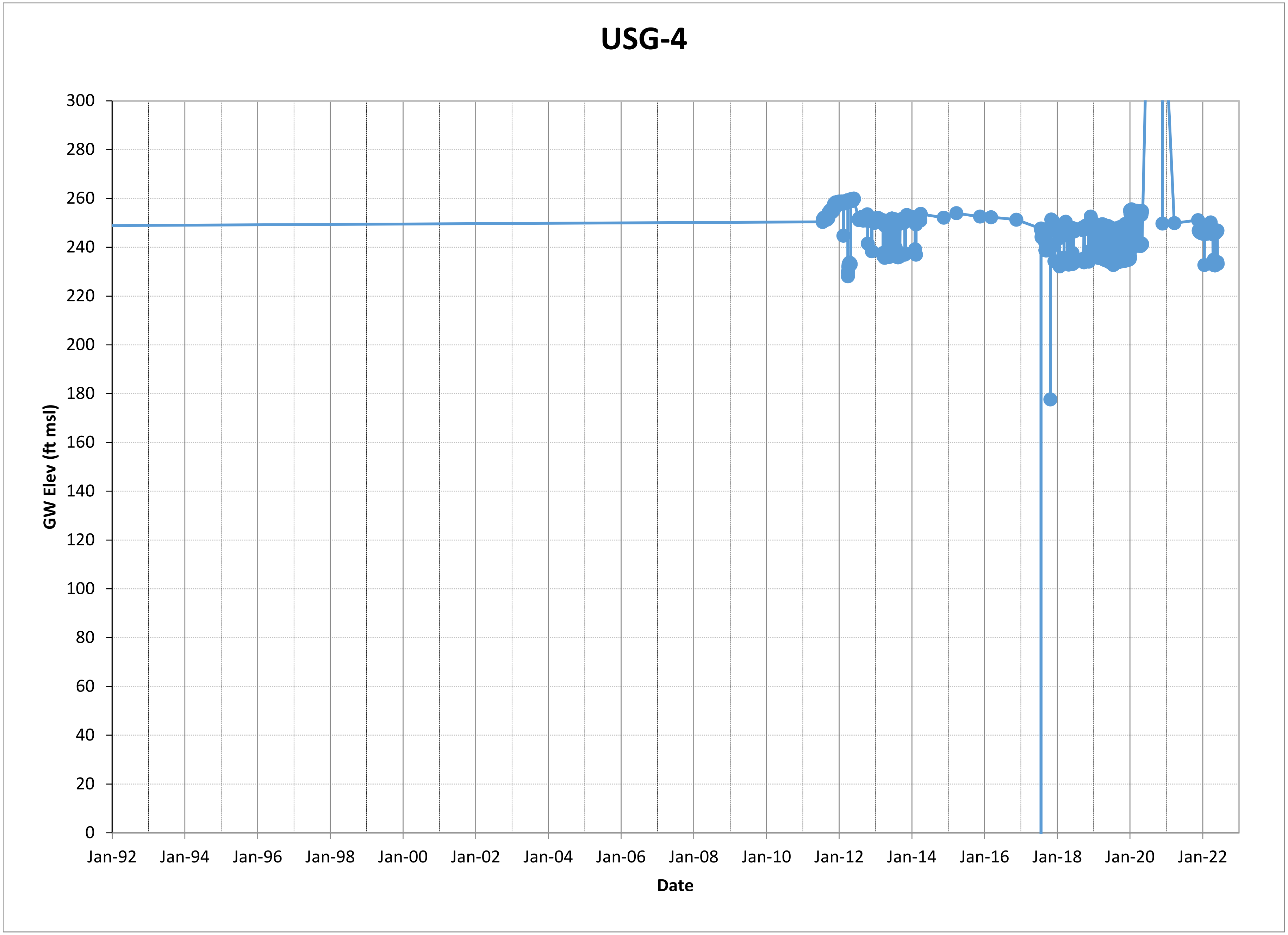
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date


36D2
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date

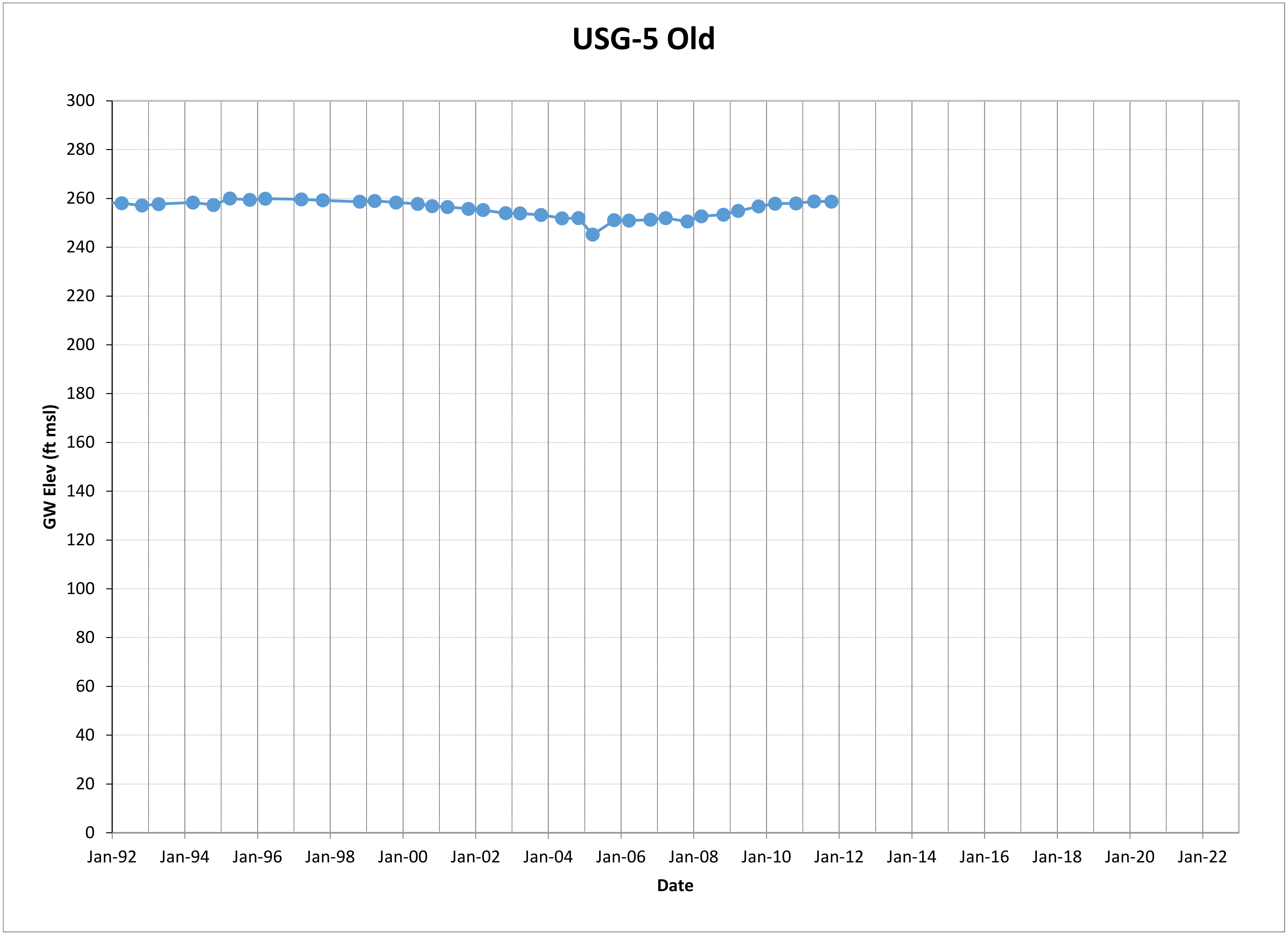

36H2 (New USG 5)
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date

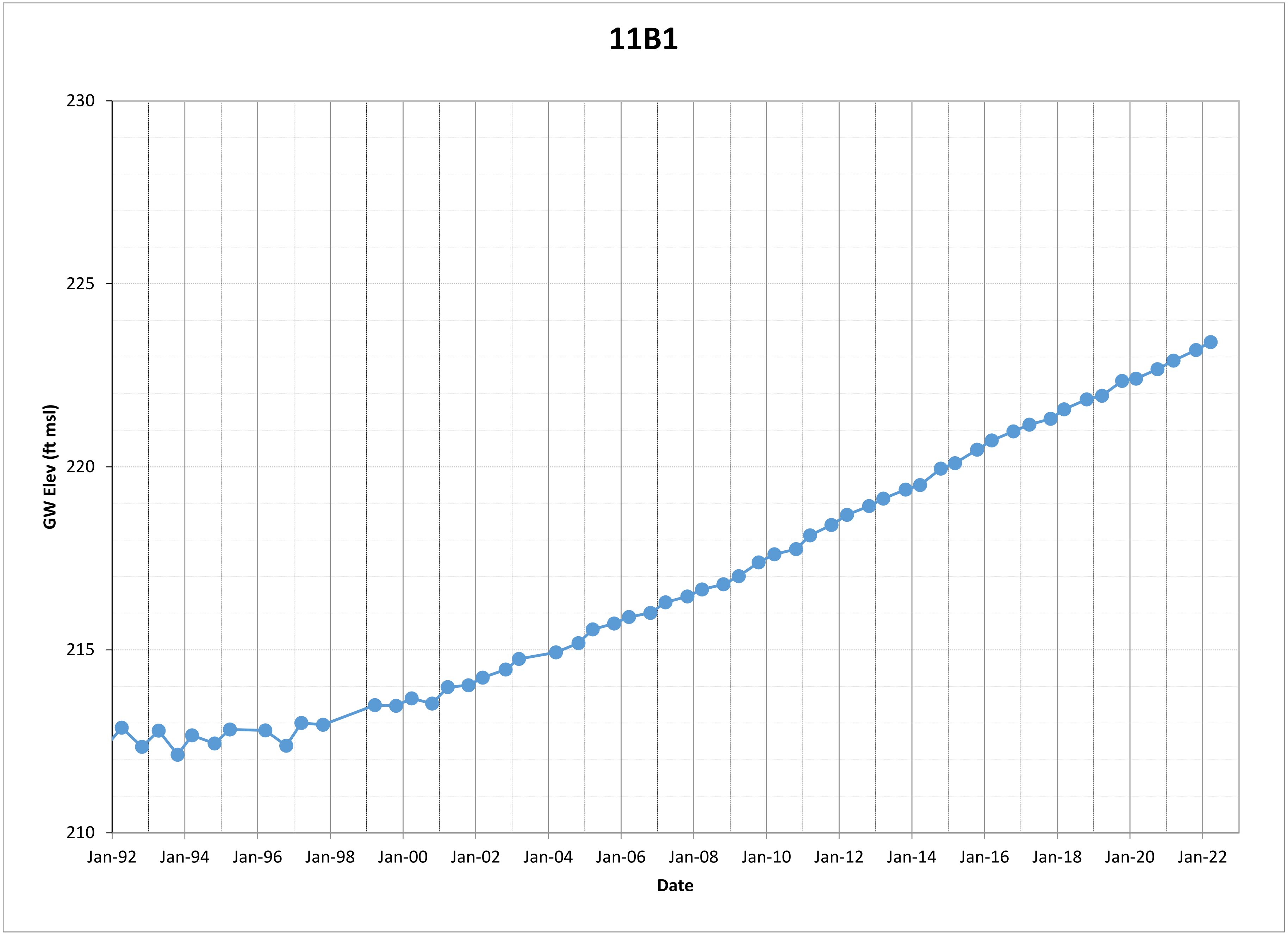


42L1
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date

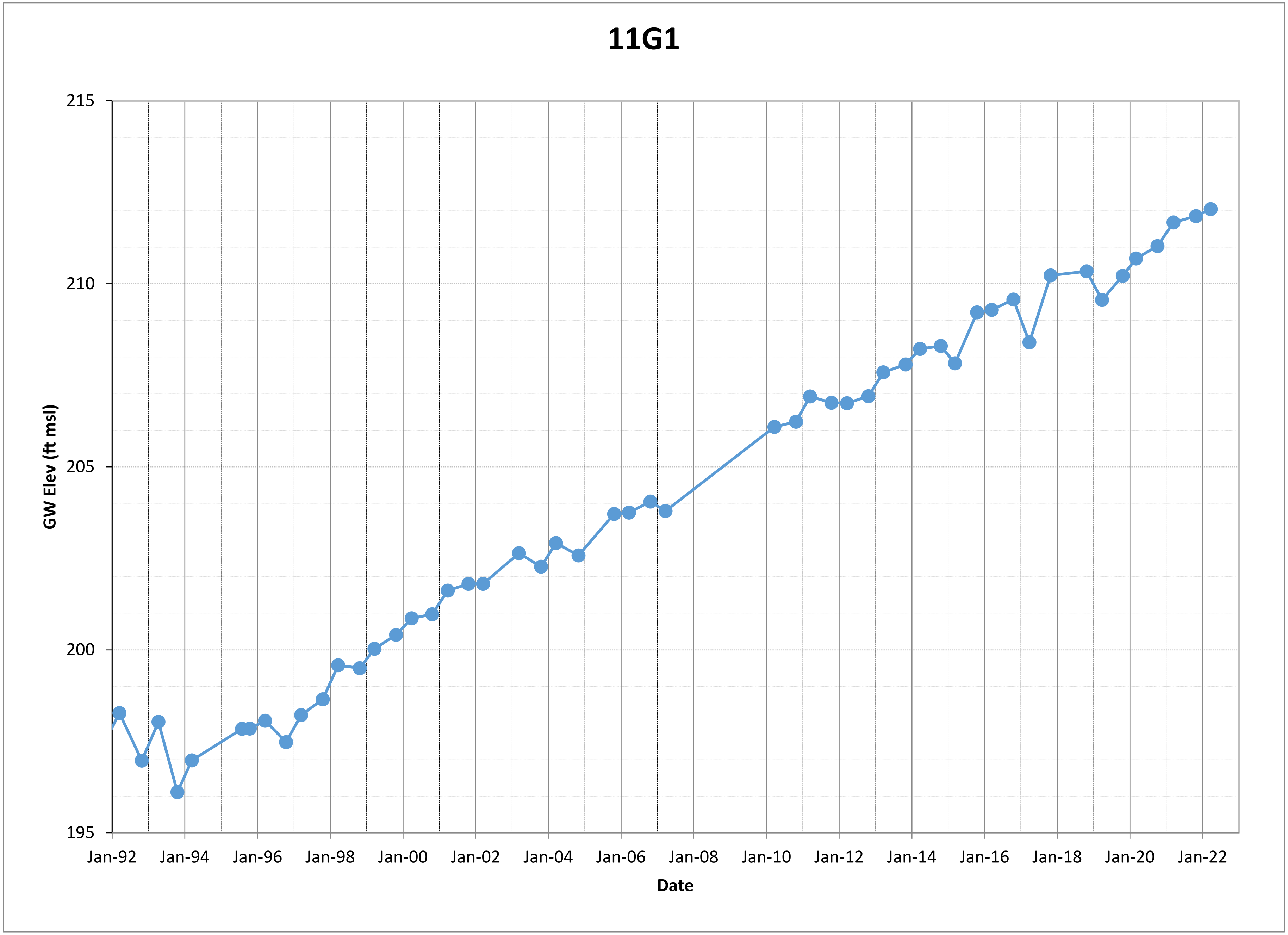


USG-4
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date

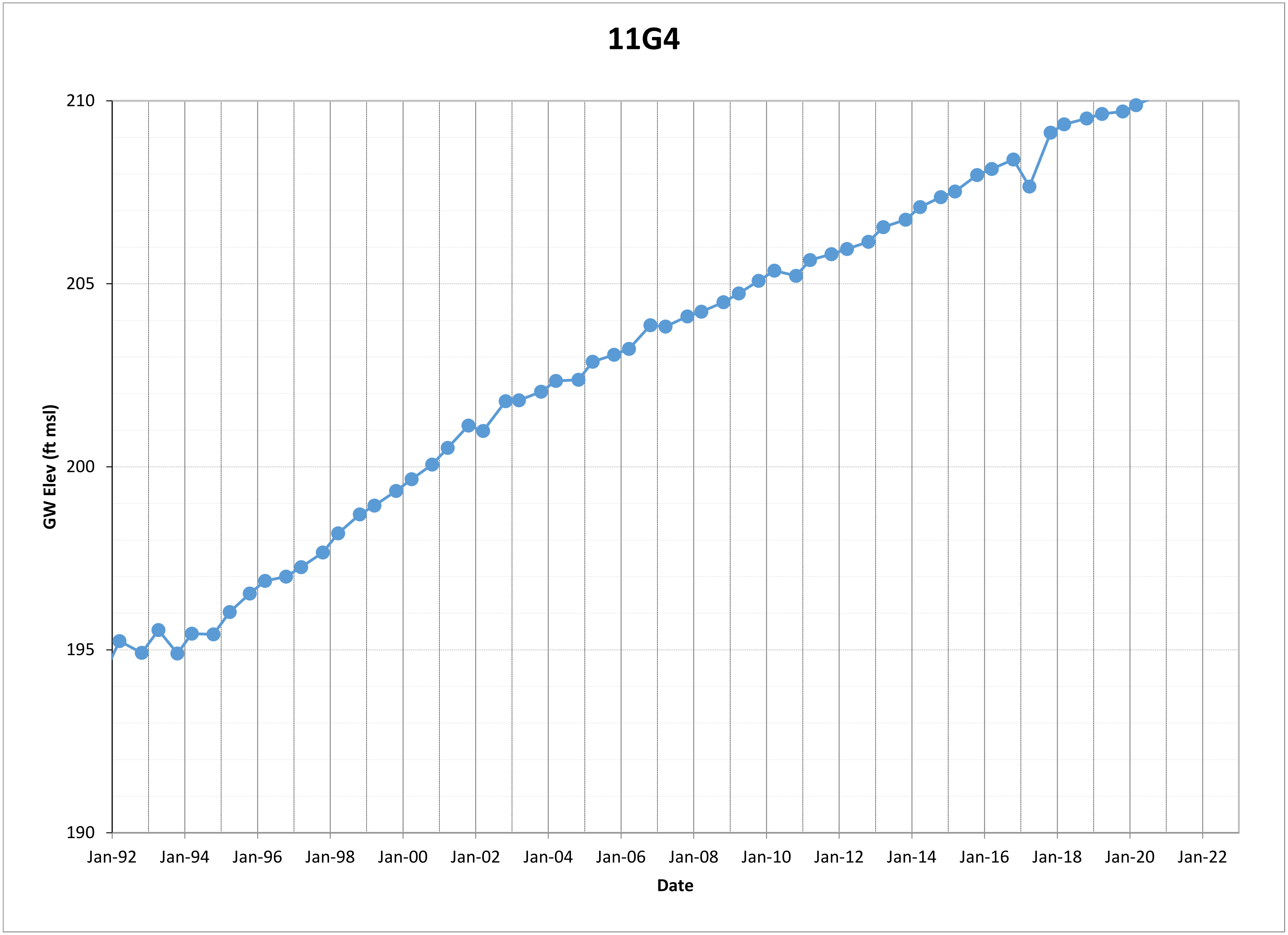

USG-5 Old
GW Elev (ft msl)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date



