

FIGURE 4.3-45. CHLORIDE CONCENTRATIONS FOR WELLS L, L6, L7, L8, L9, AND L10.

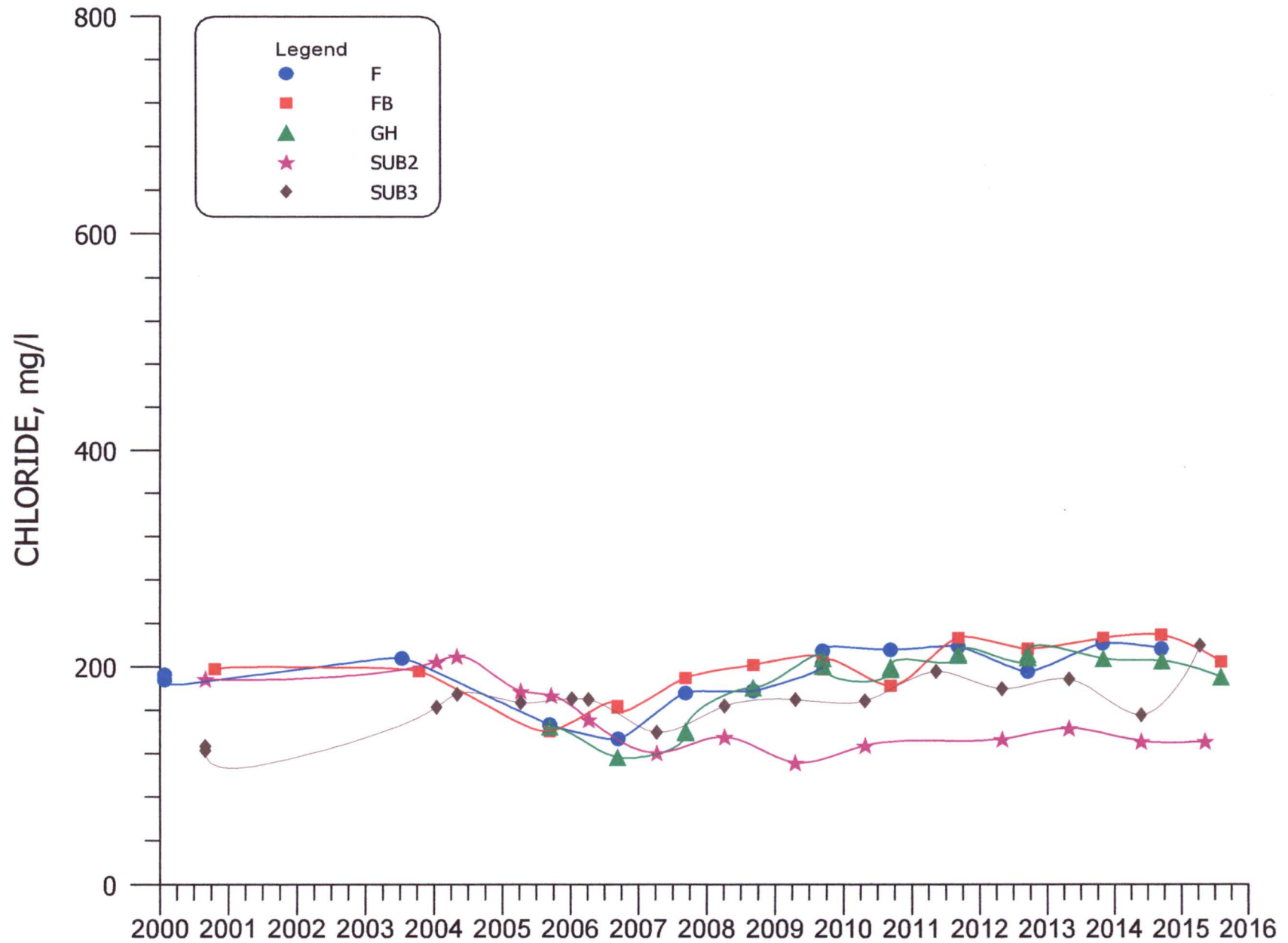


FIGURE 4.3-46. CHLORIDE CONCENTRATIONS FOR WELLS F, FB, GH, SUB2 AND SUB3.

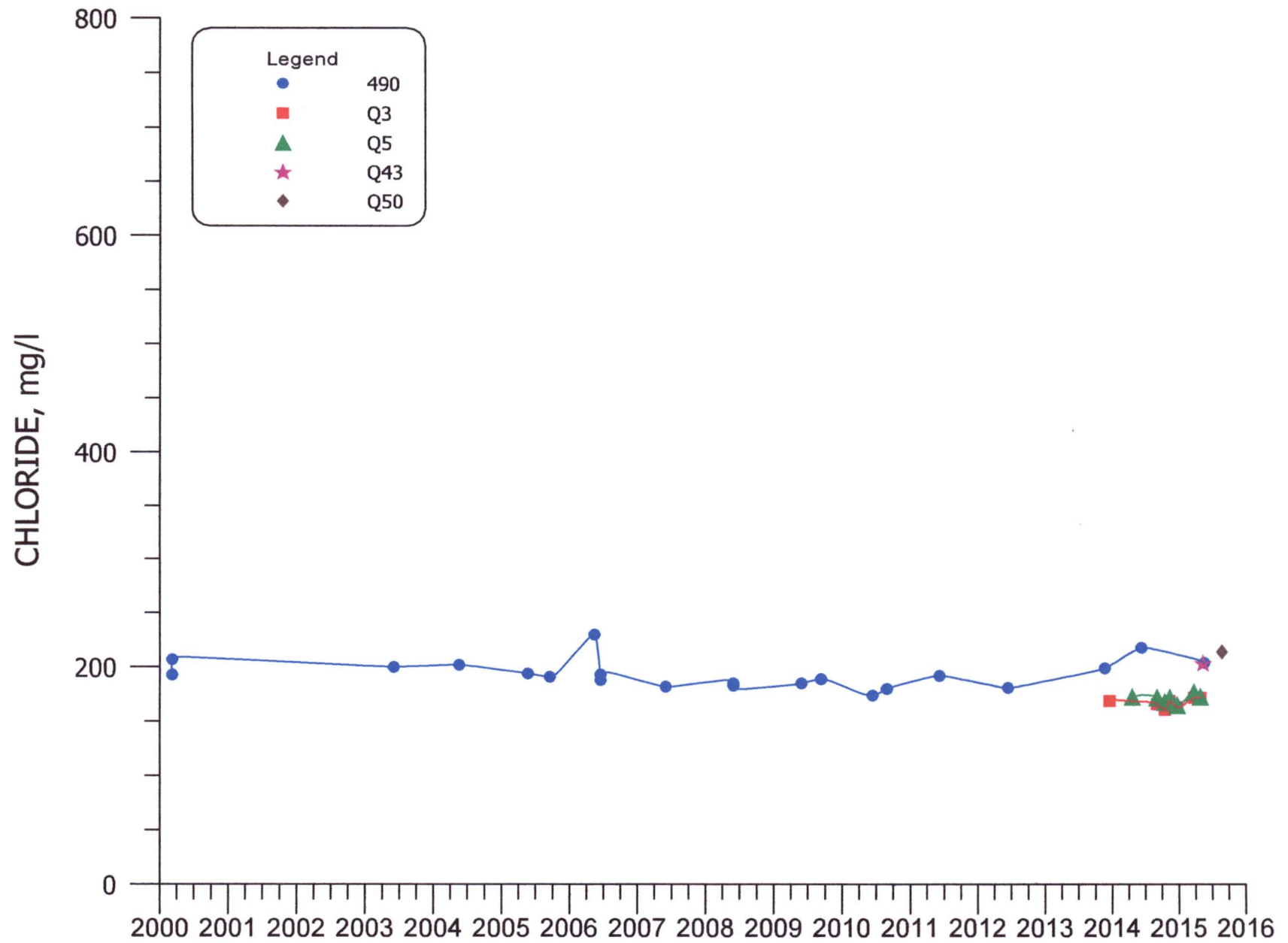


FIGURE 4.3-47. CHLORIDE CONCENTRATIONS FOR WELLS 490, Q3, Q5, Q43, AND Q50.

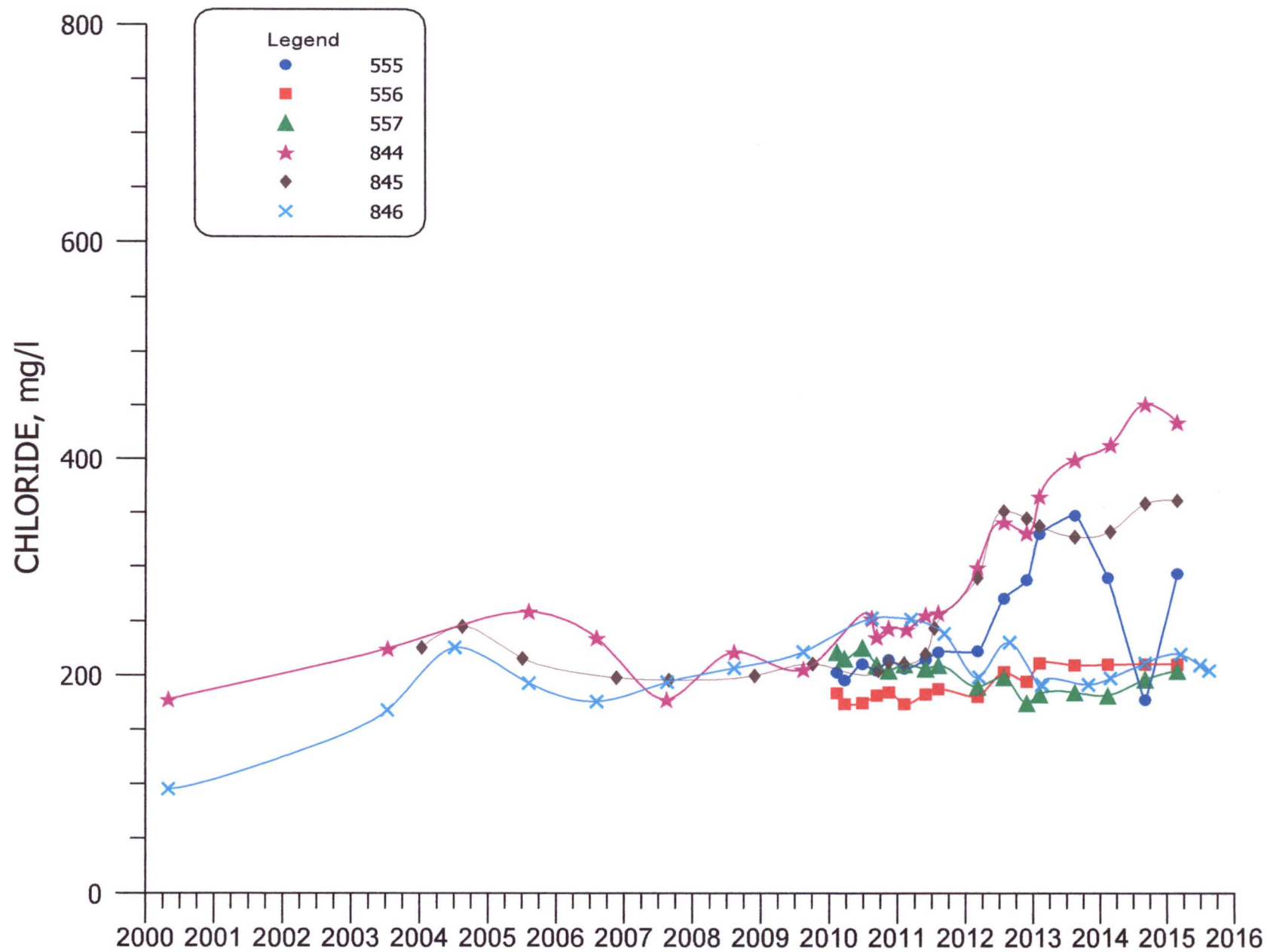


FIGURE 4.3-48. CHLORIDE CONCENTRATIONS FOR WELLS 555, 556, 557, 844, 845, AND 846.

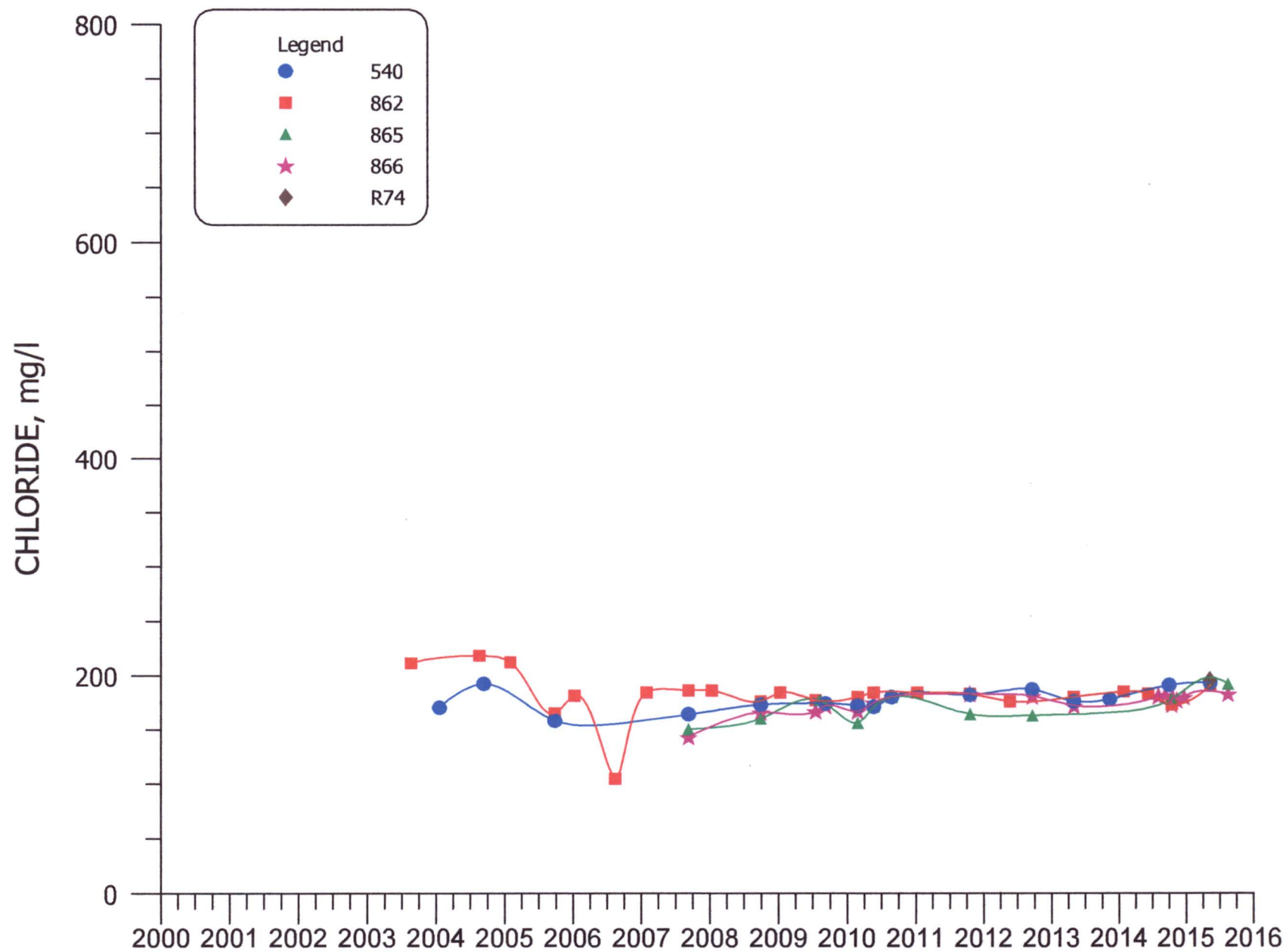


FIGURE 4.3-49. CHLORIDE CONCENTRATIONS FOR WELLS 540, 862, 865, 866, AND R74.

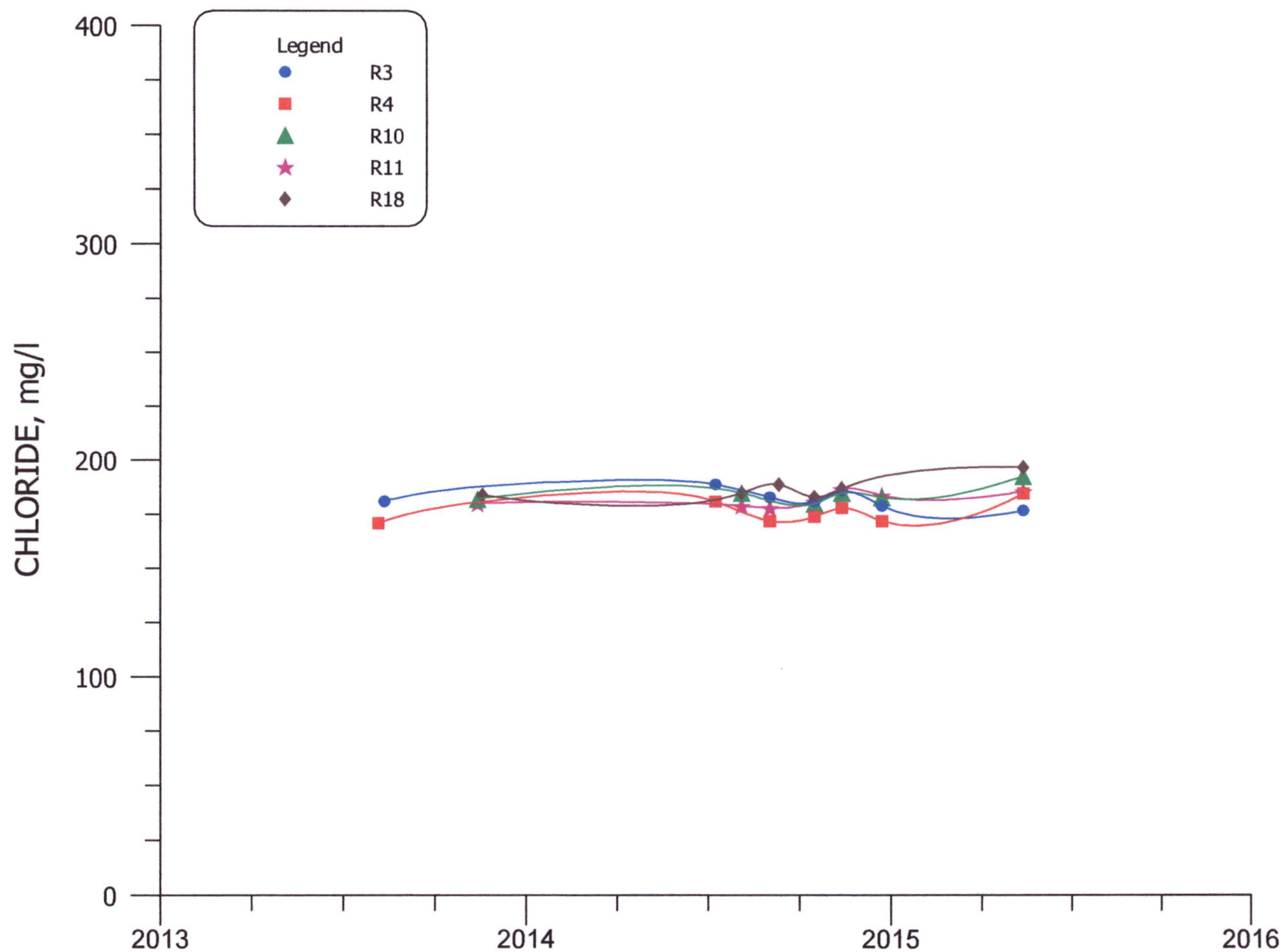


FIGURE 4.3-49A. CHLORIDE CONCENTRATIONS FOR WELLS R3, R4, R10, R11 AND R18.

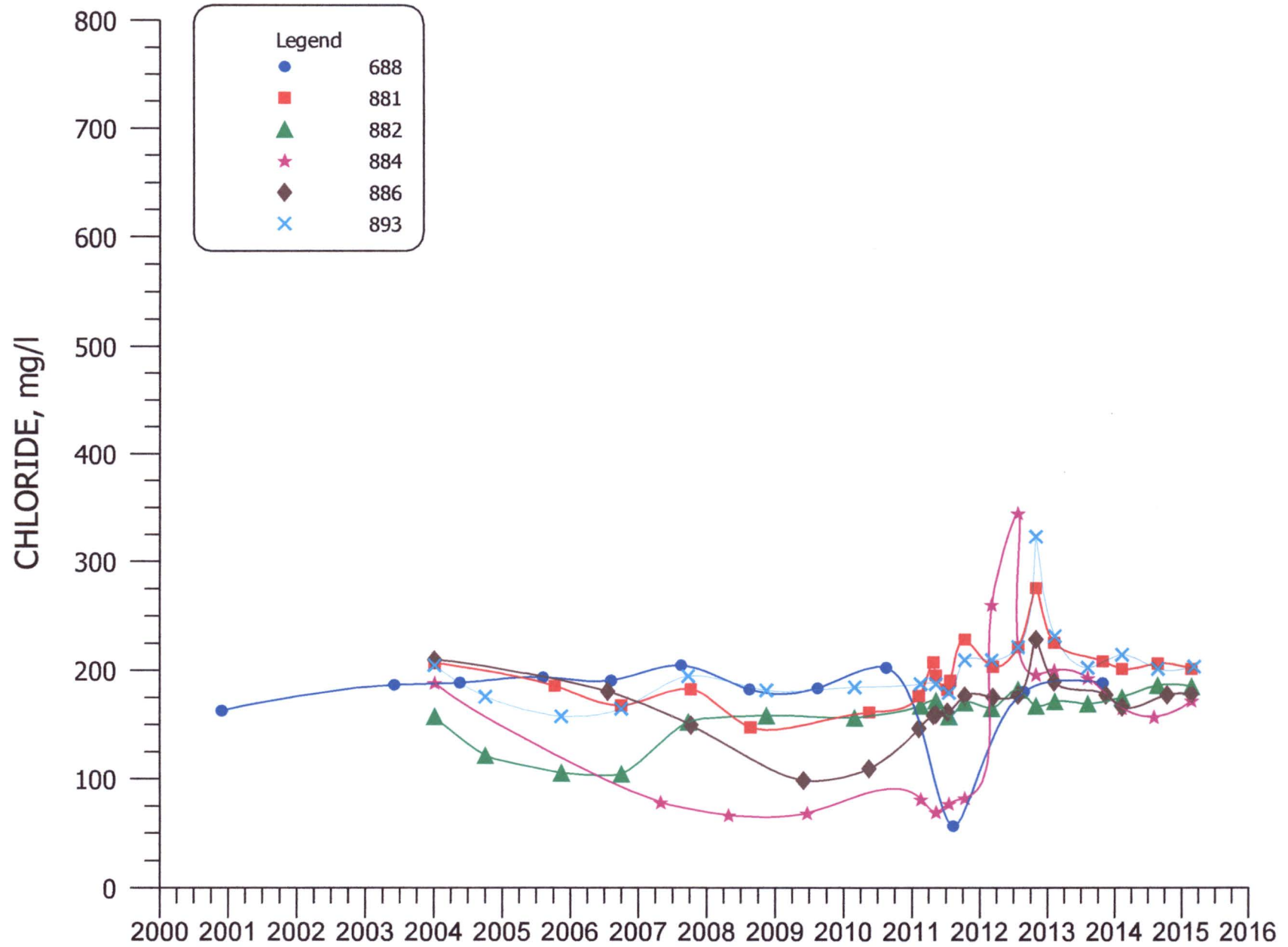


FIGURE 4.3-50. CHLORIDE CONCENTRATIONS FOR WELLS 688, 881, 882, 884, 886, AND 893.

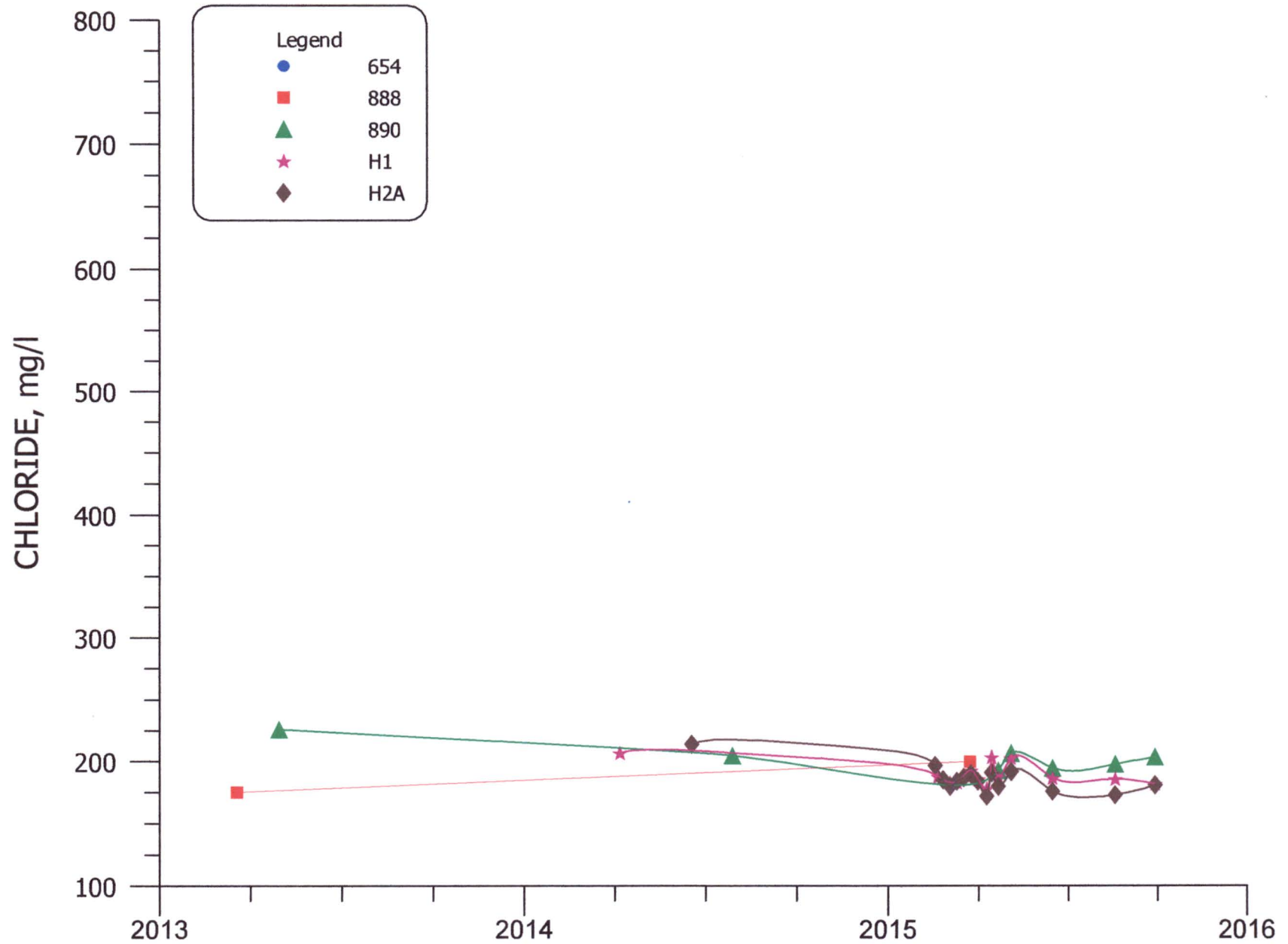


FIGURE 4.3-50A. CHLORIDE CONCENTRATIONS FOR WELLS 654, 888, 890, H1, AND H2A.

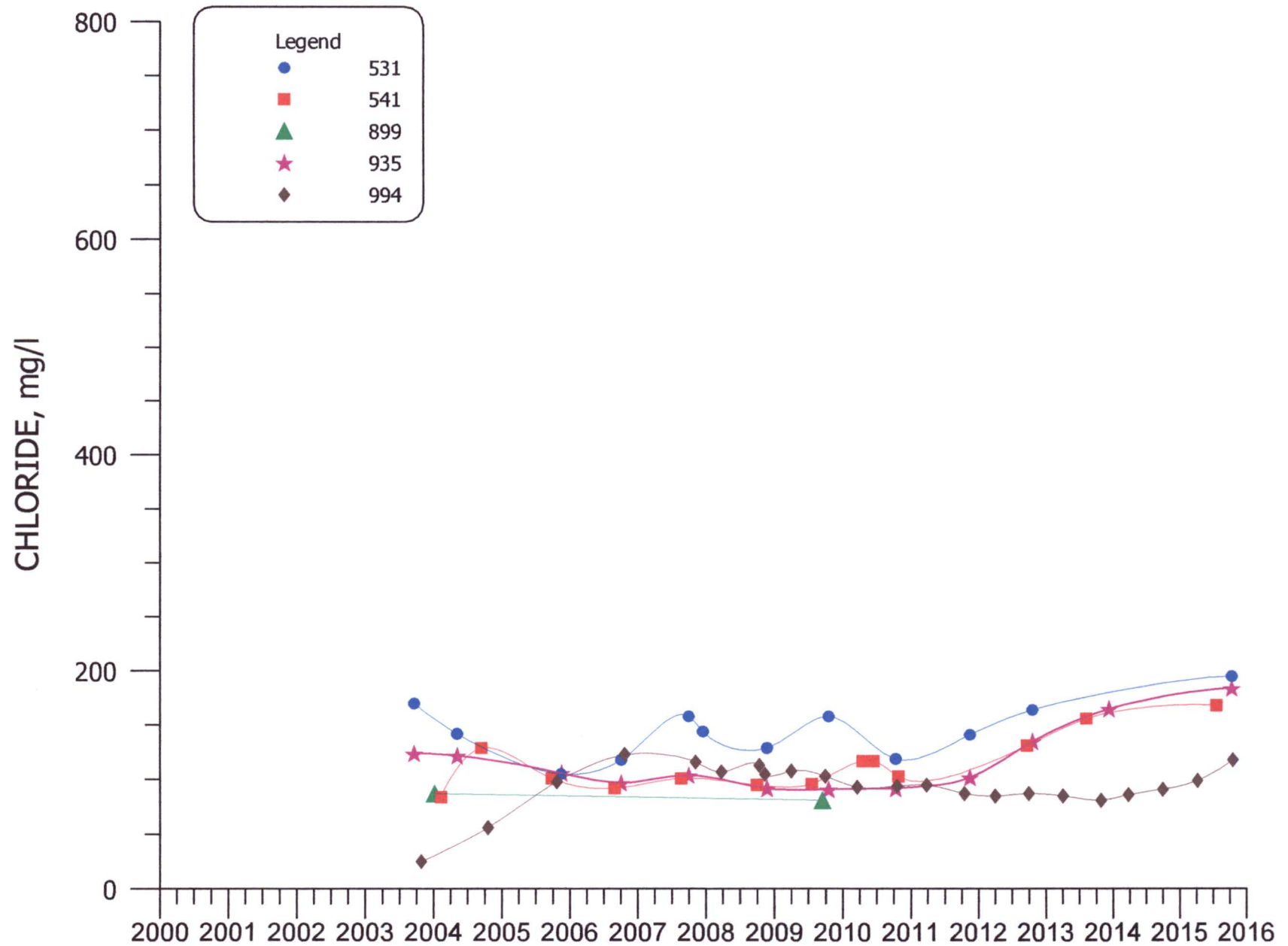


FIGURE 4.3-51. CHLORIDE CONCENTRATIONS FOR WELLS 531, 541, 899, 935, AND 994.

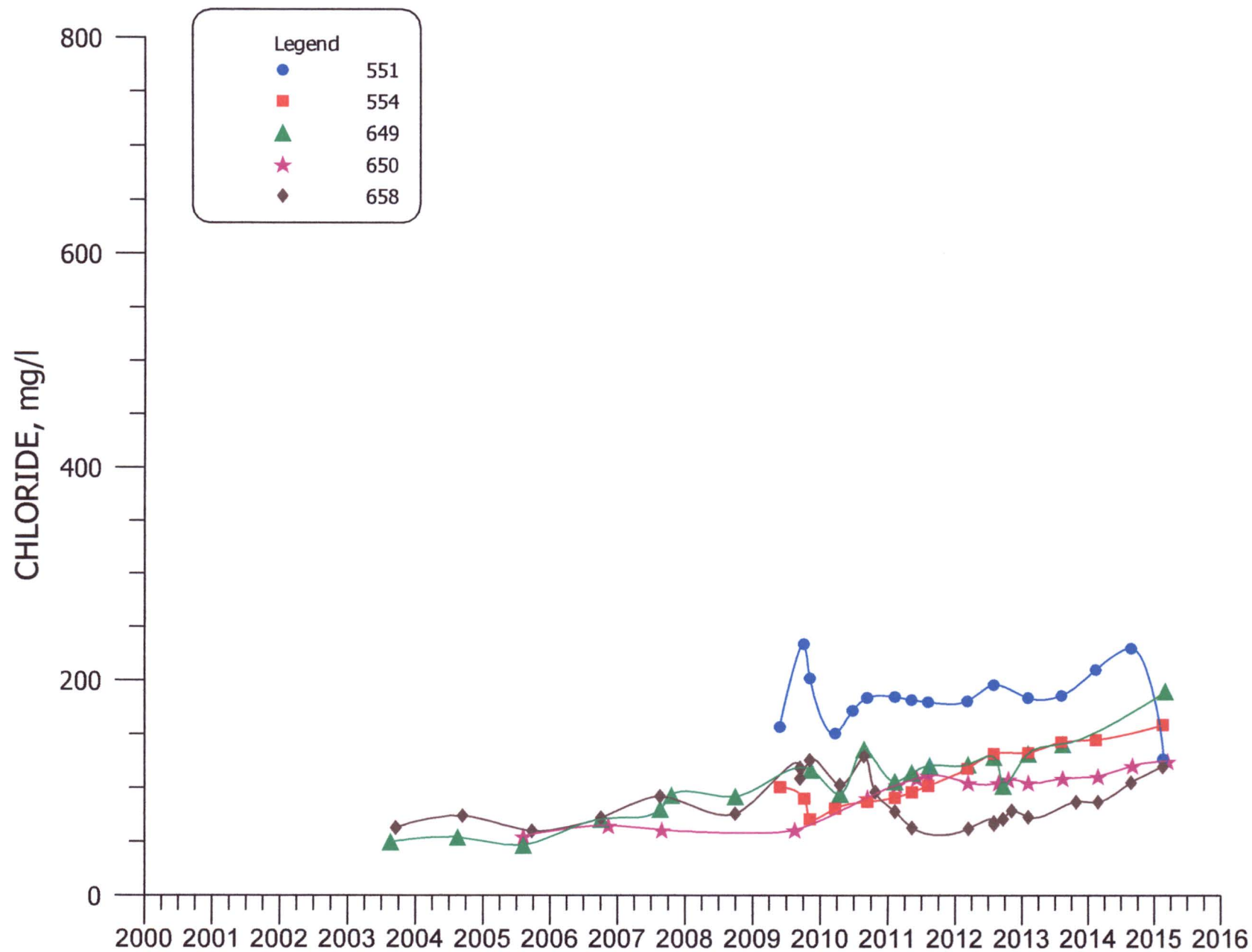
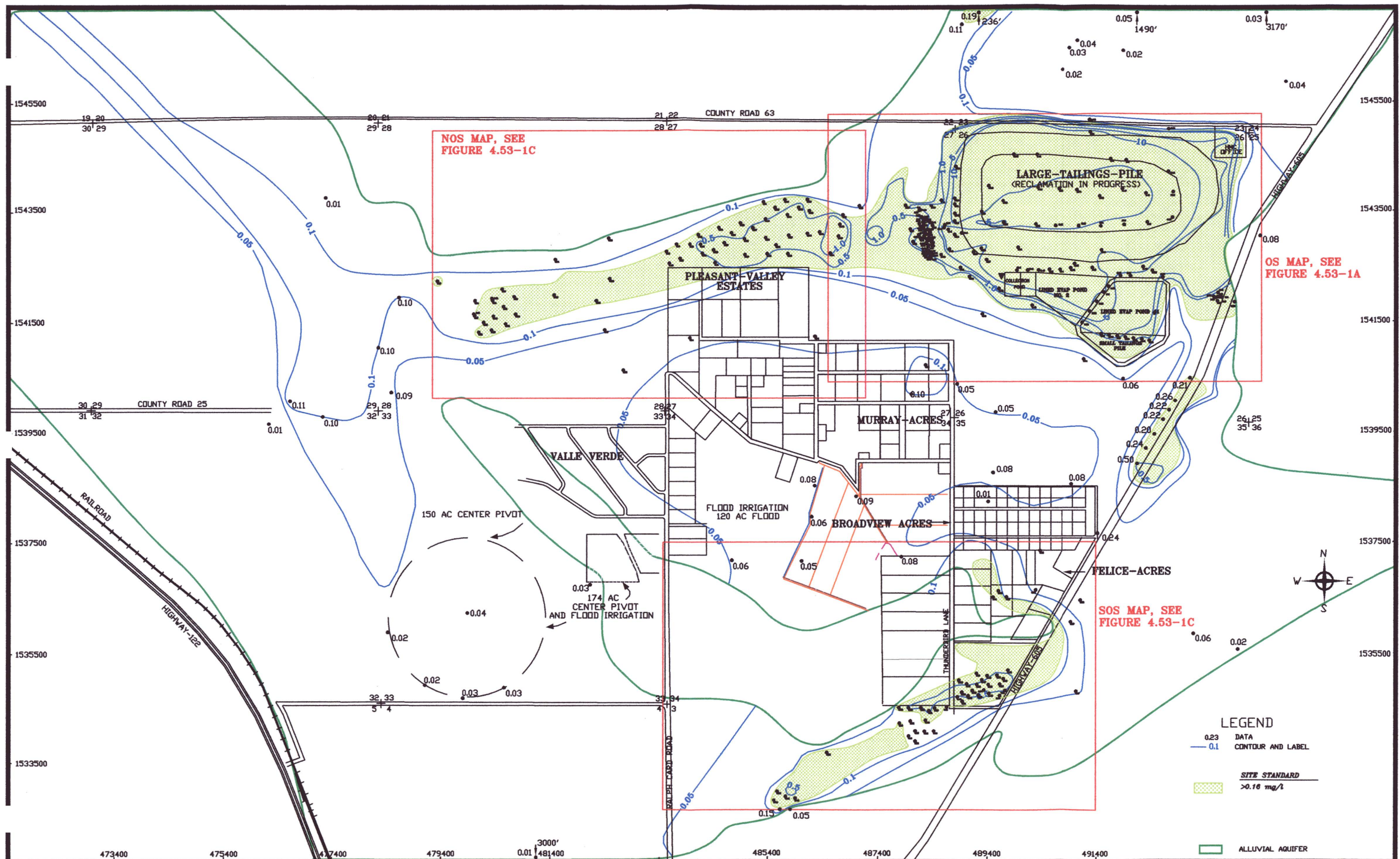
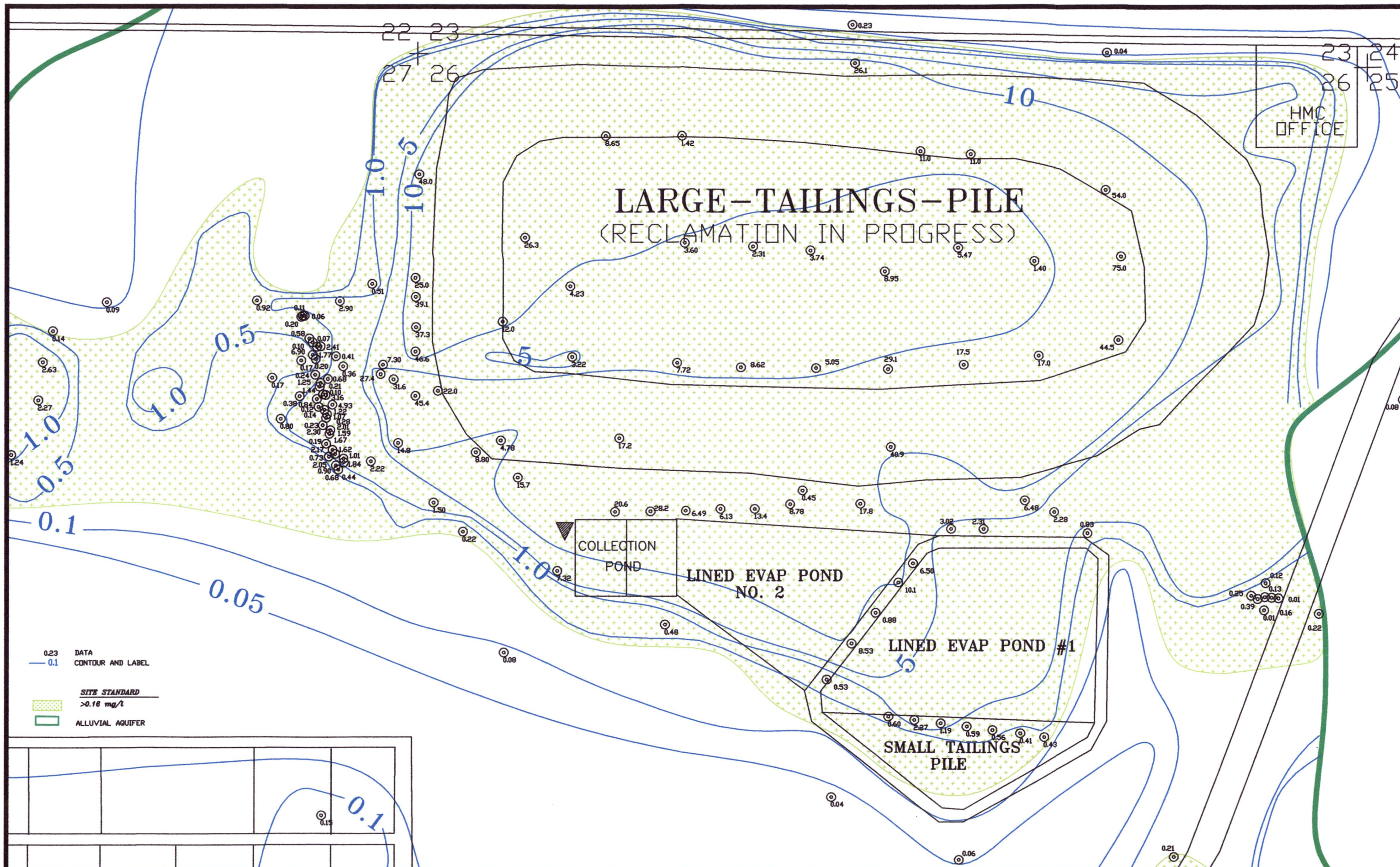


FIGURE 4.3-52. CHLORIDE CONCENTRATIONS FOR WELLS 551, 554, 649, 650, AND 658.



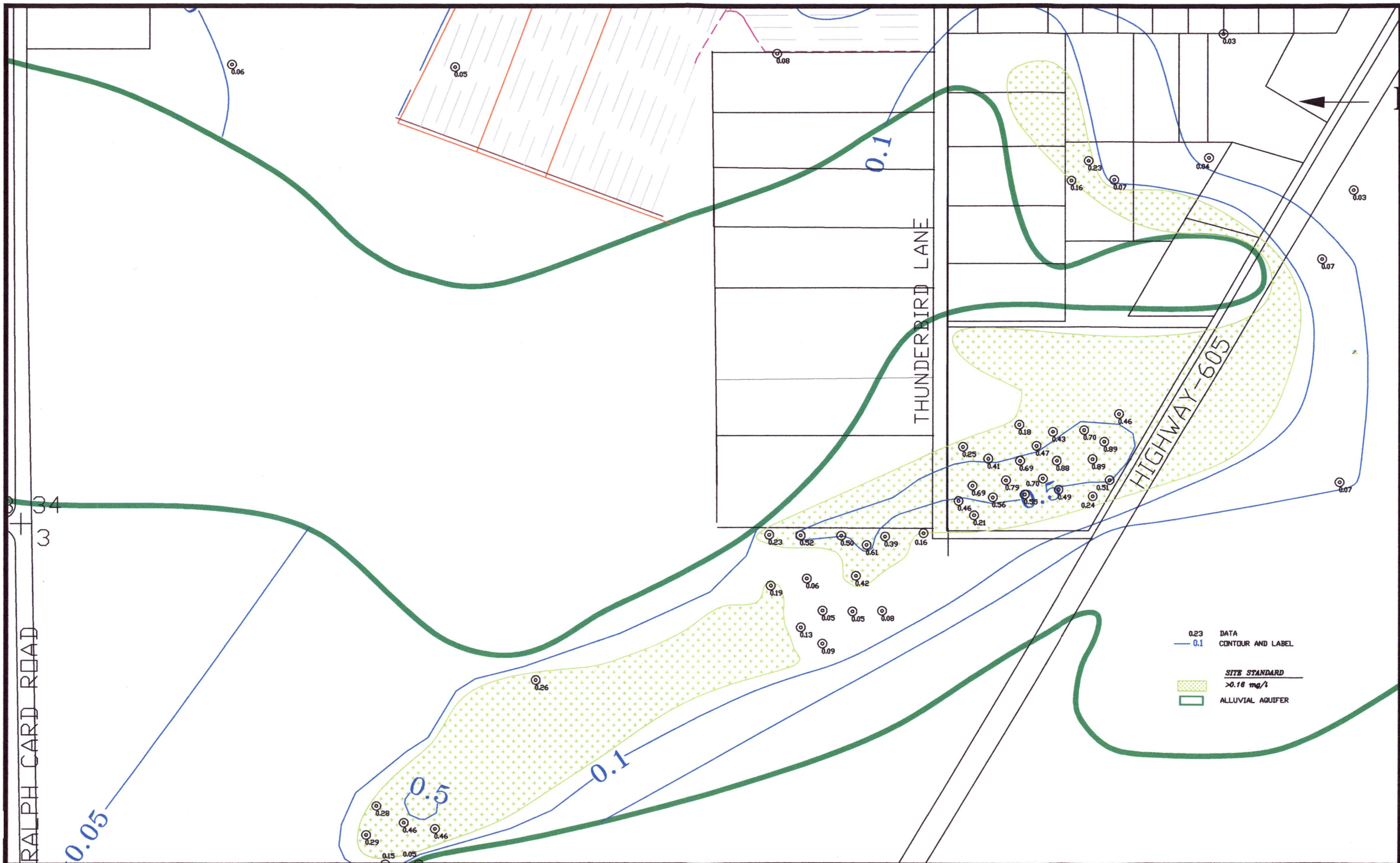
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FIGURE 4.3-53. URANIUM CONCENTRATIONS
 OF THE ALLUVIAL AQUIFER, 2015, mg/l



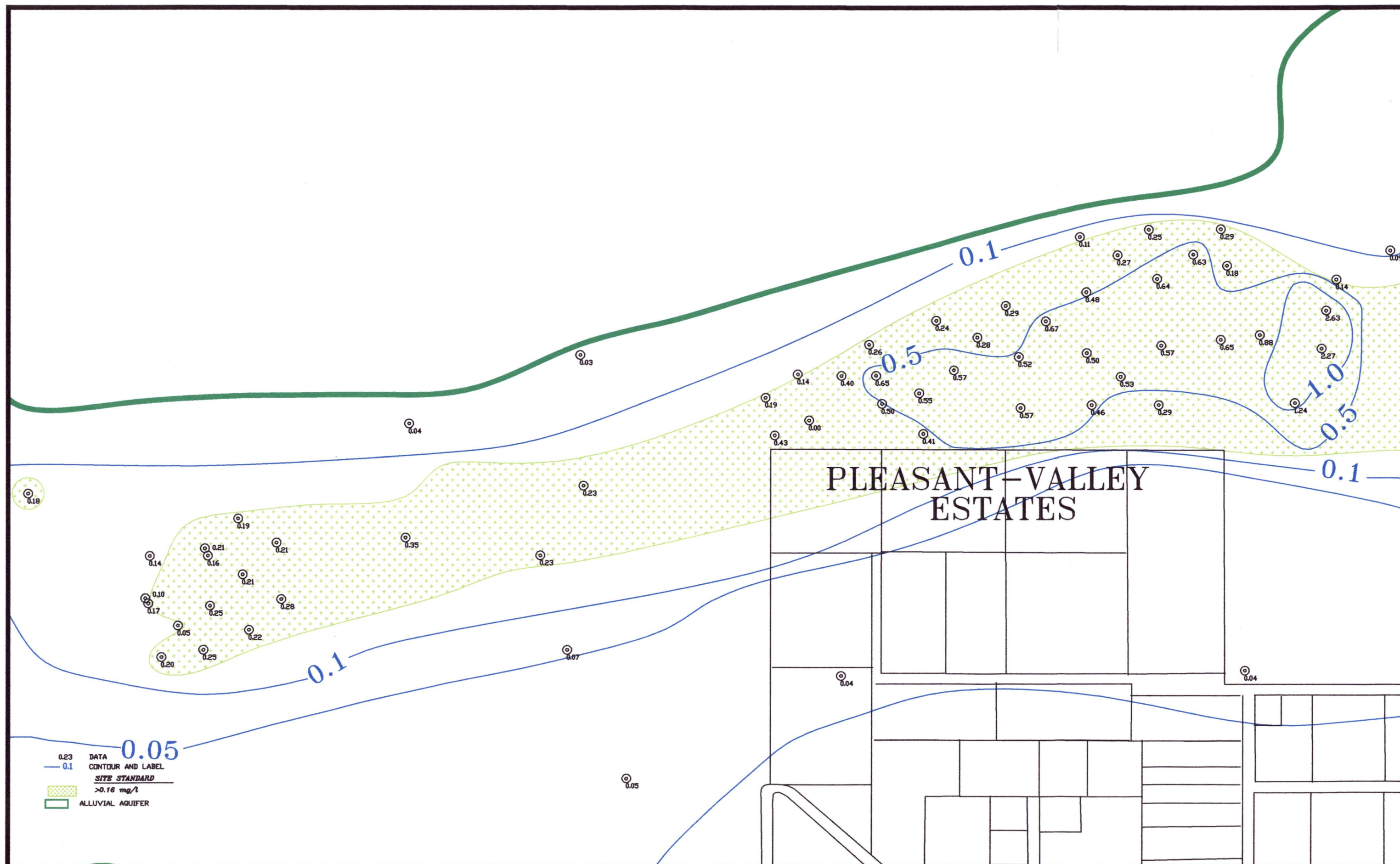
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FIGURE 4.3-53A. URANIUM CONCENTRATIONS
 OF THE ALLUVIAL AQUIFER, OS, 2015, mg/l



SCALE: 1"=500'
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FIGURE 4.3-53B. URANIUM CONCENTRATIONS
 OF THE ALLUVIAL AQUIFER, SOS, 2015, mg/l
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SCALE: 1"=500'
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FIGURE 4.3-53C. URANIUM CONCENTRATIONS
OF THE ALLUVIAL AQUIFER, NOS, 2015, mg/l

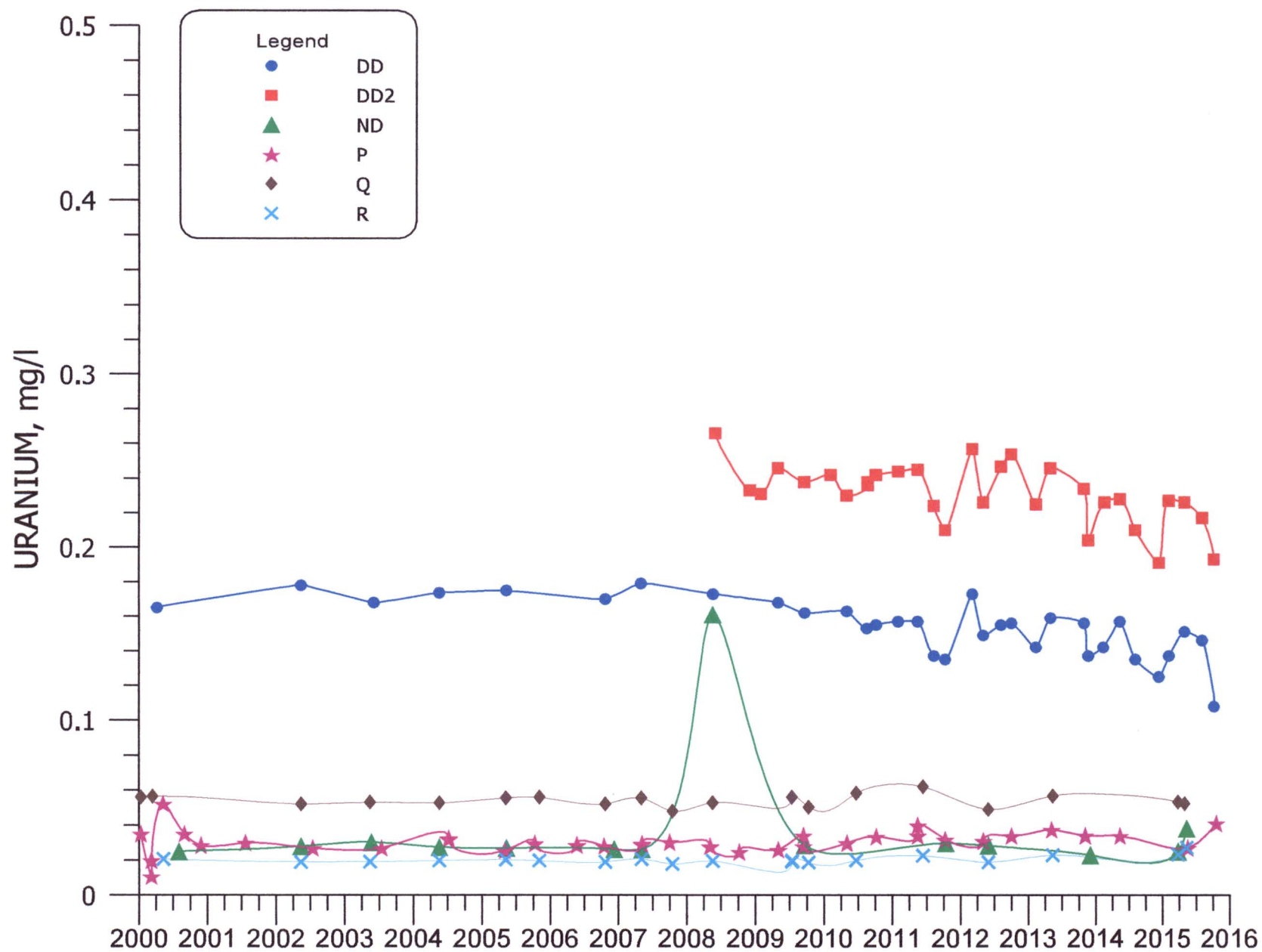


FIGURE 4.3-54. URANIUM CONCENTRATIONS FOR WELLS DD, DD2, ND, P, Q, AND R.

4.3-95

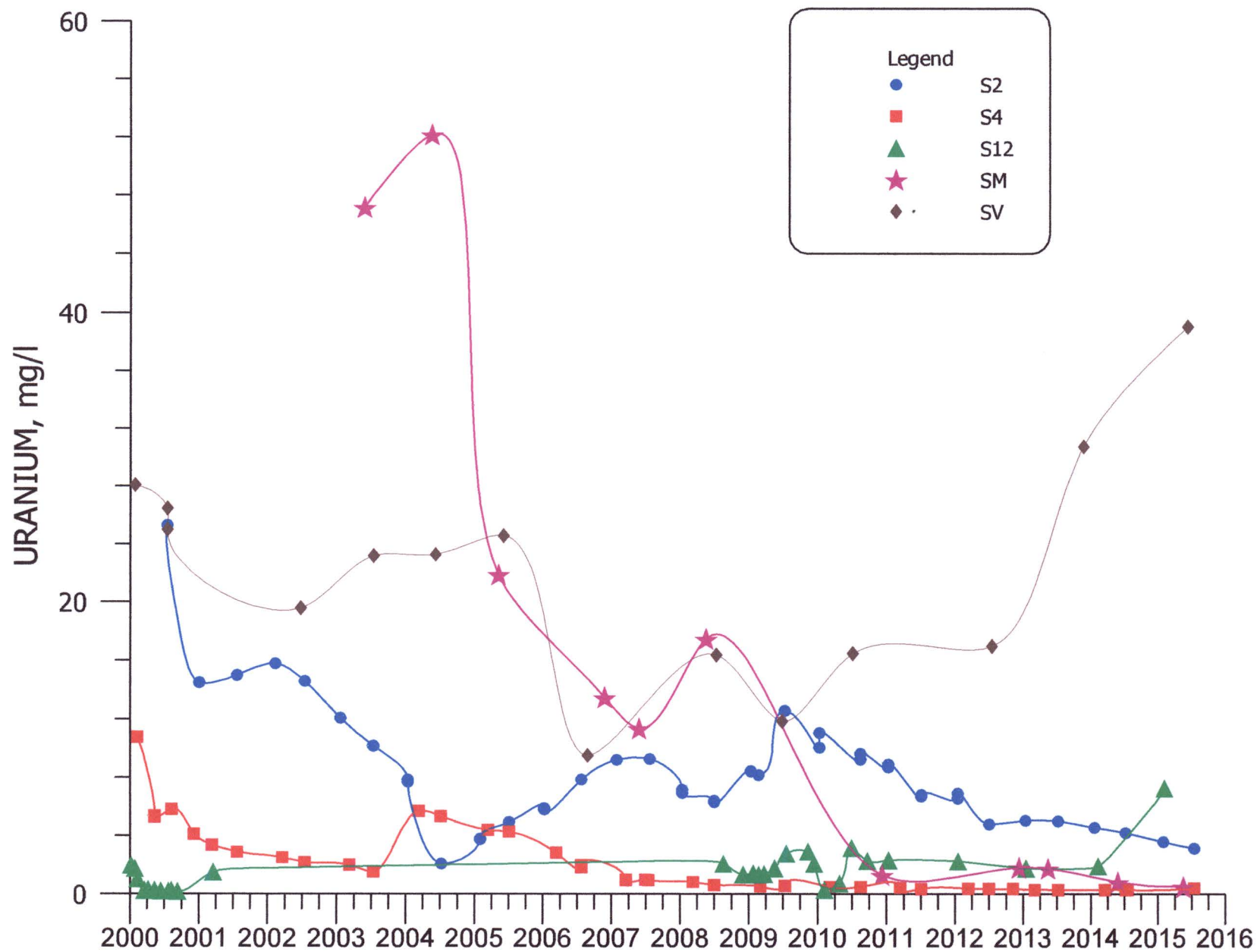


FIGURE 4.3-55. URANIUM CONCENTRATIONS FOR WELLS S2, S4, S12, SM, AND SV.

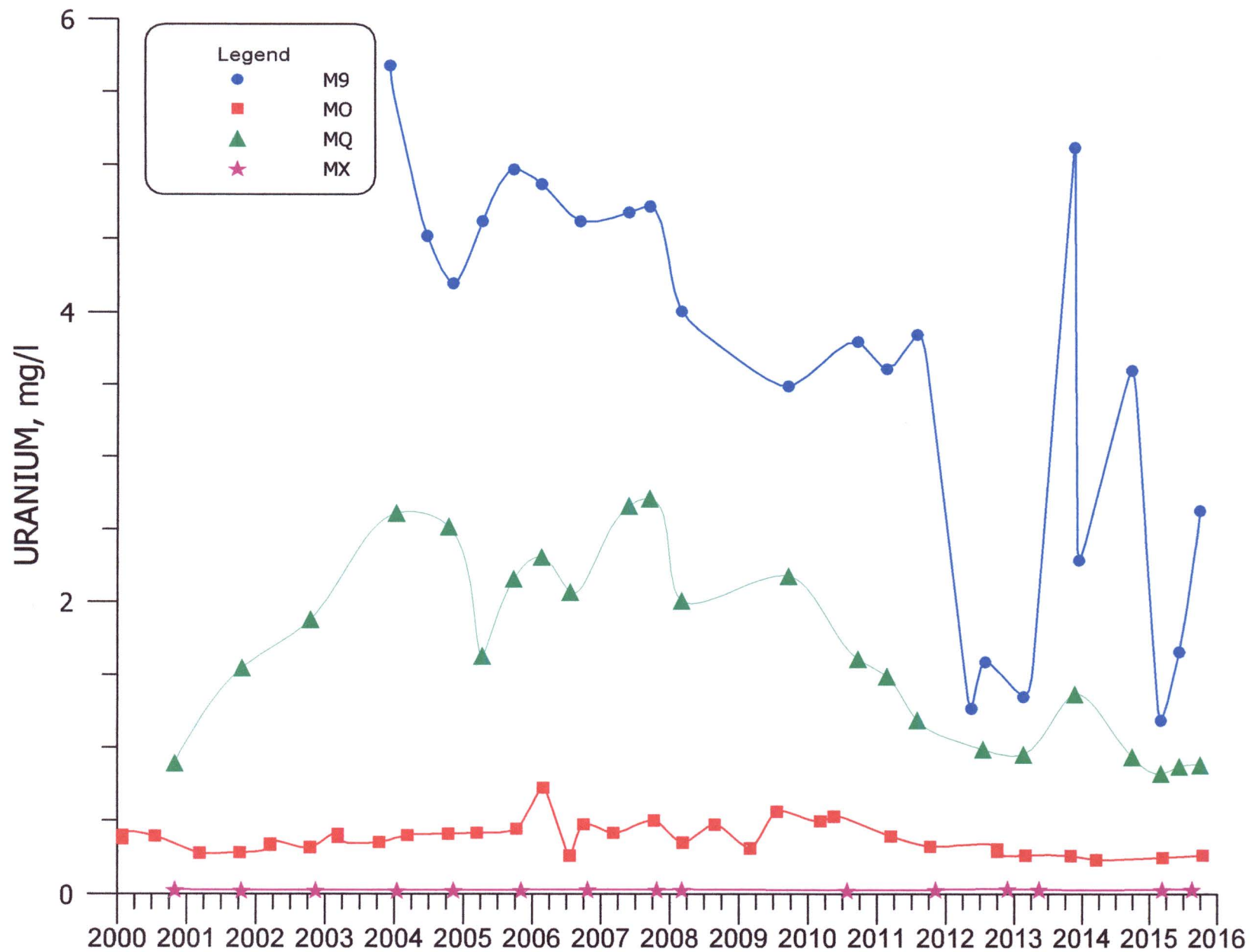


FIGURE 4.3-56. URANIUM CONCENTRATIONS FOR WELLS M9, MO, MQ, AND MX.

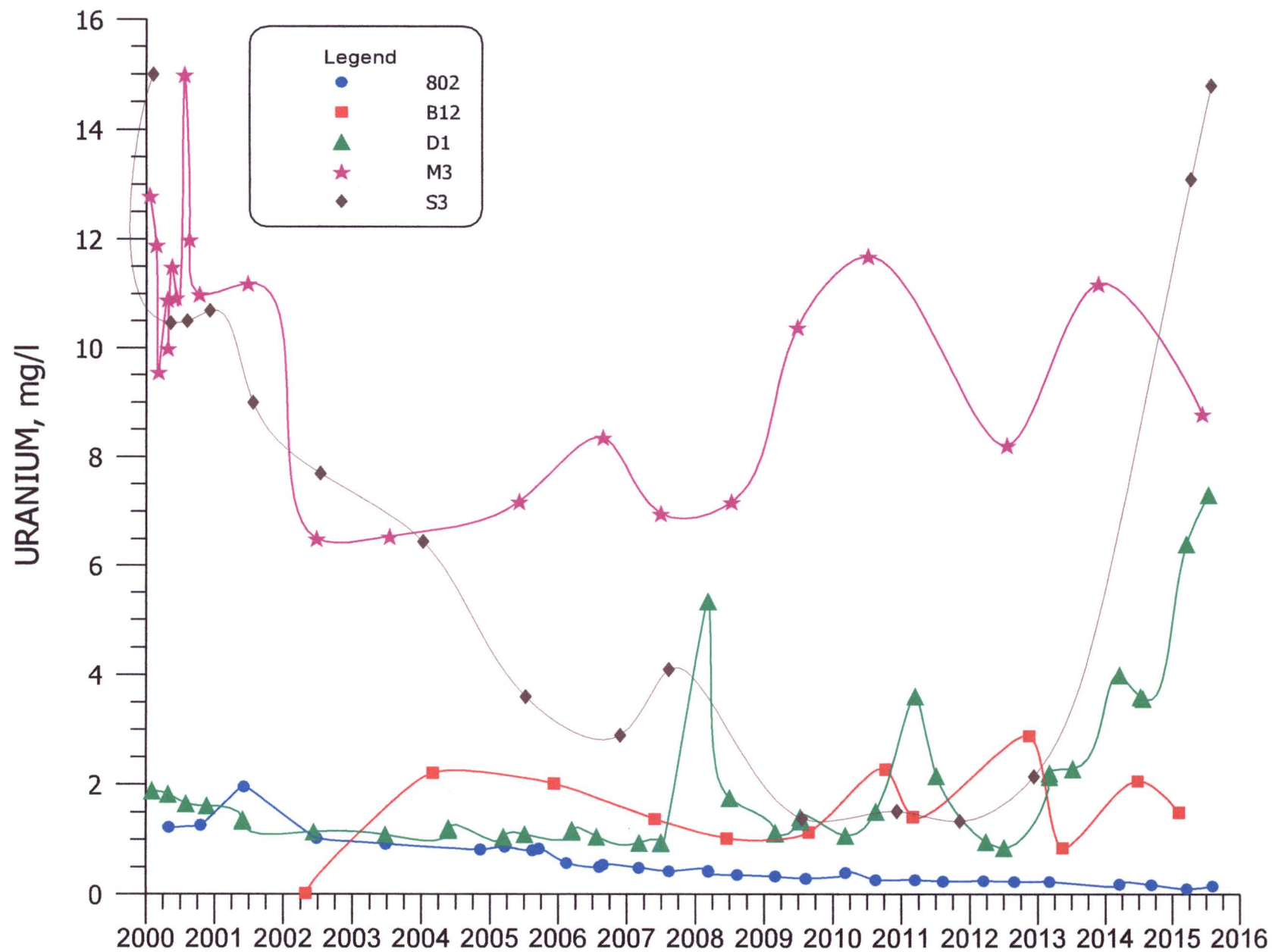


FIGURE 4.3-57. URANIUM CONCENTRATIONS FOR WELLS 802, B12, D1, M3, AND S3.

4.3-98

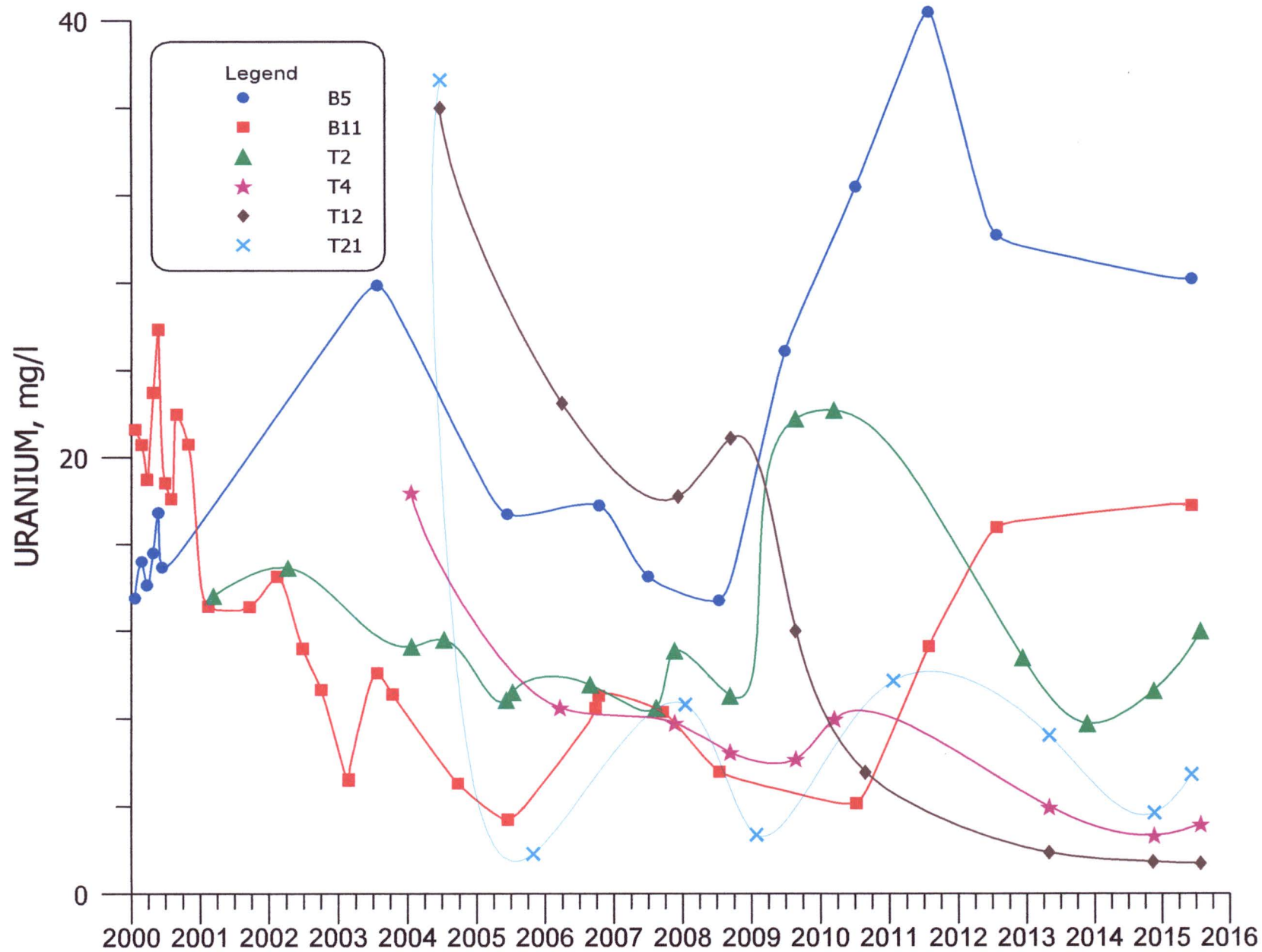


FIGURE 4.3-58. URANIUM CONCENTRATIONS FOR WELLS B5, B11, T2, T4, T12, AND T21 .

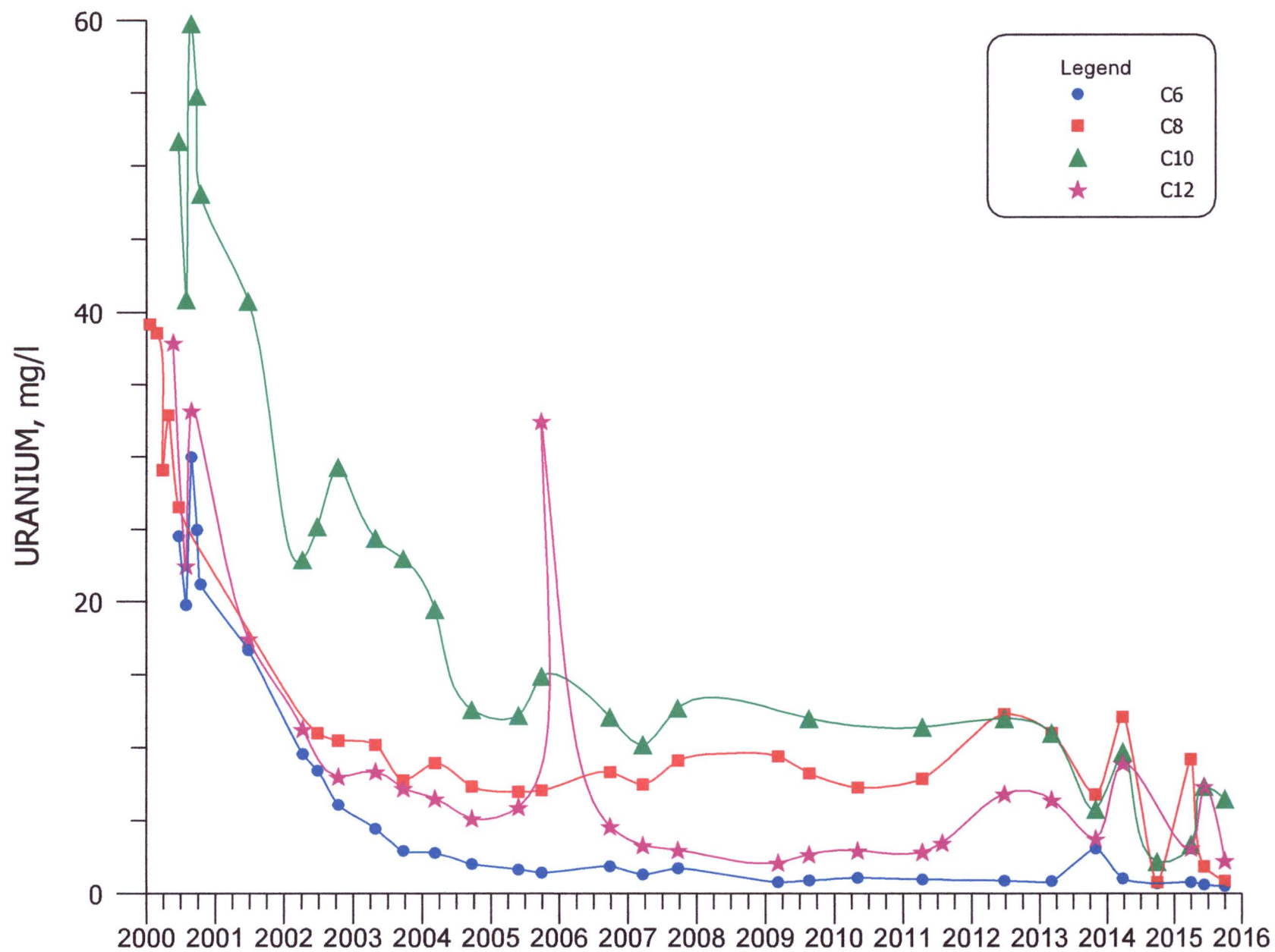


FIGURE 4.3-59. URANIUM CONCENTRATIONS FOR WELLS C6, C8, C10, AND C12.

4.3-100

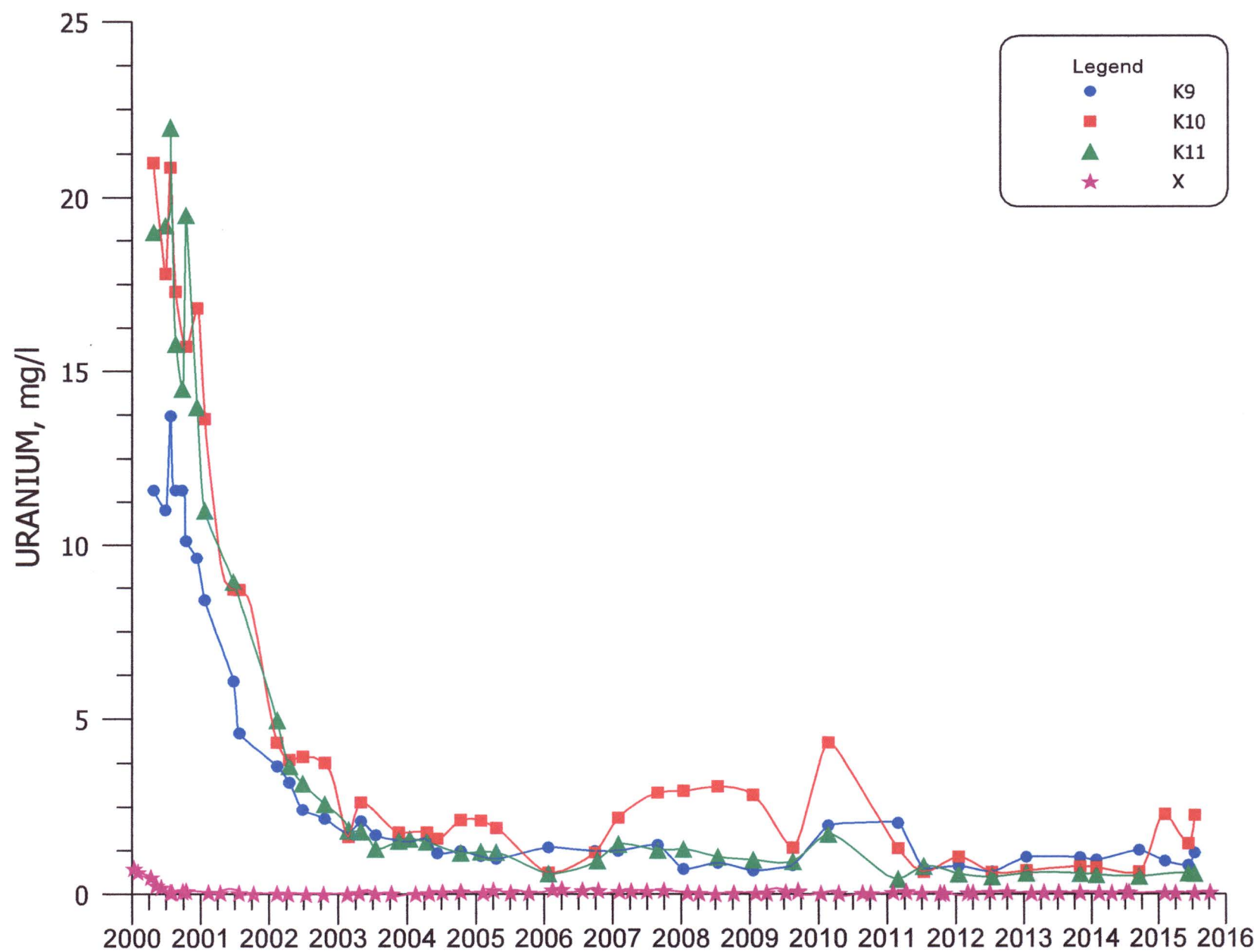


FIGURE 4.3-60. URANIUM CONCENTRATIONS FOR WELLS K9, K10, K11, AND X.

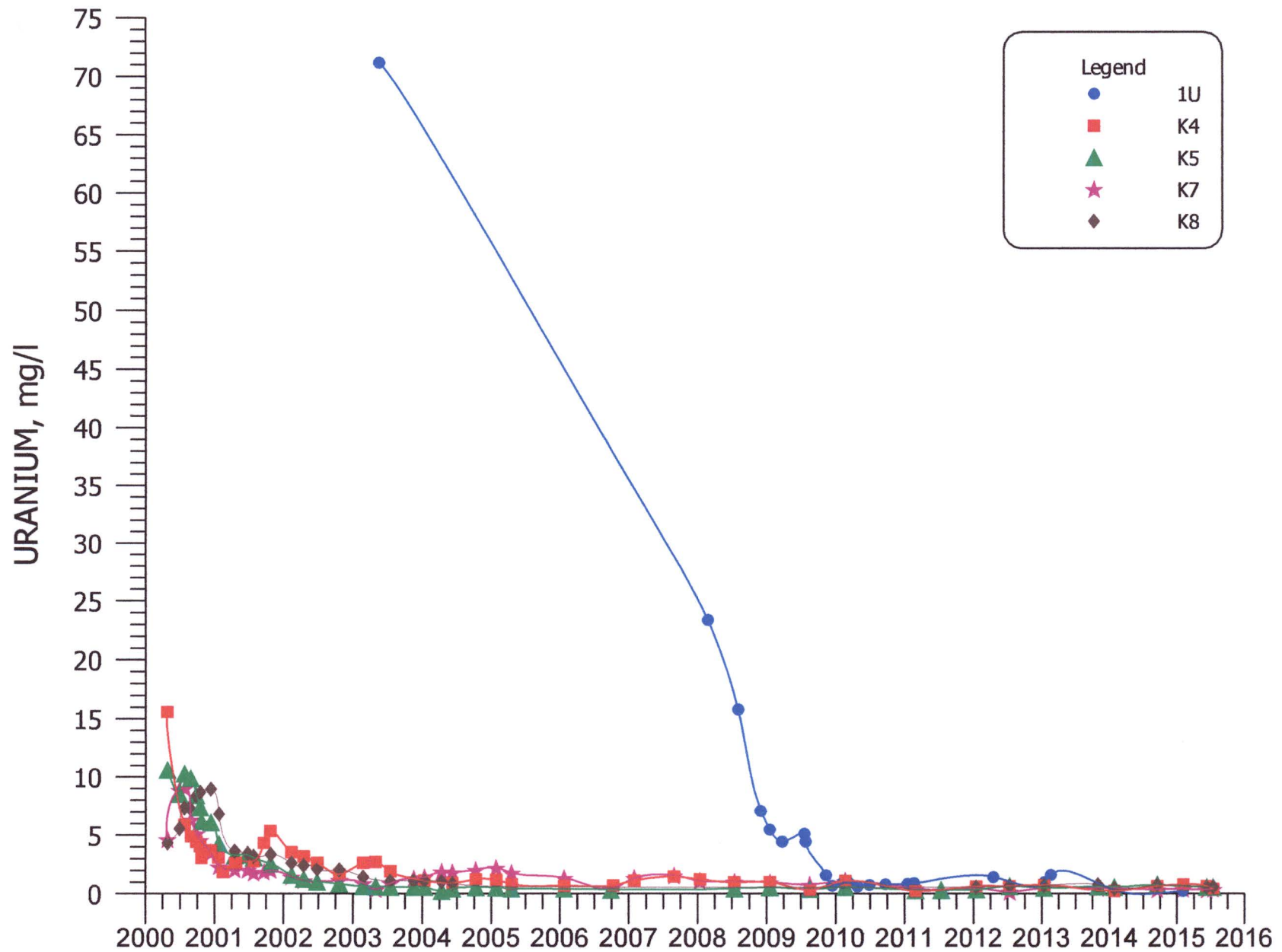


FIGURE 4.3-61. URANIUM CONCENTRATIONS FOR WELLS 1U, K4, K5, K7 AND K8.

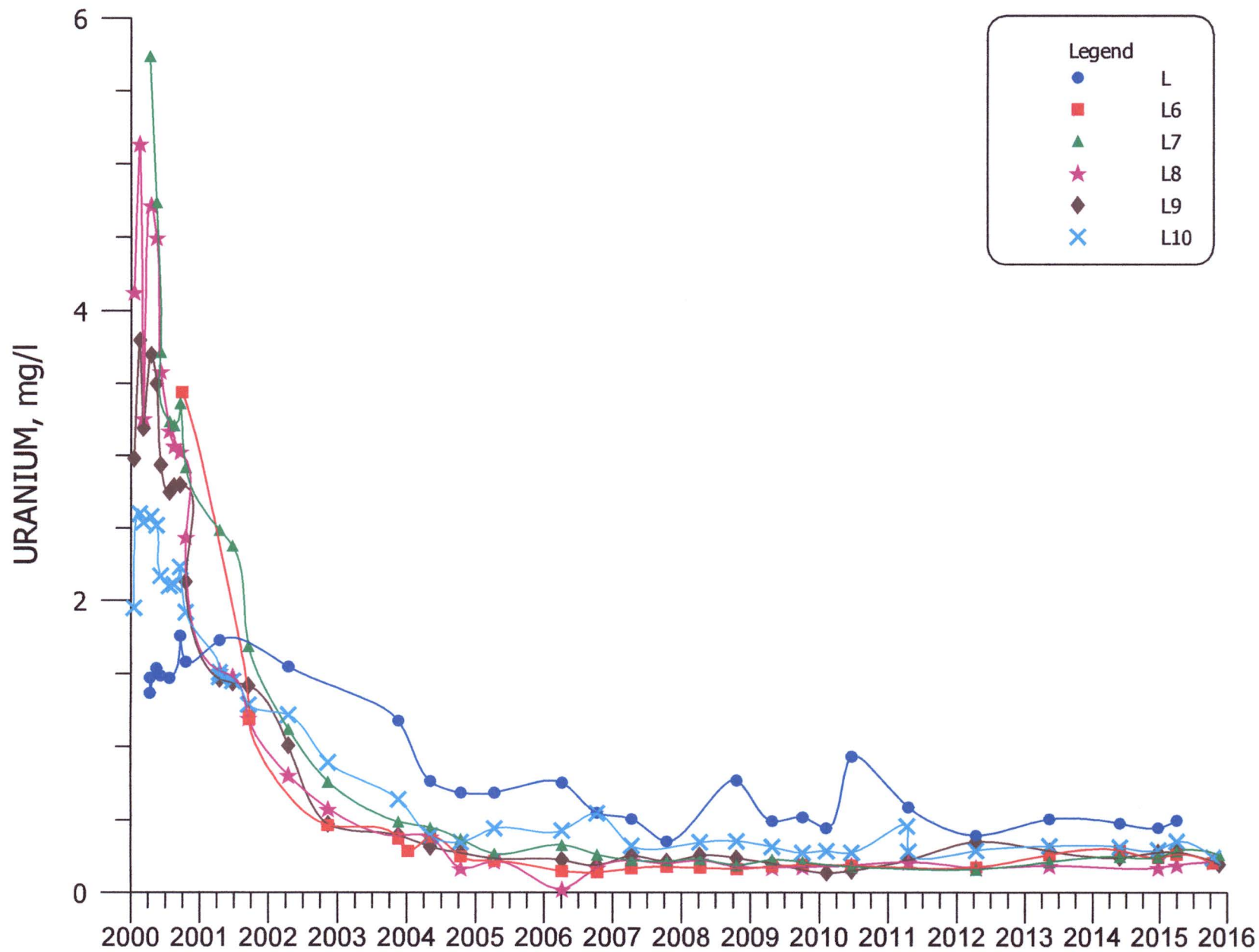


FIGURE 4.3-62. URANIUM CONCENTRATIONS FOR WELLS L, L6, L7, L8, L9, AND L10.

