



**GROUNDWATER
QUALITY
CONDITIONS
REPORT –
CUYAMA VALLEY
GROUNDWATER
BASIN**

October 2023

801 T Street
Sacramento, CA
916.999.8700

woodardcurran.com

**Cuyama Valley
Groundwater
Sustainability Agency**

TABLE OF CONTENTS

SECTION	PAGE NO.
1. INTRODUCTION.....	3
2. SUMMARY STATISTICS.....	3
3. CURRENT CONDITIONS	3
4. TOTAL DISSOLVED SOLIDS TIME SERIES FIGURES.....	12
5. MONITORING NETWORK UPDATES	17

TABLES

Table 1: Recent Total Dissolved Solids Measurements for Monitoring Network.....	4
Table 2: Well Status Related to TDS Thresholds.....	7

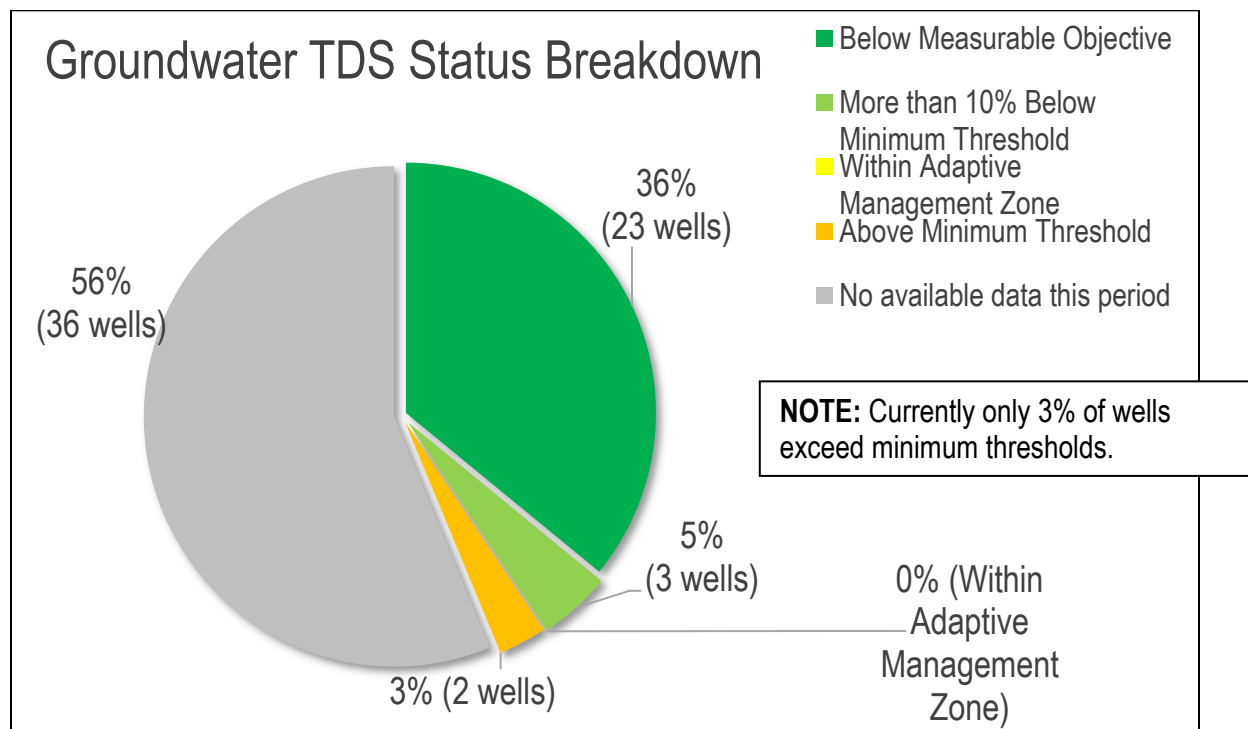
FIGURES

Figure 1: Groundwater Quality Representative Wells and Status	11
Figure 2: Southeast Region – Well 157	12
Figure 3: Eastern Region – Well 83	13
Figure 4: Central Region – Well 467	14
Figure 5: Central Region – Well 74	15
Figure 6: Western Region – Well 571	16
Figure 7: Northwestern Region – Well TBD	16
Figure 8: Threshold Regions in the Cuyama Groundwater Basin	17

1. INTRODUCTION

This report is intended to provide an update on the current groundwater quality as total dissolved solids (TDS) conditions in the Cuyama Valley Groundwater Basin. Groundwater quality measurements were taken during July and August of 2023. This work is completed by the Cuyama Basin Groundwater Sustainability Agency (CBGSA), in compliance with the Sustainable Groundwater Management Act.

2. SUMMARY STATISTICS



As outlined in the GSP, undesirable results for degraded water quality occurs, “when 30 percent of representative monitoring points... exceed the minimum threshold for a constituent for two consecutive years.” (Cuyama GSP, pg. 3-4). Nine wells (900, 901, 902, 903, 904, 905, 906, 907, and 908) were installed after the GSP was submitted in January 2020 and therefore do not have minimum thresholds or measurable objectives. Additionally, wells 62, 103 and 571 had transducers installed after January 2020 and also do not have minimum thresholds or measurable objectives. Finally, it has been clarified that measurements previously recorded as being taken at well 204 have actually been taken at well 205; the results shown below have been updated accordingly.