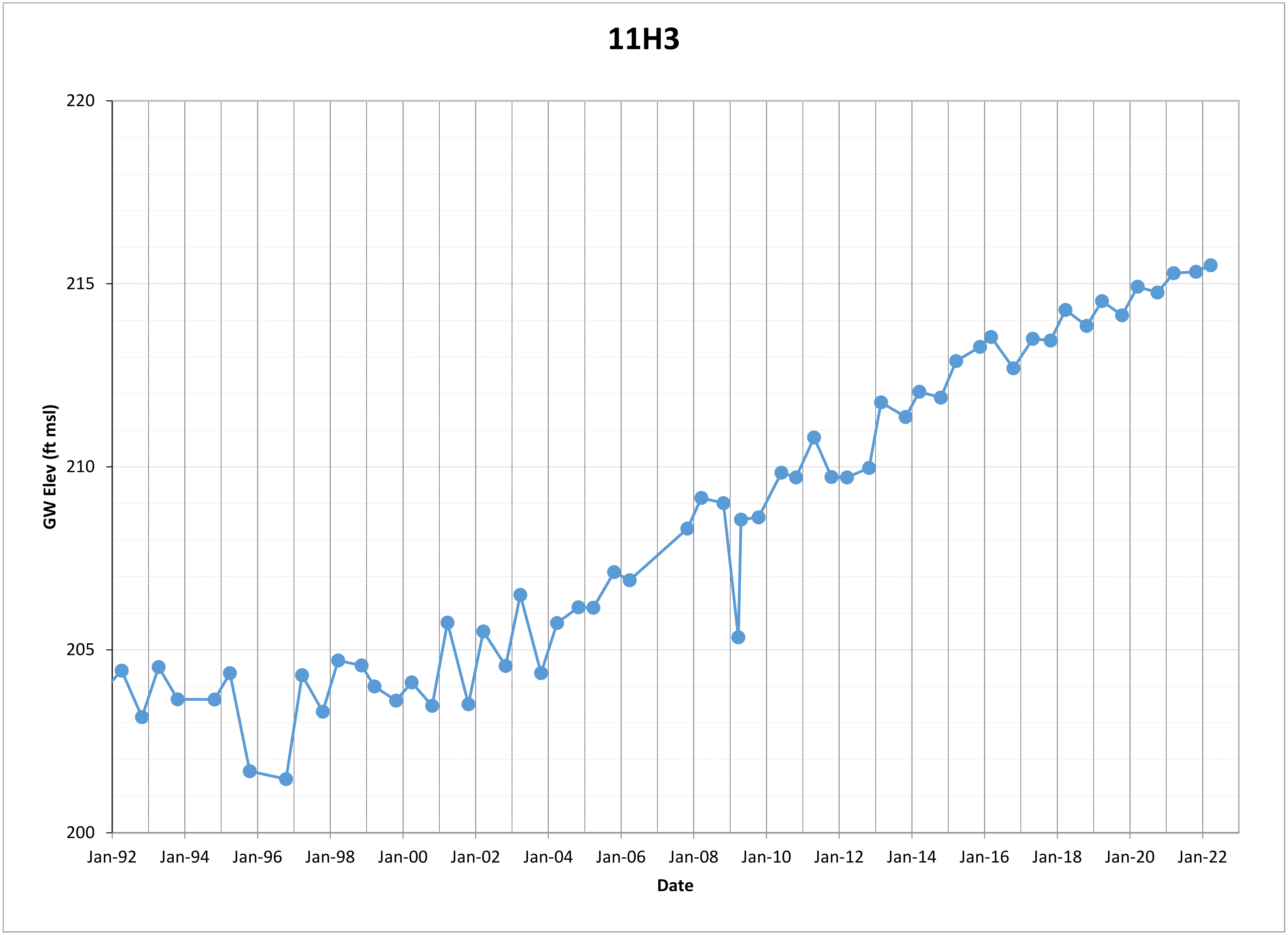
11B1
230
225
220
215
210
GW Elev (ft msl)
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date



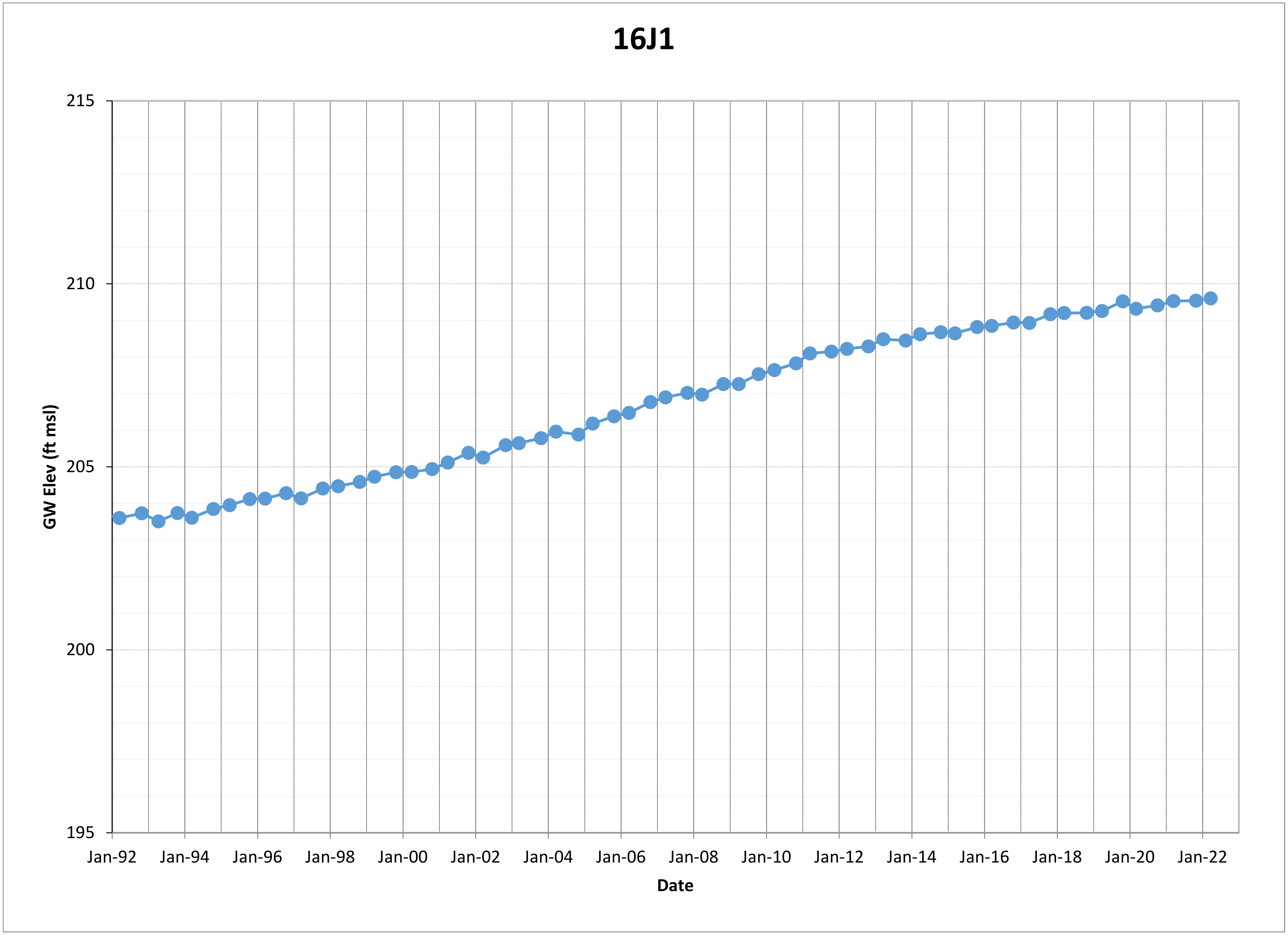
11G1
GW Elev (ft msl)
215
210
205
200
195
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date

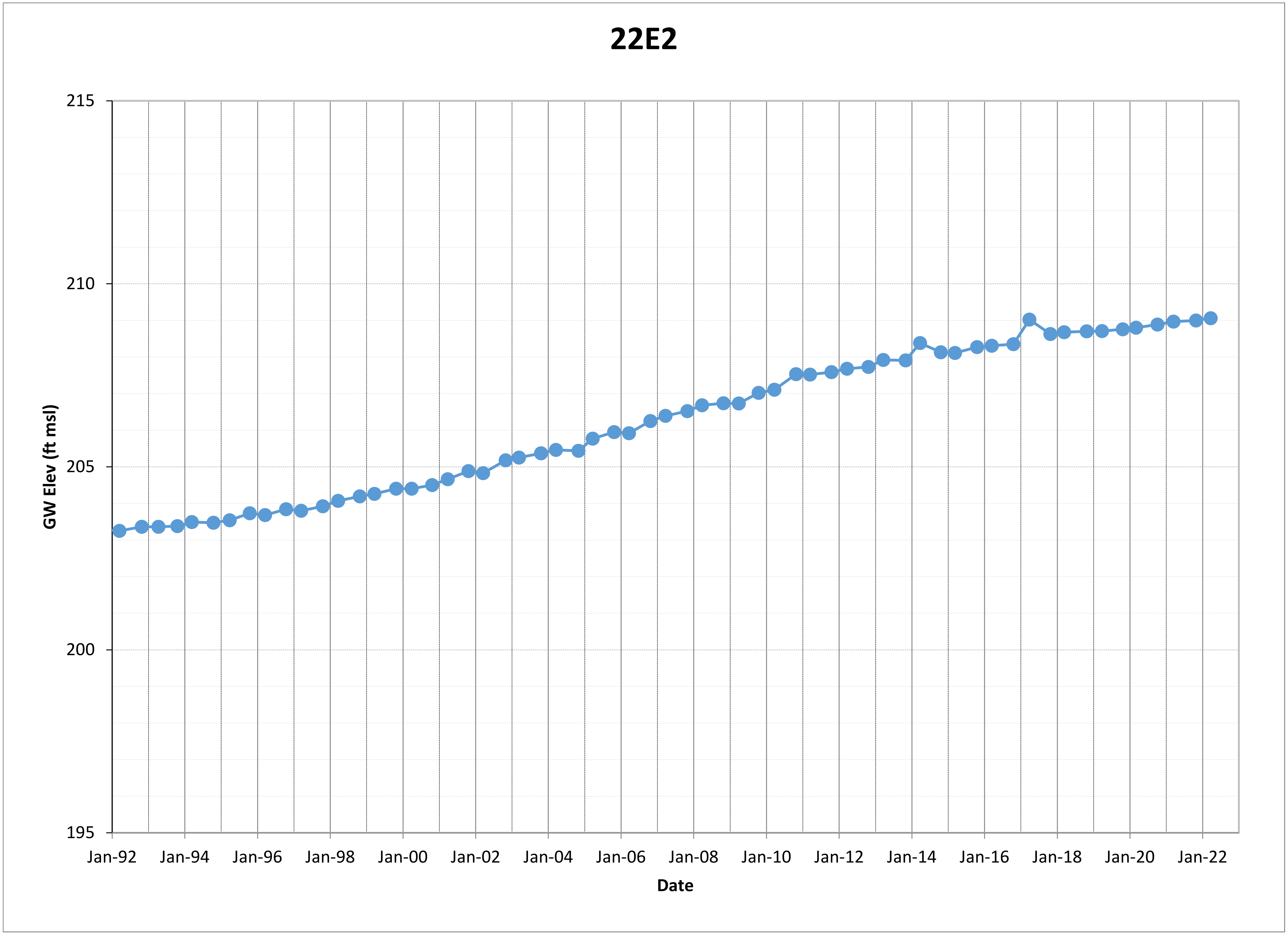


11G4
GW Elev (ft msl)
210
205
200
195
190
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date

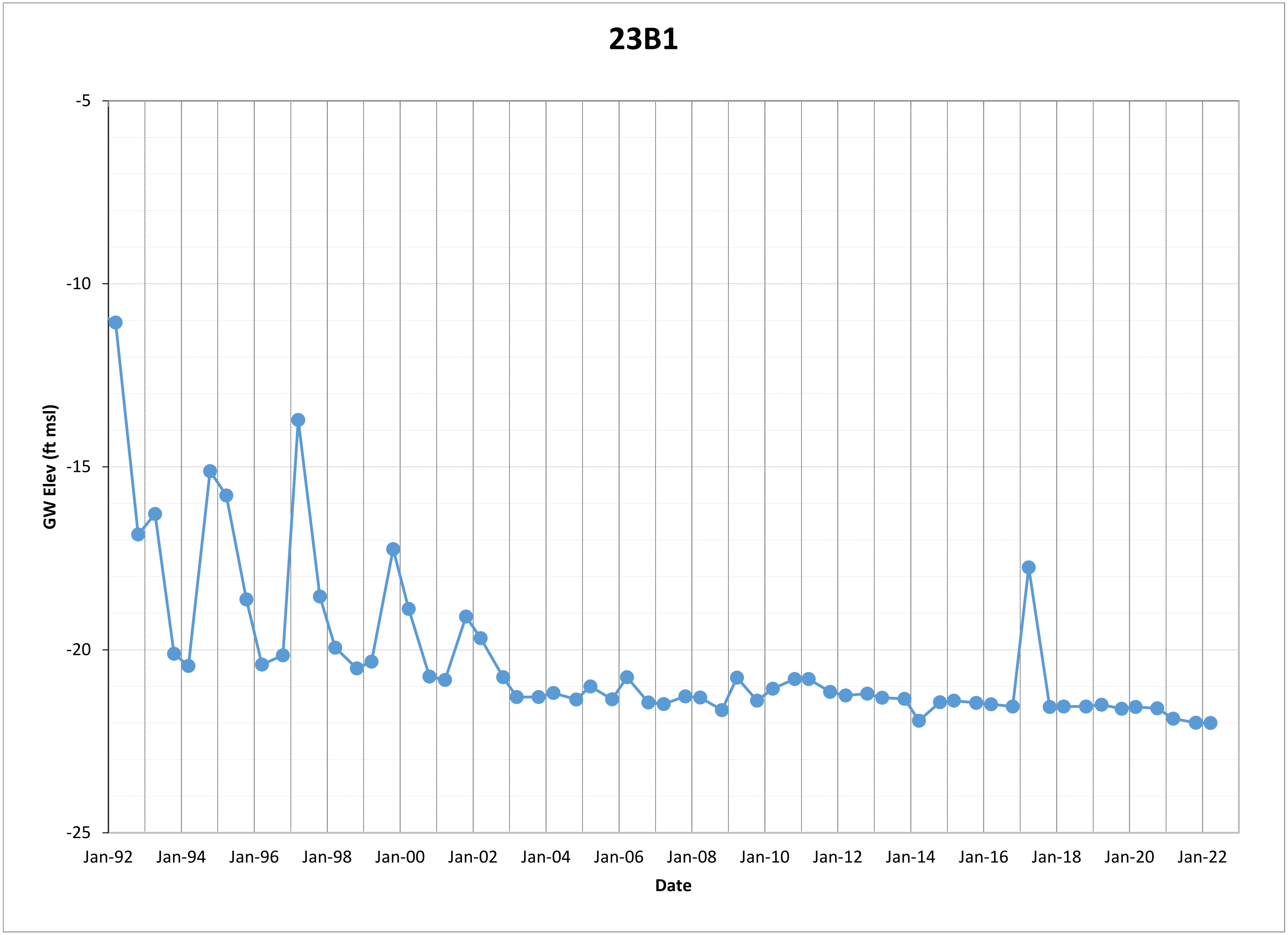


11H3
GW Elev (ft msl)
220
215
210
205
200
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date

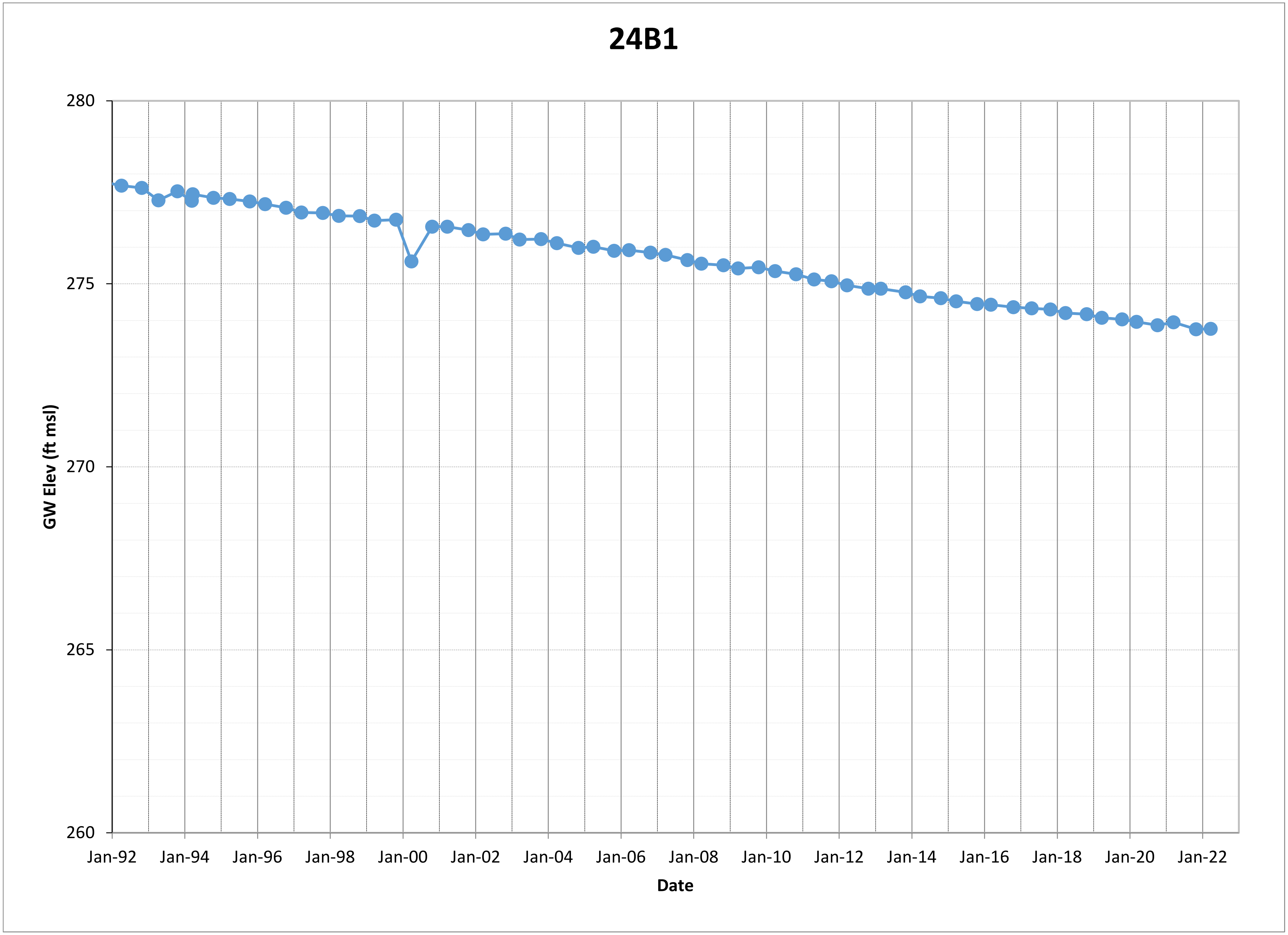

16J1
215
210
205
200
195
GW Elev (ft msl)
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date

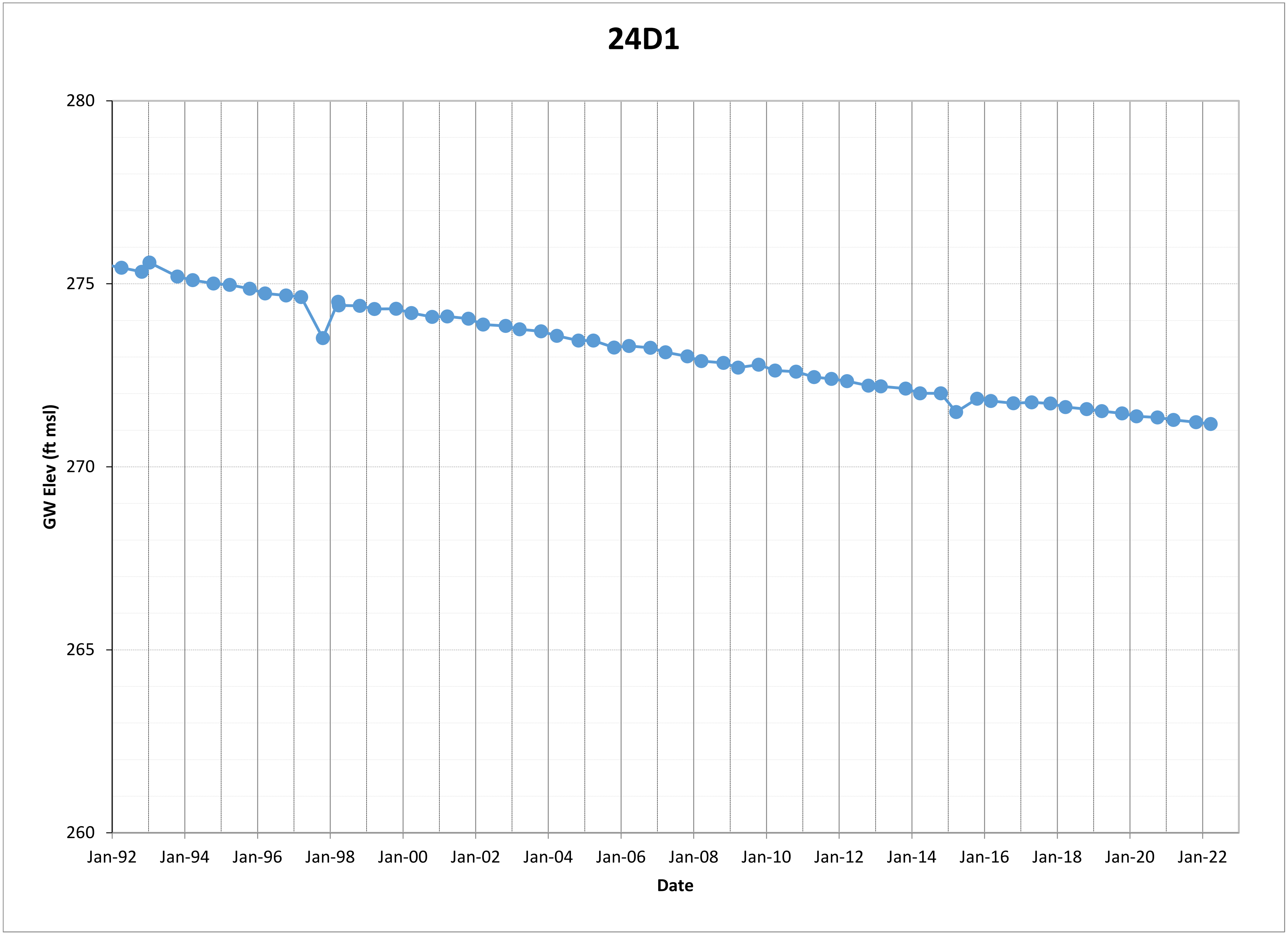


22E2
GW Elev (ft msl)
215
210
205
200
195
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date