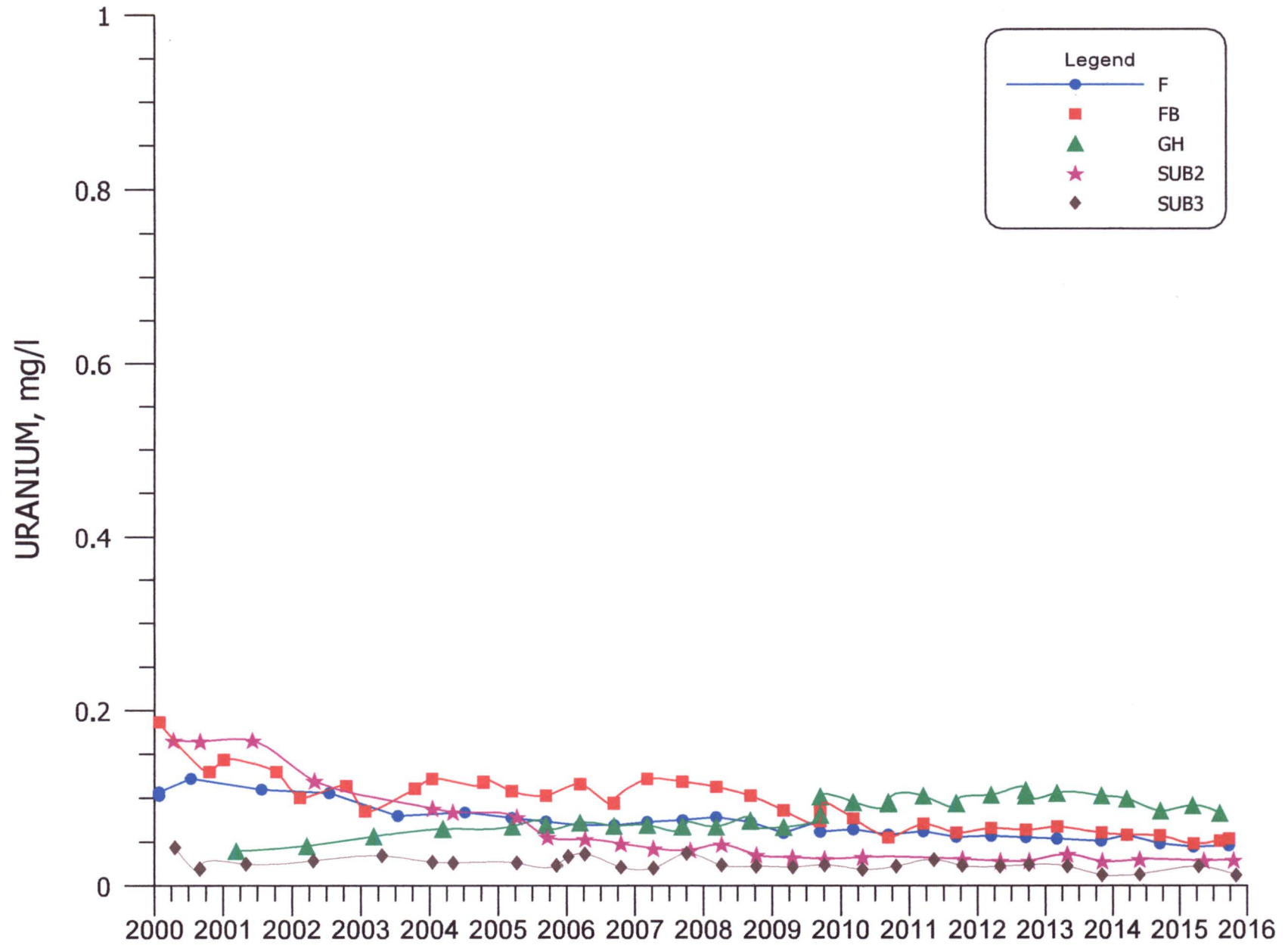


FIGURE 4.3-63. URANIUM CONCENTRATIONS FOR WELLS F, FB, GH, SUB2, AND SUB3.

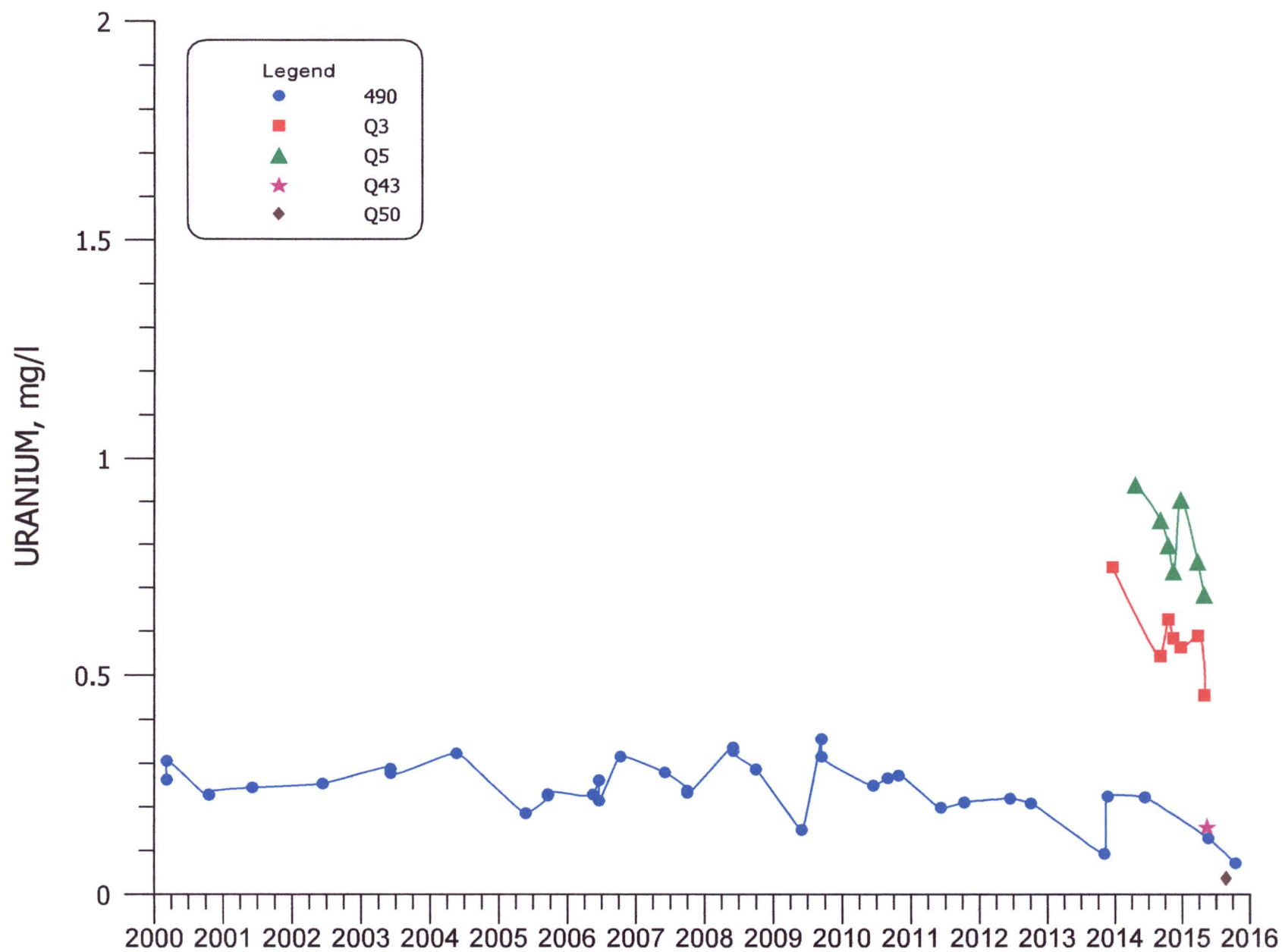


FIGURE 4.3-64. URANIUM CONCENTRATIONS FOR WELLS 490, Q3, Q5, Q43, AND Q50.

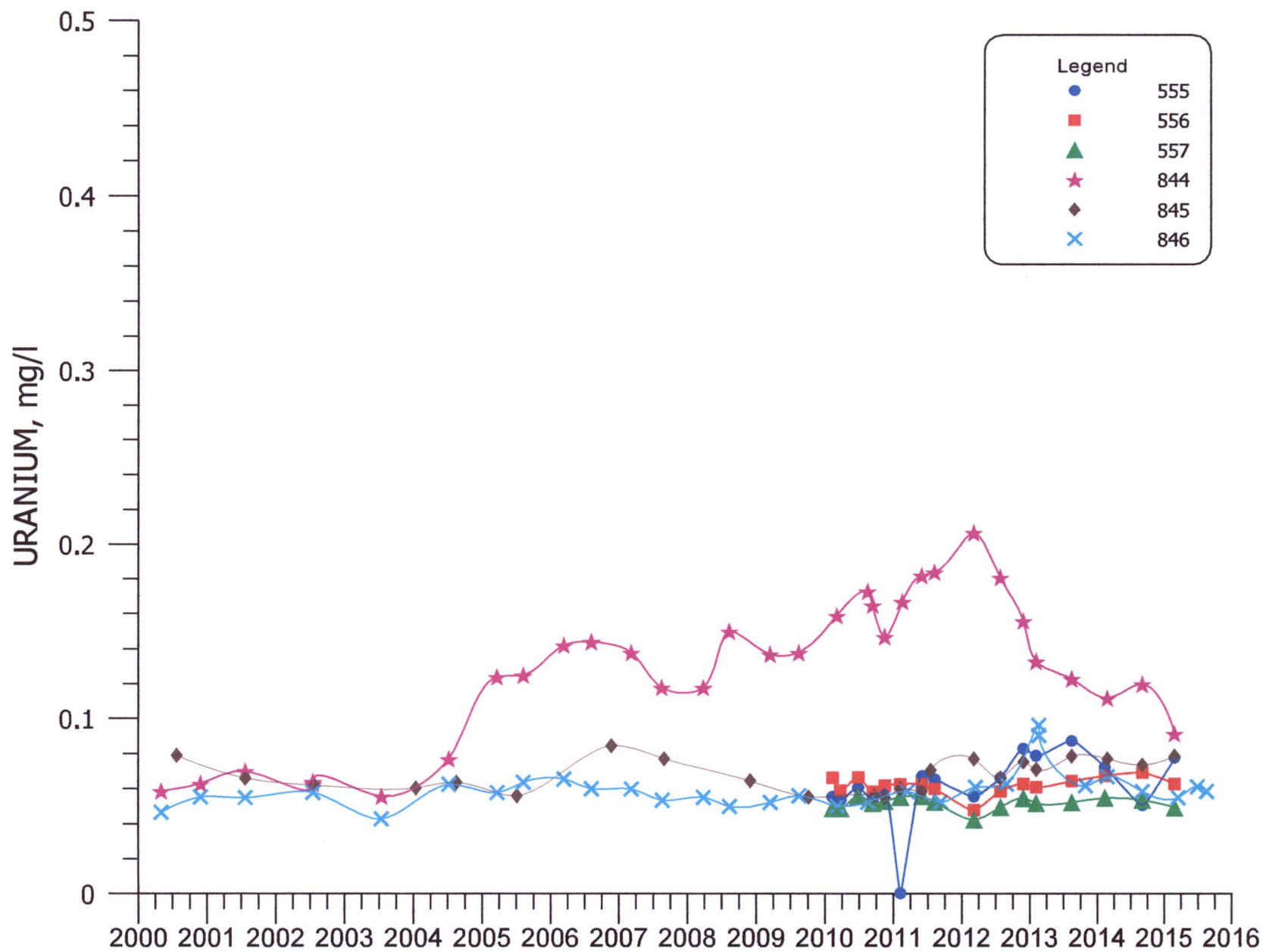


FIGURE 4.3-65. URANIUM CONCENTRATIONS FOR WELLS 555, 556, 557, 844, 845, AND 846.

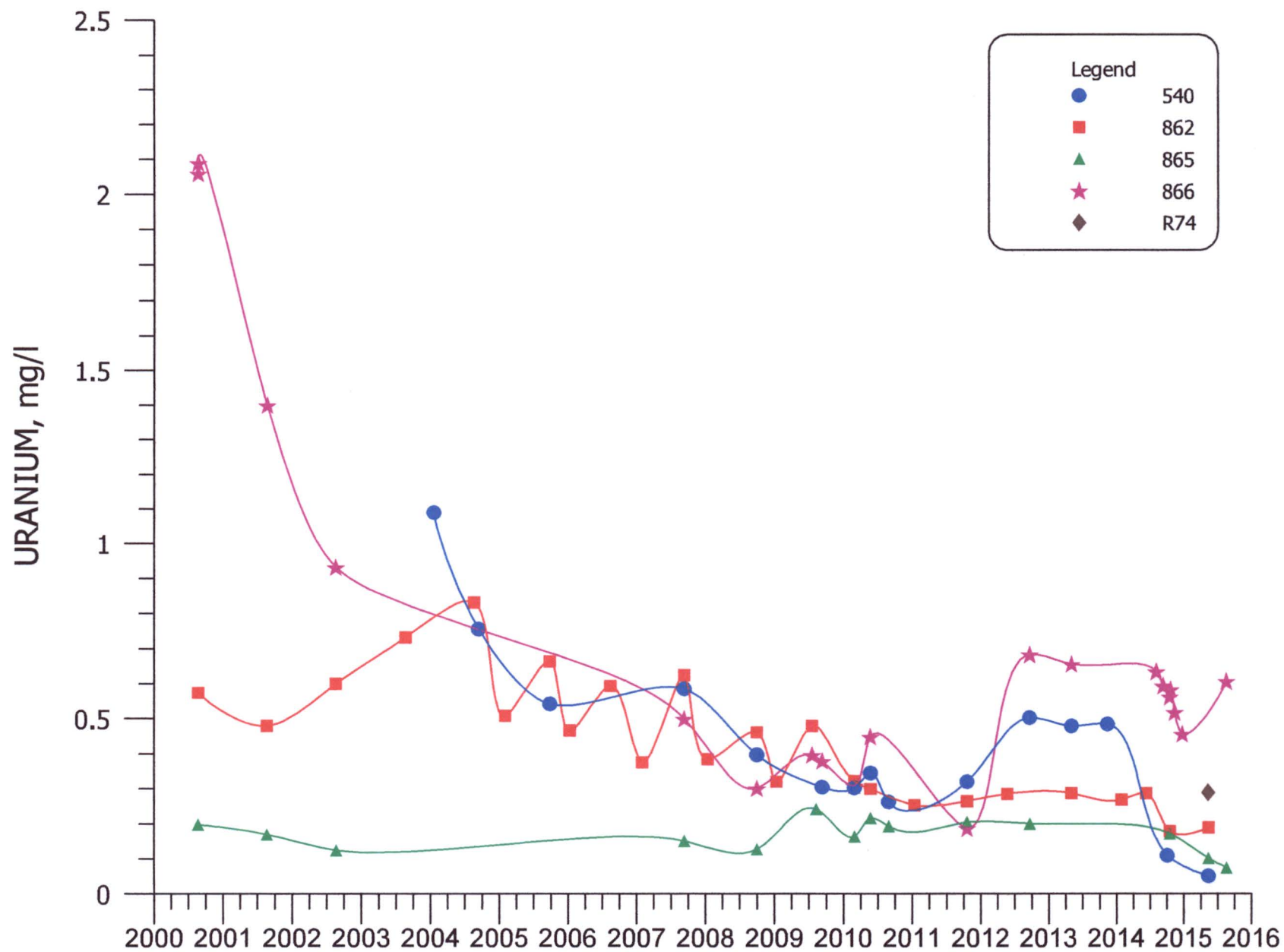


FIGURE 4.3-66. URANIUM CONCENTRATIONS FOR WELLS 540, 862, 865, 866, AND R74.

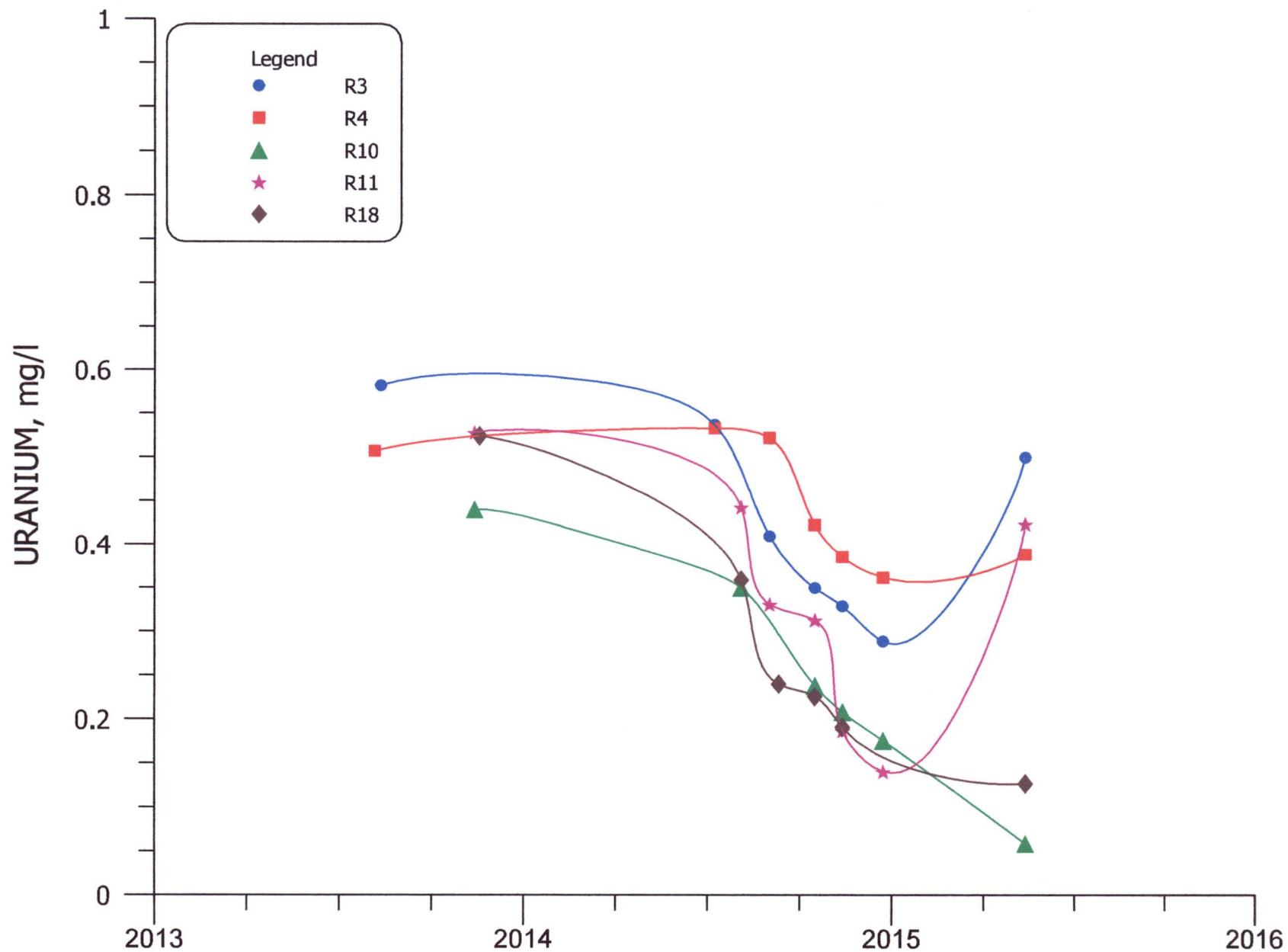


FIGURE 4.3-66A. URANIUM CONCENTRATIONS FOR WELLS R3, R4, R10, R11 AND R18.

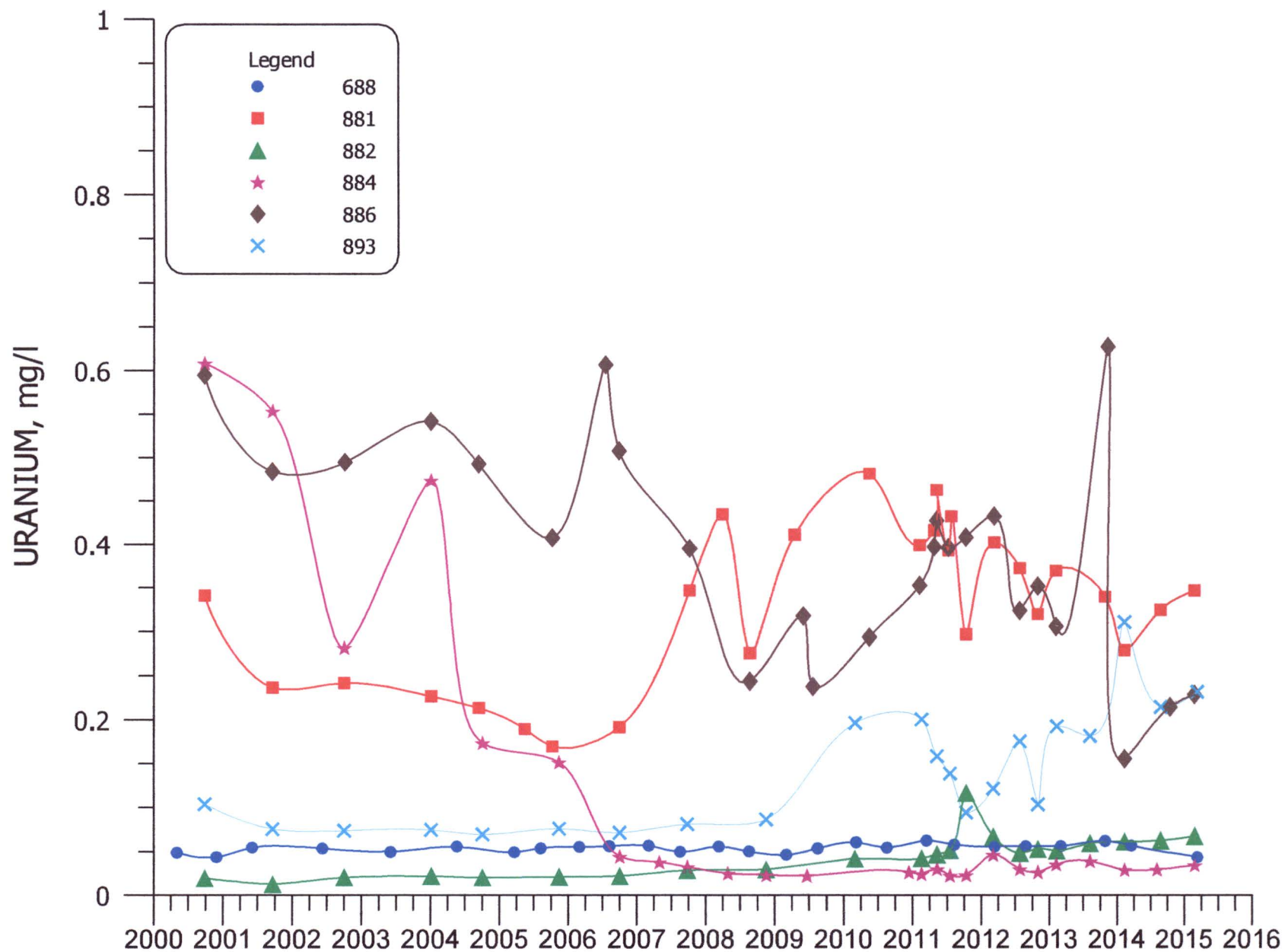


FIGURE 4.3-67. URANIUM CONCENTRATIONS FOR WELLS 688, 881, 882, 884, 886, AND 893.

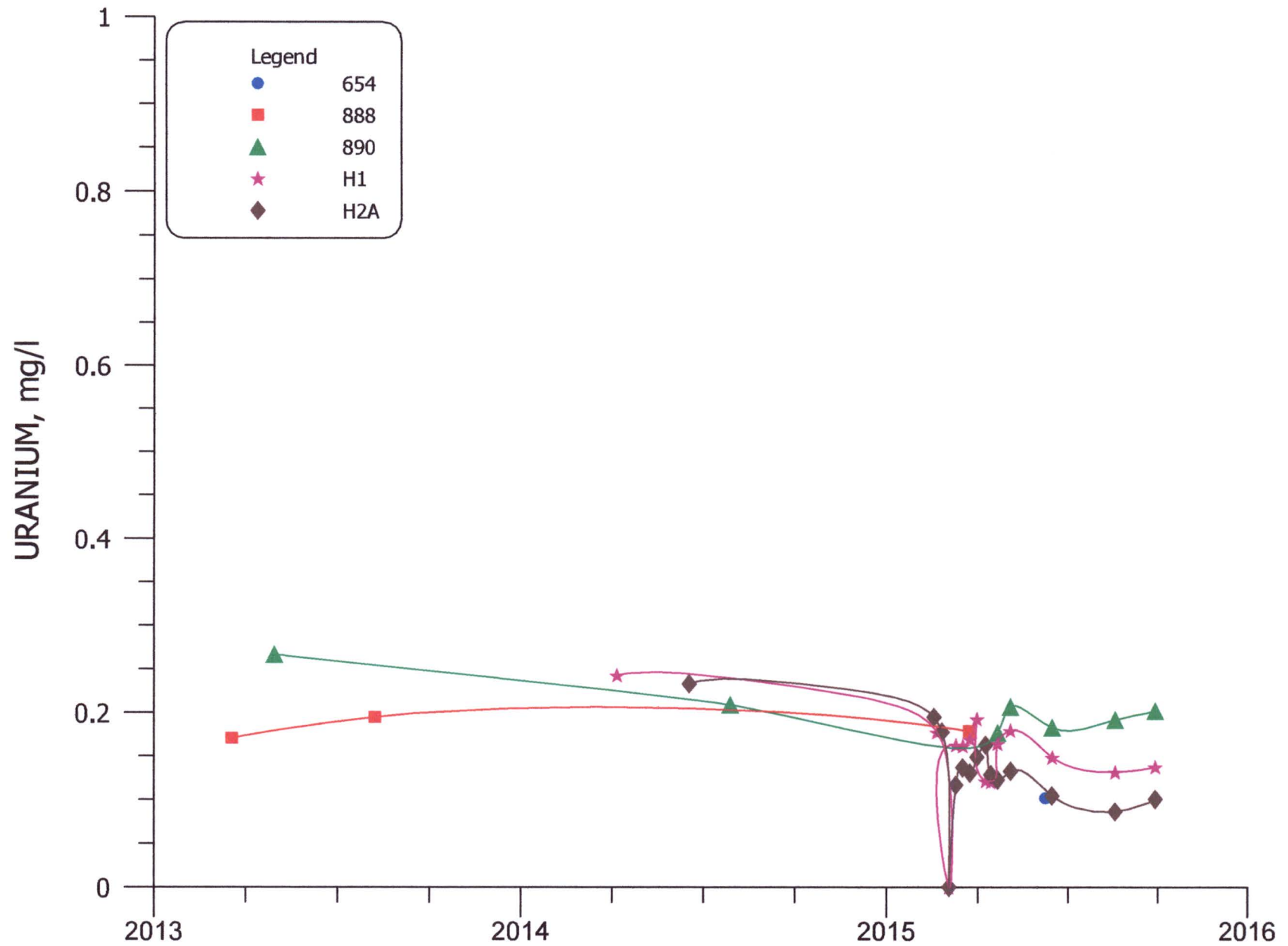


FIGURE 4.3-67A. URANIUM CONCENTRATIONS FOR WELLS 654, 888, 890, H1, AND H2A.

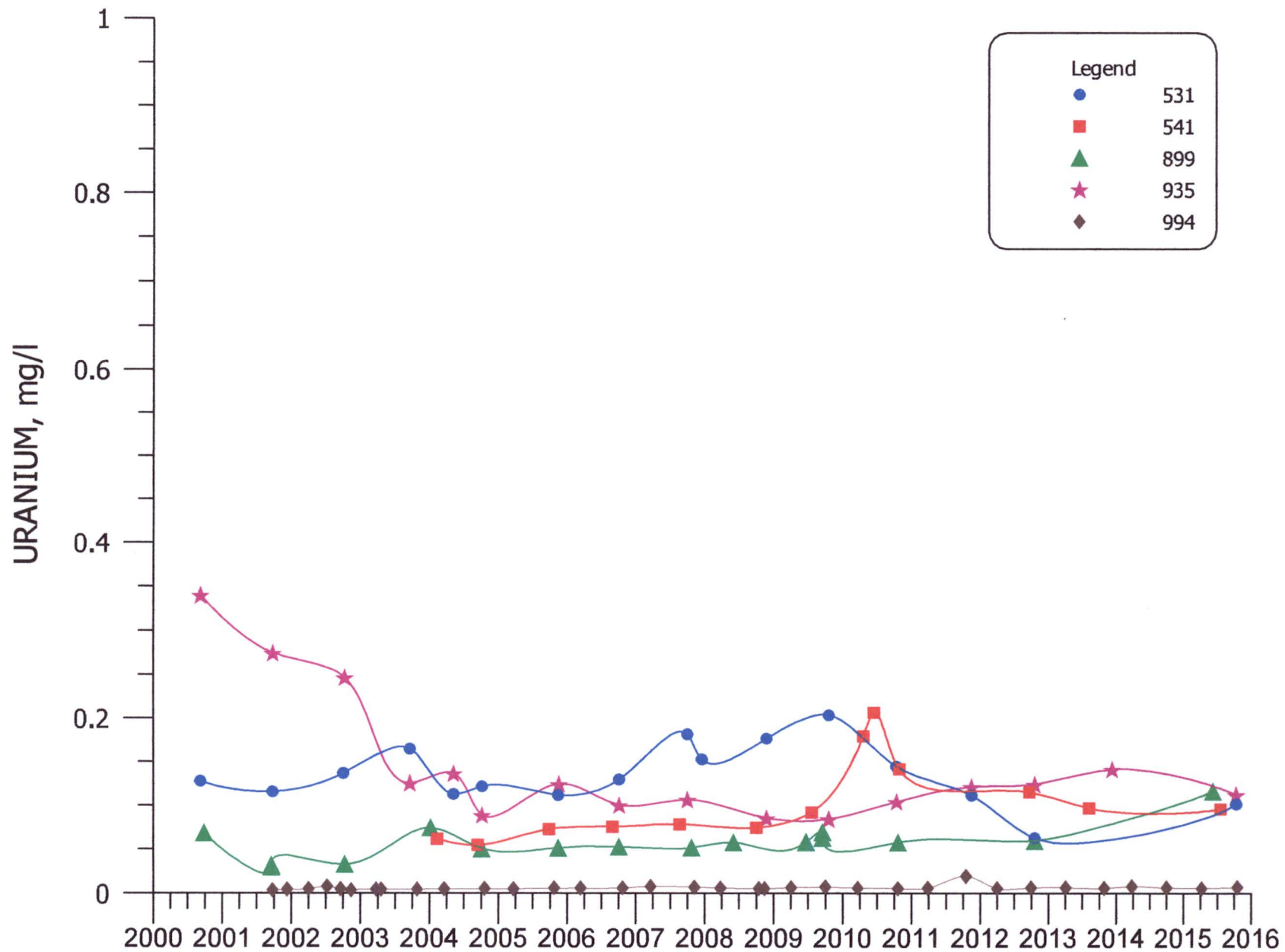


FIGURE 4.3-68. URANIUM CONCENTRATIONS FOR WELLS 531, 541, 899, 935, AND 994.

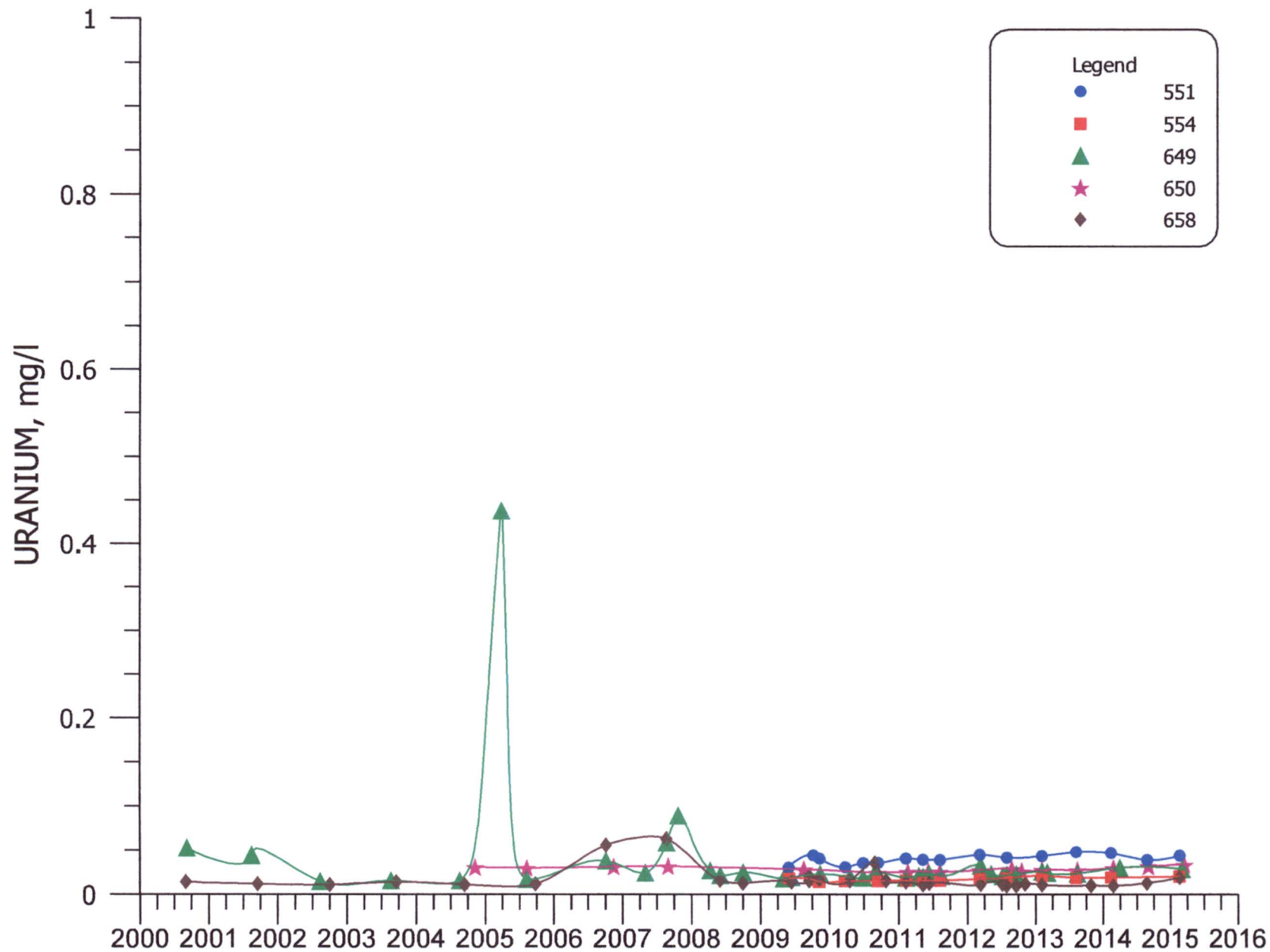
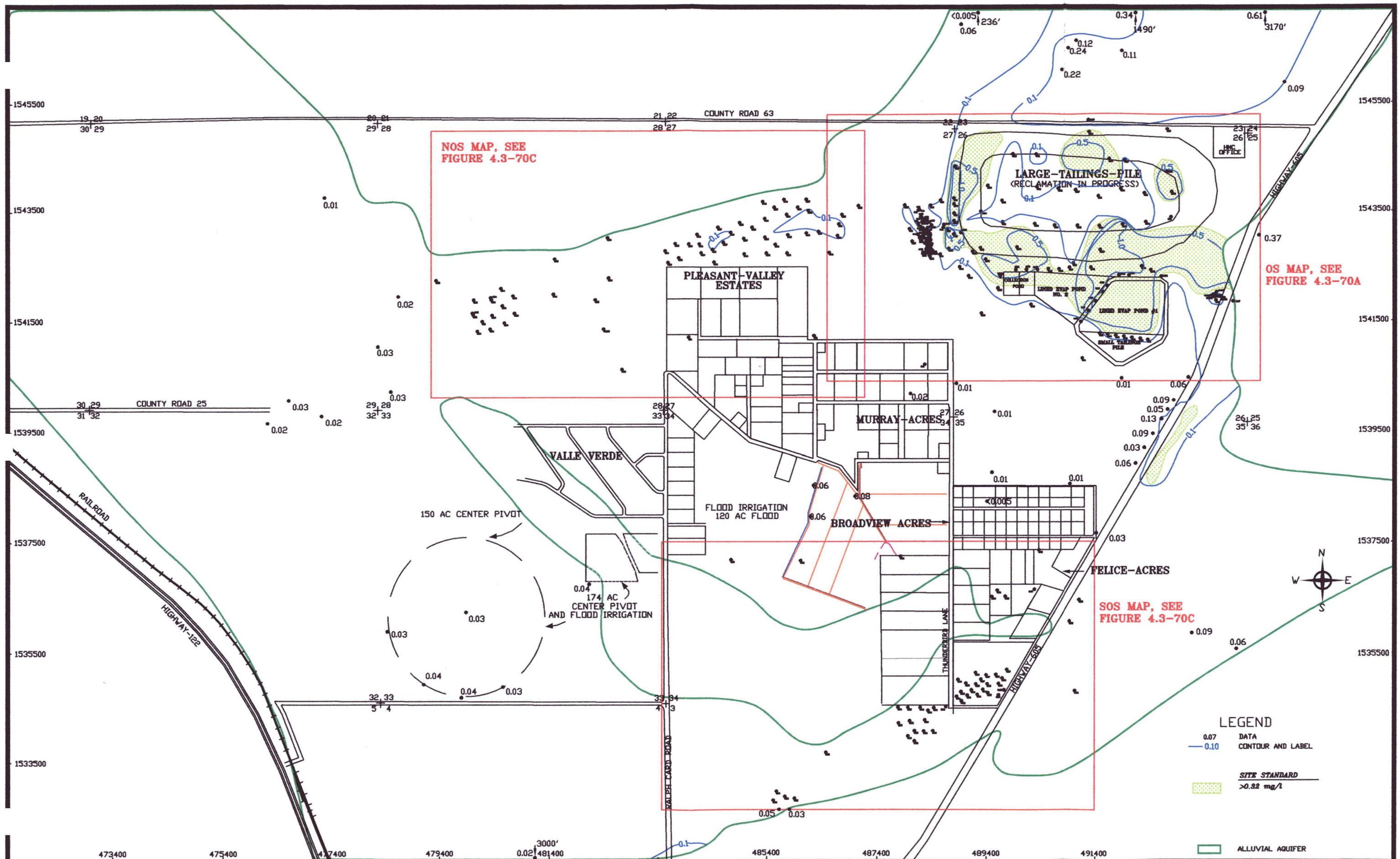
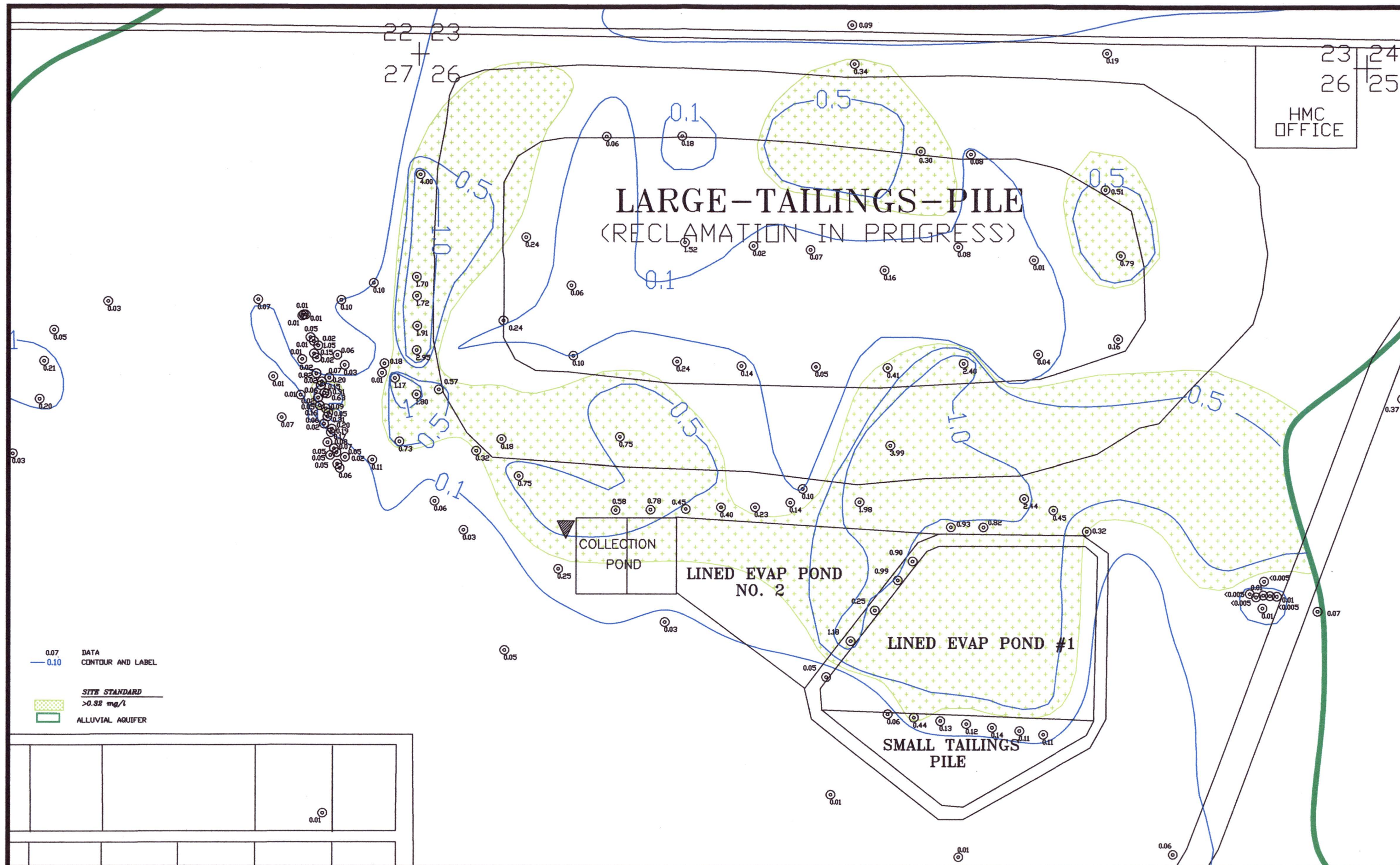


FIGURE 4.3-69. URANIUM CONCENTRATIONS FOR WELLS 551, 554, 649, 650, AND 658.



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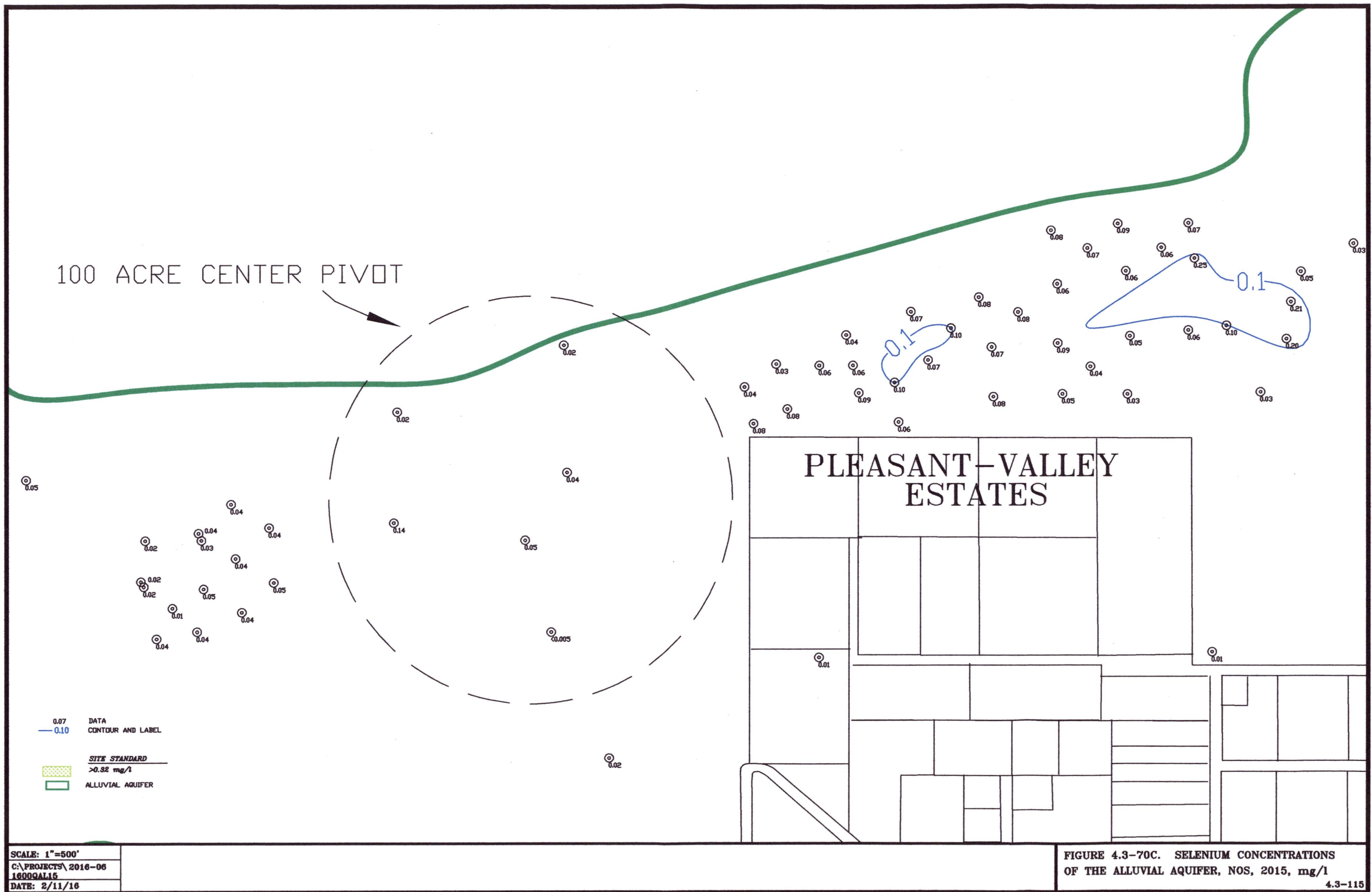
FIGURE 4.3-70. SELENIUM CONCENTRATIONS OF THE ALLUVIAL AQUIFER, 2015 mg/l





SCALE: 1"=500'
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 DATE: 2/11/16

FIGURE 4.3-70B. SELENIUM CONCENTRATIONS OF THE ALLUVIAL AQUIFER, SOS, 2015, mg/l
 4.3-114



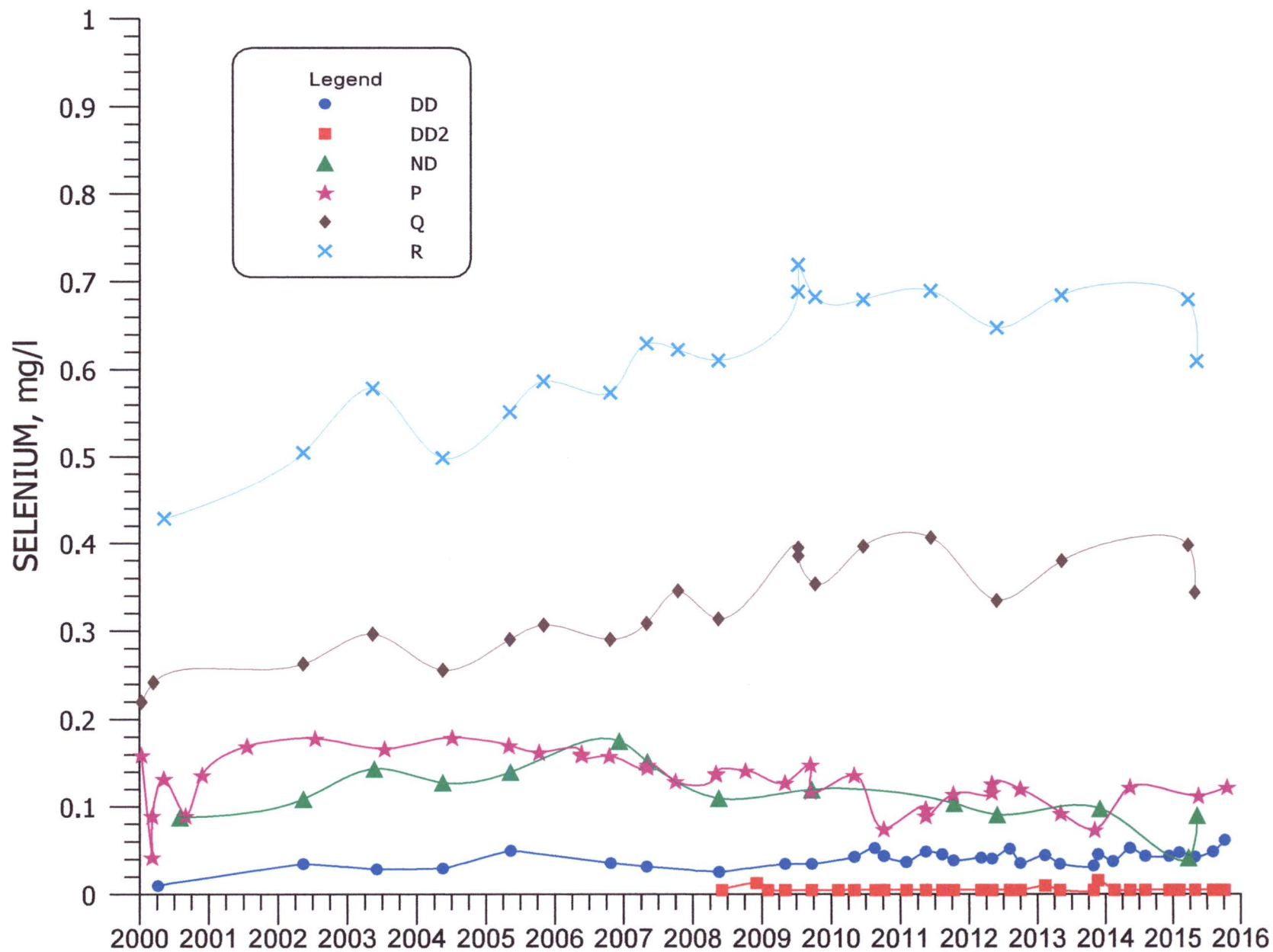


FIGURE 4.3-71. SELENIUM CONCENTRATIONS FOR WELLS DD, DD2, ND, P, Q, AND R.

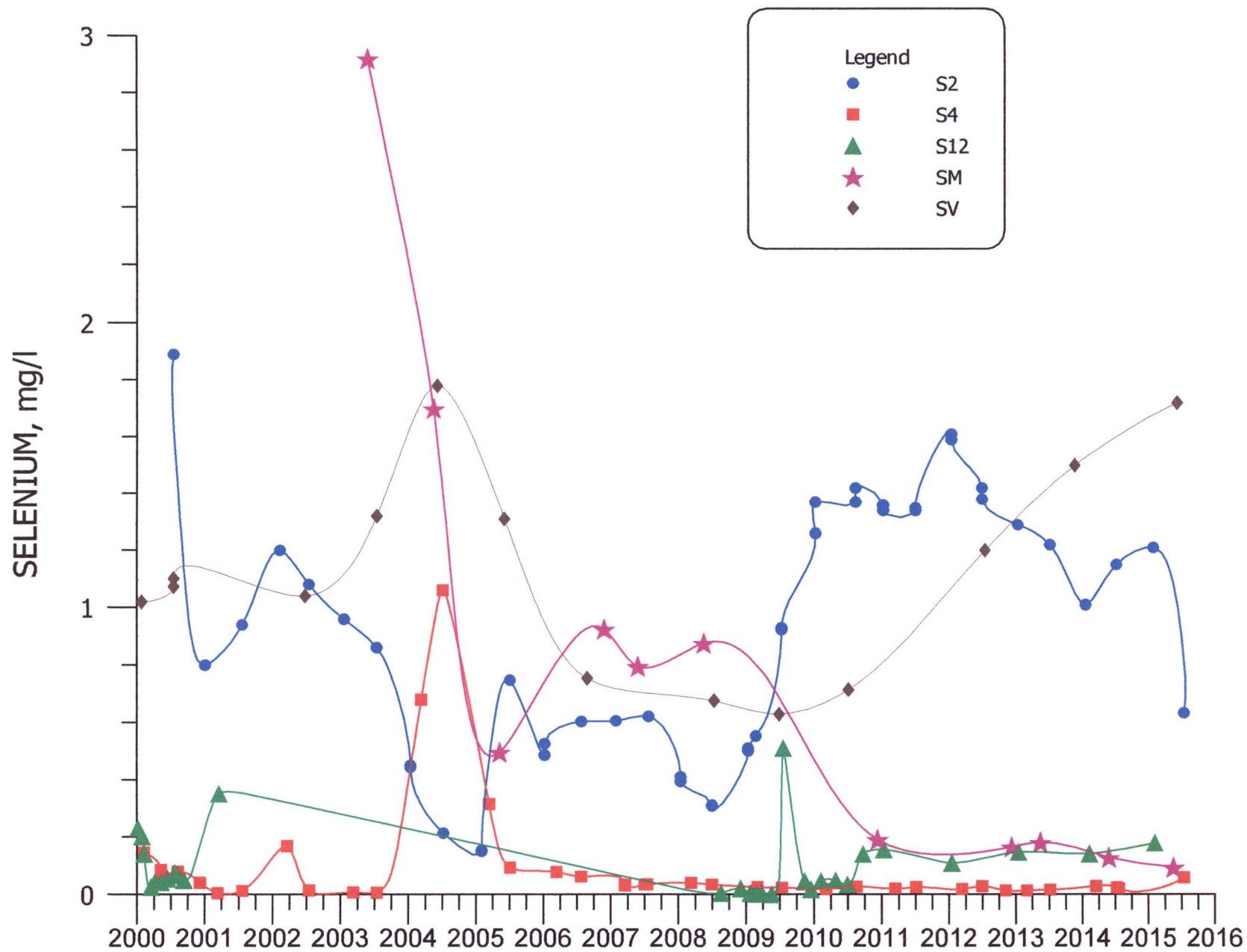


FIGURE 4.3-72. SELENIUM CONCENTRATIONS FOR WELLS S2, S4, S12, SM, AND SV.

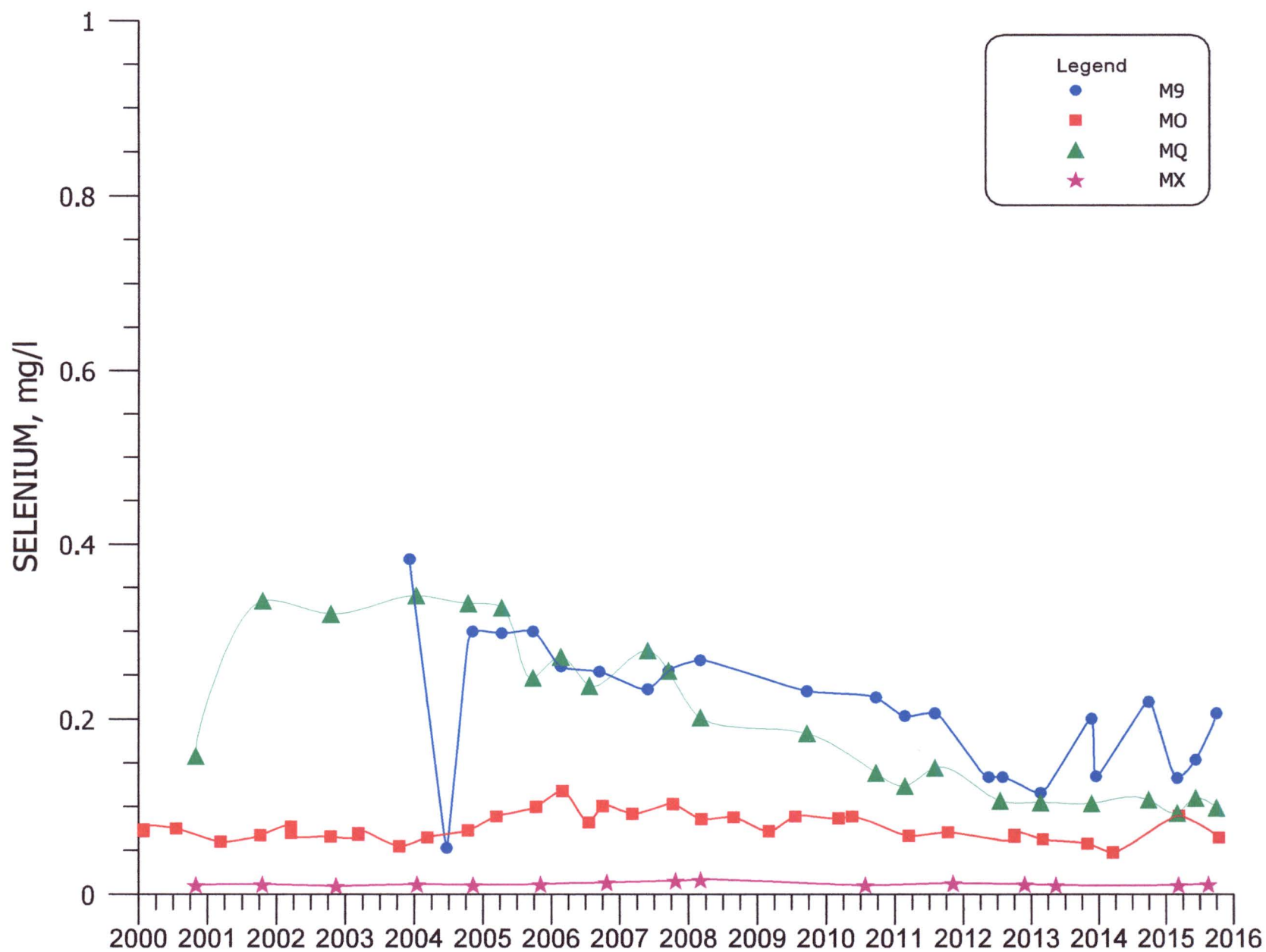


FIGURE 4.3-73. SELENIUM CONCENTRATIONS FOR WELLS M9, MO, MQ, AND MX.

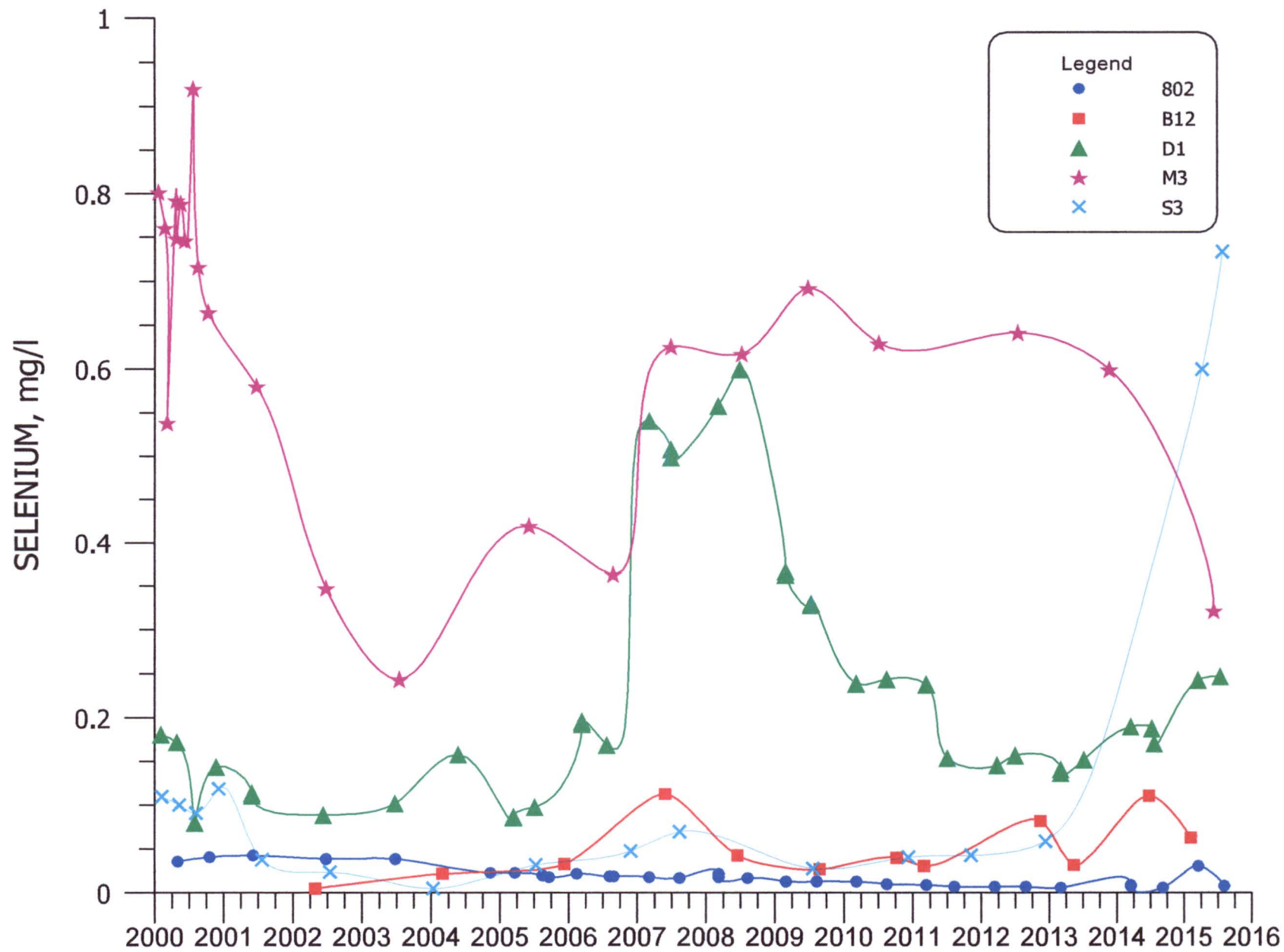


FIGURE 4.3-74. SELENIUM CONCENTRATIONS FOR WELLS 802, B12, D1, M3, AND S3.

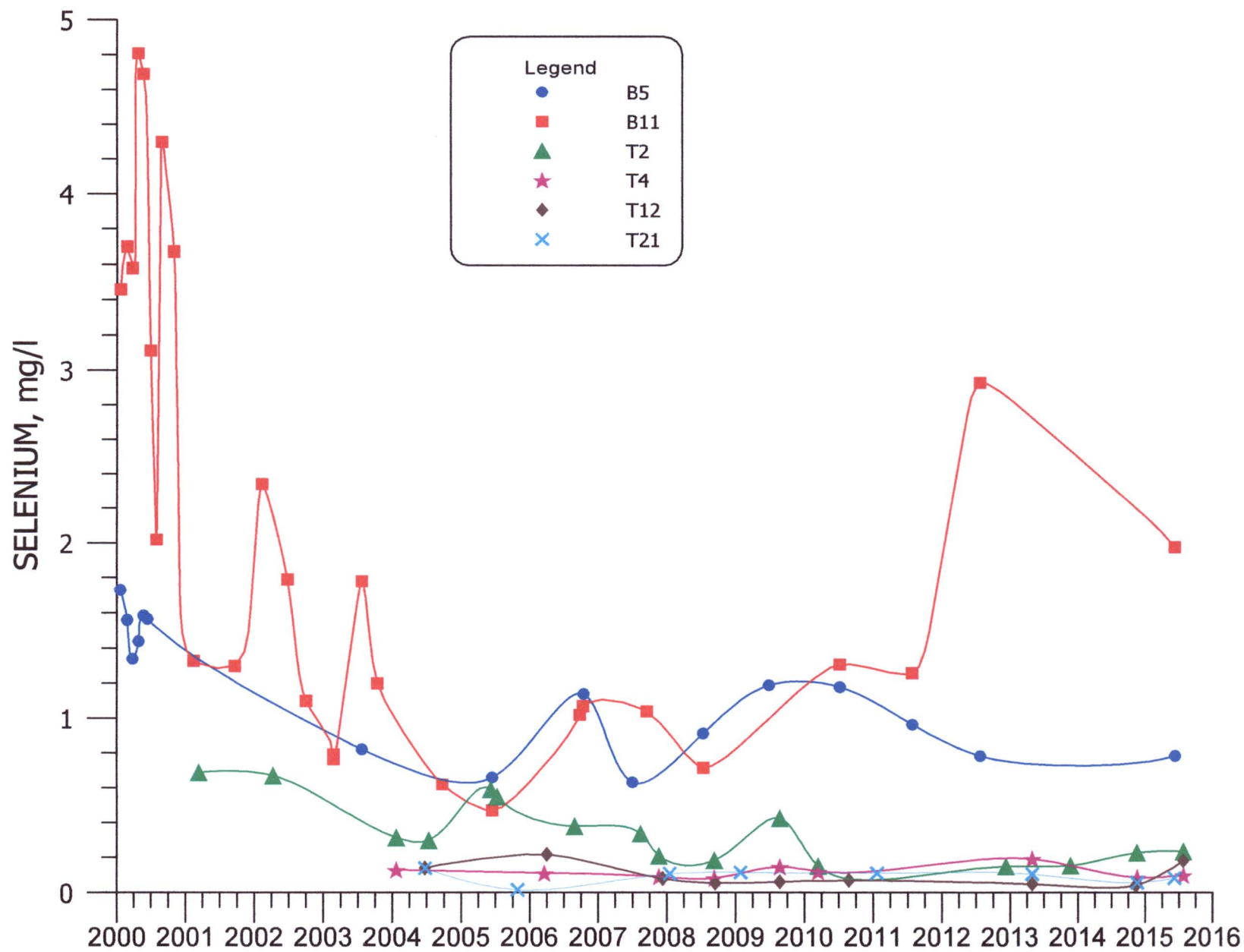


FIGURE 4.3-75. SELENIUM CONCENTRATIONS FOR WELLS B5, B11, T2, T4, T12, AND T21.

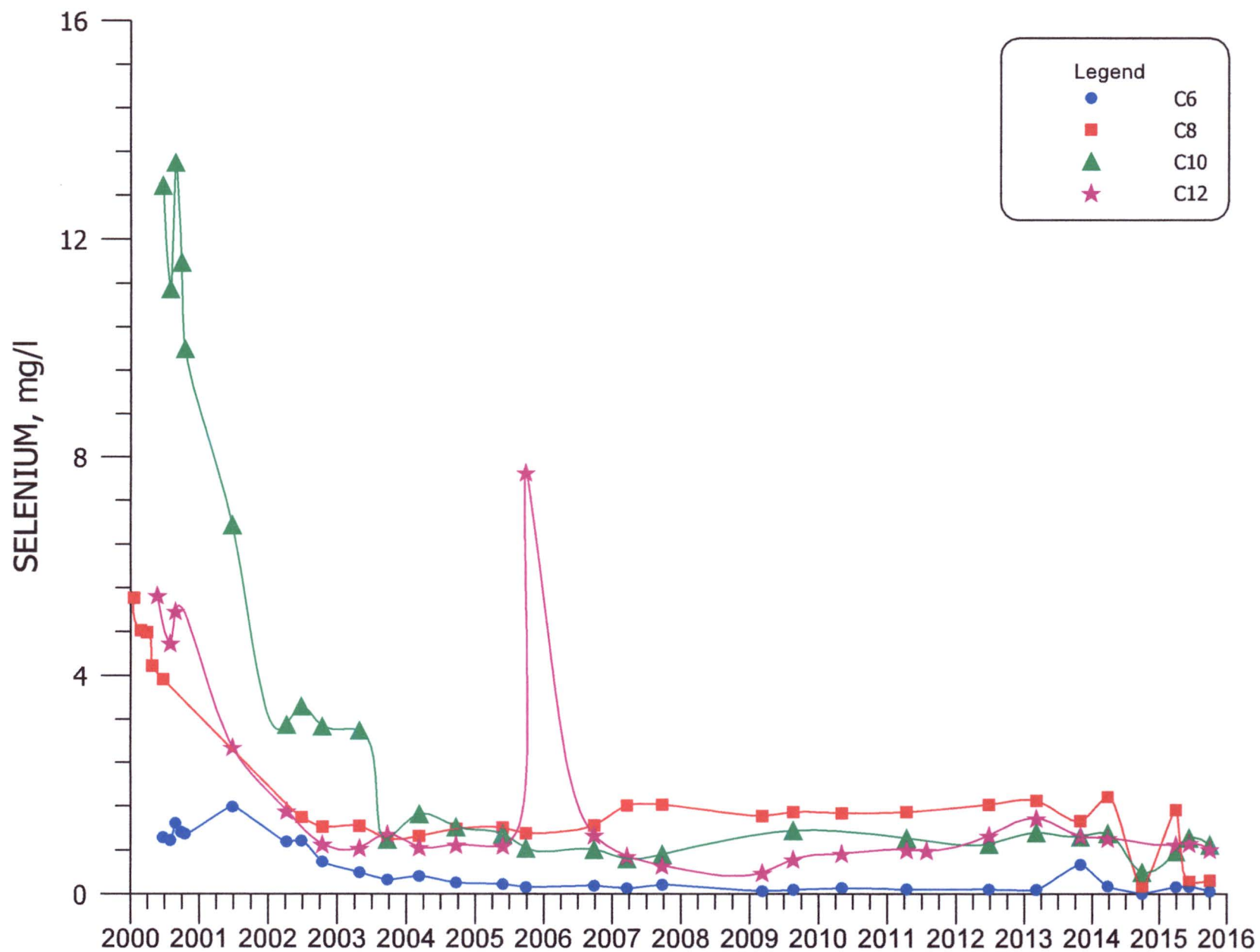


FIGURE 4.3-76. SELENIUM CONCENTRATIONS FOR WELLS C6, C8, C10, AND C12.

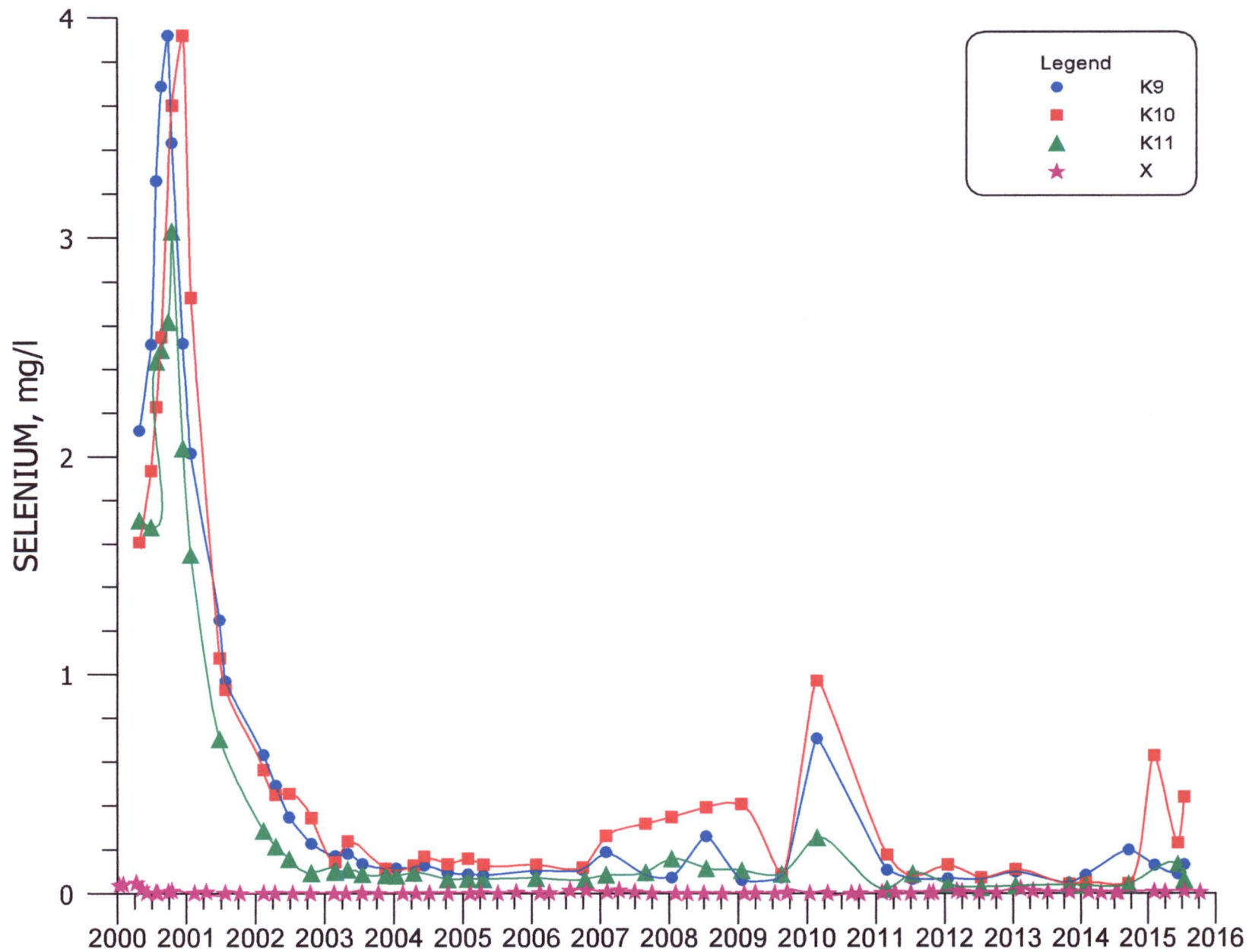


FIGURE 4.3-77. SELENIUM CONCENTRATIONS FOR WELLS K9, K10, K11 AND X.

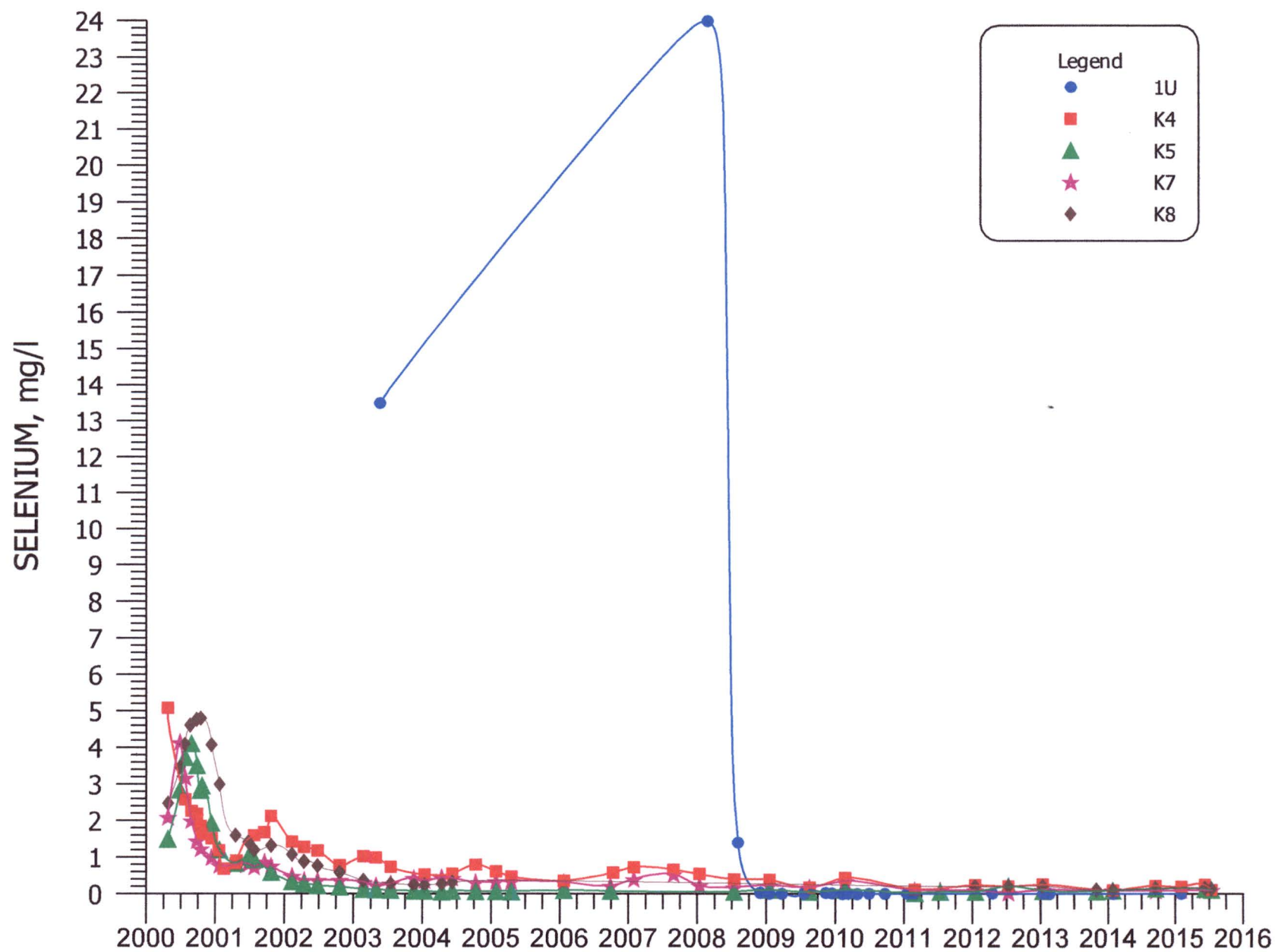


FIGURE 4.3-78. SELENIUM CONCENTRATIONS FOR WELLS 1U, K4, K5, K7, AND K8.

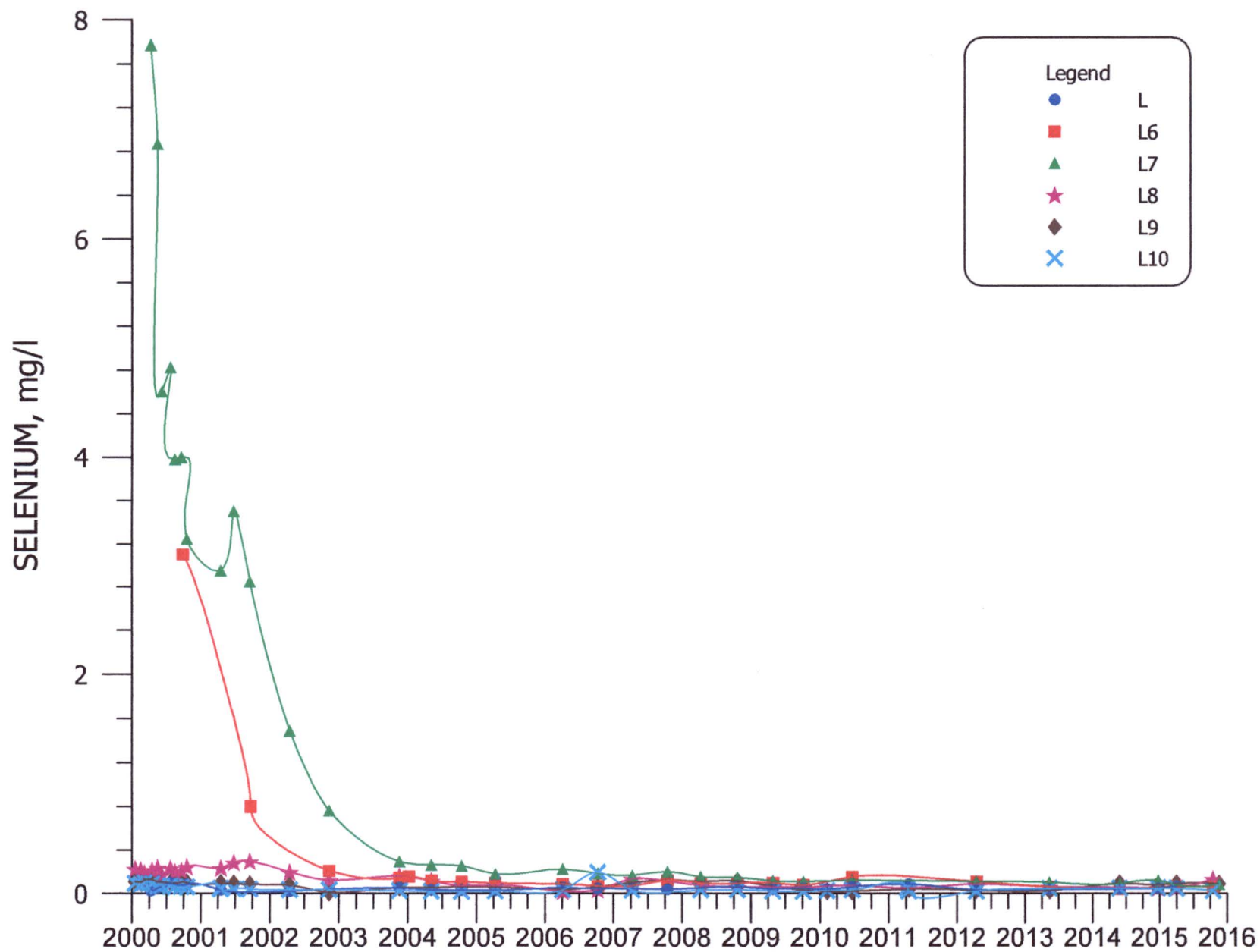


FIGURE 4.3-79. SELENIUM CONCENTRATIONS FOR WELLS L, L6, L7, L8, L9, AND L10.