3. CURRENT CONDITIONS

Table 1 includes the most recent TDS measurements taken in the Cuyama Basin from representative wells included in the Cuyama GSP Groundwater Quality Monitoring Network, which were taken during July and August 2023. The eleven wells discussed above are also included in Table 1. Per the plan described in the GSP, it is the intention of the GSA to take TDS measurements once per year. **Table 2** includes all of the representative wells and their current status in relation to the thresholds applied to each well. This information is also shown in **Figure 1**.

All measurements have also been incorporated into the Cuyama DMS, which may be accessed at <https://opti.woodardcurran.com/cuyama/login.php>.

Table 1: Recent Total Dissolved Solids Measurements for Monitoring Network

Well	Region	Q1, 2021	Q3, 2022	Q3, 2023
		GWQ TDS, mg/L	GWQ TDS, mg/L	GWQ TDS, mg/L
61	Southeastern	-	-	-
72	Central	560	980	900
73	Central	-	-	-
74	Central	1260	1700	1310
76	Central	1270	-	-
77	Central	1070	1120	1120
79	Central	1790	-	-
81	Central	-	-	-
83	Eastern	1120	1400	1120
85	Eastern	-	-	-
86	Eastern	-	-	-
87	Badlands	-	-	-
88	Badlands	330	300	320
90	Central	-	1400	-
91	Central	1030	-	1020
94	Central	960	-	1190
95	Central	1290	1700	1340
96	Central	1210	1500	1100
98	Central	-	-	-
99	Central	1010	1300	1140
101	Eastern	-	1400	1210
102	Central	900	2100	1610
130	Southeastern	-	-	-
131	Eastern	-	-	-
157	Southeastern	1360	-	-
196	Eastern	-	-	-
204	Badlands	-	-	-
226	Eastern	-	-	-
227	Eastern	-	-	-
242	Eastern	830	1100	780
269	Eastern	-	-	-
309	Central	-	-	-
316	Central	1050	1050	1060
317	Central	690	990	-
318	Central	-	-	-

Well	Region	Q1, 2021	Q3, 2022	Q3, 2023
		GWQ TDS, mg/L	GWQ TDS, mg/L	GWQ TDS, mg/L
322	Central	1120	1500	1140
324	Central	490	850	740
325	Central	750	1400	1070
400	Central	1350	-	-
420	Central	1080	1080	1080
421	Central	800	1290	1280
422	Central	-	-	-
424	Central	-	1600	1260
467	Central	1140	1400	1070
568	Central	870	920	860
702	Southeastern	-	-	-
703	Northwestern	-	-	-
710	Eastern	-	-	-
711	Central	-	-	-
712	Central	-	-	-
713	Central	-	-	-
721	Central	-	-	-
758	Badlands	-	-	-
840	Northwestern	-	-	-
841	Northwestern	-	-	-
842	Northwestern	-	-	-
843	Northwestern	-	-	-
844	Northwestern	-	-	-
845	Northwestern	-	-	-
846	Northwestern	-	-	-
847	Northwestern	-	-	-
848	Northwestern	-	-	-
849	Northwestern	-	-	-
850	Northwestern	-	-	-
Additional Non-Representative Wells				
62	Eastern	890	980	780
103	Central	520	820	860
205	Badlands	360	340	380
571	Western	310	300	290
900	Central	-	6200	-
901	Central	-	6700	-
902	Central	-	9200	-

Well	Region	Q1, 2021	Q3, 2022	Q3, 2023
		GWQ TDS, mg/L	GWQ TDS, mg/L	GWQ TDS, mg/L
903	Eastern	-	1500	1080
904	Eastern	-	1500	1120
905	Eastern	-	1400	1100
906	Central	-	-	-
907	Central	-	1600	1260
908	Central	-	2400	1770