23B1
-5
-10
-15
-20
-25
GW Elev (ft msl)
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date


24B1
GW Elev (ft msl)
280
275
270
265
260
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date


24D1
GW Elev (ft msl)
280
275
270
265
260
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
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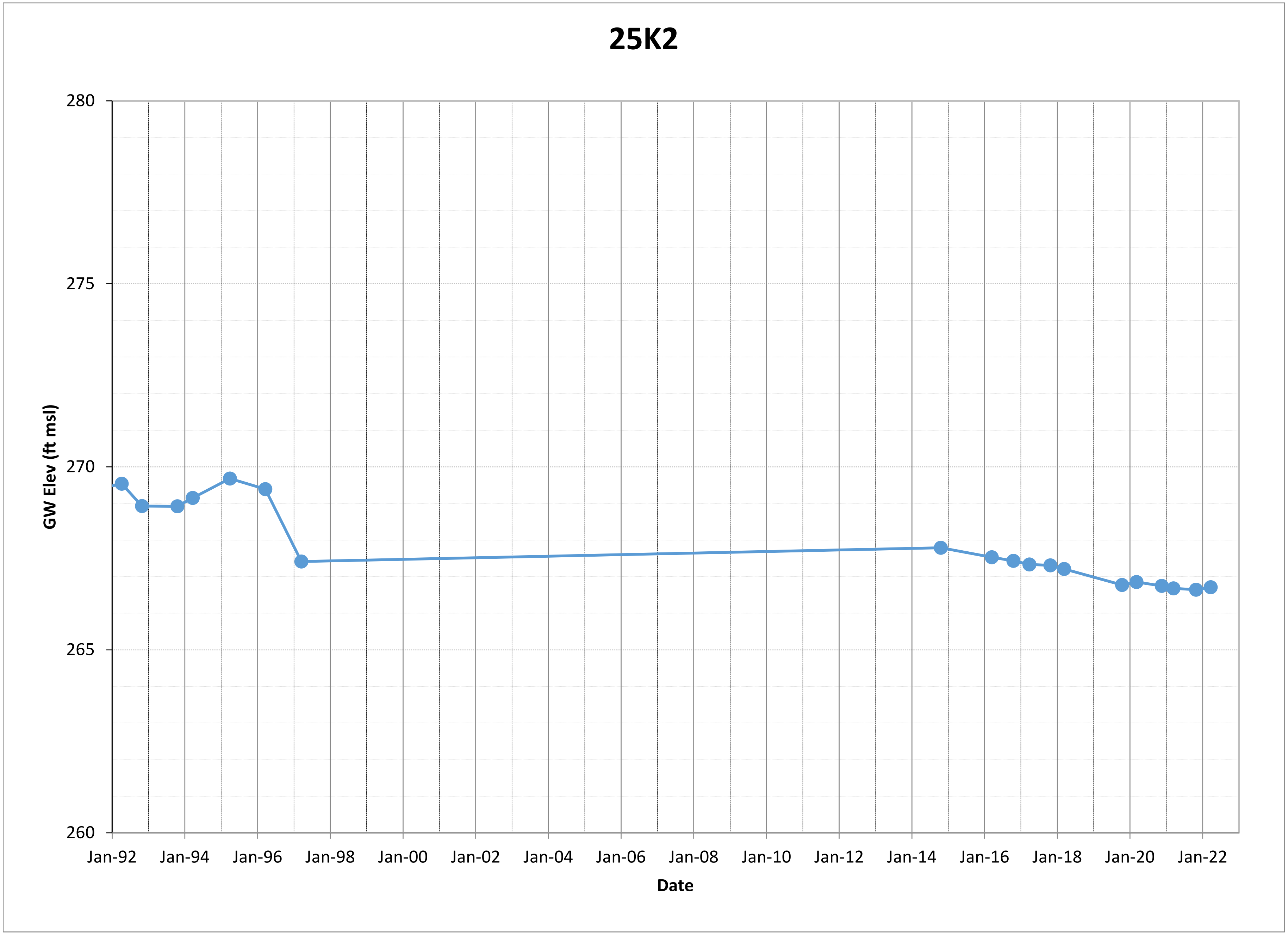
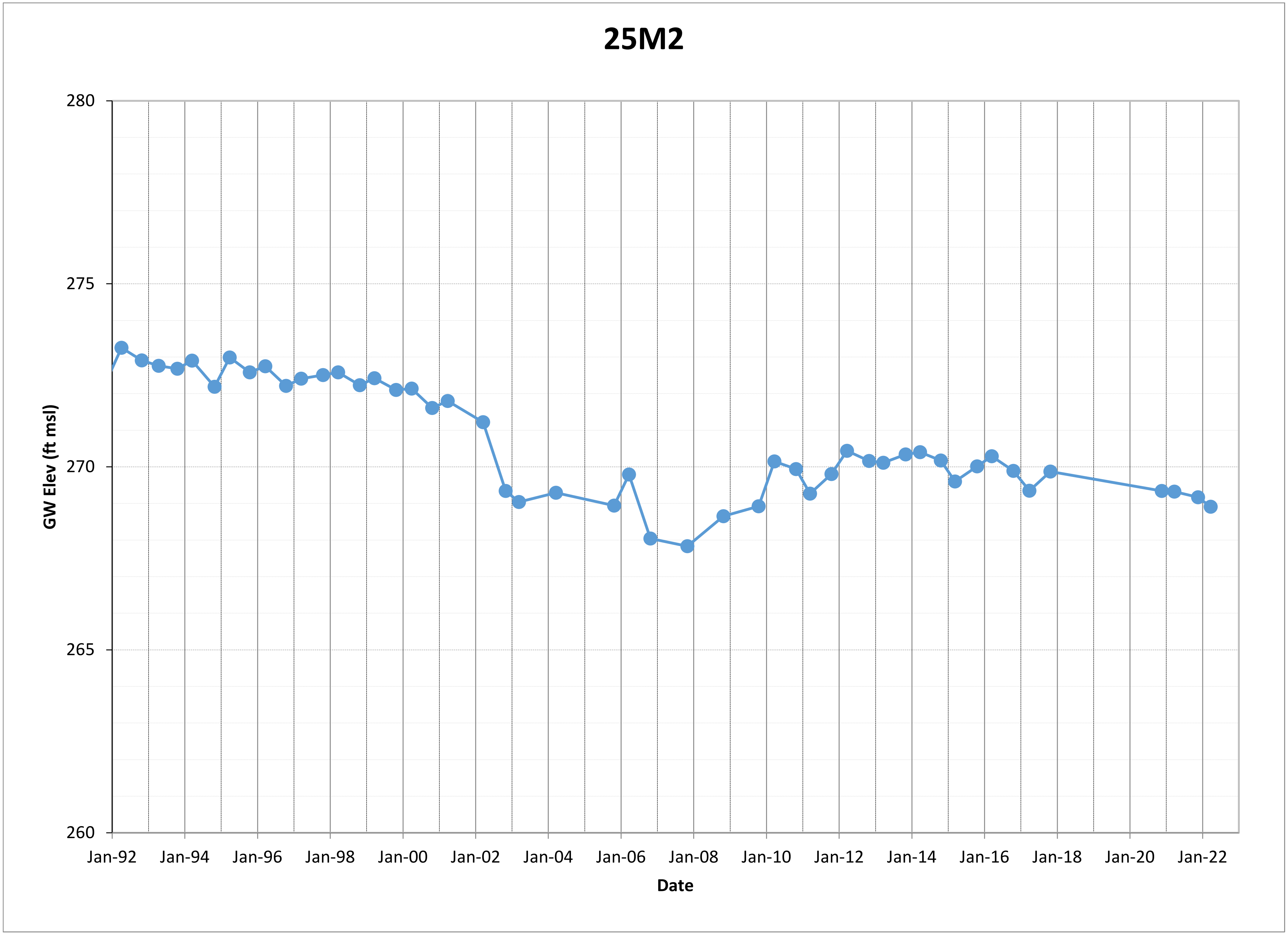
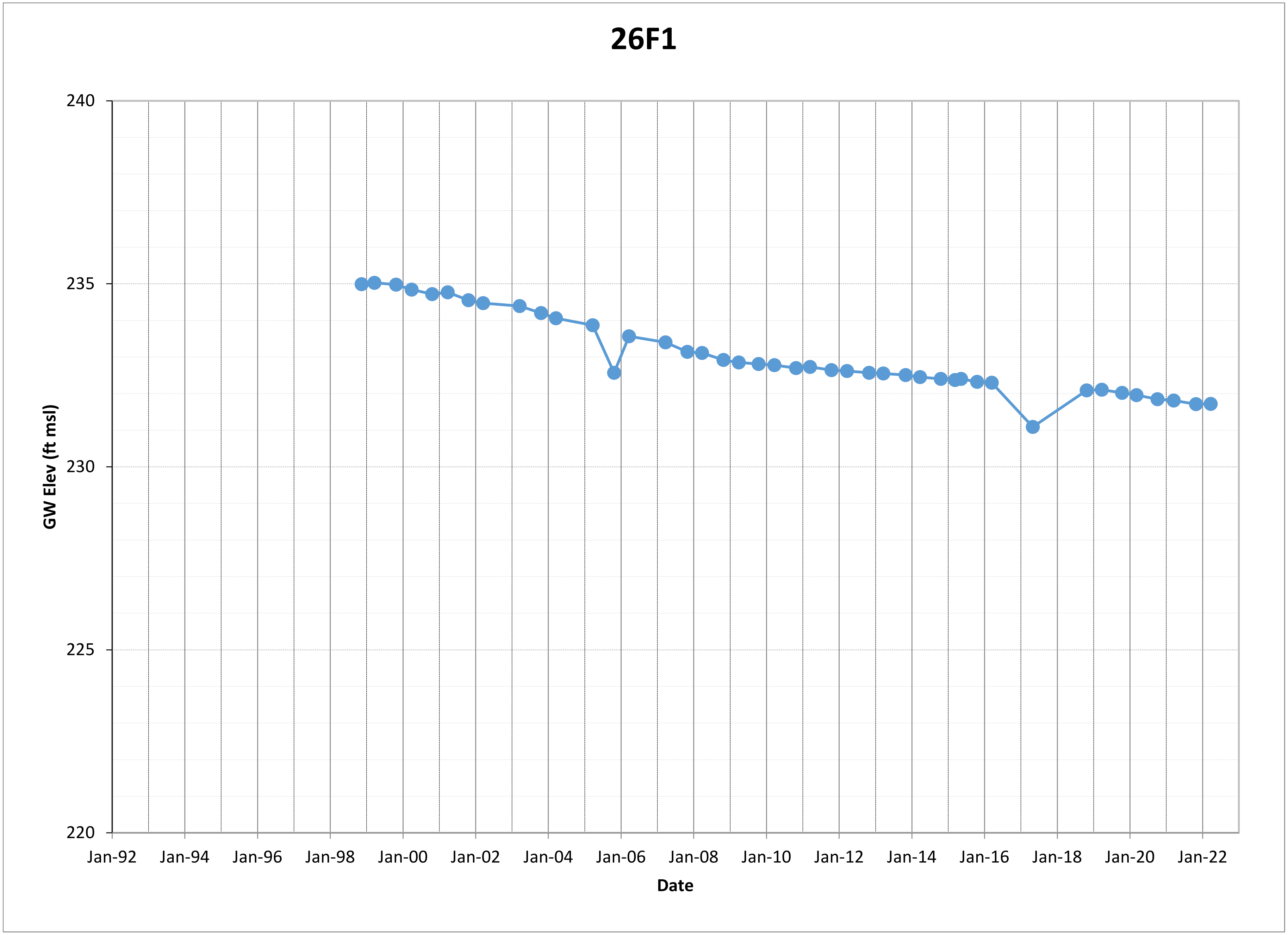
Jan-20
Jan-22
Date



25K2
280
275
270
265
260
GW Elev (ft msl)
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date



25M2
GW Elev (ft msl)
280
275
270
265
260
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date



26F1
GW Elev (ft msl)
240
235
230
225
220
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
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Jan-08
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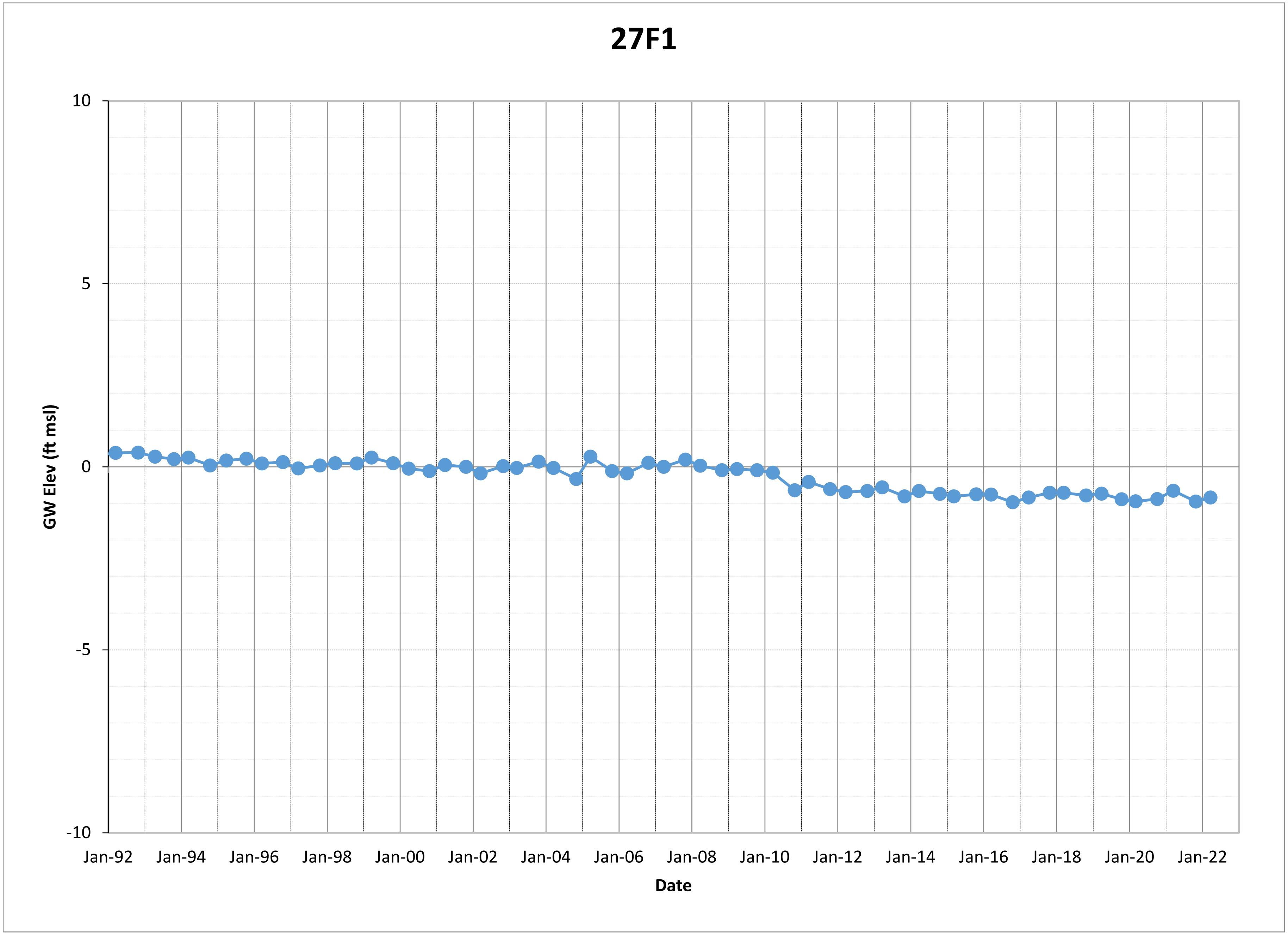
Jan-20
Jan-22
Date



27F1
10
5
0
-5
-10
GW Elev (ft msl)
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
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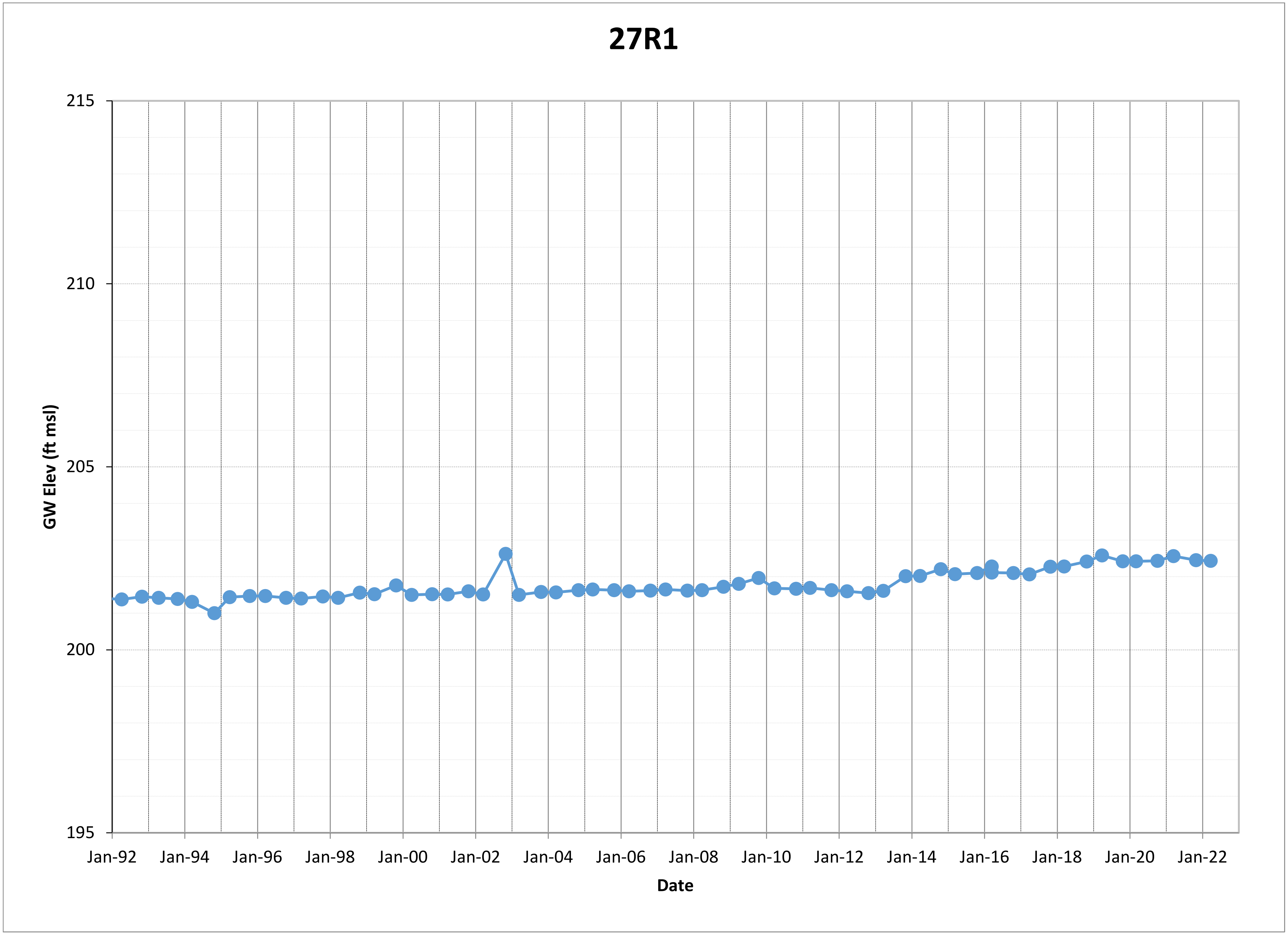
Jan-20
Jan-22
Date