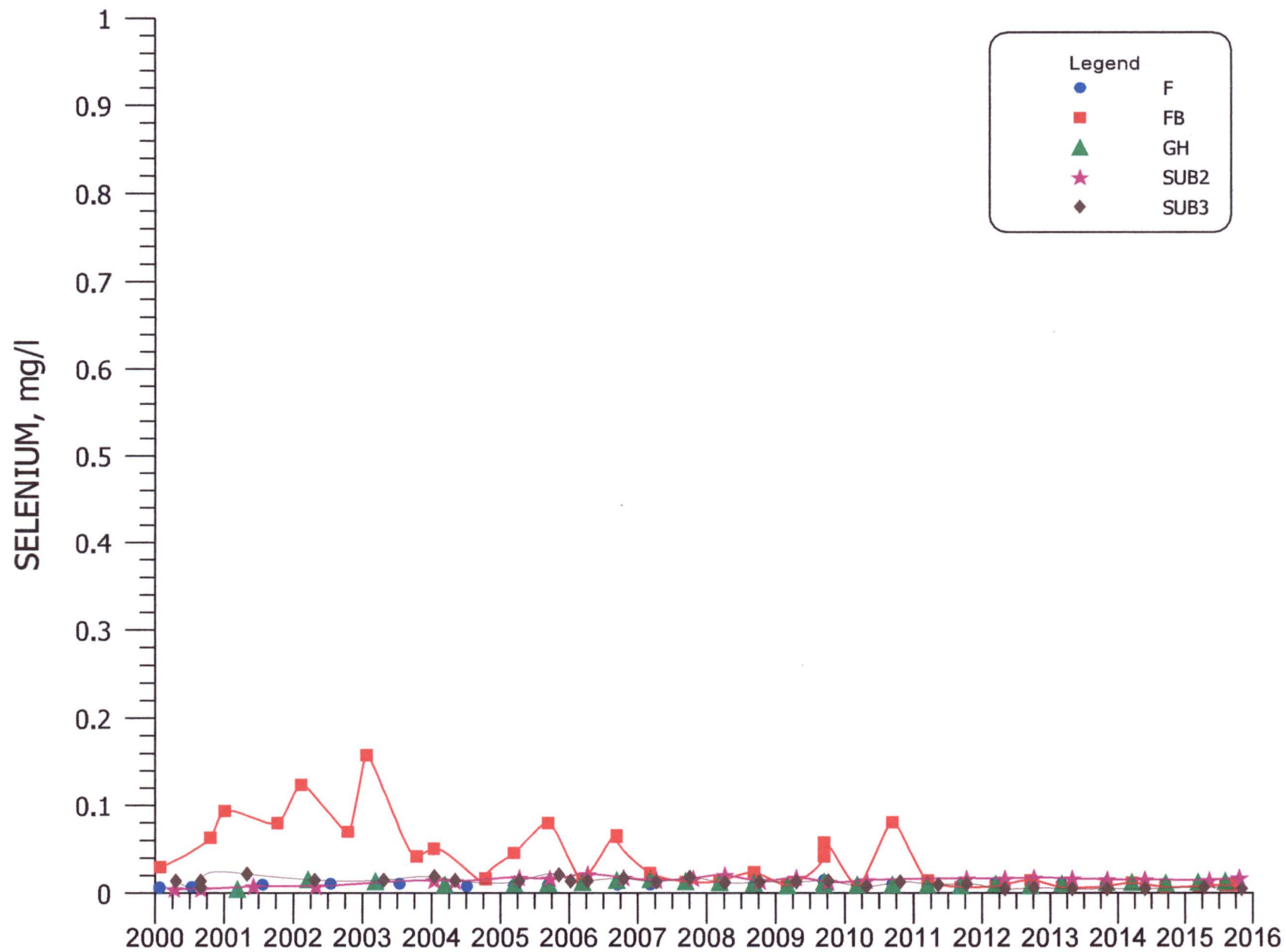


FIGURE 4.3-80. SELENIUM CONCENTRATIONS FOR WELLS F, FB, GH, SUB2, AND SUB3.

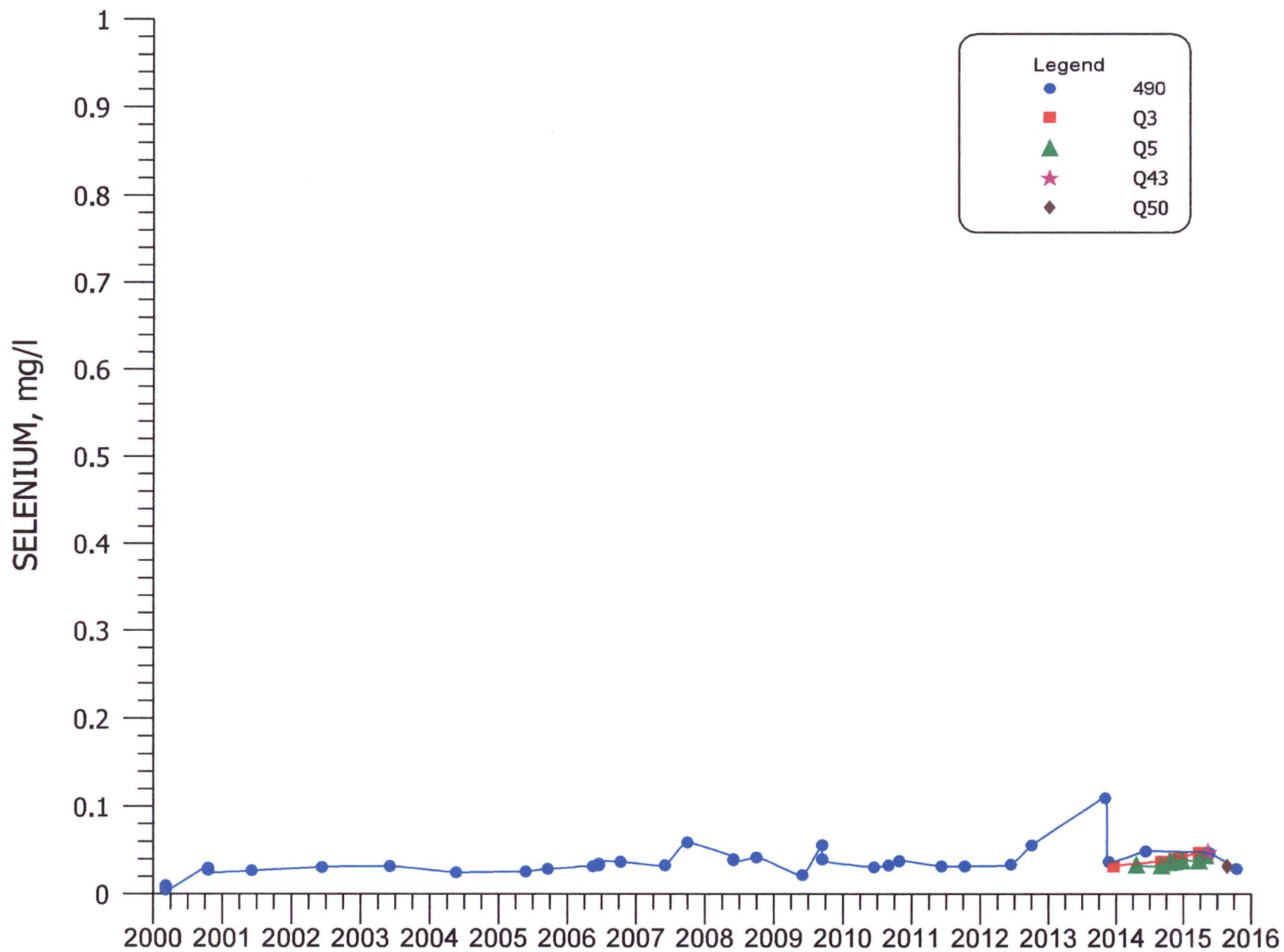


FIGURE 4.3-81. SELENIUM CONCENTRATIONS FOR WELLS 490, Q3, Q5, Q43, AND Q50.

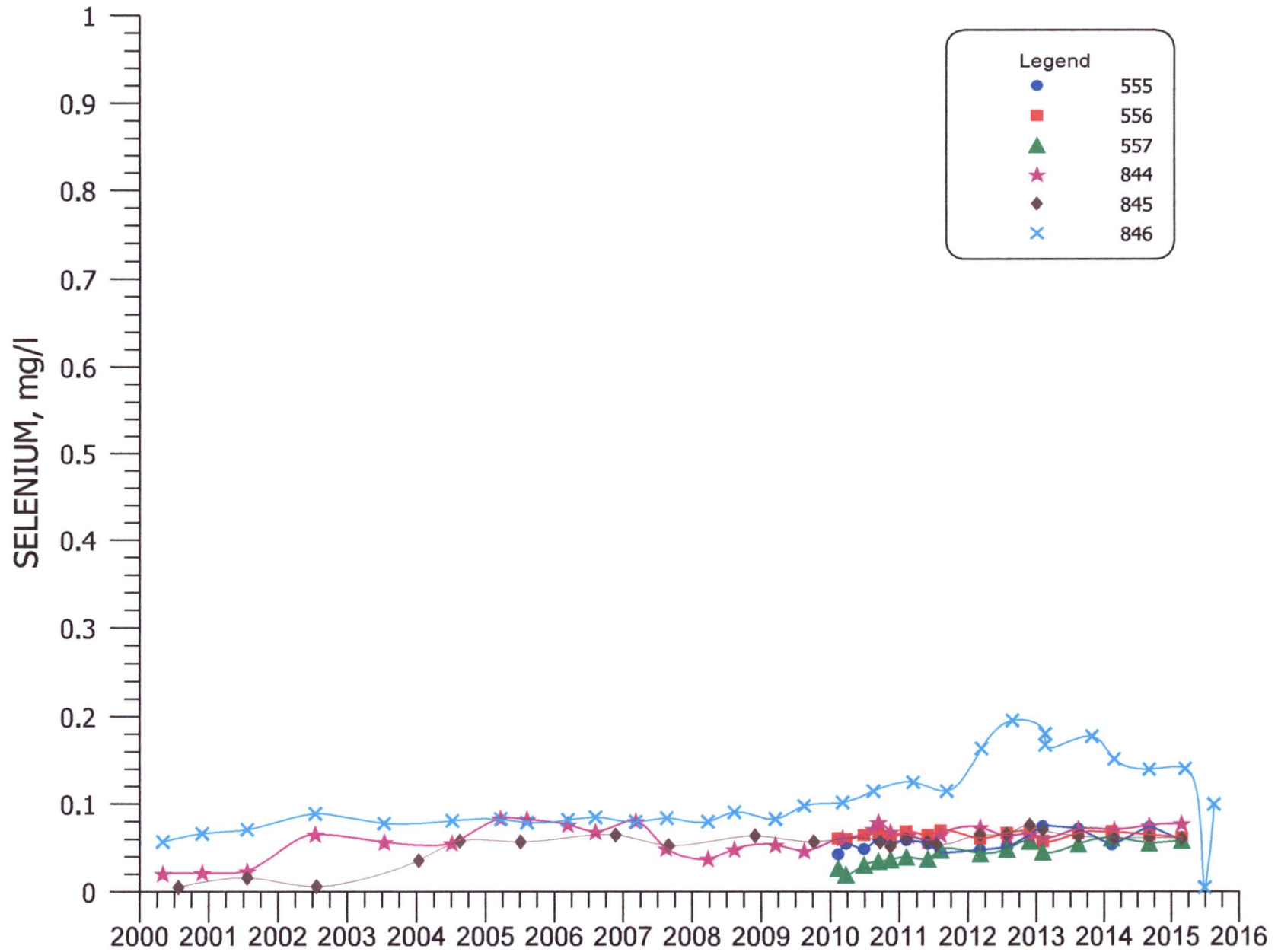


FIGURE 4.3-82. SELENIUM CONCENTRATIONS FOR WELLS 555, 556, 557, 844, 845, AND 846.

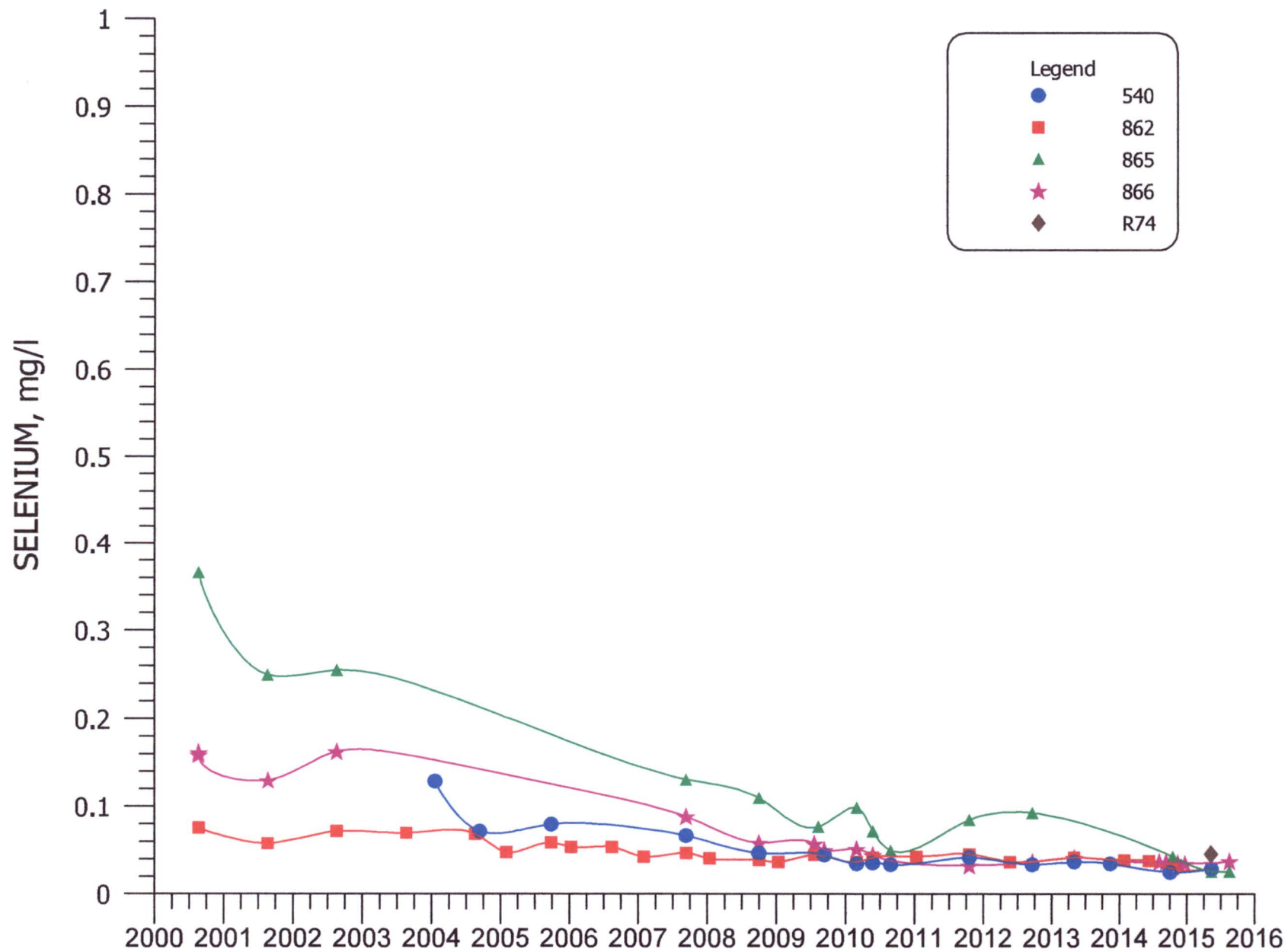


FIGURE 4.3-83. SELENIUM CONCENTRATIONS FOR WELLS 540, 862, 865, 866, AND R74.

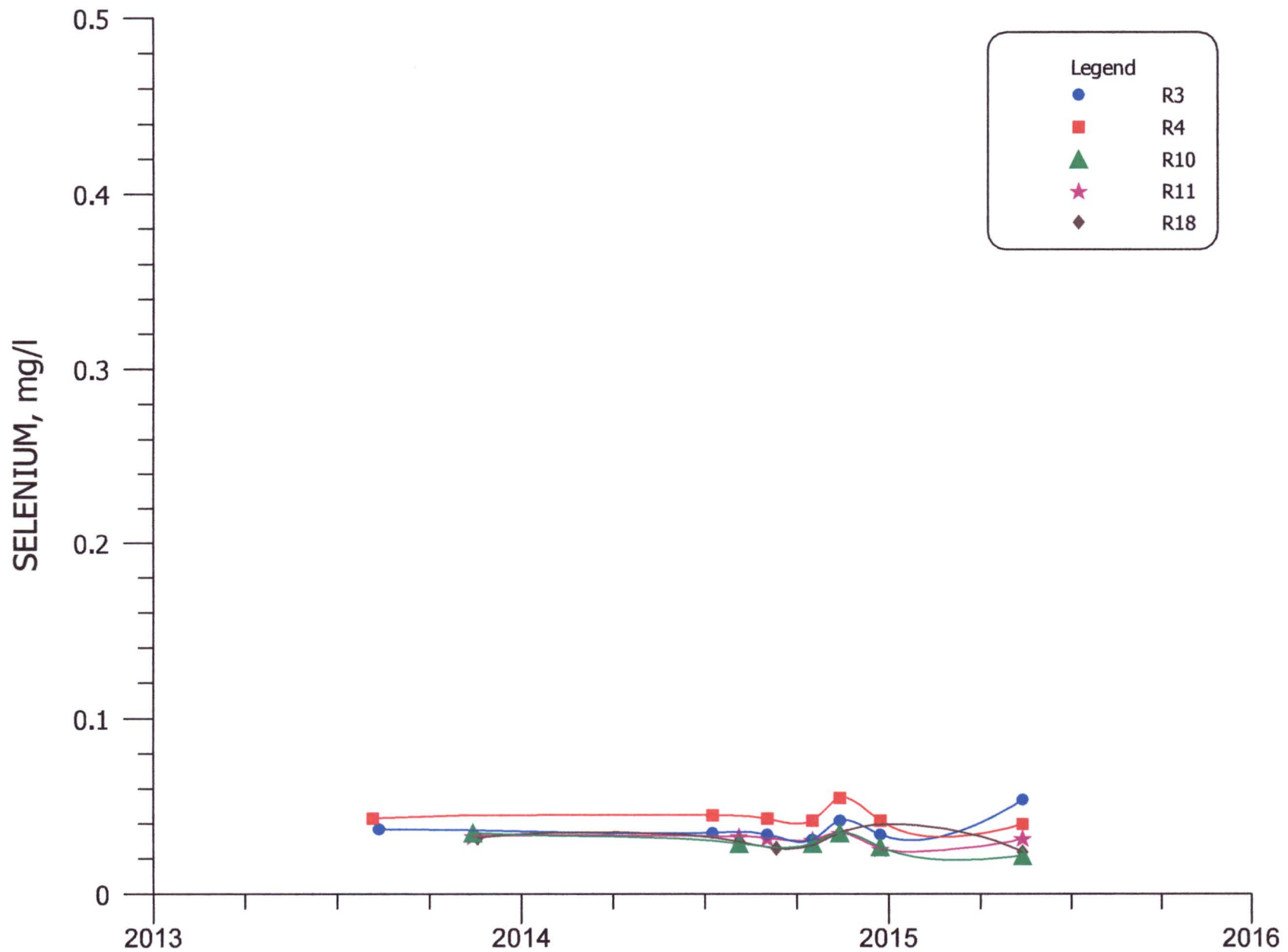


FIGURE 4.3-83A. SELENIUM CONCENTRATIONS FOR WELLS R3, R4, R10, R11, AND R18.

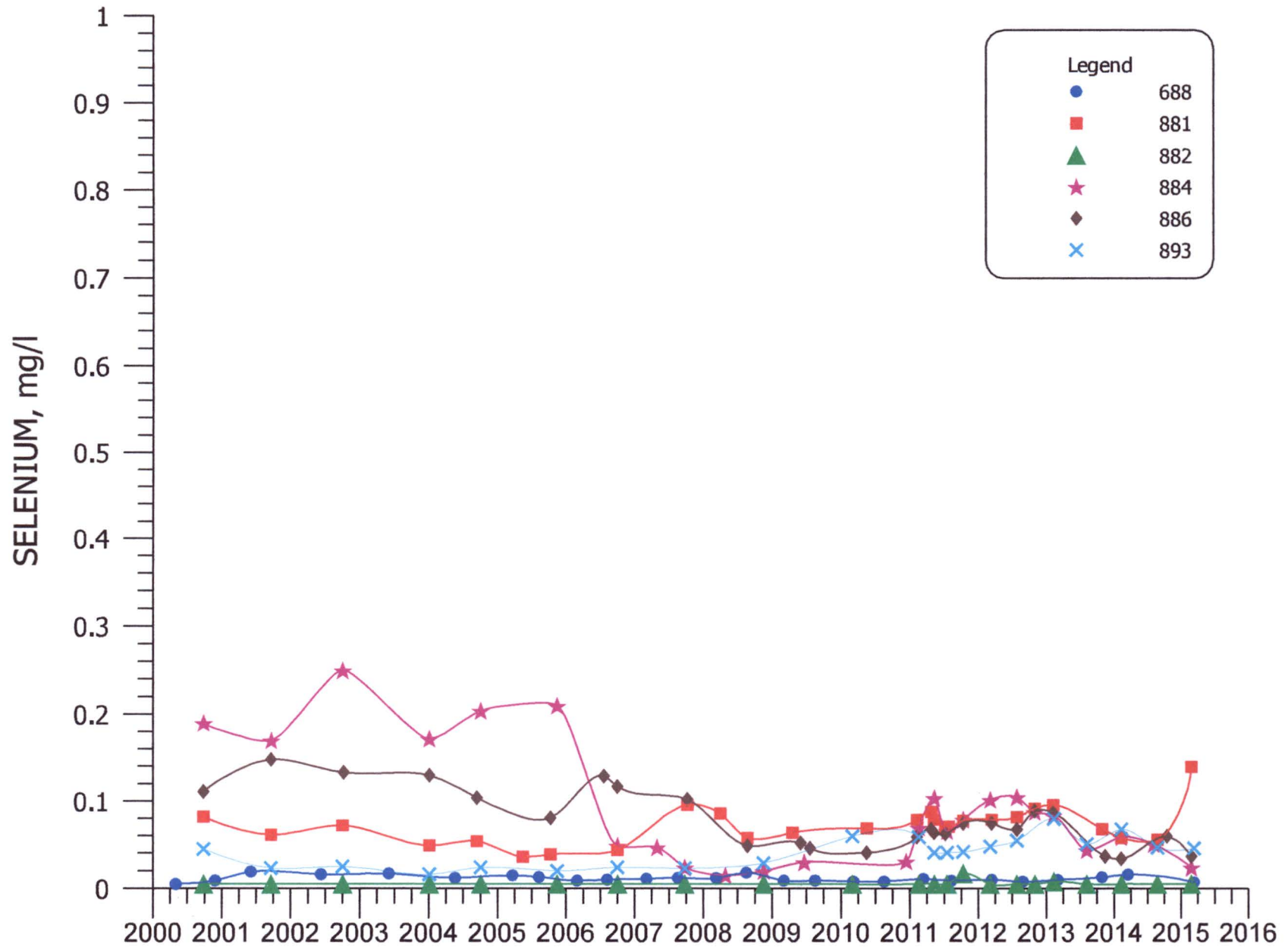


FIGURE 4.3-84. SELENIUM CONCENTRATIONS FOR WELLS 688, 881, 882, 884, 886, AND 893.

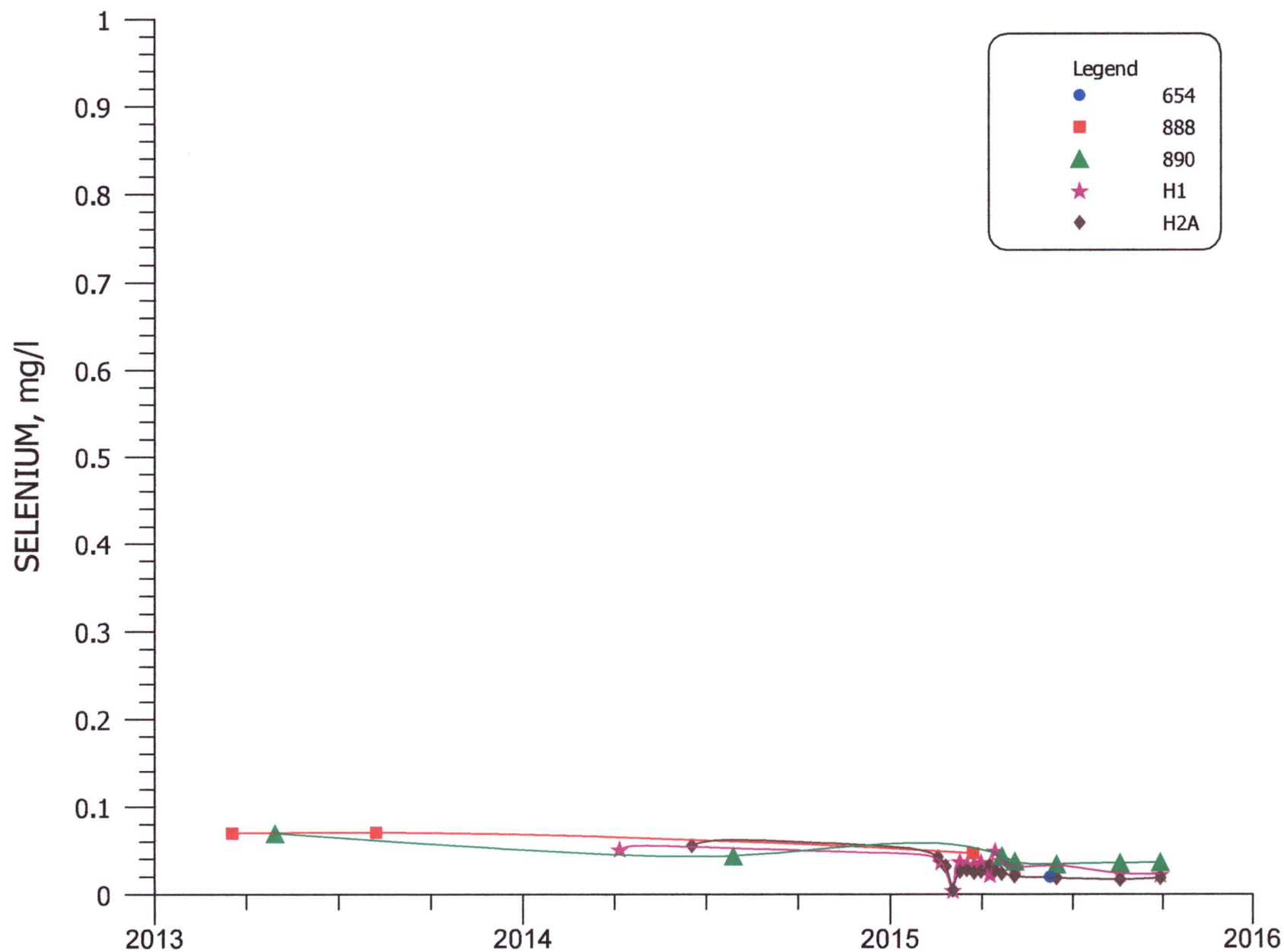


FIGURE 4.3-84A. SELENIUM CONCENTRATIONS FOR WELLS 654, 888, 890, H1, AND H2A.

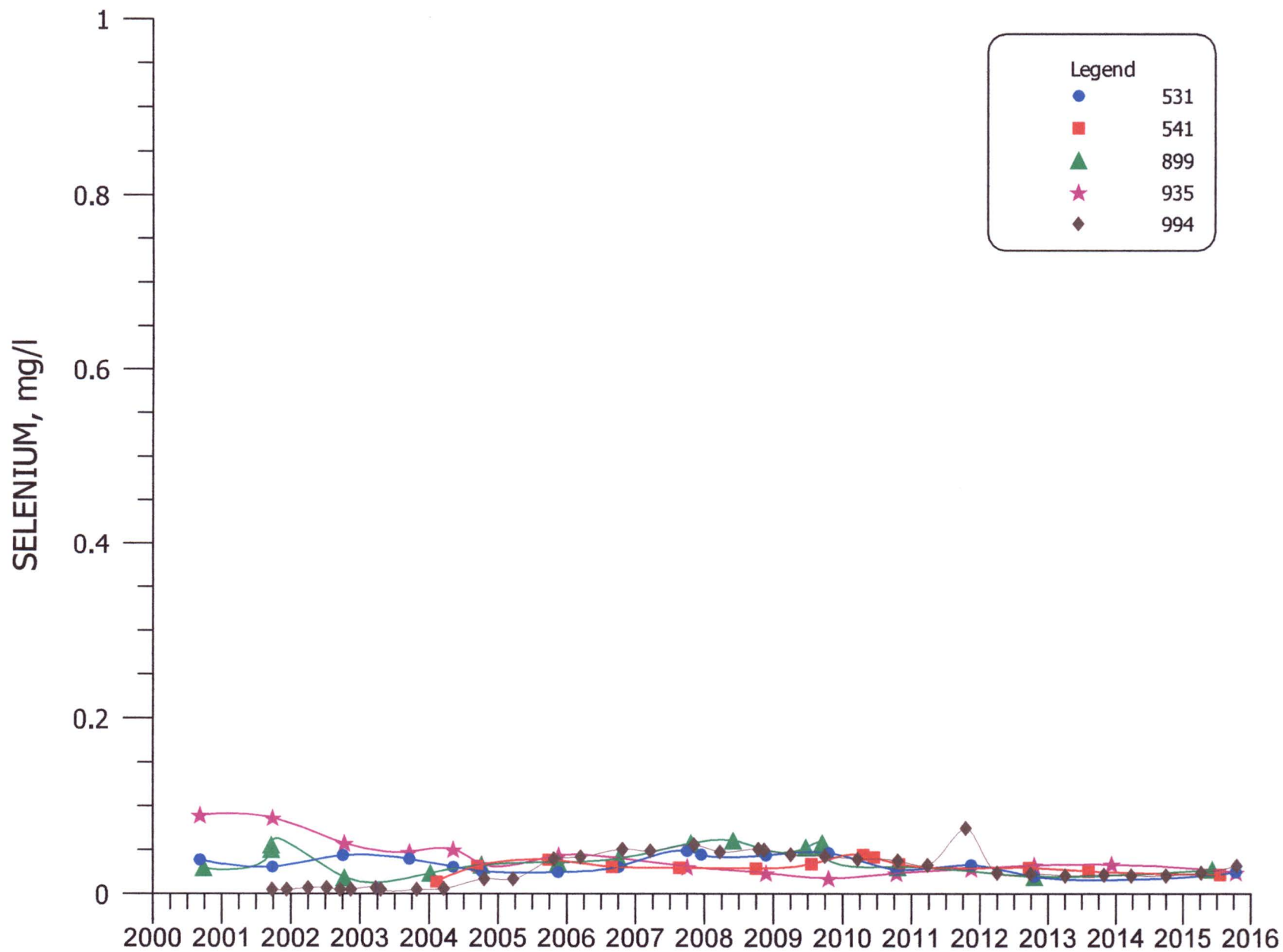


FIGURE 4.3-85. SELENIUM CONCENTRATIONS FOR WELLS 531, 541, 899, 935, AND 994.

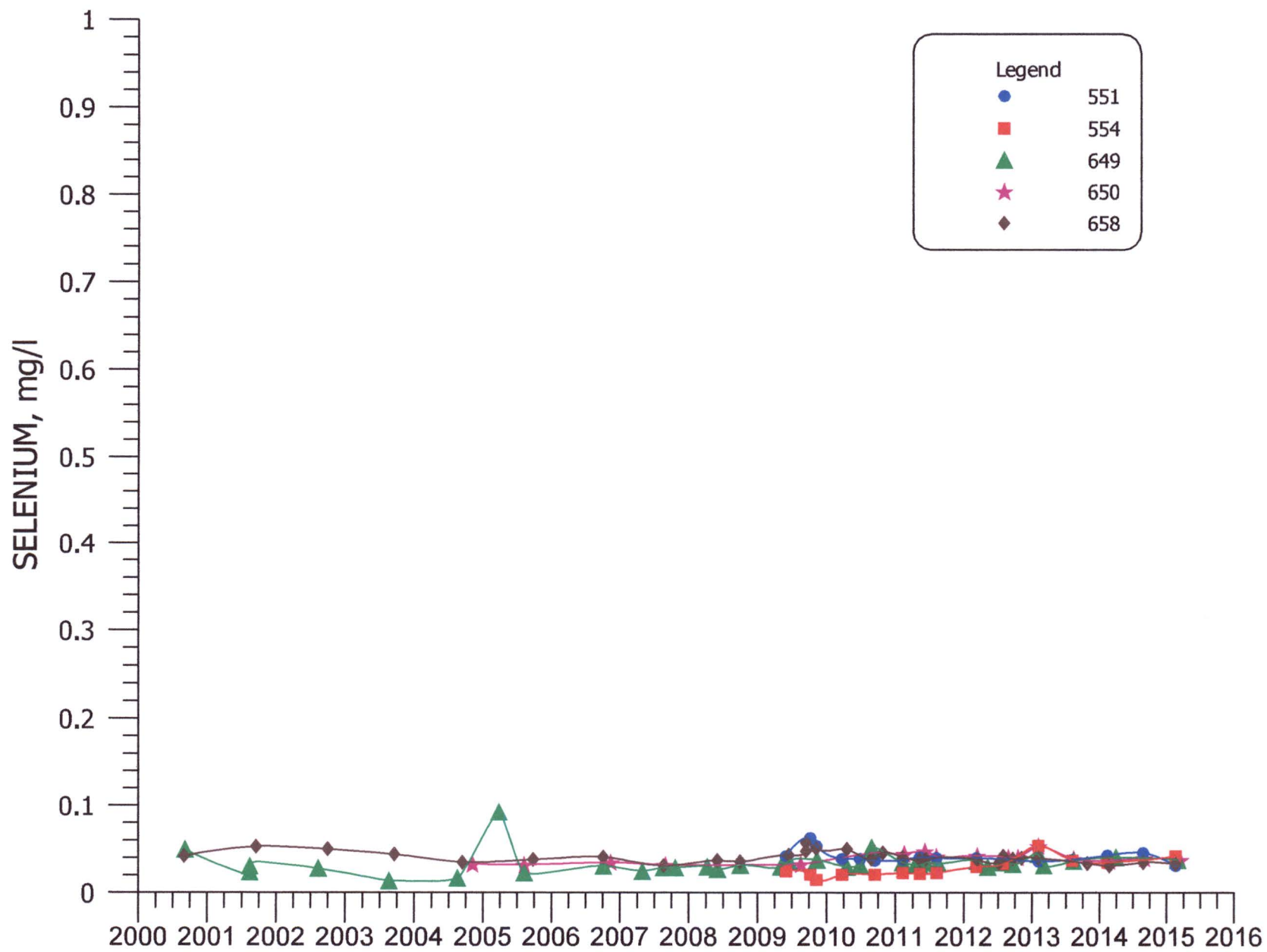
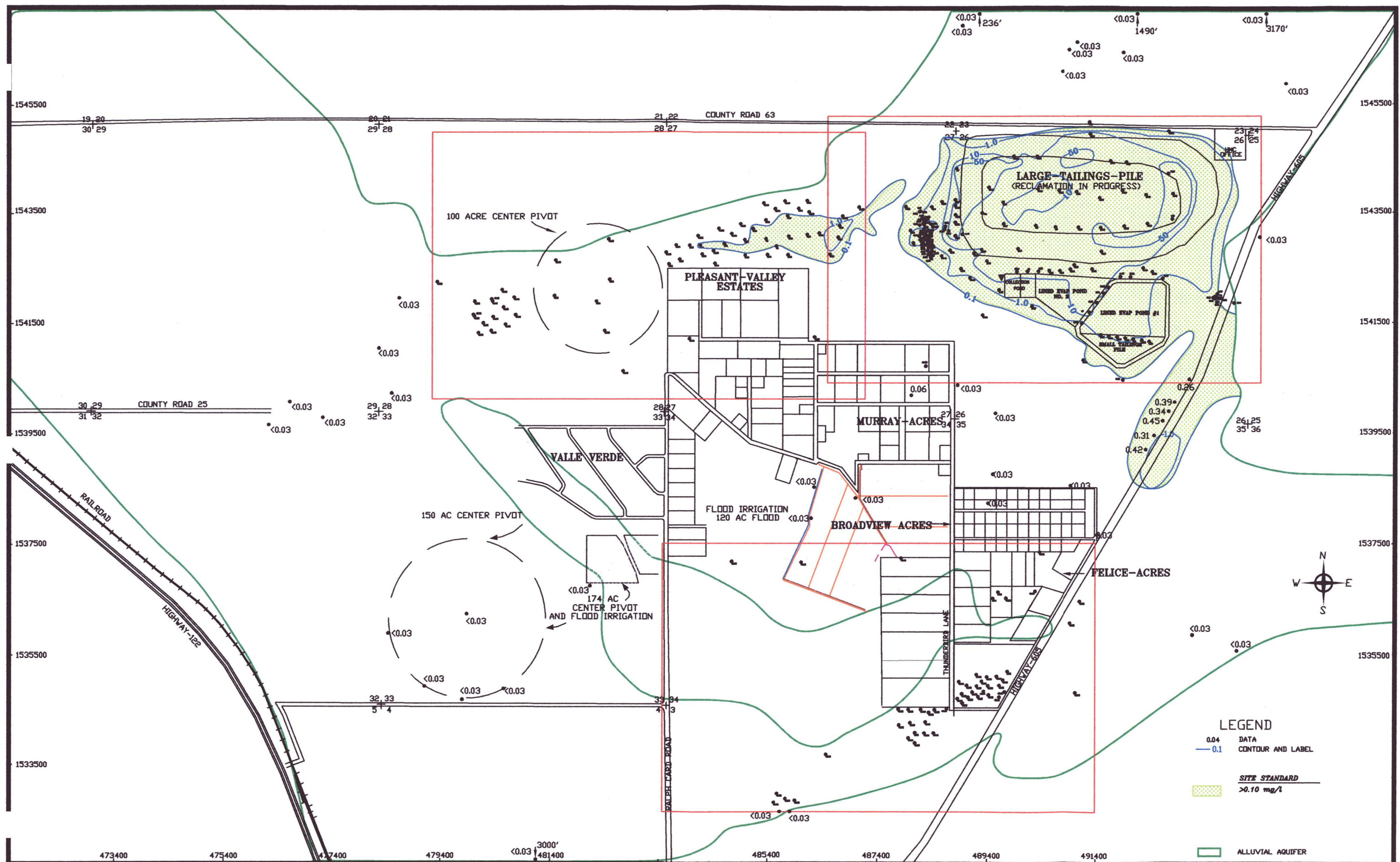
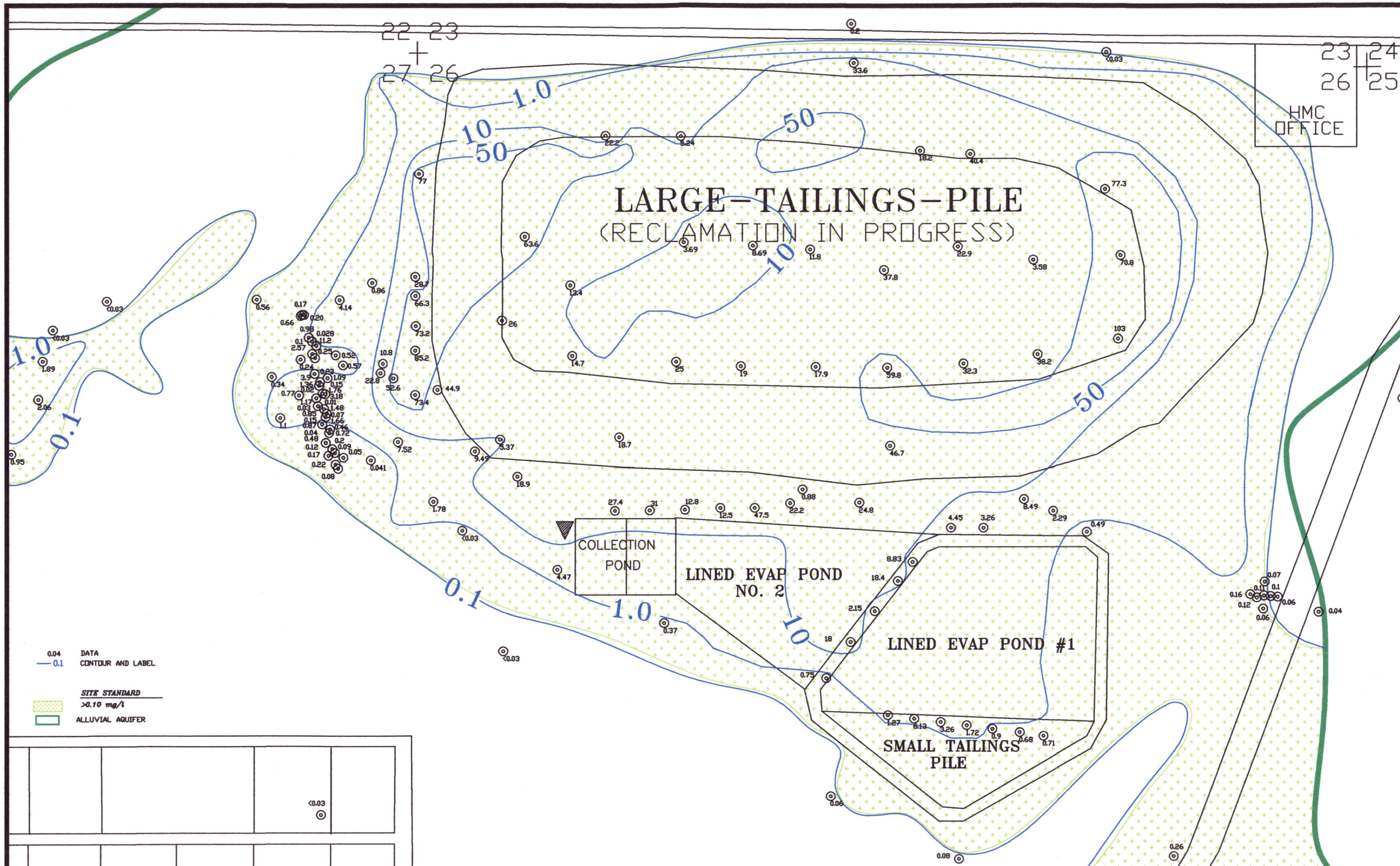


FIGURE 4.3-86. SELENIUM CONCENTRATIONS FOR WELLS 551, 554, 649, 650, AND 658.



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**FIGURE 4.3-87. MOLYBDENUM CONCENTRATIONS
OF THE ALLUVIAL AQUIFER, 2015, mg/l**



SCALE: 1"=500'
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DATE: 2/11/16

FIGURE 4.3-87A. MOLYBDENUM CONCENTRATIONS
OF THE ALLUVIAL AQUIFER, OS, 2015, mg/l

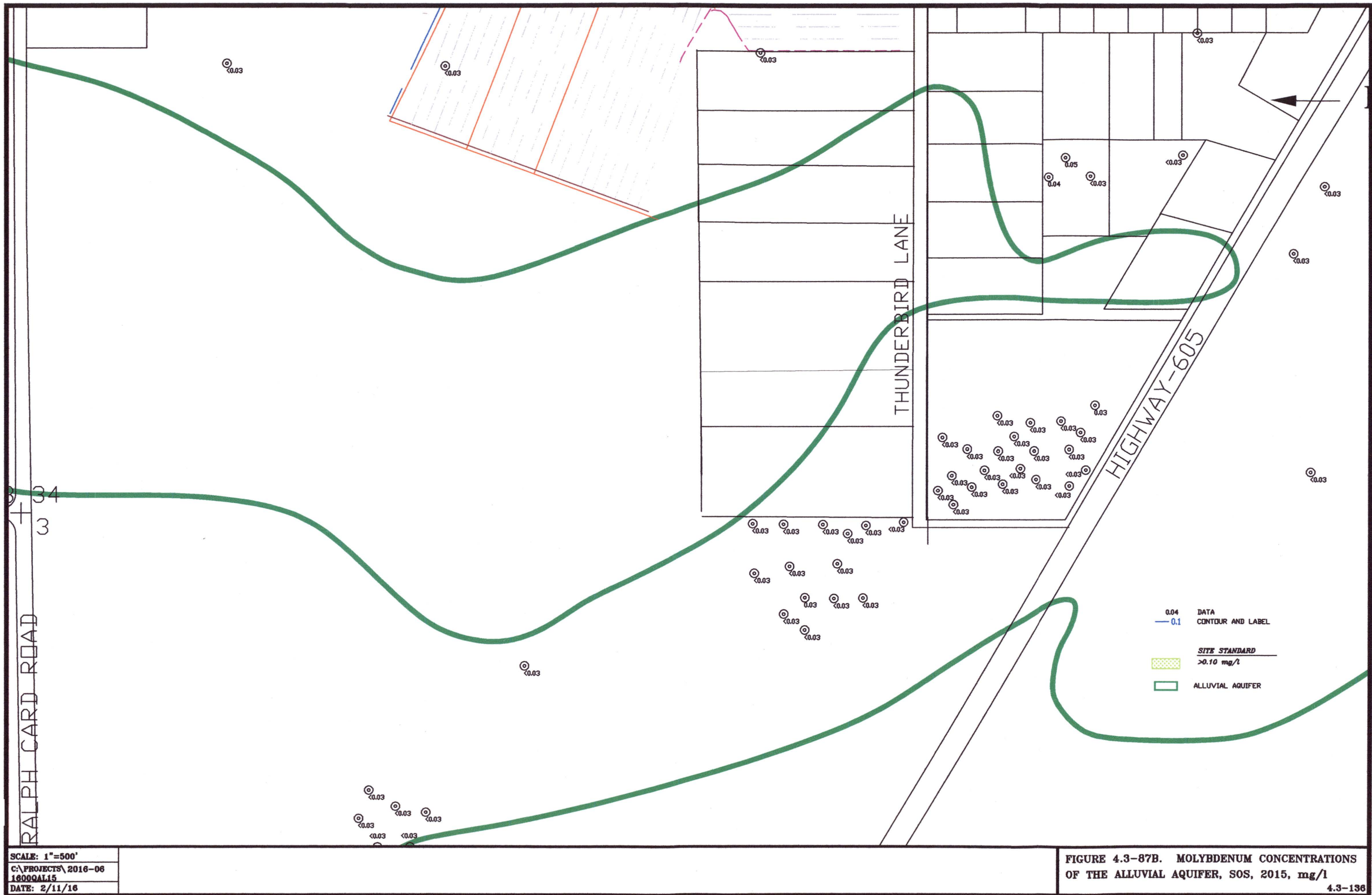
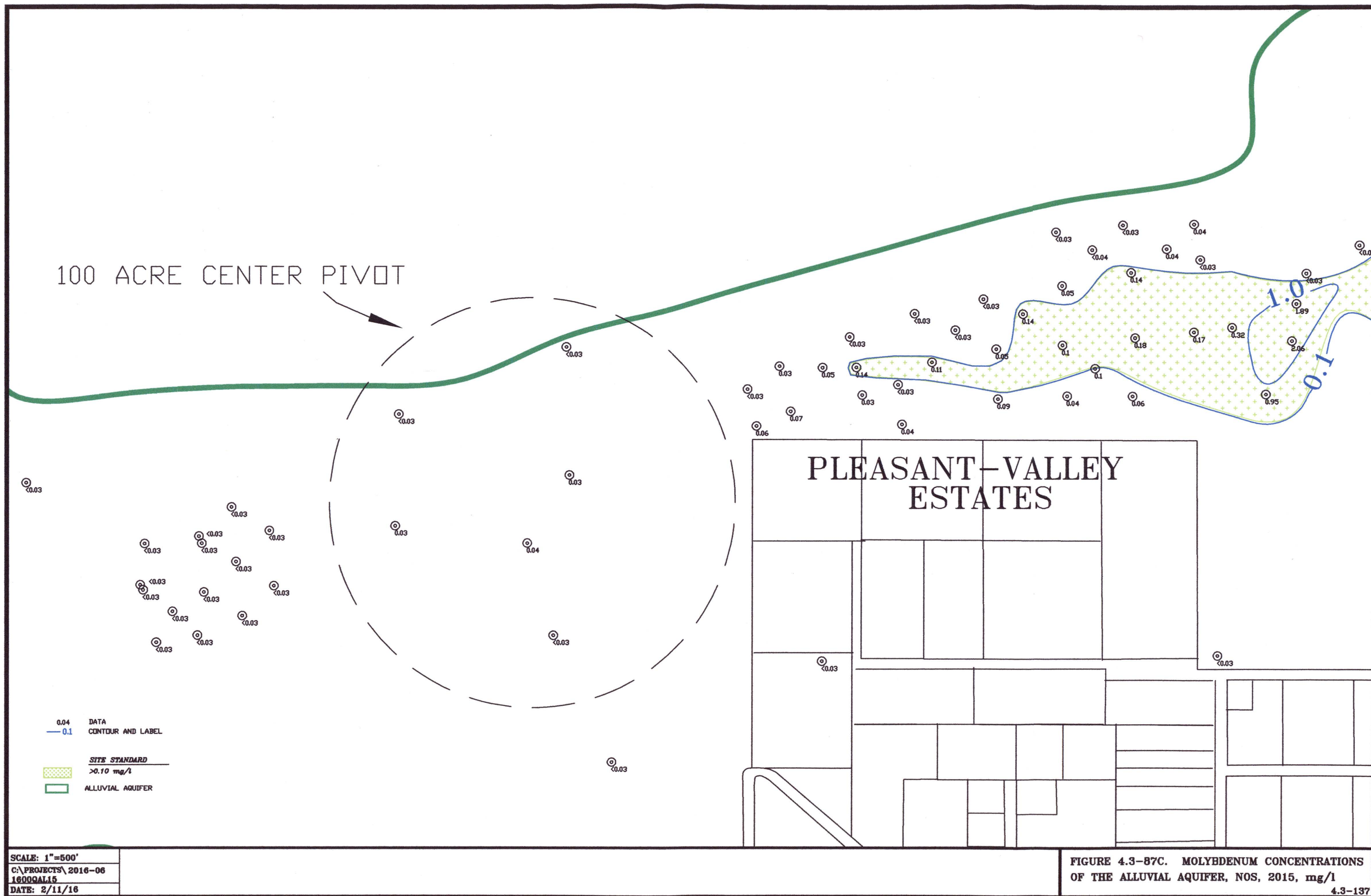


FIGURE 4.3-87B. MOLYBDENUM CONCENTRATIONS OF THE ALLUVIAL AQUIFER, SOS, 2015, mg/l



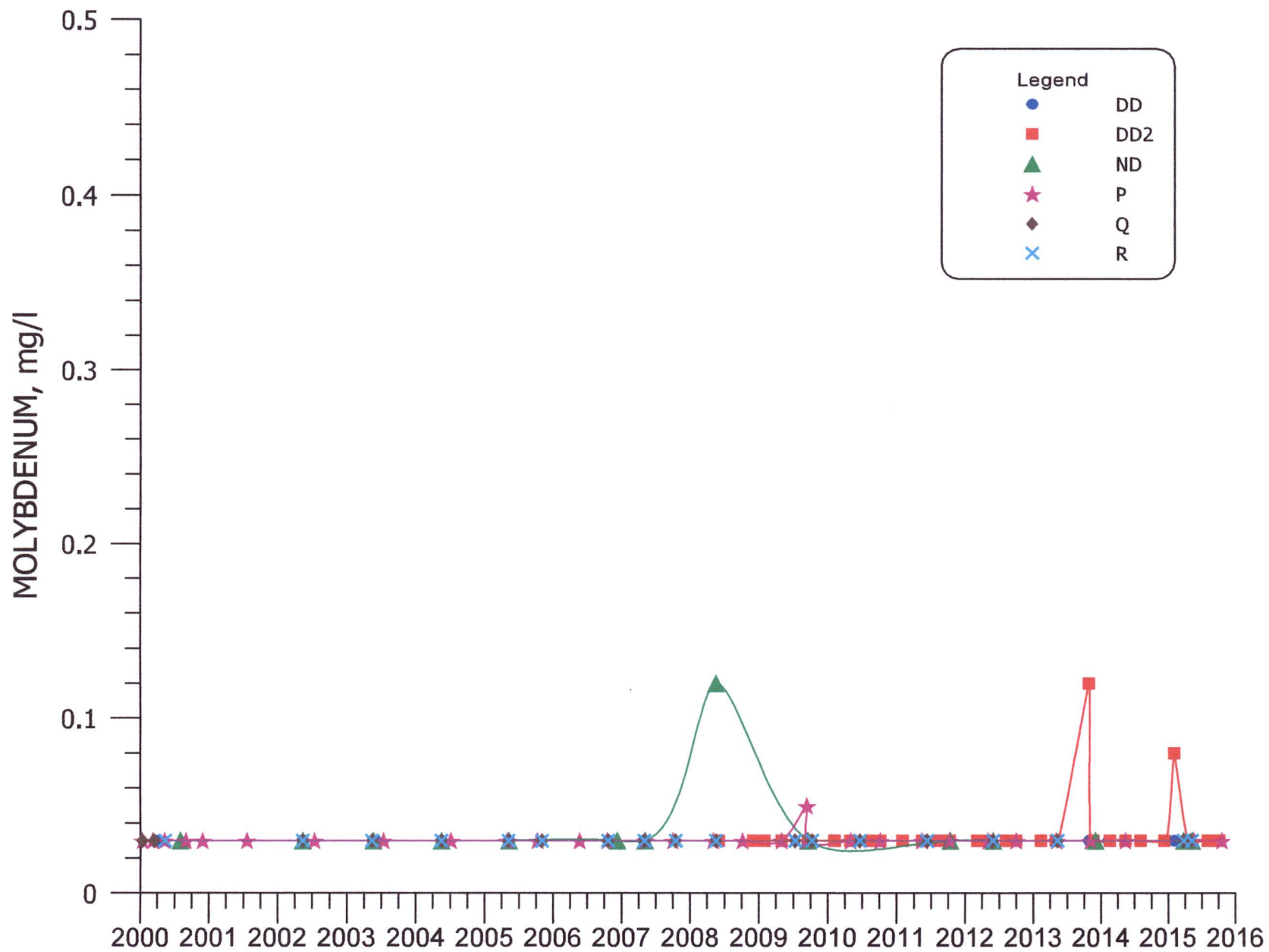


FIGURE 4.3-88. MOLYBDENUM CONCENTRATIONS FOR WELLS DD, DD2, ND, P, Q, AND R.

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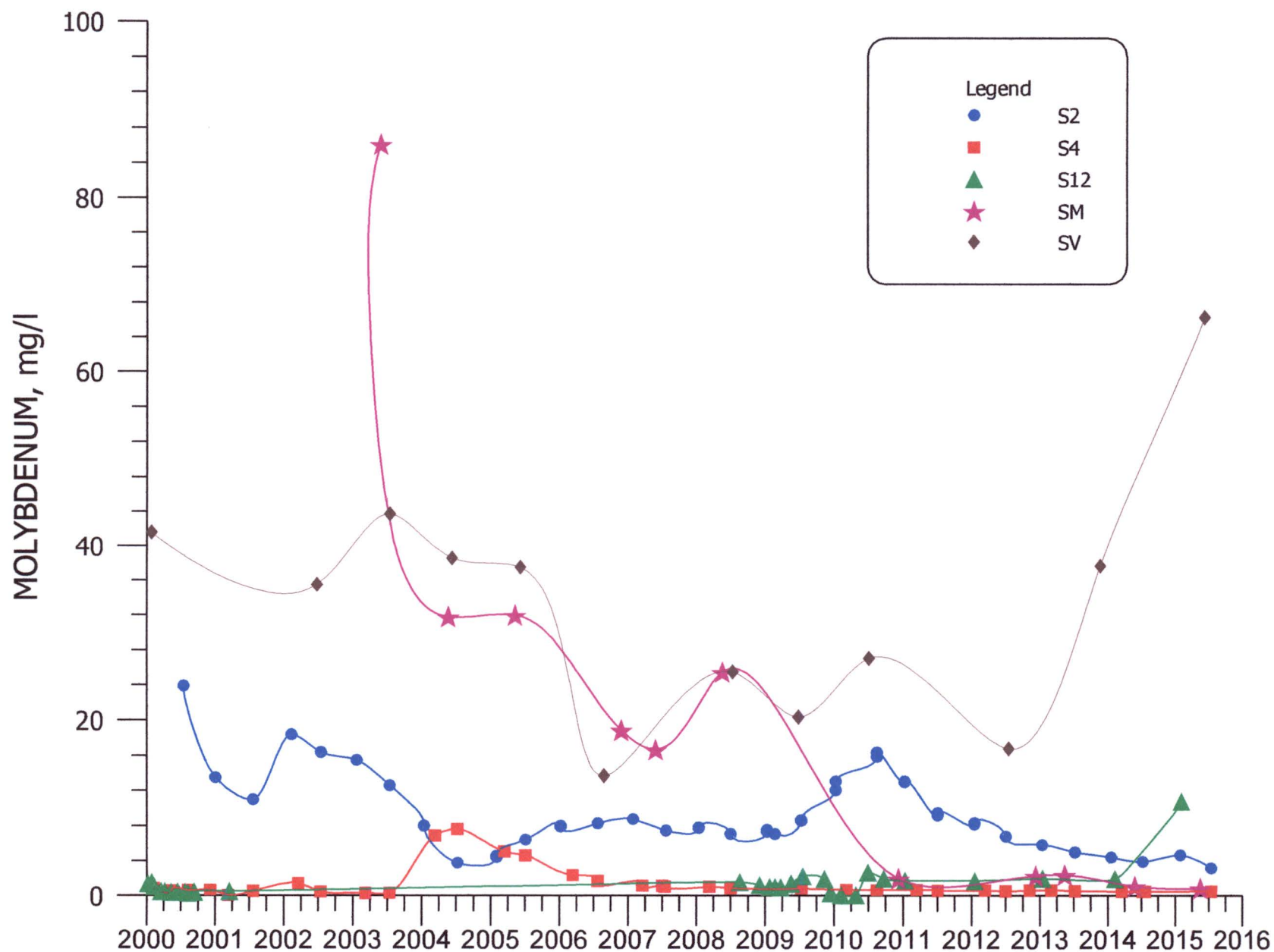


FIGURE 4.3-89. MOLYBDENUM CONCENTRATIONS FOR WELLS S2, S4, S12, SM, AND SV.

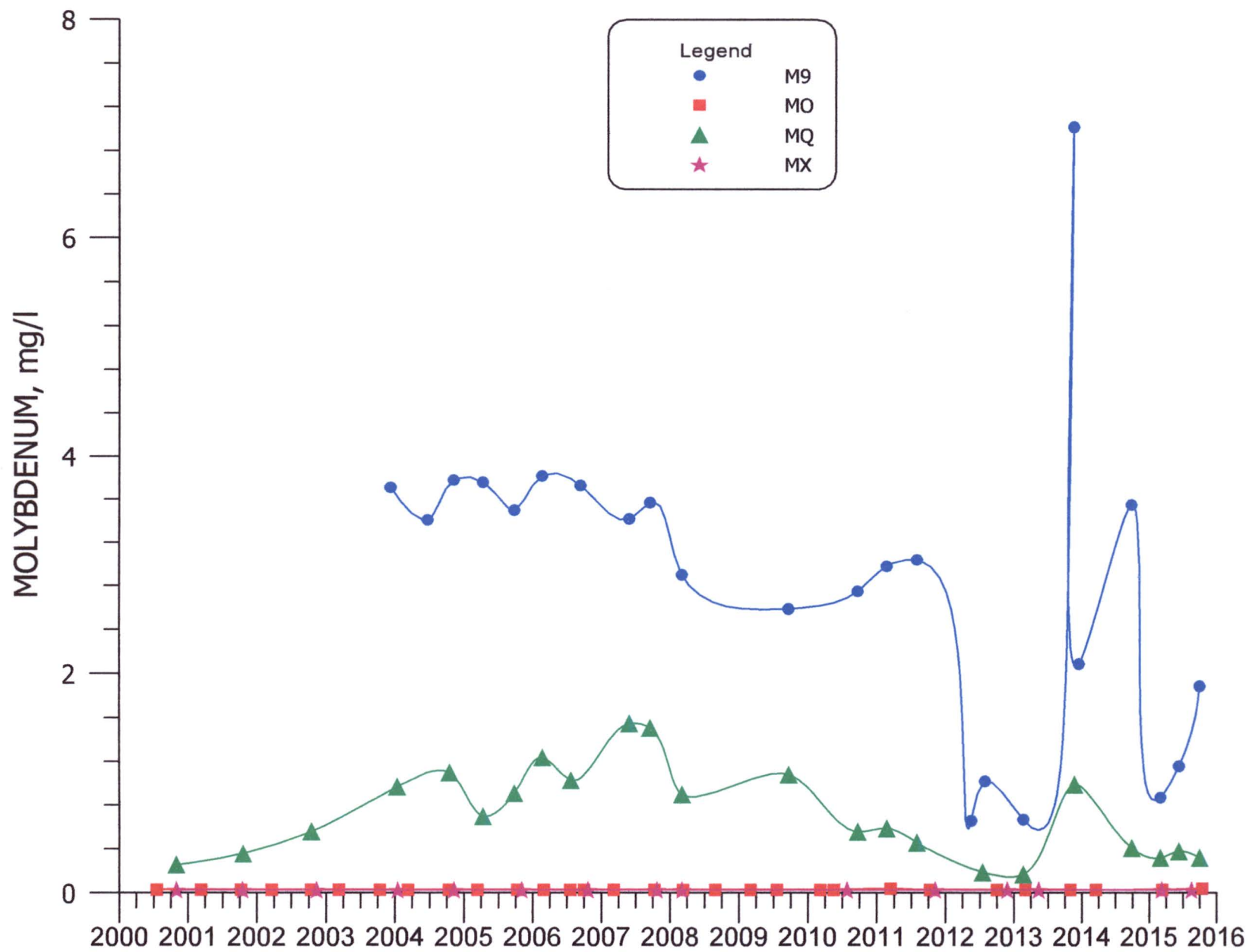


FIGURE 4.3-90. MOLYBDENUM CONCENTRATIONS FOR WELLS M9, MO, MQ, AND MX.

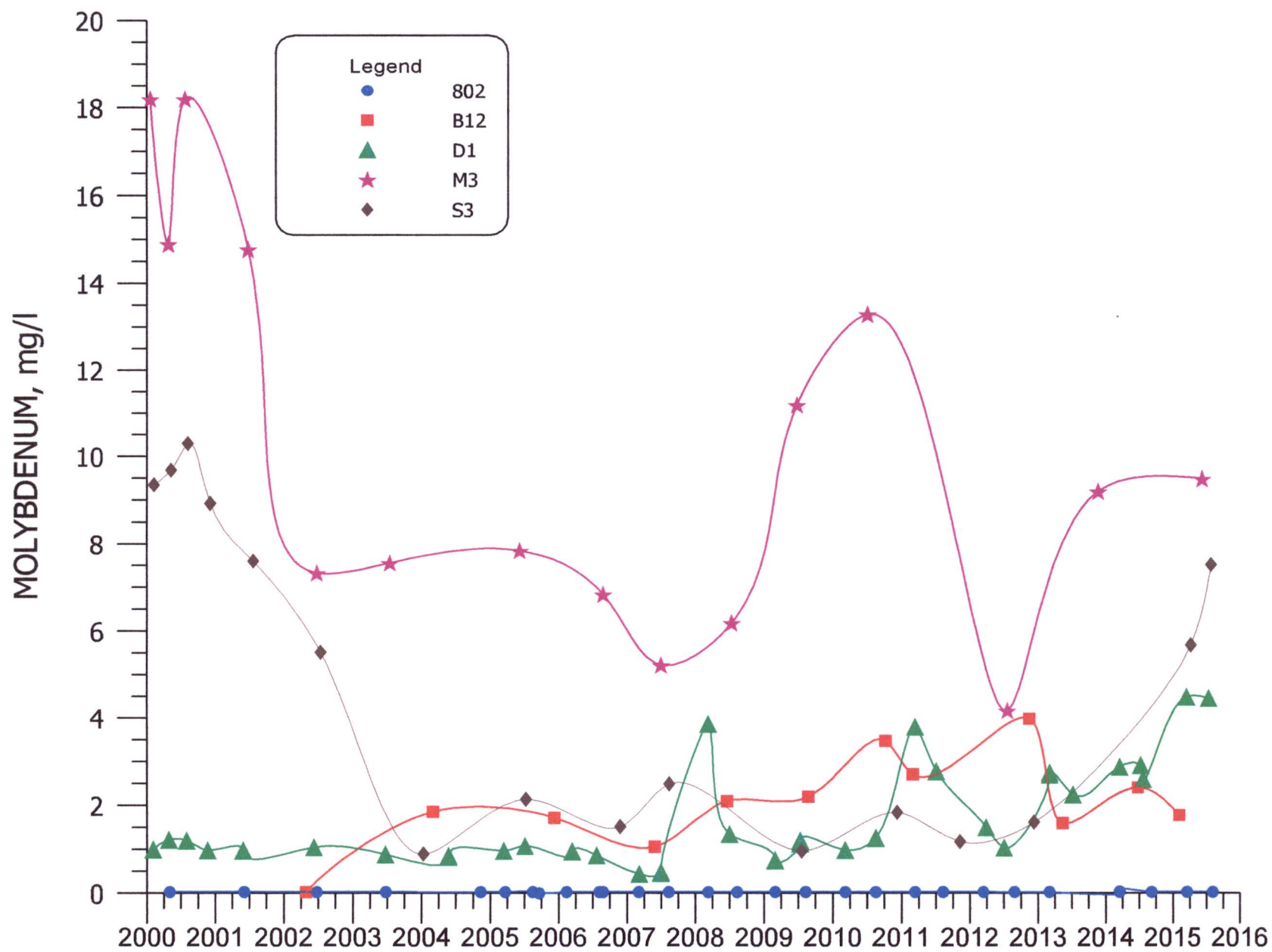


FIGURE 4.3-91. MOLYBDENUM CONCENTRATIONS FOR WELLS 802, B12, D1, M3, AND S3.

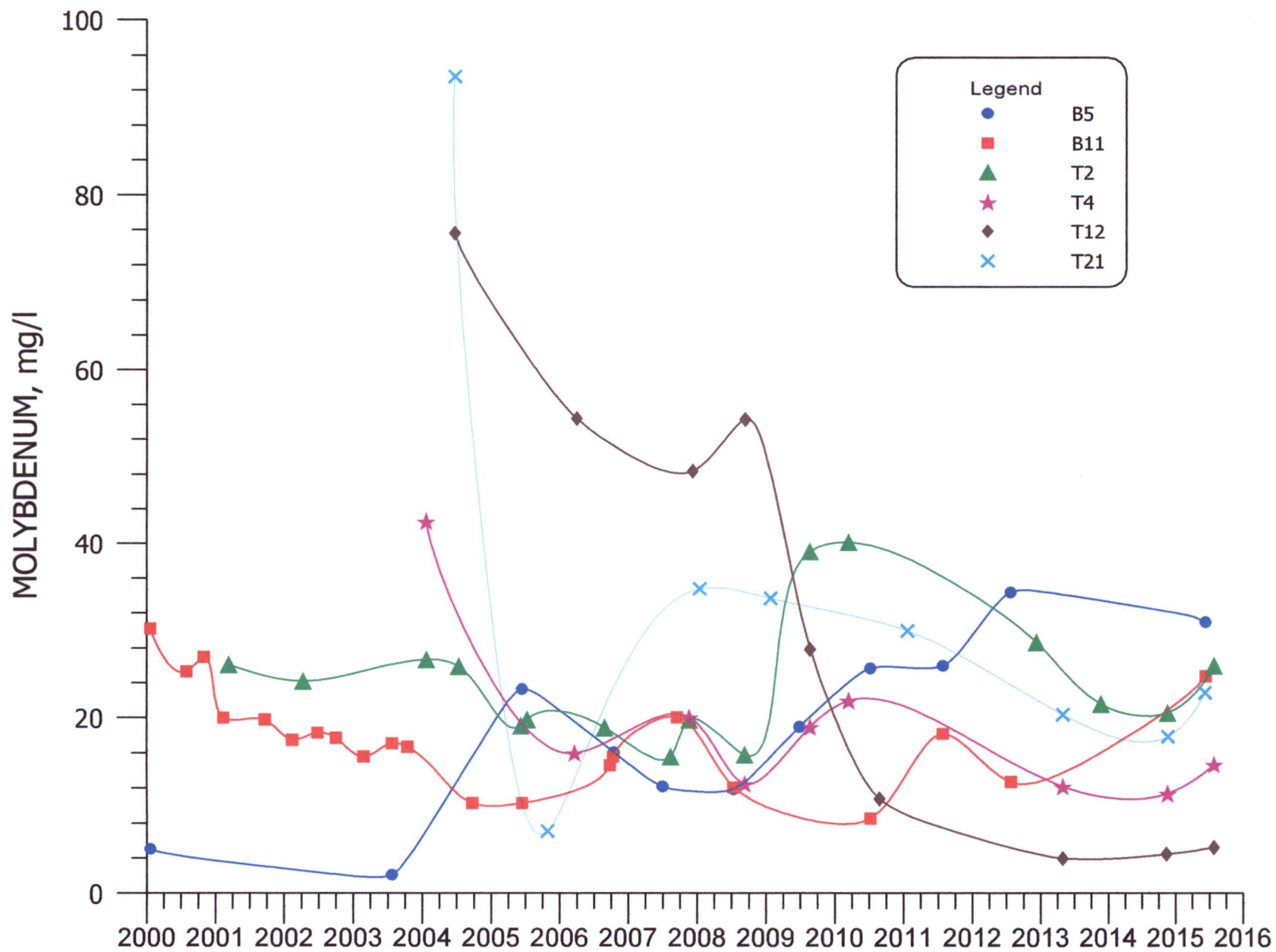


FIGURE 4.3-92. MOLYBDENUM CONCENTRATIONS FOR WELLS B5, B11, T2, T4, T12, AND T21.

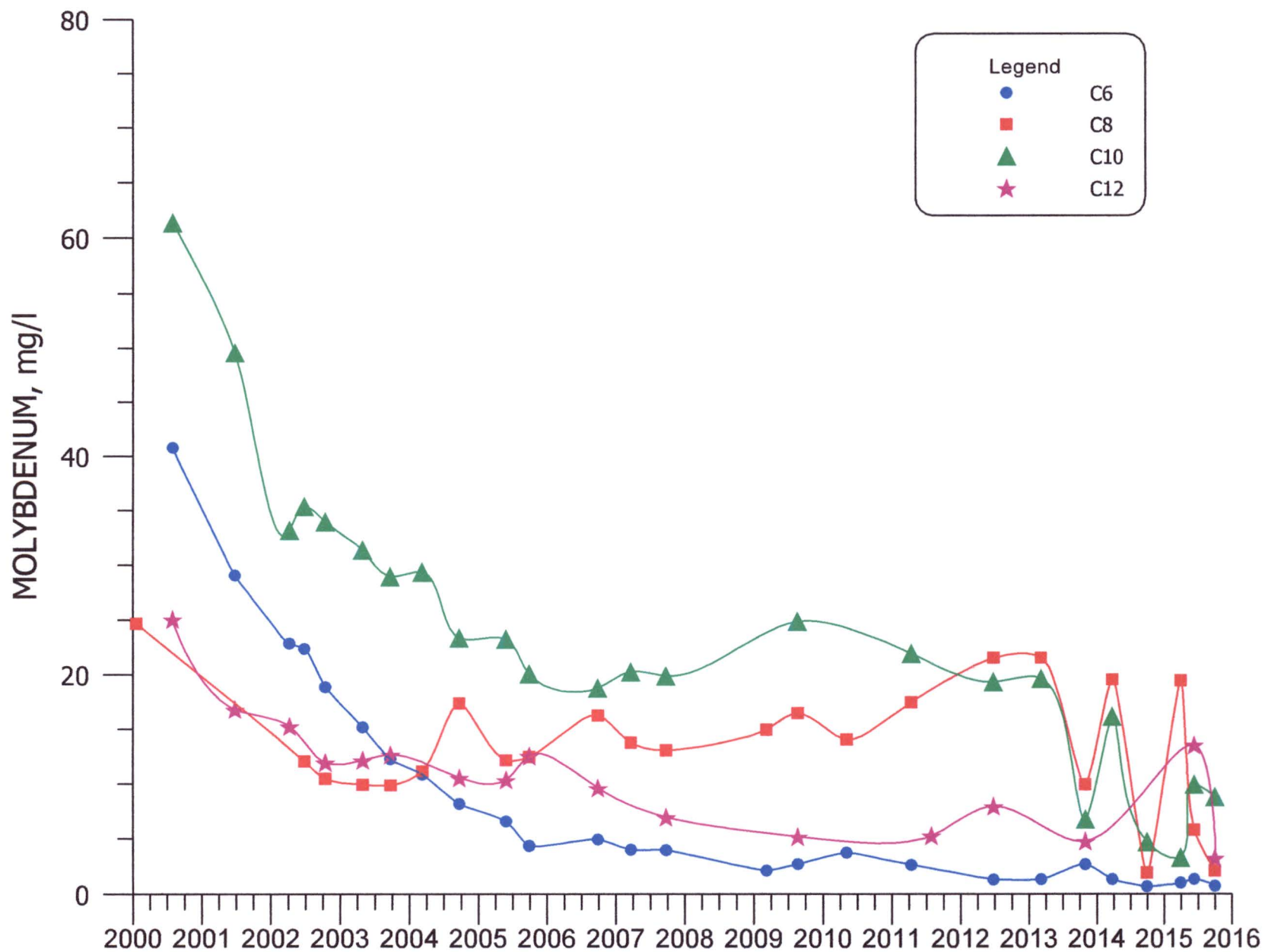


FIGURE 4.3-93. MOLYBDENUM CONCENTRATIONS FOR WELLS C6, C8, C10, AND C12.

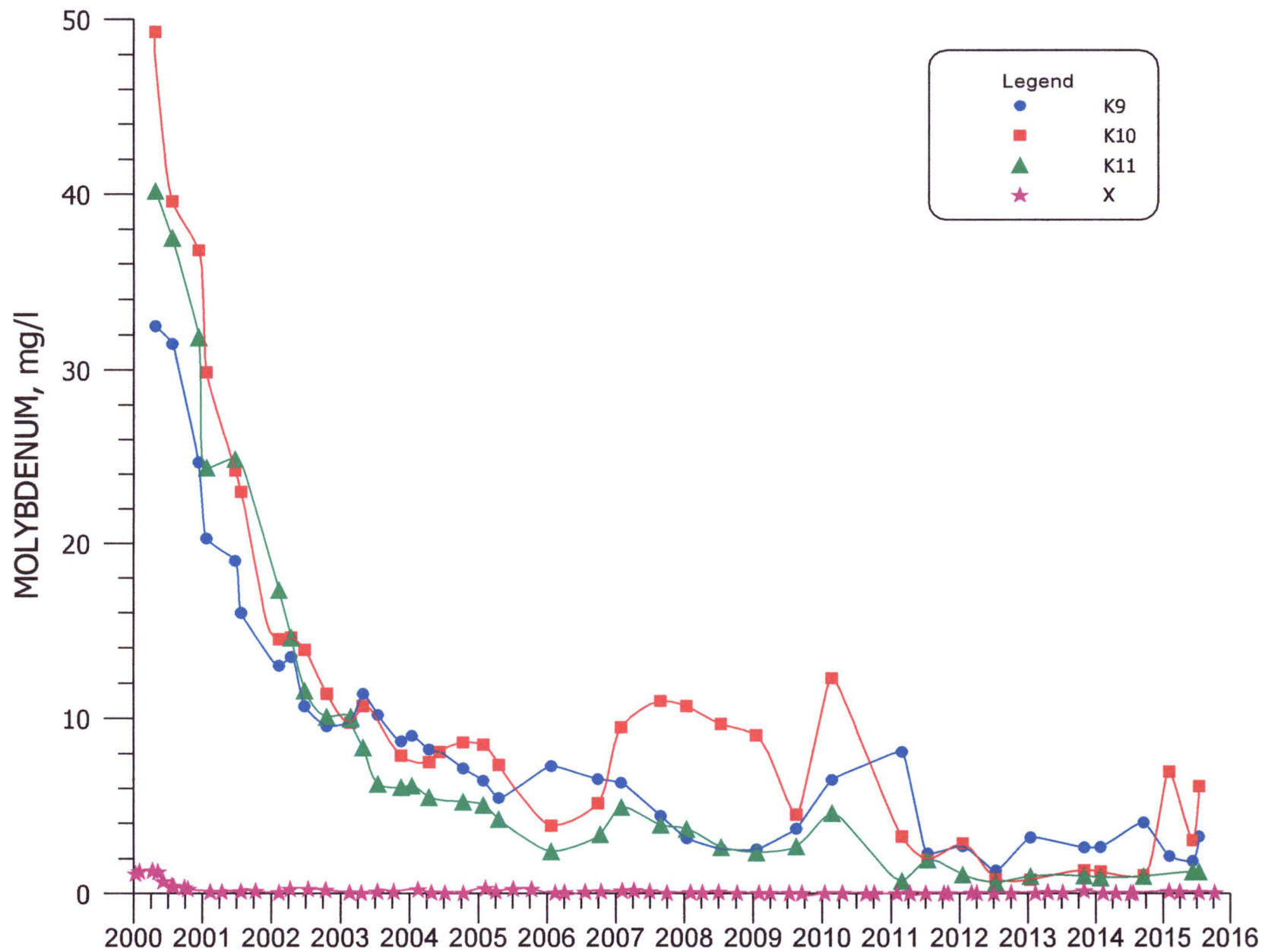


FIGURE 4.3-94. MOLYBDENUM CONCENTRATIONS FOR WELLS K9, K10, K11, AND X.

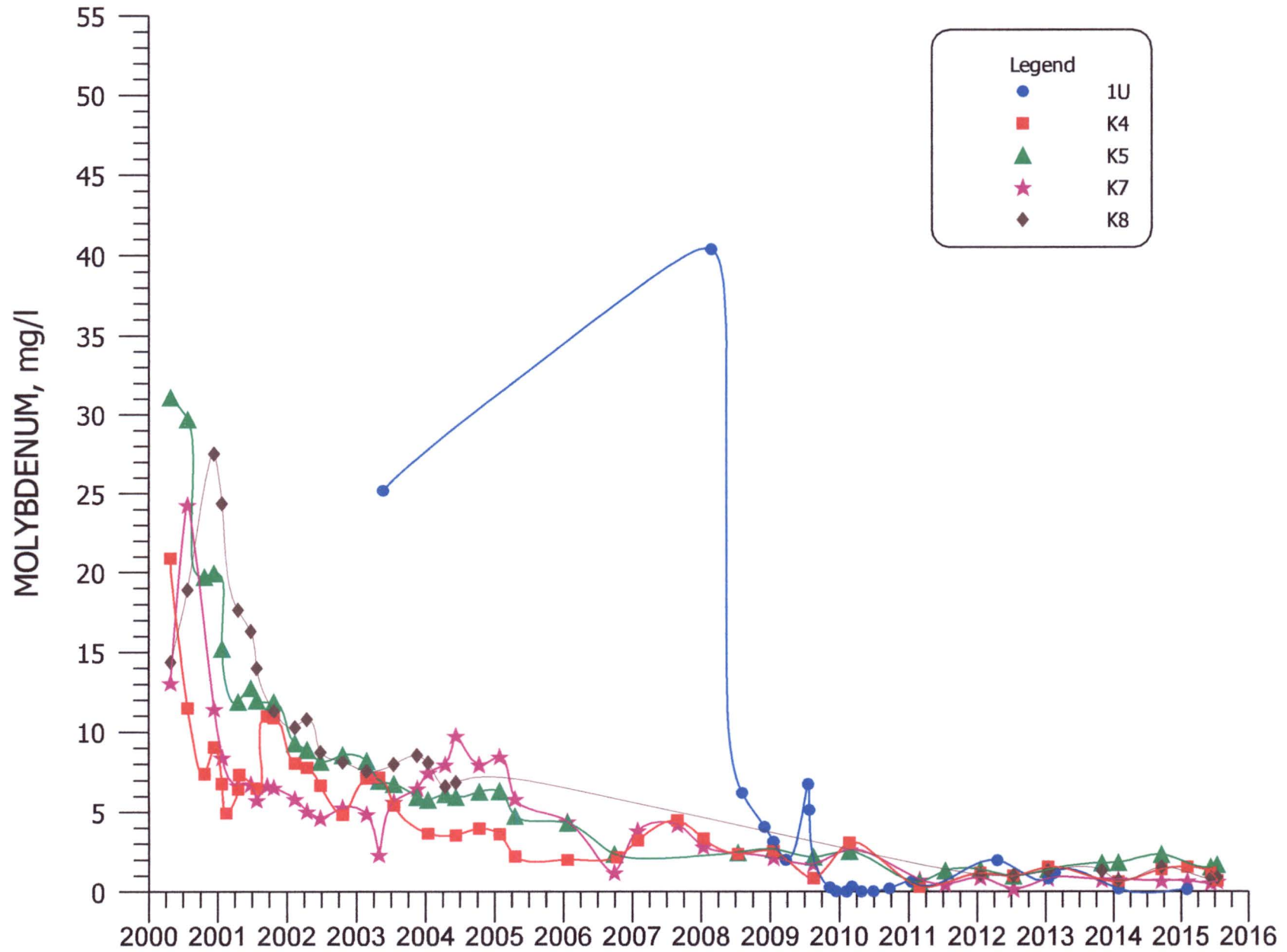


FIGURE 4.3-95. MOLYBDENUM CONCENTRATIONS FOR WELLS 1U, K4, K5, K7, AND K8.

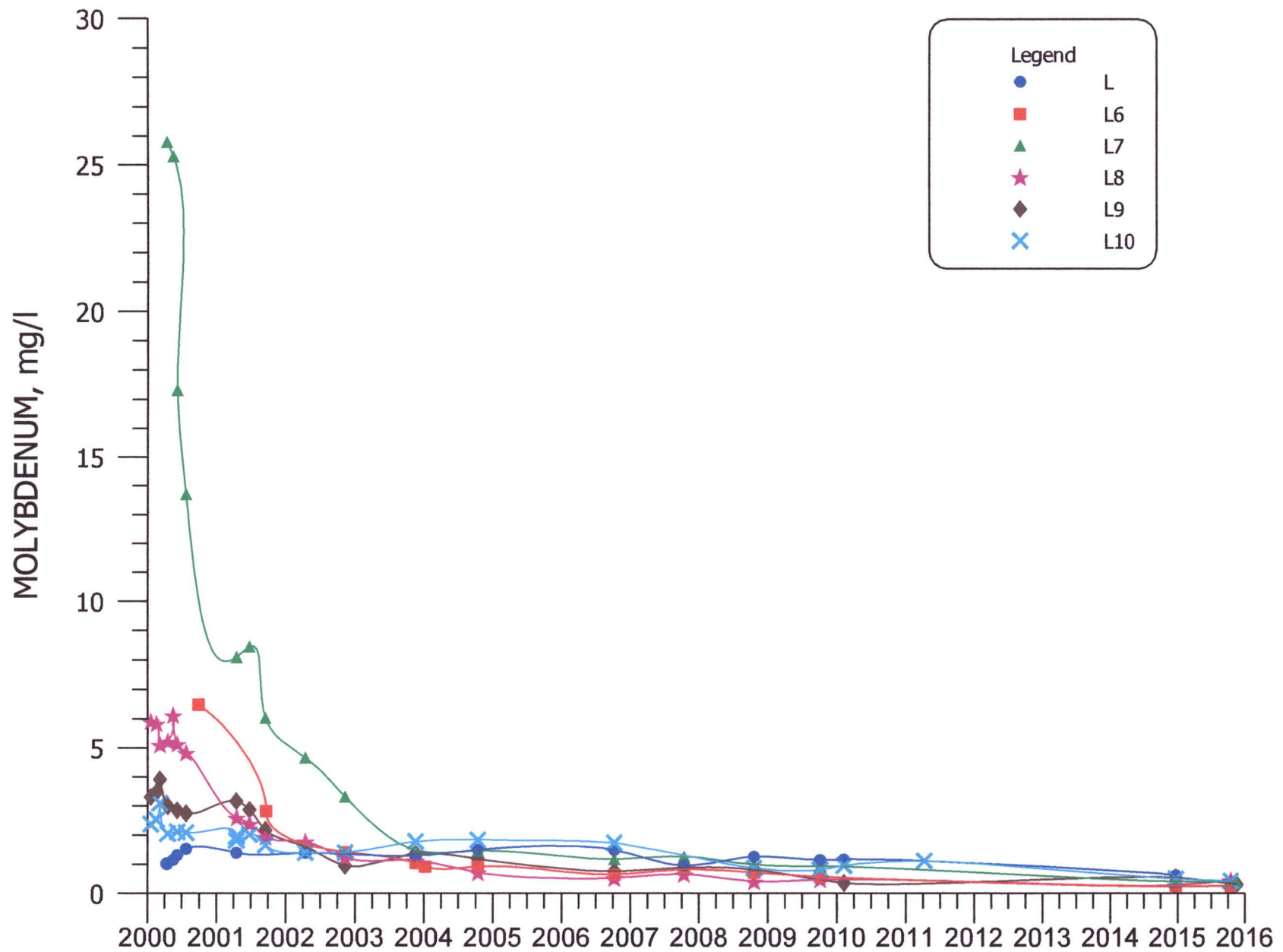


FIGURE 4.3-96. MOLYBDENUM CONCENTRATIONS FOR WELLS L, L6, L7, L8, L9, AND L10.