Table 2: Well Status Related to TDS Thresholds

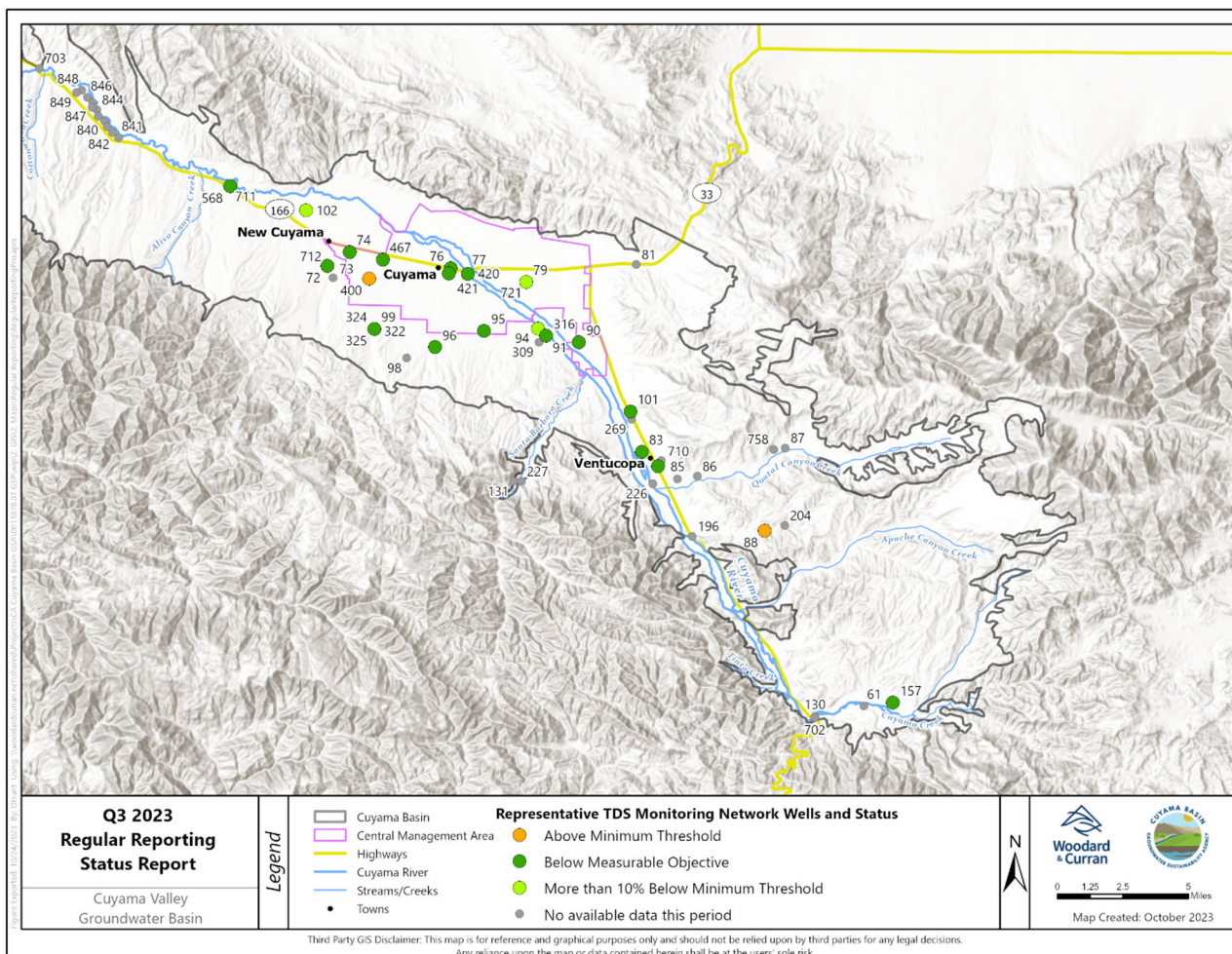
Well	Region	Current Measurement Period		Minimum Threshold	Within 10% Minimum Threshold	Measurable Objective	Status	GSA Action Required?
		TDS mg/L	Date					
61	Southeastern	-	-	615	612	585	No available data this period	No
72	Central	900	8/23/2023	1023	1020	996	Below Measurable Objective	No
73	Central	-	-	856	851	805	No available data this period	No
74	Central	1310	8/23/2023	1833	1800	1500	Below Measurable Objective	No
76	Central	-	-	2307	2226	1500	No available data this period (below MO in 2021)	No
77	Central	1120	7/24/2023	1592	1583	1500	Below Measurable Objective	No
79	Central	-	-	2320	2238	1500	No available data this period (More than 10% below MT in 2021)	No
81	Central	-	-	2788	2659	1500	No available data this period	No
83	Eastern	1120	8/23/2023	1726	1703	1500	Below Measurable Objective	No
85	Eastern	-	-	1391	1314	618	No available data this period	No
86	Eastern	-	-	975	974	969	No available data this period	No
87	Badlands	-	-	1165	1157	1090	No available data this period	No
88	Badlands	320	8/23/2023	302	302	302	Above Minimum Threshold	No
90	Central	-	-	1593	1584	1500	No available data this period (below MO In 2022)	No
91	Central	1020	7/25/2023	1487	1479	1410	Below Measurable Objective	No
94	Central	1190	8/23/2023	1245	1226	1050	More than 10% Below Minimum Threshold	No
95	Central	1340	8/23/2023	1866	1829	1500	Below Measurable Objective	No

Well	Region	Current Measurement Period		Minimum Threshold	Within 10% Minimum Threshold	Measurable Objective	Status	GSA Action Required?
		TDS mg/L	Date					
96	Central	1100	8/23/2023	1632	1619	1500	Below Measurable Objective	No
98	Central	-	-	2400	2310	1500	No available data this period	No
99	Central	1140	8/24/2023	1562	1555	1490	Below Measurable Objective	No
101	Eastern	1210	8/23/2023	1693	1674	1500	Below Measurable Objective	No
102	Central	1610	8/23/2023	2351	2266	1500	More than 10% Below Minimum Threshold	No
130	Southeastern	-	-	1855	1820	1500	No available data this period	No
131	Eastern	-	-	1982	1934	1500	No available data this period	No
157	Southeastern	-	-	2360	2274	1500	No available data this period (below MO In 2021)	No
196	Eastern	-	-	904	898	851	No available data this period	No
204	Badlands	-	-	269	267	253	No available data this period	No
226	Eastern	-	-	1844	1810	1500	No available data this period	No
227	Eastern	-	-	2230	2157	1500	No available data this period	No
242	Eastern	780	8/23/2023	1518	1513	1470	Below Measurable Objective	No
269	Eastern	-	-	1702	1682	1500	No available data this period	No
309	Central	-	-	1509	1499	1410	No available data this period	No
316	Central	1060	7/25/2023	1468	1459	1380	Below Measurable Objective	No
317	Central	-	-	1337	1329	1260	No available data this period (below MO In 2022)	No
318	Central	-	-	1152	1145	1080	No available data this period	No
322	Central	1140	8/24/2023	1386	1382	1350	Below Measurable Objective	No
324	Central	740	8/24/2023	777	774	746	Below Measurable Objective	No