27R1
GW Elev (ft msl)
215
210
205
200
195
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
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Jan-08
Jan-10
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Jan-14
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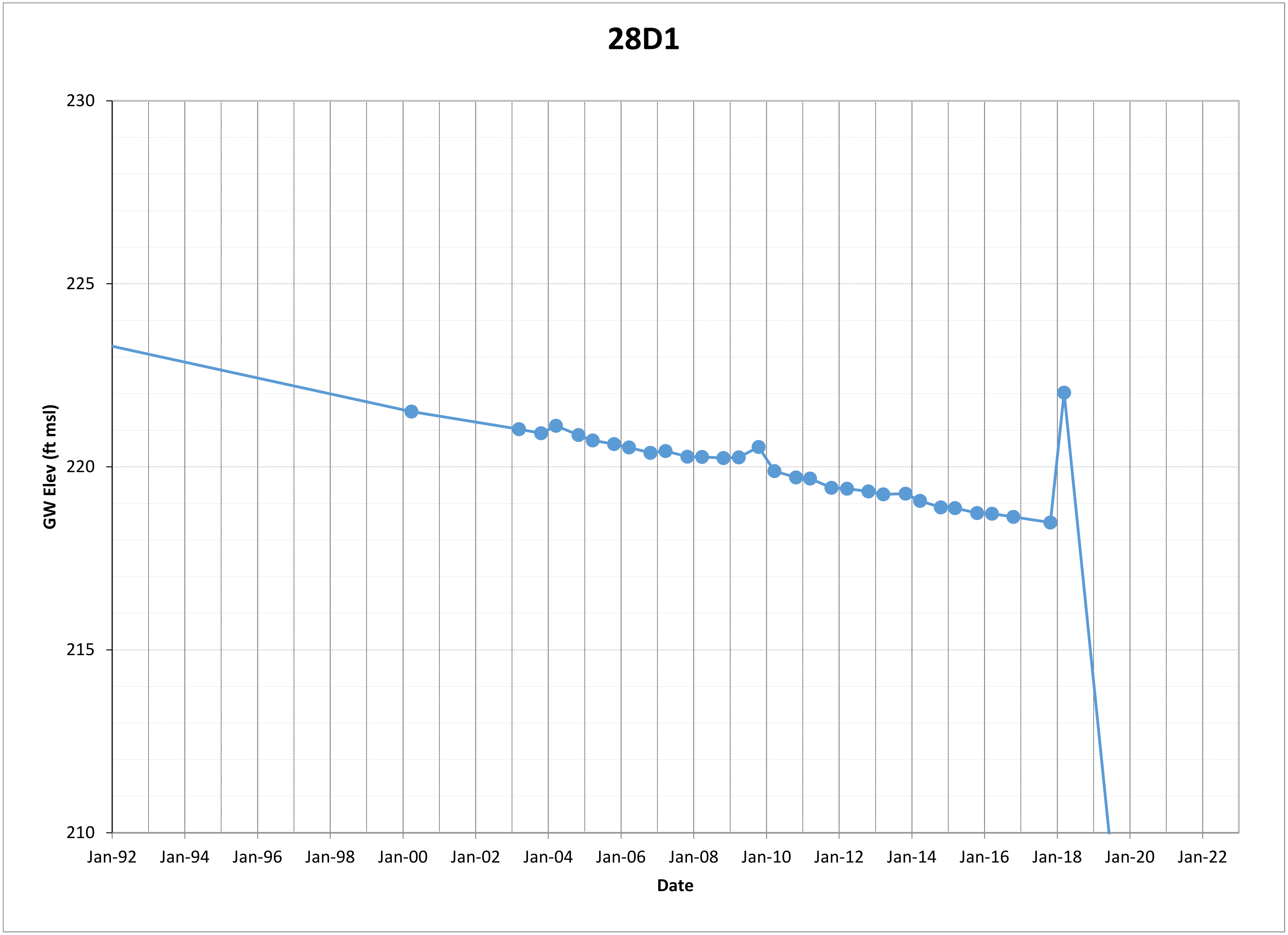
Jan-20
Jan-22
Date



28D1
230
225
220
215
210
GW Elev (ft msl)
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
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Jan-08
Jan-10
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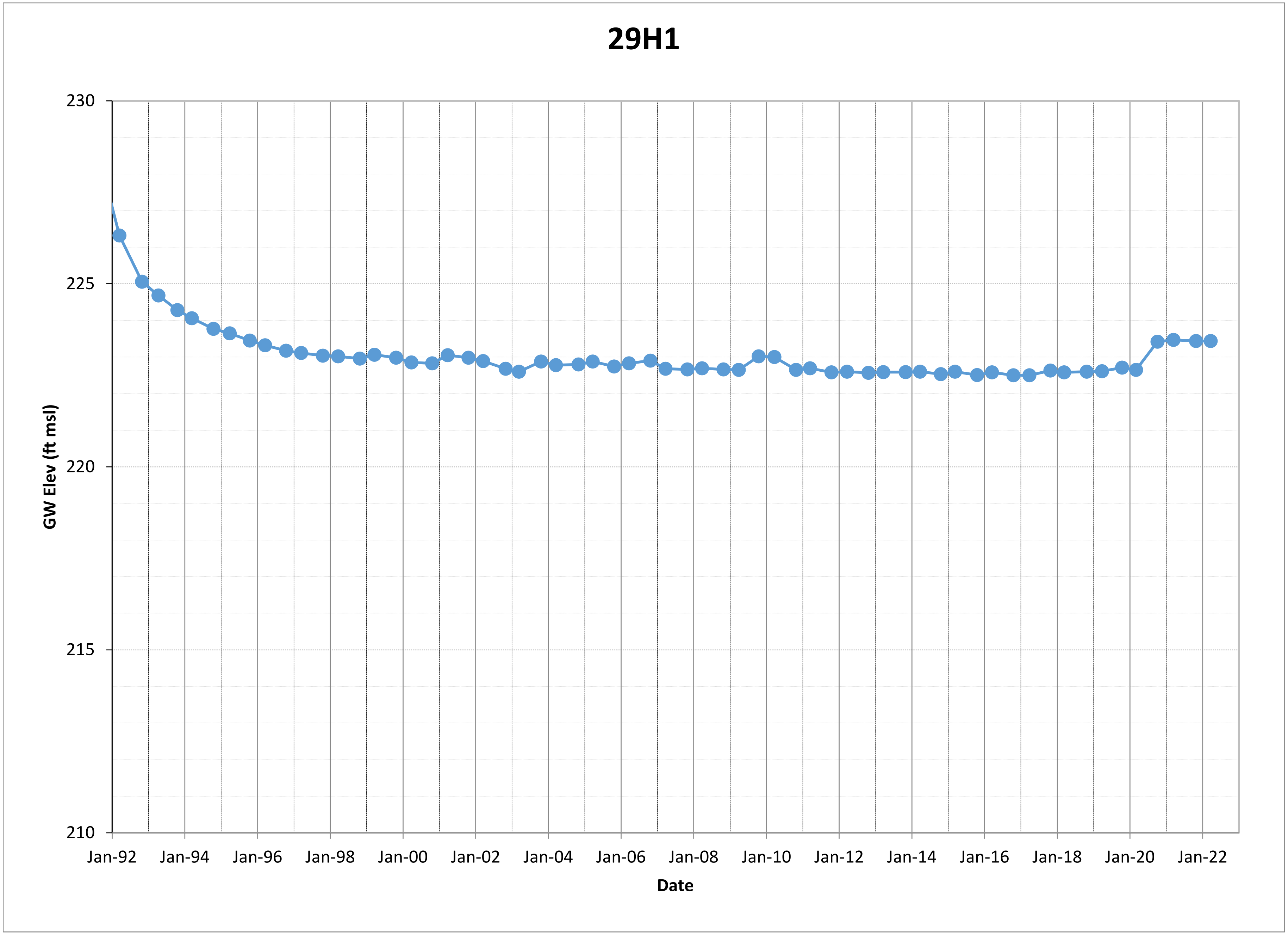
Jan-22
Date


29H1
GW Elev (ft msl)
230
225
220
215
210
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
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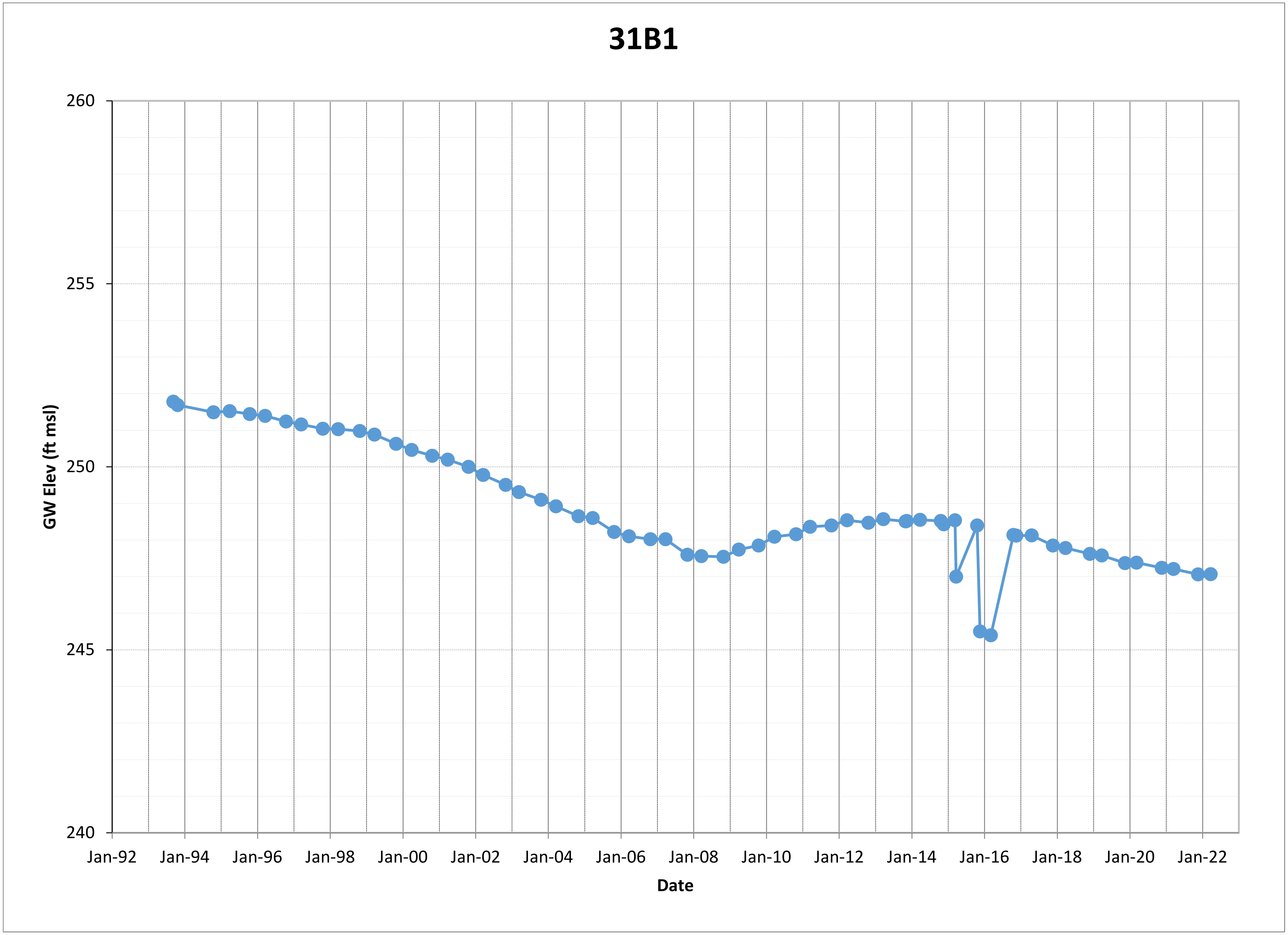
Jan-20
Jan-22
Date


31B1
260
255
250
245
240
GW Elev (ft msl)
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
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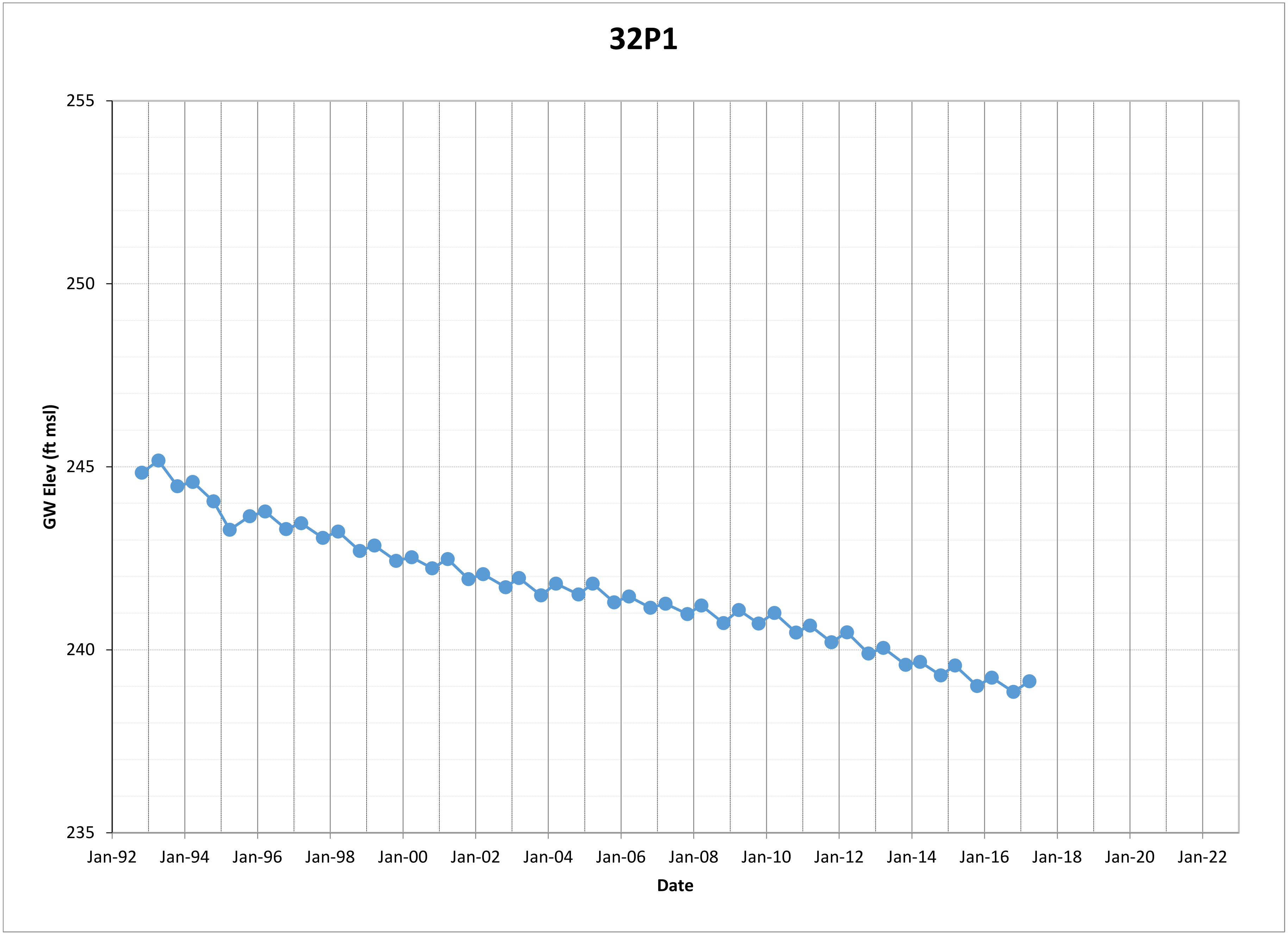
Jan-20
Jan-22
Date


32P1
GW Elev (ft msl)
255
250
245
240
235
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
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Jan-16
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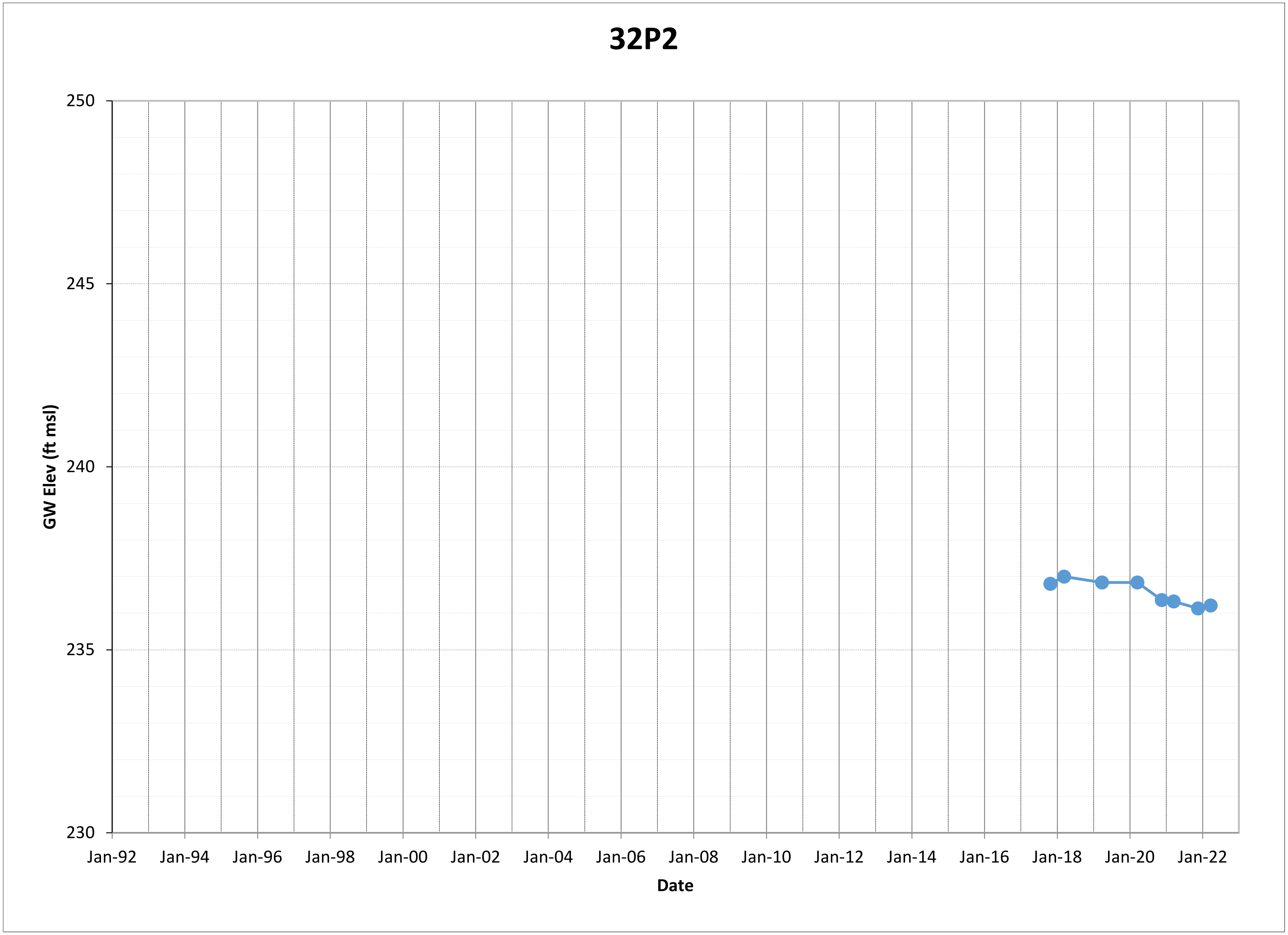
Jan-20
Jan-22
Date