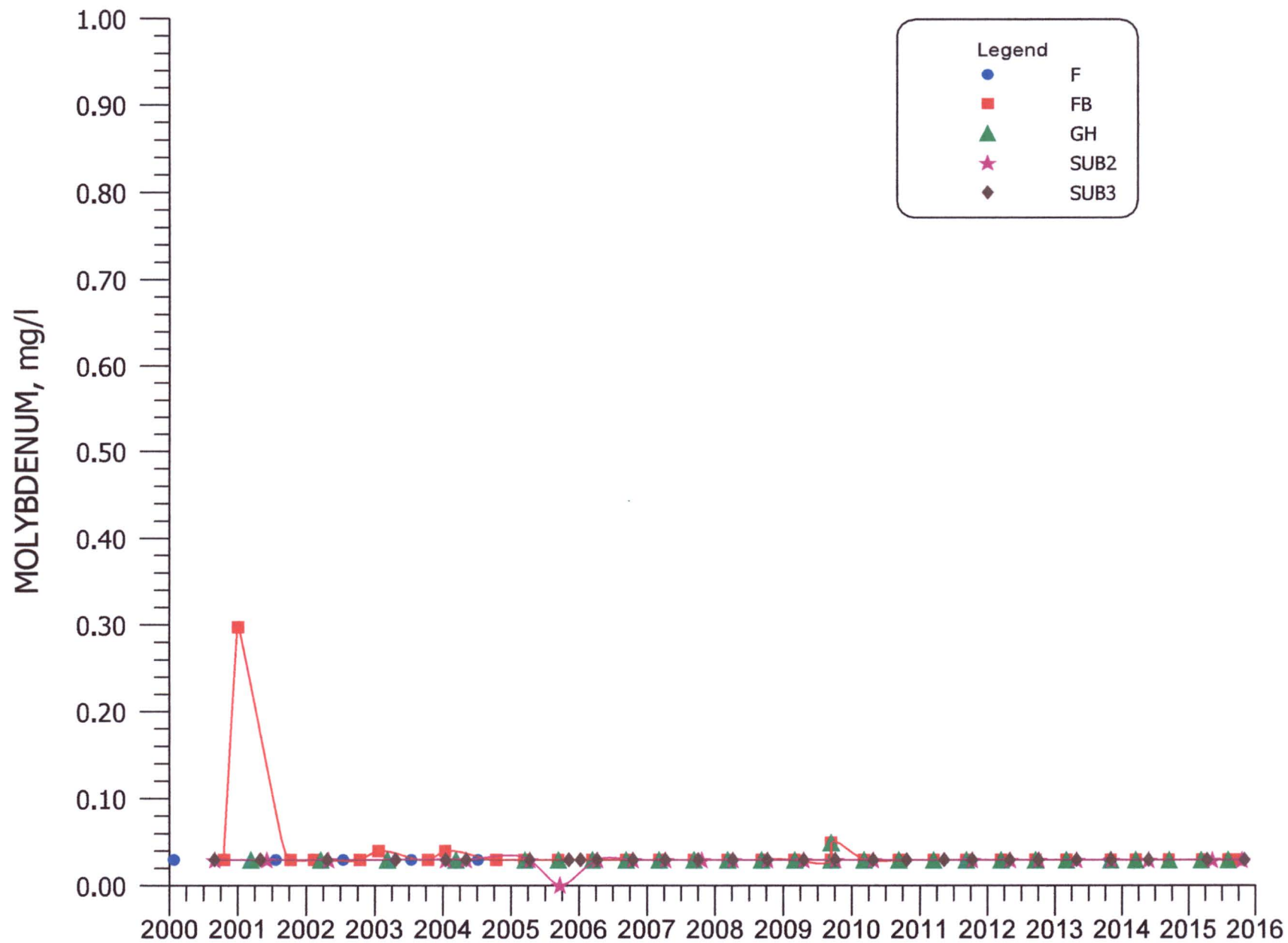


FIGURE 4.3-97. MOLYBDENUM CONCENTRATIONS FOR WELLS F, FB, GH, SUB2, AND SUB3.

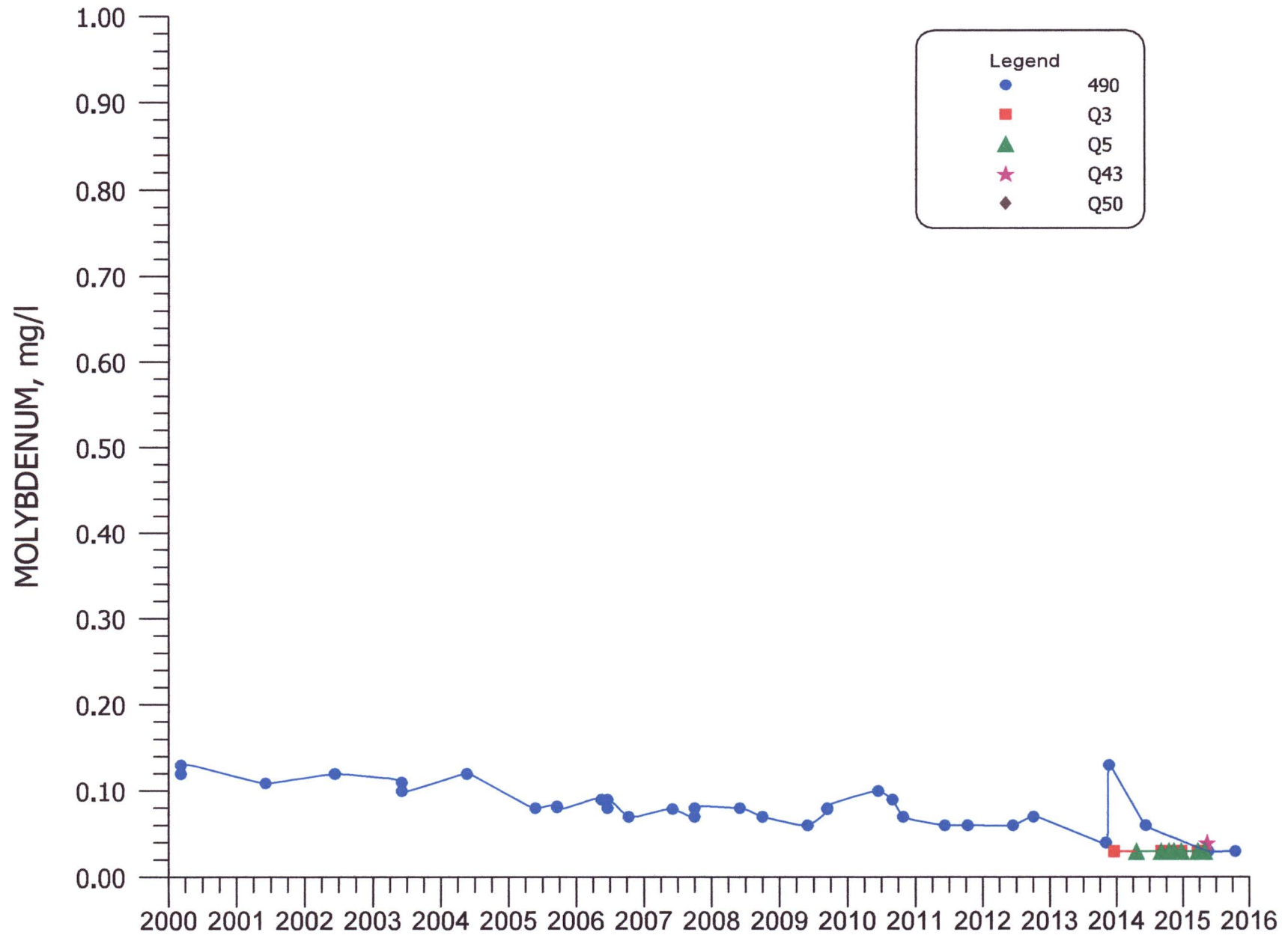


FIGURE 4.3-98. MOLYBDENUM CONCENTRATIONS FOR WELLS 490, Q3, Q5, Q43, AND Q50.

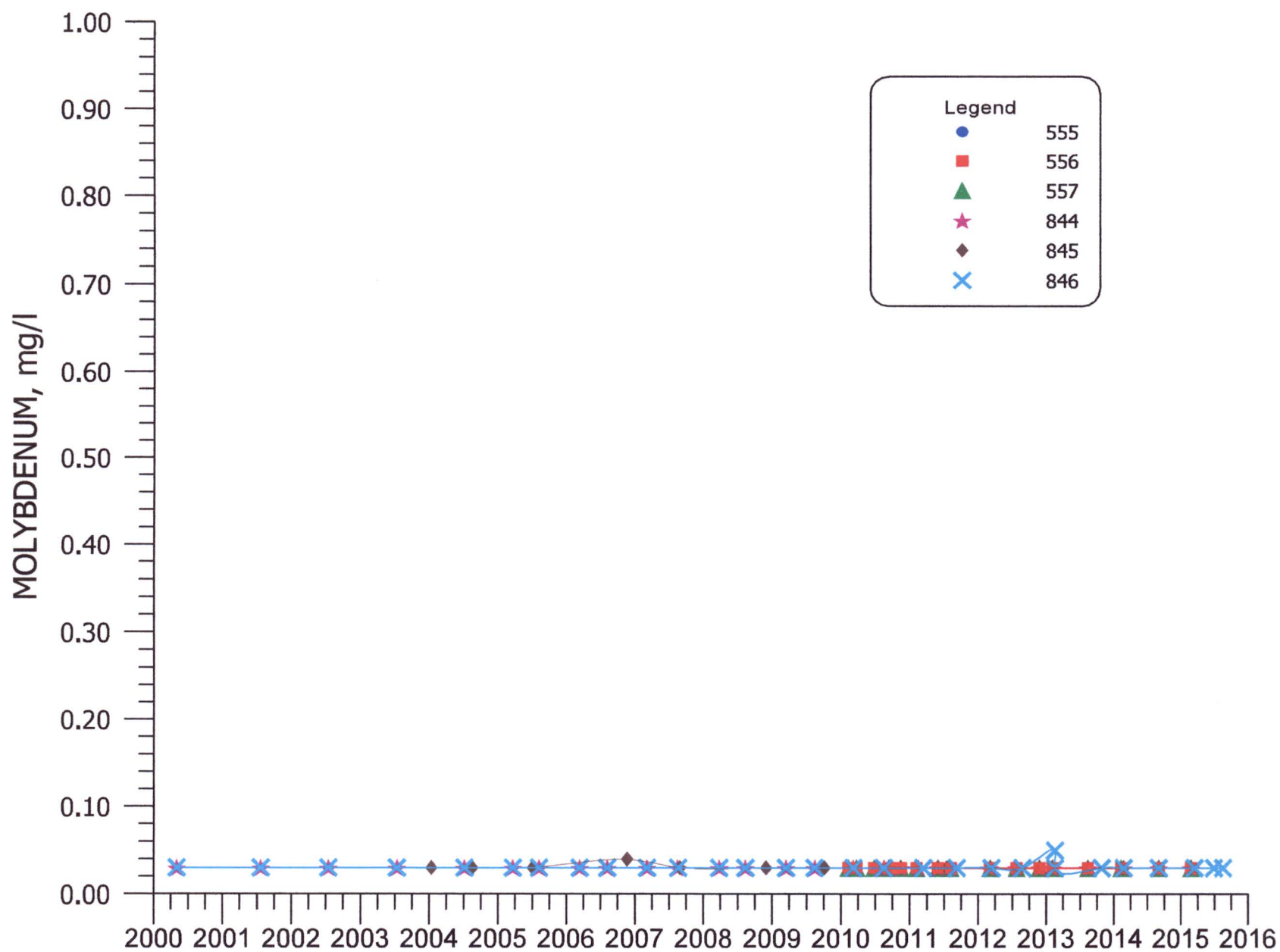


FIGURE 4.3-99. MOLYBDENUM CONCENTRATIONS FOR WELLS 555, 556, 557, 844, 845, AND 846.

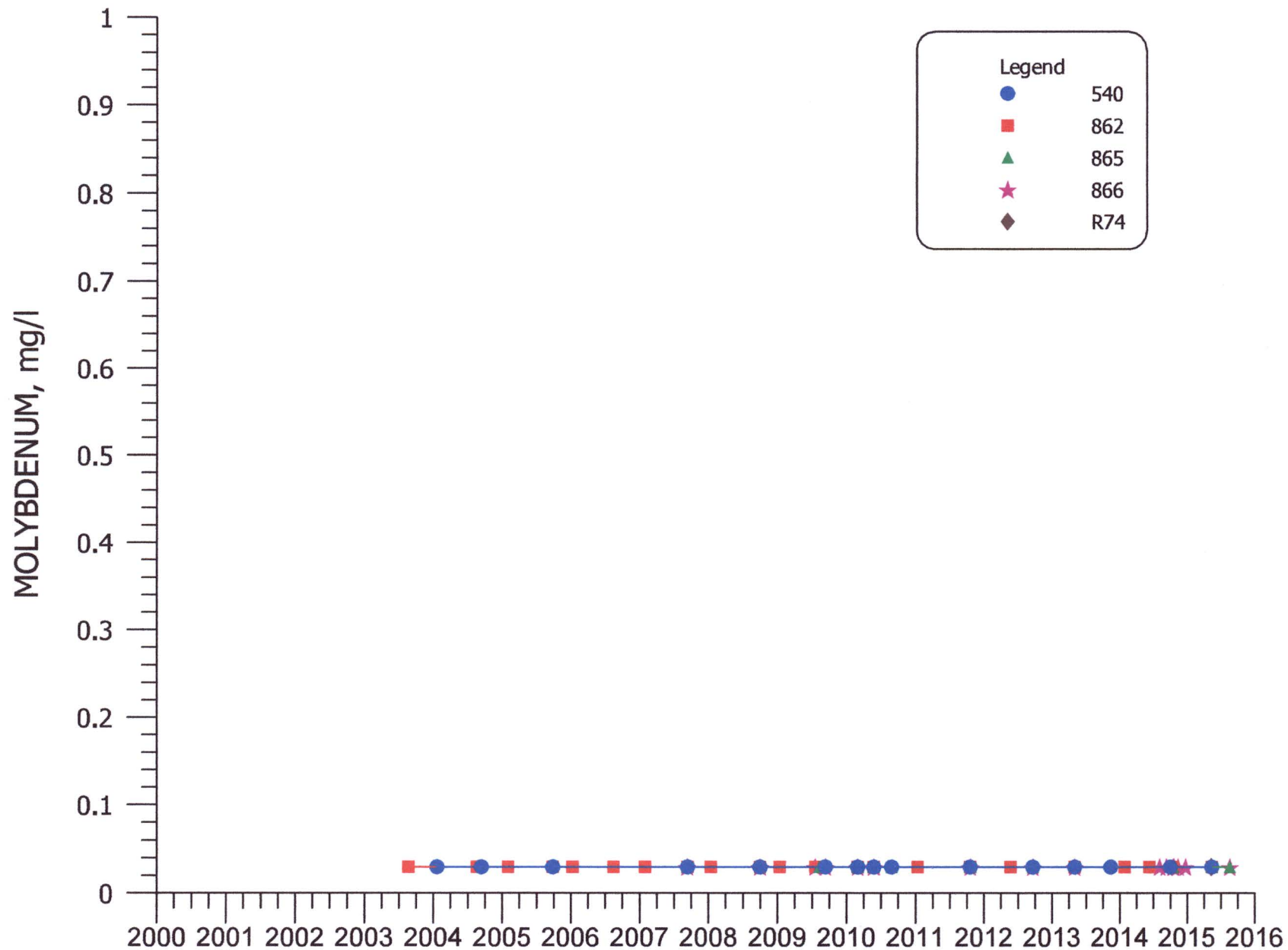


FIGURE 4.3-100. MOLYBDENUM CONCENTRATIONS FOR WELLS 540, 862, 865, 866, AND R74.

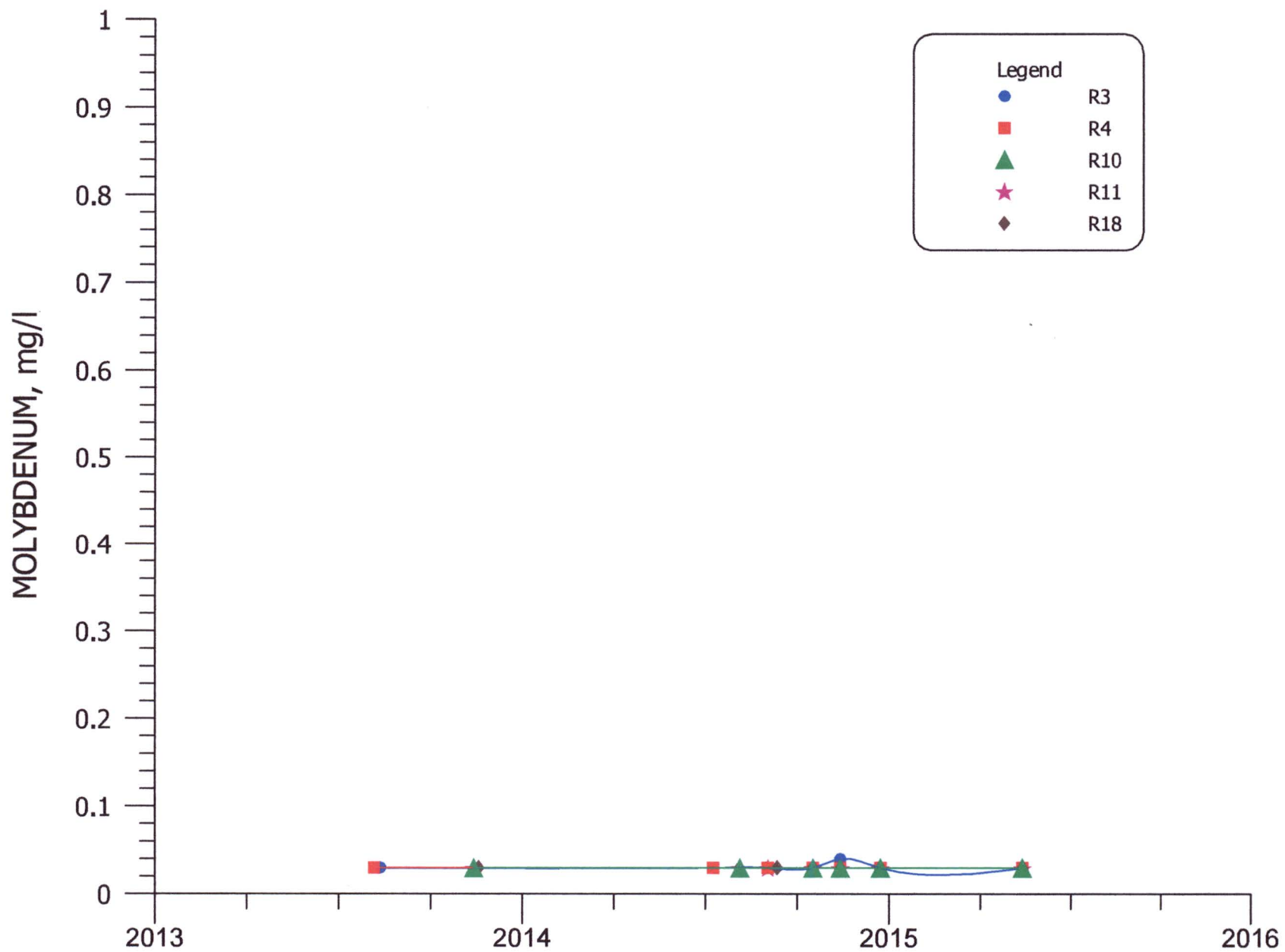


FIGURE 4.3-100A. MOLYBDENUM CONCENTRATIONS FOR WELLS R3, R4, R10, R11 AND R18.

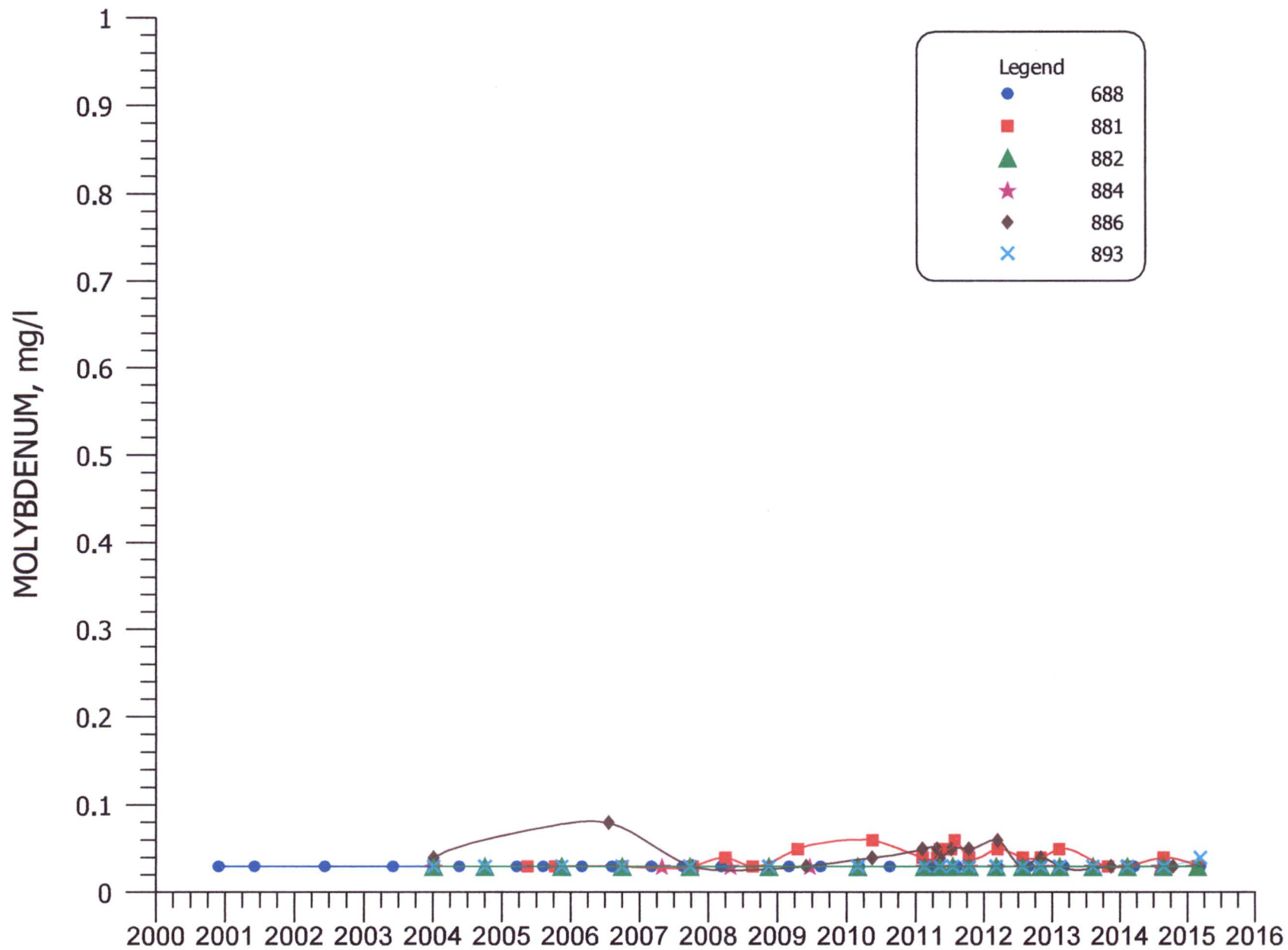


FIGURE 4.3-101. MOLYBDENUM CONCENTRATIONS FOR WELLS 688, 881, 882, 884, 886, AND 893.

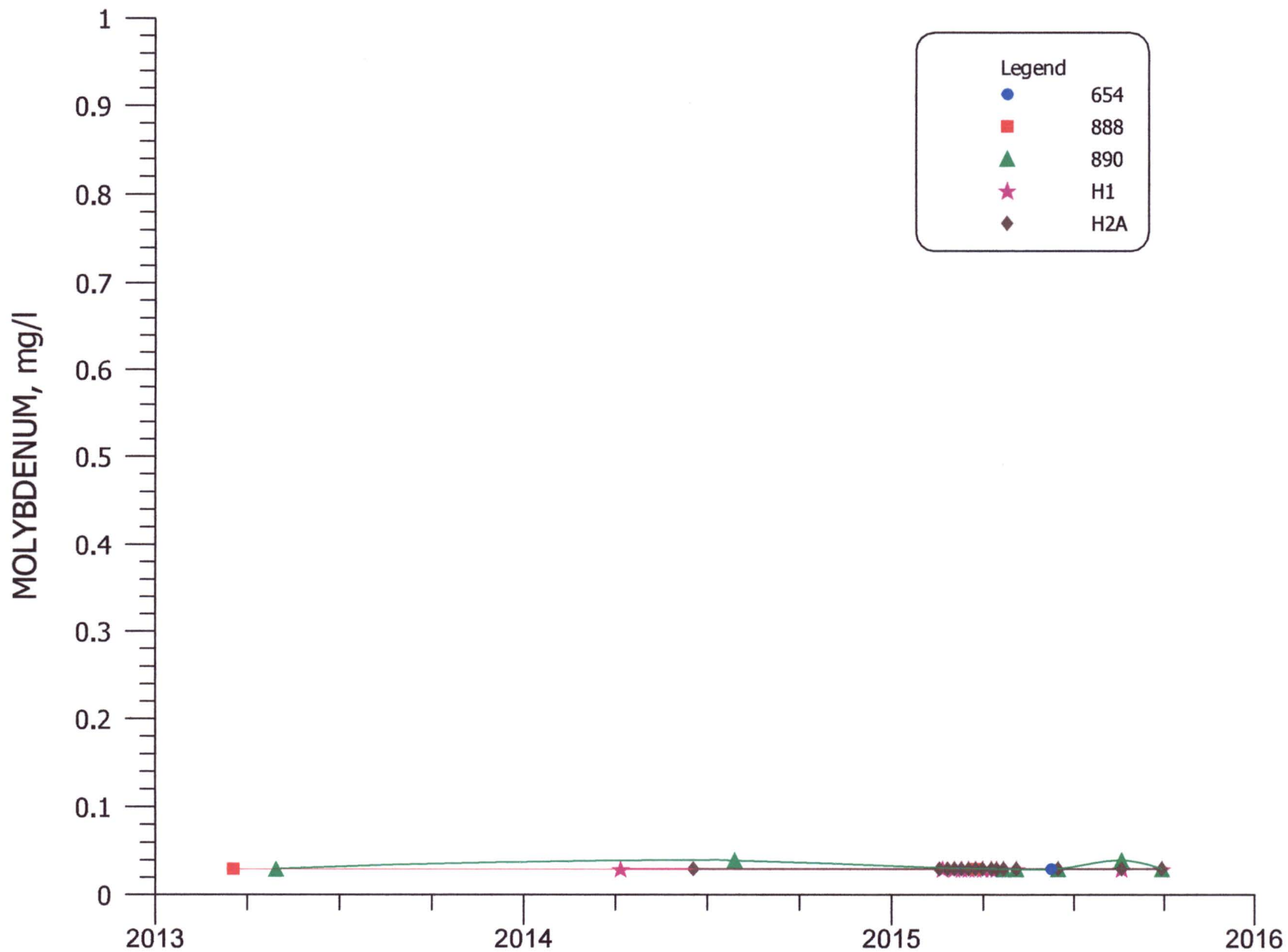


FIGURE 4.3-101A. MOLYBDENUM CONCENTRATIONS FOR WELLS 654, 888, 890, H1, AND H2A.

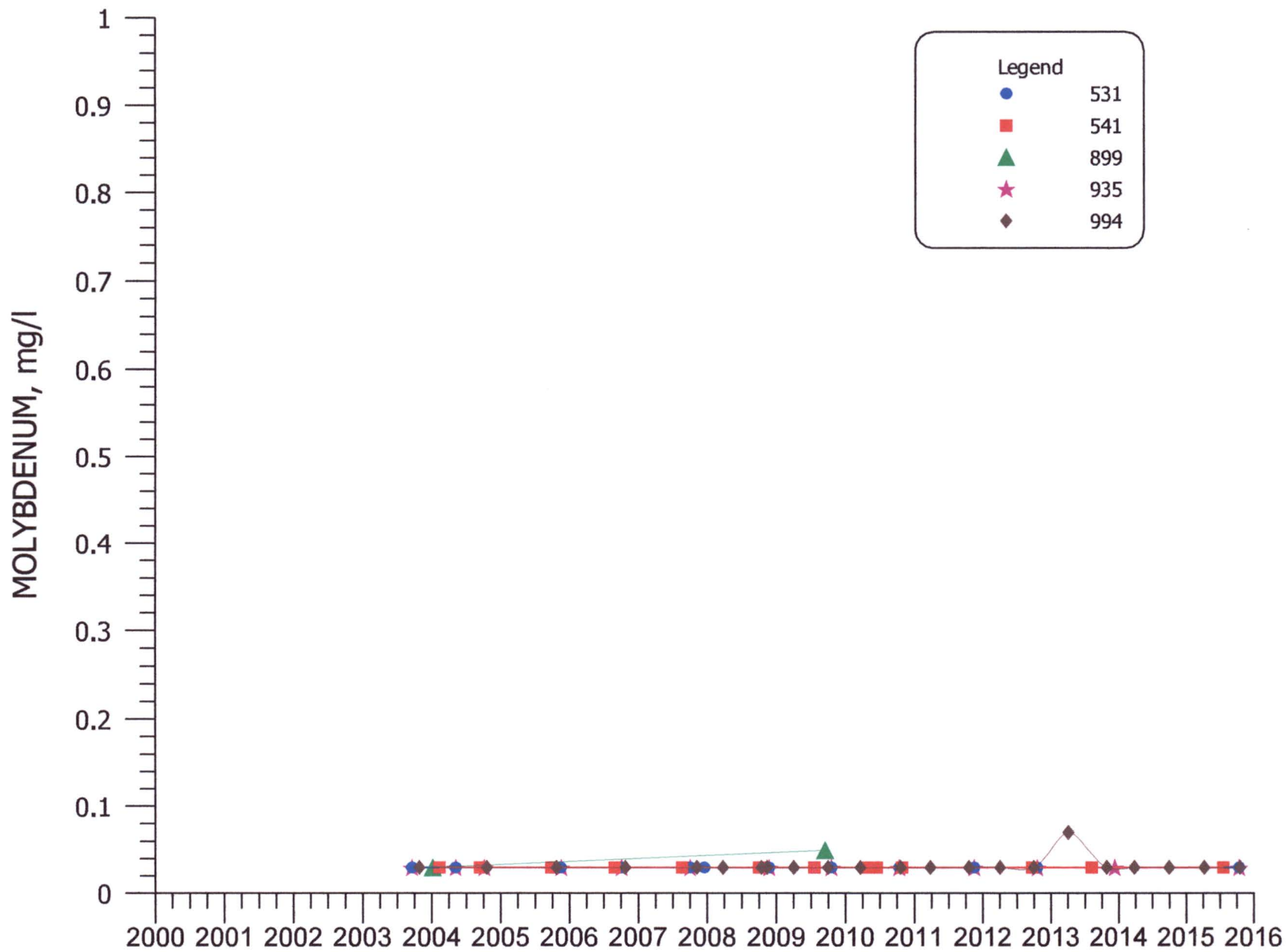


FIGURE 4.3-102. MOLYBDENUM CONCENTRATIONS FOR WELLS 531, 541, 899, 935, AND 994.

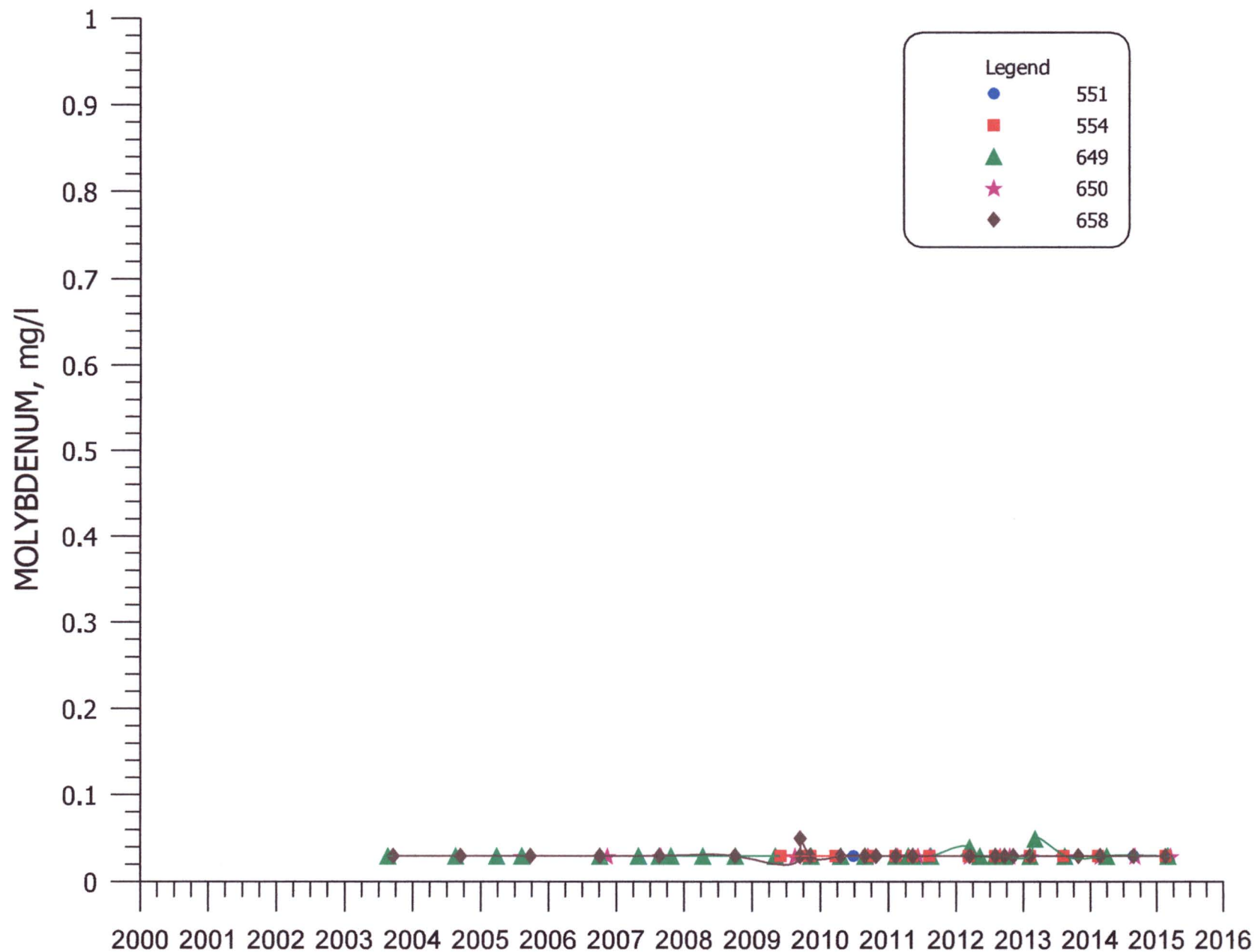
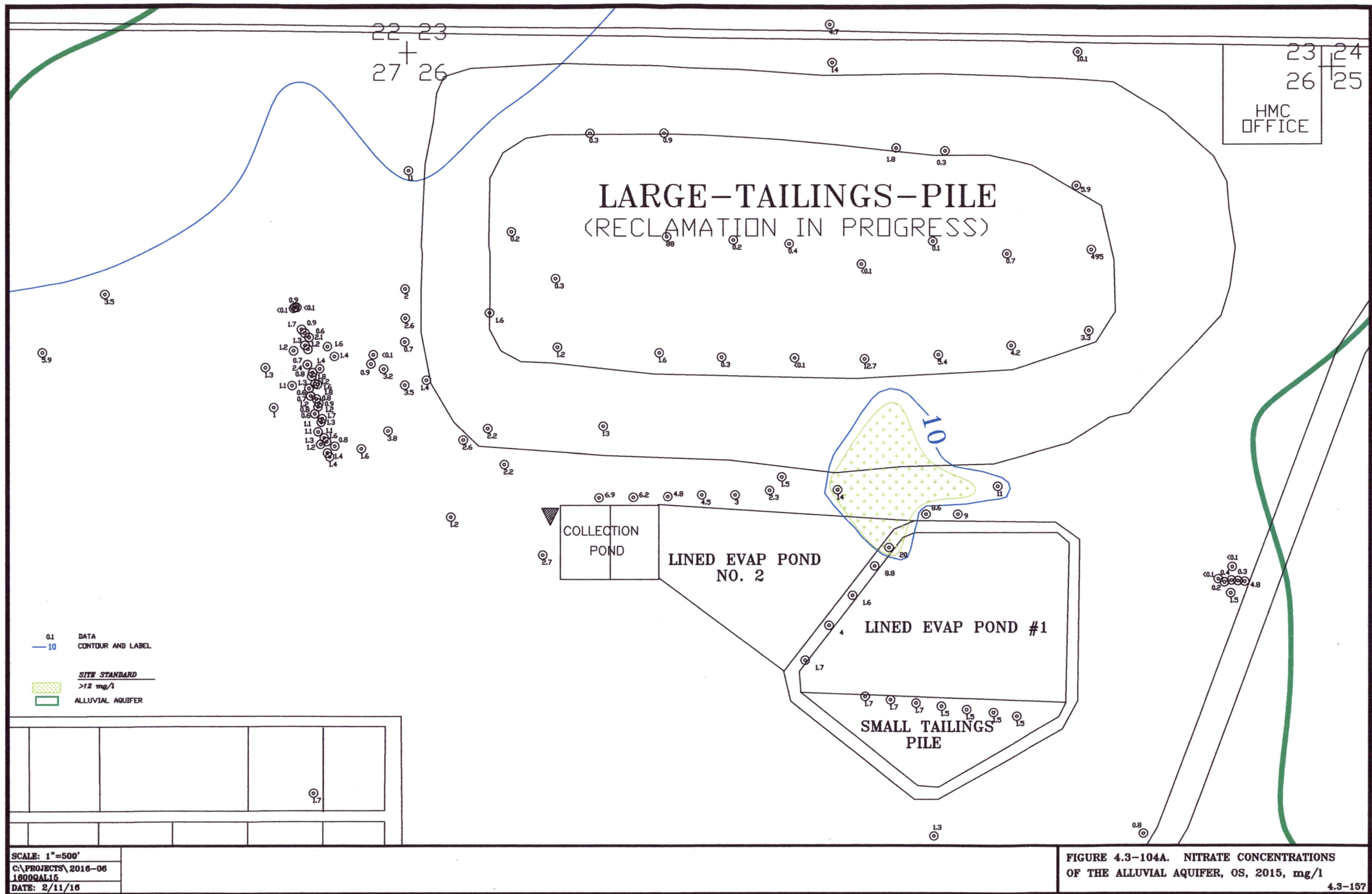


FIGURE 4.3-103. MOLYBDENUM CONCENTRATIONS FOR WELLS 551, 554, 649, 650, AND 658.



4.3-158

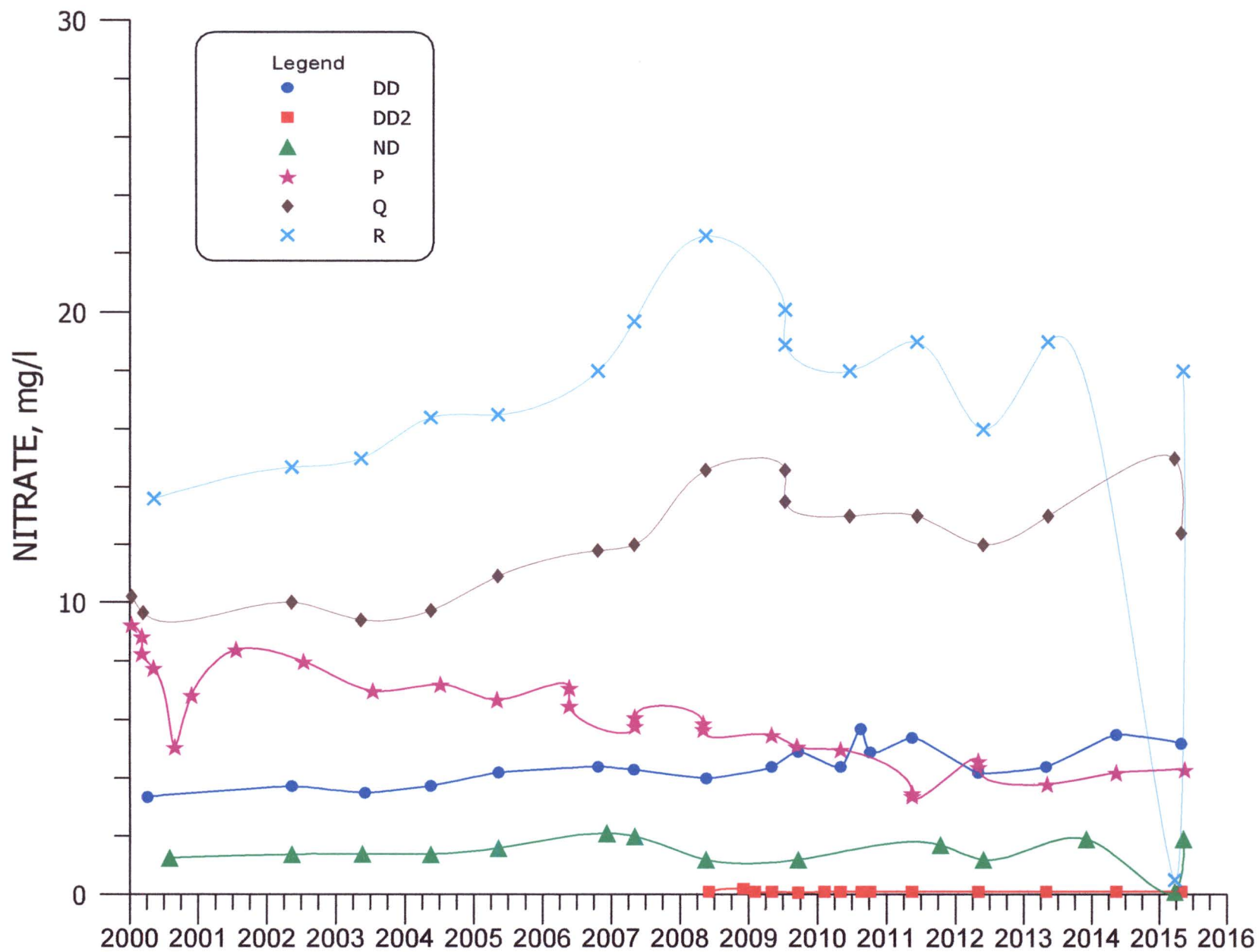


FIGURE 4.3-105. NITRATE CONCENTRATIONS FOR WELLS DD, DD2, ND, P, Q, AND R.

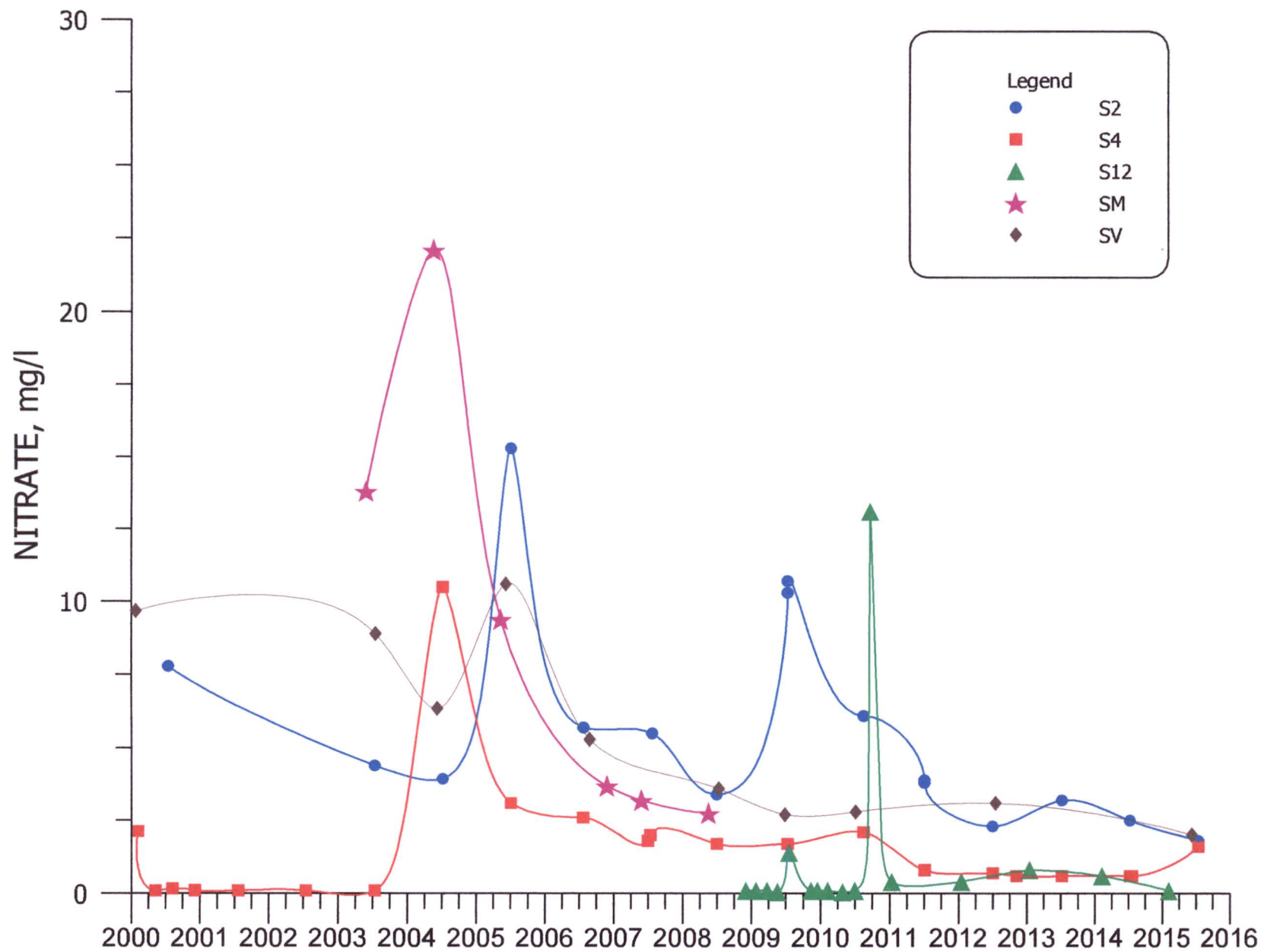


FIGURE 4.3-106. NITRATE CONCENTRATIONS FOR WELLS S2, S4, S12, SM, AND SV.

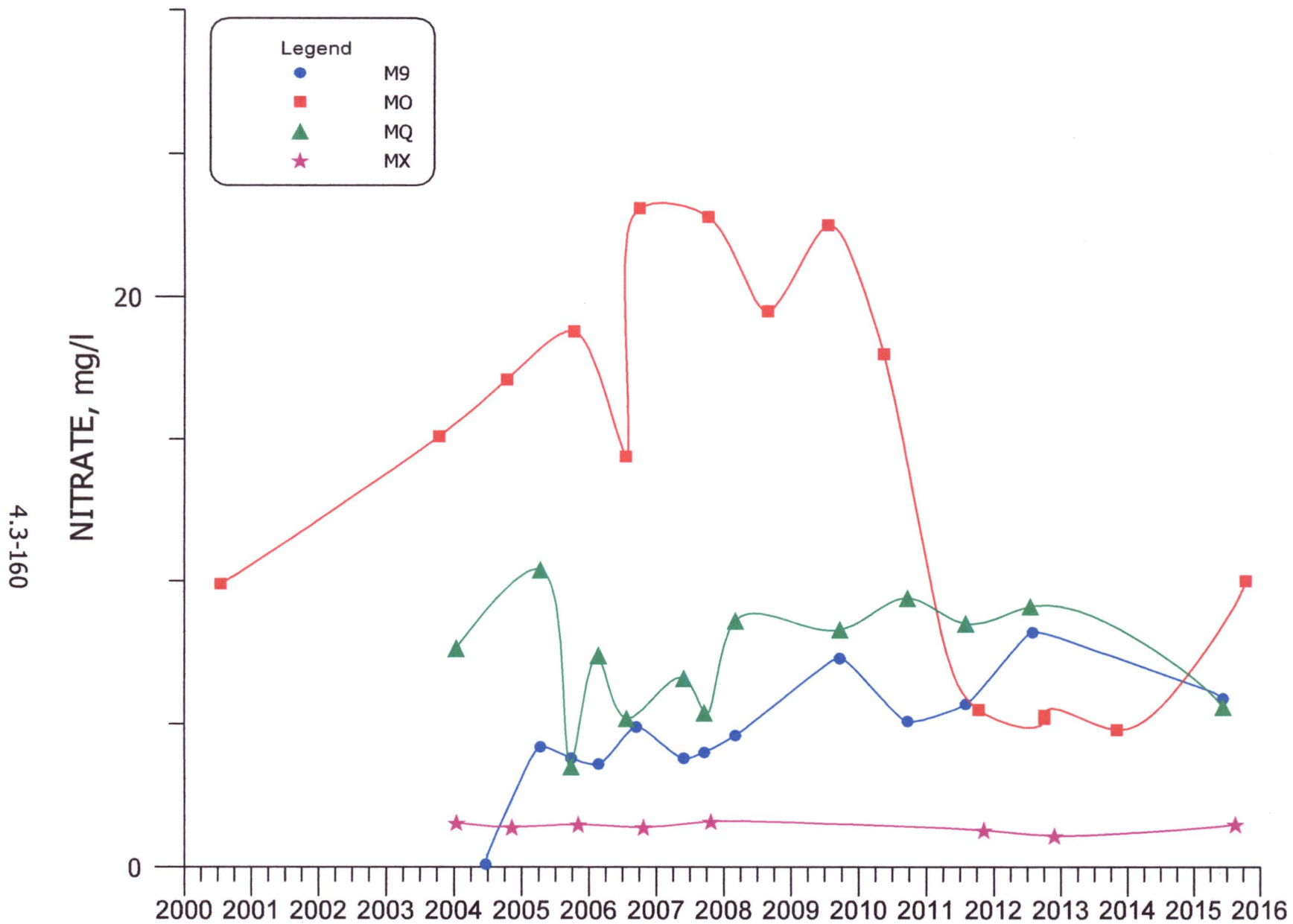


FIGURE 4.3-107. NITRATE CONCENTRATIONS FOR WELLS M9, MO, MQ, AND MX.

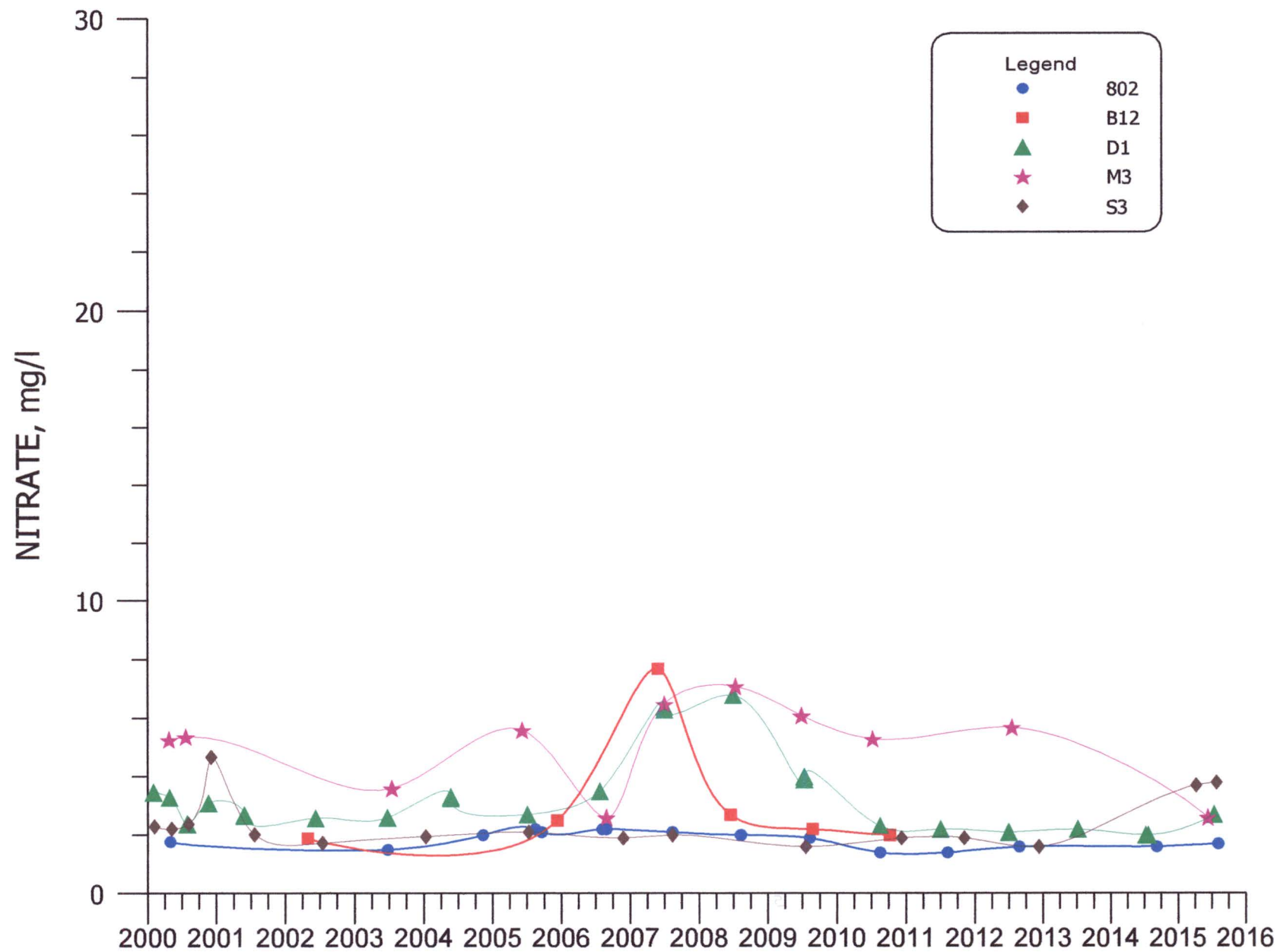


FIGURE 4.3-108. NITRATE CONCENTRATIONS FOR WELLS 802, B12, D1, M3, AND S3.

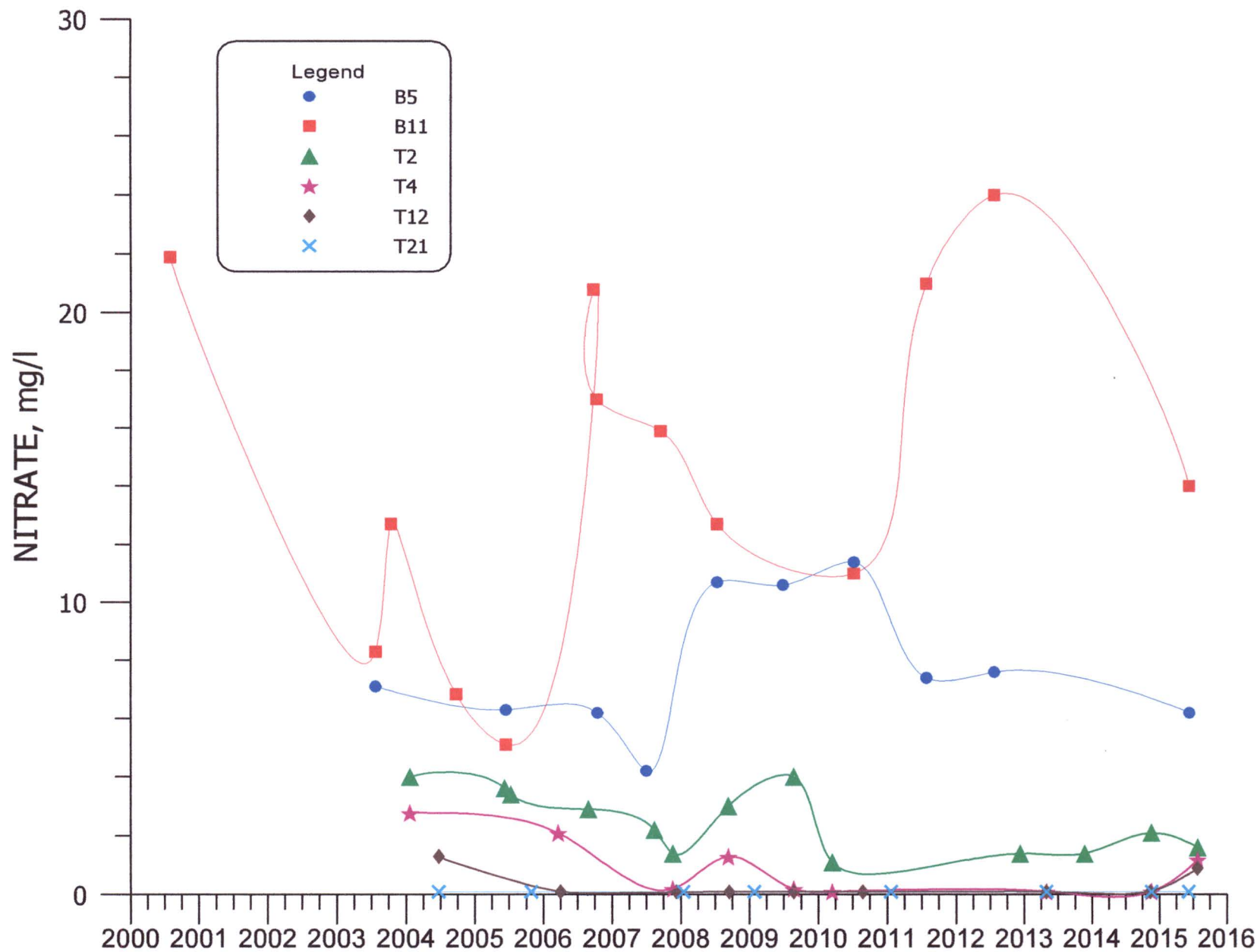


FIGURE 4.3-109. NITRATE CONCENTRATIONS FOR WELLS B5, B11, T2, T4, T12, AND T21.

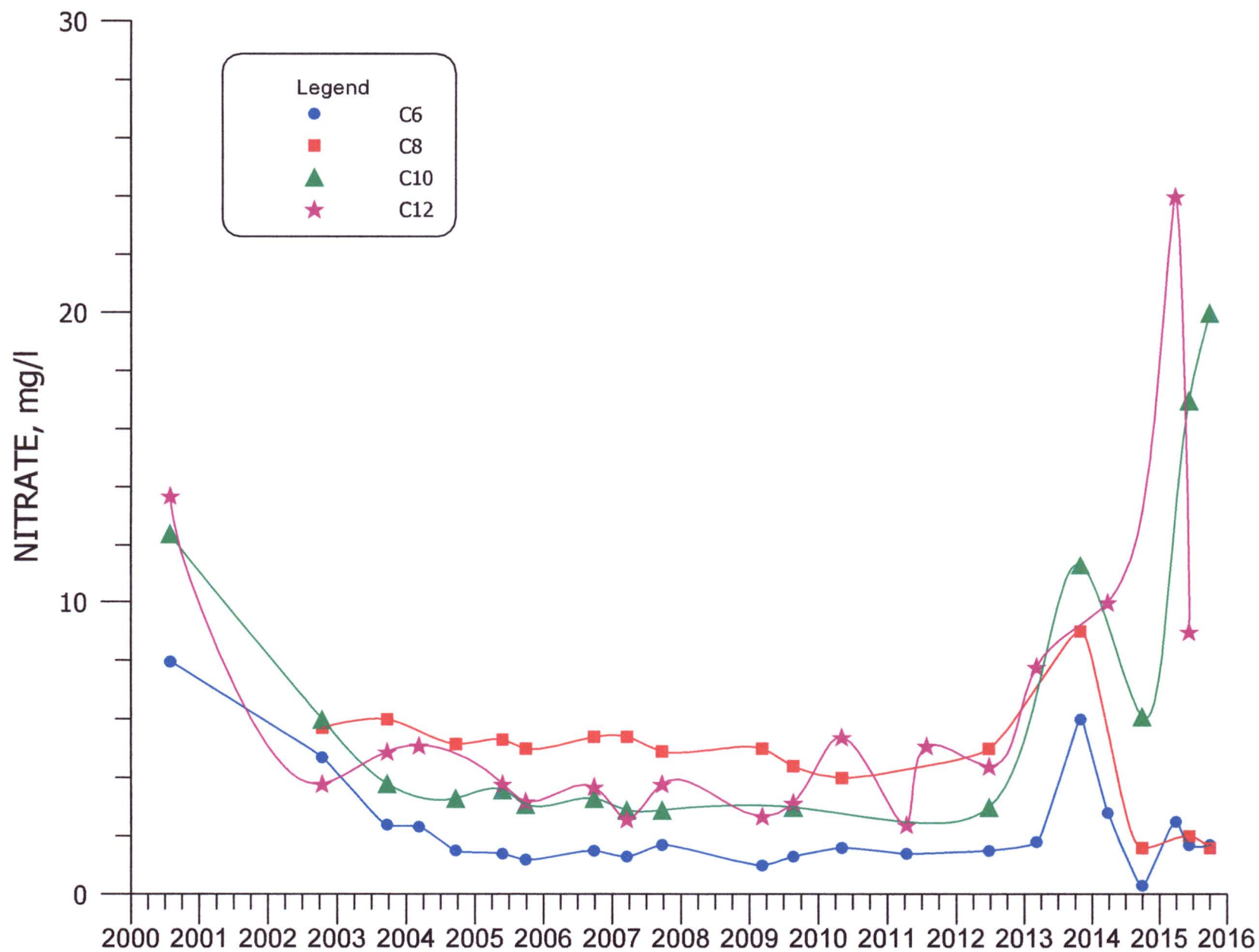


FIGURE 4.3-110. NITRATE CONCENTRATIONS FOR WELLS C6, C8, C10, AND C12.

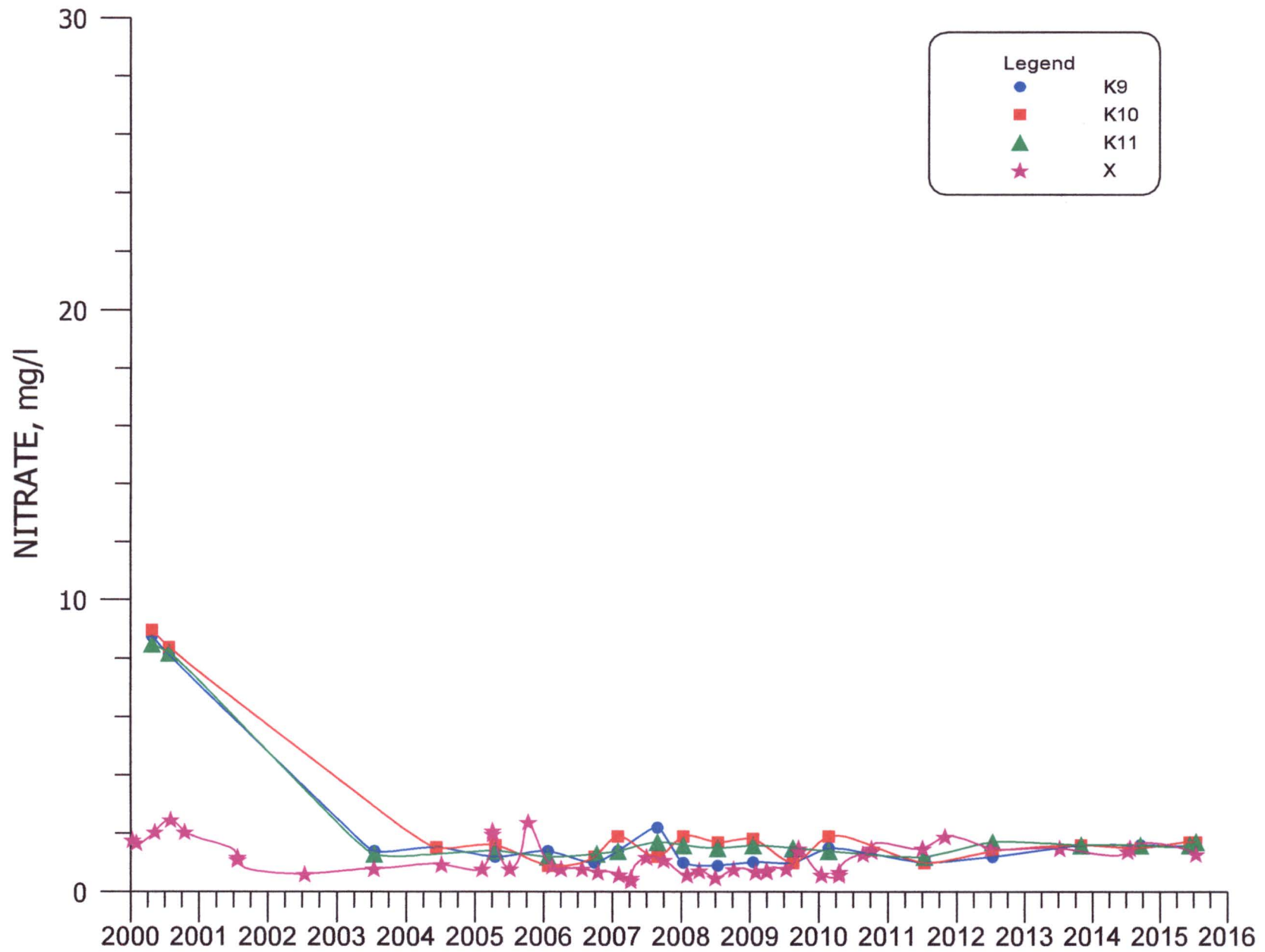


FIGURE 4.3-111. NITRATE CONCENTRATIONS FOR WELLS K9, K10, K11, AND X.

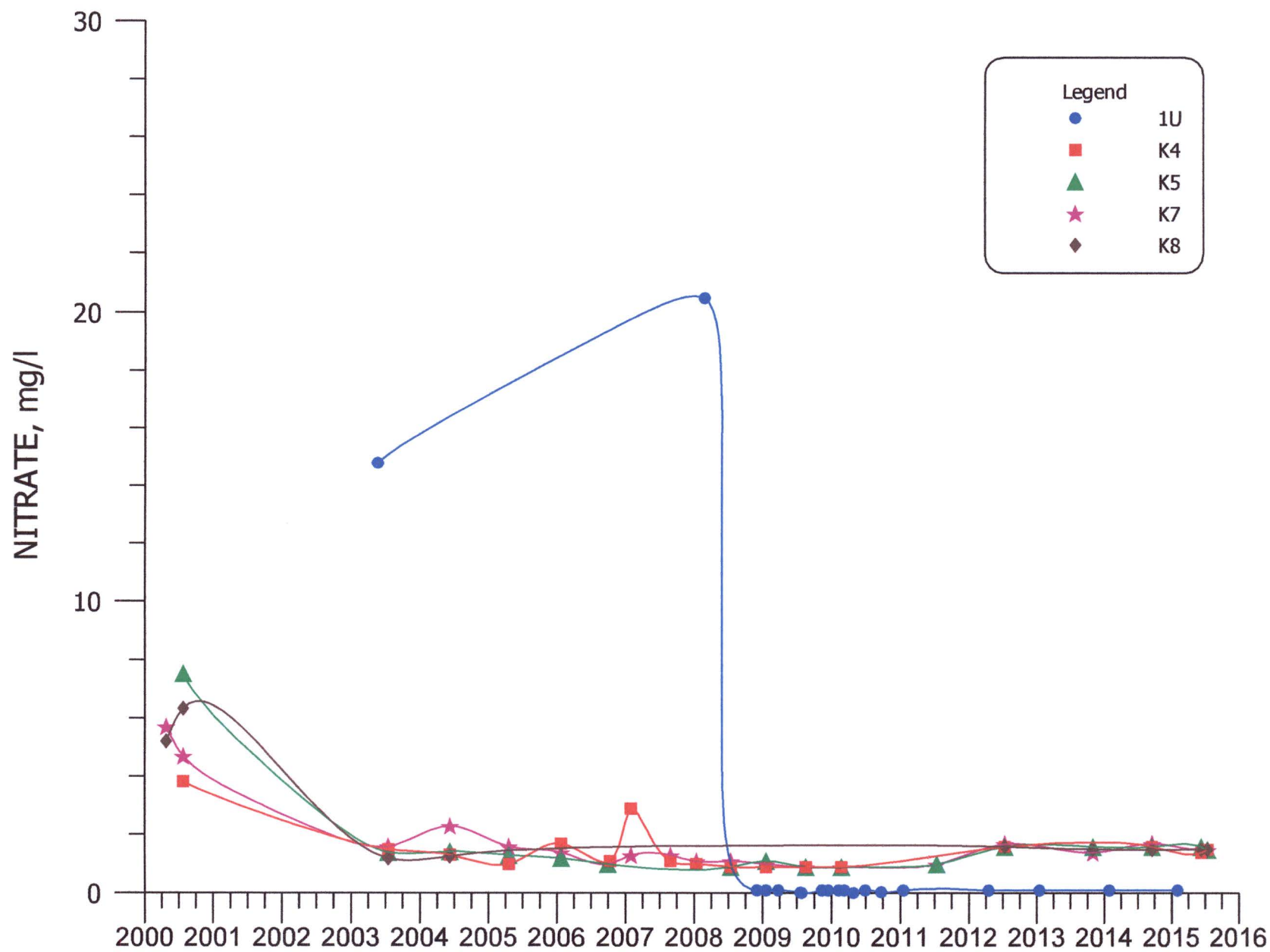


FIGURE 4.3-112. NITRATE CONCENTRATIONS FOR WELLS 1U, K4, K5, K7, AND K8.

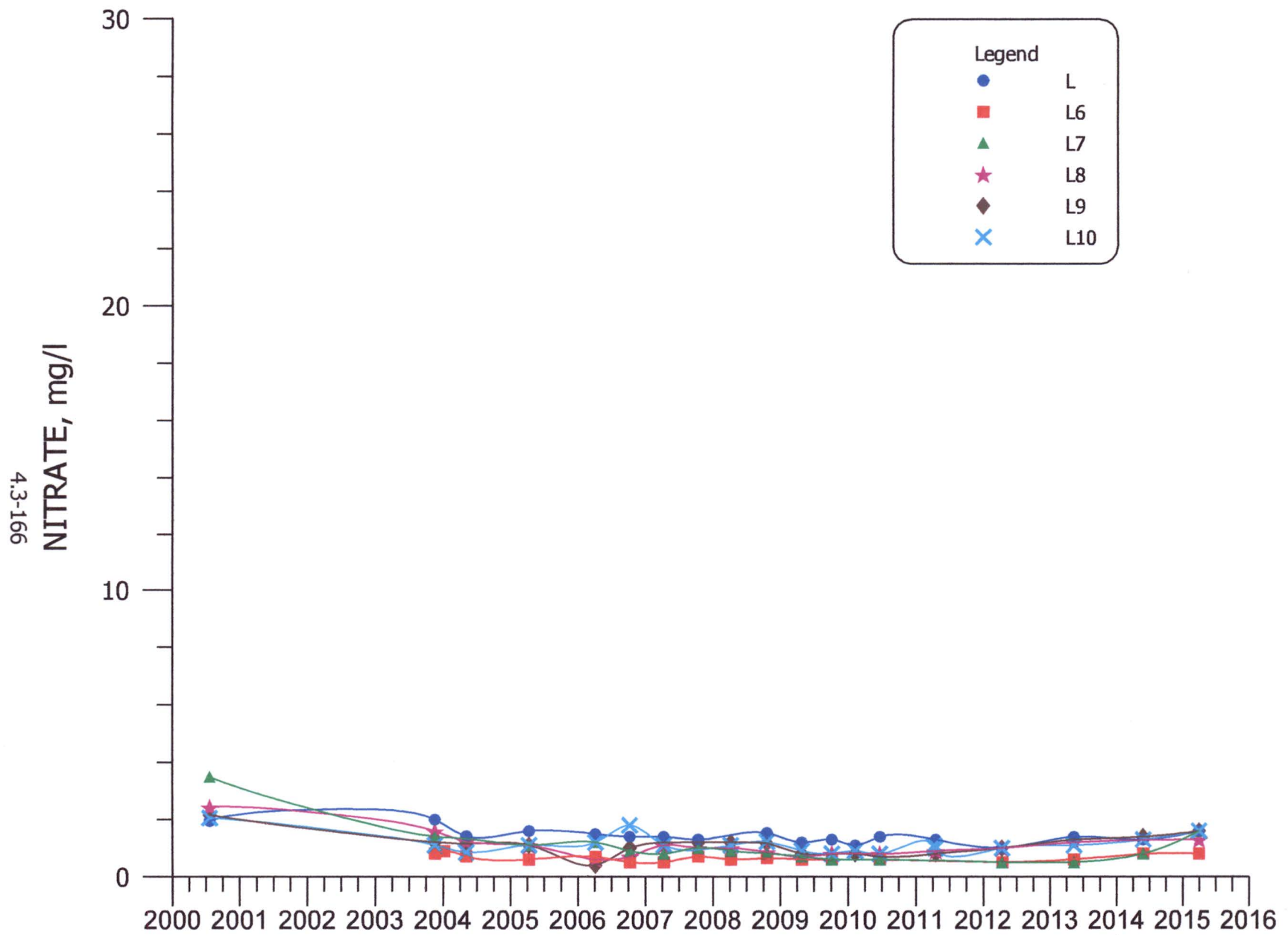


FIGURE 4.3-113. NITRATE CONCENTRATIONS FOR WELLS L, L6, L7, L8, L9, AND L10.

4.3-167

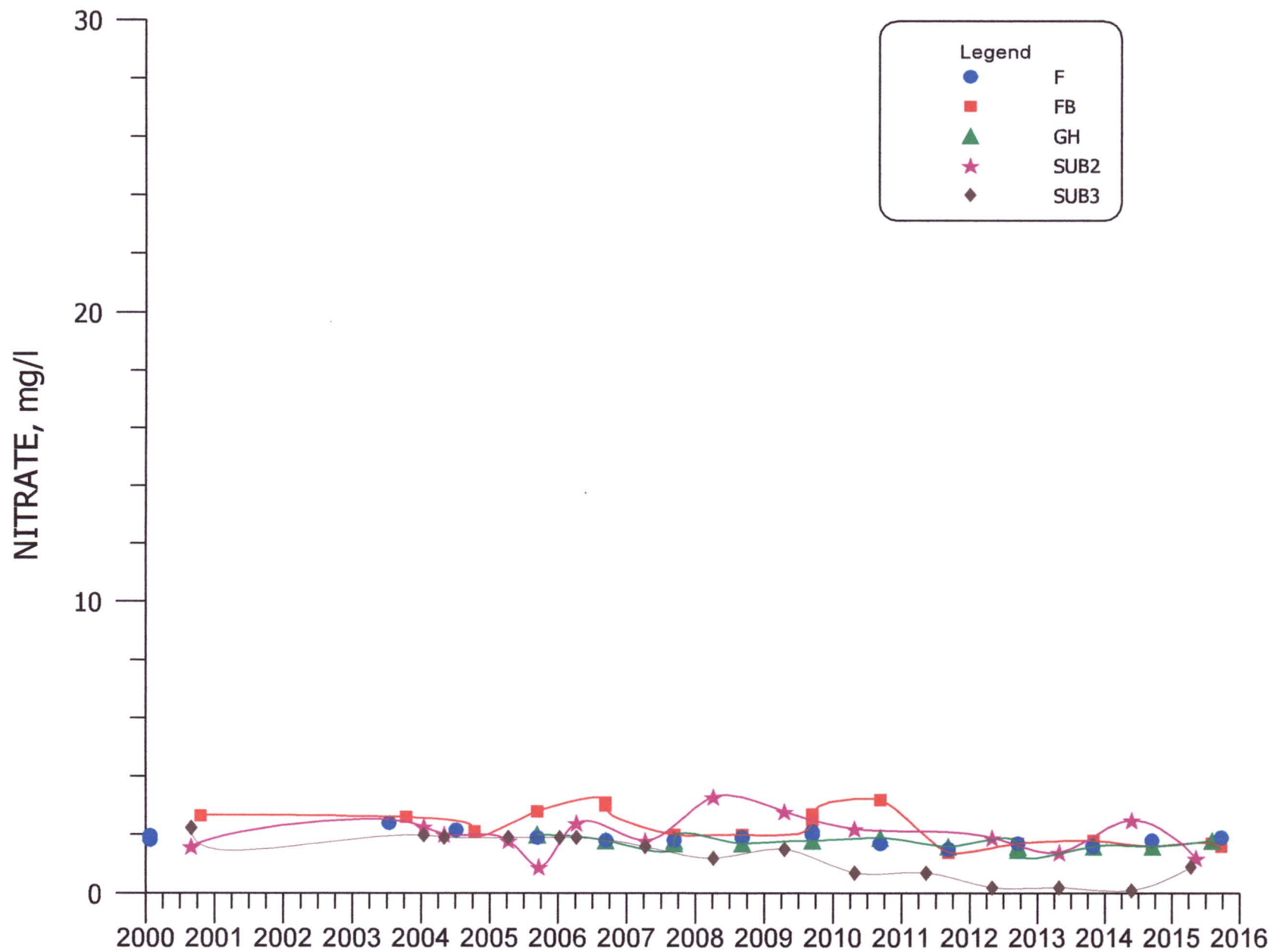


FIGURE 4.3-114. NITRATE CONCENTRATIONS FOR WELLS F, FB, GH, SUB2, AND SUB3.

4.3-168

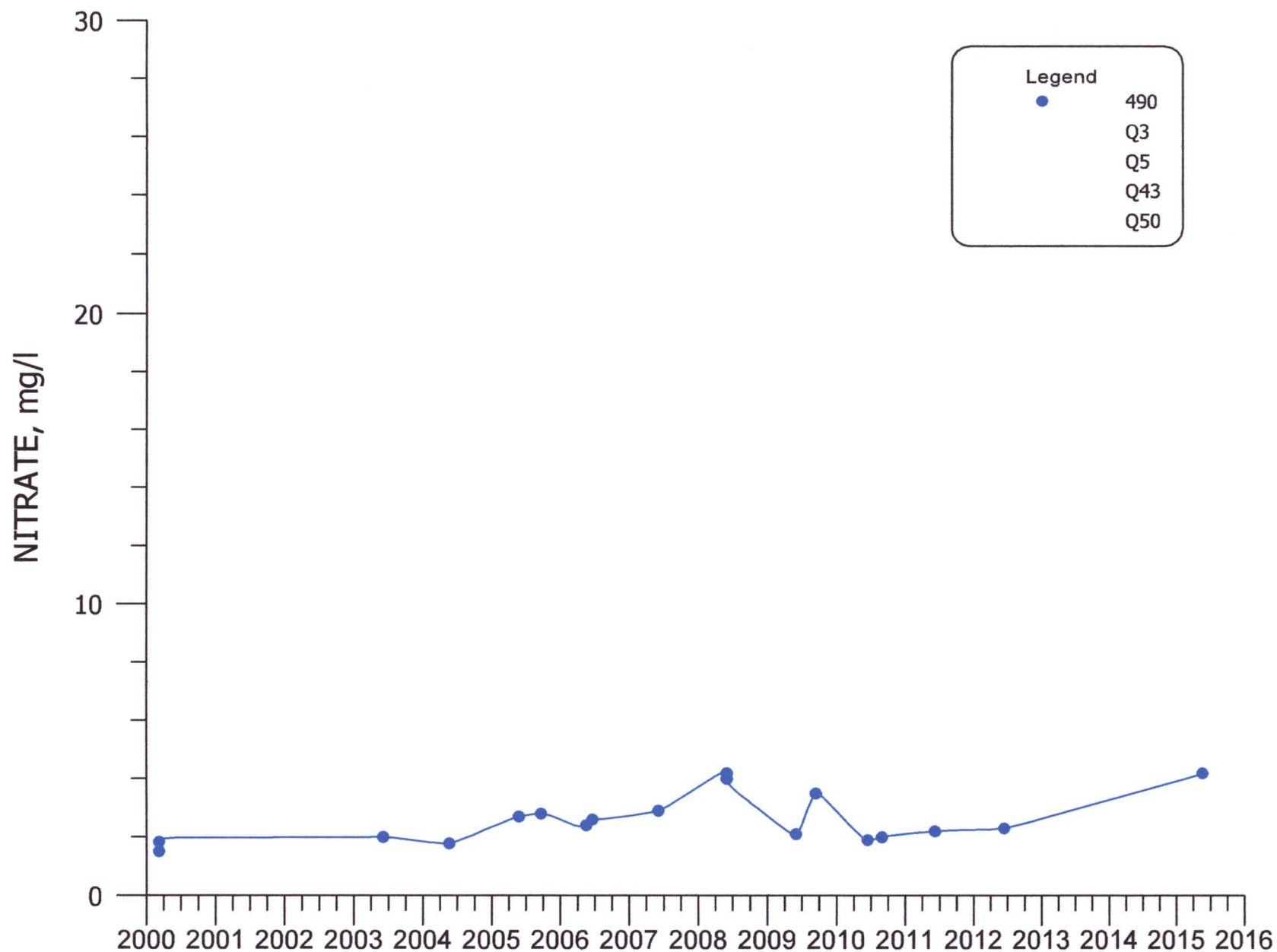


FIGURE 4.3-115. NITRATE CONCENTRATIONS FOR WELLS 490, Q3, Q5, Q43, AND Q50.

4.3-169

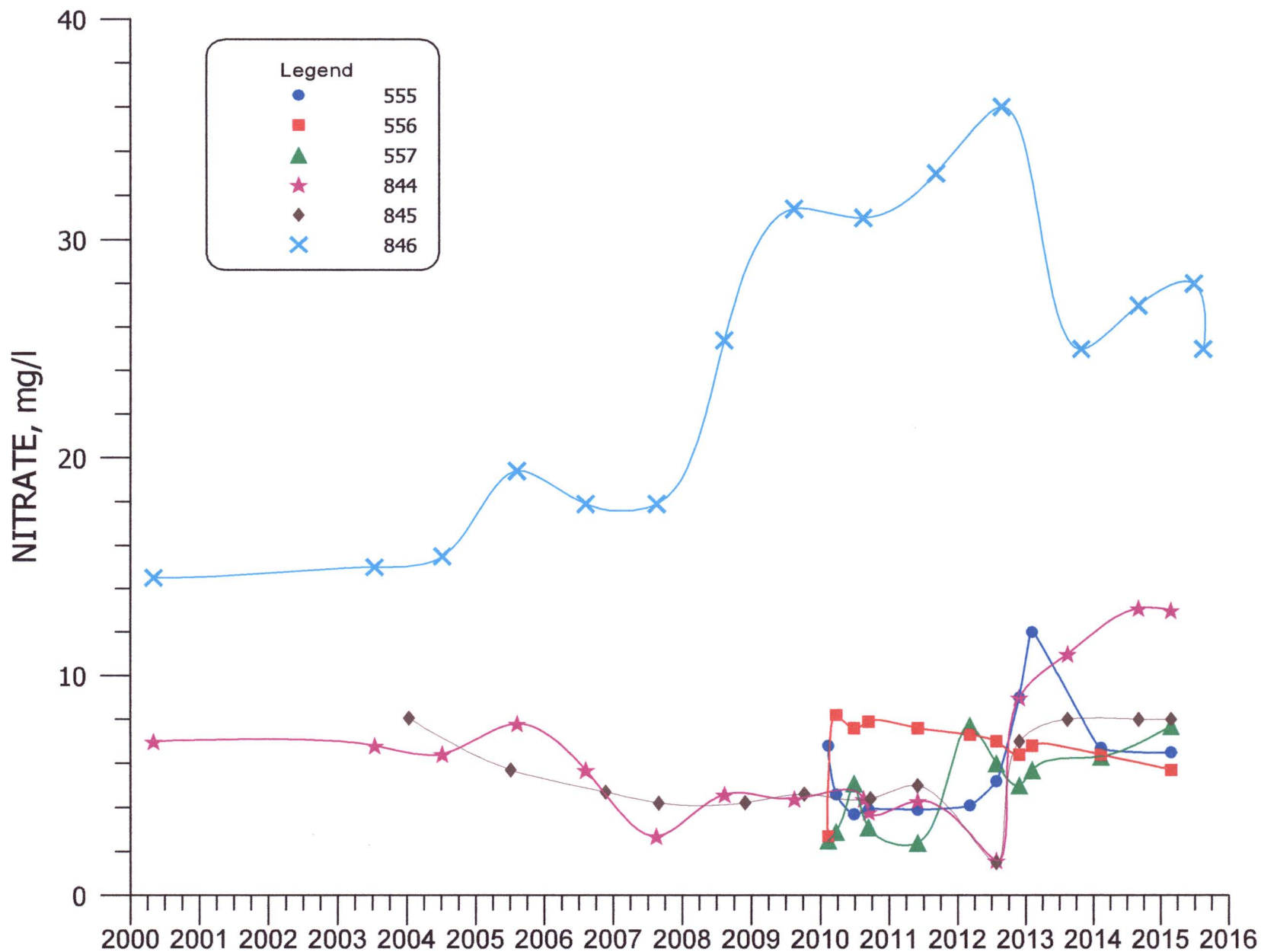


FIGURE 4.3-116. NITRATE CONCENTRATIONS FOR WELLS 555, 556, 557, 844, 845, AND 846.