Well	Region	Current Measurement Period		Minimum Threshold	Within 10% Minimum Threshold	Measurable Objective	Status	GSA Action Required?
		TDS mg/L	Date					
325	Central	1070	8/24/2023	1569	1559	1470	Below Measurable Objective	No
400	Central	-	-	976	970	918	No available data this period (above MT in 2021)	No
420	Central	1080	7/24/2023	1490	1484	1430	Below Measurable Objective	No
421	Central	1280	7/24/2023	1616	1604	1500	Below Measurable Objective	No
422	Central	-	-	1942	1898	1500	No available data this period	No
424	Central	1260	8/23/2023	1588	1579	1500	Below Measurable Objective	No
467	Central	1070	8/23/2023	1764	1738	1500	Below Measurable Objective	No
568	Central	860	8/23/2023	1191	1159	871	Below Measurable Objective	No
702	Southeastern	-	-	2074	1878	110	No available data this period	No
703	Northwestern	-	-	4097	3727	400	No available data this period	No
710	Eastern	-	-	1040	1040	1040	No available data this period	No
711	Central	-	-	928	928	928	No available data this period	No
712	Central	-	-	978	977	977	No available data this period	No
713	Central	-	-	1200	1200	1200	No available data this period	No
721	Central	-	-	2170	2103	1500	No available data this period	No
758	Badlands	-	-	954	949	900	No available data this period	No
840	Northwestern	-	-	559	559	559	No available data this period	No
841	Northwestern	-	-	561	561	561	No available data this period	No
842	Northwestern	-	-	547	547	547	No available data this period	No
843	Northwestern	-	-	569	569	569	No available data this period	No
844	Northwestern	-	-	481	481	481	No available data this period	No

Well	Region	Current Measurement Period		Minimum Threshold	Within 10%	Measurable Objective	Status	GSA Action Required?
		TDS mg/L	Date		Minimum Threshold			
845	Northwestern	-	-	1250	1250	1250	No available data this period	No
846	Northwestern	-	-	918	918	918	No available data this period	No
847	Northwestern	-	-	480	480	480	No available data this period	No
848	Northwestern	-	-	674	674	674	No available data this period	No
849	Northwestern	-	-	1780	1752	1500	No available data this period	No
850	Northwestern	-	-	472	472	472	No available data this period	No

Figure 1: Groundwater Quality Representative Wells and Status



4. TOTAL DISSOLVED SOLIDS TIME SERIES FIGURES

The following figures provide an overview of TDS conditions in each of the six area threshold regions identified in the GSP.