32P2
GW Elev (ft msl)
250
245
240
235
230
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
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Jan-14
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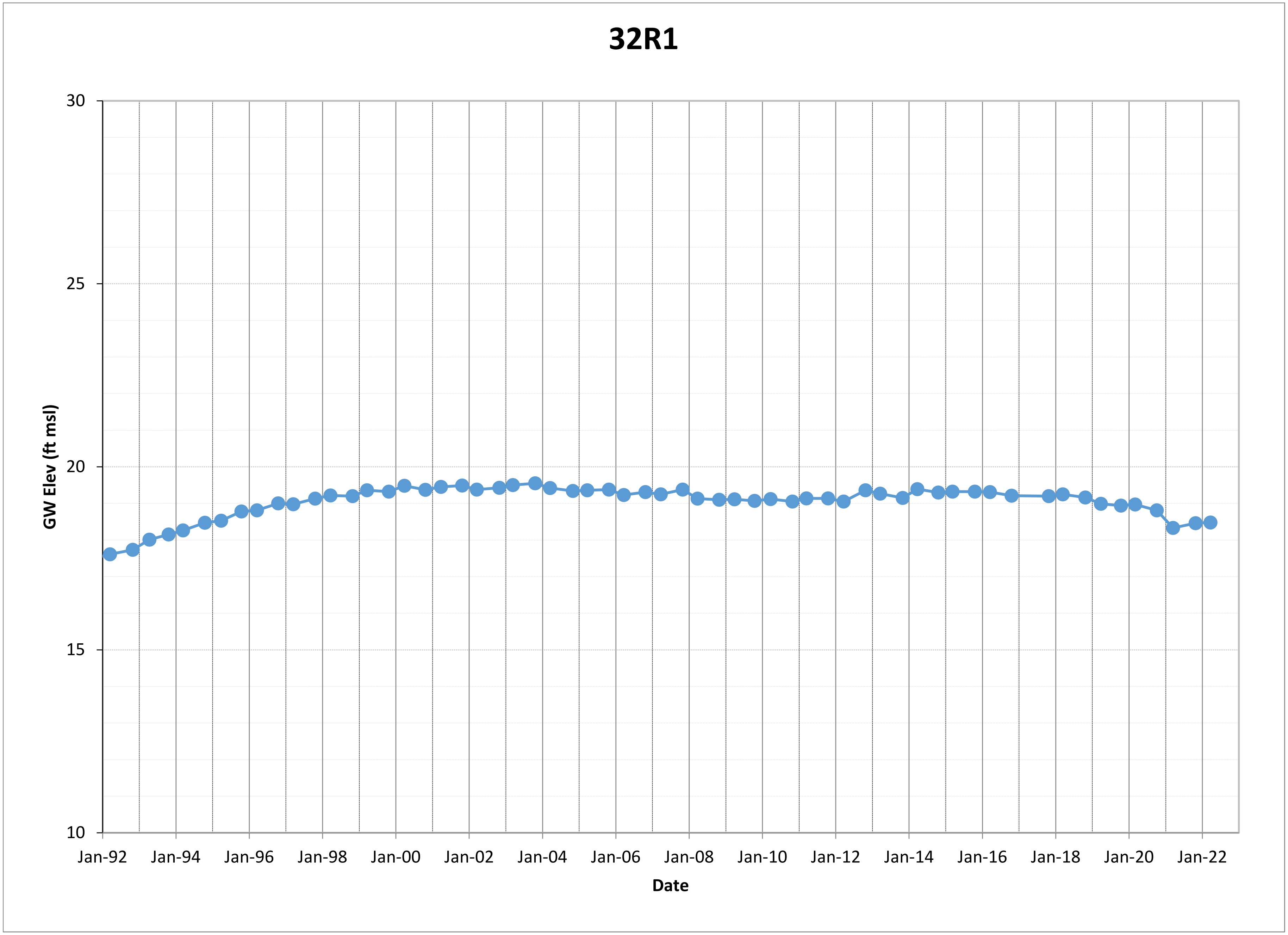
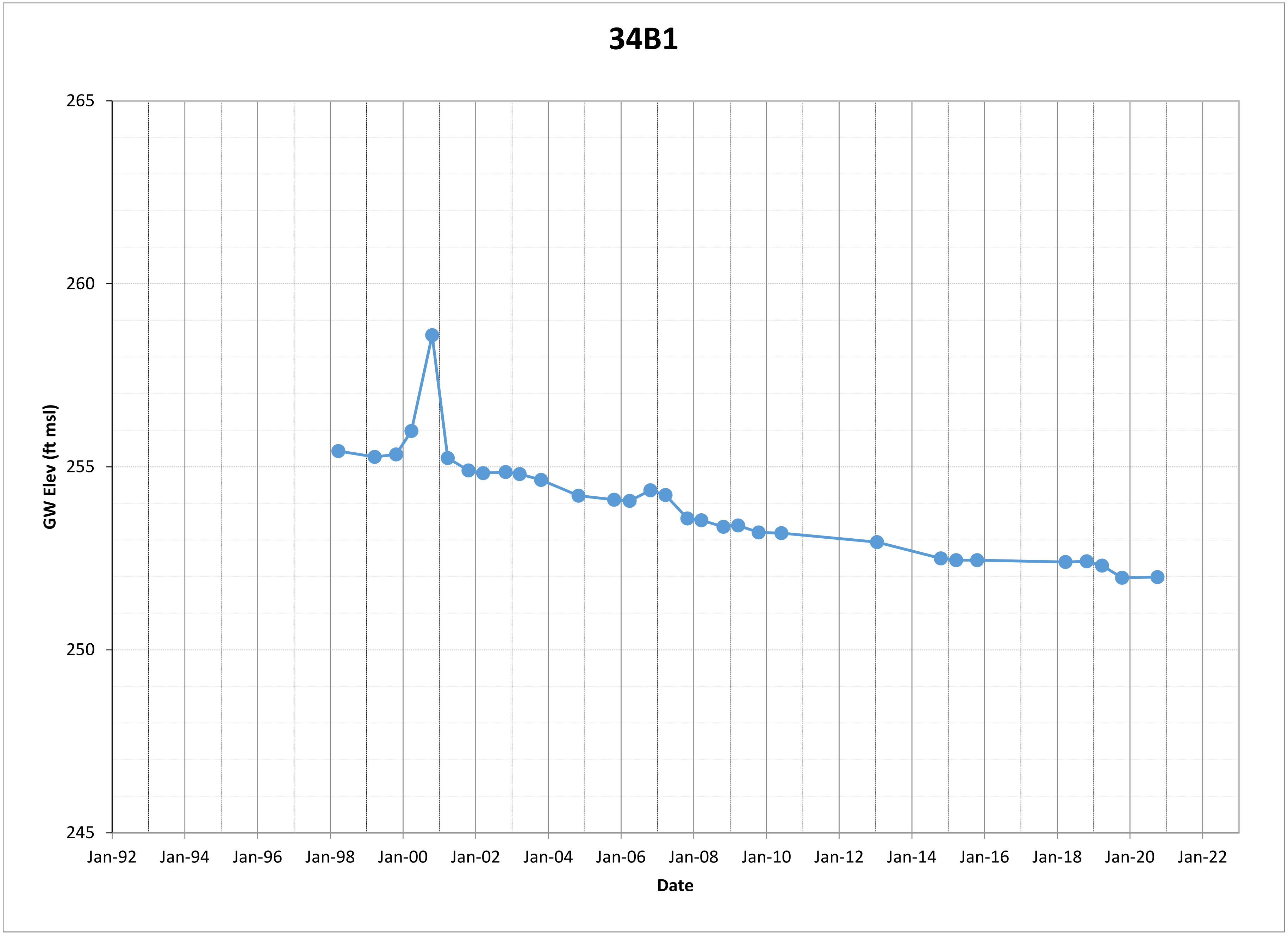
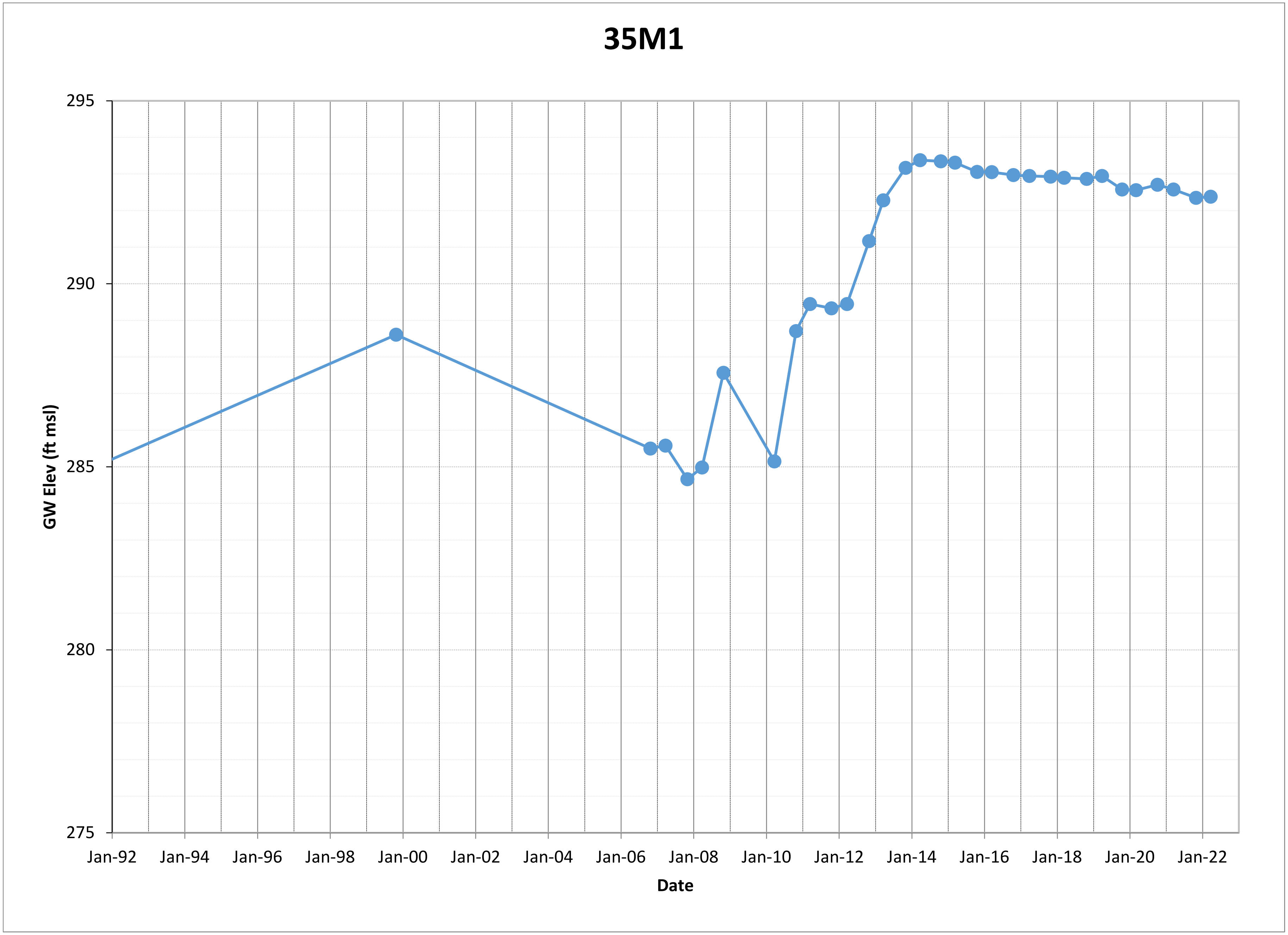
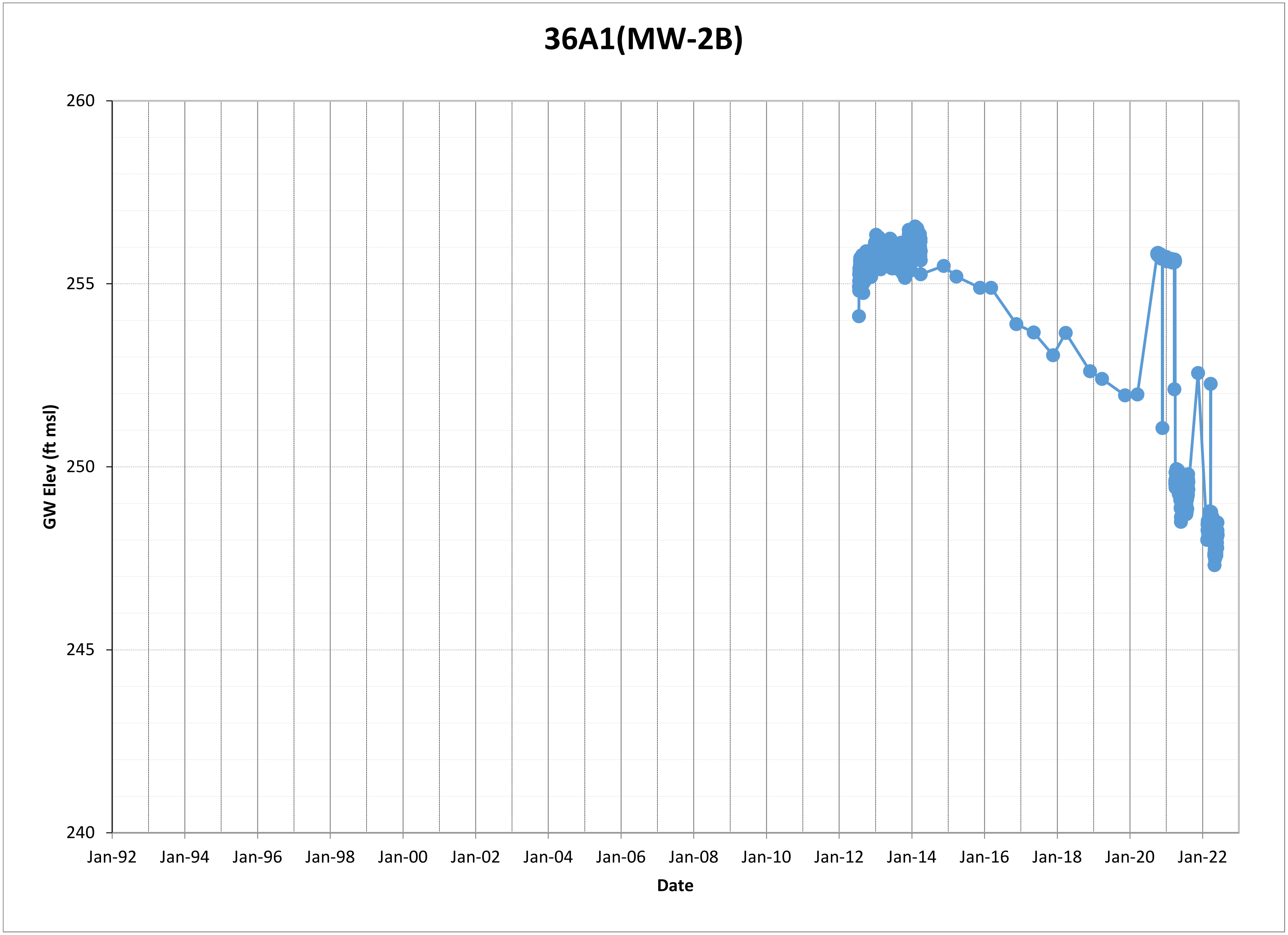
Date

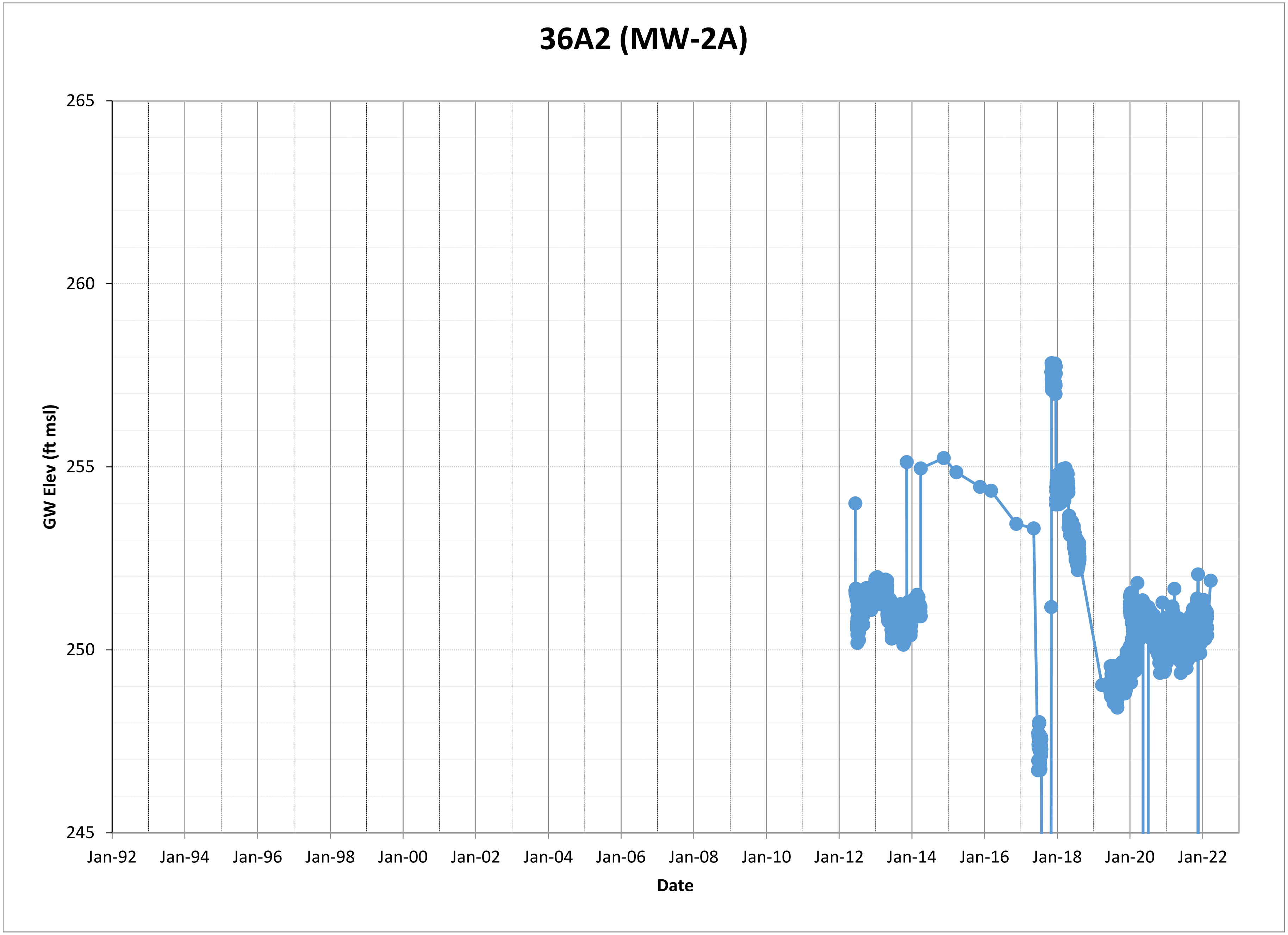


32R1
30
25
20
15
10
GW Elev (ft msl)
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date


34B1
265
260
255
250
245
GW Elev (ft msl)
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date


35M1
295
290
285
280
275
GW Elev (ft msl)
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date


36A1(MW-2B)
260
255
250
245
240
GW Elev (ft msl)
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date