4.3-170

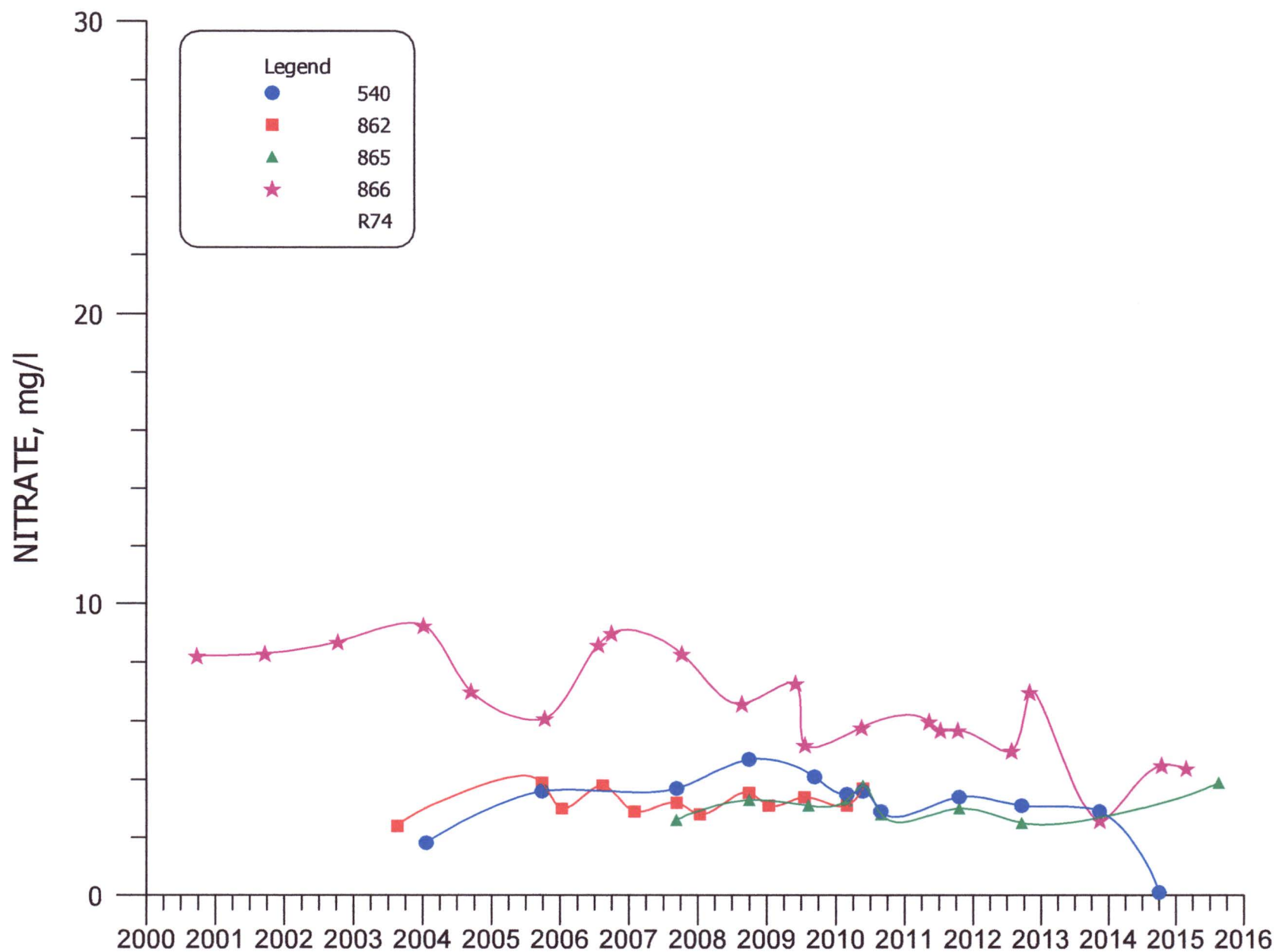


FIGURE 4.3-117. NITRATE CONCENTRATIONS FOR WELLS 540, 862, 865, 866, AND R74.

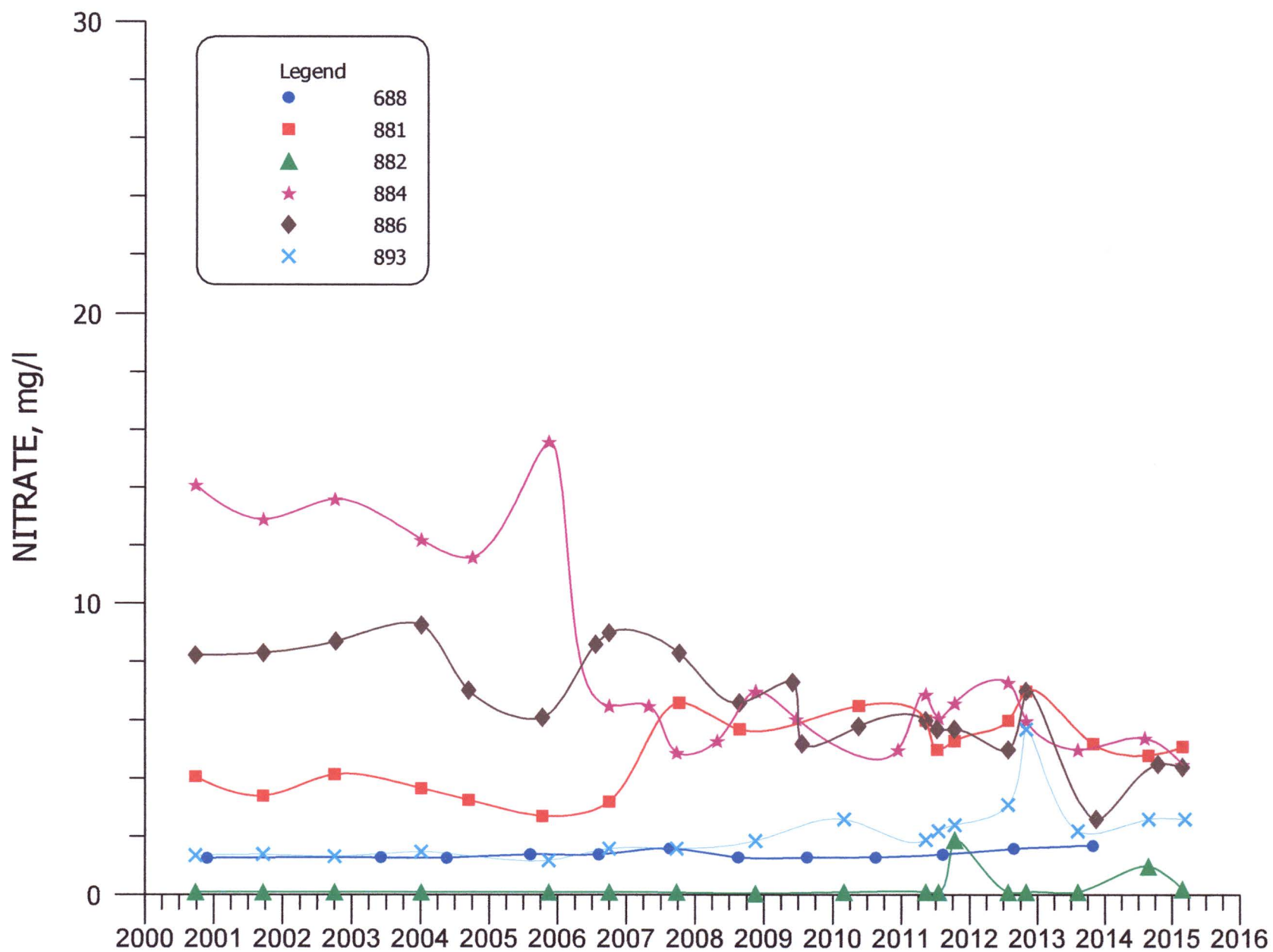


FIGURE 4.3-118. NITRATE CONCENTRATIONS FOR WELLS 688, 881, 882, 884, 886, AND 893.

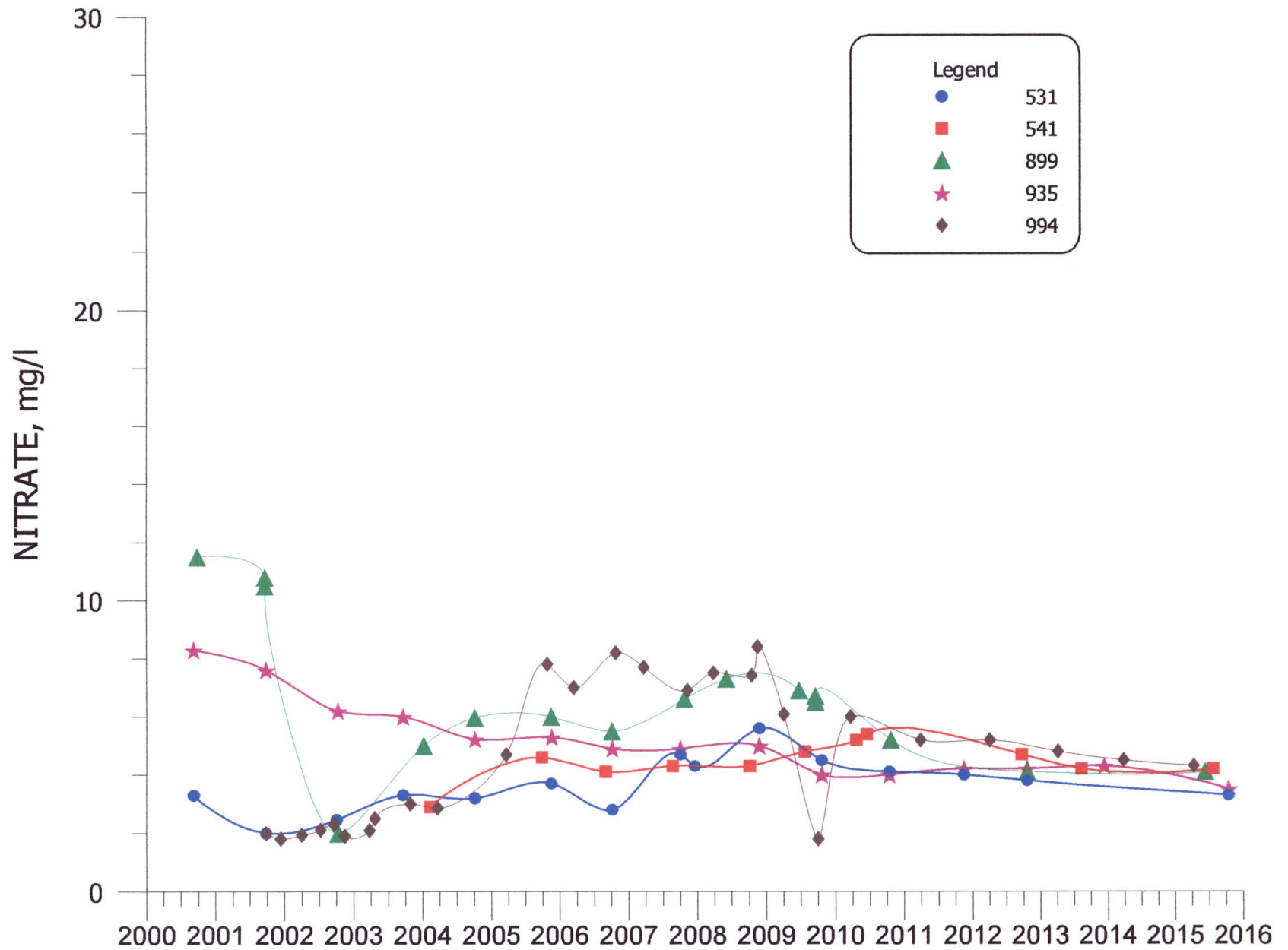


FIGURE 4.3-119. NITRATE CONCENTRATIONS FOR WELLS 531, 541, 899, 935, AND 994.

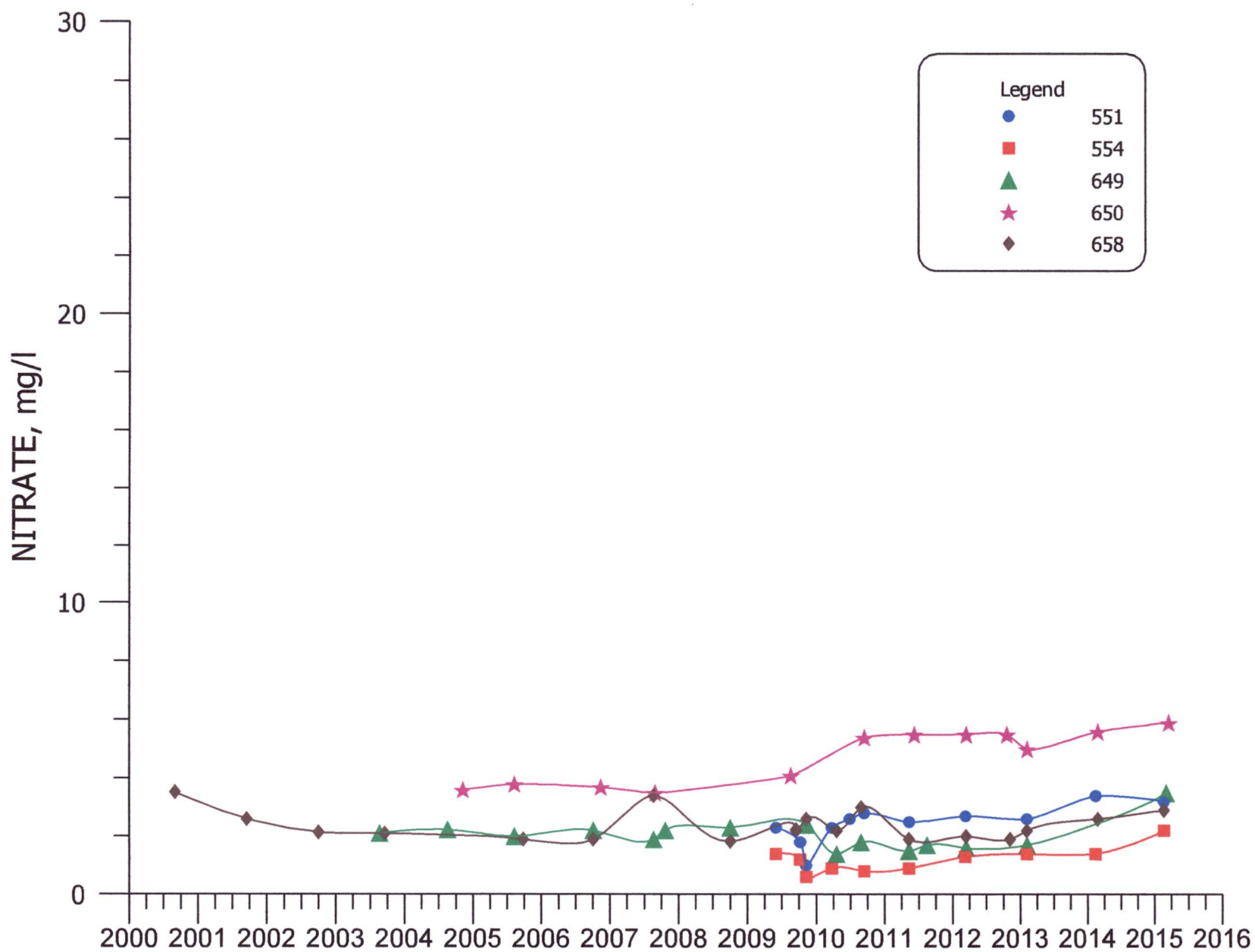
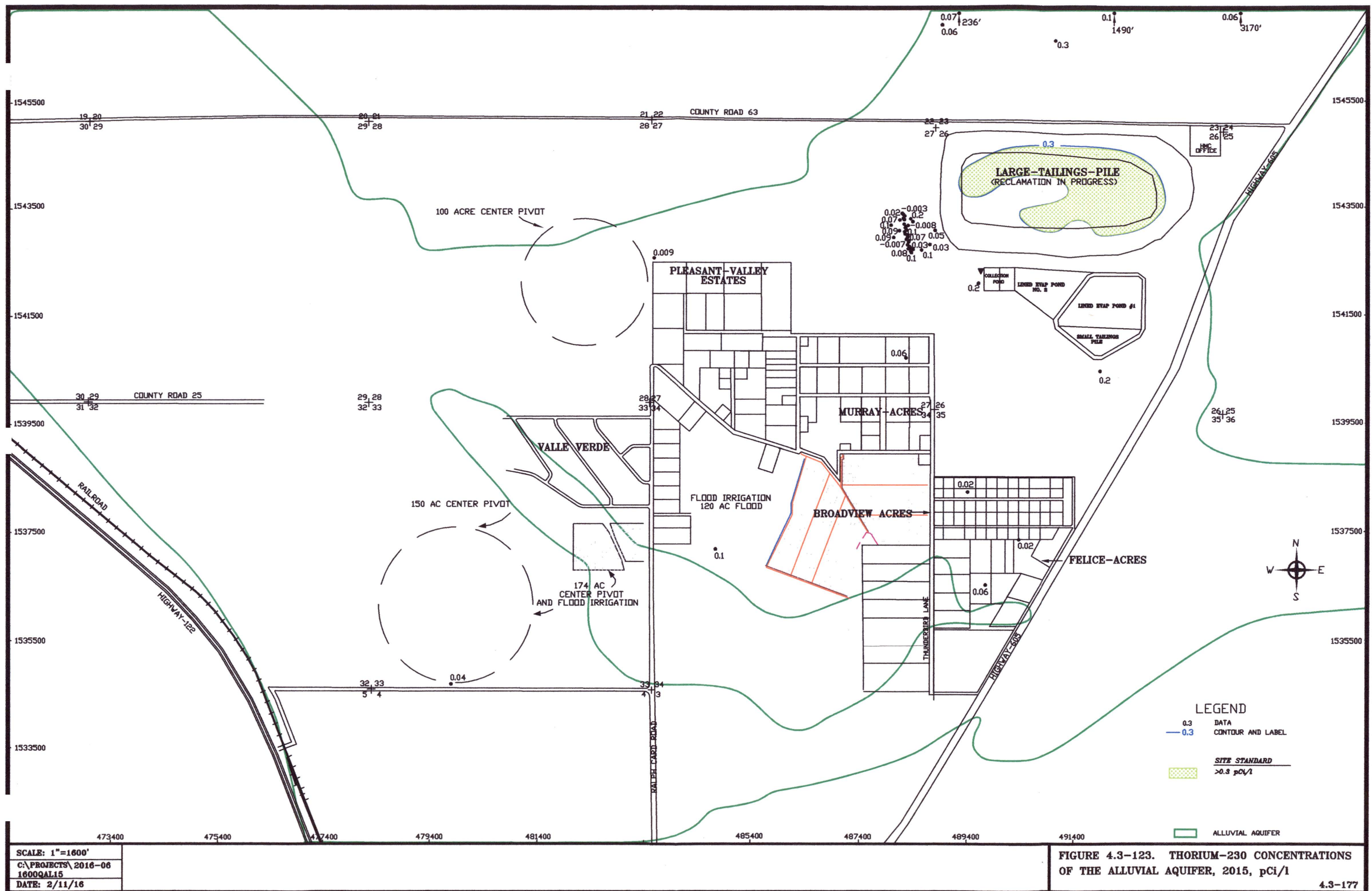


FIGURE 4.3-120. NITRATE CONCENTRATIONS FOR WELLS 551, 554, 649, 650, AND 658.



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5.0 UPPER CHINLE AQUIFER MONITORING

5.1 UPPER CHINLE WELL COMPLETION

Chinle aquifer well locations are shown on Figures 5.1-1, 5.1-1A and 5.1-1B. The Upper and Middle Chinle aquifers do not exist in the area west of Ralph Card Road. Table 5.1-1 presents basic information for the Chinle wells located on the Homestake property. This table indicates well coordinates, well depth, casing diameter, water level, measuring point in feet above land surface and elevation, and depth and elevation to the top of the Chinle aquifers. A "U" follows the elevation of the top of the Upper Chinle aquifer, and an "M" and an "L" have the same meaning for the Middle and Lower Chinle aquifers, respectively. Some of the wells have been used to define the depth to the base of the alluvium, and an "A" is presented following the elevation to denote that these values are for the base of the alluvium. The casing perforation interval and aquifer unit are also presented in this table.

Table 5.1-2 presents basic well data for Chinle wells in Broadview Acres and Felice Acres. Table 5.1-3 presents similar data for Murray Acres and Pleasant Valley Estates Chinle wells. Wells that are not located within the immediate Grants Project property or within the four subdivision boundaries are denoted on Table 5.1-4 as the regional Chinle wells (see Figure 5.1-1 for inner regional boundary shown in blue). Figure 5.1-1A shows the locations of the On-Site Chinle wells while Figure 5.1-1B presents the Chinle well locations for the South Off-Site wells. Upper Chinle wells CF7A, CW78 and C18 through C21 were drilled by HMC in 2015 with each of these wells located On-Site except for well CW78 which is located in Felice Acres. Middle Chinle wells M22, M23, M30, M31 and M34 were drilled west of the LTP and four CW wells were drilled west of Felice Acres. The five M wells west of the LTP in the alluvial and Middle Chinle subcrop area were completed in both of these aquifers. A total of 34 Lower Chinle wells were drilled in 2015. Lower Chinle wells R36, R37, R45 through R52, R56, R60, R61, R62, R65, R66, R67, R70, R71, R72, V7, V8, V9, V11, V14, and V16 through V18 were drilled in Section 3 in 2015. Also seven wells (R59 and R73 through R78) were completed in the Lower Chinle and alluvial aquifers in the subcrop area in Section 3.

An analysis of the background water quality for the Chinle aquifers was presented in Hydro-Engineering 2003b. Background values for the Chinle mixing zone and the Upper,

Middle and Lower Chinle non-mixing zones were also defined in the previously cited report. These site standard values are listed in the title block of the water-quality figures in this report.

The location of Upper Chinle wells and the areal extent of the Upper Chinle aquifer at the Grants Project are shown on Figures 5.1-2 and 5.1-2A . Upper Chinle wells 944, CW4R, CW5, CW13 and CW25 are shown in green to denote that these are fresh-water injection wells. Upper Chinle wells CE2, CE5, CE6, CE11 and CE12 were pumped as a source of flushing water for the Large Tailings Pile in 2015 and are shown in orange. Upper Chinle well CE7 is also shown in orange because it was pumped some in 2015 as feed to the R.O. plant. Upper Chinle wells CE2, CE5, CE6, CE11 and CE12 were also used as feed to the R.O. plant for the second half of 2015. Well CW18 was used as a supply for fresh-water injection starting in late September of 2002 but was not used continuously after May of 2004. It was not used as a freshwater injection supply in 2015. Figure 5.1-2 also shows the location of the West and East Faults. A blue dot pattern is used to show the limits of the Upper Chinle sandstone where Chinle shale exists between the sandstone and the alluvium. Figure 1.1-2 presents a typical geologic cross section to show the relative position of the alluvial and Chinle aquifers (see Figure 1.1-1 for the location of this cross section). Figures 1.1-3 and 1.1-4 present additional geologic cross sections which show the relative position of the Chinle aquifers (see Figure 1.1-1 for the locations of these cross sections).

The subcrop of the Upper Chinle sandstone where the alluvium is saturated or unsaturated above the Upper Chinle sandstone is also shown on Figure 5.1-2 and 5.1-2A. The Upper Chinle aquifer does not exist to the west and south of the subcrop area. The Upper Chinle sandstone, therefore, does not exist west of the West Fault.

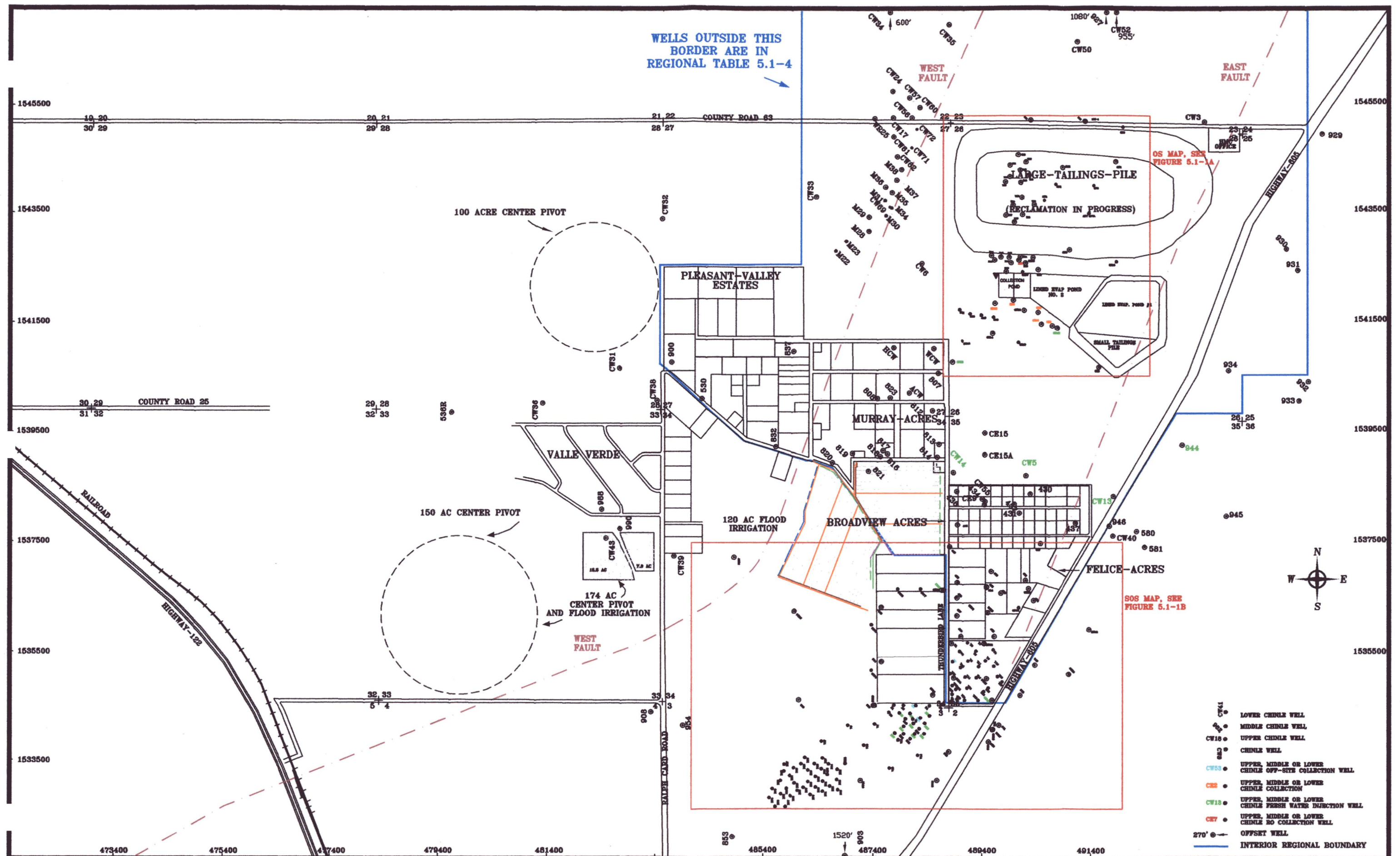
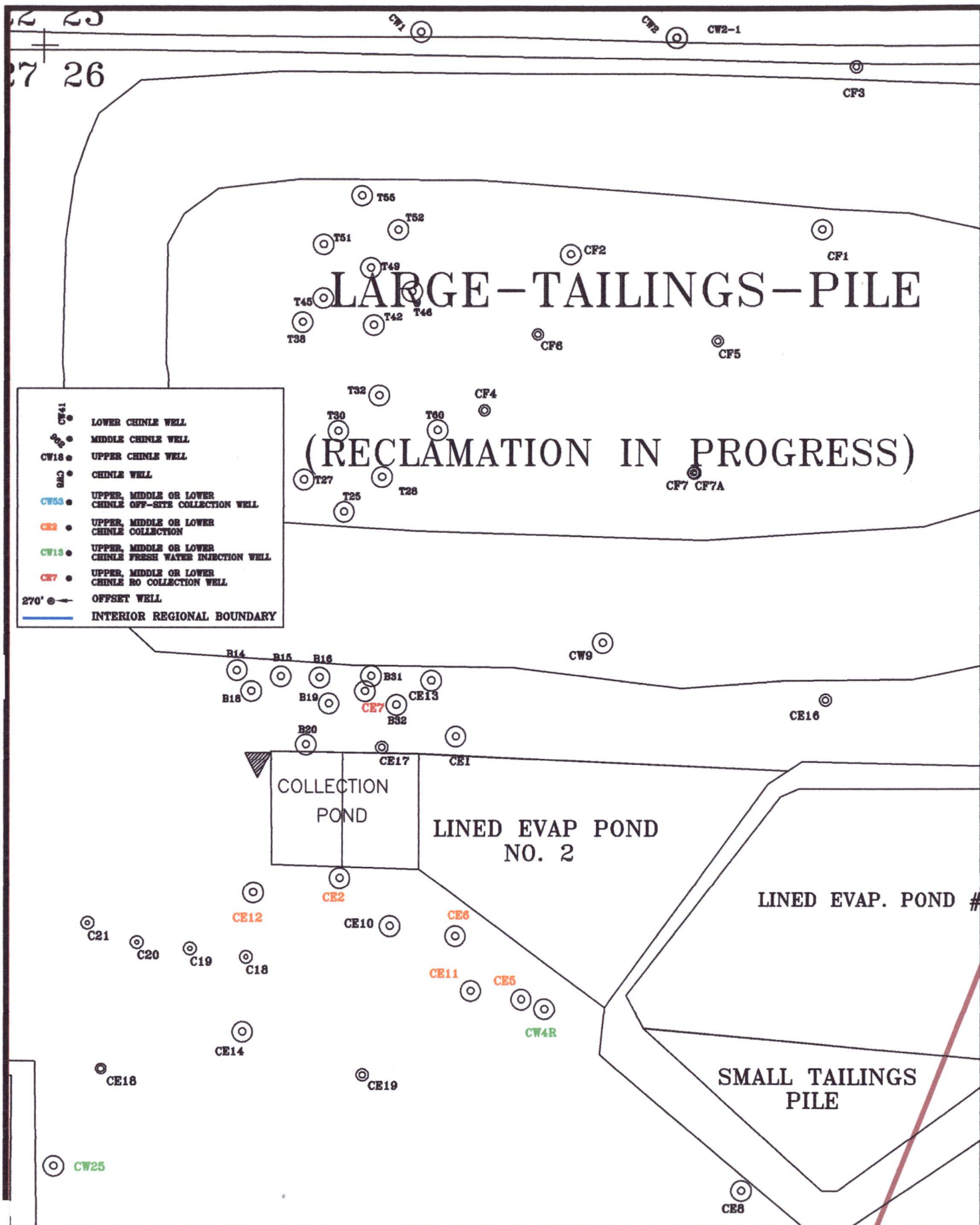


FIGURE 5.1-1. CHINLE AQUIFER WELL LOCATIONS, 2015



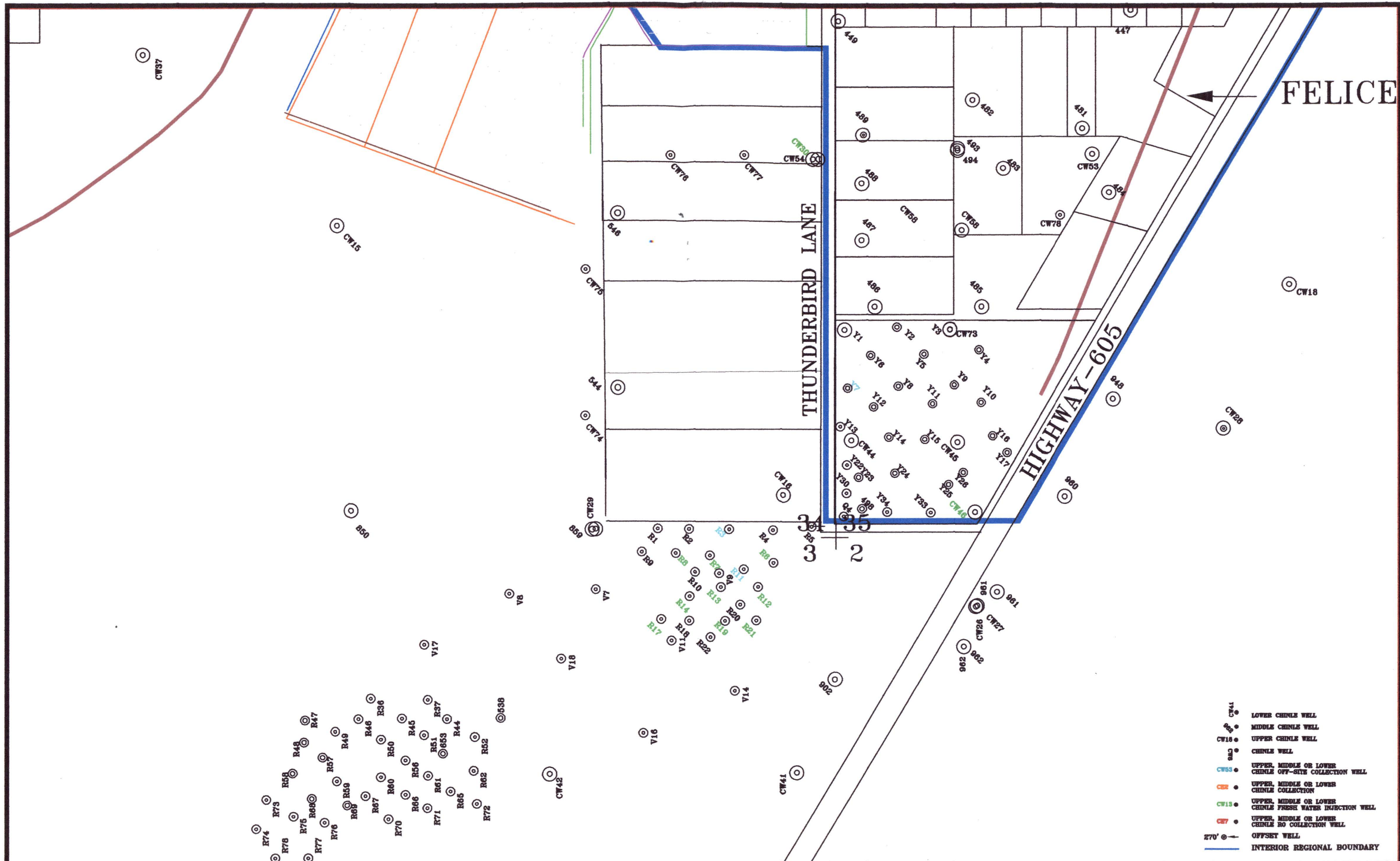
HOMESTAKE MILL AND ADJACENT PROPERTIES ~ GRANTS, NM ~ TOWNSHIP-11&12N, RANGE-10W

DATE: 2/2/16

FIGURE 5.1-1A. CHINLE AQUIFER WELL LOCATIONS, OS, 2015

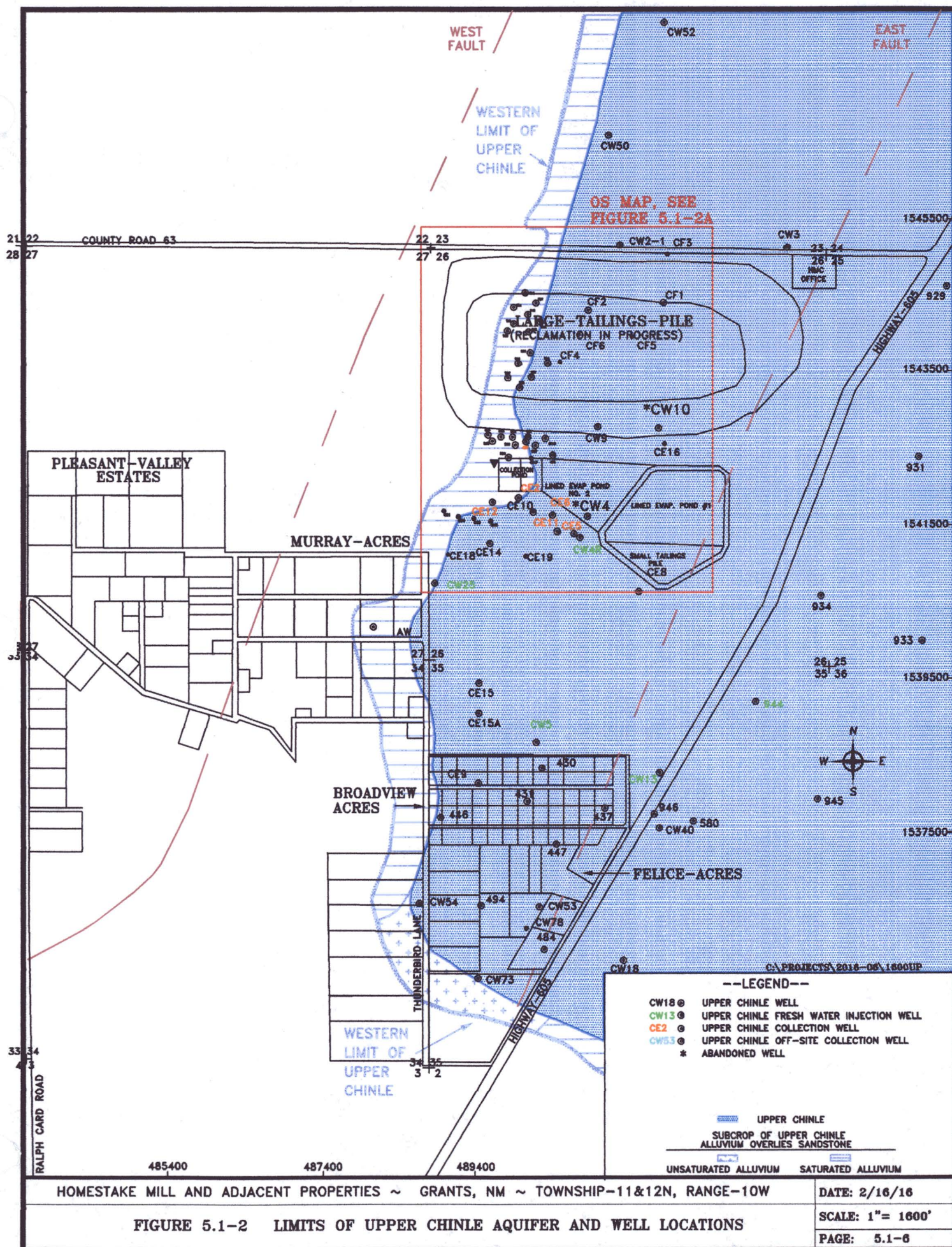
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PAGE: 5.1-4



SCALE: 1"=500'
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 BASE15.DWG
 DATE: 2/2/16

FIGURE 5.1-1B CHINLE AQUIFER WELL
 LCOATIONS, SOS, 2015



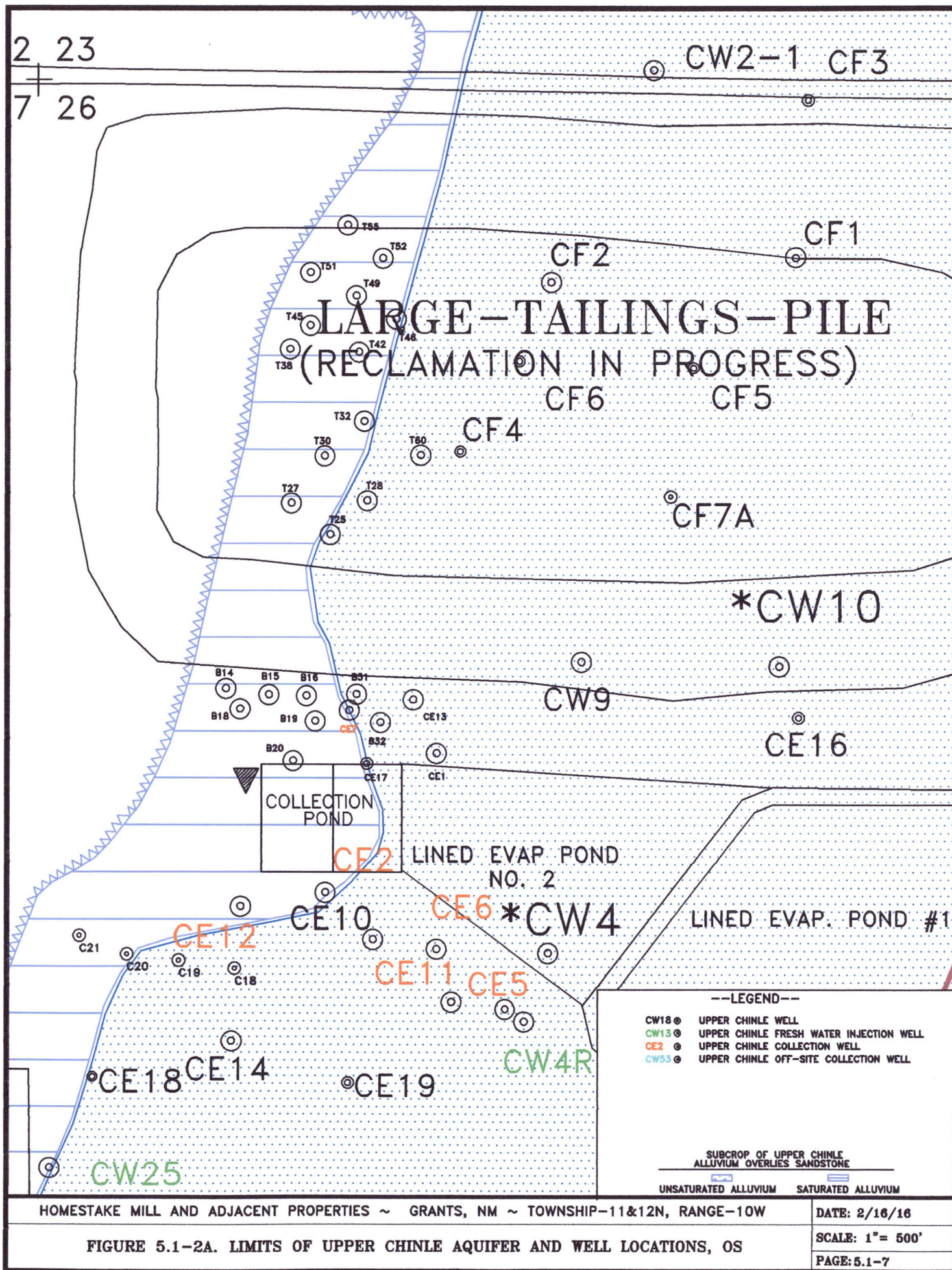


TABLE 5.1-1. WELL DATA FOR THE CHINLE HOMESTAKE WELLS.

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL			MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	AQUIFER
					DATE	DEPTH (FT-MP)	ELEV. (FT-MSL)						
0930	1542848	494997	410.0	6.0	6/30/2015	113.11	6485.43	0.0	6598.54	30	6569	A -	---
										335	6264	M 330-400	Middle
0931	1542461	495207	366.7	6.0	11/30/2015	62.05	6548.51	0.9	6610.56	339	6271	U -	Upper
0934	1540641	493941	293.0	6.0	8/27/2012	110.97	6474.62	2.0	6585.59	30	6554	A -	---
										282	6302	U -	Upper
B14	1542733	489579	120.0	4.5	4/22/2014	34.46	6541.19	2.0	6575.65	68	6506	U 60-120	Upper
										68	6506	A 60-120	Alluvium
B15	1542708	489749	120.0	4.5	4/23/2014	35.09	6541.22	2.0	6576.31	72	6502	U 60-120	Upper
										72	6502	A 60-120	Alluvium
B16	1542705	489900	120.0	4.5	---	---	---	2.0	6575.37	83	6490	A 60-120	Alluvium
										83	6490	U 60-120	Upper
B18	1542652	489634	120.0	4.5	9/5/2014	38.48	6537.65	2.0	6576.13	70	6504	U 60-120	Upper
										70	6504	A 60-120	Alluvium
B19	1542605	489936	120.0	4.5	9/11/2014	39.79	6534.22	2.0	6574.01	90	6482	U 60-120	Upper
										90	6482	A 60-120	Alluvium
B20	1542444	489847	120.0	4.5	10/9/2014	40.11	6534.33	2.0	6574.44	90	6482	A 60-120	Alluvium
										90	6482	U 60-120	Upper
B31	1542710	490103	120.0	4.5	4/24/2014	37.57	6538.39	2.0	6575.96	83	6491	U 60-100	Upper
										83	6491	A 60-100	Alluvium
B32	1542598	490201	120.0	4.5	4/24/2014	36.91	6538.48	2.0	6575.39	93	6480	A 60-120	Alluvium
										93	6480	U 60-120	Upper
C18	1541616	489614	120.0	4.5	---	---	---	0.5	6571.10	---	---	U 40-120	Upper
										60	6511	A 40-120	Alluvium
C19	1541648	489392	120.0	4.5	---	---	---	0.5	6569.91	---	---	U 40-120	Upper
										80	6489	A 40-120	Alluvium
C20	1541673	489187	110.0	4.5	---	---	---	0.5	6570.16	---	---	U 50-110	Upper
										70	6500	A 50-110	Alluvium
C21	1541747	488996	100.0	4.5	---	---	---	0.5	6571.99	---	---	U 40-100	Upper
										90	6481	A 40-100	Alluvium
CE1	1542475	490434	137.0	5.0	11/30/2015	25.48	6544.71	4.4	6570.19	75	6491	A -	---
										106	6460	U 98-138	Upper
CE2	1541923	489979	119.7	5.0	10/15/2015	29.55	6546.80	1.8	6576.35	74	6501	U 78-118	Upper
										74	6501	A -	---
CE5	1541453	490695	140.0	5.0	7/16/2015	36.11	6532.44	1.6	6568.55	63	6504	A -	---
										103	6464	U 100-140	Upper
CE6	1541698	490433	140.0	6.0	7/16/2015	32.16	6533.03	1.5	6565.19	75	6489	U -	Upper
CE7	1542652	490079	120.0	6.0	11/30/2015	68.58	6507.41	1.9	6575.99	95	6479	U 100-140	Upper
CE8	1540704	491556	216.6	6.0	11/30/2015	35.09	6534.61	1.7	6569.70	166	6402	U 160-200	Upper
CE10	1541737	490177	130.0	6.0	11/30/2015	36.76	6534.10	2.3	6570.86	80	6489	U 90-130	Upper

TABLE 5.1-1. WELL DATA FOR THE CHINLE HOMESTAKE WELLS.

(cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL			MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR- ATIONS (FT-LSD)	AQUIFER
					DATE	DEPTH (FT-MP)	ELEV. (FT-MSL)						
CE11	1541487	490494	140.0	6.0	8/5/2015	31.03	6534.39	1.6	6565.42	90	6474	U 100-140	Upper
CE12	1541867	489642	120.0	6.0	8/5/2015	33.91	6538.32	2.1	6572.23	80	6490	U 80-120	Upper
CE13	1542693	490338	129.2	6.0	11/30/2015	34.37	6540.27	1.7	6574.64	95	6478	U 90-130	Upper
CE14	1541326	489600	130.0	5.0	11/30/2015	31.20	6538.25	2.0	6569.45	80	6487	U 90-130	Upper
CE15	1539507	489460	130.0	5.0	11/30/2015	32.07	6534.01	2.0	6566.08	77	6487	U 90-130	Upper
CE15A	1539111	489459	130.0	4.5	---	---	---	2.0	6564.81	75	6488	A -	---
										75	6488	U 90-130	Upper
CE16	1542618	491883	130.0	4.5	4/11/2014	36.14	6545.03	2.0	6581.17	---	---	U 90-130	Upper
										76	6503	A -	---
CE17	1542434	490146	130.0	4.5	4/15/2014	38.43	6537.97	2.0	6576.40	94	6480	U 90-130	Upper
										94	6480	A -	---
CE18	1541185	489048	130.0	4.5	4/7/2014	33.79	6535.09	2.0	6568.88	74	6493	A -	---
										74	6493	U 90-130	Upper
CE19	1541160	490070	130.0	4.5	4/8/2014	43.13	6525.70	2.0	6568.83	88	6479	U 90-130	Upper
										88	6479	A -	---
CF1	1544456	491868	285.0	5.0	9/30/2014	127.70	6538.21	2.0	6665.91	230	6434	U 240-285	Upper
CF2	1544358	490888	260.0	5.0	10/2/2014	118.51	6547.65	2.0	6666.16	220	6444	U 220-260	Upper
CF3	1545099	491918	166.0	4.5	8/7/2014	47.14	6539.65	2.0	6586.79	---	---	U 146-166	Upper
CF4	1543680	490520	197.0	4.5	8/8/2014	120.81	6542.88	2.0	6663.69	166	6496	U 177-197	Upper
										166	6496	A -	---
CF5	1544013	491463	233.0	4.5	8/7/2014	130.58	6540.88	2.0	6671.46	163	6506	A -	---
										222	6447	U 213-233	Upper
CF6	1544040	490759	205.0	4.5	8/7/2014	115.83	6551.60	2.0	6667.43	163	6502	A -	---
										199	6466	U 185-205	Upper
CF7	1543501	491362	220.0	4.5	8/13/2014	116.76	6551.56	2.0	6668.32	---	---	C 200-220	Chinle
										155	6511	A -	---
CF7A	1543500	491371	265.0	4.5	---	---	---	2.0	6668.11	160	6506	A -	---
										220	6446	U 225-265	Upper
CW1	1545235	490295	325.0	5.0	7/1/2015	104.90	6480.32	0.7	6585.22	105	6480	A -	---
										272	6313	M 212-323	Middle
CW2	1545212	491302	355.0	5.0	8/6/2015	95.98	6489.50	1.7	6585.48	85	6499	A -	---
										136	6448	U -	---
										305	6279	M 306-353	Middle
CW2-1	1545212	491302	168.0	5.0	12/1/2015	39.95	6545.53	1.7	6585.48	85	6499	A -	---
										136	6448	U 243-253	Upper
CW3	1545200	493496	235.0	5.0	12/1/2015	48.82	6538.36	0.7	6587.18	70	6516	A -	---
										209	6377	U 210-235	Upper
										348	6238	M -	---
* CW4	1541682	490874	145.0	5.0	9/7/1994	39.06	6531.89	0.8	6570.95	70	6500	A -	---

TABLE 5.1-1. WELL DATA FOR THE CHINLE HOMESTAKE WELLS.

(cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL			MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR- ATIONS (FT-LSD)	AQUIFER
					DATE	DEPTH (FT-MP)	ELEV. (FT-MSL)						
* CW4	1541682	490874	145.0	5.0	9/7/1994	39.06	6531.89	0.8	6570.95	112	6458	U 110-145	Upper
CW4R	1541416	490787	138.9	6.0	11/22/2010	0.68	6568.05	1.3	6568.73	61	6506	A -	---
										104	6463	U 102-142	Upper
CW5	1538729	490221	170.0	5.0	11/22/2010	0.72	6568.62	1.6	6569.34	65	6503	A -	---
										137	6431	U 135-170	Upper
CW6	1542588	488301	282.0	4.0	11/30/2015	70.18	6505.46	1.0	6575.64	236	6339	M 246-276	Middle
CW7	1545285	488773	---	---	10/17/1995	60.80	6522.79	0.0	6583.59	---	---	C 120-130	Chinle
CW8	1545009	491238	285.0	6.0	12/5/2000	38.90	6552.93	0.0	6591.83	---	---	C 276-286	Chinle
										85	6507	A -	---
CW9	1542840	491015	180.0	5.0	11/30/2015	30.09	6561.74	0.0	6591.83	---	---	U 130-180	Upper
										80	6512	A -	---
* CW10	1542823	491803	185.0	5.0	11/13/1995	50.03	6537.86	0.0	6587.89	75	6513	A -	---
										167	6421	U 155-185	Upper
CW13	1538349	491827	267.7	6.0	11/22/2010	0.55	6576.15	2.7	6576.70	230	6344	U 225-265	Upper
										378	6196	M -	---
CW14	1538786	488884	360.9	6.0	4/4/2011	60.00	6506.09	2.9	6566.09	56	6507	A -	---
										66	6497	U -	---
										310	6253	M 278-358	Middle
CW17	1545279	487771	108.0	5.0	12/1/2015	46.84	6542.48	3.1	6589.32	73	6513	A -	---
										85	6501	M 83-103	Middle
CW24	1545773	487760	118.0	5.0	12/1/2015	44.05	6544.62	3.0	6588.67	61	6525	A -	---
										65	6521	M 78-118	Middle
CW25	1540802	488866	102.0	5.0	11/22/2010	0.92	6566.28	3.0	6567.20	53	6511	U 62-102	Upper
										53	6511	A -	---
CW33	1543814	486347	347.0	6.0	12/1/2015	105.70	6469.19	1.8	6574.89	83	6490	A -	---
										272	6301	L 267-287	Lower
										272	6301	L 307-347	---
CW34	1547827	487707	65.7	6.0	12/1/2015	50.62	6543.78	3.2	6594.40	20	6571	A -	---
										40	6551	M 33-63	Middle
CW35	1547001	488794	120.0	5.0	12/1/2015	46.35	6544.82	1.9	6591.17	63	6526	A -	---
										90	6499	M 93-118	Middle
CW50	1546687	491159	170.0	5.0	12/1/2015	42.66	6545.90	3.0	6588.56	128	6458	U 130-170	Upper
CW52	1548171	491887	180.0	5.0	12/1/2015	67.05	6525.35	2.0	6592.40	138	6452	U 140-180	Upper
CW56	1545279	488115	130.0	5.0	8/27/2015	42.92	6544.94	2.0	6587.86	51	6535	A -	---
										98	6488	M 90-110	Middle
CW57	1545654	488070	140.0	5.0	8/31/2015	42.07	6542.83	2.0	6584.90	55	6528	A -	---
										101	6482	M 100-140	Middle
CW60	1545470	488262	150.0	5.0	8/31/2015	39.95	6544.25	2.0	6584.20	50	6532	A -	---
										114	6468	M 100-140	Middle
CW61	1544927	487779	130.0	5.0	8/28/2015	39.50	6543.33	2.0	6582.83	62	6519	A -	---

TABLE 5.1-1. WELL DATA FOR THE CHINLE HOMESTAKE WELLS.

(cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL			MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR- ATIONS (FT-LSD)	AQUIFER
					DATE	DEPTH (FT-MP)	ELEV. (FT-MSL)						
CW61	1544927	487779	130.0	5.0	8/28/2015	39.50	6543.33	2.0	6582.83	108	6473	M 90-130	Middle
CW62	1544555	487847	150.0	5.0	11/30/2015	36.31	6543.55	2.0	6579.86	60	6518	A -	---
										134	6444	M 130-150	Middle
CW69	1543638	487679	180.0	4.5	---	---	---	2.0	6576.42	---	---	C 160-180	Chinle
										82	6492	A -	---
CW71	1544724	488111	140.0	4.5	4/14/2014	37.63	6542.34	2.0	6579.97	72	6506	A -	---
										121	6457	M 120-140	Middle
CW72	1545034	488229	140.0	4.5	11/30/2015	36.48	6543.65	2.0	6580.13	75	6503	A -	---
										105	6473	M 80-140	Middle
M22	1542817	486716	100.0	4.5	---	---	---	2.0	6575.43	---	---	M 60-100	Middle
										100	6473	A 60-100	Alluvium
M23	1542992	486908	100.0	4.5	---	---	---	2.0	6575.97	---	---	M 60-100	Middle
										100	6474	A 60-100	Alluvium
M28	1543175	487326	120.0	4.5	4/23/2014	42.11	6536.65	2.0	6578.76	69	6508	A 60-120	Alluvium
										92	6485	M 60-120	Middle
M29	1543440	487326	120.0	4.5	4/23/2014	36.92	6535.95	2.0	6572.87	52	6519	A 60-120	Alluvium
										89	6482	M 60-120	Middle
M30	1543462	487639	110.0	4.5	---	---	---	2.0	6574.91	---	---	M 80-110	Middle
										80	6493	A 80-110	Alluvium
M31	1543745	487620	120.0	4.5	---	---	---	2.0	6575.93	---	---	M 70-120	Middle
										80	6494	A 70-120	Alluvium
M34	1543608	487743	120.0	4.5	---	---	---	2.0	6574.55	---	---	M 60-120	Middle
										60	6513	A 60-120	Alluvium
M35	1543889	487750	120.0	4.5	4/15/2014	35.13	6539.59	2.0	6574.72	71	6502	A 60-120	Alluvium
										97	6476	M 60-120	Middle
M36	1543993	487631	120.0	4.5	4/15/2014	36.56	6538.88	2.0	6575.44	72	6501	A 60-120	Alluvium
										97	6476	M 60-120	Middle
M37	1544120	487835	120.0	4.5	4/15/2014	38.37	6537.07	2.0	6575.44	73	6500	A 60-120	Alluvium
										107	6466	M 60-120	Middle
M38	1544319	487923	120.0	4.5	4/15/2014	37.91	6541.71	2.0	6579.62	---	---	M 60-120	Middle
										79	6499	A 60-120	Alluvium
T25	1543352	489996	200.0	4.5	8/12/2014	115.39	6541.95	2.0	6657.34	---	---	U 140-200	Upper
										---	---	A 140-200	Alluvium
T27	1543474	489837	200.0	4.5	8/12/2014	113.98	6543.16	2.0	6657.14	---	---	U 140-200	Upper
										---	---	A 140-200	Alluvium
T28	1543484	490145	200.0	4.5	8/12/2014	114.83	6543.88	2.0	6658.71	---	---	U 140-200	Upper
										---	---	A 140-200	Alluvium
T30	1543663	489972	200.0	4.5	8/8/2014	115.22	6544.40	2.0	6659.62	---	---	A 140-200	Alluvium
										---	---	U 140-200	Upper
T32	1543801	490134	200.0	4.5	8/8/2014	116.48	6545.13	2.0	6661.61	---	---	U 140-200	Upper

TABLE 5.1-1. WELL DATA FOR THE CHINLE HOMESTAKE WELLS.

(cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL			MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR- ATIONS (FT-LSD)	AQUIFER
					DATE	DEPTH (FT-MP)	ELEV. (FT-MSL)						
T32	1543801	490134	200.0	4.5	8/8/2014	116.48	6545.13	2.0	6661.61	—	—	A 140-200	Alluvium
T38	1544089	489832	200.0	4.5	—	—	—	2.0	6658.46	—	—	A 140-200	Alluvium
										—	—	U 140-200	Upper
T42	1544077	490112	200.0	4.5	6/5/2014	113.69	6546.32	2.0	6660.01	—	—	A 140-200	Alluvium
										—	—	U 140-200	Upper
T45	1544183	489914	200.0	4.5	6/4/2014	111.58	6546.48	2.0	6658.06	—	—	U 140-200	Upper
										—	—	A 140-200	Alluvium
T46	1544210	490262	200.0	4.5	6/3/2014	114.24	6546.41	2.0	6660.65	—	—	A 140-200	Alluvium
										—	—	U 140-200	Upper
T49	1544304	490100	200.0	4.5	6/3/2014	111.80	6546.59	2.0	6658.39	—	—	A 140-200	Alluvium
										—	—	U 140-200	Upper
T51	1544397	489914	200.0	4.5	6/3/2014	109.08	6548.26	2.0	6657.34	—	—	U 140-200	Upper
										—	—	A 140-200	Alluvium
T52	1544456	490208	200.0	4.5	6/3/2014	109.87	6548.13	2.0	6658.00	—	—	A 140-200	Alluvium
										—	—	U 140-200	Upper
T55	1544592	490063	195.0	4.5	6/3/2014	1110.87	5546.79	2.0	6657.66	—	—	U 135-195	Upper
										—	—	A 135-195	Alluvium
T60	1543666	490362	200.0	4.5	8/8/2014	116.76	6545.10	2.0	6661.86	—	—	A 140-200	Alluvium
										—	—	U 140-200	Upper
WR25	1545267	487430	113.3	5.0	12/1/2015	42.85	6543.61	2.8	6586.46	50 71	6534 6513	A M 71-111	— Middle

NOTE: A = Alluvial Aquifer, Base
 U = Upper Chinle Aquifer, Top
 M = Middle Chinle Aquifer, Top
 L = Lower Chinle Aquifer, Top
 * = Abandoned

TABLE 5.1-2. WELL DATA FOR THE CHINLE BROADVIEW AND FELICE ACRES WELLS.

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL			MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	AQUIFER
					DATE	DEPTH (FT-MP)	ELEV. (FT-MSL)						
Broadview													
0430	1538469	490300	145.0	---	---	---	---	0.0	6568.00	72	6496	A -	Alluvium
										135	6433	U -	Upper
0431	1538045	490090	130.0	6.0	4/12/1994	35.00	6533.00	0.0	6568.00	60	6508	A 125-130	Alluvium
										118	6450	U 125-130	Upper
0434	1538370	489420	280.0	6.0	10/4/2007	39.51	6524.17	0.0	6563.68	75	6489	A -	---
										265	6299	M -	Middle
0436	1538439	488947	295.0	5.0	10/29/1996	71.82	6490.91	0.0	6562.73	90	6473	A -	---
										280	6283	M 280-295	Middle
0437	1537859	491128	340.0	5.0	10/29/1996	63.23	6508.77	1.8	6572.00	90	6480	A -	---
										180	6390	U -	---
										280	6290	M 240-300	Middle
0446	1537830	488960	110.0	6.0	9/8/1983	41.28	6518.72	0.0	6560.00	60	6500	U 60-95	Upper
										60	6500	A 60-95	Alluvium
0447	1537490	490480	142.0	6.0	4/11/1985	41.18	6526.82	0.0	6568.00	80	6488	A 120-142	Alluvium
										138	6430	U 120-142	Upper
0449	1537440	488830	267.0	6.0	12/5/1994	63.42	6496.58	0.0	6560.00	---	---	M -	Middle
0457	1538210	490000	300.0	5.0	7/2/2008	124.88	6446.12	---	6571.00	---	---	M -	Middle
CE9	1538203	489458	130.0	6.0	12/1/2015	31.83	6531.29	1.2	6563.12	---	---	U 90-130	Upper
CW55	1538283	489471	360.0	6.0	12/1/2015	49.97	6514.19	2.3	6564.16	260	6302	M -	Middle
Felice Acres													
0481	1536820	490210	320.0	4.0	6/11/2014	75.65	6492.35	0.0	6568.00	110	6458	A 270-310	Alluvium
										270	6298	M 270-310	Middle
0482	1536981	489579	260.0	5.0	5/14/2014	46.60	6516.06	0.0	6562.66	80	6483	A 220-260	Alluvium
										210	6353	M 220-260	Middle
0483	1536586	489753	280.0	5.0	12/1/2014	35.91	6526.75	0.0	6562.66	40	6523	A -	Alluvium
										65	6498	U -	---
										236	6327	M 270-300	Middle
0484	1536448	490356	320.0	5.0	12/26/1996	39.43	6524.55	0.0	6563.98	38	6526	A -	---
										129	6435	U -	---
										280	6284	M 220-300	Middle
0485	1535800	489630	260.0	6.0	7/18/1996	70.90	6494.10	0.0	6565.00	35	6530	A -	---
										70	6495	U -	---
										223	6342	M 220-260	Middle
0486	1535800	489024	260.0	4.0	8/4/2004	90.40	6468.00	0.0	6558.40	---	---	M 200-260	Middle
										21	6537	A -	---
										21	6537	U -	---
0487	1536175	488950	260.0	---	7/24/1996	49.20	6511.80	0.0	6561.00	---	---	M -	Middle
0488	1536500	488950	190.0	6.0	8/19/2003	113.80	6448.20	0.0	6562.00	---	---	M -	Middle

TABLE 5.1-2. WELL DATA FOR THE CHINLE BROADVIEW AND FELICE ACRES WELLS.

(cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL			MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR- ATIONS (FT-LSD)	AQUIFER
					DATE	DEPTH (FT-MP)	ELEV. (FT-MSL)						
0489	1536850	488950	—	—	—	—	—	0.0	6562.00	—	—	M -	Middle
0493	1536702	489492	300.0	5.0	12/1/2015	67.12	6493.16	0.9	6560.28	40	6519	A -	—
										65	6494	U -	—
										236	6323	M 270-300	Middle
0494	1536689	489494	85.0	5.0	12/1/2015	30.30	6529.84	0.6	6560.14	40	6520	A -	—
										65	6495	U 65-85	Upper
0498	1534661	488953	150.0	6.0	6/9/2015	53.85	6506.74	2.0	6560.59	80	6479	A 70-110	Alluvium
										80	6479	M 130-150	Middle
CW44	1535048	488891	208.0	6.0	7/29/2015	49.96	6510.78	2.5	6560.74	94	6464	A -	Alluvium
										130	6428	M 69-208	Middle
CW45	1535036	489494	193.0	5.0	12/1/2015	50.05	6511.26	0.6	6561.31	90	6471	A -	—
										166	6395	M 163-193	Middle
CW46	1534642	489595	187.3	5.0	12/18/2006	72.20	6490.06	1.5	6562.26	88	6473	A -	—
										112	6449	M 125-185	Middle
CW53	1536668	490262	157.0	5.0	12/1/2015	9.03	6555.91	3.0	6564.94	110	6452	U 117-157	Upper
CW58	1536230	489520	305.0	4.5	12/1/2015	66.20	6494.60	2.0	6560.80	85	6474	U -	—
										226	6333	M 265-305	Middle
CW73	1535670	489450	100.0	4.5	12/1/2015	46.02	6517.43	2.0	6563.45	68	6493	U 80-100	Upper
CW78	1536319	490080	160.0	4.5	12/2/2015	16.00	6551.15	2.0	6567.15	80	6485	U 120-160	Upper
Q4	1534635	488880	160.0	4.5	12/1/2014	60.53	6499.79	2.0	6560.32	90	6468	M 100-160	Middle
Y1	1535670	488850	260.0	4.5	12/1/2015	66.30	6495.14	2.0	6561.44	172	6387	M 220-260	Middle
Y2	1535678	489151	250.0	4.5	12/1/2014	91.73	6469.88	2.9	6561.61	103	6456	A -	—
										198	6361	M 210-250	Middle
Y3	1535660	489440	280.0	4.5	12/1/2015	68.75	6494.63	2.0	6563.38	196	6365	M 220-240	Middle
										196	6365	M 260-280	Middle
Y4	1535558	489612	260.0	4.5	12/1/2014	82.68	6480.46	2.4	6563.14	103	6458	A -	—
										201	6360	M 220-260	Middle
Y5	1535528	489302	260.0	4.5	12/1/2014	87.82	6474.92	3.6	6562.74	108	6451	A -	—
										178	6381	M 220-260	Middle
Y6	1535518	489002	250.0	4.5	12/1/2014	90.49	6468.59	0.9	6559.08	100	6458	A -	—
										178	6380	M 210-250	Middle
Y7	1535339	488870	220.0	4.5	4/29/2015	113.82	6446.61	2.5	6560.43	90	6468	A -	—
										158	6400	M 180-220	Middle
Y8	1535349	489161	240.0	4.5	12/1/2014	86.03	6475.44	2.1	6561.47	101	6458	A -	—
										185	6374	M 200-240	Middle
Y9	1535358	489503	235.0	4.5	12/1/2014	76.27	6486.45	2.6	6562.72	105	6455	A -	—
										178	6382	M 195-235	Middle
Y10	1535258	489632	220.0	4.5	12/1/2014	85.73	6480.45	4.4	6566.18	87	6475	A -	—
										167	6395	M 180-220	Middle

TABLE 5.1-2. WELL DATA FOR THE CHINLE BROADVIEW AND FELICE ACRES WELLS.

(cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL			MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR- ATIONS (FT-LSD)	AQUIFER
					DATE	DEPTH (FT-MP)	ELEV. (FT-MSL)						
Y11	1535218	489352	220.0	4.5	12/1/2014	64.47	6497.58	1.7	6562.05	112	6448	A -	---
										169	6391	M 180-220	Middle
Y12	1535208	489022	210.0	4.5	12/1/2014	81.17	6478.51	1.2	6559.68	95	6463	A -	---
										156	6402	M 170-210	Middle
Y13	1535135	488830	212.0	4.5	12/1/2014	91.81	6469.03	2.0	6560.84	140	6419	M 172-212	Middle
Y14	1535057	489113	200.0	4.5	12/1/2014	62.69	6498.33	1.2	6561.02	90	6470	A -	---
										139	6421	M 160-200	Middle
Y15	1535046	489312	190.0	4.5	12/1/2014	63.19	6499.17	2.3	6562.36	103	6457	A -	---
										155	6405	M 150-190	Middle
Y16	1535068	489702	200.0	4.5	12/1/2014	66.16	6497.54	2.0	6563.70	89	6473	A -	---
										158	6404	M 160-200	Middle
Y17	1534978	489782	210.0	4.5	12/1/2014	70.57	6494.06	2.4	6564.63	96	6466	A -	---
										158	6404	M 170-210	Middle
Y22	1534912	488868	210.0	4.5	12/1/2014	89.49	6472.20	2.0	6561.69	112	6448	M 160-210	Middle
Y23	1534838	488942	160.0	4.5	12/23/2014	125.78	6435.52	2.7	6561.30	106	6453	A -	---
										106	6453	M 120-160	Middle
Y24	1534859	489143	180.0	4.5	12/1/2014	61.68	6500.26	2.6	6561.94	97	6462	A -	---
										119	6440	M 140-180	Middle
Y25	1534798	489442	180.0	4.5	12/1/2014	60.58	6502.09	1.8	6562.67	91	6470	A -	---
										125	6436	M 140-180	Middle
Y26	1534858	489532	185.0	4.5	12/1/2014	62.39	6502.01	2.3	6564.40	111	6451	A -	---
										122	6440	M 145-185	Middle
Y30	1534752	488865	180.0	4.5	12/1/2015	50.65	6509.40	2.0	6560.05	108	6450	M 140-180	Middle
Y33	1534639	489337	180.0	4.5	12/1/2014	57.18	6506.04	2.0	6563.22	100	6461	M 140-180	Middle
Y34	1534642	489091	180.0	4.5	12/1/2014	58.48	6502.44	2.0	6560.92	131	6428	M 140-180	Middle

NOTE: A = Alluvial Aquifer, Base
 U = Upper Chinle Aquifer, Top
 M = Middle Chinle Aquifer, Top
 L = Lower Chinle Aquifer, Top
 * = Abandoned

TABLE 5.1-3. WELL DATA FOR THE CHINLE MURRAY ACRES AND PLEASANT VALLEY WELLS.

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL			MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	AQUIFER
					DATE	DEPTH	ELEV.						
						(FT-MP)	(FT-MSL)						
Murray													
0803	1540800	487430	---	6.0	9/19/1983	84.86	6476.14	0.0	6561.00	---	---	C 85-180	Chinle
										85	6476	A 85-180	Alluvium
0807	1540598	488610	287.0	6.0	---	---	---	0.0	6565.00	63	6502	A -	---
										275	6290	M 275-285	Middle
0808	1540080	487490	290.0	5.0	---	---	---	1.6	6561.00	85	6474	A -	---
										255	6304	M 260-290	Middle
0812	1539910	488505	300.0	6.0	---	---	---	0.6	6566.00	68	6497	A -	---
										268	6297	M 264-284	Middle
0813	1539300	488620	280.0	6.0	---	---	---	0.0	6565.00	63	6502	A -	---
										230	6335	M 235-255	Middle
0814	1539030	488590	280.0	6.0	---	---	---	0.0	6565.00	---	---	M -	Middle
0816	1539110	487705	255.0	6.0	---	---	---	0.0	6557.00	35	6522	A -	---
										240	6317	M 240-250	Middle
0817	1539190	487590	---	---	7/22/1995	70.34	6486.66	0.0	6557.00	---	---	M -	Middle
0818	1539085	487547	243.0	4.0	---	---	---	0.0	6557.00	62	6495	A -	---
										230	6327	M 223-243	Middle
0819	1539000	487000	222.0	6.0	---	---	---	0.0	6557.00	62	6495	A -	---
										210	6347	M 210-220	Middle
0820	1539254	486513	230.0	---	5/9/2002	99.20	6458.80	0.0	6558.00	---	---	M 125-230	Middle
0821	1538810	487320	260.0	7.0	11/1/1994	35.88	6524.12	0.0	6560.00	---	---	M -	Middle
0823	1540150	487720	265.0	6.0	---	---	---	0.0	6561.00	---	---	M 257-267	Middle
										40	6521	A -	---
ACW	1540235	488070	325.0	6.0	12/1/2015	72.73	6491.07	1.2	6563.80	40	6523	A -	---
										57	6506	U -	---
										264	6299	M 265-325	Middle
AW	1540235	488015	156.0	6.0	12/1/2015	30.87	6532.56	0.1	6563.43	63	6500	A -	Alluvium
										100	6463	U 66-155	Upper
HCW	1541060	487785	295.0	6.0	7/20/2000	75.61	6486.39	1.0	6562.00	82	6479	A -	---
										264	6297	M 264-295	Middle
WCW	1541045	488520	307.0	6.0	12/1/2015	75.50	6491.87	0.8	6567.37	83	6484	A -	---
										254	6313	M 257-307	Middle
Pleasant Valley													
0530	1540229	484358	490.0	5.0	10/30/1998	95.78	6463.41	1.5	6559.19	265	6293	L -	Lower
0832	1539263	485629	280.0	4.0	---	---	---	0.0	6557.00	85	6472	A -	---
										240	6317	L 238-278	Lower
0837	1540995	485950	200.0	5.0	9/7/1983	59.87	6507.13	0.0	6567.00	80	6487	A -	---
										160	6407	L 160-200	Lower
* 0842	1541650	483980	250.0	---	---	---	---	0.0	6558.00	---	---	L -	Lower

TABLE 5.1-3. WELL DATA FOR THE CHINLE MURRAY ACRES AND PLEASANT VALLEY WELLS.

(cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL			MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR- ATIONS (FT-LSD)	AQUIFER
					DATE	DEPTH (FT-MP)	ELEV. (FT-MSL)						
0900	1540800	483700	172.1	--	7/24/1995	91.41	6468.59	1.5	6560.00	--	--	L -	Lower

NOTE: A = Alluvial Aquifer, Base
 U = Upper Chinle Aquifer, Top
 M = Middle Chinle Aquifer, Top
 L = Lower Chinle Aquifer, Top
 * = Abandoned

TABLE 5.1-4. WELL DATA FOR THE CHINLE REGIONAL WELLS.

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL		MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFORATIONS (FT-LSD)		AQUIFER
					DATE	DEPTH (FT-MP)	ELEV. (FT-MSL)						
0536	1539560	479701	160.0	5.0	9/12/2000	144.70	--	-2.0	--	--	L	-	Lower
0536R	1539888	479654	264.0	4.0	12/5/2007	139.06	6415.94	2.0	6555.00	62	6491	A	--
										160	6393	L	Lower
0538	1533486	486899	170.0	6.0	7/18/2014	66.95	6481.99	2.0	6548.94	95	6452	A	50-90
										133	6414	L	130-170
0539	1534014	487596	210.0	6.0	12/1/2015	25.09	6530.23	2.0	6555.32	100	6453	A	50-70
										100	6453	A	80-100
										175	6378	L	170-210
0544	1535653	487969	80.0	4.0	--	--	--	--	6558.00	60	--	M	60-80
0546	1536330	487560	160.0	5.0	7/19/2010	72.50	6486.50	--	6559.00	80	--	M	130-160
0547	1529133	483106	127.0	--	--	--	--	--	--	--	--	L	-
0548	1521230	482903	220.0	--	--	--	--	--	--	--	--	L	-
0549	1528942	483572	313.0	--	--	--	--	--	--	--	--	L	-
0580	1537700	492300	235.0	4.5	--	--	--	--	6579.00	--	--	U	-
0653	1533283	486570	206.0	6.0	12/2/2015	63.47	6481.50	1.6	6544.97	97	6446	A	69-206
										135	6408	L	-
0850	1534652	486044	54.0	5.0	12/1/2015	55.76	6493.39	3.2	6549.15	37	6509	A	-
										37	6509	M	29-54
0853	1532124	484824	95.0	5.0	12/1/2015	72.31	6469.07	1.7	6541.38	60	6480	L	55-95
										60	6480	A	-
0859	1534549	487426	83.0	5.0	12/1/2015	55.85	6496.91	2.7	6552.76	52	6498	M	50-83
0901	1531531	492846	270.0	5.0	11/4/1981	46.88	6552.12	0.0	6599.00	40	6559	A	-
										190	6409	L	240-260
0902	1533700	488800	150.0	6.0	1/28/1995	52.10	6507.90	0.0	6560.00	72	6488	A	-
										72	6488	M	78-102
0903	1530250	486900	281.0	5.0	--	--	--	0.0	6559.00	220	6339	L	120-260
0904	1531100	487150	200.0	4.0	--	--	--	0.0	6560.00	--	--	L	170-200
0908	1534430	483325	282.8	5.0	11/3/1998	81.16	6463.21	1.5	6544.37	107	6436	A	-
										232	6311	L	-
0909	1531900	483400	140.0	4.0	5/12/2015	84.49	6454.41	0.0	6538.90	112	6427	A	80-135
										112	6427	L	80-135
0927	1548300	491700	--	--	12/1/2015	48.20	6546.80	1.0	6595.00	--	--	M	-
										--	--	C	-
0929	1544684	495585	320.0	5.0	7/1/2015	54.09	6538.48	2.0	6592.57	--	--	U	290-320
0932	1540436	495407	501.0	6.0	4/19/2001	86.73	6515.38	0.0	6602.11	354	6248	U	-
										492	6110	M	450-490
0933	1540087	495231	--	5.0	12/14/2009	78.28	6522.23	0.5	6600.51	--	--	U	-
0937	1542180	471478	182.0	5.0	--	--	--	0.0	6578.00	70	6508	A	-
										160	6418	L	95-182

TABLE 5.1-4. WELL DATA FOR THE CHINLE REGIONAL WELLS.

(cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL			MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR- ATIONS (FT-LSD)	AQUIFER
					DATE	DEPTH (FT-MP)	ELEV. (FT-MSL)						
0944	1539280	493091	300.0	5.0	12/27/2010	3.80	6584.81	1.6	6588.61	64 252	6523 6335	A - U 220-280	— Upper
0945	1537986	493900	300.0	—	3/21/1985	92.41	6498.08	0.0	6590.49	—	—	U -	Upper
0946	1537804	491754	260.0	5.0	10/17/1996	37.45	6541.59	0.0	6579.04	220	6359	U 230-260	Upper
0948	1535190	490400	255.0	5.0	—	—	—	0.0	6568.10	200	6368	M 200-255	Middle
0954	1534187	483910	307.0	5.0	12/27/1994	77.22	6467.78	0.0	6545.00	225	6320	L 285-307	Lower
0960	1534730	490110	305.0	6.0	4/5/1995	67.46	6497.54	0.0	6565.00	280	6285	M 285-305	Middle
0961	1534190	489720	240.0	5.0	4/5/1995	67.40	6497.60	6.9	6565.00	200	6358	M 200-240	Middle
0962	1533750	489796	238.0	6.0	—	—	—	0.0	6560.00	225	6335	M 220-238	Middle
0963	1532555	488792	—	4.0	—	—	—	0.0	6557.00	—	—	L -	Lower
0964	1531817	488371	200.0	6.0	—	—	—	0.0	6560.00	170	6390	L 170-200	Lower
0965	1531550	489100	200.0	4.0	8/21/2003	3.00	6572.00	0.0	6575.00	—	—	L 130-200	Lower
0966	1531300	489000	—	—	—	—	—	0.0	6575.00	—	—	L -	Lower
0967	1530500	487600	—	—	—	—	—	0.0	6570.00	—	—	L -	Lower
0968	1529700	488400	—	—	—	—	—	0.0	6530.00	—	—	L -	Lower
0969	1529400	488450	—	—	—	—	—	0.0	6540.00	—	—	L -	Lower
0970	1529100	488500	—	5.0	—	—	—	0.0	6560.00	—	—	L -	Lower
0988	1538124	483423	155.0	5.0	7/18/1996	59.86	6489.14	1.3	6549.00	18 152	6530 6396	A - L 152-155	— Lower
0990	1537600	482750	—	—	—	—	—	0.5	6550.00	—	—	L -	Lower
CW15	1536259	485961	134.6	5.0	12/2/2015	92.65	6458.67	2.6	6551.32	50 91 311	6499 6458 6238	A - M 73-133 L -	— Middle —
CW16	1534747	488507	—	5.0	12/26/1996	68.02	6490.52	0.0	6558.54	82 82	6477 6477	M 112-152 A -	Middle —
CW18	1535924	491378	230.7	5.0	11/30/2015	15.60	6557.05	1.5	6572.65	90 190 340	6481 6381 6231	A - U 177-232 M -	— Upper —
CW26	1534116	489593	300.0	5.0	12/11/2013	91.10	6470.33	0.5	6561.43	50 50 231	6511 6511 6330	M - A - L 245-285	— — Lower
CW27	1534109	489600	110.0	5.0	12/11/2013	60.18	6502.70	1.9	6562.88	50 50	6511 6511	A - M 80-110	— Middle
CW28	1535112	491008	370.0	5.0	11/30/2015	69.25	6502.43	1.9	6571.68	90 110 294	6480 6460 6276	A - U - M 280-360	— — Middle
CW29	1534551	487435	290.0	5.0	12/1/2015	75.04	6477.18	1.7	6552.22	52 52 228	6499 6499 6323	M - A - L 230-270	— — Lower

TABLE 5.1-4. WELL DATA FOR THE CHINLE REGIONAL WELLS.

(cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL			MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	AQUIFER
					DATE	DEPTH (FT-MP)	ELEV. (FT-MSL)						
CW30	1536642	488704	251.5	5.0	12/14/2004	8.00	6550.31	2.0	6558.31	35	6521 A	-	--
										220	6336 M	219-249	Middle
CW31	1540689	482738	311.0	6.0	12/1/2015	84.45	6475.81	2.0	6560.26	111	6447 A	-	--
										254	6304 L	291-311	--
										254	6304 L	136-156	Lower
										254	6304 L	231-271	--
CW32	1543413	483523	300.0	6.0	12/1/2015	148.10	6419.18	1.7	6567.28	70	6496 A	-	--
										157	6409 L	158-188	Lower
										157	6409 L	218-303	--
CW36	1540053	481329	180.0	5.0	12/1/2015	75.85	6475.24	2.8	6551.09	96	6452 A	-	--
										152	6396 L	155-177	Lower
CW37	1537240	484853	150.1	5.0	12/1/2015	62.79	6488.38	1.3	6551.17	55	6495 A	-	--
										100	6450 L	100-150	Lower
CW38	1540103	483429	174.8	5.0	11/14/1997	55.18	6500.42	2.1	6555.60	108	6446 A	-	--
										130	6424 L	133-173	Lower
CW39	1537260	483754	126.3	5.0	10/22/2012	28.56	6522.15	3.4	6550.71	40	6507 A	-	--
										87	6460 L	90-123	Lower
CW40	1537624	491819	264.0	5.0	12/1/2015	19.53	6559.41	2.6	6578.94	75	6501 A	-	--
										220	6356 U	224-264	Upper
CW41	1533174	488584	206.0	6.0	12/1/2015	76.91	6478.50	1.5	6555.41	59	6495 A	-	--
										138	6416 L	146-206	Lower
CW42	1533169	487177	205.0	6.0	12/1/2015	69.98	6478.80	0.0	6548.78	98	6451 A	-	--
										124	6425 L	125-205	Lower
CW43	1537587	482493	104.1	5.0	12/1/2015	67.40	6481.39	2.0	6548.79	57	6490 L	81-101	Lower
										57	6490 A	-	--
CW54	1536645	488675	103.1	5.0	12/2/2015	24.00	6534.55	2.2	6558.55	70	6486 C	60-100	Chinle
CW74	1535188	487376	130.0	4.5	12/2/2015	62.50	6490.91	3.1	6553.41	40	6510 A	-	--
										100	6450 M	90-130	Middle
CW75	1536012	487376	190.0	4.5	12/1/2015	68.32	6485.26	1.8	6553.58	40	6512 A	-	--
										160	6392 M	150-190	Middle
CW76	1536661	487861	270.0	4.5	12/2/2015	62.93	6493.68	2.4	6556.61	40	6514 A	-	--
										210	6344 M	230-270	Middle
CW77	1536659	488282	280.0	4.5	5/11/2015	83.61	6475.70	2.3	6559.31	40	6517 A	-	--
										210	6347 M	240-280	Middle
R1	1534551	487790	120.0	5.0	12/1/2015	44.98	6510.14	2.0	6555.12	84	6469 A	80-120	Alluvium
										84	6469 M	80-120	Middle
R2	1534548	487968	115.0	5.0	5/14/2015	48.09	6506.07	2.0	6554.16	83	6469 A	75-115	Alluvium
										83	6469 M	75-115	Middle
R3	1534546	488196	140.0	5.0	5/14/2015	48.79	6506.94	2.0	6555.73	88	6466 M	100-140	Middle
										88	6466 A	60-80	Alluvium

TABLE 5.1-4. WELL DATA FOR THE CHINLE REGIONAL WELLS.

(cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL			MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR- ATIONS (FT-LSD)	AQUIFER
					DATE	DEPTH (FT-MP)	ELEV. (FT-MSL)						
R4	1534541	488446	130.0	5.0	5/14/2015	50.45	6508.33	2.0	6558.78	84	6473	M 90-130	Middle
										84	6473	A 90-130	Alluvium
R5	1534560	488666	125.0	5.0	5/14/2015	51.78	6505.97	2.0	6557.75	71	6485	M 65-125	Middle
										71	6485	A 65-125	Alluvium
R6	1534356	488448	130.0	5.0	11/19/2013	60.75	6498.89	2.0	6559.64	68	6490	A 50-90	Alluvium
										68	6490	M 110-130	Middle
R7	1534399	488087	145.0	5.0	8/16/2013	54.21	6500.60	2.0	6554.81	74	6479	M 125-145	Middle
										74	6479	A 65-105	Alluvium
R8	1534412	487891	145.0	5.0	8/16/2013	53.47	6500.69	2.0	6554.16	86	6466	A 65-105	Alluvium
										86	6466	M 125-145	Middle
R9	1534420	487700	120.0	4.5	11/13/2013	54.74	6501.01	2.0	6555.75	80	6474	A 60-120	Alluvium
										80	6474	M 60-120	Middle
R10	1534305	488003	120.0	4.5	5/14/2015	49.25	6505.97	2.0	6555.22	70	6483	A 60-120	Alluvium
										70	6483	M 60-120	Middle
R11	1534320	488280	120.0	4.5	5/14/2015	53.39	6505.06	2.0	6558.45	70	6486	M 60-120	Middle
										70	6486	A 60-120	Alluvium
R12	1534220	488360	120.0	4.5	11/14/2013	59.23	6497.72	2.0	6556.95	66	6489	M 60-120	Middle
										66	6489	A 60-120	Alluvium
R13	1534220	488150	120.0	4.5	11/14/2013	59.43	6497.46	2.0	6556.89	72	6483	M 60-120	Middle
										72	6483	A 60-120	Alluvium
R14	1534168	487971	100.0	4.5	11/14/2013	59.22	6497.57	2.0	6556.79	80	6475	A 60-100	Alluvium
										80	6475	M 60-100	Middle
R17	1534040	487810	100.0	4.5	11/18/2013	58.62	6496.60	2.0	6555.22	89	6464	A 60-100	Alluvium
										89	6464	M 60-100	Middle
R18	1534030	487970	100.0	4.5	5/14/2015	55.35	6500.65	2.0	6556.00	82	6472	A 60-100	Alluvium
										82	6472	M 60-100	Middle
R19	1534029	488173	100.0	4.5	11/18/2013	60.42	6496.08	2.0	6556.50	92	6463	A 60-100	Alluvium
										92	6463	M 60-100	Middle
R20	1534120	488260	100.0	4.5	5/14/2015	54.09	6502.25	2.0	6556.34	80	6474	A 60-100	Alluvium
										80	6474	M 60-100	Middle
R21	1534031	488350	100.0	4.5	11/18/2013	58.86	6496.71	2.0	6555.57	92	6462	A 60-100	Alluvium
										92	6462	M 60-100	Middle
R22	1533940	488091	100.0	4.5	5/12/2015	56.52	6500.62	2.0	6557.14	85	6470	M 60-100	Middle
										85	6470	A 60-100	Alluvium
R36	1533594	486157	200.0	4.5	---	---	---	2.0	6545.46	---	---	L 160-200	Lower
										90	6453	A -	---
R37	1533586	486481	200.0	4.5	---	---	---	2.0	6546.84	---	---	L 160-200	Lower
										90	6455	A -	---
R44	1533478	486593	200.0	4.5	---	---	---	2.0	6547.59	100	6446	A -	---
										130	6416	L 160-200	Lower

TABLE 5.1-4. WELL DATA FOR THE CHINLE REGIONAL WELLS.

(cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL			MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR-ATIONS (FT-LSD)	AQUIFER
					DATE	DEPTH (FT-MP)	ELEV. (FT-MSL)						
R45	1533481	486334	200.0	4.5	---	---	---	2.0	6546.43	80	6464 A	-	---
										130	6414 L	160-200	Lower
R46	1533478	486088	200.0	4.5	---	---	---	2.0	6546.24	---	---	L 160-200	Lower
										90	6454 A	-	---
R47	1533470	485780	160.0	4.5	12/20/2013	75.59	6471.58	2.0	6547.17	103	6442 L	100-160	Lower
										103	6442 A	100-160	Alluvium
R48	1533345	485775	160.0	4.5	---	---	---	2.0	6545.24	100	6443 L	100-160	Lower
										100	6443 A	100-160	Alluvium
R49	1533407	485953	200.0	4.5	12/1/2015	69.57	6476.42	2.0	6545.99	100	6444 A	-	---
										120	6424 L	160-200	Lower
R50	1533362	486216	200.0	4.5	---	---	---	2.0	6545.62	100	6444 A	-	---
										120	6424 L	160-200	Lower
R51	1533387	486460	200.0	4.5	---	---	---	2.0	6546.50	120	6425 A	-	---
										140	6405 L	160-200	Lower
R52	1533377	486751	200.0	4.5	5/15/2015	69.74	6477.95	2.5	6547.69	70	6475 A	-	---
										140	6405 L	160-200	Lower
R56	1533244	486354	180.0	4.5	---	---	---	2.0	6545.38	---	---	L 140-180	Lower
R57	1533260	485880	135.0	4.5	12/20/2013	74.67	6472.40	2.0	6547.07	99	6446 L	75-135	Lower
										99	6446 A	75-135	Alluvium
R58	1533170	485710	160.0	4.5	4/8/2014	70.98	6473.47	2.0	6544.45	98	6444 L	100-160	Lower
										98	6444 A	100-160	Alluvium
R59	1533125	485963	150.0	4.5	---	---	---	2.0	6545.01	---	---	L 110-150	Lower
										90	6453 A	110-150	Alluvium
R60	1533149	486216	180.0	4.5	---	---	---	2.0	6545.30	110	6433 L	140-180	Lower
										110	6433 A	-	---
R61	1533157	486484	180.0	4.5	---	---	---	2.0	6545.79	70	6474 A	-	---
										150	6394 L	140-180	Lower
R62	1533186	486744	180.0	4.5	---	---	---	2.0	6546.70	100	6445 A	-	---
										180	6365 L	140-180	Lower
R65	1533068	486614	180.0	4.5	5/15/2015	69.24	6476.86	2.3	6546.10	---	---	L 140-180	Lower
										80	6464 A	-	---
R66	1533048	486354	180.0	4.5	5/15/2015	69.33	6476.18	2.0	6545.51	120	6424 A	-	---
										120	6424 L	140-180	Lower
R67	1533041	486129	180.0	4.5	12/1/2015	67.61	6477.92	2.0	6545.53	100	6444 A	-	---
										140	6404 L	140-180	Lower
R68	1533025	485819	160.0	4.5	10/10/2014	69.44	6475.41	2.0	6544.85	99	6444 A	100-160	Alluvium
										99	6444 L	100-160	Lower
R69	1532987	486024	160.0	4.5	4/8/2014	70.53	6474.82	2.0	6545.35	96	6447 L	100-160	Lower
										96	6447 A	100-160	Alluvium
R70	1532909	486258	180.0	4.5	5/15/2015	68.01	6477.20	2.1	6545.21	---	---	L 140-180	Lower

TABLE 5.1-4. WELL DATA FOR THE CHINLE REGIONAL WELLS.

(cont'd.)

WELL NAME	NORTH. COORD.	EAST. COORD.	WELL DEPTH (FT-MP)	CASING DIAM (IN)	WATER LEVEL			MP ABOVE LSD (FT)	MP ELEV. (FT-MSL)	DEPTH TO AQUIFER (FT-LSD)	ELEV. OF AQUIFER (FT-MSL)	CASING PERFOR- ATIONS (FT-LSD)	AQUIFER
					DATE	DEPTH (FT-MP)	ELEV. (FT-MSL)						
R70	1532909	486258	180.0	4.5	5/15/2015	68.01	6477.20	2.1	6545.21	80	6463	A -	---
R71	1532972	486481	180.0	4.5	5/15/2015	68.36	6477.39	2.4	6545.75	---	---	L 140-180	Lower
										100	6443	A -	---
R72	1532997	486762	180.0	4.5	---	---	---	2.0	6546.92	100	6445	A -	---
										120	6425	L 140-180	Lower
R73	1533019	485560	150.0	4.5	5/13/2015	69.92	6474.42	2.3	6544.34	100	6442	A 110-150	Alluvium
										100	6442	L 110-150	Lower
R74	1532852	485502	140.0	4.5	12/1/2015	68.63	6475.40	2.4	6544.03	100	6442	L 100-140	Lower
										100	6442	A 100-140	Alluvium
R75	1532922	485716	140.0	4.5	5/13/2015	69.14	6475.74	2.3	6544.88	100	6443	A 100-140	Alluvium
										100	6443	L 100-140	Lower
R76	1532888	485891	140.0	4.5	5/13/2015	68.37	6476.72	2.3	6545.09	100	6443	L 100-140	Lower
										100	6443	A 100-140	Alluvium
R77	1532683	485800	140.0	4.5	5/13/2015	68.28	6476.69	2.4	6544.97	80	6463	A -	---
										80	6463	L 100-140	Lower
										80	6463	A 100-140	Alluvium
R78	1532683	485612	140.0	4.5	5/13/2015	69.16	6474.87	2.0	6544.03	100	6442	A 100-140	Alluvium
										100	6442	L 100-140	Lower
V7	1534208	487436	270.0	4.5	12/1/2015	77.72	6477.51	2.0	6555.23	---	---	L 230-270	Lower
										80	6473	A -	---
V8	1534183	486945	260.0	4.5	12/1/2015	74.81	6476.68	2.0	6551.49	100	6449	A -	---
										210	6339	L 220-260	Lower
V9	1534298	488140	280.0	4.5	12/1/2015	80.35	6475.34	2.0	6555.69	---	---	L 240-280	Lower
										70	6484	A -	---
V11	1533919	487868	270.0	4.5	12/1/2015	77.22	6478.68	2.0	6555.90	---	---	L 230-270	Lower
										60	6494	A -	---
V14	1533638	488229	240.0	4.5	12/1/2015	80.04	6475.65	2.0	6555.69	---	---	L 200-240	Lower
										80	6474	A -	---
V16	1533402	487709	220.0	4.5	12/1/2015	74.79	6477.19	2.0	6551.98	80	6470	A -	---
										200	6350	L 180-220	Lower
V17	1533896	486461	240.0	4.5	12/1/2015	74.76	6475.39	2.0	6550.15	---	---	L 200-240	Lower
										100	6448	A -	---
V18	1533819	487241	240.0	4.5	12/1/2015	73.82	6477.56	2.0	6551.38	---	---	L 200-240	Lower
										80	6469	A -	---

NOTE: A = Alluvial Aquifer, Base
 U = Upper Chinle Aquifer, Top
 M = Middle Chinle Aquifer, Top
 L = Lower Chinle Aquifer, Top
 * = Abandoned

5.2 UPPER CHINLE WATER LEVELS

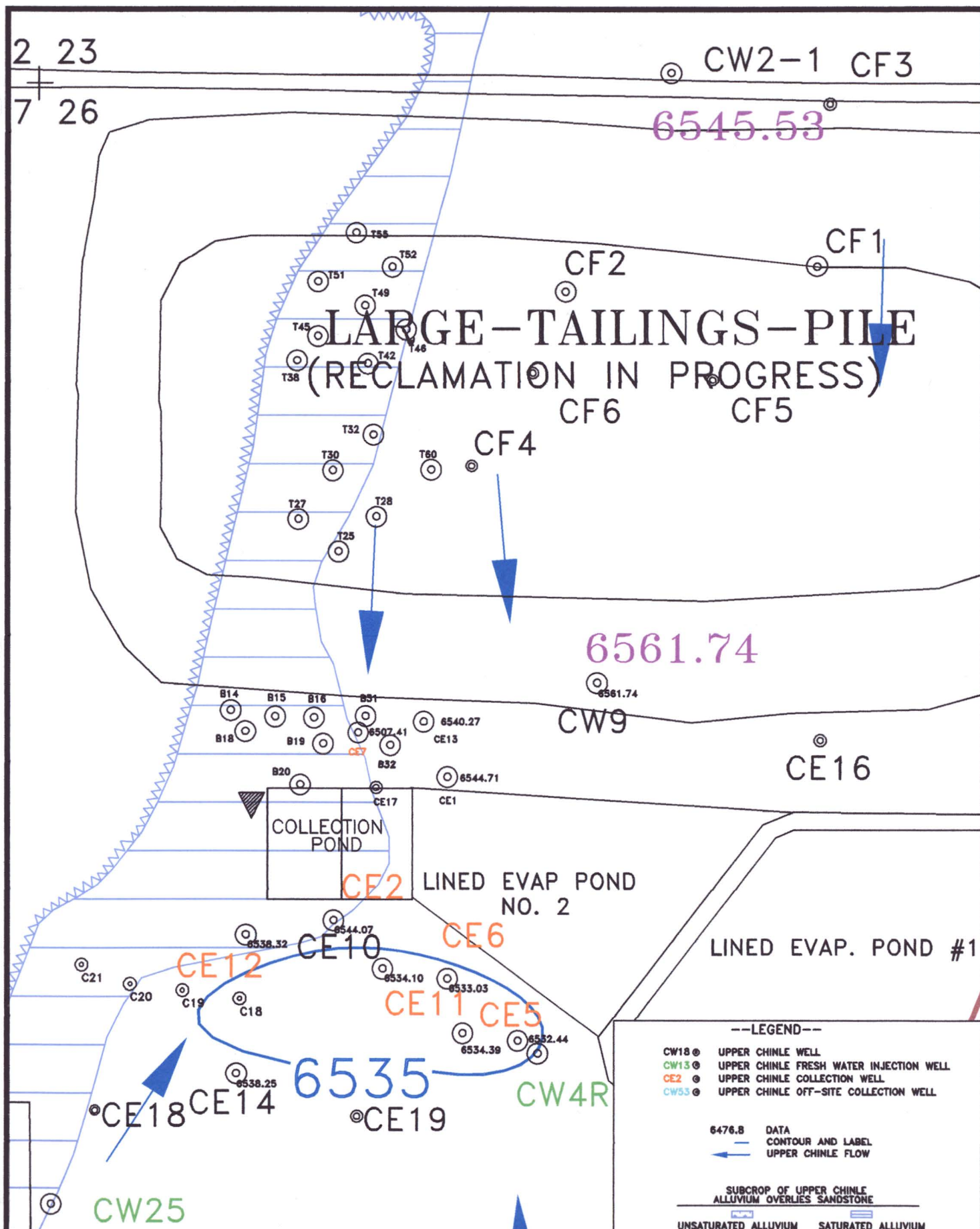
Measured water levels in Homestake's Upper, Middle and Lower Chinle aquifer wells are presented in Appendix A. Table A.2-1 of Appendix A includes water levels for Homestake, subdivision, and regional Chinle wells. Figures 5.2-1 and 5.2-1A presents water-level elevation contours of the Upper Chinle aquifer during the fall of 2015. The blue arrows on Figure 5.2-1 show the direction of ground-water flow, which is greatly influenced by the fresh-water injection into the Upper Chinle at wells CW4R, CW5, CW13 and CW25 and collection from wells CE2, CE5, CE6, CE11 and CE12. Well CW13, an injection well on the east side of the East Fault, is in the high permeability zone of the Upper Chinle aquifer that parallels the East Fault. This high permeability zone extends to a distance of at least 1000 feet parallel and adjacent to the East Fault near well CW18. Injection of fresh water has created a piezometric-surface mound along the east side of the East Fault. The permeability is much smaller at greater distances to the east of the East Fault and, therefore, an easterly gradient occurs in the Upper Chinle away from the East Fault near injection well CW13. The CW13 injection affects water levels on the west side of the East Fault in the area of Upper Chinle well CW53 in Felice Acres. Water level changes in well CW53 respond quickly to change in levels in well CW13 showing that a good connection exists in the Upper Chinle where the East Fault pinches out south of well CW53.

Injection of fresh water into Upper Chinle well CW5 is causing ground water flow to the north and south of this area. The flow that moves to the south discharges to the alluvial aquifer in the subcrop area of the Upper Chinle, and the flow that moves to the north converges toward collection wells CE2, CE5, CE6, CE11 or CE12. Injection into Upper Chinle well CW25 was started in 2000, and this injection is causing ground water to flow from this well back toward these collection wells. The naturally occurring flow direction in the Upper Chinle aquifer west of the East Fault is from the north. Well CW3 has not been pumped since January 2007 and therefore does not intercept any of the flow from the north.

Figure 5.2-2 shows the location of the Upper Chinle wells that are used to monitor water-level changes with time. Figure 5.2-3 presents water-level elevations for Upper Chinle wells 494, CE2, CE7, CE10, CW3 and CW50. The water level in well CW3 remained high in 2015 without the pumping of this well. The changes in water levels from collection well CE2 are due to variations in pumping rate in this well and collection from wells CE5, CE6, CE7,

CE11 and CE12. The drop in water level for well CE7 in 2015 is due to pumping of this well to the R.O. Water levels in well 494 were fairly steady in 2015 with a very slight rise.

Figure 5.2-4 presents the water-level elevation changes for the Upper Chinle wells east of the East Fault. The variation in water levels in wells 929, 931 and CW18 were due to variations in injection rates into well CW13 during 2015.



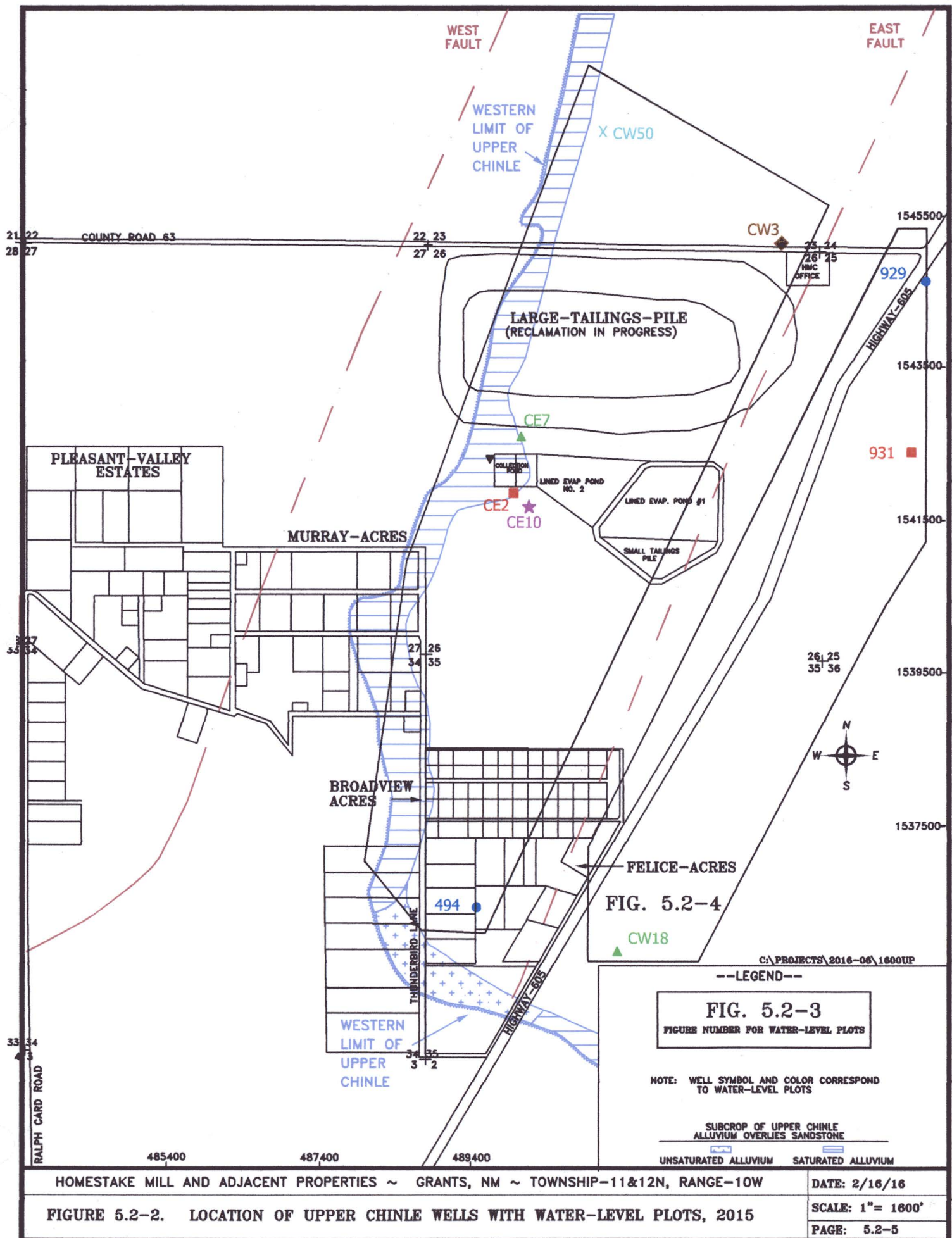
HOMESTAKE MILL AND ADJACENT PROPERTIES ~ GRANTS, NM ~ TOWNSHIP-11&12N, RANGE-10W

DATE: 2/16/16

FIGURE 5.2-1A. WATER LEVEL ELEVATIONS OF THE UPPER CHINLE AQUIFER, OS, FALL 2015, FT-MSL

SCALE: 1" = 500'

PAGE: 5.2-4



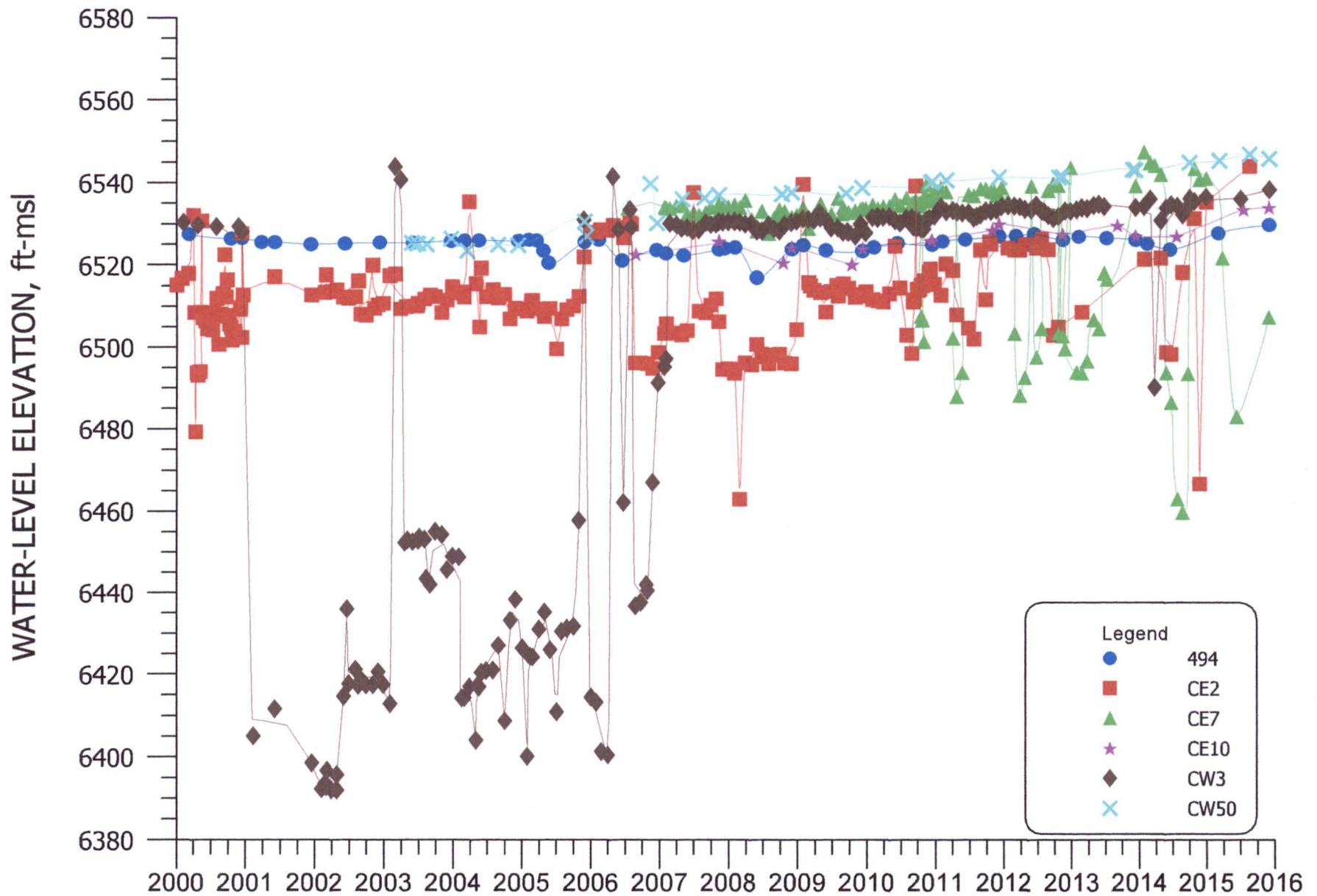


FIGURE 5.2-3. WATER-LEVEL ELEVATION FOR WELLS 494, CE2, CE7, CE10, CW3, AND CW50

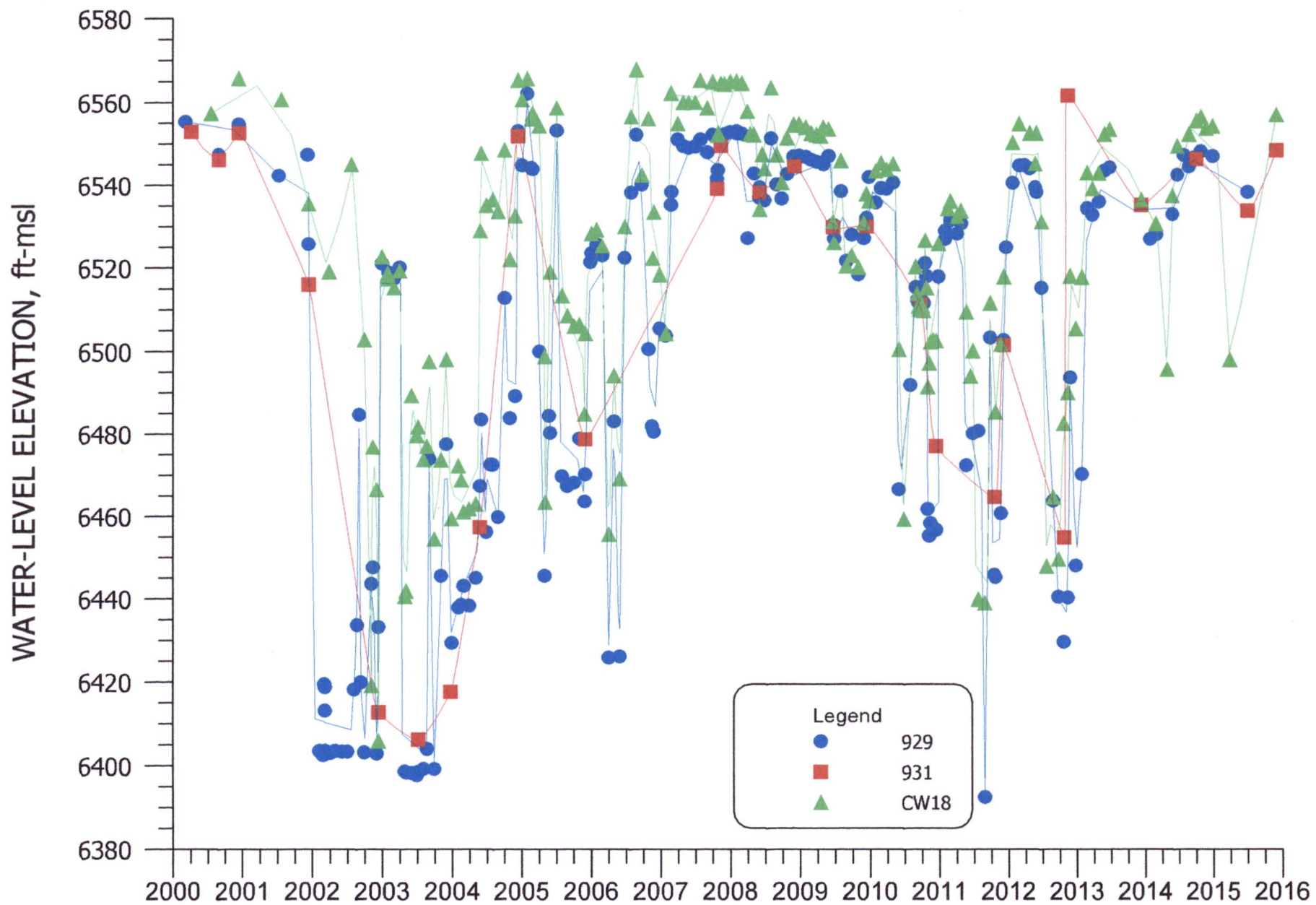


FIGURE 5.2-4. WATER-LEVEL ELEVATION FOR WELLS 929, 931, AND CW18

5.3 UPPER CHINLE WATER QUALITY

Water-quality data for 2015 for the Chinle aquifers is presented in Tables B.5-1 and B.5-2 of Appendix B. The basic well data is presented in Tables 5.1-1 through 5.1-4 and Figure 5.1-2 shows locations of the Upper Chinle wells.

Concentrations of key constituents exceed site standards for the Upper Chinle aquifer in only a few locations. Sulfate concentrations have been adequately restored in the Upper Chinle aquifer except for an area near the Large Tailings Pile (LTP). Selenium concentrations during 2015 are less than the site standard in all Upper Chinle wells except for wells near the LTP. Uranium concentrations exceed the site standard in wells near the LTP, three wells in or just north of Broadview Acres and one well in south Felice Acres. Molybdenum concentrations in the Upper Chinle aquifer exceed the site standard in wells in close proximity to the tailings piles and wells CE15 and CE9.

5.3.1 SULFATE - UPPER CHINLE

Figures 5.3-1 and 5.3-1A present sulfate concentrations in the Upper Chinle aquifer during 2015. Figure 5.3-1A has been added for the presentation of the new wells in the LTP area due to the density of these wells. Therefore Figure 5.3-1A should be used for the viewing of the concentrations in the area inside the red box on Figures 5.3-1. Upper Chinle sulfate concentrations varied from 386 mg/l to large values in the LTP area. A few values from wells near the LTP area exceeded the site standards for the mixing zone of 1750 mg/l. The non-mixing zone site standard of 914 mg/l in the Upper Chinle in 2015 likely is also exceeded in the eastern portion of the LTP (see Section 3 or the well grouping on Figure 5.3-2 for zone areas). Upper Chinle site standards based on background data are presented for sulfate in the legend of Figure 5.3-1 and 5.3-1A. These site standards have a greater than sign in front of the numeric value which is associated with the pattern for the particular zone. Therefore, only an area in the LTP to the north side of the collection ponds requires restoration in the mixing zone and an area to the east in the non-mixing zone. The information regarding the analysis of background results that were used to develop the background and related site standards are presented previously in Section 3 of this report.

The locations of wells used in the time plots of water quality are presented on Figure 5.3-2. The color and symbol of the individual wells correspond with those used on the various water-quality time plots. Sulfate time-plot figure numbers are also shown on Figure 5.3-2 for each group. The same color and symbol scheme is used for other constituents in the Upper Chinle discussed in this section. Notations on Figure 5.3-2 indicate that mixing zone Upper Chinle wells 494, CE2, CE5, CE8, CE12 and CW50 are grouped together on the water-quality time plots, whereas the non-mixing zone wells 929, 931, CW3, and CW18 are grouped together on a second plot.

Figure 5.3-3 presents sulfate concentrations versus time for the mixing zone group of wells listed above. The sulfate concentrations in water sampled from each of these wells are less than the mixing-zone site standard (see Figure 5.3-3). Sulfate concentrations in well CE2, near the subcrop area south of the Large Tailings Pile, had increased in 2011 to a level similar to the remainder of the Upper Chinle wells in this area and has increased over the last three years. The concentrations in the Upper Chinle well CE2 had previously been decreased due to the R.O. product injection into the alluvium in this area.

A plot of sulfate concentrations versus time for non-mixing zone Upper Chinle wells 929, 931, CW3 and CW18 is presented on Figure 5.3-4 (see Figure 5.3-2 for location of these wells). This plot shows some minor variability with fairly steady sulfate concentrations in these Upper Chinle wells in 2015. The sulfate concentration in 2007 in well CW3 declined to near the 2001 pre-pumping concentration in this well and has recently very gradually decreased to slightly above the pre-pumping concentration. Pumping of well CW3 ceased after January of 2007.

5.3.2 TOTAL DISSOLVED SOLIDS - UPPER CHINLE

Figures 5.3-5 and 5.3-5A present contours of total dissolved solids (TDS) concentrations for the Upper Chinle aquifer during 2015. Figure 5.3-5A should be used similar to the second sulfate figure for viewing the concentrations inside of the box on Figure 5.3-5. All concentrations are less than 2000 mg/l, with the exception of areas of the Upper Chinle under and near the LTP and east of State Highway 605 in Sections 25, 35 and 36. The TDS concentration naturally increases with increasing distance east of the East Fault due to the slower

movement of ground water in this less transmissive portion of the aquifer. The blue dashed pattern on Figures 5.3-5 and 5.3-5A shows where the Upper Chinle TDS concentrations are greater than 2010 mg/l, which is the non-mixing zone site standard. TDS concentrations in this area east of Highway 605 are natural and not attributable to the Grants tailings piles. The TDS concentrations exceed the mixing zone standard of 3140 mg/l near the LTP and also are thought to exceed the non-mixing zone standard in the areas near CF1 and CF3. The Upper Chinle aquifer near the LTP and to the south of the Collection Ponds still requires restoration with respect to TDS concentration.

Figure 5.3-6 presents TDS concentrations for mixing zone Upper Chinle wells 494, CE2, CE5, CE8, CE12 and CW50. The TDS concentrations in well CE2 increased in 2011 to a level similar to other Upper Chinle wells in this area and have increased over the last three years. The TDS also increased in Upper Chinle wells CE5 and CE12 in 2015. The TDS concentrations in the remainder of these wells were fairly steady in 2015. All of these wells contain water with TDS concentrations less than the mixing zone standard of 3140 mg/l.

Time plots of TDS concentrations for non-mixing zone wells 929, 931, CW3, and CW18 are presented in Figure 5.3-7. This figure shows overall steady TDS concentrations in these wells for 2015 except for natural changes in wells 931 and CW18. The TDS concentration in well CW3 in 2015 was steady and close to pre-pumping levels in 2001.

5.3.3 CHLORIDE – UPPER CHINLE

Chloride concentrations in the Upper Chinle aquifer during 2015 are presented on Figures 5.3-8 and 5.3-8A. In the up-gradient Upper Chinle well CW50, chloride concentrations are less than 100 mg/l. Typical measured chloride concentrations are between 100 and 220 mg/l in the Upper Chinle aquifer, because this range encompasses natural variations and the range of chloride concentrations in the injection water. Concentrations near the subcrop located under the LTP and down to the south side of the Collection Ponds exceed 250 mg/l and require restoration in this area. Chloride concentrations east of the East Fault naturally increase due to the slower movement of ground water with increasing distance east of the East Fault and are not attributable to the Grants site.

The chloride concentrations in water collected from mixing zone Upper Chinle wells 494, CE2, CE5, CE8, CE12 and CW50 are presented on Figure 5.3-9. In Upper Chinle wells CE2 and CE12 chloride concentrations increased slightly over the last three years. Overall, the chloride concentrations in wells 494, CE5 and CW50 have not changed significantly in 2015.

The chloride concentrations in the wells in the non-mixing zone are presented on Figure 5.3-10. This plot shows steady levels in chloride concentrations for wells 929 and CW18 through 2015. A decrease in concentrations in well CW3 has been observed due to the ceasing of pumping of this Upper Chinle well in January of 2007. The 2015 chloride concentration in well CW3 is essentially the same as the pre-pumping levels in 2001. The large decline in well 931 during the last two years is natural.

5.3.4 URANIUM - UPPER CHINLE

Uranium is an important parameter for identifying impacts to the Upper Chinle aquifer. Figures 5.3-11 and 5.3-11A presents contours of uranium concentrations in the Upper Chinle aquifer for 2015. Uranium concentrations also exceed the corresponding mixing or non-mixing zone site standards in the LTP area extending down to the south of the Collection Ponds in Upper Chinle water in 2015. Two uranium values exceed the mixing zone site standard of 0.18 mg/l just north of and in Broadview Acres and two values in Felice Acres also exceed this site standard. These concentrations are expected to gradually decrease to below background concentrations with the ongoing ground water-quality restoration efforts in the LTP area and the collection just north of Broadview Acres. The highest value measured east of the East Fault in 2015 was 0.03 mg/l. All values east of the East Fault are below the corresponding non-mixing zone standard of 0.09 mg/l.

Plots of uranium concentrations versus time for Upper Chinle wells 494, CE2, CE5, CE8, CE12 and CW50 are presented on Figure 5.3-12 (see Figure 5.3-2 for location of these wells). This plot demonstrates that the uranium concentrations in Upper Chinle wells CE2, CE5 and CE12 increased in 2015. Additional pumping from the Upper Chinle in this area is needed in 2016 to reverse this trend. Uranium concentrations in wells 494, CE8 and CW50 were overall steady in 2015.

Figure 5.3-13 shows uranium concentration plotted versus time for Upper Chinle wells 929, 931, CW3, and CW18. The concentrations in all of these wells are less than the site standard except for well CW3. The uranium concentrations in all of these Upper Chinle wells in the non-mixing zone are very low except for a larger value measured in well CW3. The decrease in uranium concentration at well CW3 in 2007 is due to the cessation of pumping this well after January of 2007. Concentrations in well CW3 continued to decline through 2011 but had gradually increased the last three years but until a slight decline in 2015.

5.3.5 SELENIUM - UPPER CHINLE

Contours of 2015 selenium concentrations in the Upper Chinle aquifer are presented on Figures 5.3-14 and 5.3-14A. These figures show that the selenium concentrations are less than the mixing-zone site standard of 0.14 mg/l with the exception of wells in and near the subcrop area near the LTP and extending down to the south of the Collection Ponds. The non-mixing zone NRC site standard of 0.06 mg/l is thought to be exceeded in a portion of the eastern half of the LTP.

Figure 5.3-15 presents selenium concentrations for wells 494, CE2, CE5, CE8, CE12 and CW50. The selenium concentrations in collection wells CE2 and CE12 increased in 2015. The selenium concentration in well CE5 was fairly steady in 2015. The selenium concentrations for all of the remaining wells on this plot are low and fairly steady. Some restoration is needed in Upper Chinle wells CE2 and CE5.

Figure 5.3-16 presents the selenium concentrations for Upper Chinle wells 929, 931, CW3, and CW18. This plot shows that selenium concentrations for these wells have remained low during 2015 with a small increase in well CW18. The selenium concentration in water collected from Upper Chinle well CW3 declined in 2007 to a level that existed prior to its continuous pumping which started in 2001. The previously observed decreases in selenium concentrations in well CW18 were due to the injection of fresh water in Upper Chinle well CW13 east of the East Fault; selenium concentrations remain low in these wells.

5.3.6 MOLYBDENUM - UPPER CHINLE

Figures 5.3-17 and 5.3-17A present the molybdenum concentrations in the Upper Chinle aquifer during 2015. Molybdenum concentrations near and underlying the LTP exceeded both the mixing and non-mixing zone site standards. Concentrations are greater than 1.0 mg/l in a region extending from the Upper Chinle-alluvium subcrop area, below the LTP, toward well CW3 and to the south of Evaporation Pond 2 and the Collection Ponds. Additional restoration is needed in this area, and should be accomplished after the alluvial aquifer is restored in the subcrop area. The site standard is exceeded in two wells just north of and in Broadview Acres. All molybdenum concentrations from Broadview Acres to the south and east of the East Fault in the Upper Chinle aquifer are below the site standards in 2015.

Figure 5.3-18 presents molybdenum concentrations for Upper Chinle wells from the mixing zone. In 2015, concentrations in wells 494, CE8 and CW50 were fairly similar to those observed in previous years. Concentrations increased in collection wells CE2, CE5 and CE12 in 2015 with a decline in well CE2 in the second half of 2015. Molybdenum concentrations in wells 494, CE8 and CW50 have been small and steady in 2015.

Figure 5.3-19 contains time plots of molybdenum concentrations for wells 929, 931, CW3 and CW18. Small concentrations of molybdenum are generally present in each of these wells except for the larger values observed in well CW3. Molybdenum concentrations in well CW3 overall decreased in 2007 to 2011 due to the ceasing of pumping this well but gradually increased in 2012 through 2015.

5.3.7 NITRATE - UPPER CHINLE

Nitrate concentrations for the Upper Chinle aquifer were measured in 2015 to confirm that concentrations are significantly below the site standard of 15 mg/l for the mixing zone. Figures 5.3-20 and 5.3-20A present nitrate concentrations in the Upper Chinle aquifer during 2015. Nitrate concentrations in 2015 are thought to exceed the site standard underneath the western portion of the LTP. All measured nitrate concentrations in the Upper Chinle aquifer in 2015 are less than the site standard. Routine monitoring of nitrate concentrations in the Upper

Chinle aquifer is only warranted near the LTP because concentrations in the alluvial aquifer are elevated only near the LTP.

Plots of nitrate concentration versus time were not prepared, because historic values in Upper Chinle wells are similar to the low concentrations measured in 2015. In the future, nitrate concentrations in the Upper Chinle aquifer are not expected to be significant because of the very limited extent of elevated concentrations in the alluvial aquifer. Therefore, a nitrate site standard for the non-mixing zone for the Upper Chinle aquifer has not been set and is not considered necessary.

5.3.8 RADIUM-226 AND RADIUM-228 - UPPER CHINLE

All radium concentrations in the Upper Chinle aquifer have been low in past years. Radium values are thought to exceed the site standard in the Upper Chinle aquifer in the western portion of the LTP. Figures 5.3-21 and 5.3-21A present the radium-226 and the radium-228 values measured in 2015. The largest radium-226 concentration measured in the Upper Chinle wells in 2015 was 9.8 pCi/l in well CW3 and this value is thought to be an outlier based on previous measurements. The largest radium-228 value was 1.3 pCi/l in well CE8. Historical data has shown that radium-226 and radium-228 are not present at concentrations that are significant outside the LTP in the Upper Chinle aquifer at the Homestake site. No concentration plots were prepared for radium because observed concentrations have been low. A radium site standard is not considered to be necessary for the Upper Chinle aquifer and has therefore not been established.

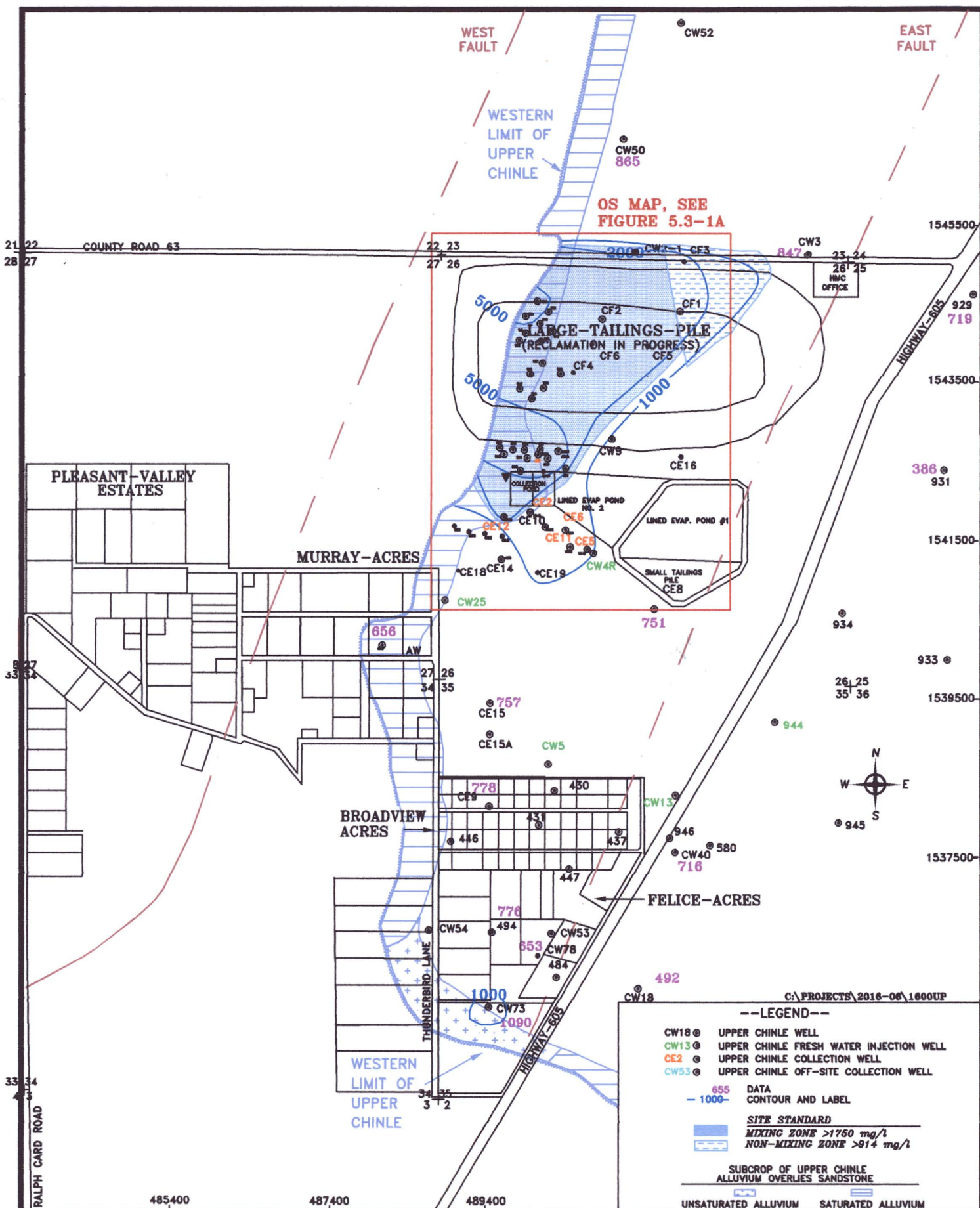
5.3.9 VANADIUM - UPPER CHINLE

Vanadium concentrations have always been low in the Upper Chinle aquifer except the recent value in well CW3 which was slightly above the site standard. The occurrence of significant concentrations in the Upper Chinle aquifer is unlikely because this constituent is not present at elevated concentrations in the alluvial aquifer with the exception of the immediate tailings area. Figure 5.3-22 shows that all of the 2015 measured vanadium concentrations are

equal to or less than 0.01 mg/l except for well CW3. A small amount of restoration is needed in the LTP area for the Upper Chinle aquifer. A site standard was set for the Upper Chinle aquifer for vanadium because a small amount of restoration is needed close to the LTP.

5.3.10 THORIUM-230 - UPPER CHINLE

Thorium-230 concentrations have never been significant in the Upper Chinle aquifer. The values measured in 2015 are presented in Figure 5.3-23. This figure shows that all measured thorium-230 concentrations in 2015 were less than or equal to 0.3 pCi/l. No plots of the thorium-230 concentration with time were developed due to the lack of any significant change in the low concentrations over the period of record. Thorium-230 levels do not warrant establishment of a site standard for this constituent.



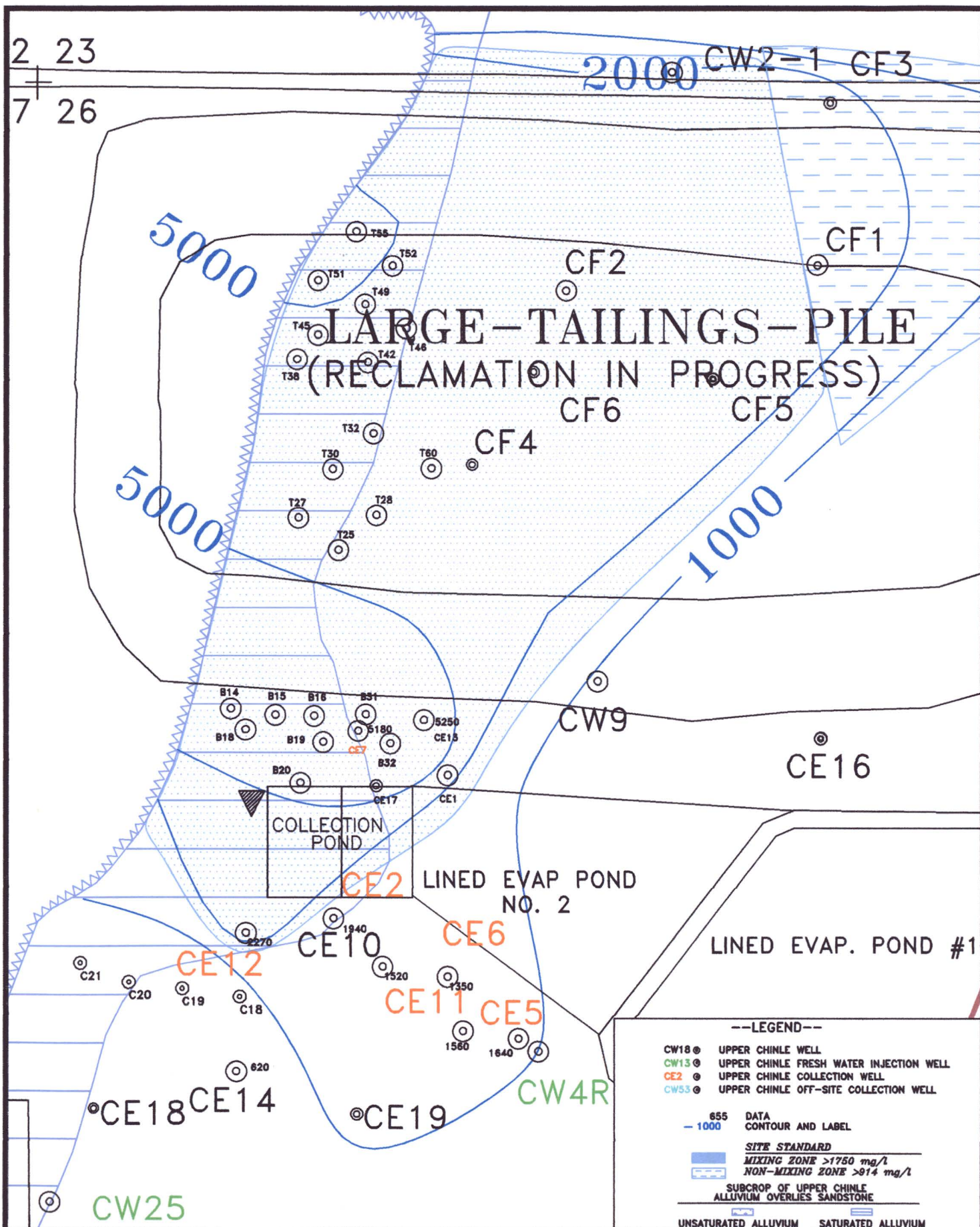
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FIGURE 5.3-1. SULFATE CONCENTRATIONS OF THE UPPER CHINLE AQUIFER, 2015, mg/l

SCALE: 1"= 1600'

PAGE: 5.3-9



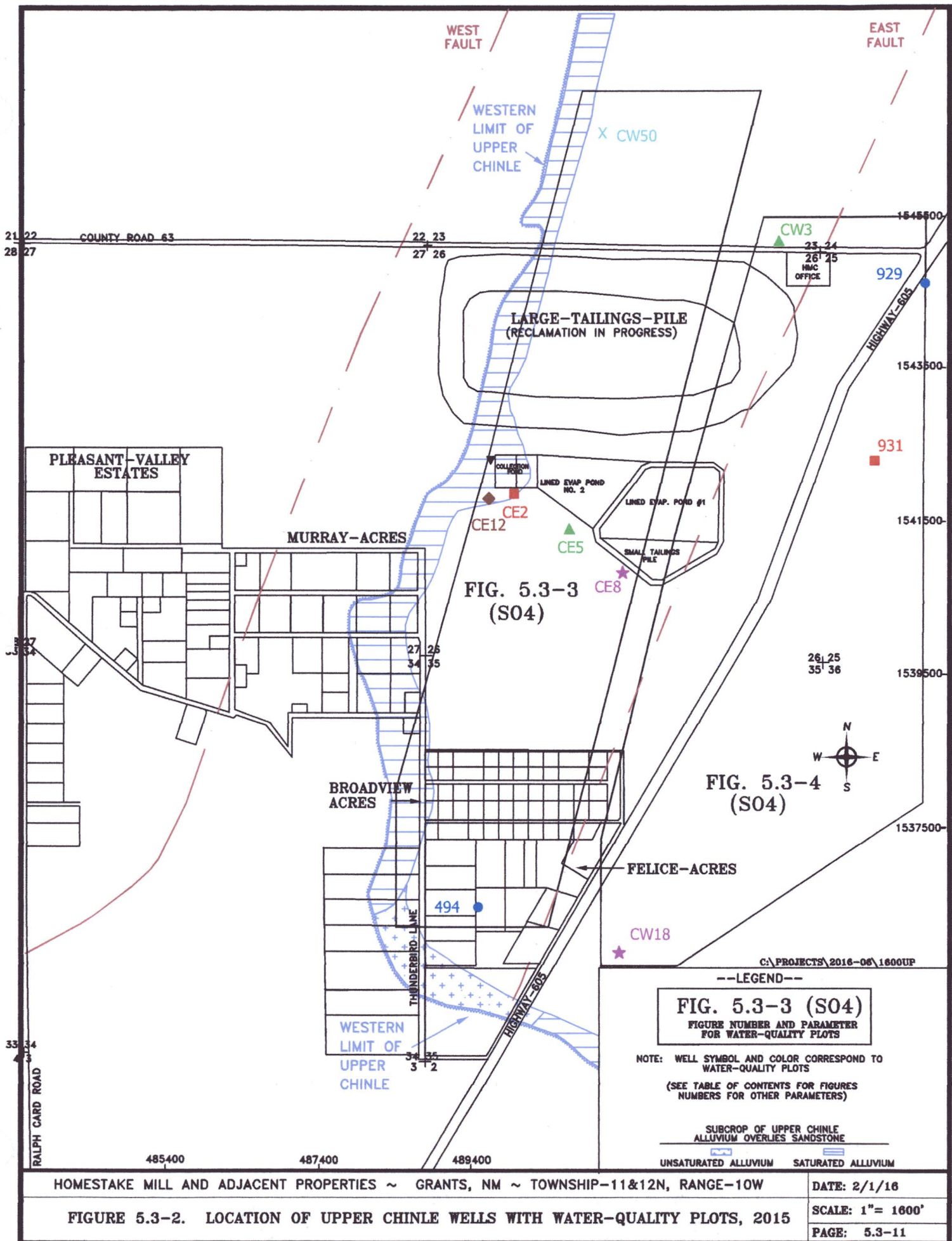
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FIGURE 5.3-1A. SULFATE CONCENTRATIONS OF THE UPPER CHINLE AQUIFER, OS, 2015, mg/l

SCALE: 1" = 500'

PAGE: 5.3-10



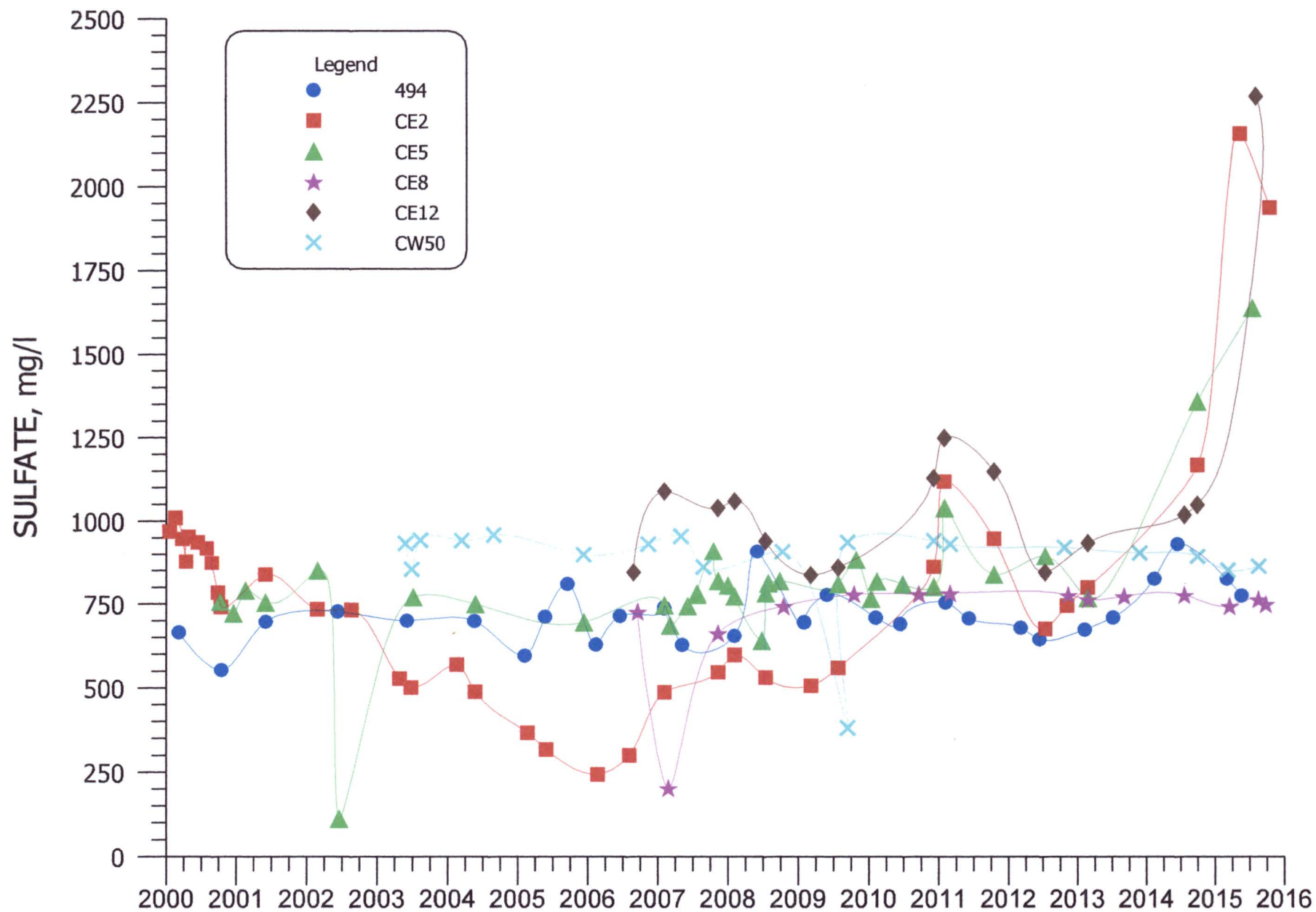


FIGURE 5.3-3. SULFATE CONCENTRATIONS FOR MIXING ZONE WELLS 494, CE2, CE5, CE8, CE12, AND CW50

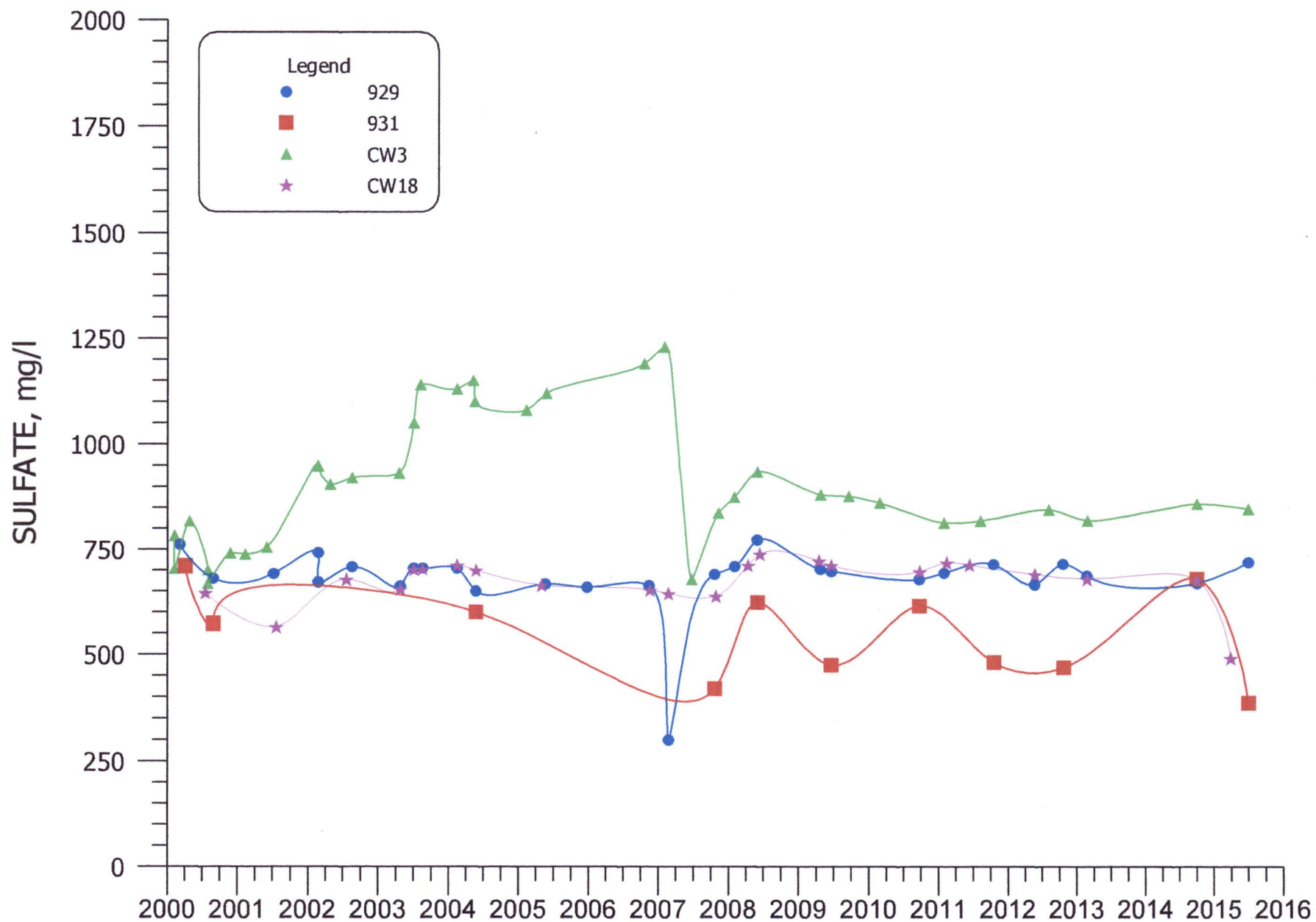
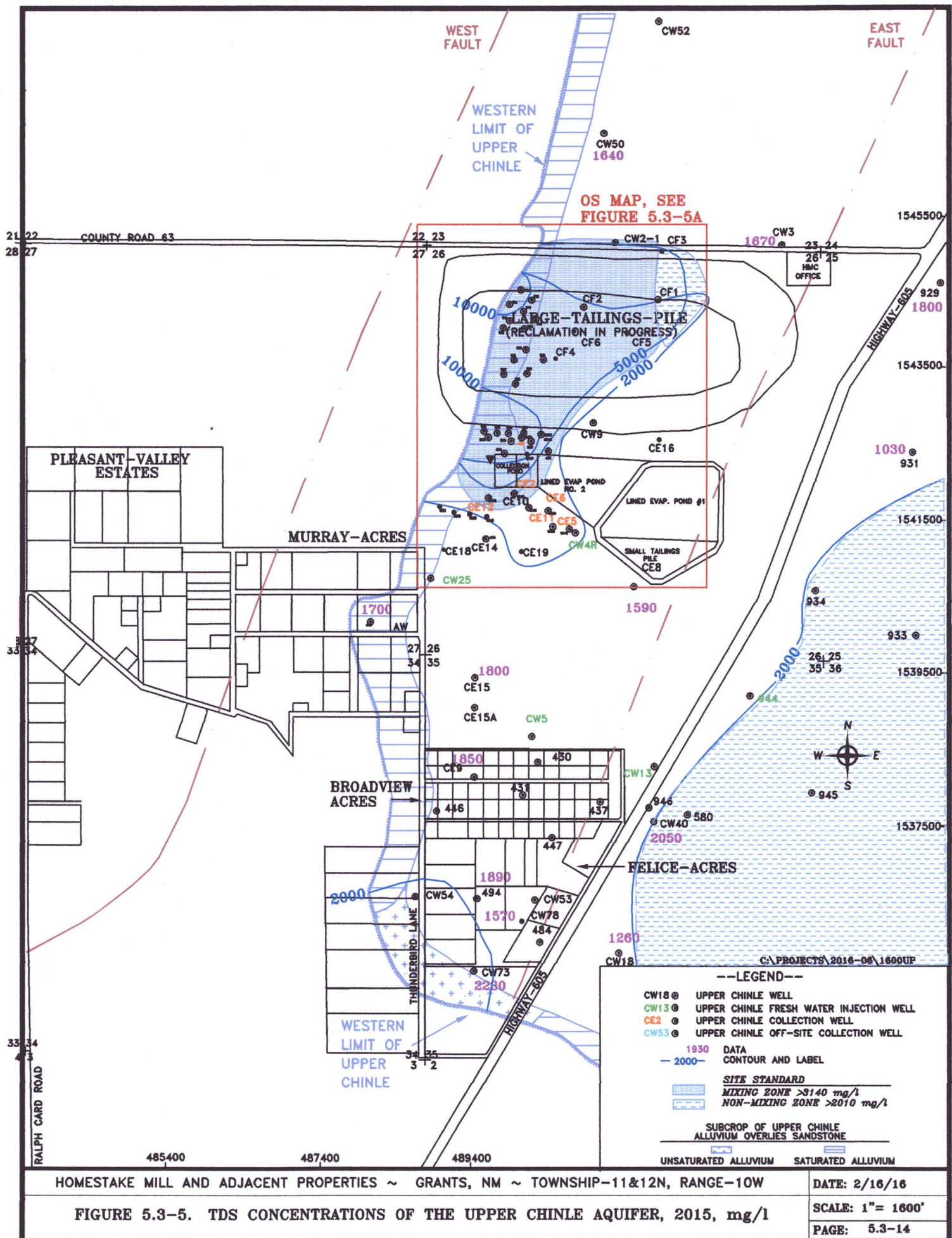


FIGURE 5.3-4. SULFATE CONCENTRATIONS FOR NON-MIXING ZONE WELLS 929, 931, CW3, AND CW18



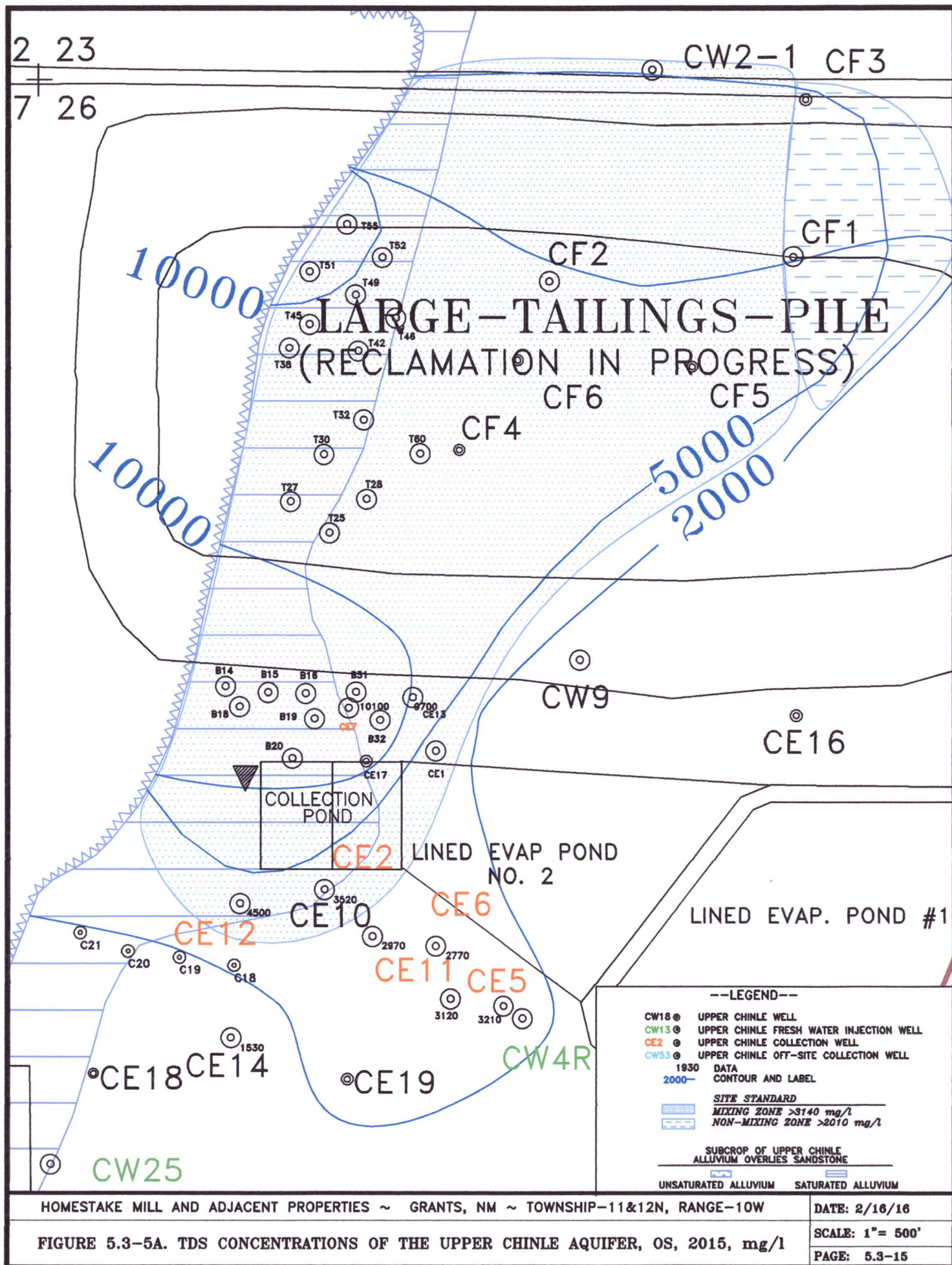
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FIGURE 5.3-5. TDS CONCENTRATIONS OF THE UPPER CHINLE AQUIFER, 2015, mg/l

SCALE: 1" = 1600'

PAGE: 5.3-14



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FIGURE 5.3-5A. TDS CONCENTRATIONS OF THE UPPER CHINLE AQUIFER, OS, 2015, mg/l

SCALE: 1"= 500'

PAGE: 5.3-15

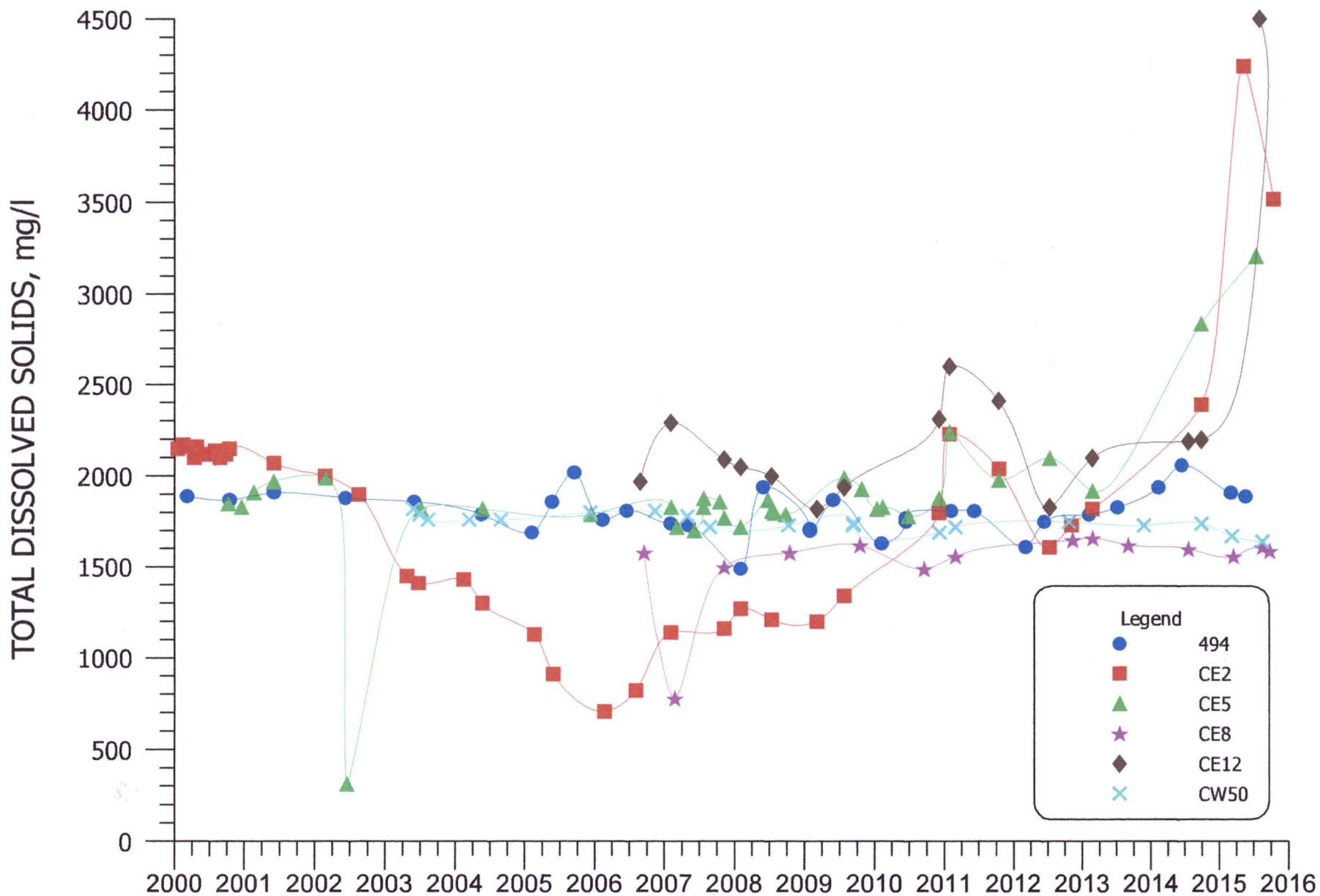
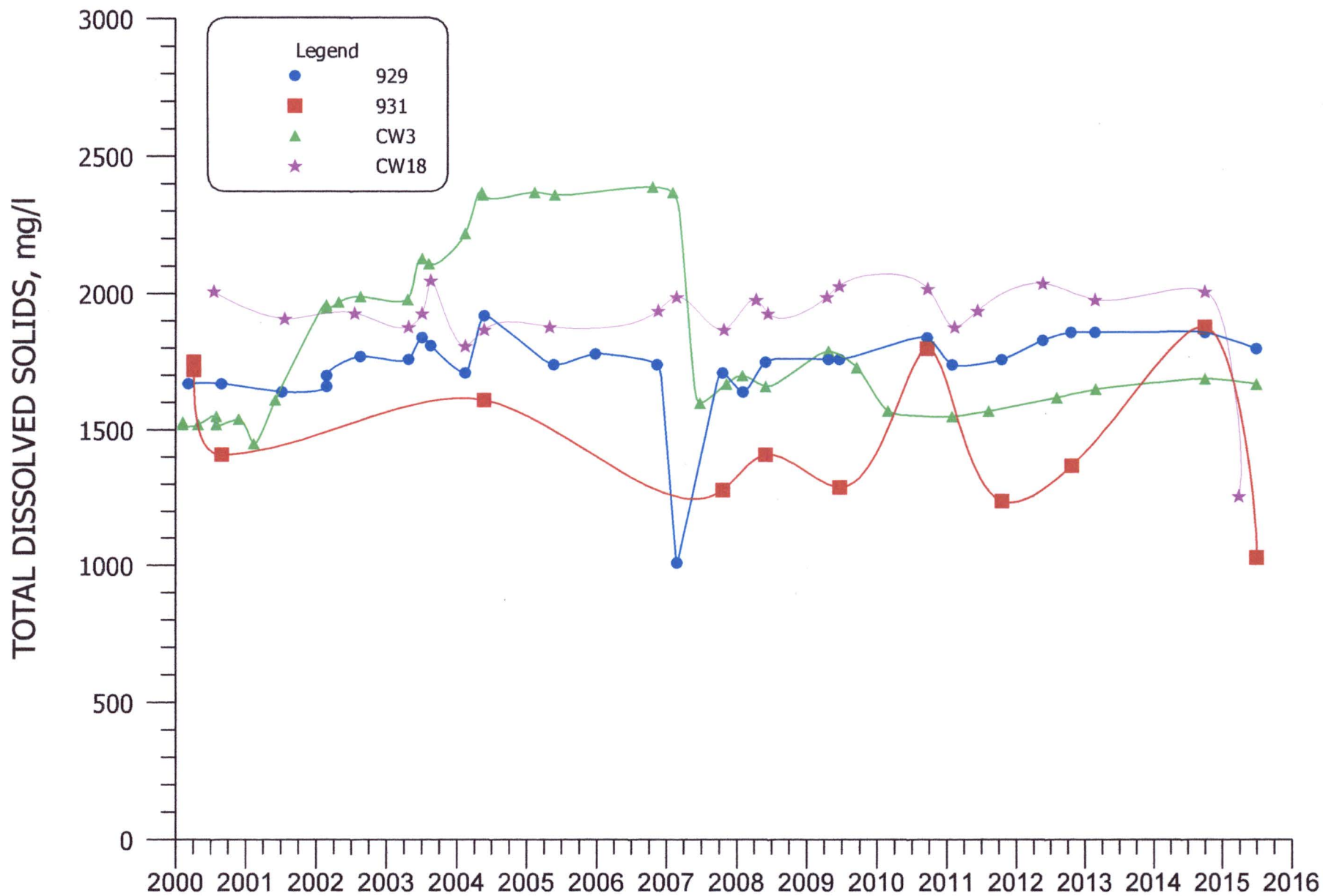
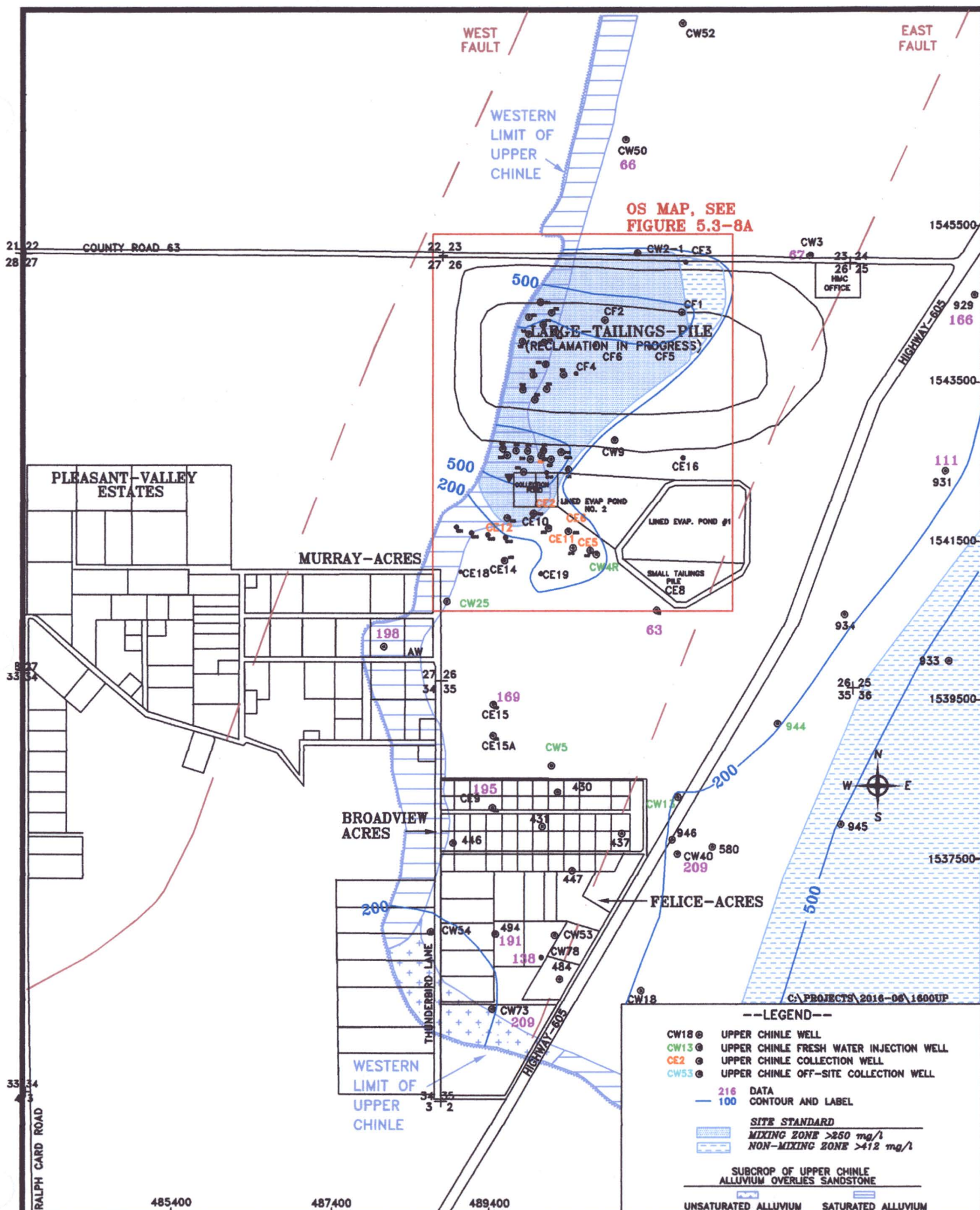