Figure 2: Southeast Region – Well 157

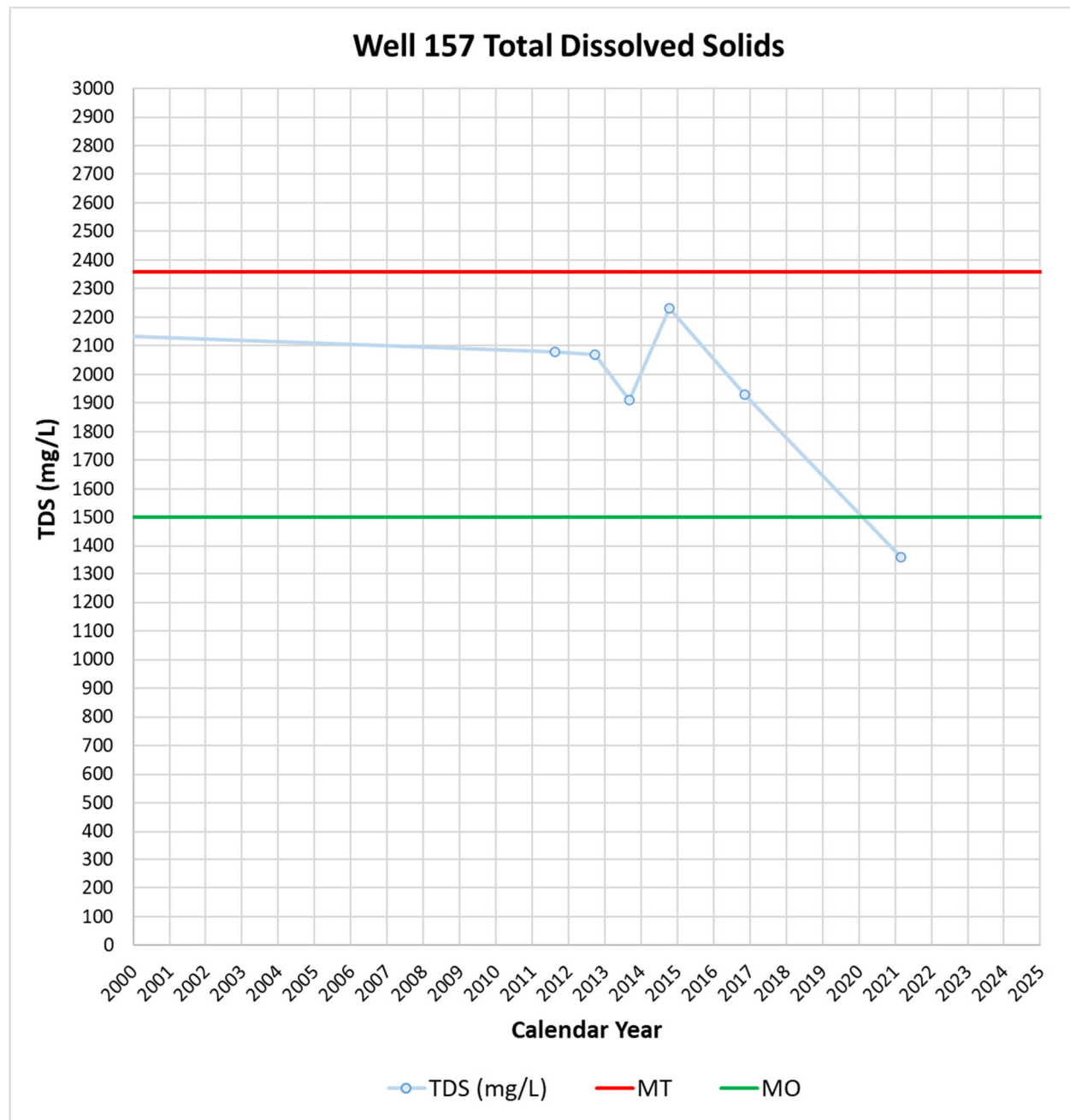


Figure 3: Eastern Region – Well 83