36A2 (MW-2A)
GW Elev (ft msl)
265
260
255
250
245
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
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Jan-20
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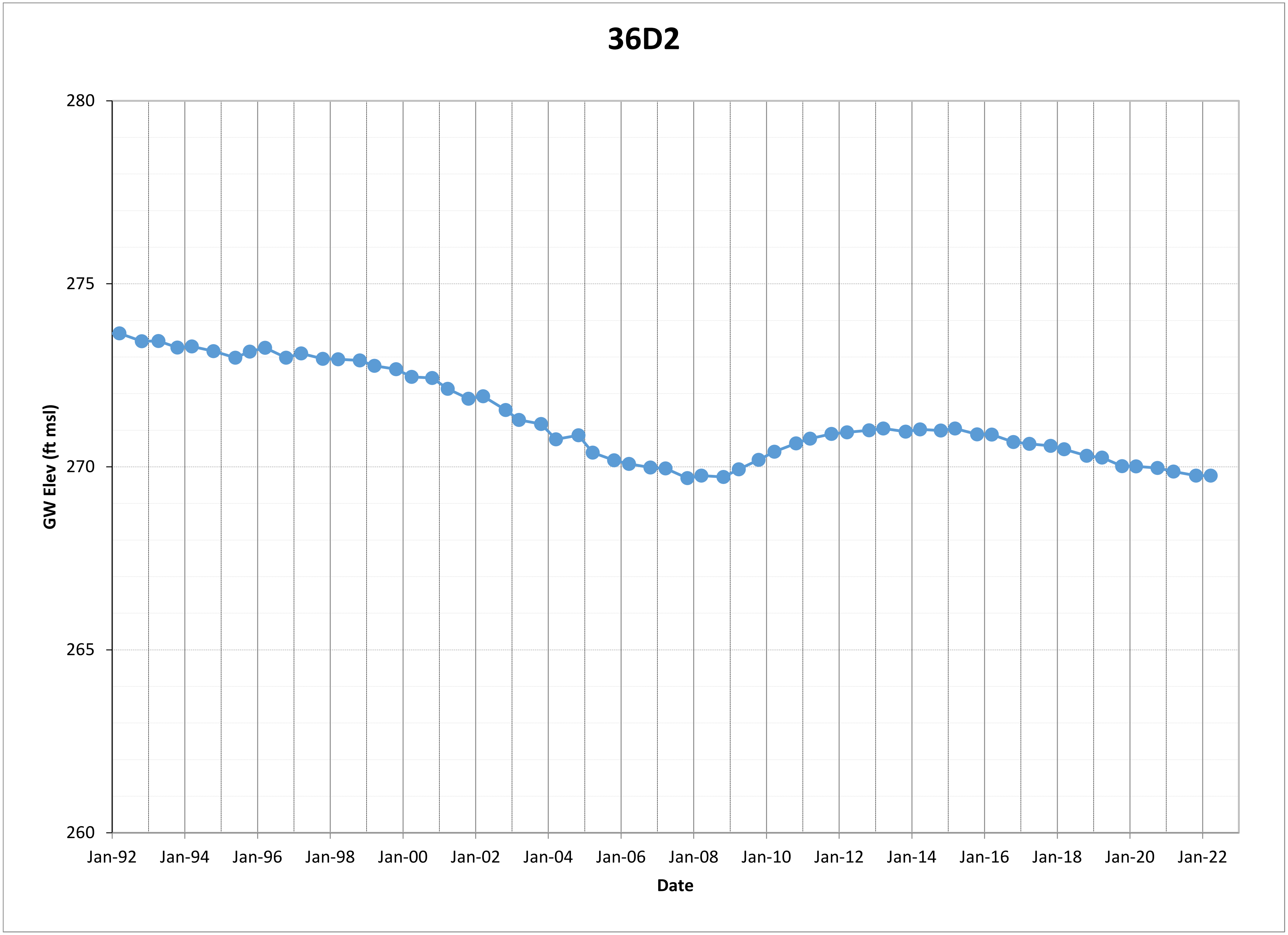
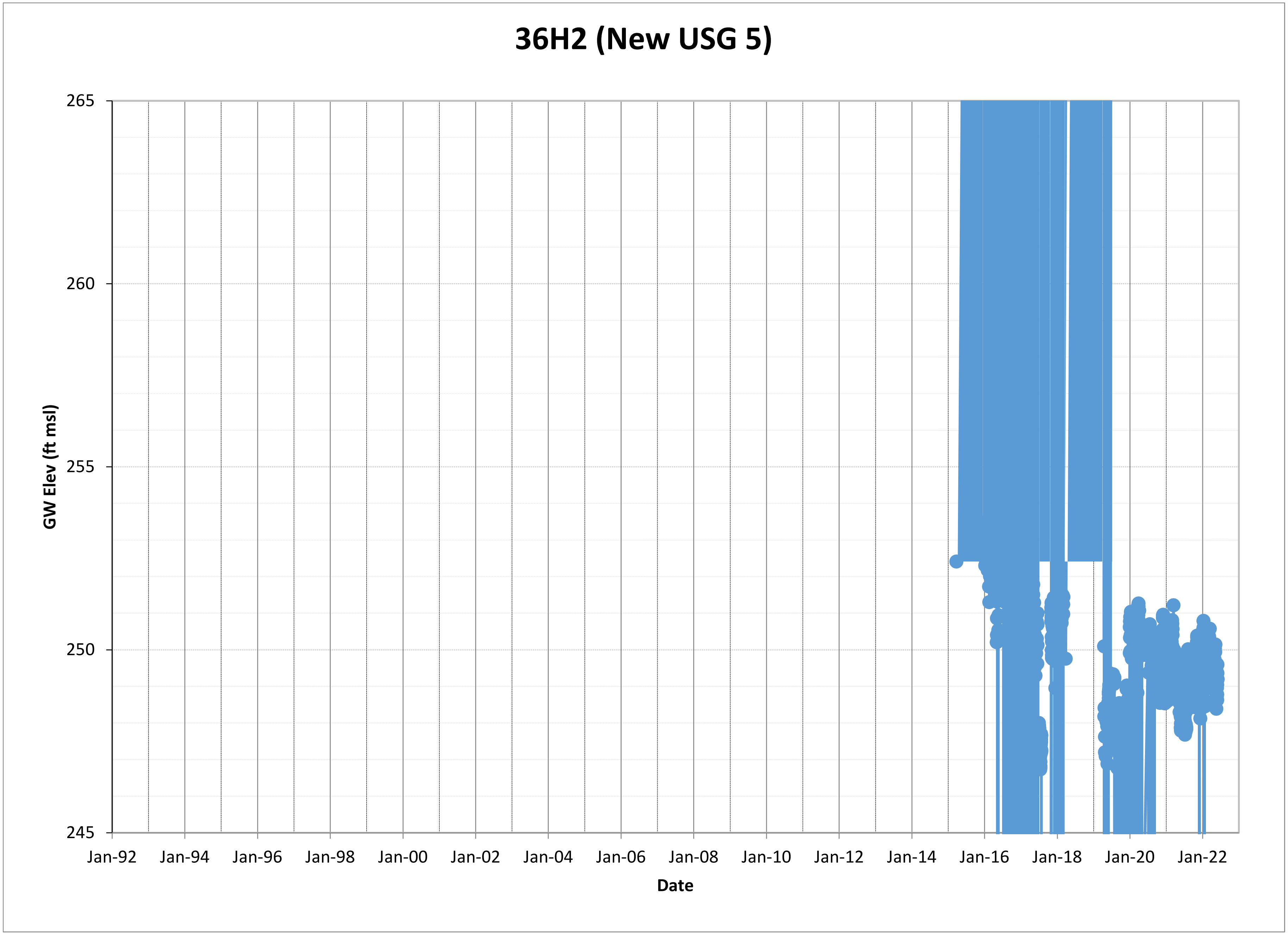
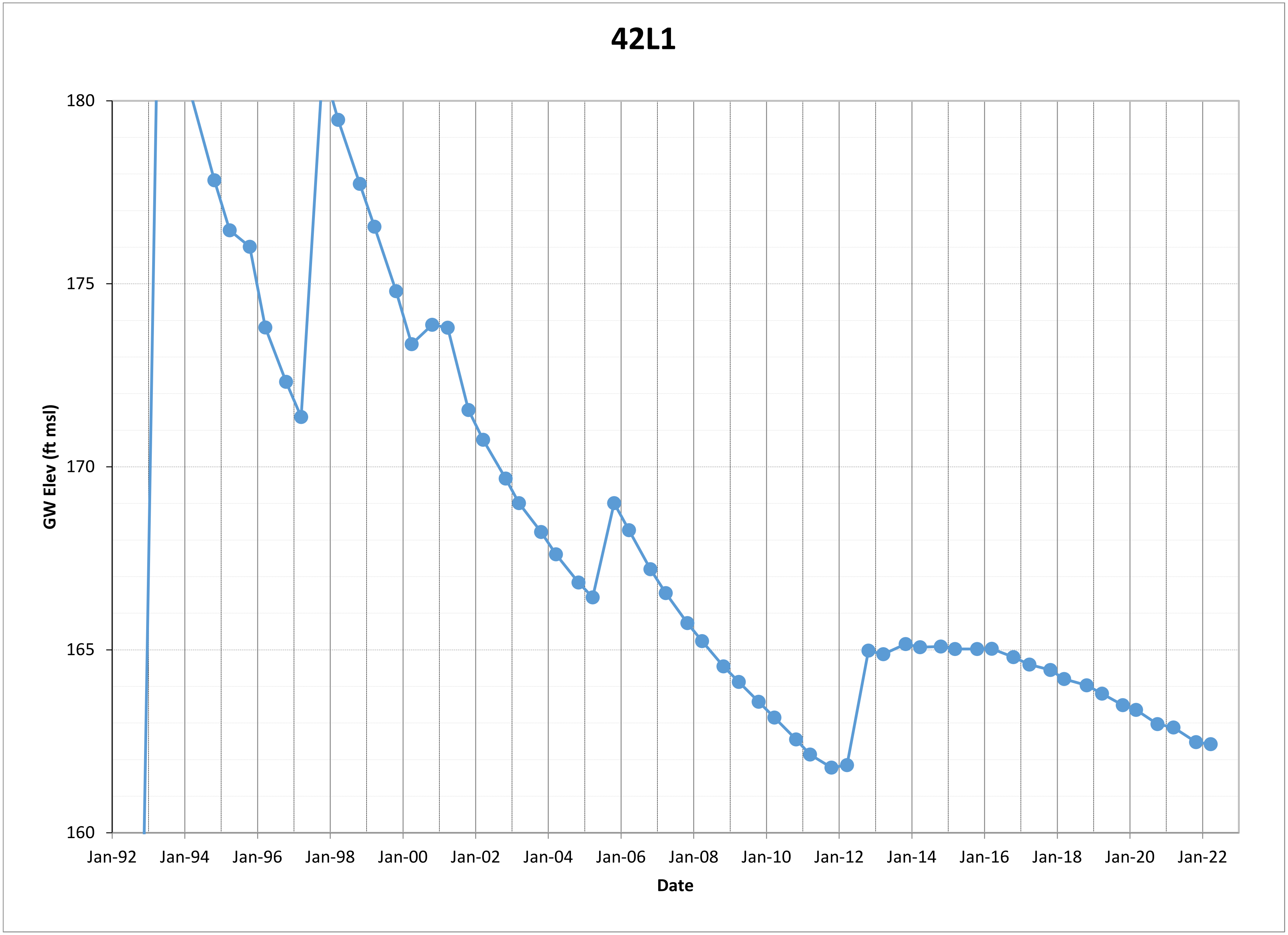
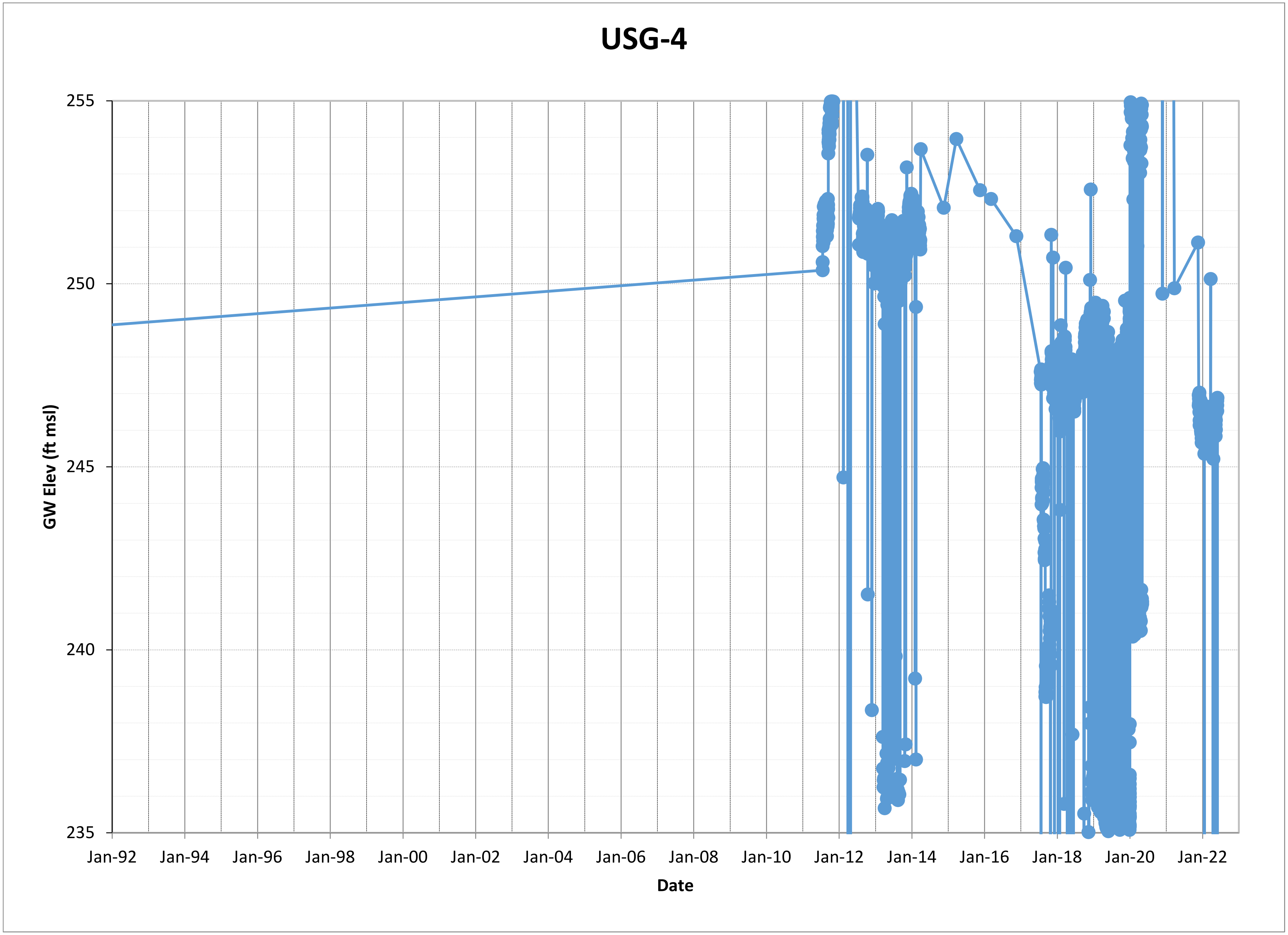
Date



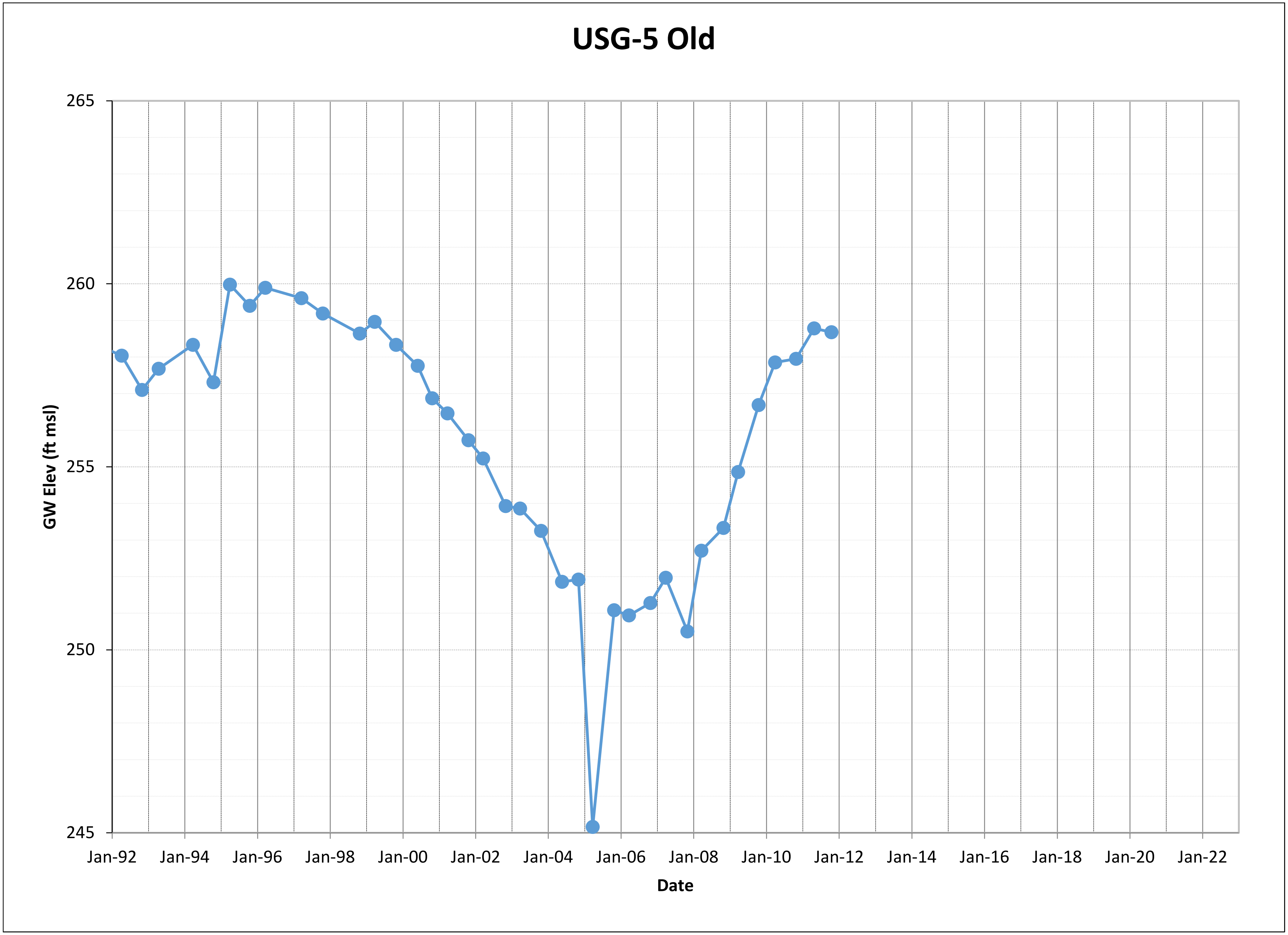
36D2
GW Elev (ft msl)
280
275
270
265
260
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date


36H2 (New USG 5)
GW Elev (ft msl)
265
260
255
250
245
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date


42L1
GW Elev (ft msl)
180
175
170
165
160
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date



USG-4
GW Elev (ft msl)
255
250
245
240
235
Date
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22


USG-5 Old
265
260
255
250
245
GW Elev (ft msl)
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Jan-22
Date

APPENDIX C

WATER QUALITY RESULTS AND STATISTICAL ANALYSES

Table C-1. Alkalinity results and upper confidence interval test (mg/L)

Season-Yr	Simple_Name	11H3	24B1	24D1	25K2	25M2	26F1	30R1	31B1	32N1	32P3	34B1	36A1 (MW-2B)	36A2 (MW-2A)	36C2	36D3	36H1	42A8	USG-4	USG-5	USG-6
spring-09	Alkalinity	122	173	101	126			131				109			131	157	107	218			
spring-10	Alkalinity	112	177	98.1	118			114				108			128	148	102	217			
spring-11	Alkalinity	124	177	98.9	121			114				107			128	150	102	234			
spring-12	Alkalinity	113	184	97.7				113				106			128		103	219			
spring-13	Alkalinity	126					127											208			
spring-14	Alkalinity	124	180	98.6	121		126	113	108			105	98.3	116	128		99.6	210	123		109
spring-15	Alkalinity	122	203	98	117		126	111	108			103	98.2	118	127			206	132	99	109
spring-16	Alkalinity	124	201	99	120		126	112	109			105	98.6	120	128			205	123	102	112
spring-17	Alkalinity	121	193	97	117		130	115	115			103	98.4	121	127			194		103	110
spring-18	Alkalinity	123	192	89	119	127	124	111	108	132	172	103	97.9	121	128			192	119	104	
spring-19	Alkalinity	115	191	97.8	118	126	126	110	107	131	176	103	97.1	121	127			193	119	104	109
spring-20	Alkalinity	126	189	85.2	114	128	126	112	108	132	202	101	98.8	120	127			193	127	105	110
spring-21	Alkalinity	119	189	91.6	119	127	126	111	111	132	168	102	96.1	121	128			198	119	104	111
spring-22	Alkalinity	119.6	181	82.3	115			105.9	107	130	159.1	97.52		118	123.1			182.4	117.65	96	107.9
	Mean	120.8	186.9	94.9	118.8	127.0	126.3	113.3	109.0	131.4	175.4	104.0	97.9	119.6	127.5	151.7	102.7	205.0	122.5	102.1	109.7

Table C-2. Bicarbonate results and upper confidence interval test (mg/L)

Season-Yr	Simple_Name	11H3	24B1	24D1	25K2	25M2	26F1	30R1	31B1	32N1	32P3	34B1	36A1 (MW-2B)	36A2 (MW-2A)	36C2	36D3	36H1	42A8	USG-4	USG-5	USG-6
spring-09	Bicarbonate	146	178	108	147			142				127			152	174	120	254			
spring-10	Bicarbonate	128	188	113	139			136				127			152	170	120	262			
spring-11	Bicarbonate	141	181	112	144			128				122			144	172	115	270			
spring-12	Bicarbonate	132	192	113				132				123			150		121	262			
spring-13	Bicarbonate	148					145											241			
spring-14	Bicarbonate	145	180	110	142		147	127	126			120	105	136	147		116	243	144		126
spring-15	Bicarbonate	136	226	108	136		151	128	124			120	111	139	153			234	155	116	128
spring-16	Bicarbonate	145	214	113	136		144	129	123			121	107	140	151			232	140	118	131
spring-17	Bicarbonate	144	206	107	127		148	129	115			122	104	139	149			230		121	128
spring-18	Bicarbonate	140	200	102	139	147	150	131	124	157	201	120	104	142	150			220	137	125	
spring-19	Bicarbonate	134	226	112	138	150	147	132	120	155	207	120	102	146	149			227	140.5	125	131.5
spring-21	Bicarbonate	132	216	104	140	148	142	131	127	155	195	118	100	142	155			235	141	122	128
spring-22	Bicarbonate	144	184	97.7	140	149	146		132	156	196	119	102	141	151			233	130.5	109.5	119.5
	Mean	139.6	199.3	108.3	138.9	148.5	146.7	131.4	123.9	155.8	199.8	121.6	104.4	140.6	150.3	172.0	118.4	241.8	141.1	119.5	127.4