FIGURE 5.3-6. TDS CONCENTRATIONS FOR MIXING ZONE WELLS 494, CE2, CE5, CE8, CE12, AND CW50



**FIGURE 5.3-7. TDS CONCENTRATIONS FOR NON-MIXING ZONE
WELLS 929, 931, CW3, AND CW18**



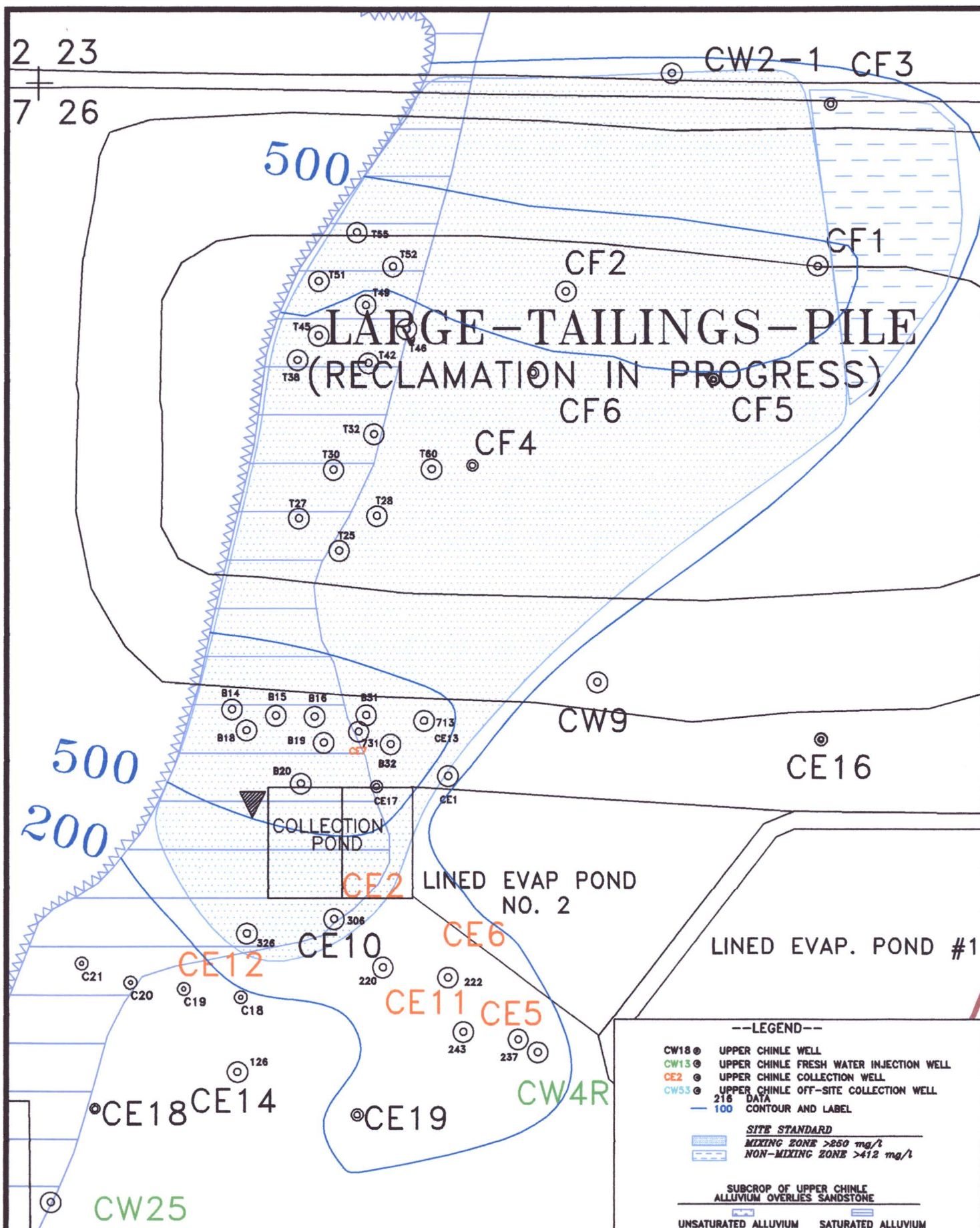
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FIGURE 5.3-8. CHLORIDE CONCENTRATIONS OF THE UPPER CHINLE AQUIFER, 2015, mg/l

SCALE: 1" = 1600'

PAGE: 5.3-18



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FIGURE 5.3-8A. CHLORIDE CONCENTRATIONS OF THE UPPER CHINLE AQUIFER, OS, 2015, mg/l

SCALE: 1" = 500'

PAGE: 5.3-19

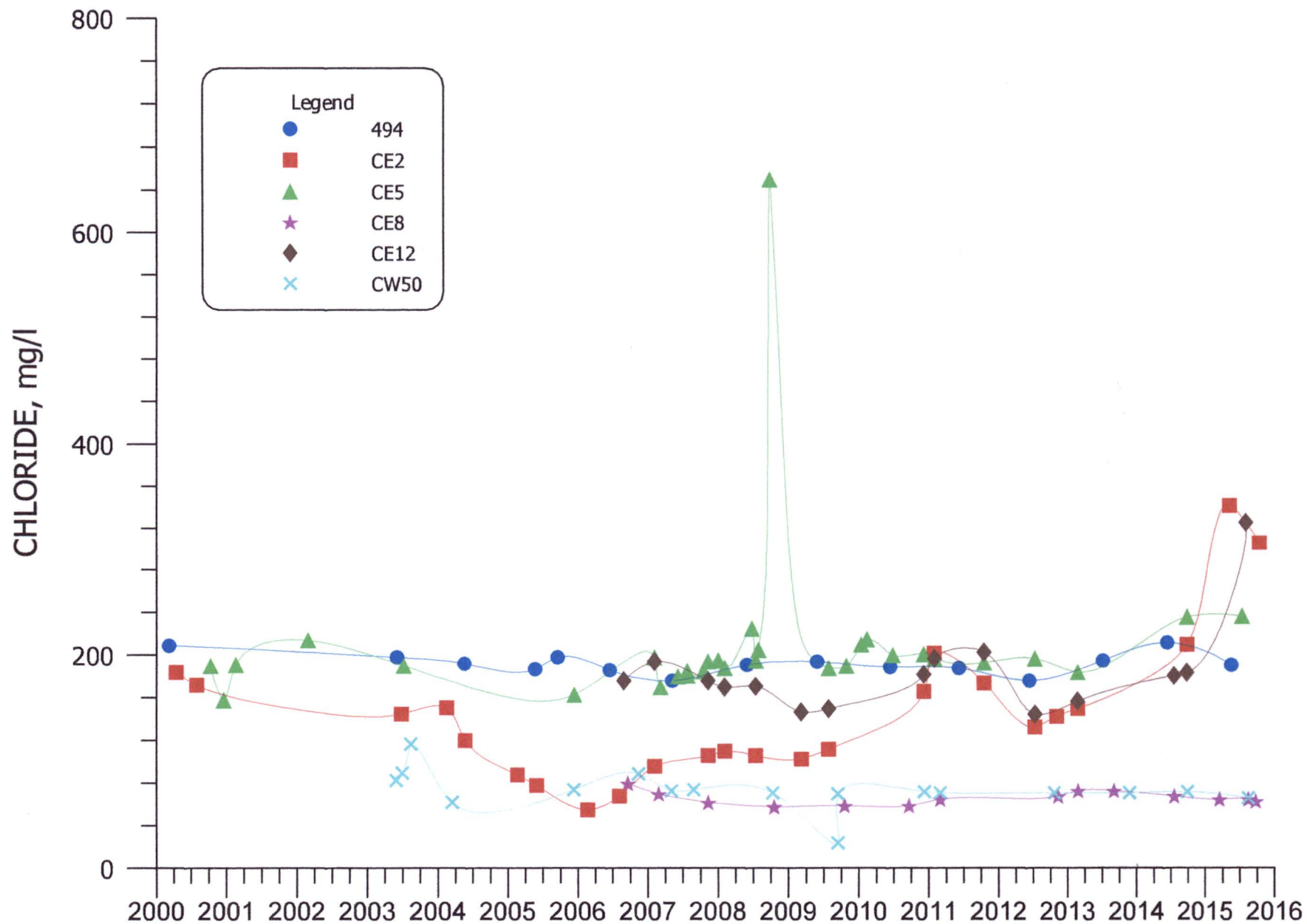


FIGURE 5.3-9. CHLORIDE CONCENTRATIONS FOR MIXING ZONE WELLS 494, CE2, CE5, CE8, CE12, AND CW50

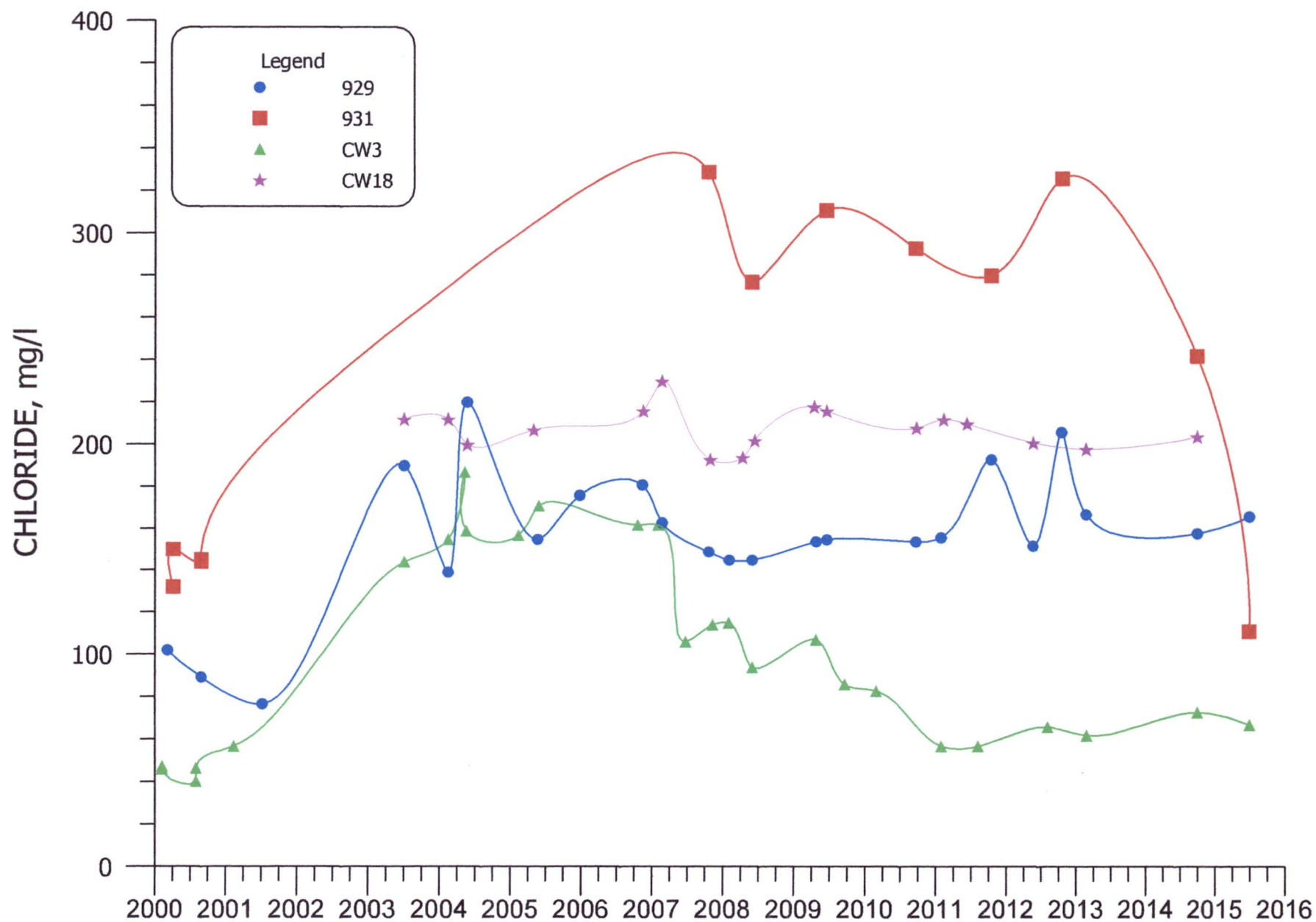
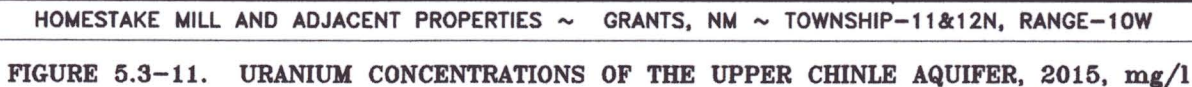
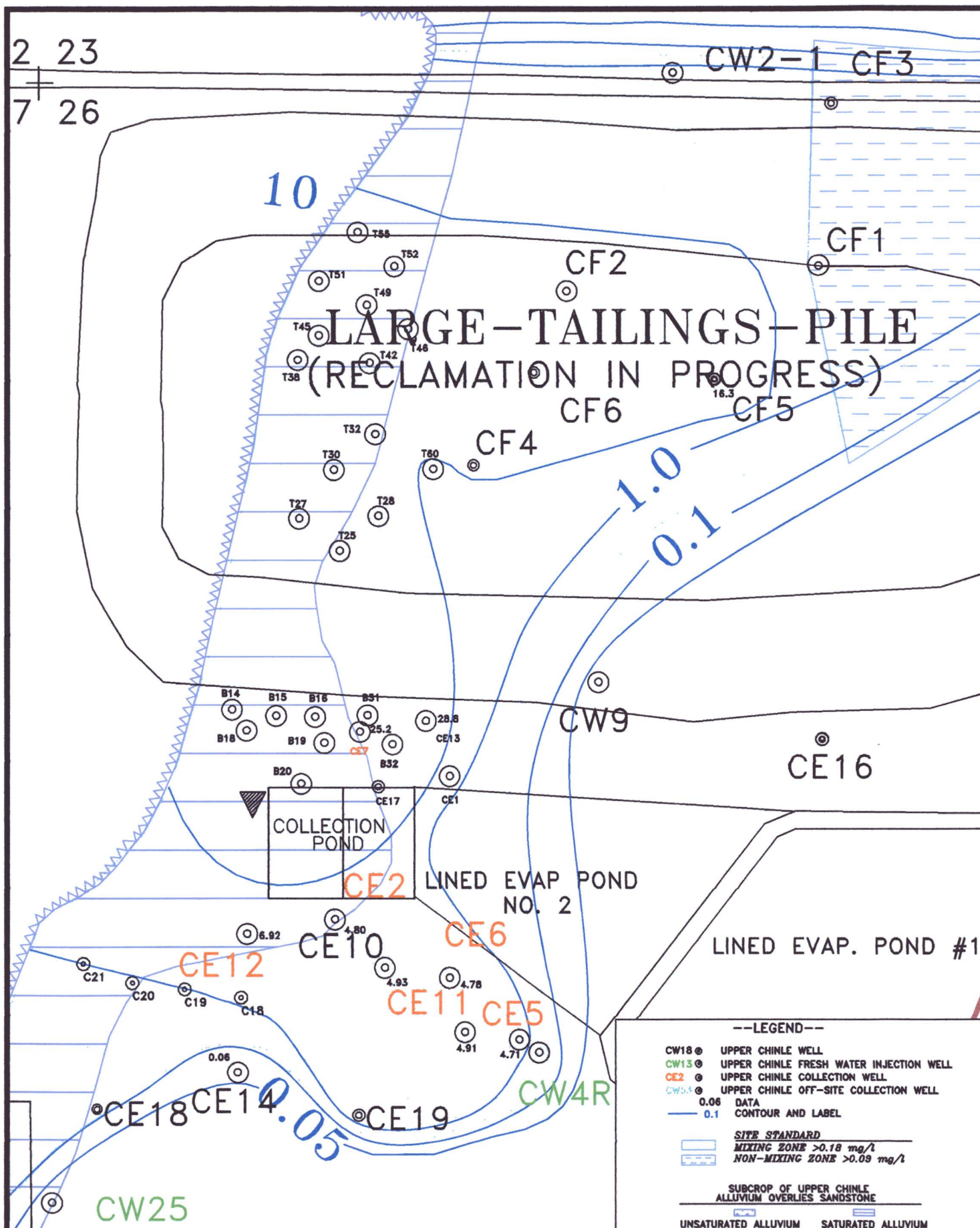


FIGURE 5.3-10. CHLORIDE CONCENTRATIONS FOR NON-MIXING ZONE WELLS 929, 931, CW3, AND CW18.



PAGE: 5.3-22



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FIGURE 5.3-11A. URANIUM CONCENTRATIONS OF THE UPPER CHINLE AQUIFER, OS, 2015, mg/l

SCALE: 1"= 500'

PAGE: 5.3-23

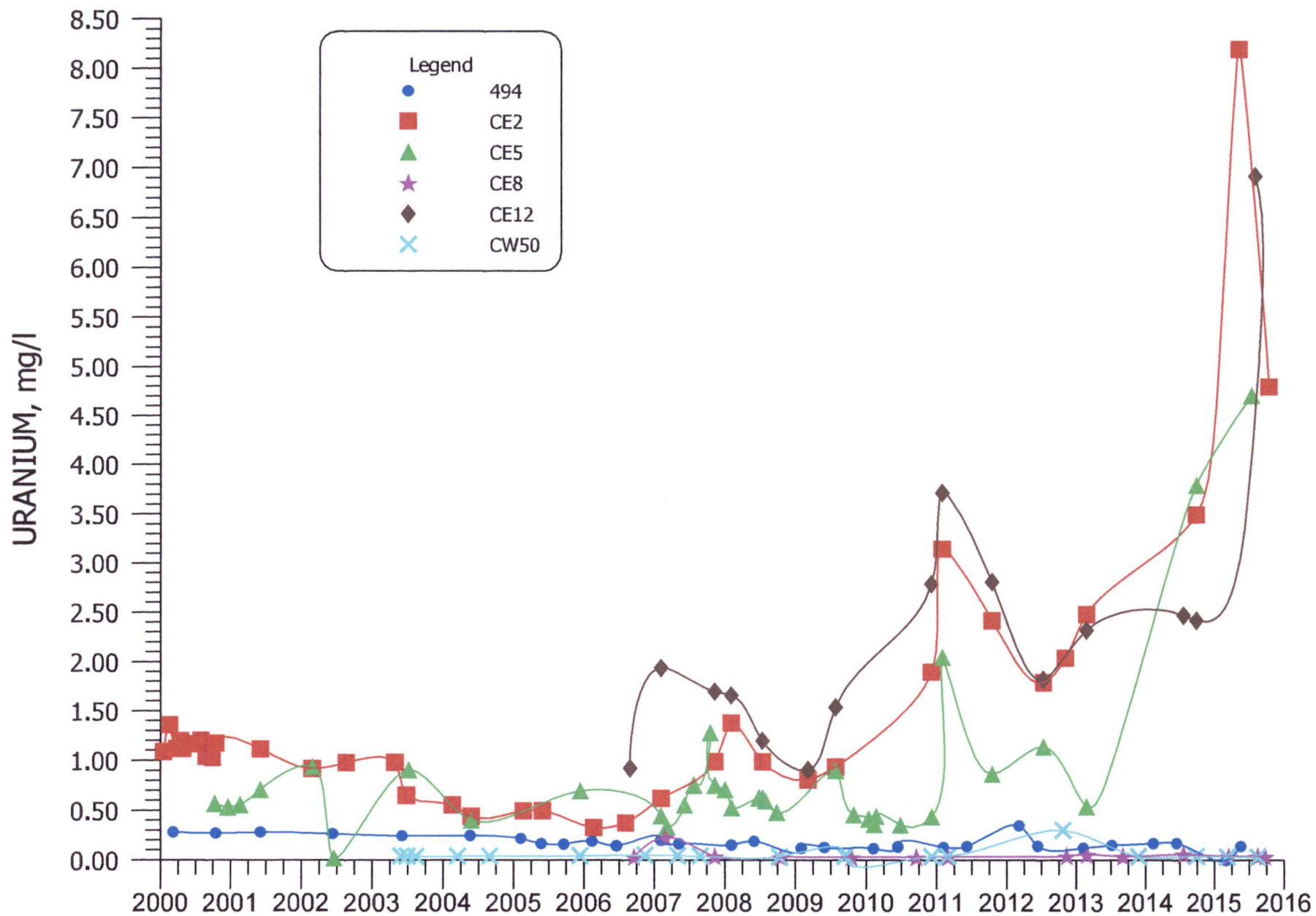


FIGURE 5.3-12. URANIUM CONCENTRATIONS FOR MIXING ZONE WELLS 494, CE2, CE5, CE8, CE12, AND CW50

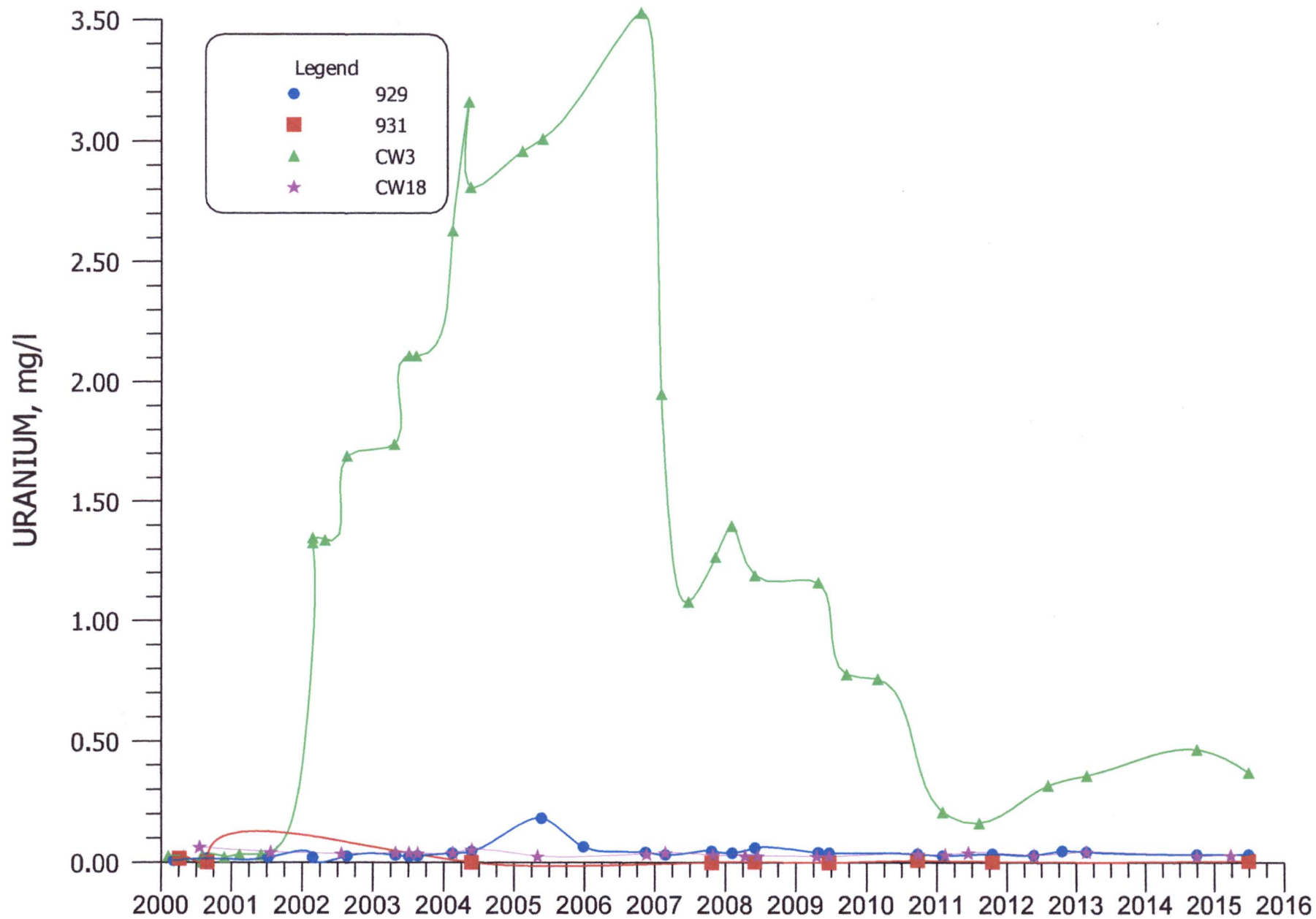
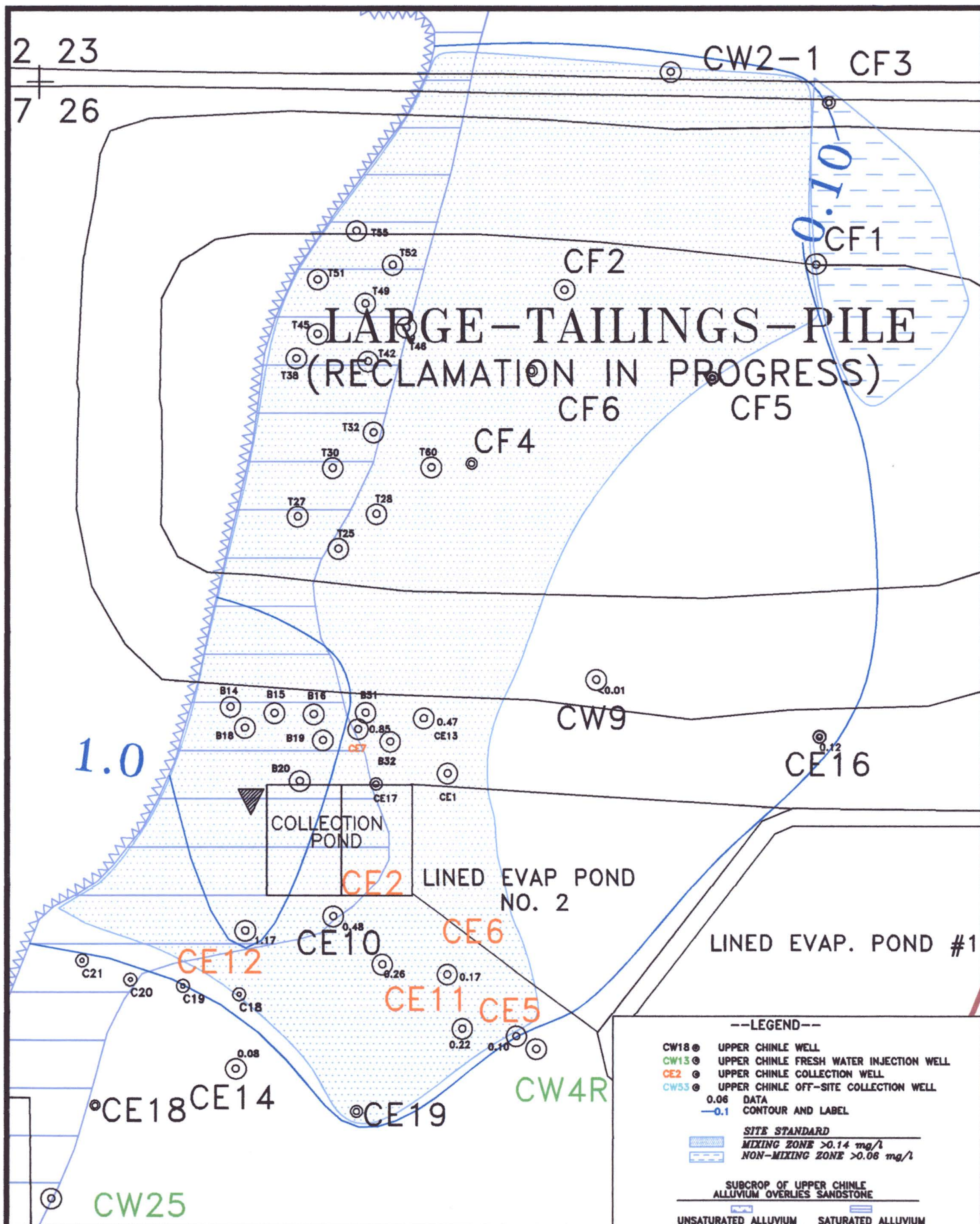


FIGURE 5.3-13. URANIUM CONCENTRATIONS FOR NON-MIXING ZONE WELLS 929, 931, CW3, AND CW18



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FIGURE 5.3-14A. SELENIUM CONCENTRATIONS OF THE UPPER CHINLE AQUIFER, OS, 2015, mg/l

SCALE: 1"= 500'

PAGE: 5.3-27

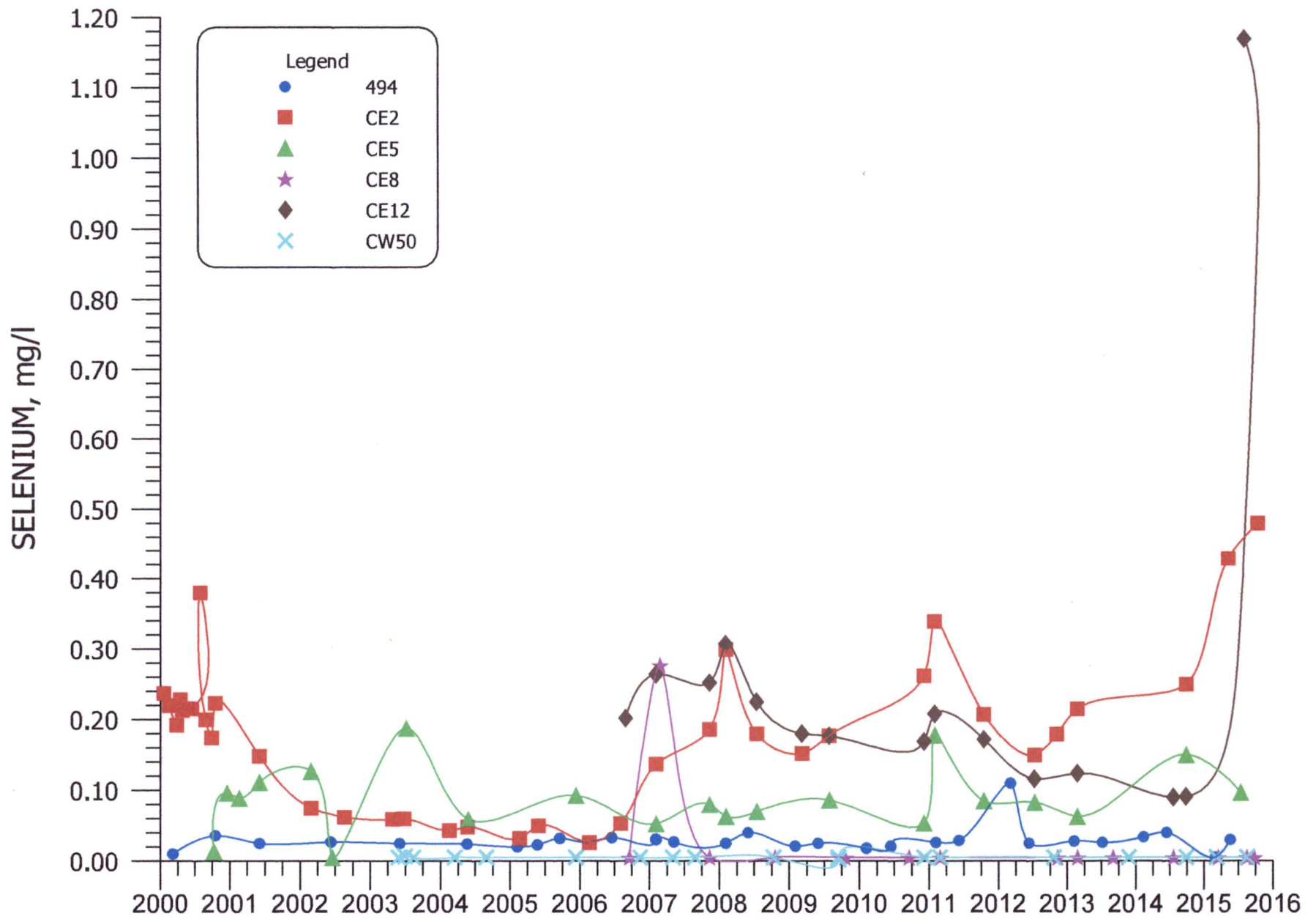


FIGURE 5.3-15. SELENIUM CONCENTRATIONS FOR MIXING ZONE WELLS 494, CE2, CE5, CE8, CE12, AND CW50

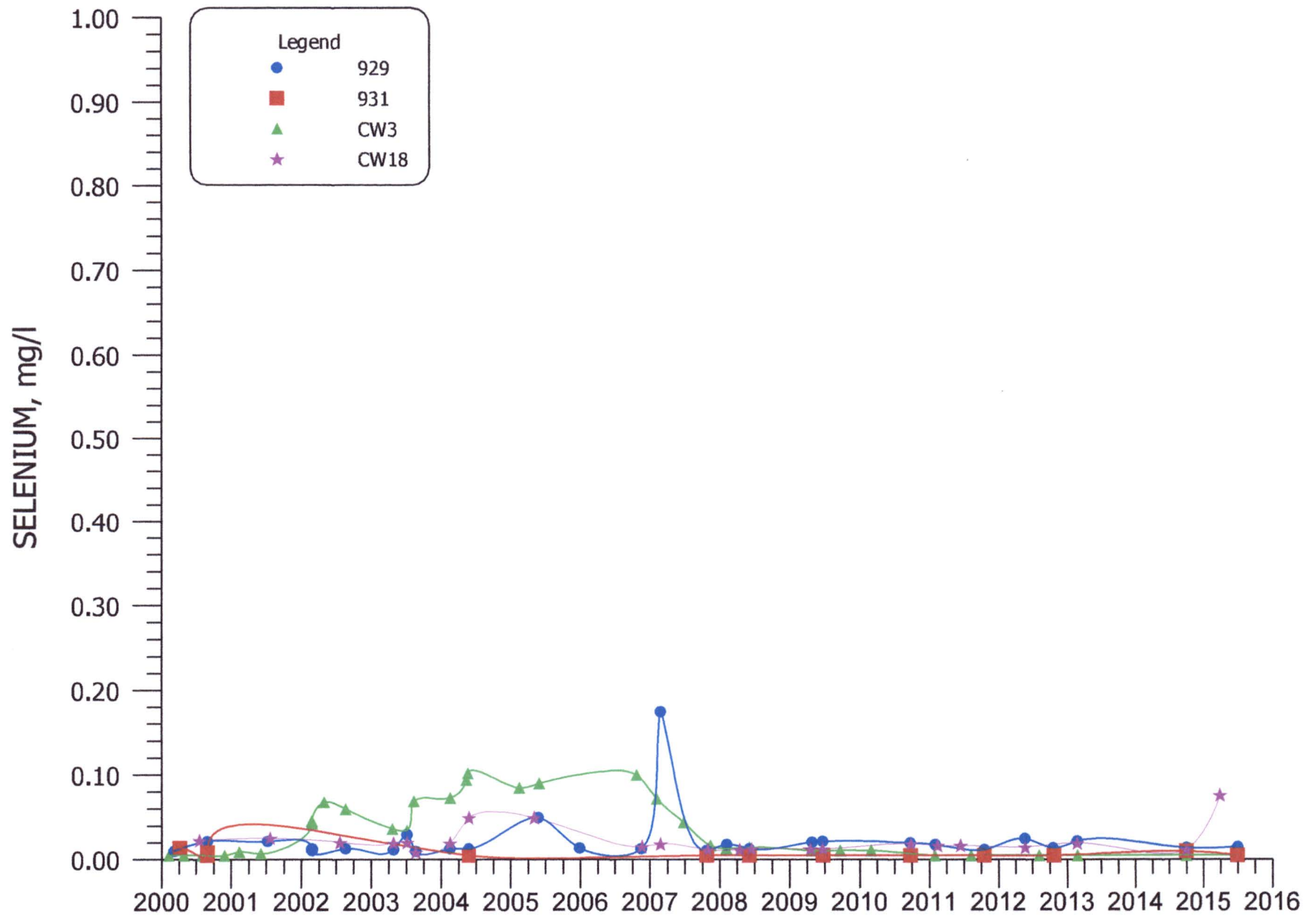
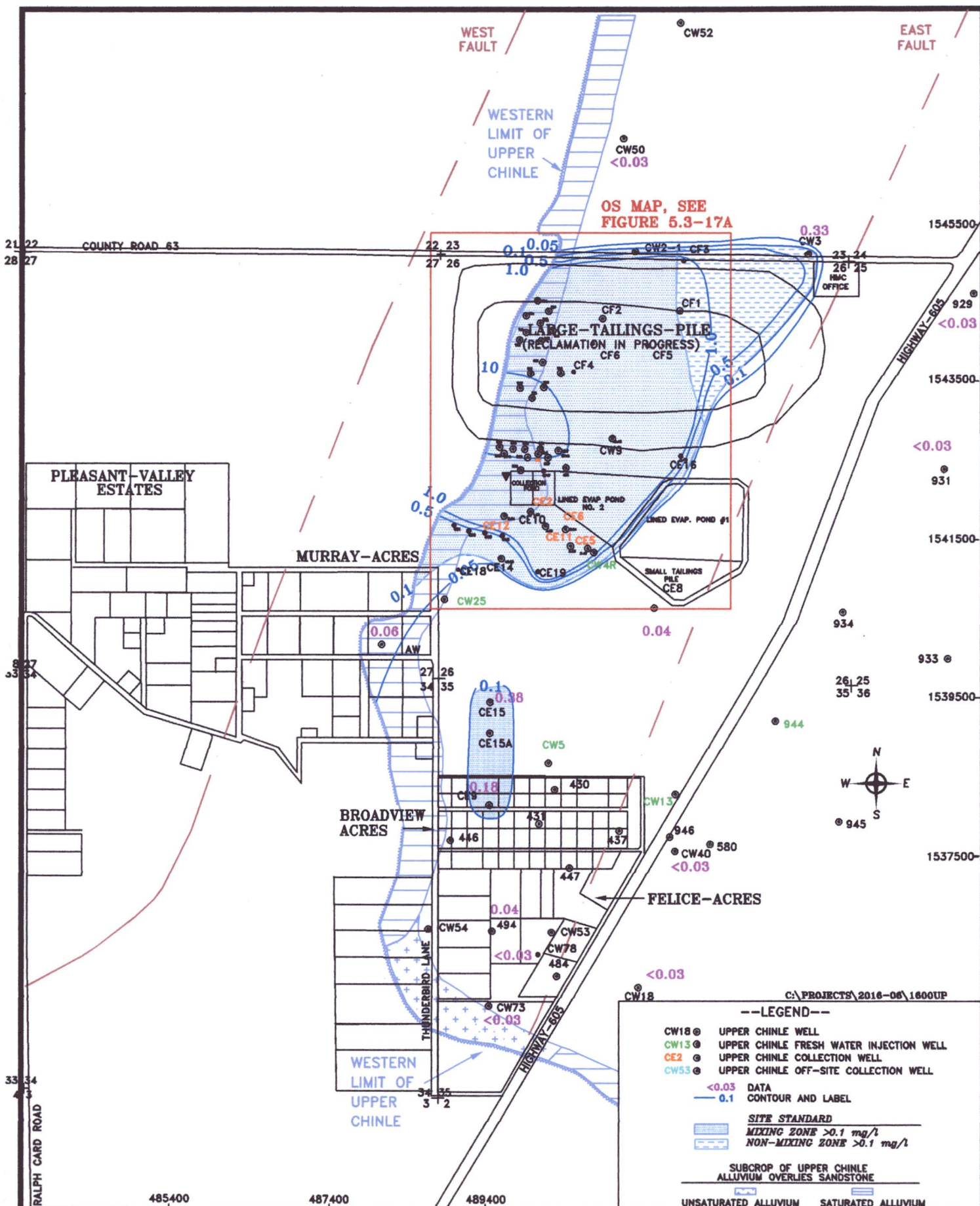


FIGURE 5.3-16. SELENIUM CONCENTRATIONS FOR NON-MIXING ZONE WELLS 929, 931, CW3, AND CW18



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FIGURE 5.3-17. MOLYBDENUM CONCENTRATIONS OF THE UPPER CHINLE AQUIFER, 2015, mg/l

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SCALE: 1" = 1600'

PAGE: 5.3-30

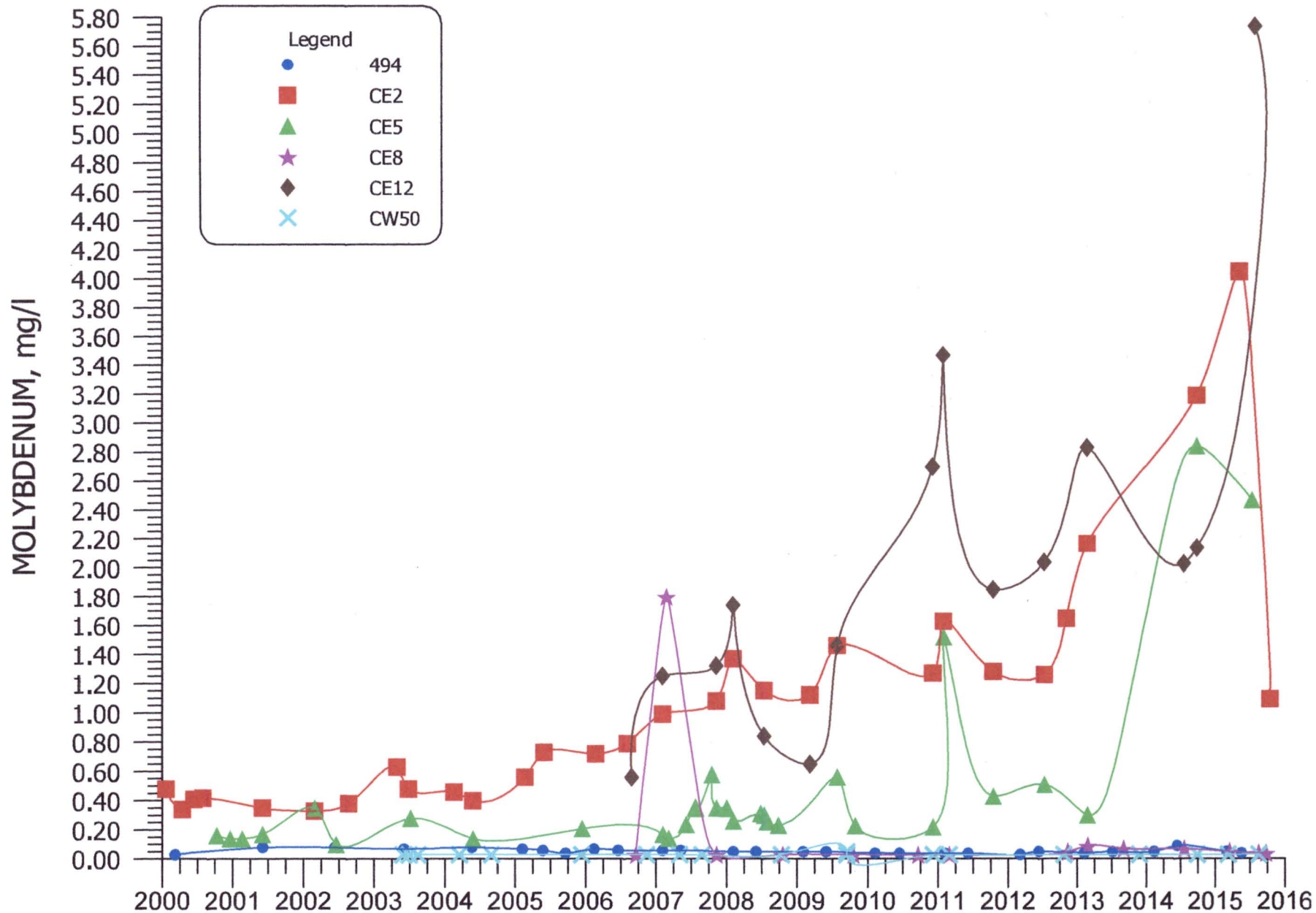


FIGURE 5.3-18. MOLYBDENUM CONCENTRATIONS FOR MIXING ZONE WELLS 494, CE2, CE5, CE8, CE12, AND CW50

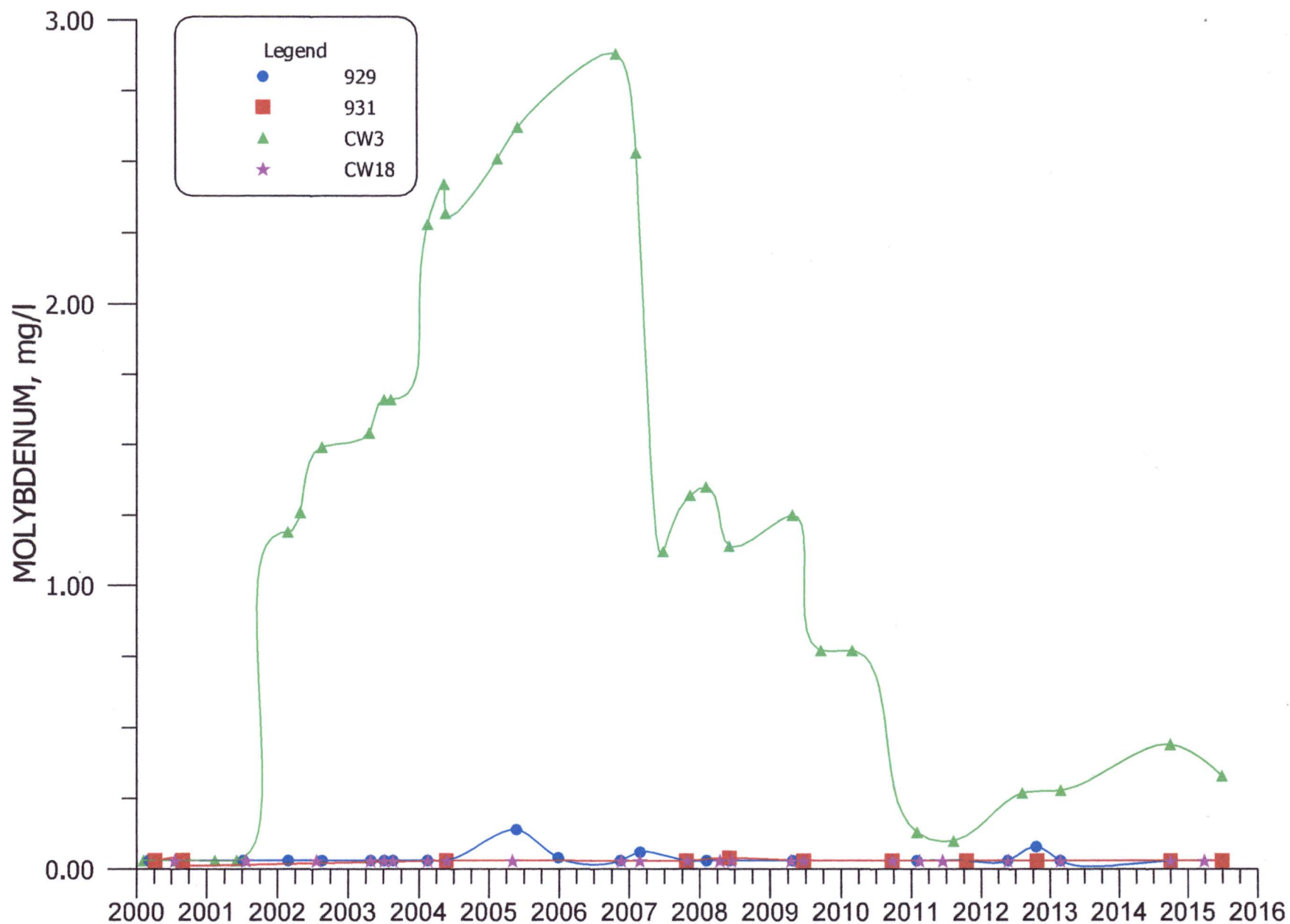
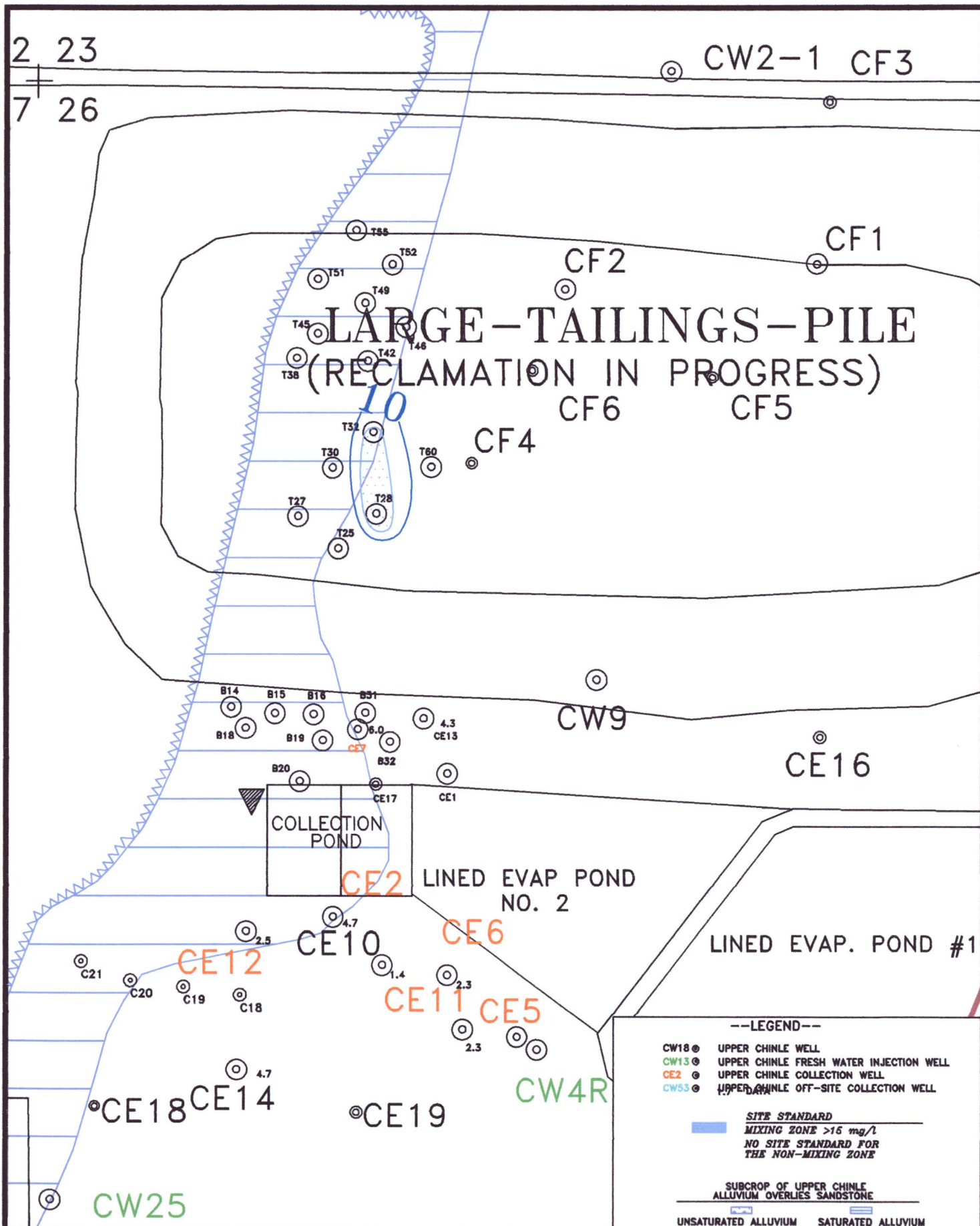


FIGURE 5.3-19. MOLYBDENUM CONCENTRATIONS FOR NON-MIXING ZONE WELLS 929, 931, CW3, AND CW18



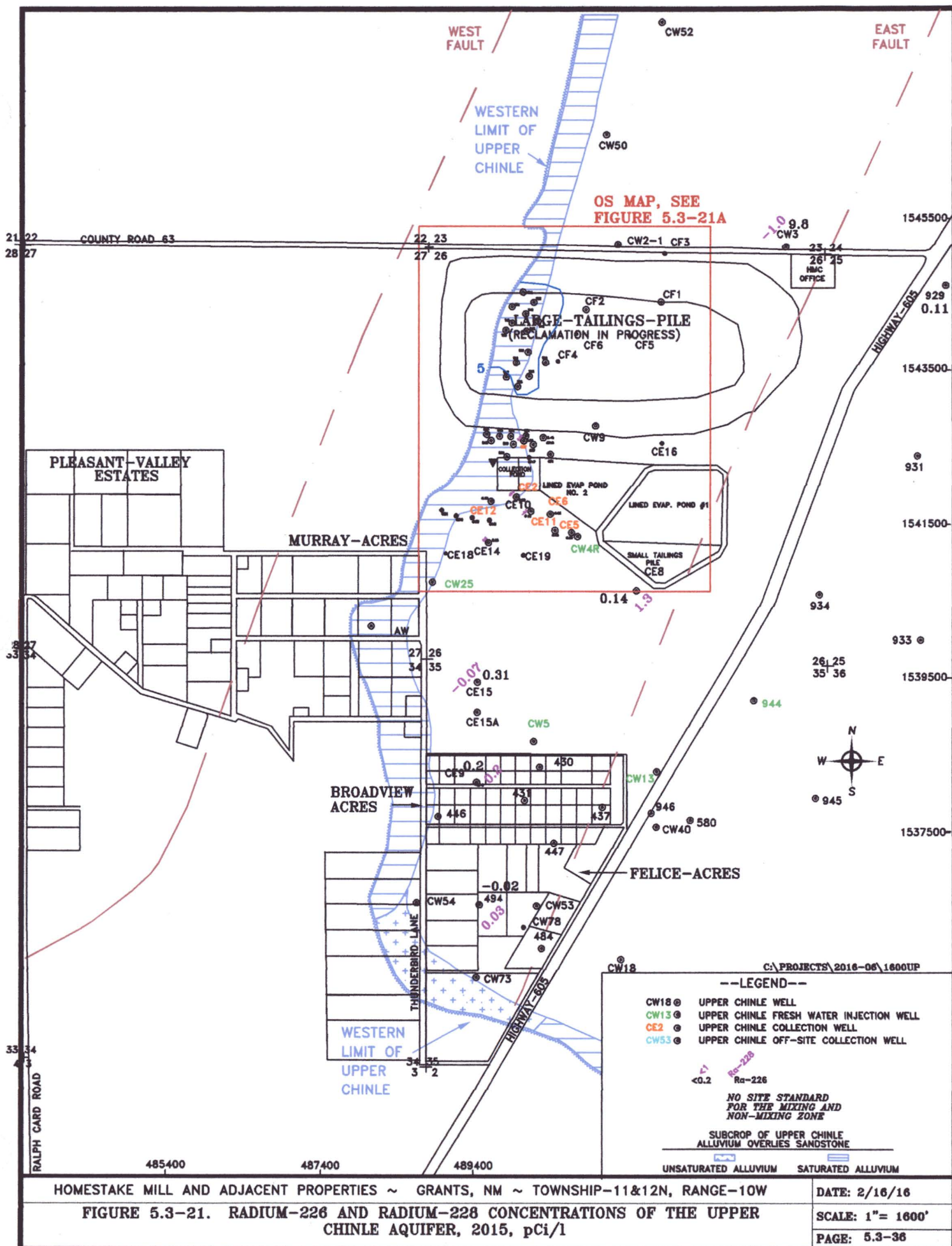
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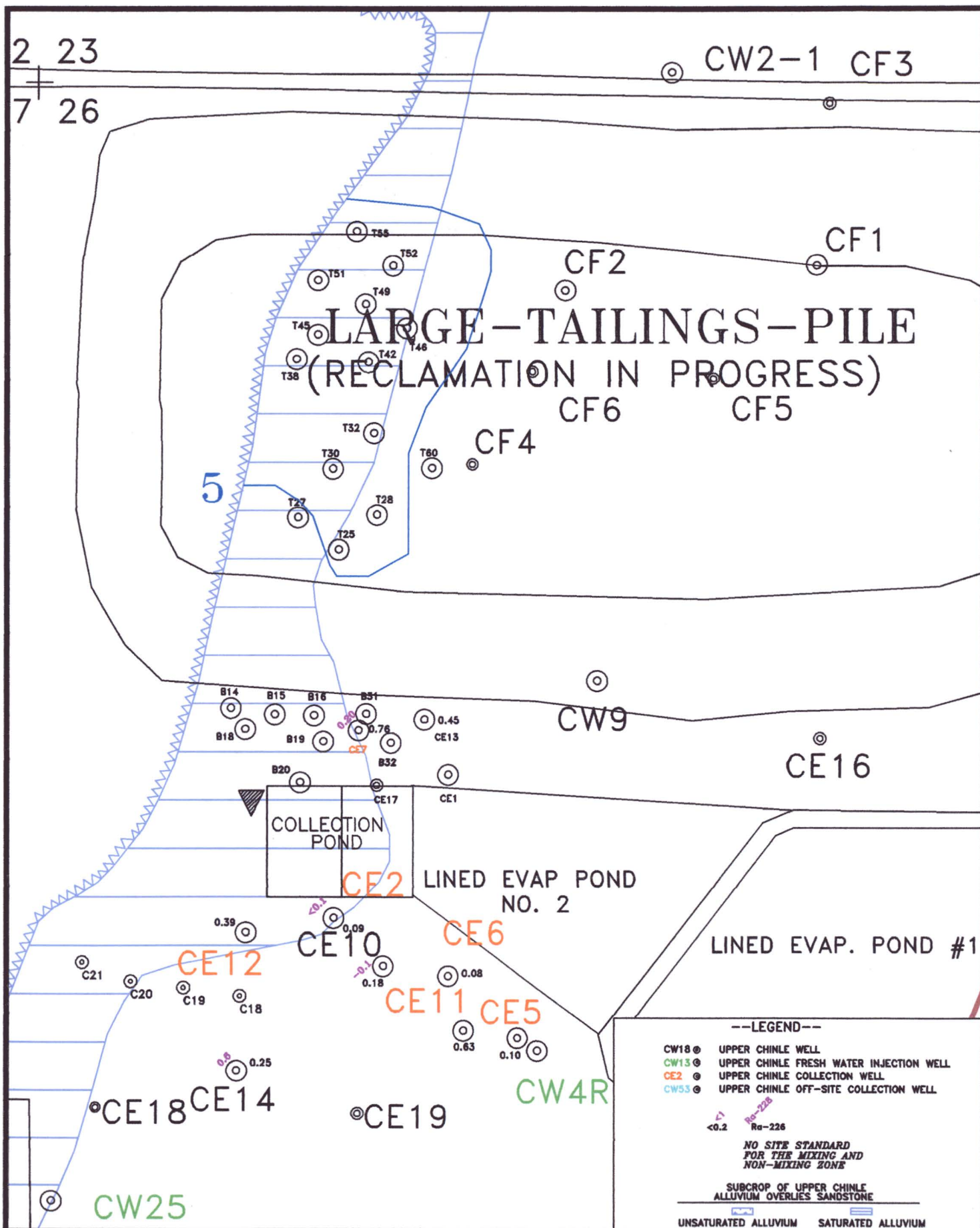
DATE: 2/16/16

FIGURE 5.3-20A. NITRATE CONCENTRATIONS OF THE UPPER CHINLE AQUIFER, OS, 2015, mg/l

SCALE: 1" = 500'

PAGE: 5.3-35





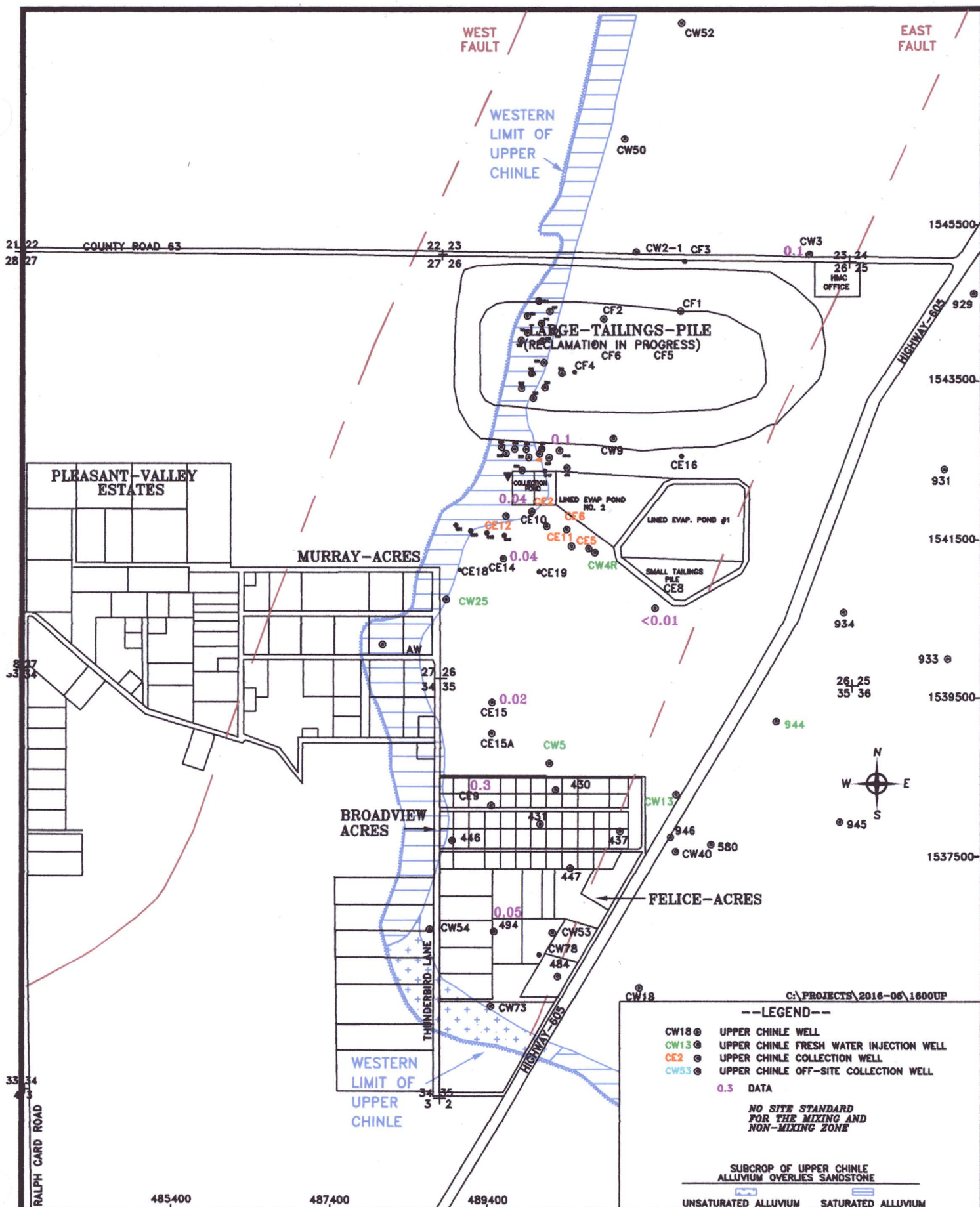
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DATE: 2/16/16

FIGURE 5.3-21A. RADIUM-226 AND RADIUM-228 CONCENTRATIONS OF THE UPPER CHINLE AQUIFER, OS, 2015, pCi/l

SCALE: 1" = 500'

PAGE: 5.3-37



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FIGURE 5.3-23. THORIUM-230 CONCENTRATIONS OF THE UPPER CHINLE AQUIFER, 2015, pCi/l

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SECTION 6

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GROUND WATER MONITORING FOR HOMESTAKE'S GRANTS PROJECT

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6.0 MIDDLE CHINLE AQUIFER MONITORING

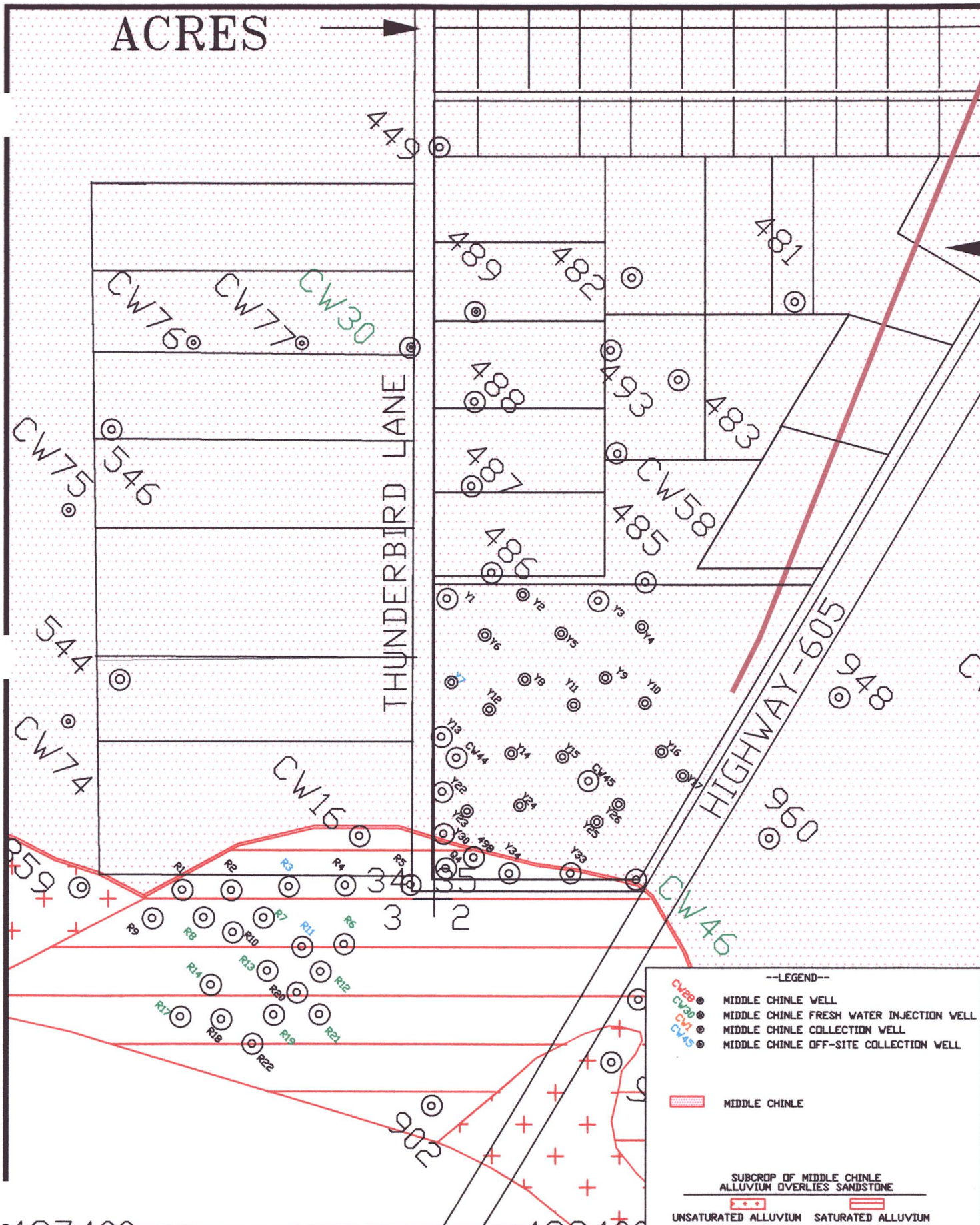
6.1 MIDDLE CHINLE WELL COMPLETION AND LOCATION

Tables 5.1-1 through 5.1-4 (previous section) present the Middle Chinle well data along with other Chinle aquifer wells. Figures 6.1-1 and 6.1-1A show the locations of the Middle Chinle wells and areas where the Middle Chinle aquifer exists at the Grants Project. Figure 6.1-1A shows the closely spaced wells that have been added in south Felice Acres and the northeast portion of Section 3. The area where the alluvium is saturated and has direct contact with the Middle Chinle sandstone is very important with respect to transfer of water between these two aquifers and is shown with the red horizontal cross hatch pattern. The area where the Middle Chinle subcrops against alluvium that is not saturated is shown by the red plus (+) pattern.

The Middle Chinle aquifer also exists east of the extension of the East Fault (shown as a red pattern area on Figure 6.1-1) with an alluvium-Middle Chinle subcrop zone on the south side of this area. A limited area of Middle Chinle aquifer exists west of the West Fault. All three of these areas in the Middle Chinle aquifer act as separate ground water systems, except that there is some connection between two of the three areas of the Middle Chinle near the south end of the East Fault in the southwest corner of Section 35. Nine additional Middle Chinle wells were drilled in 2015 west of Felice Acres and to the west of the LTP to further define conditions in these areas.

Wells CW14, CW30, CW46, R6, R7, R8, R12, R13, R14, R17, R19, and R21 were used for fresh-water injection in 2015. Middle Chinle wells R3, R11 and Y7 were used as South collection wells in 2015 for injection into the LTP and testing of the zeolite. Well CW28 was not used as a source for fresh water injection in 2015.

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6.1-1A. LIMITS OF MIDDLE CHINLE AQUIFER AND WELL LOCATIONS, SOS, 2015

SCALE: 1"=500'

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6.2 MIDDLE CHINLE WATER LEVELS

Water levels in Homestake's Upper, Middle and Lower Chinle wells are presented in Appendix A. Fall 2015 water-level elevation contours for the Middle Chinle aquifer are presented on Figure 6.2-1. The hydraulic gradient in the Middle Chinle aquifer is steeper in its alluvial subcrop area in the southern portion of Felice Acres near wells 498, CW45 and CW46. The depression from pumping Middle Chinle South Collection well Y7 that extended nearly 500 feet to the northeast and southwest of well Y7 did not exist in the fall of 2015 due to the non-pumping of this well in the second half of 2015. This depression had intercepted flow in the Middle Chinle that was flowing in this portion of South Felice Acres. The higher heads in the Middle Chinle aquifer in South Felice Acres is due to an influx of water to the Middle Chinle aquifer from the alluvial aquifer. The red arrows on Figure 6.2-1 show the direction of ground water flow in the Middle Chinle aquifer. Flow on the east side of the East Fault is mainly toward well CW28 near the East Fault.

Ground water flow west of the West Fault in the Middle Chinle aquifer is mainly to the southwest, and it discharges into the alluvial aquifer. This prevents the alluvial aquifer from affecting the water quality of the Middle Chinle aquifer on the west side of the West Fault. This Middle Chinle water flows from up-gradient of the site into the area west of the LTP. The alluvial injection in the northern portion of Section 27 has temporarily reversed the gradient near well CW17 in 2006 through 2015. This has allowed some movement to the north until the water level elevation is increased in this area above those near wells CW17 and WR25. The remainder of the Middle Chinle aquifer is recharged by the alluvial aquifer south of Felice Acres.

The injection of fresh water into wells CW14 (north of Broadview Acres) and CW30 (west of Felice Acres) has created ground water mounds in their respective areas. These mounds cause the ground water to flow both north and south from these two wells. The head in the Middle Chinle aquifer on each side of the two faults is significantly different than the head between the two faults, which demonstrates that the ground water is not readily connected on each side of these faults.

Figure 6.2-2 shows the locations of the Middle Chinle wells that are used to monitor water-level changes with time. The colors and symbols used on this figure are the same as those used on the water-level elevation time plots. Figure 6.2-3 presents the water-level elevation changes versus time in Middle Chinle wells 493, 859, CW15, CW28, CW45, and CW58. The water levels are higher in Middle Chinle well CW45 than they are farther north in well 493. The

lack of pumping of Middle Chinle South collection wells in the second half of 2015 caused the water levels in these wells to gradually increase.

The water-level plots for the Middle Chinle wells located west of the West Fault and wells CW2 and ACW are presented on Figure 6.2-4. Water levels have been gradually increasing in the Middle Chinle aquifer west of the West Fault. Water levels rose in Middle Chinle well CW2 in late 2015 due to ceasing pumping of the South Felice Acres wells in the second half of 2015. Water levels have increased in well ACW as a result of ceasing pumping of wells CW1 and CW2. As expected, water levels west of the West Fault did not respond to the pumping of water from wells CW1 and CW2 situated east of the West Fault or from the pumping of the South Felice Acres wells.

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SCALE: 1"=1600'

PAGE: 6.2-3

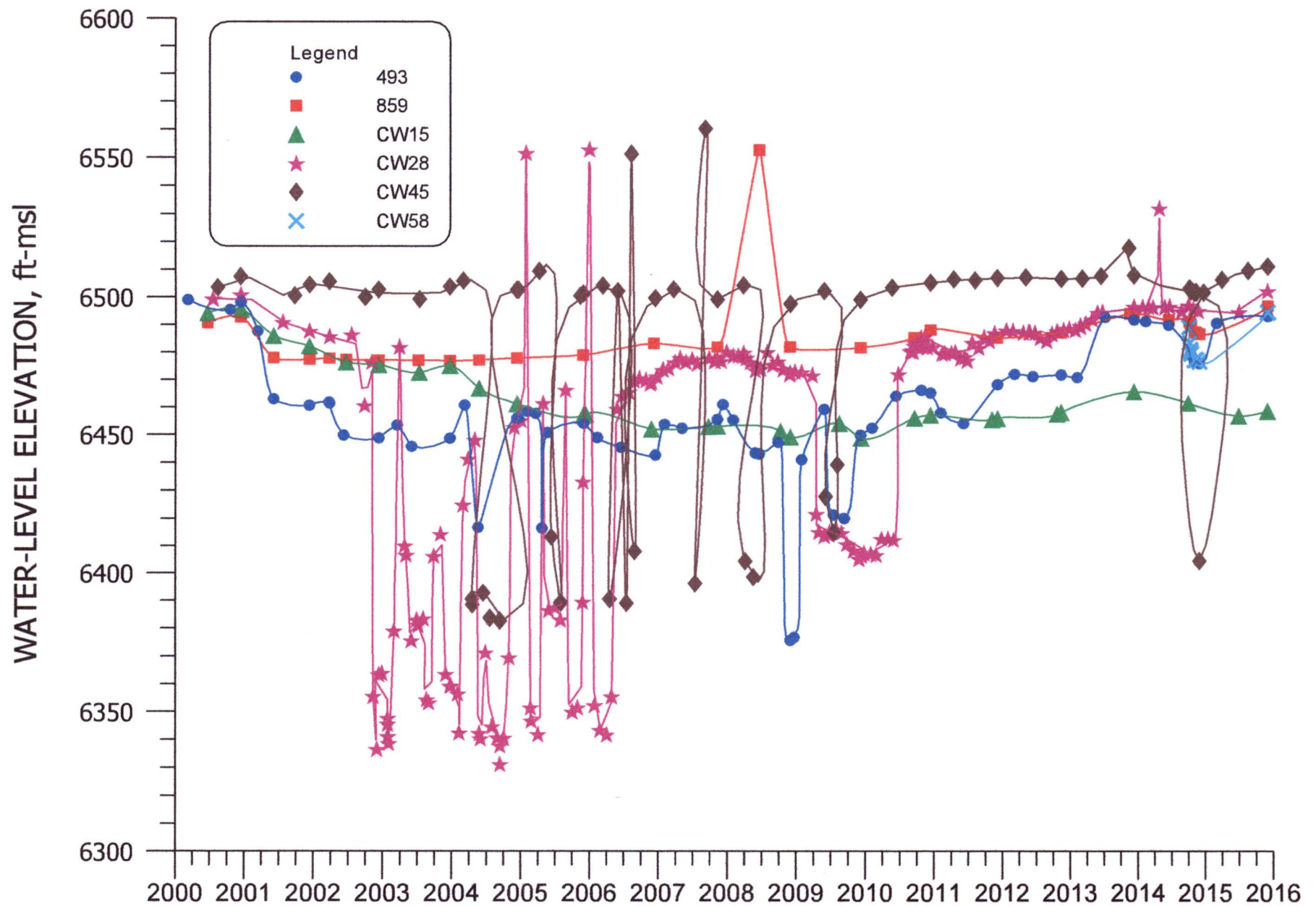


FIGURE 6.2-3. WATER-LEVEL ELEVATION FOR WELLS 493, 859, CW15, CW28, CW45, AND CW58

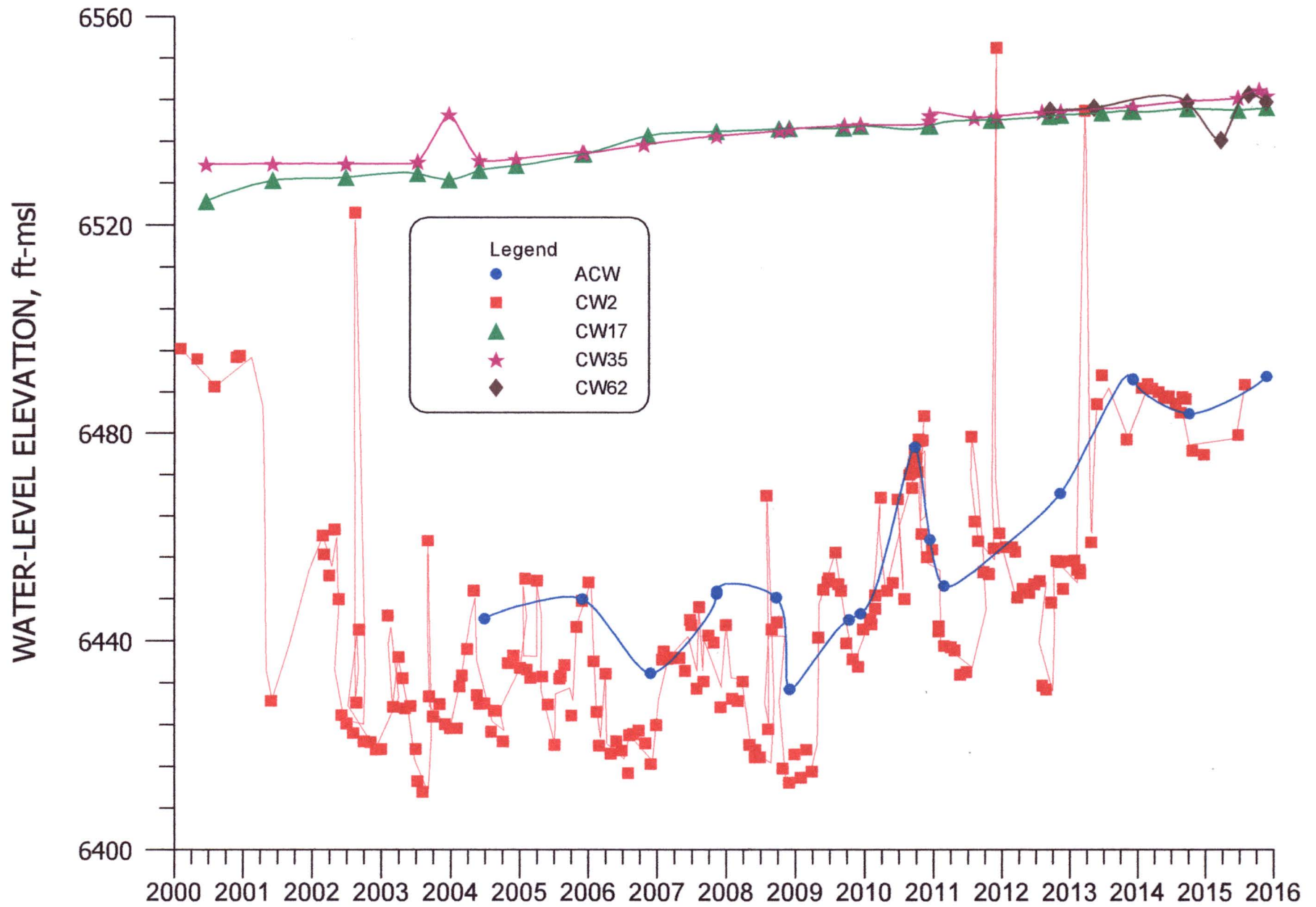


FIGURE 6.2-4. WATER-LEVEL ELEVATION FOR WELLS ACW, CW2, CW17, CW35, AND CW62

6.3 MIDDLE CHINLE WATER QUALITY

The water-quality data for Homestake's Middle Chinle aquifer is presented with that of the other Chinle aquifer wells in Tables B.5-1 and B.5-2 of Appendix B. The Chinle aquifer water-quality results for subdivision wells are also presented in these tables. The basic well data for the Middle Chinle aquifer wells is presented in Tables 5.1-1 through 5.1-4 in the Upper Chinle aquifer monitoring section (Section 5). Four Middle Chinle wells drilled in 2015 were sampled for water quality to further define the concentration contours in west of Felice Acres.

The area of water-quality concern in the Middle Chinle aquifer exists in portions of Broadview Acres and Felice Acres and west of Felice Acres. All sulfate concentrations in 2015 are within the site standard except for the concentrations from wells CW62 and WR25, located in the mixing zone west of the West Fault where concentrations were natural until alluvial water has moved into this area. Uranium concentrations are above site standards in western Broadview Acres and Felice Acres and west of the West Fault. Selenium concentrations also exceed the site standard in one Felice Acres area well and four wells west of the West Fault. The only significant molybdenum concentrations identified in the Middle Chinle aquifer are at wells that are west of the West Fault.

6.3.1 SULFATE - MIDDLE CHINLE

Figures 6.3-1 and 6.3-1A present sulfate concentration contours for the Middle Chinle aquifer for 2015 and shows that the Middle Chinle sulfate concentrations range from 406 to a high of 2520 mg/l. Sulfate site standard concentrations are given in the legend of Figures 6.3-1 and 6.3-1A. Figure 6.3-1A presents sulfate concentrations of the Middle Chinle wells in south Felice Acres and the R collection wells in the northeast portion of Section 3. All mixing-zone sulfate concentrations in the Middle Chinle aquifer are below the site standard of 1750 mg/l except for values in wells CW62 and WR25. The sulfate concentration in well CW24 is essentially at the standard and thought to be natural. Sulfate concentrations in CW62 and WR25, which are located west of the West Fault have been recently affected by the alluvial water. The sulfates were naturally occurring in this area, until the increase in the head of the alluvial water in the subcrop area caused the alluvial water to flow into the Middle Chinle. Sulfate

concentrations in the non-mixing zone of the Middle Chinle are within the natural background range and meet the site standards except the value from well WCW which is thought to be an outlier. The sulfate concentrations for the new R wells drilled in 2013 in the northeast portion of Section 3 and the Y wells in south Felice Acres are posted on Figures 6.3-1A at a scale of 1" = 500'.

Figure 6.3-2 shows the locations of the Middle Chinle wells for which time concentration plots were developed for this report. The sulfate figure number is shown in the group area to define the figure number for each group of wells. Two groups of wells for the Middle Chinle aquifer are presented. The colors and symbols on Figure 6.3-2 correspond to those used in the concentration time plots.

Figure 6.3-3 presents sulfate concentrations for the mixing zone Middle Chinle wells 498, CW15, CW17, CW44, CW45 and CW62. Fairly stable sulfate concentrations were observed in 2015 in well CW45. The higher sulfate concentrations in well CW17 are due to alluvial water moving into the Middle Chinle from the subcrop area. Sulfate levels in CW17 have declined for the last eight years.

Figure 6.3-4 presents the sulfate concentrations for non-mixing zone Middle Chinle wells 493, ACW, CW2, and CW55, located between the two faults, and well CW28, which is located east of the East Fault. Data presented on this plot demonstrate that sulfate concentrations have been variable in ACW and CW55 and gradually declining in well 493 in 2015.

6.3.2 TOTAL DISSOLVED SOLIDS - MIDDLE CHINLE

Total dissolved solids (TDS) and sulfate are used to define changes in major constituents at the Grants Project site. Figures 6.3-5 and 6.3-5A present contours of TDS concentrations for the Middle Chinle aquifer during 2015 and shows that all values are below 2000 mg/l near the alluvial subcrop area in the southern portion of the map (see Figure 6.3-5A for posting of new Y wells in south Felice Acres and the R collection wells in the northeast portion of Section 3). Two wells west of the West Fault exceed the TDS site standard.