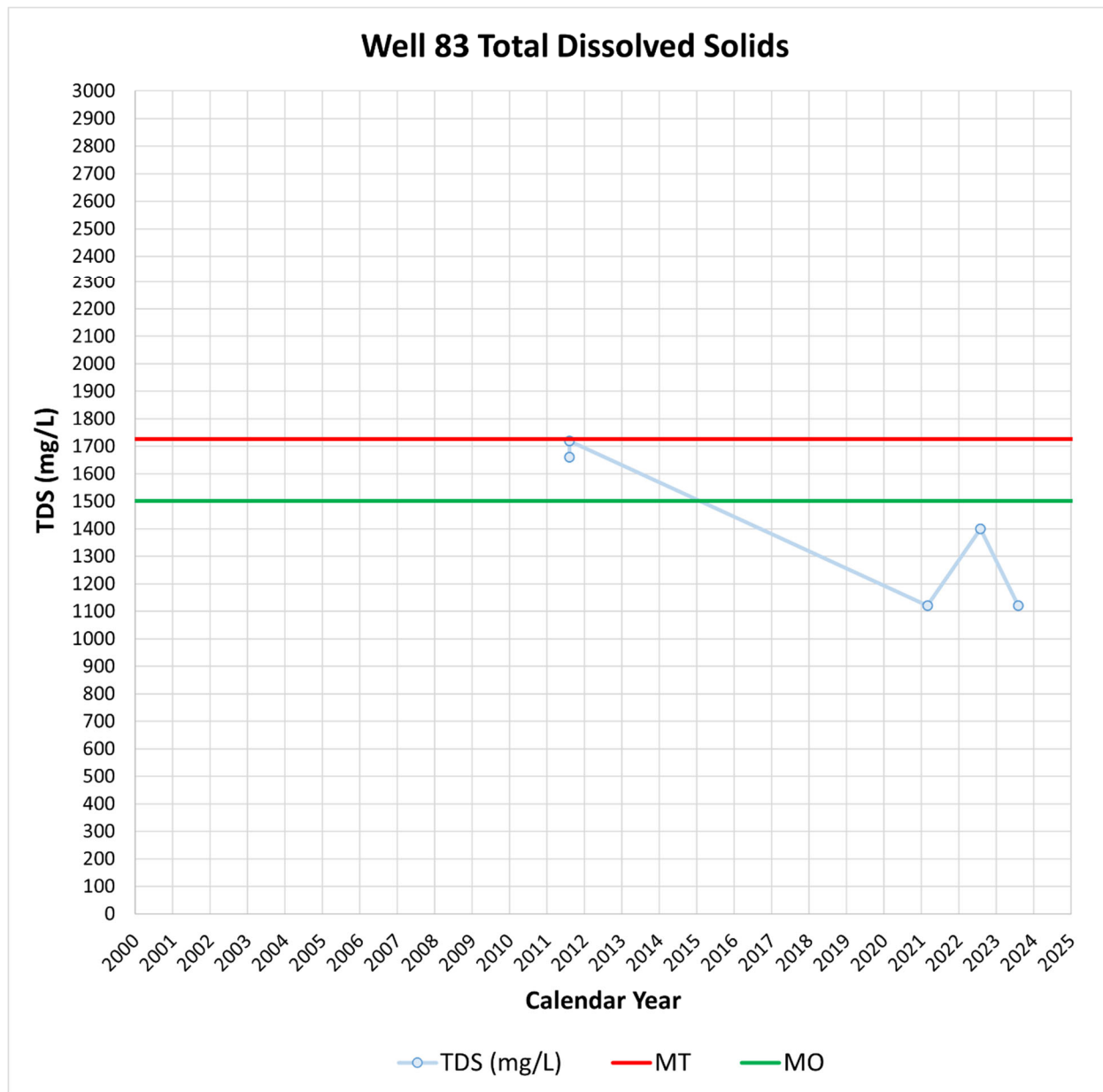


Figure 4: Central Region – Well 467

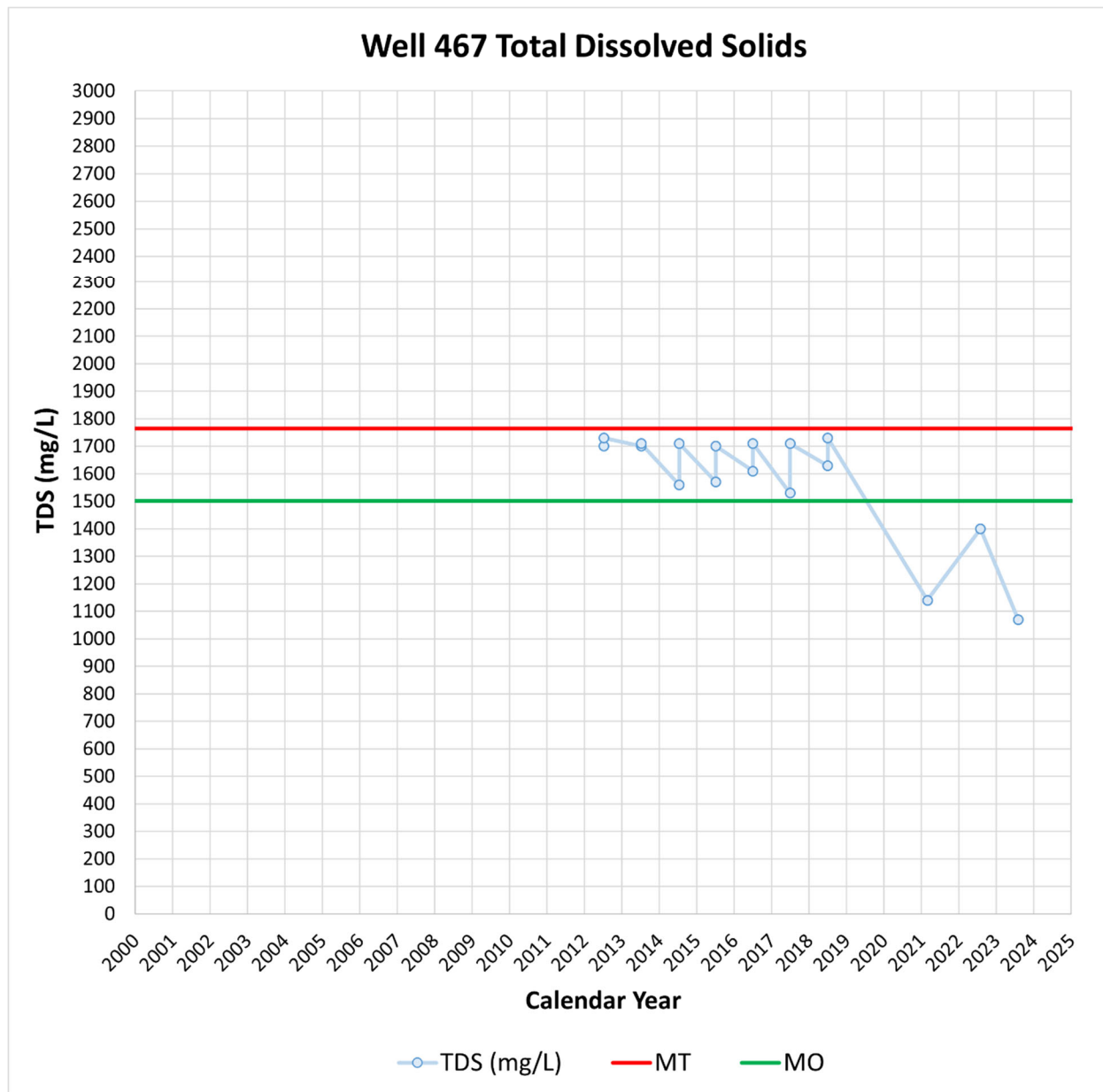