Table C-3. Boron results and upper confidence interval test (mg/L)

Season-Yr	Simple_Name	11H3	24B1	24D1	25K2	25M2	26F1	30R1	31B1	32N1	32P3	34B1	36A1 (MW-2B)	36A2 (MW-2A)	36C2	36D3	36H1	42A8	USG-4	USG-5	USG-6
spring-09	Boron	158	727	471	202			372				238			485	764	204	1360			
spring-10	Boron	176	766	430	208			374				256			358	475	191	1500			
spring-11	Boron	167	718	422	203			362				247			504	729	197	1610			
spring-12	Boron	166	761	421				347				262			499		192	1270			
spring-13	Boron	146					254											1010			
spring-14	Boron	166	763	423	204		276	378	231			266	188	234	501		200	1030	491		220
spring-15	Boron	176	818	402	240		286	342	229			258	210	282	454			864	500	229	249
spring-16	Boron	172	840	420	200		279	373	236			257	195	243	508			938	470	209	220
spring-17	Boron	176	865	428	211		284	396	231			279	200	261	519			864		219	236
spring-18	Boron	179	834	381	219	253	287	405	233	545	780	284	198	254	517			843	459	221	
spring-19	Boron	178	855	446	214	241	280	396	231	535	768	265	193	257	535			864	459	212	232
spring-20	Boron	172	829	388	215	230	292	389	253	541	762	268	189	252	521			817	525	214	233
spring-21	Boron	172	816	410	211	237	280	403	243	568	704	270	184	263	511			793	466	215	236
spring-22	Boron	175.2	823.6	381	216.3			400.3	238.5	579.3	721	0.221		139	514.2			793.9	485.8		234.9
	Mean	169.9	801.2	417.2	211.9	240.3	279.8	379.8	236.2	553.7	747.0	242.3	194.6	242.8	494.3	656.0	196.8	1039.8	482.0	217.0	232.6

Table C-4. Calcium results and upper confidence interval test (mg/L)

Season-Yr	Simple_Name	11H3	24B1	24D1	25K2	25M2	26F1	30R1	31B1	32N1	32P3	34B1	36A1 (MW-2B)	36A2 (MW-2A)	36C2	36D3	36H1	42A8	USG-4	USG-5	USG-6
spring-09	Calcium	18.7	3.62	12	23.3			36.1				8			18	7.36	18.4	36.3			
spring-10	Calcium	18.9	2.96	11.5	21.3			34.7				7.91			16.9	6.66	18.2	55.8			
spring-11	Calcium	19.4	2.87	11.6	22.1			37				7.2			17.7	7.12	19.4	60.7			
spring-12	Calcium	19.7	3.73	11.6				36.3				8.15			17.9		20.6	34.1			
spring-13	Calcium	18.7					19.9											22.7			
spring-14	Calcium	19.5	3.01	11.2	20.7		20.1	39.9	18.1			8.39	6.99	30.5	17.4		21.1	21.2	19.1		20.5
spring-15	Calcium	20.7	5.27	12.2	22.4		20.7	41.3	21.6			8.56	8.08	34.4	19.1			19.8	22.4	23.2	22.1
spring-16	Calcium	21.4	4.11	12.1	21		21.7	42.5	19.2			8.03	6.76	34.5	18.4			18.6	19.4	24.5	22.4
spring-17	Calcium	20.4	3.66	11.9	20.9		20.5	43.2	12.4			8.39	6.25	33.5	18			14.7		23.1	22.1
spring-18	Calcium	18.6	3.36	10.1	19.6	26.1	19.9	42.7	16.9	19.9	23.2	8.62	5.99	30.9	17.5			13.1	17.2	21.6	
spring-19	Calcium	19.9	3.97	11.3	19.9	27.7	21.2	44.6	14.8	20.5	23.9	8.61	5.48	33.1	17.9			13.5	17.95	22.2	21.7
spring-20	Calcium	19.8	4.12	10.1	20.3	27.2	20.9	44.5	22.3	20	29.4	8.12	5.02	33.2	18.2			12.8	19.2	21.3	21.1
spring-21	Calcium	19.7	3.94	10.9	20.4	27.1	20.9	47.2	20.9	20.5	24.6	8.35	4.86	33.8	18.2			14.1	18	22.2	21.4
spring-22	Calcium	20.65	2.895	10.26	21.2			47.41	19.05	19.84	21.86	8.641		3.709	18.88			13.25	17.67	22	21.42
	Mean	19.7	3.7	11.3	21.1	27.0	20.6	41.3	18.4	20.1	24.6	8.2	6.2	29.7	18.0	7.0	19.5	25.0	18.9	22.5	21.6

Table C-5. Carbonate results and upper confidence interval test (mg/L)

Season-Yr	Simple_Name	11H3	24B1	24D1	25K2	25M2	26F1	30R1	31B1	32N1	32P3	34B1	36A1 (MW-2B)	36A2 (MW-2A)	36C2	36D3	36H1	42A8	USG-4	USG-5	USG-6
spring-09	Carbonate		11	3																	
spring-10	Carbonate	1.2	8.9	1.7	0.9			0.6				0.8			1.3	2.1	1.2	0.8			
spring-11	Carbonate	0.7	7.6	1.1	0.7			0.6				1.1			0.9	0.7	0.7	0.9			
spring-12	Carbonate	0.9	10.7	1.8								0.8			1		0.8	0.8			
spring-13	Carbonate	1					0.6											1.4			
spring-14	Carbonate	1	13.9	2.5	1		0.9	0.6	1.3			1.3	5.7	0.9	1.1		0.9	1.2	1.1		1
spring-15	Carbonate	0.9	7.2	1.7	0.8		0.8	0.6	0.6			0.9	3.1	0.5	1			1.2	0.8	0.6	0.7
spring-16	Carbonate	0.9	10.9	1.4	0.7		0.8	0.6	0.8			1	4	0.5	1.2			1.6	0.9	0.6	0.7
spring-17	Carbonate	0.8	7	1.6	0.5		0.6	0.5	4			0.7	5.1	0.6	0.9			1.4		0.7	0.8
spring-18	Carbonate	0.7	11	1.7	0.9	0.9	0.6	0.6	1.6	1.4	1.1	0.6	4.8	0.7	1.1			1.9	1.2	0.9	
spring-19	Carbonate	1.1	7.9	1.9	1.1	0.8	0.7	0.5	2.1	0.9	1.3	0.6	6.5	0.8	0.9			1.9	1.1	1	1.1
spring-21	Carbonate	0.6	6.1	0.7	0.5	0.7	0.6	0.4	0.6	0.8	1	0.5	5.4	0.6	1.2			1.3	0.9	0.8	1
spring-22	Carbonate	1.4	17.1	1.3	0.6	0.7	0.4		1.1	1.1	1.4	0.6	4.4	0.7	1.1			2	0.4	0.35	0.35
	Mean	0.9	9.9	1.7	0.8	0.8	0.7	0.6	1.5	1.1	1.2	0.8	4.9	0.7	1.1	1.4	0.9	1.4	0.9	0.7	0.8

Table C-6. Chloride results and upper confidence interval test (mg/L)

Season-Yr	Simple_Name	11H3	24B1	24D1	25K2	25M2	26F1	30R1	31B1	32N1	32P3	34B1	36A1 (MW-2B)	36A2 (MW-2A)	36C2	36D3	36H1	42A8	USG-4	USG-5	USG-6
spring-09	Chloride	42.8	382	92.8	69.2			170				66.3			83.8	79.2	64.2	268			
spring-10	Chloride	60.9	393	96.6	62.5			179				68.5			84.6	82.9	66.9	393			
spring-11	Chloride	41.7	388	96.1	67			188				69.3			96.3	81.1	67.7	417			
spring-12	Chloride	60.6	392	95.9				181				69.1			85.4		71.8	262			
spring-13	Chloride	41.7					70.6											196			
spring-14	Chloride	43.7	403	93.6	58.2		70.3	191	56.2			70.8	57.8	115	82		76.6	183	85		66
spring-15	Chloride	46.9	398	92	58.1		71.7	189	63.6			72.2	59.9	109	83.4			149	97.8	86.7	68.2
spring-16	Chloride	44.1	394	92.7	58.3		71.7	198	58.2			71.5	59.5	108	82.5			152	83	82.3	68.2
spring-17	Chloride	47.8	408	94.8	56.9		70.7	206	57.4			70.7	58.5	118	81.7			130		76.9	67.3
spring-18	Chloride	44.7	410	84	57.2	81.3	71.1	202	56.4	116	168	71.9	58.4	115	82.1			116	78.8	74.7	
spring-19	Chloride	57.4	404	93.4	57.3	85.3	73.7	178	57.2	115	169	72.3	58.3	117	82.7			107	80.4	74.4	67.15
spring-20	Chloride	41.3	403	81.9	56.8	82.9	72.2	202	63.3	113	188	70.7	57.2	116	83.6			104	83.5	70.5	64.8
spring-21	Chloride	51.2	397	87	57.2	81.4	71.7	214	59.2	116	168	73	58.4	119	84.9			107	78	74	66.1
spring-22	Chloride	43.012	378.237	76.786	57.213			197.401	56.7	115.152	151.247	73.734		110.189	83.427			94.936	77.078	73	65.901
	Mean	47.7	396.2	90.6	59.7	82.7	71.5	192.0	58.7	115.0	168.8	70.8	58.5	114.1	84.3	81.1	69.4	191.4	82.9	76.6	66.7

Table C-7. Fluroide results and upper confidence interval test (mg/L)

Season-Yr	Simple_Name	11H3	24B1	24D1	25K2	25M2	26F1	30R1	31B1	32N1	32P3	34B1	36A1 (MW-2B)	36A2 (MW-2A)	36C2	36D3	36H1	42A8	USG-4	USG-5	USG-6
spring-09	Fluoride	0.49	1.56	0.93	0.75			0.87				1.72			1.61	2.77	0.63	1.52			
spring-10	Fluoride	0.56	1.69	0.98	0.82			0.85				1.78			1.69	2.93	0.67	1.53			
spring-11	Fluoride	0.52	1.59	0.98	0.79			0.83				1.69			1.61	2.81	0.67	1.43			
spring-12	Fluoride	0.52	1.59	0.98				0.81				1.71			1.61		0.65	1.67			
spring-13	Fluoride	0.45					0.85											1.8			
spring-14	Fluoride	0.53	1.61	1.02	0.78		0.91	0.87	0.77			1.89	0.75	0.68	1.7		0.64	2.28	1.3		0.74
spring-15	Fluoride	0.48	1.48	0.94	0.72		0.9	0.76	0.73			2	0.69	0.6	1.77			1.91	1.27	0.63	0.7
spring-16	Fluoride	0.52	1.48	0.97	0.74		0.89	0.78	0.76			1.88	0.73	0.6	1.79			2.25	1.29	0.66	0.74
spring-17	Fluoride	0.47	1.51	0.97	0.72		0.85	0.77	0.67			1.8	0.69	0.61	1.71			2.36		0.62	0.71
spring-18	Fluoride	0.46	1.54	0.87	0.71	0.69	0.83	0.72	0.7	0.7	1.64	1.78	0.72	0.6	1.7			2.34	1.23	0.6	
spring-19	Fluoride	0.48	1.57	0.98	0.74	0.69	0.86	0.61	0.7	0.82	1.71	1.7	0.72	0.63	1.66			2.17	2.33	0.64	0.72
spring-20	Fluoride	0.48	1.58	0.85	0.75	0.66	0.89	0.73	0.76	0.83	1.49	1.84	0.66	0.63	1.79			2.28	1.25	0.61	0.7
spring-21	Fluoride	0.49	1.56	0.92	0.75	0.7	0.88	0.71	0.77	0.84	1.69	1.87	0.74	0.64	1.73			2.89	1.35	0.66	0.76
spring-22	Fluoride	0.48	1.281	0.824	0.748			0.659	0.754	0.833	1.707	1.589		0.619	1.703			2.324	1.1315	0.53	0.6815
	Mean	0.5	1.5	0.9	0.8	0.7	0.9	0.8	0.7	0.8	1.6	1.8	0.7	0.6	1.7	2.8	0.7	2.1	1.4	0.6	0.7

Table C-8. Iron results and upper confidence interval test (mg/L)

Season-Yr	Simple_Name	11H3	24B1	24D1	25K2	25M2	26F1	30R1	31B1	32N1	32P3	34B1	36A1 (MW-2B)	36A2 (MW-2A)	36C2	36D3	36H1	42A8	USG-4	USG-5	USG-6
spring-09	Iron	2.8	130	4.4	13.1			26.6				14.2			34.4	3.4	7.7	27.3			
spring-10	Iron	-6	-6	-6	17.3			79.1				27.6			4.5	-6	4	73.9			
spring-11	Iron	-3.2	14.7	-3.2	-3.2			49				101			8.3	-3.2	-3.2	119			
spring-12	Iron	-3.2	-6.4	-3.2				61.1				16.4			5.7		13.5	57.7			
spring-13	Iron	6.9					14.5											96.6			
spring-14	Iron	-4	-8	-4	9.8		13.3	57.8	31.1			24.4	-4	6.9	8.5		6.6	83.1	5.3		4.9
spring-15	Iron	42.3	9	-4	14.8		7.5	31.5	10.3			12.9	5.7	13.2	10.2			43.2	4.4	32.7	10
spring-16	Iron	6.2	-8	-4	15.9		-8	66.5	12.3			53.7	-4	190	-8			22	-4	5	-4
spring-17	Iron	6.6	12.2	-5	17		-5	42.2	71.7			11.6	-5	5	-5			65		17.4	5.3
spring-18	Iron	-5	-10	-5	21.5	-5	-5	73	75	118	14.3	23.4	-5	-5	-5			87.1	-5	12.4	
spring-19	Iron	-10	-20	-10	12.1	-10	-10	48.4	176	18.2	-10	19.5	-10	10.8	-10			61.5	-30	75	745
spring-20	Iron	-10	-20	-10	29.8	-10	13.4	66.1	-10	104	58	34.3	-10	16.2	-10			56.4	-10	22.8	-10
spring-21	Iron	5	10	5	20.2	5.1	6.9	37.1	5	69.1	8.2	14	7.5	16.8	10.9			78.8	5	14.3	5
spring-22	Iron	7.7	0	0	21.86			42.65	19.29	233	0	11.42		0	0			31.64	0	0	0
	Mean	2.6	7.5	-3.5	15.8	-5.0	3.1	52.4	43.4	108.5	14.1	28.0	-3.1	28.2	3.4	-1.9	5.7	64.5	-4.3	22.5	94.5

Table C-9. Magnesium results and upper confidence interval test (mg/L)

Season-Yr	Simple_Name	11H3	24B1	24D1	25K2	25M2	26F1	30R1	31B1	32N1	32P3	34B1	36A1 (MW-2B)	36A2 (MW-2A)	36C2	36D3	36H1	42A8	USG-4	USG-5	USG-6
spring-09	Magnesium	4.16	1.59	3.84	5.58			11				1.51			3.17	4.41	3.98	13.4			
spring-10	Magnesium	3.67	1.31	3.36	4.56			11.2				1.51			2.76	1.24	3.5	21			
spring-11	Magnesium	4.2	1.28	3.7	5			12				1.46			3.07	1.39	3.98	22.8			
spring-12	Magnesium	4.27	1.57	3.72				11.7				1.65			3.16		4.27	12.3			
spring-13	Magnesium	4.27					3.85											8.63			
spring-14	Magnesium	4.31	1.38	3.69	4.7		4.19	12.8	4.84			1.66	0.621	7.65	3.12		4.39	7.6	3.46		3.95
spring-15	Magnesium	4.55	2.04	3.8	5.16		4.17	13	5.25			1.68	0.797	8.2	3.7			7.03	4.06	4.61	4.15
spring-16	Magnesium	4.38	1.78	3.65	4.92		4.2	13	4.99			1.61	0.575	8.01	3.15			6.26	3.28	4.57	4.17
spring-17	Magnesium	4.2	1.7	3.53	4.66		4.05	13.2	3.55			1.64	0.506	7.79	2.97			5.01		4.28	3.91
spring-18	Magnesium	4.05	1.77	3.13	4.54	5.17	3.81	14.6	4.55	5.1	7.21	1.66	0.46	7.9	2.98			4.82	3.07	4.3	
spring-19	Magnesium	3.92	1.9	3.52	4.37	5.29	4.13	14.3	4.21	4.86	6.96	1.66	0.408	7.77	2.9			4.54	3.085	4.24	4.05
spring-20	Magnesium	4.12	2.03	3.21	4.71	5.38	4.22	14.4	5.65	4.91	8.6	1.58	0.356	7.76	3.06			4.44	3.35	4.17	3.88
spring-21	Magnesium	4.01	1.9	3.28	4.63	5.25	4.03	14.8	5.17	5	7.23	1.64	0.338	7.81	3.03			4.42	3.08	4.29	3.9
spring-22	Magnesium	4.423	1.39	3.122	4.604			15.43	4.736	5.051	6.491	1.7		0.268	3.126			4.396	3.133	4.4	3.9995
	Mean	4.2	1.7	3.5	4.8	5.3	4.1	13.2	4.8	5.0	7.3	1.6	0.5	7.0	3.1	2.3	4.0	9.0	3.3	4.4	4.0

Table C-10. pH results and upper confidence interval test

Season-Yr	Simple_Name	11H3	24B1	24D1	25K2	25M2	26F1	30R1	31B1	32N1	32P3	34B1	36A1 (MW-2B)	36A2 (MW-2A)	36C2	36D3	36H1	42A8	USG-4	USG-5	USG-6
spring-09	pH	8	8.8	8.3	7.8			7.7				8.1			8	8.1	8	7.7			
spring-10	pH	8.1	8.8	8.3	8			7.8				8			8.1	8.2	8.2	7.6			
spring-11	pH	7.9	8.8	8.3	7.9			7.8				8.2			8	8.1	8	7.6			
spring-12	pH	8	8.8	8.4				7.9				8			8		8	7.6			
spring-13	pH	8					7.9											7.9			
spring-14	pH	8.1	9	8.6	8.1		8	7.9	8.3			8.2	9	8	8.1		8.1	7.9	8.1		8.1
spring-15	pH	8	8.6	8.4	8		7.9	7.8	7.9			7.9	8.6	7.7	8			7.8	7.9	7.9	7.9
spring-16	pH	8.1	8.8	8.5	8.2		7.8	7.8	8.2			8.3	8.7	7.8	8			7.9	8	8	8
spring-17	pH	8	8.6	8.4	7.8		7.8	7.8	8.7			8	9	7.9	8			8		8.1	8.1
spring-18	pH	7.9	8.8	8.4	8	8	7.8	7.8	8.3	8.2	7.9	7.9	8.8	8	8.1			8.1	8.1	8	
spring-19	pH	8.1	8.7	8.4	8.2	7.9	7.9	7.8	8.4	8	7.8	8	8.9	7.8	8.2			8.1	8.16	8.1	8.205
spring-20	pH	8.1	8.7	8.4	8.35	8.05	8	7.9	8.05	8.1	8	8.35	8.95	7.9	8.25			8.25	8.05	8.05	8.05
spring-21	pH	8	8.7	8.1	7.9	7.9	7.9	7.8	7.9	7.9	8	7.9	9	7.8	8.1			7.9	8	8	8.1
spring-22	pH	7.9	9.2	8.5	8.2	8	7.8	7.6	8.3	8.1	7.9	8	8.9	7.9	8.1			8	8.15	8.1	7.85
	Mean	8.0	8.8	8.4	8.0	8.0	7.9	7.8	8.2	8.1	7.9	8.1	8.9	7.9	8.1	8.1	8.1	7.9	8.1	8.0	8.0

Table C-11. Potassium results and upper confidence interval test (mg/L)