Figure 5: Central Region – Well 74

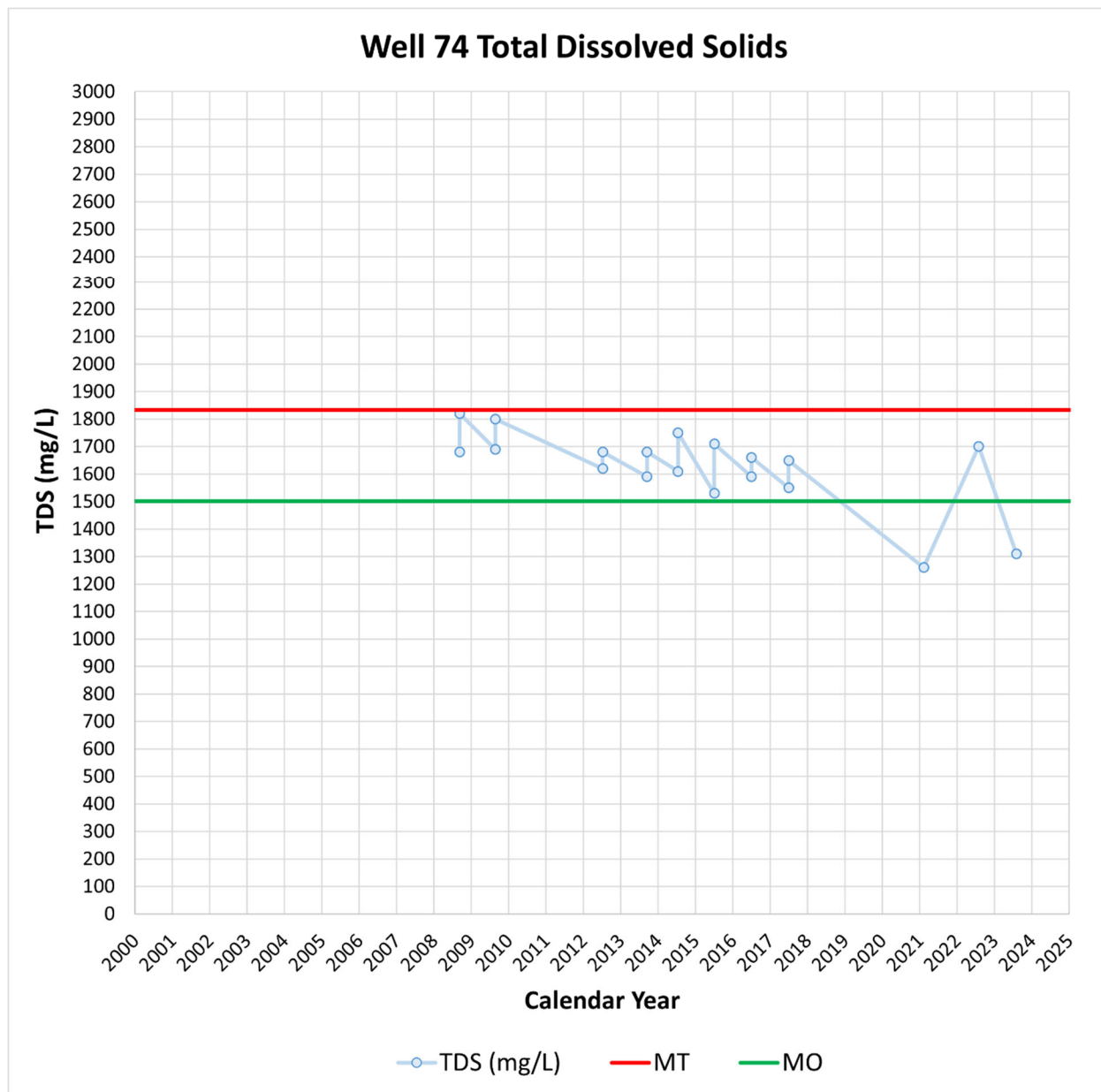
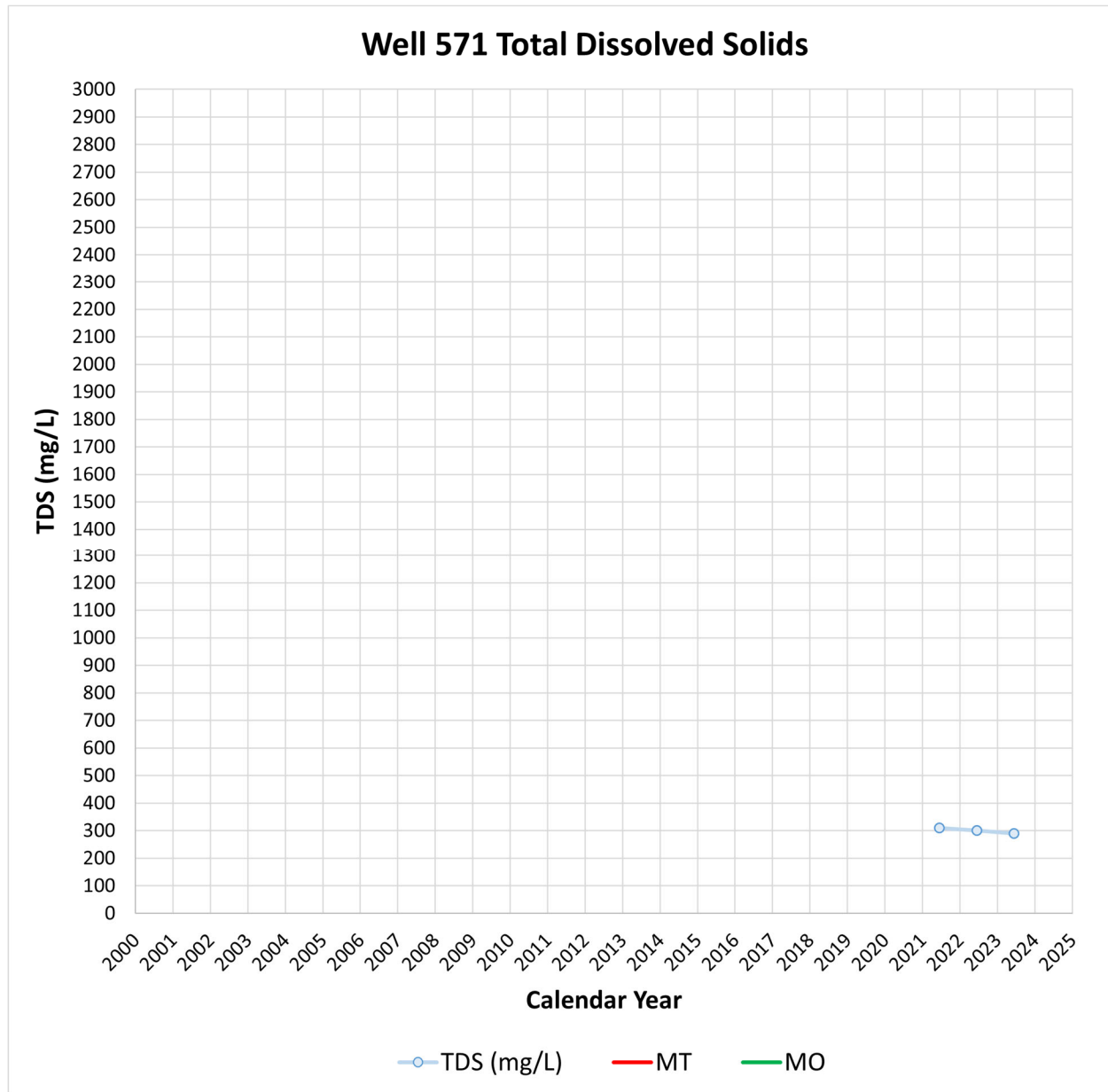


Figure 6: Western Region – Well 571



Sustainability criteria were not established for this well.

Figure 7: Northwestern Region – Well TBD

No data from this Threshold Region at this time.

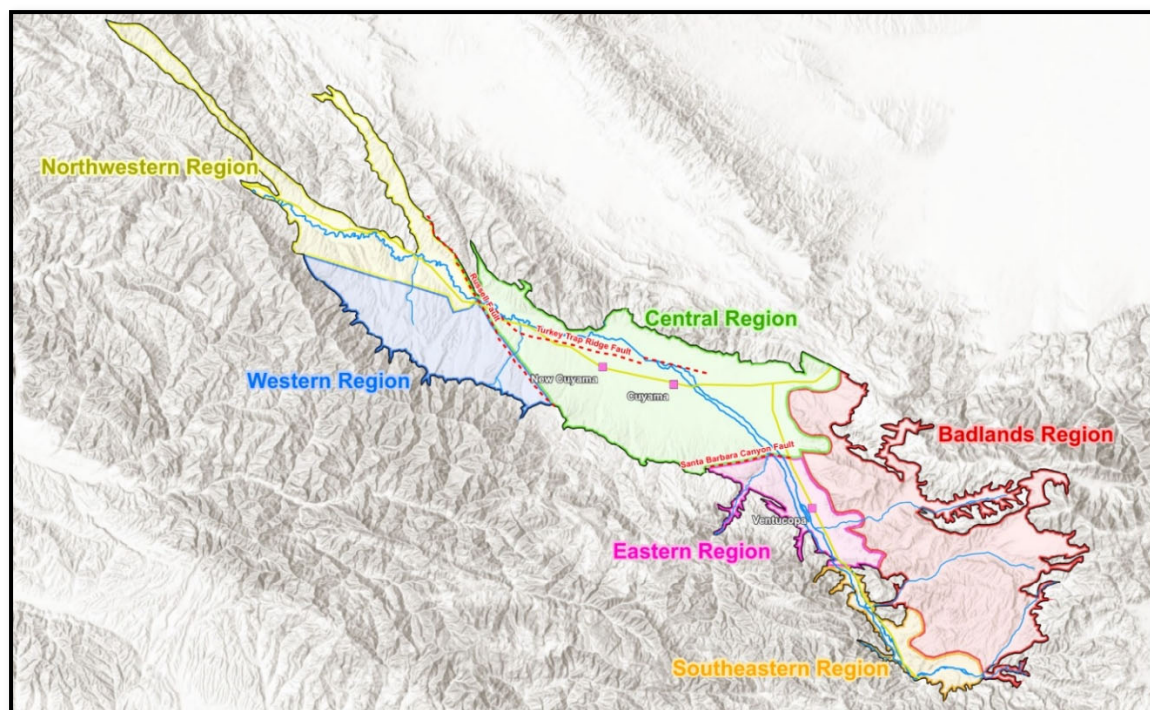


Figure 8: Threshold Regions in the Cuyama Groundwater Basin

5. MONITORING NETWORK UPDATES

As shown in the Summary Statistics Section, there are 45 wells without current measurements. These “no measurement codes” can have different causes as described below.

- Access agreements have not yet been established with the landowner, access has not been granted yet, or no access at the time of measurement:
 - Wells 61, 73, 79, 81, 85, 86, 87, 90, 98, 130, 131, 157, 196, 204, 226, 227, 269, 309, 702, 703, 710, 711, 712, 713, 721, 758, 840, 842, 843, 844, 846, 847, 848, 849, 850
- The well was out of service:
 - Wells 76, 400
- Weather-induced issues prevented access to the wellsite:
 - Wells 900, 901, 902
- Transducer data was not currently available:
 - Wells 317, 841, 845
- The well has gone dry:
 - Well 318, 422, 906



Woodard
& Curran

woodardcurran.com