Season-Yr	Simple_Name	11H3	24B1	24D1	25K2	25M2	26F1	30R1	31B1	32N1	32P3	34B1	36A1 (MW-2B)	36A2 (MW-2A)	36C2	36D3	36H1	42A8	USG-4	USG-5	USG-6
spring-09	Potassium	3.97	2.7	4.02	4.87			4.87				3.28			4.18	2.53	4.44	4.58			
spring-10	Potassium	3.98	2.63	3.85	4.67			4.77				3.38			3.98	2.36	4.21	5.28			
spring-11	Potassium	3.74	2.74	3.68	4.48			5.07				3.22			3.92	2.42	4.17	5.49			
spring-12	Potassium	3.96	2.44	3.59				4.89				3.16			3.97		4.35	4.2			
spring-13	Potassium	3.9					4.59											3.47			
spring-14	Potassium	3.96	2.68	3.76	4.51		4.58	5.06	4.06			3.29	2.05	5.82	3.91		4.46	3.46	3.92		4.44
spring-15	Potassium	4.08	3.11	3.81	4.73		4.82	5.26	4.27			3.62	2.19	6.16	4.14			3.56	4.37	4.7	4.78
spring-16	Potassium	4.22	3.19	3.89	4.82		5.07	5.52	4.25			3.58	1.89	6.06	4.19			3.51	4.01	4.72	4.81
spring-17	Potassium	3.92	2.87	3.72	4.48		4.82	5.27	3.85			3.41	1.67	5.82	3.97			3.12		4.32	4.57
spring-18	Potassium	4.03	3.5	3.39	4.57	5.26	4.62	5.53	4.19	4.07	3.87	3.61	1.69	5.94	4.08			3.24	4.09	4.46	
spring-19	Potassium	3.78	2.76	3.68	4.51	5.28	4.83	5.29	3.91	3.9	3.62	3.45	1.55	5.83	3.95			2.92	3.83	4.31	4.79
spring-20	Potassium	3.88	2.79	3.34	4.39	5.02	4.86	5.26	4.1	3.8	3.97	3.29	1.4	5.81	3.96			2.96	3.89	4.33	4.62
spring-21	Potassium	3.8	2.81	3.33	4.37	5.11	4.75	5.28	3.98	3.76	3.48	3.27	1.48	5.81	3.91			3.14	3.87	4.24	4.46
spring-22	Potassium	3.97	2.84	3.22	4.35			5.43	3.98	3.94	3.28	3.41		1	3.97			3.01	3.75	4.5	4.595
	Mean	3.9	2.9	3.6	4.6	5.2	4.8	5.2	4.1	3.9	3.6	3.4	1.7	5.4	4.0	2.4	4.3	3.7	4.0	4.4	4.6

Table C-12. Sodium results and upper confidence interval test (mg/L)

Season-Yr	Simple_Name	11H3	24B1	24D1	25K2	25M2	26F1	30R1	31B1	32N1	32P3	34B1	36A1 (MW-2B)	36A2 (MW-2A)	36C2	36D3	36H1	42A8	USG-4	USG-5	USG-6
spring-09	Sodium	75	434	153	80.5			122				88.5			99.5	119	75.7	265			
spring-10	Sodium	77	408	136	68.4			106				83.9			90.4	104	73.2	276			
spring-11	Sodium	72.3	438	151	80.4			124				90			99.9	118	73.9	335			
spring-12	Sodium	84.9	426	142				118				89.5			99.5		79.7	247			
spring-13	Sodium	71.3					94.2											218			
spring-14	Sodium	75.5	448	152	77.2		93.9	130	67.5			97	95.1	90.9	102		78.1	221	100		73.7
spring-15	Sodium	79.9	498	155	83.5		94.8	131	69.8			96.3	99.4	103	110			227	114	88.3	81.1
spring-16	Sodium	83.4	474	156	77.9		102	130	70.8			95	96.2	98.1	104			210	102	88	78.9
spring-17	Sodium	73.8	444	144	71.1		94.4	130	74.9			93.6	91.7	94.4	98.6			183		79.1	74.2
spring-18	Sodium	76.2	470	135	74.9	87.3	94.2	133	72.6	133	187	96.6	95.3	94	104			182	97.7	81.8	
spring-19	Sodium	80.9	453	148	74.4	87.8	93.9	131	70.9	126	180	94.1	92.3	94.4	101			178	94.3	79.2	76.4
spring-20	Sodium	72	455	133	76.1	86.7	96.6	130	72.3	128	197	94.9	92.3	93.3	102			172	101	77.4	74.3
spring-21	Sodium	80.7	458	142	76.7	87	94.6	136	71.8	132	179	95.8	93.4	95.4	103			170	96.7	80.6	75.5
spring-22	Sodium	74.94	451.1	132.3	74.68			134	69.85	127.4	168.8	95.95		67.28	103.5			170	97.505	80	76.595
	Mean	77.0	450.5	144.6	76.3	87.2	95.4	127.3	71.2	129.3	182.4	93.2	94.5	92.3	101.3	113.7	76.1	218.1	100.4	81.8	76.3

Table C-13. Specific Conductance results and upper confidence interval test (µS/cm)

Season-Yr	Simple_Name	11H3	24B1	24D1	25K2	25M2	26F1	30R1	31B1	32N1	32P3	34B1	36A1 (MW-2B)	36A2 (MW-2A)	36C2	36D3	36H1	42A8	USG-4	USG-5	USG-6
spring-09	Specific conductance	491.5	2120	840	624			920.5				518.5			613.5	608.5	505.5	1575			
spring-10	Specific conductance	537	2110	828	520.5			894.5				510.5			598.5	597.5	501.5	1960			
spring-11	Specific conductance	475.5	2090	833.5	553			890.5				491.5			603	596	493.5	2110			
spring-12	Specific conductance	537	2135	825				887.5				504			604		526.5	1480			
spring-13	Specific conductance	504.5					590											1290			
spring-14	Specific conductance	474	2210	819.5	501.5		589.5	937	462			502.5	477.5	689	597.5		530	1190	621.5		519.5
spring-15	Specific conductance	494.5	2350	841.5	510		595	969.5	493			519	485	697	600			1150	682.5	571.5	515.5
spring-16	Specific conductance	483.5	2330	836.5	508		593.5	979.5	472.5			510	488	710.5	604.5			1105	603	569	521
spring-17	Specific conductance	542.5	2275	828.5	508		594.5	999.5	470			519.5	488.5	717.5	602.5			979		560.5	524.5
spring-18	Specific conductance	499.5	2200	718.5	494	599.5	596	1015	465.5	771	1045	519.5	482.5	699.5	604.5			944	585	542	
spring-19	Specific conductance	514	2265	842	505.5	634	609	1025	462.5	782	1055	526.5	488.5	718.5	611			949.5	591	550.5	517.7
spring-20	Specific conductance	478	2245	718.5	492.5	603.5	602	1010	497.5	756.5	1140	513.5	476	711	605.5			876.5	636	521.5	508.5
spring-21	Specific conductance	502.5	2175	753	494	600	581	1030	475	758.5	987.5	510.5	476.5	709.5	607.5			898	576.5	537	510
spring-22	Specific conductance	489.06	2240.45	726.365	506.15	584	597	1038	472.29	775.17	497.01	520.99	487	726.2	616.29			873.665	573.7	534	513.9
	Mean	501.6	2211.2	800.8	518.1	604.2	594.8	969.0	474.5	768.6	944.9	512.8	483.3	708.7	605.3	600.7	511.4	1241.5	608.7	548.3	516.3

Table C-14.Sulfate results and upper confidence interval test (mg/L)

Season-Yr	Simple_Name	11H3	24B1	24D1	25K2	25M2	26F1	30R1	31B1	32N1	32P3	34B1	36A1 (MW-2B)	36A2 (MW-2A)	36C2	36D3	36H1	42A8	USG-4	USG-5	USG-6
spring-09	Sulfate	49.8	261	149	40.5			47.4				21.9			32.9	20.8	34.3	144			
spring-10	Sulfate	58.5	273	154	38.7			44.8				21.4			33.3	20.4	34.3	171			
spring-11	Sulfate	48.6	266	151	37.6			44.2				20.5			151	19.8	34	189			
spring-12	Sulfate	55.4	260	147				42.8				20.3			31.6		33.5	146			
spring-13	Sulfate	49.5					49.1											120			
spring-14	Sulfate	51.5	306	154	35.1		50.1	46.9	30.4			21.7	35.8	43.9	34.5		36.3	119	40.2		30
spring-15	Sulfate	52.5	306	146	41.2		50	45.2	31.8			21.4	36.2	42.4	34.5			100	42.2		29.9
spring-16	Sulfate	52	300	147	39.4		50.1	47.2	30.2			21	36.5	40.3	34.6			108	38		29.8
spring-17	Sulfate	52.6	301	150	39.6		48.7	48.1	24.6			20.9	35.5	44.6	33.8			96.7			29.5
spring-18	Sulfate	51.8	297	133	37.5	33.8	49.1	46.2	28.4	64.3	80.6	21.1	35.8	44.1	34.2			89.5	36.3		
spring-19	Sulfate	58.1	293	148	38.7	34.5	50.2	39.9	27.3	64.8	83.1	21.4	35.6	43.9	34.5			86	34.6	34	28.3
spring-20	Sulfate	49.4	290	129	39.1	33.8	49.9	47.2	31.2	63.4	79.9	20.3	35.1	41.5	34.1			83.7	36.6		29.2
spring-21	Sulfate	55	285	137	39.6	33.8	48.7	47.9	30.8	66	73.4	21.4	35.7	42.9	35.1			88.6	36		29.8
spring-22	Sulfate	50.452	269.064	120.829	39.007			42.33	29.751	66.444	73.078	21.139		43.625	33.374			77.849	34.66		28.7145
	Mean	52.5	285.2	143.5	38.8	34.0	49.5	45.4	29.4	65.0	78.0	21.1	35.8	43.0	42.9	20.3	34.5	115.7	37.3	34.0	29.4

Table C-15-Total Dissolved Solids results and upper confidence interval test (mg/L)

Season-Yr	Simple_Name	11H3	24B1	24D1	25K2	25M2	26F1	30R1	31B1	32N1	32P3	34B1	36A1 (MW-2B)	36A2 (MW-2A)	36C2	36D3	36H1	42A8	USG-4	USG-5	USG-6
spring-09	TDS	287	1230	508	338			523				310			359	364	307	943			
spring-10	TDS	322	1260	492	322			516				310			363	349	299	1170			
spring-11	TDS	278	1240	490	325			506				284			350	357	289	1240			
spring-12	TDS	320	1260	484				502				295			355		309	891			
spring-13	TDS	276					375											747			
spring-14	TDS	285	1320	502	310		361	552	284			321	312	409	363		338	731	388		318
spring-15	TDS	283	1390	489	303		342	553	291			308	296	409	359			674	406	334	302
spring-16	TDS	280	1350	484	291		356	559	271			303	298	399	362			654	362	334	309
spring-17	TDS	298	1350	495	323		347.5	567	283			300	303	412	357			594		328	314
spring-18	TDS	288	1310	439	304	352	342	565	274	469	612	305	291	396	350			564	343	323	
spring-19	TDS	322	1310	503	309	373	365	583	273	477	621	322	307	423	368			575	361	331	317
spring-20	TDS	289	1280	431	296	367	366	572	288	474	697	305	303	420	369			555	372	324	309
spring-21	TDS	310	1280	464	304	359	358	598	293	472	618	319	308	409	369			556	350	335	314
spring-22	TDS	287.29	1274.7	415.86	296.9			600.03	278.29	474.45	566.35	309.71		420.24	353.11			534.92	336.88	300	302.08
	Mean	294.7	1296.5	476.7	310.2	362.8	356.9	553.5	281.7	473.3	622.9	307.1	302.3	410.8	359.8	356.7	308.4	744.9	364.9	326.1	310.6

APPENDIX D

Pumping Data 2021-2022

	Total Wells	#4 Well	#5 Well	#6 Well
12/28/2020		12631524.0	192400316.0	257287114.0
1/4/2021		12631524.0	193457040.0	258597827.0
Acreft/wk	7.3	0.0	3.2	4.0
1/11/2021		13448614.0	194316554.0	259607119.0
Acreft/wk	8.2	2.5	2.6	3.1
1/18/2021		14330389.0	195307599.0	260496409.0
Acreft/wk	8.5	2.7	3.0	2.7
1/25/2021		15196000.0	196040494.0	261225303.0
Acreft/wk	7.1	2.7	2.2	2.2
2/1/2021		15810015.0	196720647.0	261811558.0
Acreft/wk	5.8	1.9	2.1	1.8
2/8/2021		16676853.0	197509859.0	262748935.0
Acreft/wk	8.0	2.7	2.4	2.9
2/15/2021		17475586.0	198175643.0	263481947.0
Acreft/wk	6.7	2.5	2.0	2.2
2/22/2021		17677091.0	198420437.0	263749409.0
Acreft/wk	2.2	0.6	0.8	0.8
3/1/2021		18242275.0	198960532.0	264347318.0
Acreft/wk	5.2	1.7	1.7	1.8
3/8/2021		19067299.0	199785267.0	265172245.0
Acreft/wk	7.6	2.5	2.5	2.5
3/15/2021		19948678.0	200626577.0	266095101.0
Acreft/wk	8.1	2.7	2.6	2.8
3/22/2021		20841051.0	201520747.0	267041523.0
Acreft/wk	8.4	2.7	2.7	2.9
3/29/2021		21862722.0	202293626.0	267918760.0
Acreft/wk	8.2	3.1	2.4	2.7
4/5/2021		22704298.0	203065753.0	268690800.0
Acreft/wk	7.3	2.6	2.4	2.4
4/12/2021		23494334.0	203805909.0	269436221.0
Acreft/wk	7.0	2.4	2.3	2.3
4/19/2021		24310704.0	204662226.0	270197725.0
Acreft/wk	7.5	2.5	2.6	2.3
4/26/2021		25014985.0	205325521.0	270946793.0
Acreft/wk	6.5	2.2	2.0	2.3
5/3/2021		25865208.0	206200550.0	271867244.0
Acreft/wk	8.1	2.6	2.7	2.8
5/10/2021		26845038.0	207053433.0	272728251.0
Acreft/wk	8.3	3.0	2.6	2.6
5/17/2021		27423336.0	208169409.0	273898358.0
Acreft/wk	8.8	1.8	3.4	3.6
5/24/2021		27426283.0	209357903.0	275336757.0
Acreft/wk	8.1	0.0	3.6	4.4
5/31/2021		28052496.0	210139071.0	276140300.0
Acreft/wk	6.8	1.9	2.4	2.5
6/7/2021		28113753.0	211151709.0	277135245.0

	Total Wells	#4 Well	#5 Well	#6 Well
Acreft/wk	6.3	0.2	3.1	3.1
6/14/2021		28806572.0	212195535.0	278272654.0
Acreft/wk	8.8	2.1	3.2	3.5
6/21/2021		29712196.0	213122721.0	279300444.0
Acreft/wk	8.8	2.8	2.8	3.2
6/28/2021		30416809.0	214050510.0	280188141.0
Acreft/wk	7.7	2.2	2.8	2.7
7/5/2021		30426917.0	215072964.0	281320033.0
Acreft/wk	6.6	0.0	3.1	3.5
7/12/2021		30824694.0	216056958.0	282331586.0
Acreft/wk	7.3	1.2	3.0	3.1
7/19/2021		562455*	216056958	283643282
Acreft/wk	4	NA	0.0	4.0
7/26/2021		1575934.0	216056958.0	284543645.0
Acreft/wk	6	3.1	0.0	2.8
8/2/2021		2881851.0	1764*	285629002.0
Acreft/wk	7	4.0	NA	3.3
8/9/2021		3481934.0	589617.0	286187197.0
Acreft/wk	5	1.8	1.8	1.7
8/16/2021		4134479.0	1198895.0	286851982.0
Acreft/wk	6	2.0	1.9	2.0
8/23/2021		4824580.0	1815972.0	287492549.0
Acreft/wk	6	2.1	1.9	2.0
8/30/2021		5402845.0	2504017.0	288163366.0
Acreft/wk	4	1.8	2.1	2.1
9/6/2021		5888129.0	3166724.0	288811493.0
Acreft/wk	6	1.5	2.0	2.0
9/13/2021		6299183	3962262.0	289641771
Acreft/wk	6	1.3	2.4	2.5
9/20/2021		7069552	4667610.0	290391944
Acreft/wk	7	2.4	2.2	2.3
9/27/2021		7784709	5431324	291137069
Acreft/wk	7	2.2	2.3	2.3
10/4/2021		8436076	6124876.0	291765714
Acreft/wk	6	2.0	2.1	1.9
10/11/2021		9168188	6949054	292549194.0
Acreft/wk	7	2.2	2.5	2.4
10/18/2021		9217224	7722230.0	293378828.0
Acreft/wk	5	0.2	2.4	2.5
10/25/2021		9217225	8440512	294043158.0
Acreft/wk	4	0.0	2.2	2.0
11/1/2021		9217225	8776072.0	294428941.0
Acreft/wk	2	0.0	1.0	1.2
11/8/2021		9830816	9657883	295416789.0
Acreft/wk	8	1.9	2.7	3.0
11/15/2021		9897832	10924281.0	296919207.0

	Total Wells	#4 Well	#5 Well	#6 Well
Acreft/wk	9	0.2	3.9	4.6
11/22/2021		10020547	11414862	297459993.0
Acreft/wk	4	0.4	1.5	1.7
11/29/2021		10757437	12361180.0	298396069.0
Acreft/wk	8	2.3	2.9	2.9
12/6/2021		10784618	13598380.0	299872273
Acreft/wk	8	0.1	3.8	4.5
12/13/2021		11682398	14497144.0	300669772
Acreft/wk	8	2.8	2.8	2.4
12/20/2021		12350916	15108392.0	301343012
Acreft/wk	6	2.1	1.9	2.1
12/27/2021		12823188	15616450.0	301815504
Acreft/wk	4	1.4	1.6	1.5
1/3/2022		13313872	16080434.0	302323066
Acreft/wk	**4**	1.5	1.4	1.6
1/10/2022		14134025	16427542	303160178
Acreft/wk	**6**	2.5	1.1	2.6
1/17/2022		14934025	16427542	303913082
Acreft/wk	**5**	2.5	0.0	2.3
1/24/2022		15823757	16427542	304808215
Acreft/wk	**5**	2.7	0.0	2.7
1/31/2022		16569248	17116754	305569810
Acreft/wk	**7**	2.3	2.1	2.3
2/7/2022		17372768	17764190	306306414
Acreft/wk	**7**	2.5	2.0	2.3
2/14/2022		18123765	18451871	307099636
Acreft/wk	**7**	2.3	2.1	2.4
2/21/2022		18903763	19169196	307861193
Acreft/wk	**7**	2.4	2.2	2.3
2/28/2022		19448980	19693673	308465816
Acreft/wk	**5**	1.7	1.6	1.9
3/7/2022		20001226	20236560	309045397
Acreft/wk	**5**	1.7	1.7	1.8
3/14/2022		20804730	21072746	309831944
Acreft/wk	**7**	2.5	2.6	2.4
3/21/2022		21411236	21660430	310448710
Acreft/wk	**6**	1.9	1.8	1.9
3/28/2022		22218463	22548723	311247050
Acreft/wk	**8**	2.5	2.7	2.5
4/4/2022		22892969	23236849	311883918
Acreft/wk	**6**	2.1	2.1	2.0
4/11/2022		23599360	23896112	312603315
Acreft/wk	**6**	2.2	2.0	2.2
4/18/2022		24381700	24668805	313501755
Acreft/wk	**8**	2.4	2.4	2.8
4/25/2022		24935820	25041886	315096010

	Total Wells	#4 Well	#5 Well	#6 Well
Acreft/wk	**8**	1.7	1.1	4.9
5/2/2022		25729460	25041886	316705374
Acreft/wk	**7**	2.4	0.0	4.9
5/9/2022		25760460**	25994048	317696434
Acreft/wk	**6**	0.1	2.9	3.0
5/16/2022		26164460**	26788473	318579123
Acreft/wk	**5**	1.2	2.4	2.7
5/23/2022		26641460**	27631808	319501117
Acreft/wk	**5**	1.5	2.6	2.8
5/30/2022		26643460**	28577572	320669668
Acreft/wk	**6**	0.0	2.9	3.6
6/6/2022		26654460**	29445236	321590187
Acreft/wk	**5**	0.0	2.7	2.8
6/13/2022		26654460**	30658945	322936563
Acreft/wk	**8**	0.0	3.7	4.1
6/20/2022		27809460**	31417238	323739806
Acreft/wk	**5**	3.5	2.3	2.5
6/27/2022		28232460**	32258265	324658011
Acreft/wk	**5**	1.3	2.6	2.8
7/4/2022		28290460**	33113875	325538197
Acreft/wk	**5**	0.2	2.6	2.7
7/11/2022		28290460**	34439485	327011543
Acreft/wk	**9**	0.0	4.1	4.5
7/18/2022		28290460**	35699995	328426829
Acreft/wk	**8**	0.0	3.9	4.3
7/25/2022		28290460**	36980095	330126829
Acreft/wk	**9**	0.0	3.9	5.2
8/1/2022		29217460**	38222976	331313668
Acreft/wk	**4**	2.8	3.8	3.6
8/8/2022		30093460**	38528850	331603170
Acreft/wk	**2**	2.7	0.9	0.9
8/15/2022		30813460**	41084080	331618933
Acreft/wk	**8**	2.2	7.8	0.0
8/22/2022		31605460**	42037903	332455218
Acreft/wk	**5**	2.4	2.9	2.6
8/29/2022		31605460**	42744081	333287688
Acreft/wk	**5**	0.0	2.2	2.6

*Power outage caused chart recorder to reset

** Totalizer amounts caculated from weekly water meter readings