Background data for the Middle Chinle aquifer were used to determine TDS site standards of 3140 and 1560 mg/l for the mixing and non-mixing zones, respectively. All of the

TDS values measured in Middle Chinle aquifer water were less than these values in 2015, except for wells CW62 and WR25, located in the mixing zone, and wells ACW, CW1, CW55 and WCW in the non-mixing zone.

Plots of TDS concentrations for Middle Chinle wells 498, CW15, CW17, CW44, CW45 and CW62 are presented in Figure 6.3-6. The TDS concentrations have been fairly steady over the last few years in these wells, except for a gradual decline in well CW17. The recent sulfate concentrations in well CW62 are higher and also show a very gradual decline. Figure 6.3-7 presents TDS concentration-time plots for non-mixing zone Middle Chinle wells 493, ACW, CW2, CW28 and CW55. Analysis of this data indicates overall stable TDS concentrations in water collected from these wells in 2015, except for a gradual rise in well CW2 and a gradual decline in well 493.

6.3.3 CHLORIDE - MIDDLE CHINLE

Figures 6.3-8 and 6.3-8A present chloride concentrations in the Middle Chinle aquifer during 2015, and observed concentrations varied from roughly 33 to 451 mg/l. None of the concentrations exceeded the site standard of 250 mg/l for the mixing and non-mixing zones of the Middle Chinle aquifer except for two value west of the West Fault and well ACW. Therefore, in general chloride concentrations are not useful for defining the degree of, or the need for, restoration of the Middle Chinle aquifer.

Time plots of chloride concentration are presented on Figure 6.3-9 for Middle Chinle wells 498, CW15, CW17, CW44, CW45 and CW62. Chloride concentrations increased in Middle Chinle well CW17 in 2006 through 2009 and were fairly steady in 2010 through 2015. Concentrations were fairly steady in the remainder of the wells.

A second set of chloride concentration plots for the Middle Chinle aquifer is presented in Figure 6.3-10. Data plotted on this figure shows fairly steady 2015 concentrations, except for an increase in wells ACW and CW2. Small changes in well CW2 are deemed to be within natural variation in the Middle Chinle aquifer. The large increase in chloride

concentrations in well ACW in 2011, 2012, 2014 and 2015 is not supported by changes in sulfate and TDS.

6.3.4 URANIUM - MIDDLE CHINLE

Uranium is an important constituent in the Middle Chinle aquifer due to the presence of elevated concentrations in the aquifer in western Broadview Acres and in the southern and western portions of Felice Acres. These elevated concentrations are a result of alluvial recharge to the Middle Chinle aquifer in this area. Water in the saturated portion of the alluvial aquifer flows across a subcrop of the Middle Chinle aquifer just south of Felice Acres, and alluvial ground water has entered the Middle Chinle aquifer in this area. Figures 6.3-11 and 6.3-11A present contours of uranium concentrations in the Middle Chinle aquifer during 2015. An area of concentrations greater than the mixing-zone site standard exists in the western portion of Felice Acres and the northeast portion of Section 3 (see Figure 6.3-11A). The blowup of South Felice Acres and the northeast portion of Section 3 in Figure 6.3-11A presents the uranium posting of the new Y wells and the R collection wells in this area. Uranium concentrations in the Middle Chinle aquifer, west of the West Fault, northwest of the LTP, naturally exceed 0.18 mg/l but values in several wells have increased above this level from the movement of alluvial water in the subcrop to these wells. Flow in the Middle Chinle aquifer west of the West Fault moves from the area near well CW35 toward the subcrop area to the south. Uranium concentrations exceed 0.07 mg/l (non-mixing zone site standard) in an area of the Middle Chinle aquifer at well 493 in Felice Acres and Broadview Acres well CW55.

Figure 6.3-12 presents uranium concentration plots versus time for Middle Chinle wells 498, CW15, CW17, CW44, CW45 and CW62 (see Figure 6.3-2 for well locations). The 2015 uranium concentrations shown on this plot are fairly steady with and an overall decreasing trend in wells 498, CW17, CW44 and CW45. Additional monitoring of these wells with time will better define this collection-induced trend.

The uranium concentration plots for the Middle Chinle wells in the non-mixing zone are presented on Figure 6.3-13. Uranium concentrations were small in wells ACW, CW2, CW28 and CW55 in 2015. The uranium concentration in well 493 has overall increased for several

years through 2010, then variable but steady in 2011 through 2014 and declined in 2015 (see Figure 6.3-13). The large increase in well CW2 in 2013 is not supported by the uranium concentrations before and after this measurement.

6.3.5 SELENIUM - MIDDLE CHINLE

None of the Middle Chinle wells in the mixing zone contained water with selenium concentrations exceeding the 0.14 mg/l site standard in 2015, except for five wells west of the West Fault (see Figures 6.3-14 and 6.3-14A). The higher selenium concentrations in these wells are caused by movement of alluvial water in the subcrop area to these wells. None of the new wells in southern Felice Acres or the northeast portion of Section 3 (see Figure 6.3-14A for the posted values) contain water with elevated selenium concentrations. The selenium concentration in the non-mixing zone well 493 currently exceeds the site standard of 0.07 mg/l. This area of elevated concentration has resulted from recharge to the Middle Chinle aquifer from the alluvium in the subcrop area just south of Felice Acres. Flow in the Middle Chinle aquifer in this locale is toward the north causing chemical constituents introduced into the Middle Chinle from the alluvium in the subcrop area to move to the north. Analysis of background selenium concentrations in the mixing and non-mixing zones resulted in setting site standards of 0.14 and 0.07 mg/l, respectively (see legend of Figures 6.3-14 and 6.3-14A).

Selenium concentrations somewhat greater than 0.3 mg/l have been measured in Middle Chinle wells west of the West Fault. The higher selenium concentrations observed in these wells are due to alluvial water flowing into this area of the Middle Chinle aquifer in 2006 through 2015. All other selenium concentrations in the Middle Chinle aquifer beyond these areas are low values.

Selenium concentrations with time for the mixing zone Middle Chinle wells 498, CW15, CW17, CW44, CW45 and CW62 are presented in Figure 6.3-15. Overall steady selenium concentrations have been observed in these wells in 2015 except the decrease in well CW17 and the increase in well CW62. The observed higher concentrations in wells CW17 and CW62 are believed to be a short term result of the alluvial injection near the subcrop with the Middle Chinle.

Figure 6.3-16 presents the selenium concentrations for Middle Chinle wells in the non-mixing zone. Selenium concentrations in well CW2, which is located north of the LTP, have varied over the past few years, but their values are small. The connection between the alluvial aquifer and the Middle Chinle aquifer south of Felice Acres is the cause for the elevated concentrations in well 493 and selenium was fairly steady in this well in 2015. The injection of fresh water into Middle Chinle wells CW14, CW30 and CW46 and the collection from Middle Chinle wells in South Felice Acres should cause these elevated concentrations to decrease.

6.3.6 MOLYBDENUM - MIDDLE CHINLE

The 2015 molybdenum concentrations in the Middle Chinle aquifer are presented on Figures 6.3-17 and 6.3-17A. None of the molybdenum concentrations for 2015 exceed the site standard of 0.10 mg/l except for four wells west of the West Fault. Some restoration of molybdenum in these wells will be needed.

Figure 6.3-18 presents the molybdenum concentrations with time for Middle Chinle wells 498, CW15, CW17, CW44, CW45 and CW62, while Figure 6.3-19 presents the molybdenum concentrations with time for wells 493, ACW, CW2, CW28 and CW55. These plots show that the concentration in each of these wells has been low for 2015 except for elevated and declining concentration in well CW17 and the increase in well CW62. The higher molybdenum concentrations in wells CW17 and CW62 will require some restoration of this constituent in the Middle Chinle aquifer in this area.

6.3.7 NITRATE - MIDDLE CHINLE

Nitrate concentrations have always been low in the Middle Chinle aquifer and therefore are not routinely monitored. However, nitrate concentrations were measured in all of the Middle Chinle aquifer wells in 2003 and in a number of the wells in 2015. Figure 6.3-20 presents the nitrate concentrations in the Middle Chinle aquifer and shows that the only notable levels of nitrate in the Middle Chinle aquifer are west of the West Fault. Nitrate concentrations are less than 15 mg/l, the mixing zone site standard, in all of the Middle Chinle wells west of

West Fault. Due to the change in flow direction in the Middle Chinle aquifer west of the West Fault since 2006, alluvial water has entered this portion of the Middle Chinle. The concentrations were naturally occurring prior to 2006. A small amount of nitrate restoration may be needed in the Middle Chinle west of the West Fault. This constituent does not require a site standard for the non-mixing zone of the Middle Chinle aquifer.

6.3.8 RADIUM-226 AND RADIUM-228 - MIDDLE CHINLE

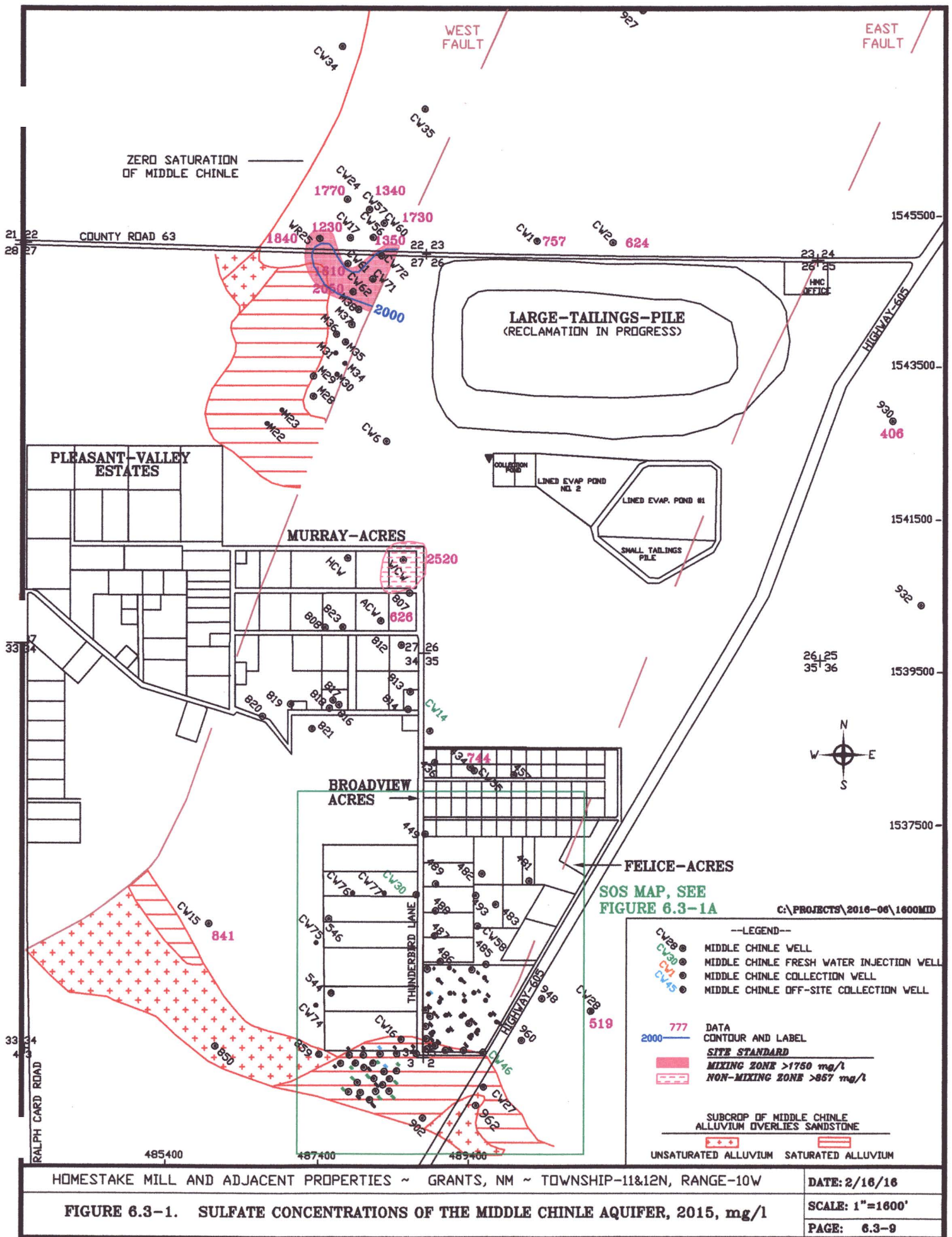
Radium concentrations in the Middle Chinle aquifer have always been low, showing that these two parameters are not important relative to the restoration of the Middle Chinle aquifer. All of the radium-226 and radium-228 values measured in 2015 were less than detection or very small except radium-226 results from wells CW3 and CW55 which are considered outliers. Radium-226 and radium-228 are not important parameters relative to the Middle Chinle aquifer and a site standard is not warranted and has not been set for these two constituents.

6.3.9 VANADIUM - MIDDLE CHINLE

Vanadium concentrations in the Middle Chinle aquifer have always been low. Previous monitoring of vanadium in the Middle Chinle aquifer has demonstrated that vanadium is not a significant parameter in this aquifer. Monitoring of vanadium for the Middle Chinle should be eliminated, because only a few low values have previously been detected in the alluvial aquifer near the tailings piles. All of the 2015 vanadium measurements for the Middle Chinle aquifer are low levels near the detection limit. These values are consistent with values observed previously and, therefore, reinforce the conclusion that continued monitoring of vanadium concentrations in the Middle Chinle aquifer should not be required. A site standard for vanadium has therefore not been set for the Middle Chinle aquifer.

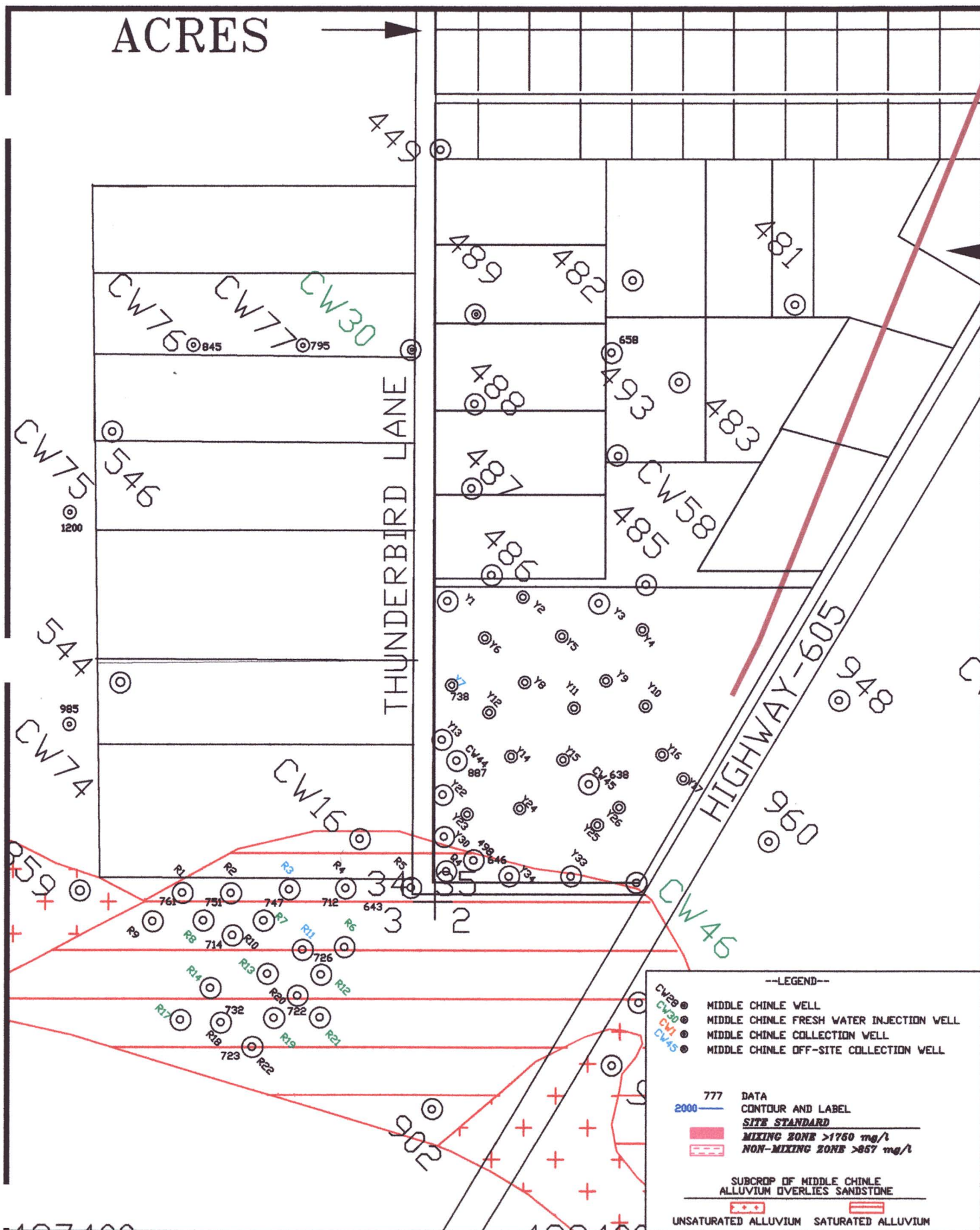
6.3.10 THORIUM-230 - MIDDLE CHINLE

Thorium-230 concentrations are not significant in the alluvial aquifer outside of the Large Tailings Pile. Therefore, the Middle Chinle aquifer does not have the potential for containing significant thorium concentrations from the tailings seepage. Thorium-230 is, therefore, not a significant parameter in the Middle Chinle aquifer and should be eliminated from future monitoring in the Middle Chinle aquifer. Thorium-230 concentrations were measured in all wells sampled from Middle Chinle wells in 2003, and all of these values were less than detection. All of the thorium-230 values measured in 2015 were very small. These thorium-230 levels are consistent with concentrations previously measured in the Middle Chinle aquifer, which shows that thorium-230 is not an important parameter in the Middle Chinle aquifer and thus a site standard has not been set.



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FIGURE 6.3-1. SULFATE CONCENTRATIONS OF THE MIDDLE CHINLE AQUIFER, 2015, mg/l



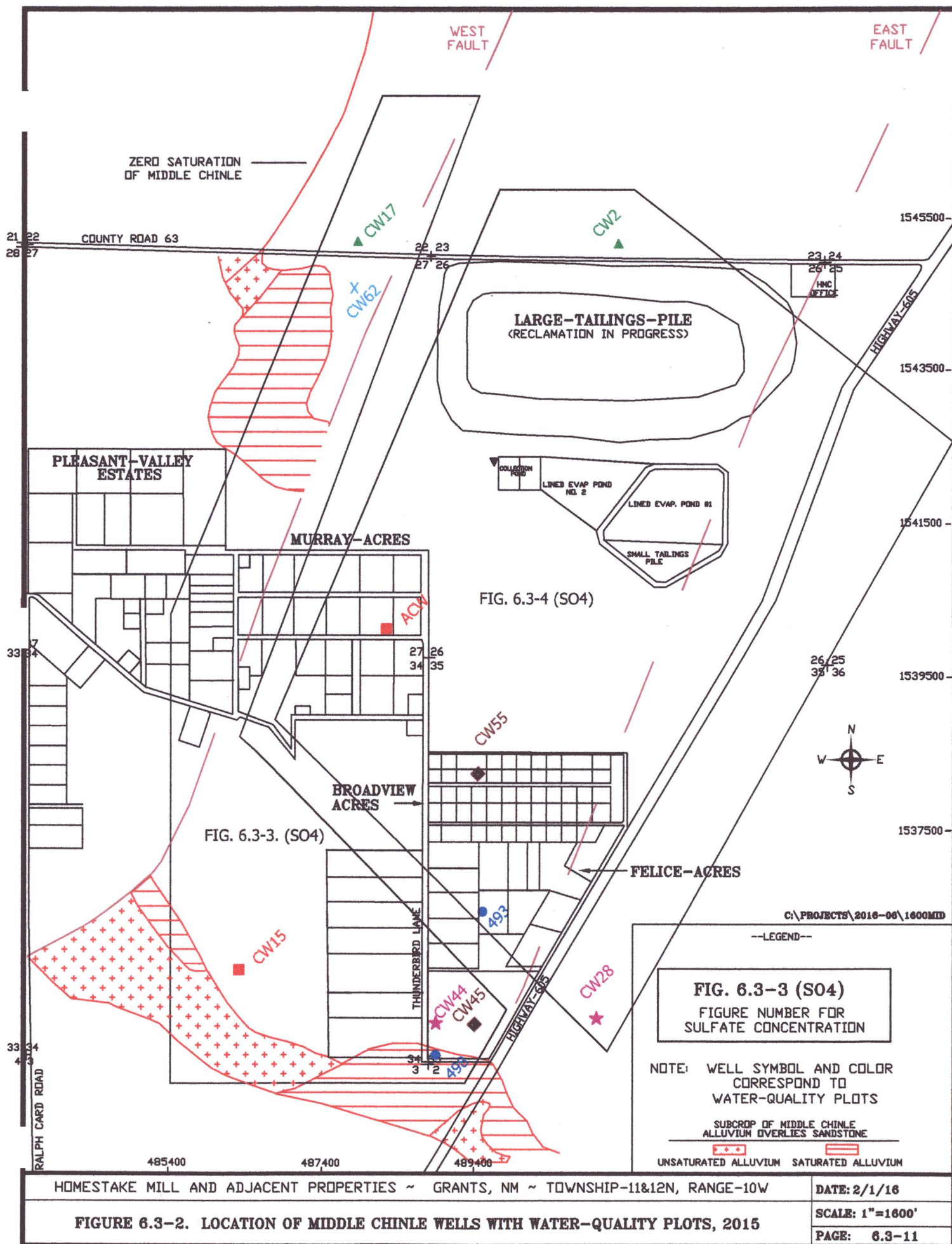
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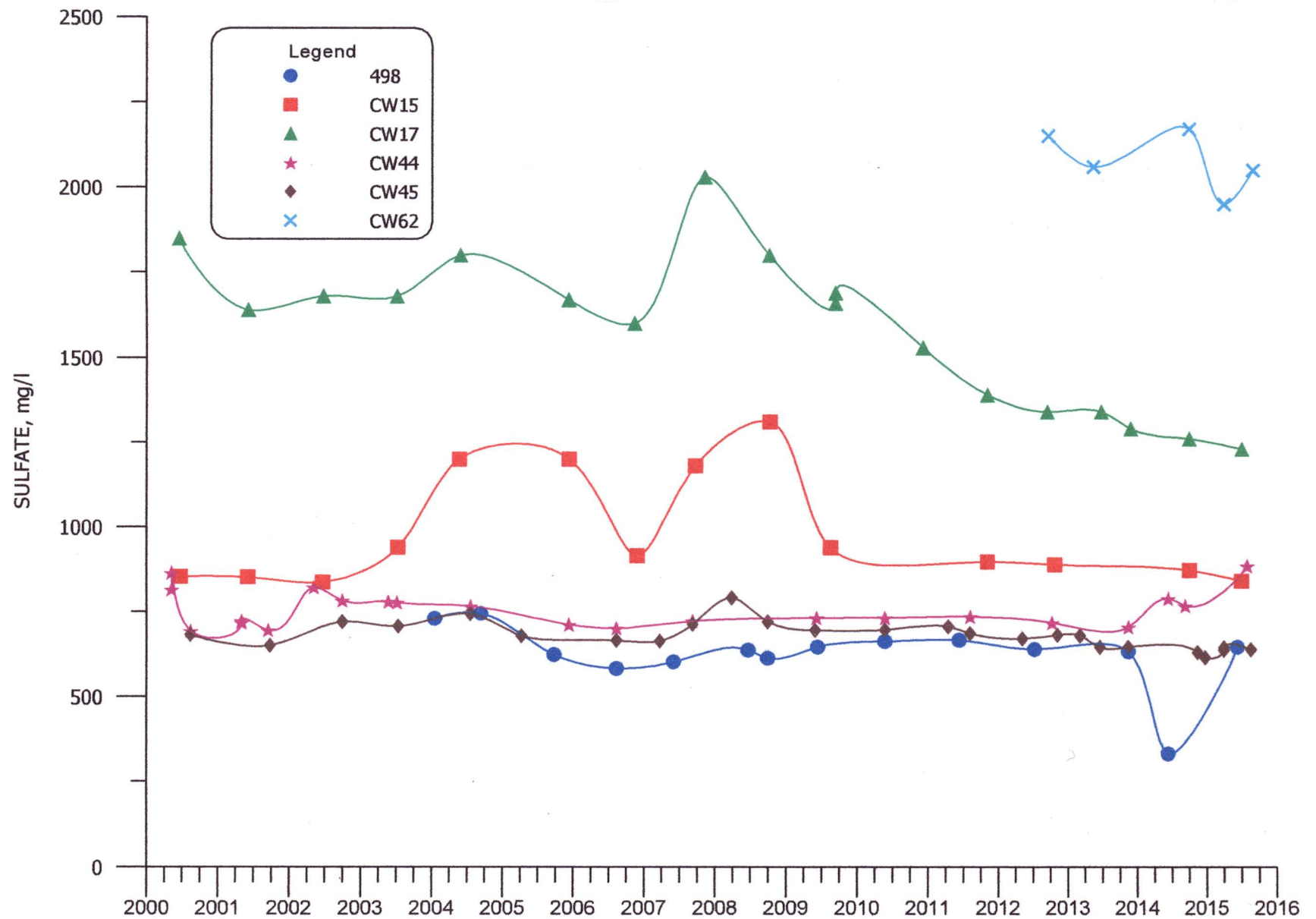
FIGURE 6.3-1A. SULFATE CONCENTRATIONS OF THE MIDDLE CHINLE AQUIFER, 2014, SOS, mg/l

SCALE: 1"=500'

PAGE: 6.3-10



6.3-12



**FIGURE 6.3-3. SULFATE CONCENTRATIONS FOR MIXING ZONE WELLS
498, CW15, CW17, CW44, CW45, AND CW62**

6.3-13

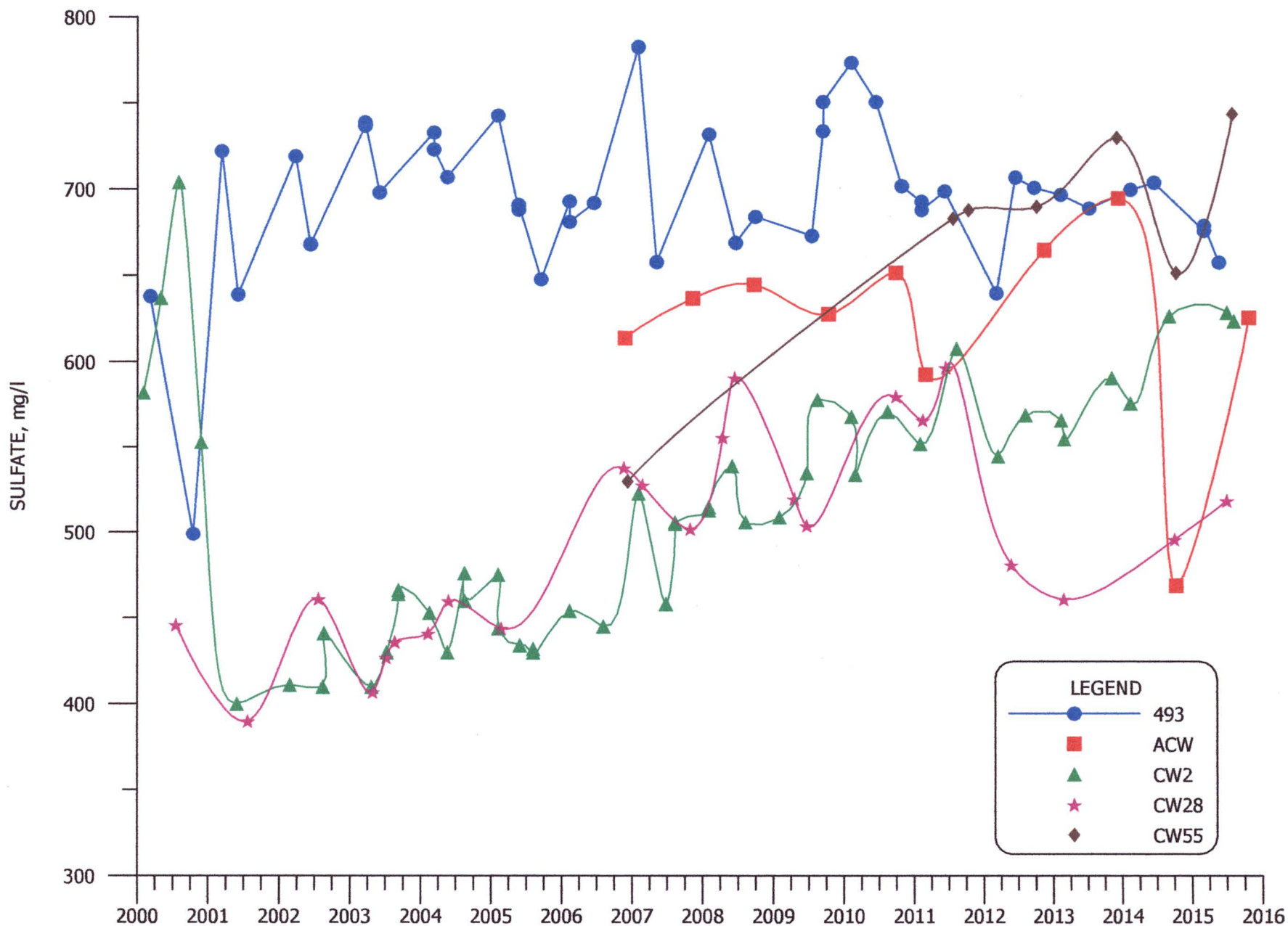


FIGURE 6.3-4. SULFATE CONCENTRATIONS FOR NON-MIXING ZONE WELLS 493, ACW, CW2, CW28, AND CW55

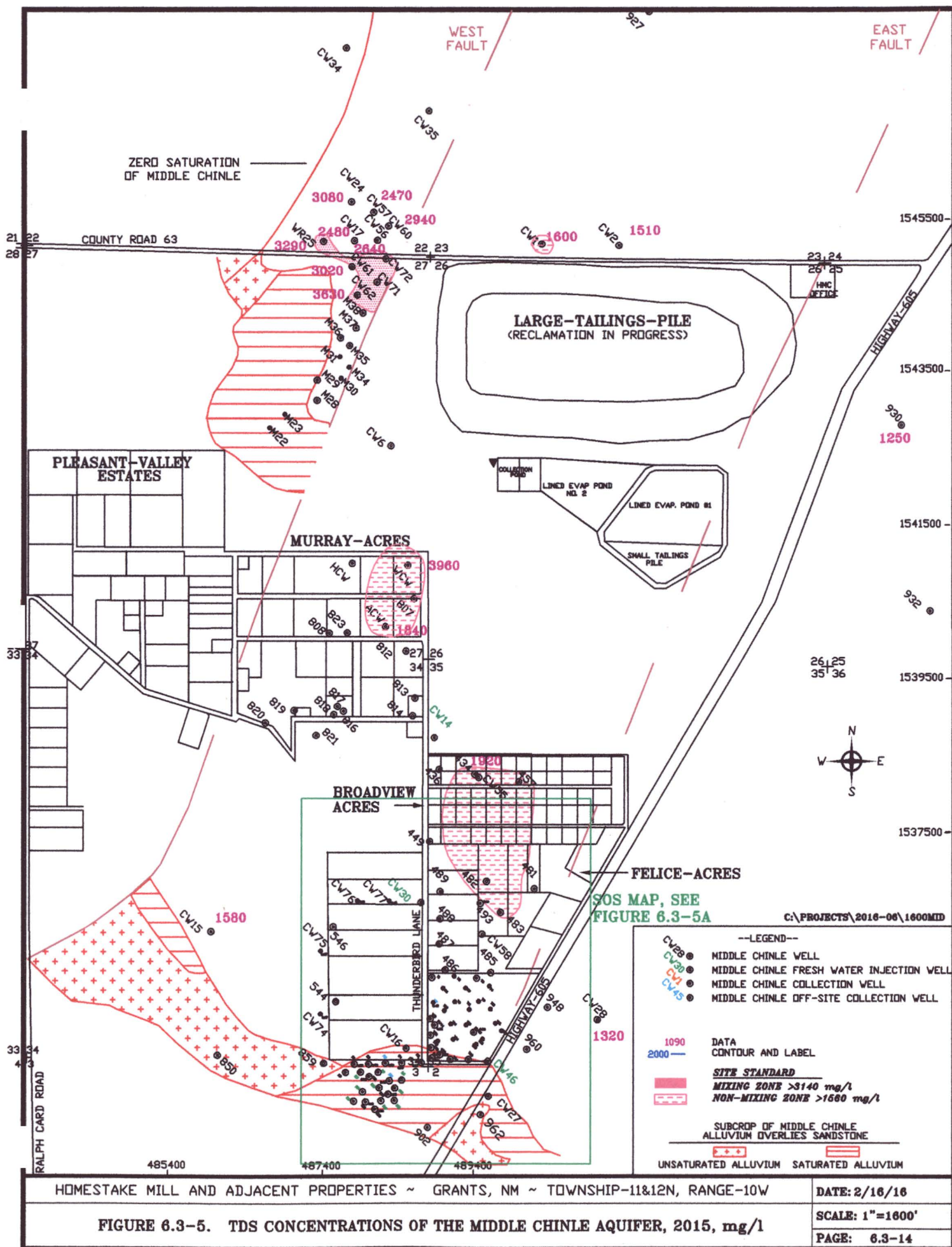
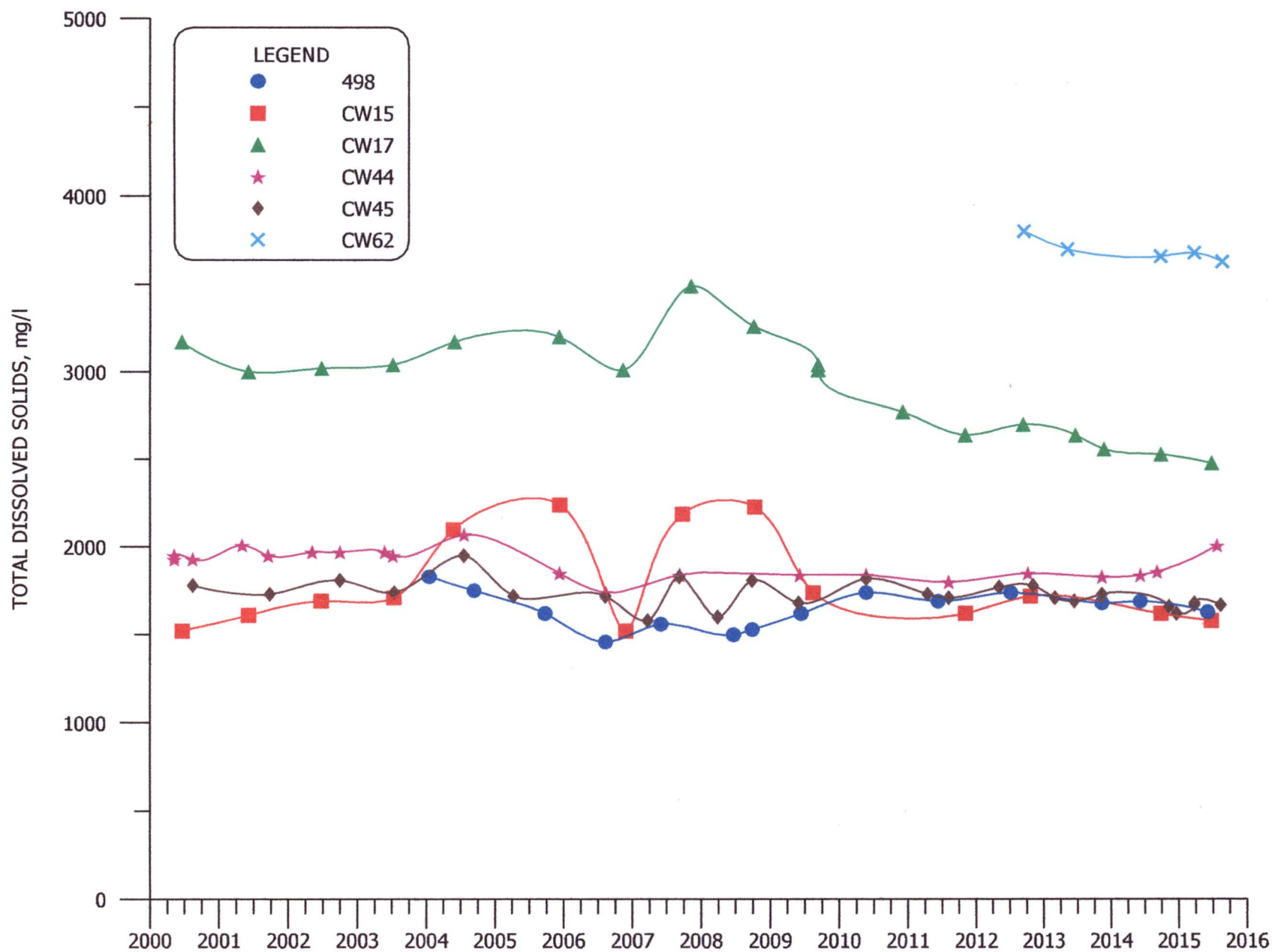


FIGURE 6.3-5. TDS CONCENTRATIONS OF THE MIDDLE CHINLE AQUIFER, 2015, mg/l

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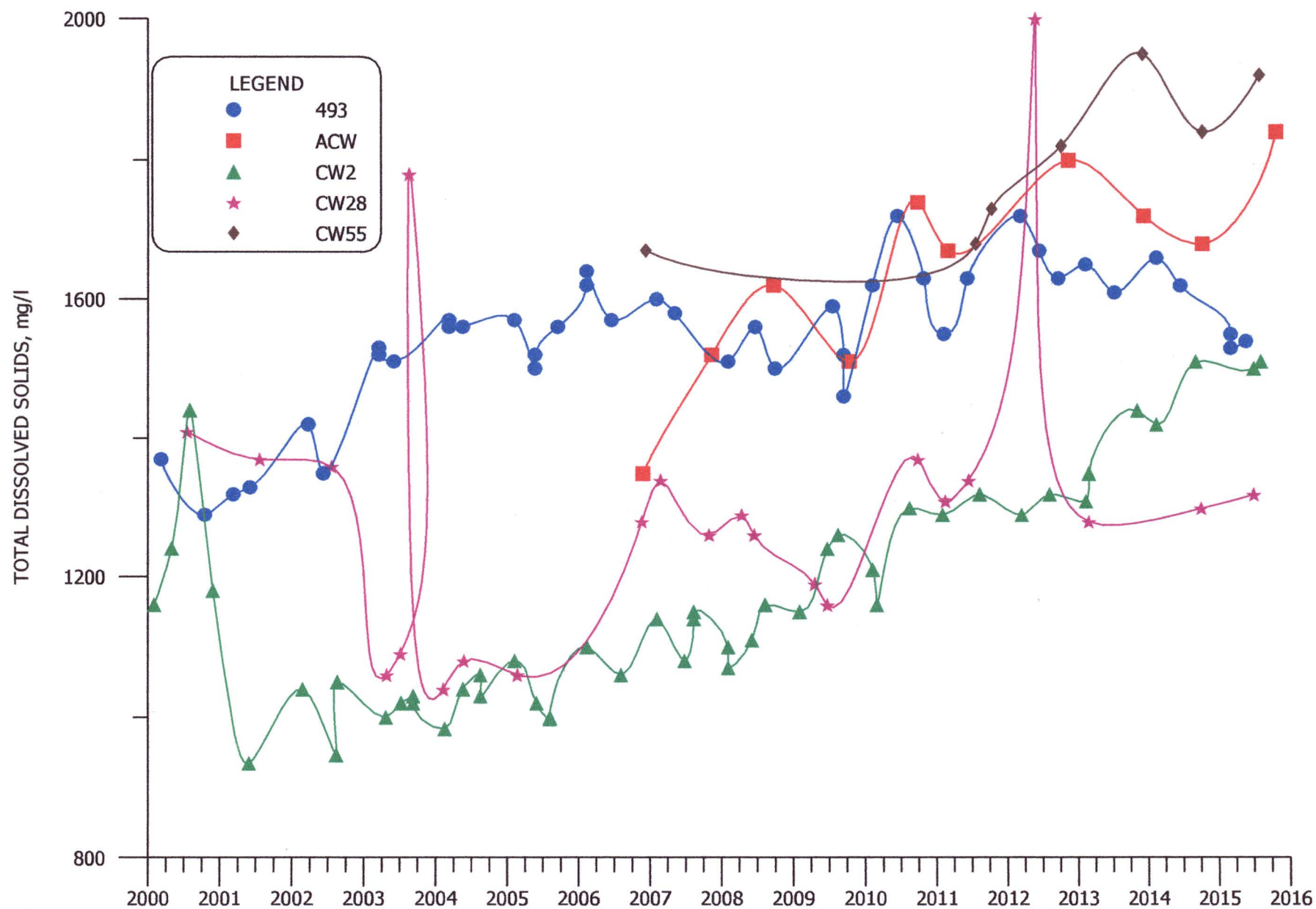
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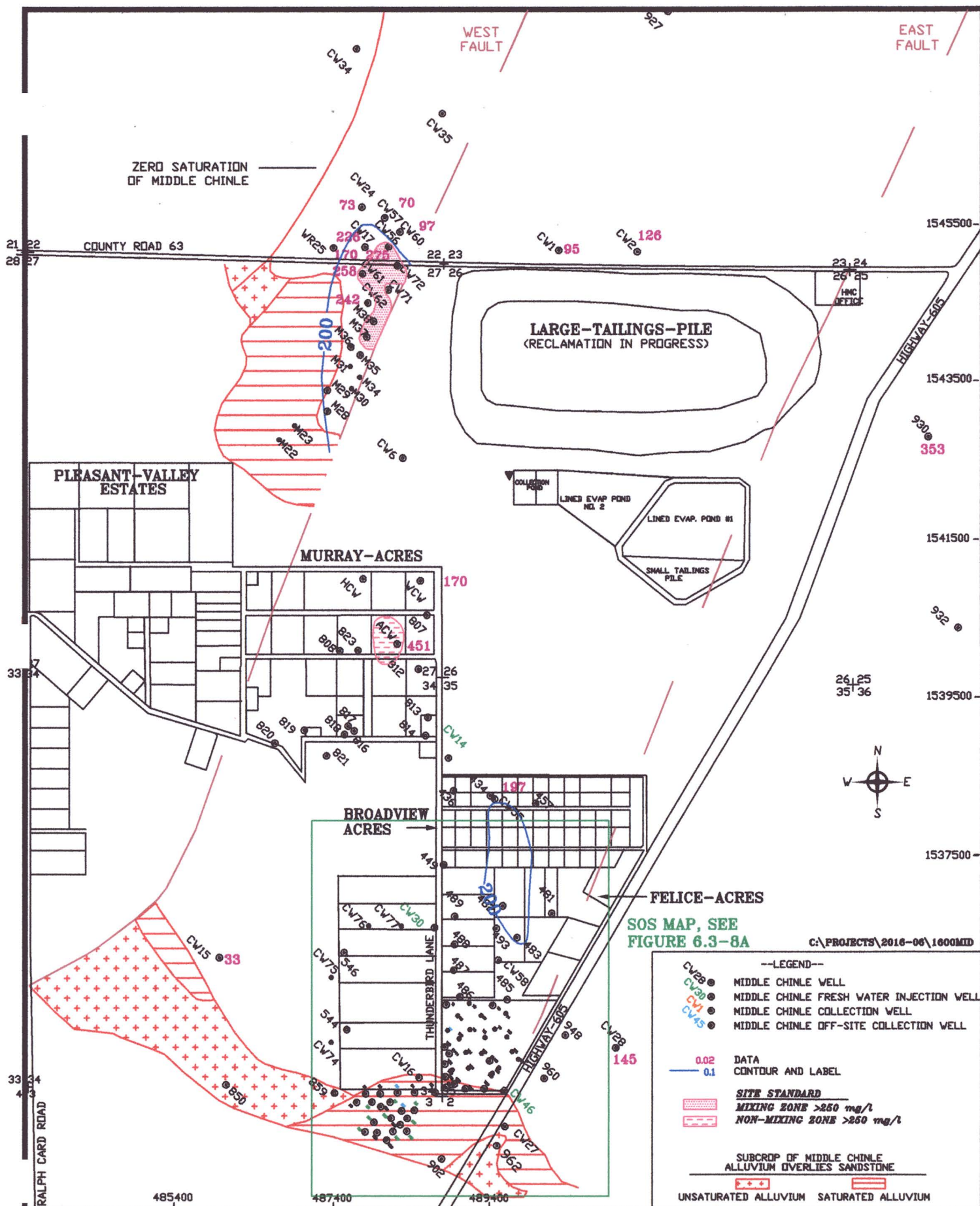


**FIGURE 6.3-6. TDS CONCENTRATIONS FOR MIXING ZONE WELLS
498, CW15, CW17, CW44, CW45, AND CW62**

6.3-17



**FIGURE 6.3-7. TDS CONCENTRATIONS FOR NON-MIXING ZONE WELLS
493, ACW, CW2, CW28, AND CW55**



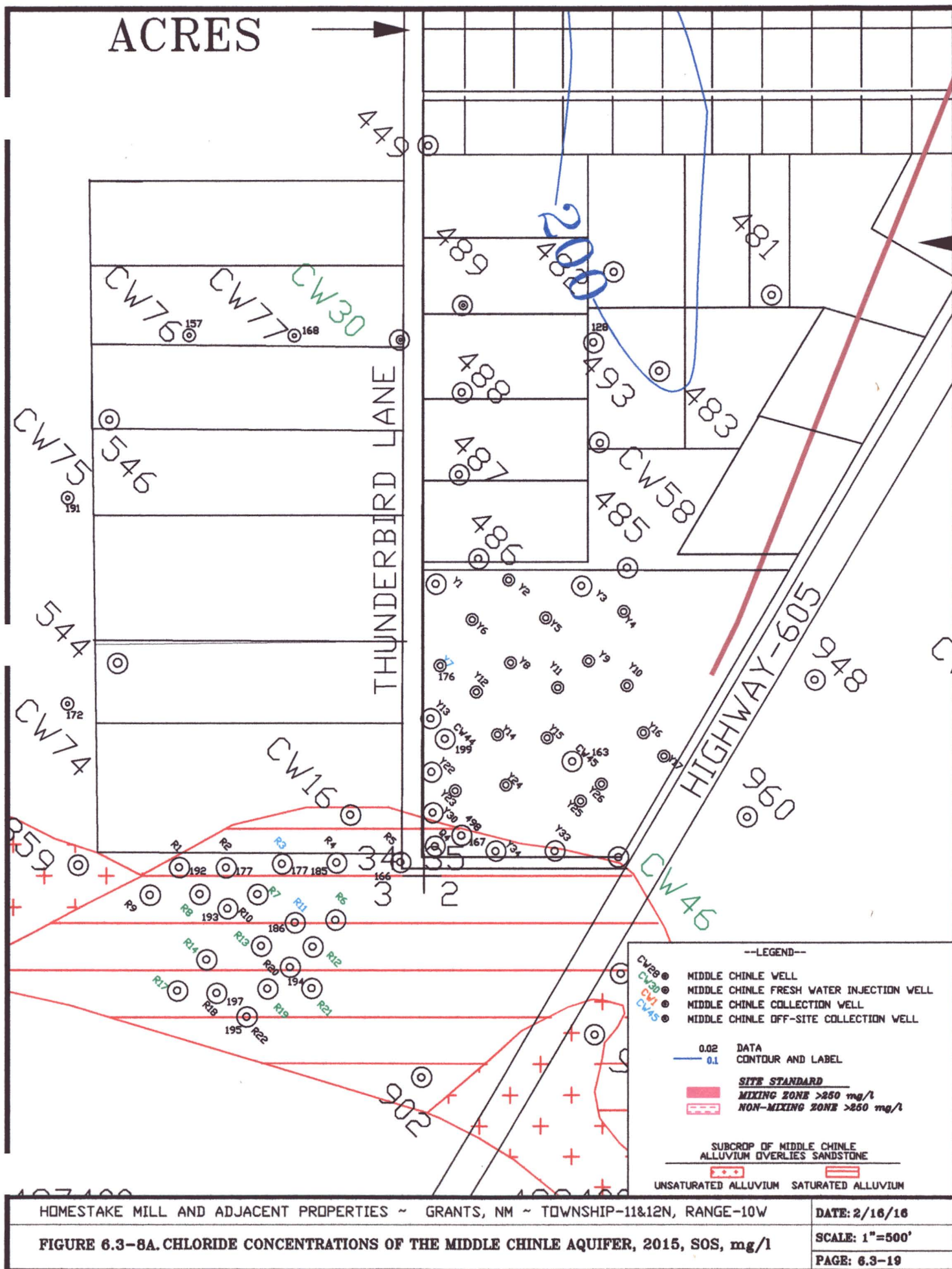
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FIGURE 6.3-8. CHLORIDE CONCENTRATIONS OF THE MIDDLE CHINLE AQUIFER, 2015, mg/l

SCALE: 1"=1600'

PAGE: 6.3-18



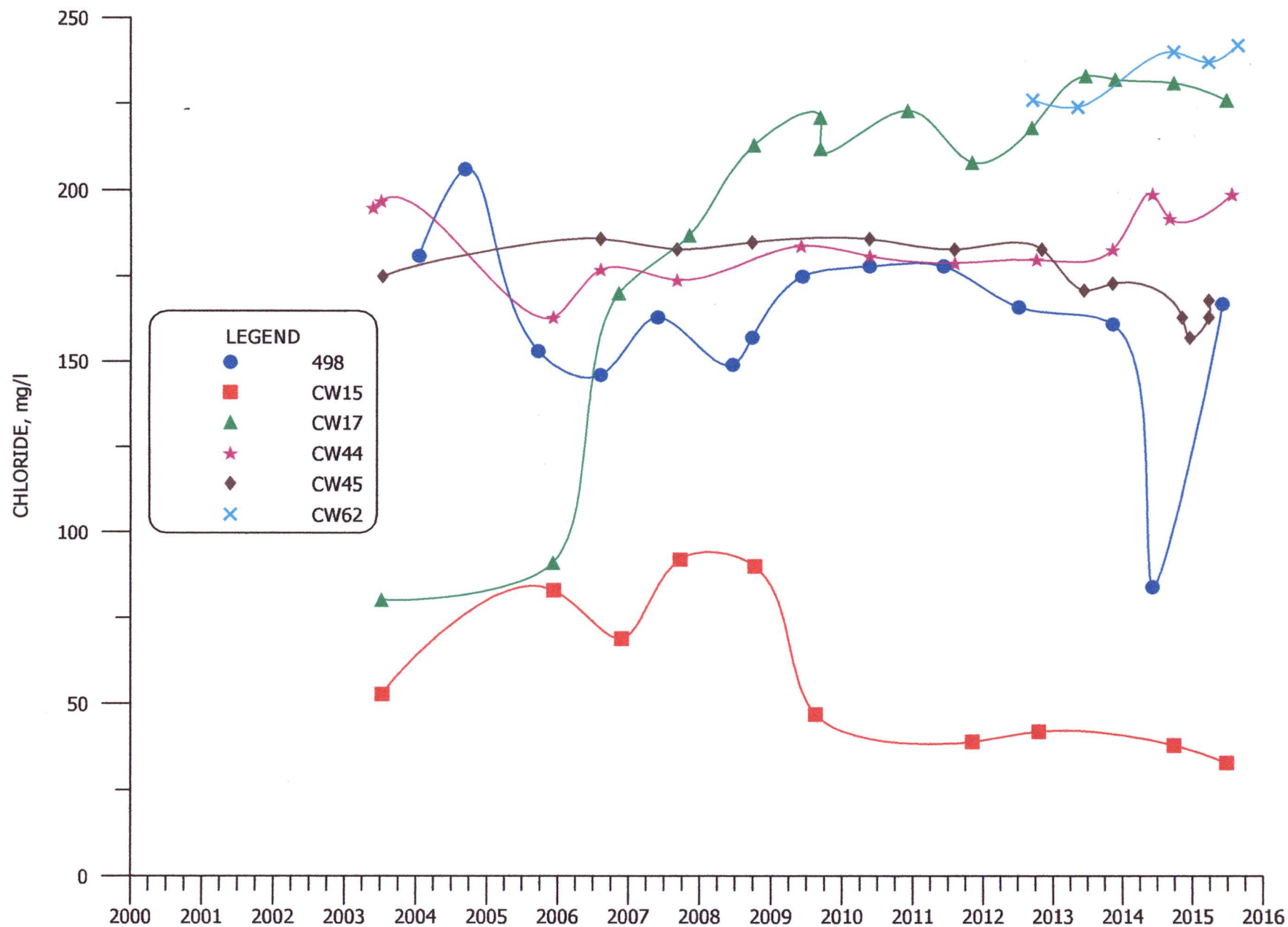
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DATE: 2/16/16

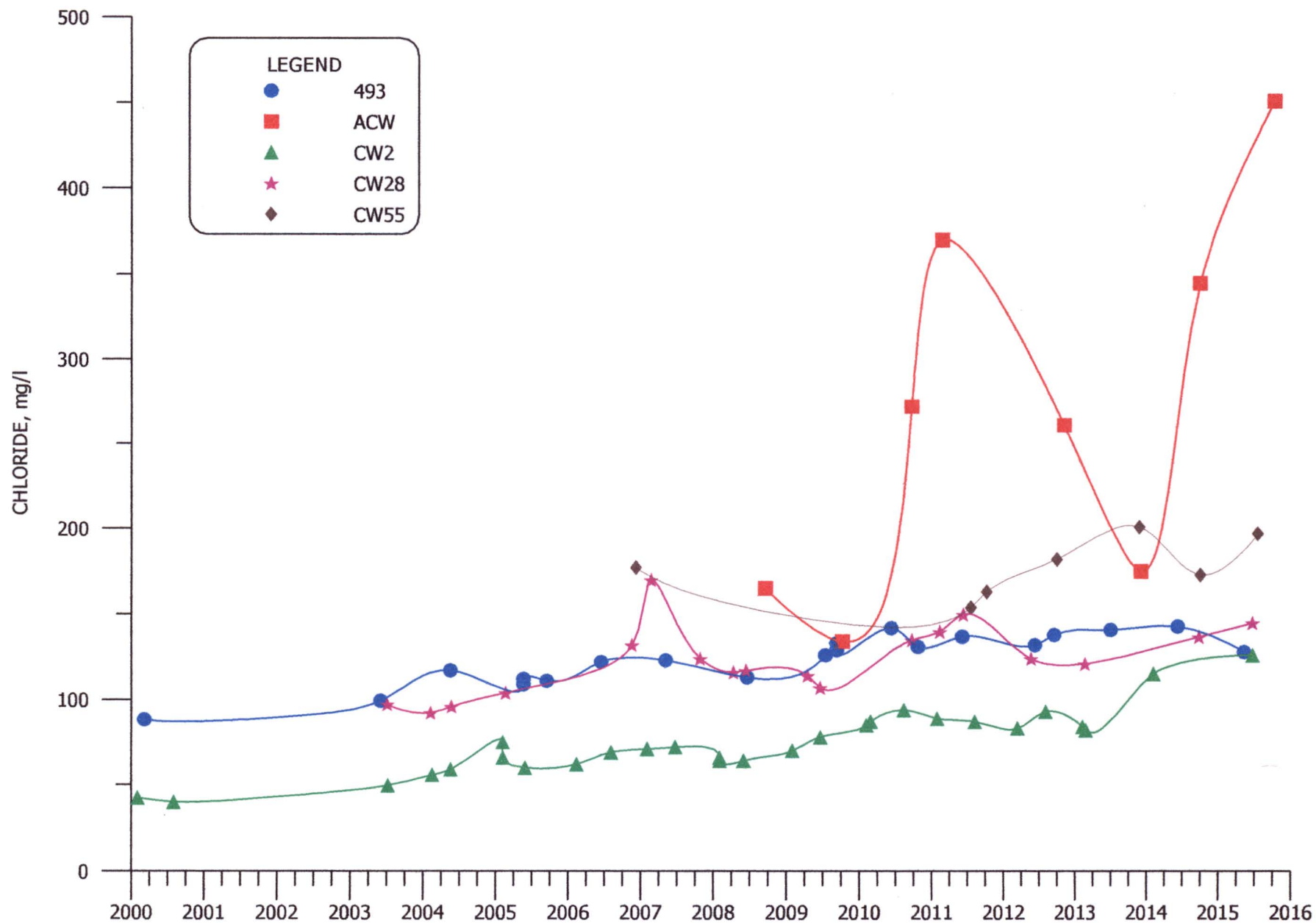
FIGURE 6.3-8A. CHLORIDE CONCENTRATIONS OF THE MIDDLE CHINLE AQUIFER, 2015, SOS, mg/l

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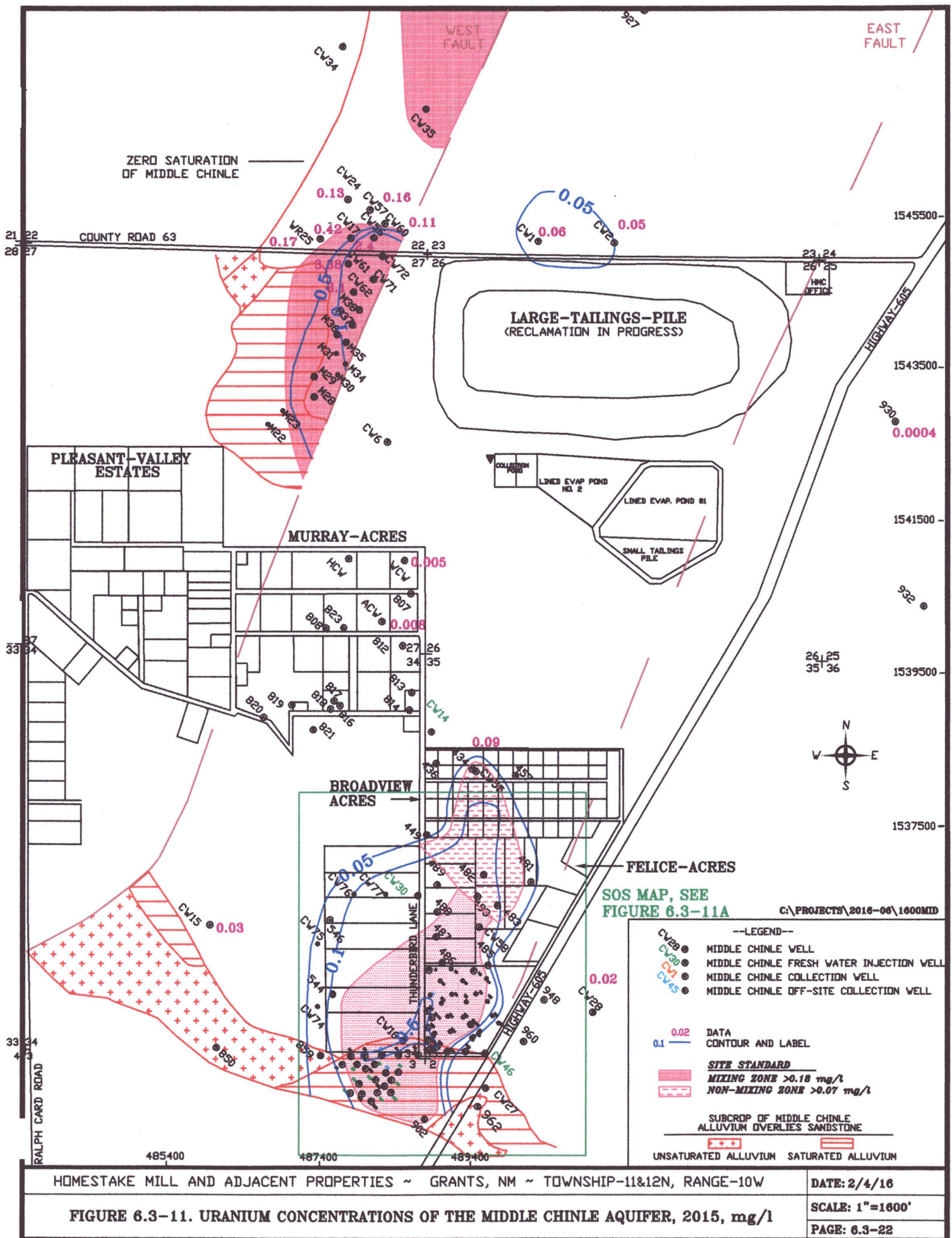
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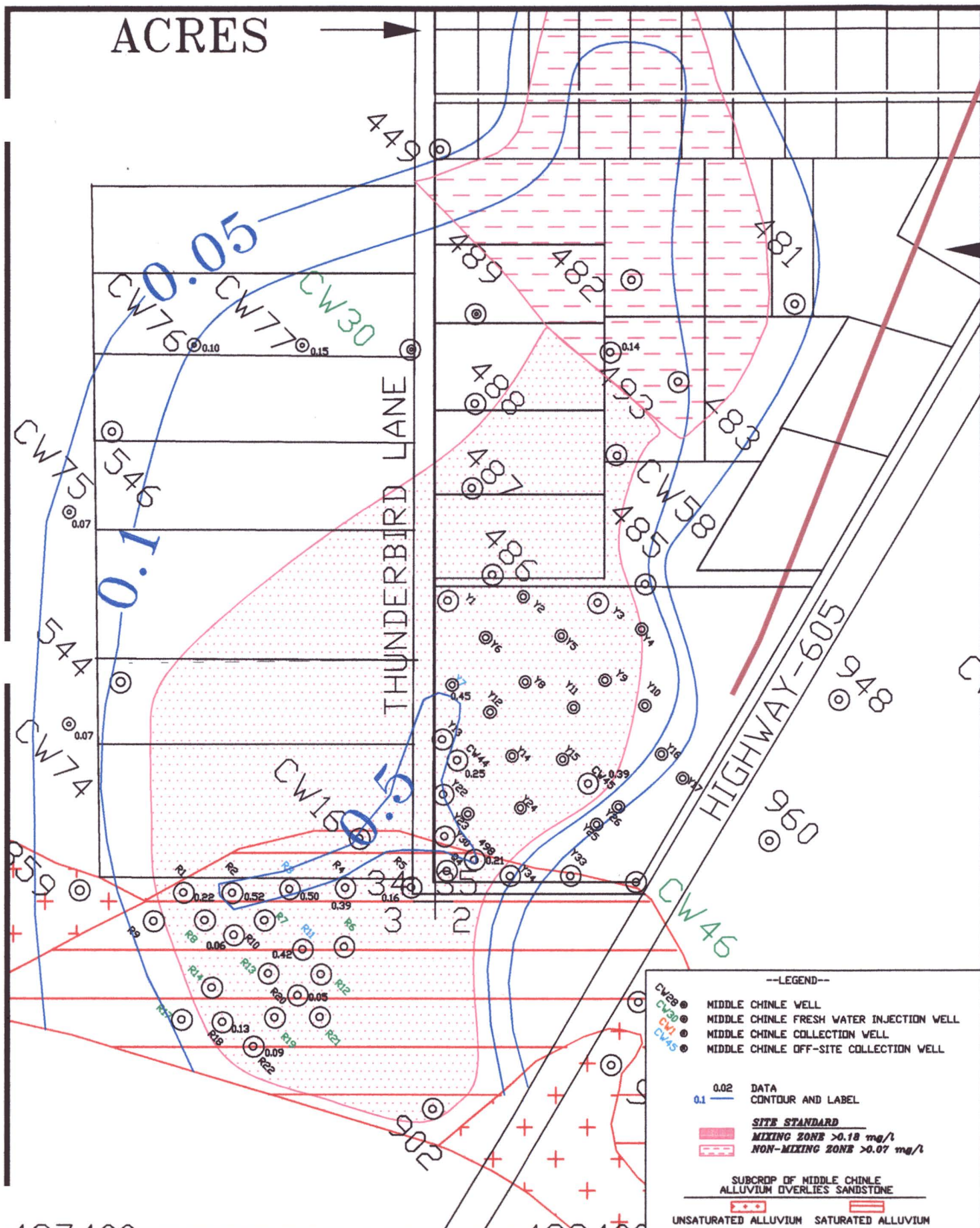


**FIGURE 6.3-9. CHLORIDE CONCENTRATIONS FOR MIXING ZONE WELLS
498, CW15, CW17, CW44, CW45, AND CW62**



**FIGURE 6.3-10. CHLORIDE CONCENTRATIONS FOR NON-MIXING ZONE WELLS
493, ACW, CW2, CW28, AND CW55**





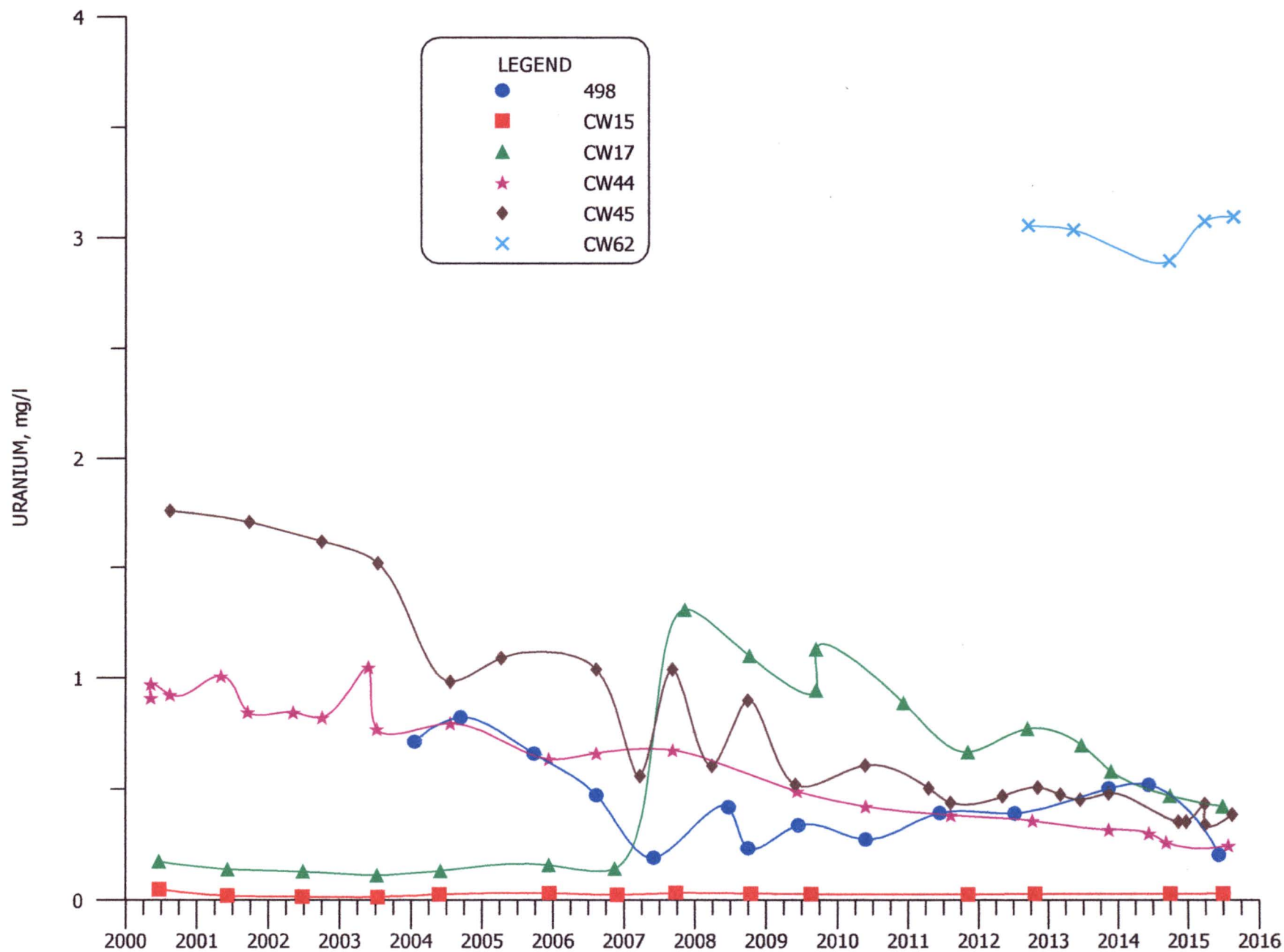
HOMESTEAK MILL AND ADJACENT PROPERTIES ~ GRANTS, NM ~ TOWNSHIP-11&12N, RANGE-10W

DATE: 2/16/16

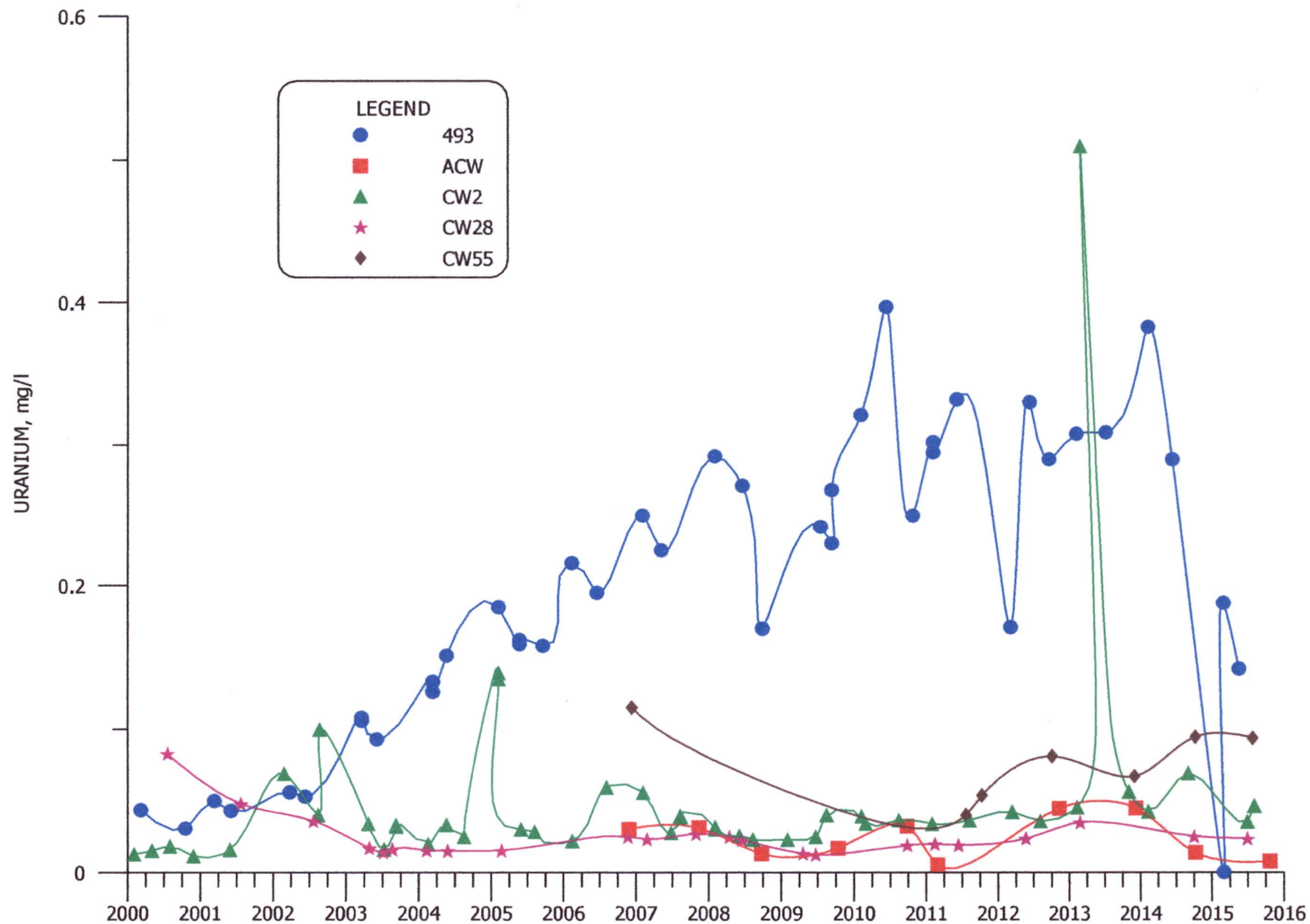
FIGURE 6.3-11A. URANIUM CONCENTRATIONS OF THE MIDDLE CHINLE AQUIFER, SOS, 2015, mg/l

SCALE: 1"=500'

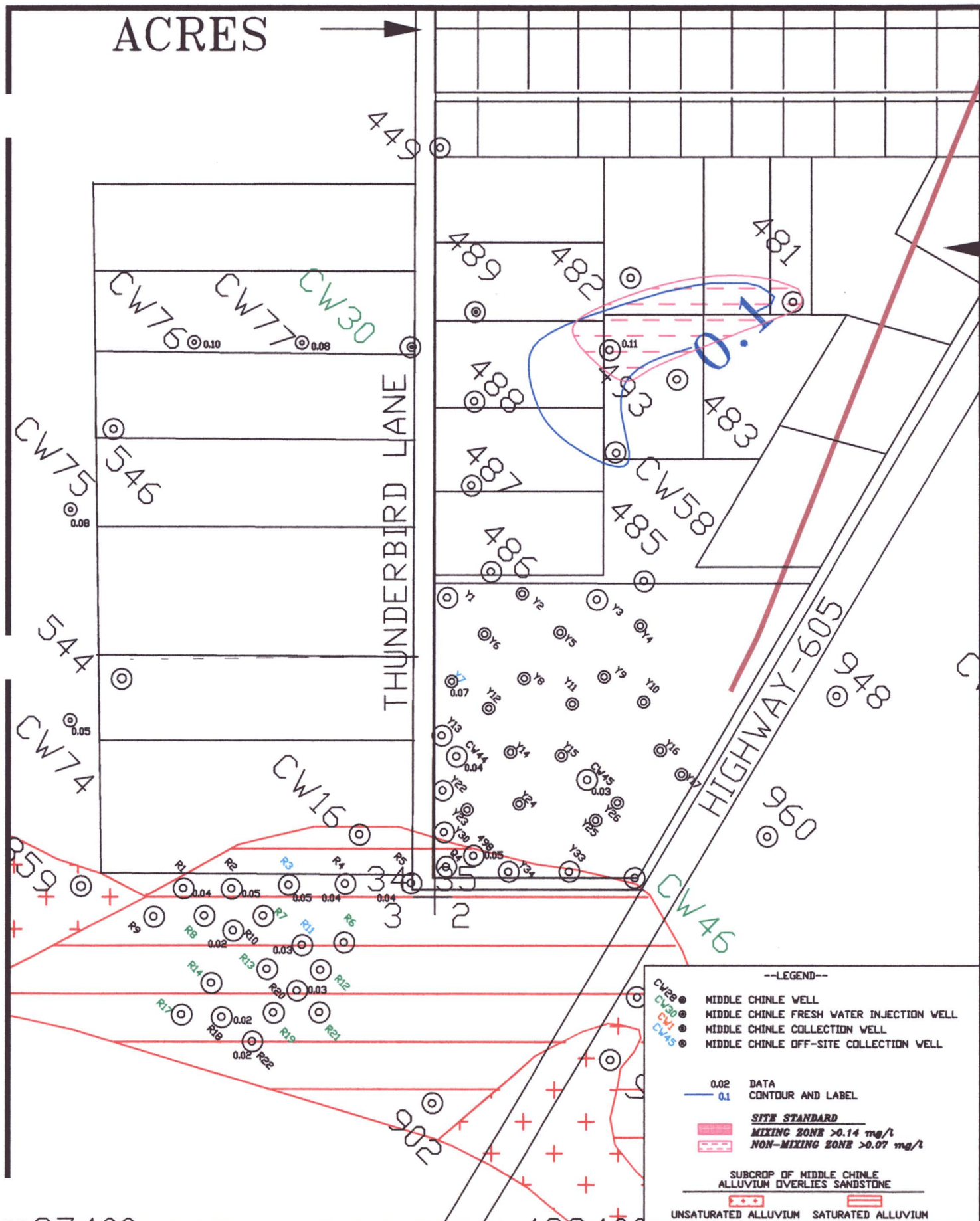
PAGE: 6.3-23



**FIGURE 6.3-12. URANIUM CONCENTRATIONS FOR MIXING ZONE WELLS
498, CW15, CW17, CW44, CW45, AND CW62**



**FIGURE 6.3-13. URANIUM CONCENTRATIONS FOR NON-MIXING ZONE WELLS
493, ACW, CW2, CW28, AND CW55**



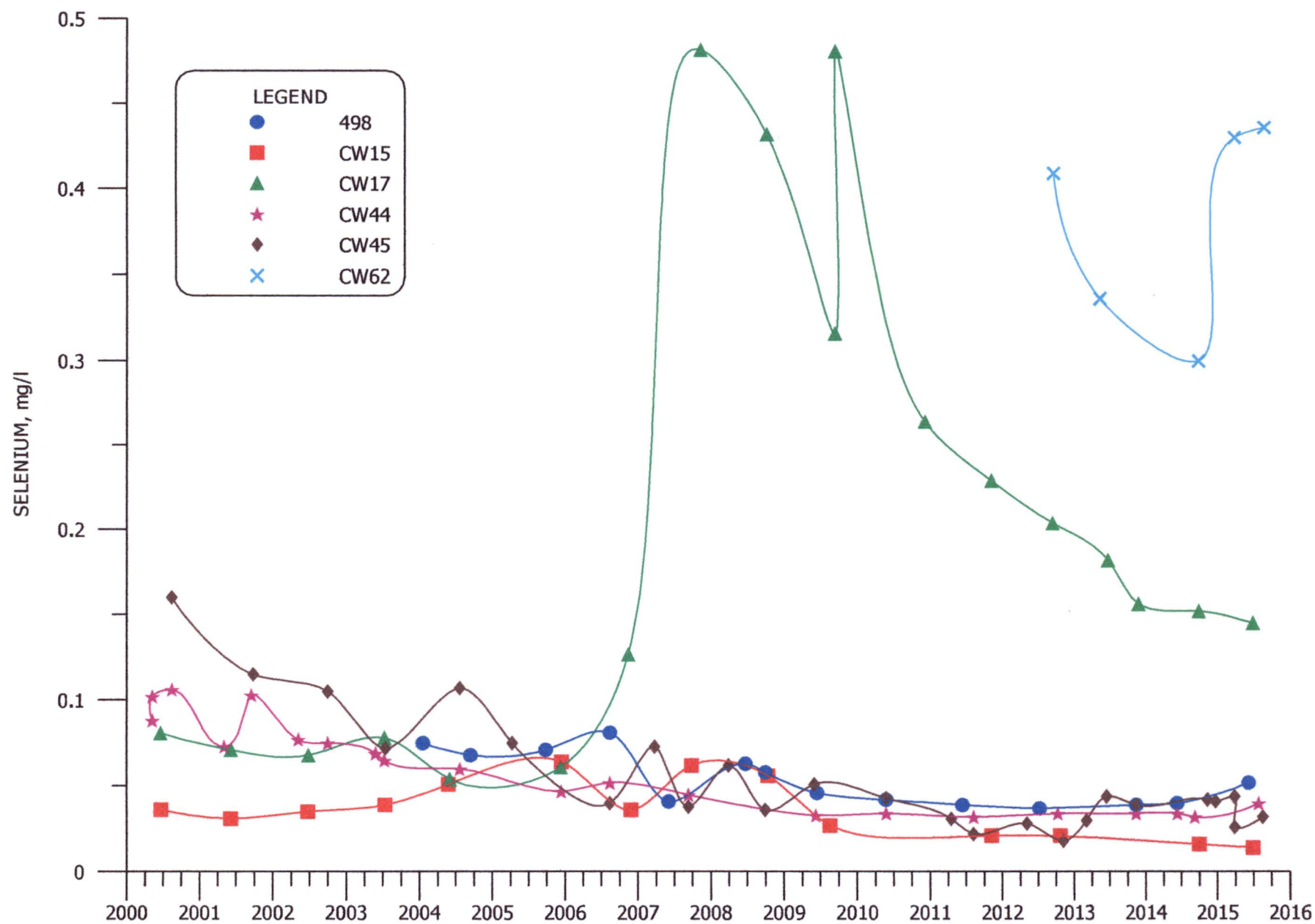
HOMESTEAK MILL AND ADJACENT PROPERTIES ~ GRANTS, NM ~ TOWNSHIP-11&12N, RANGE-10W

DATE: 2/16/16

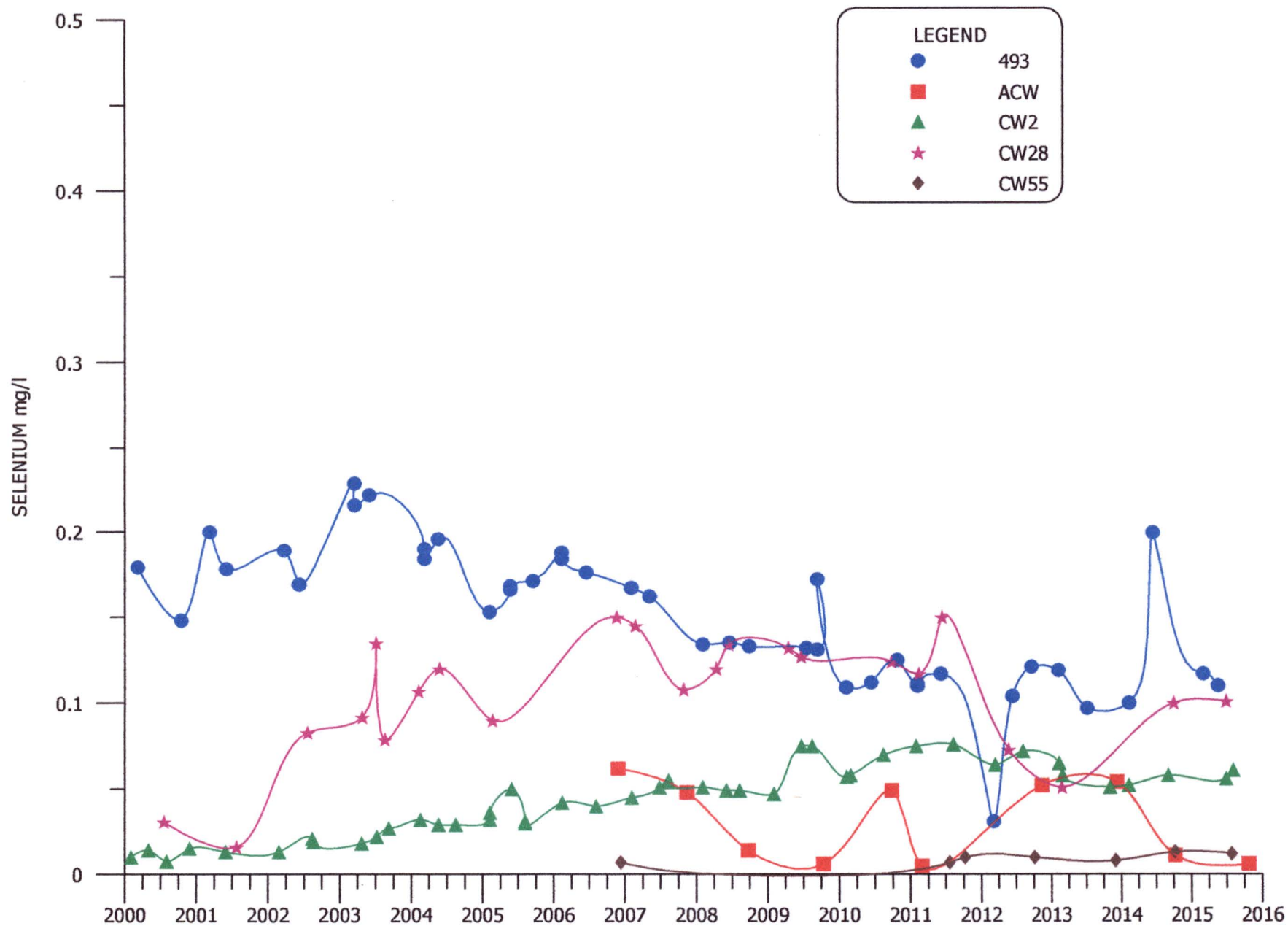
FIGURE 6.3-14A. SELENIUM CONCENTRATIONS OF THE MIDDLE CHINLE AQUIFER, SOS, 2015, mg/l

SCALE: 1"=500'

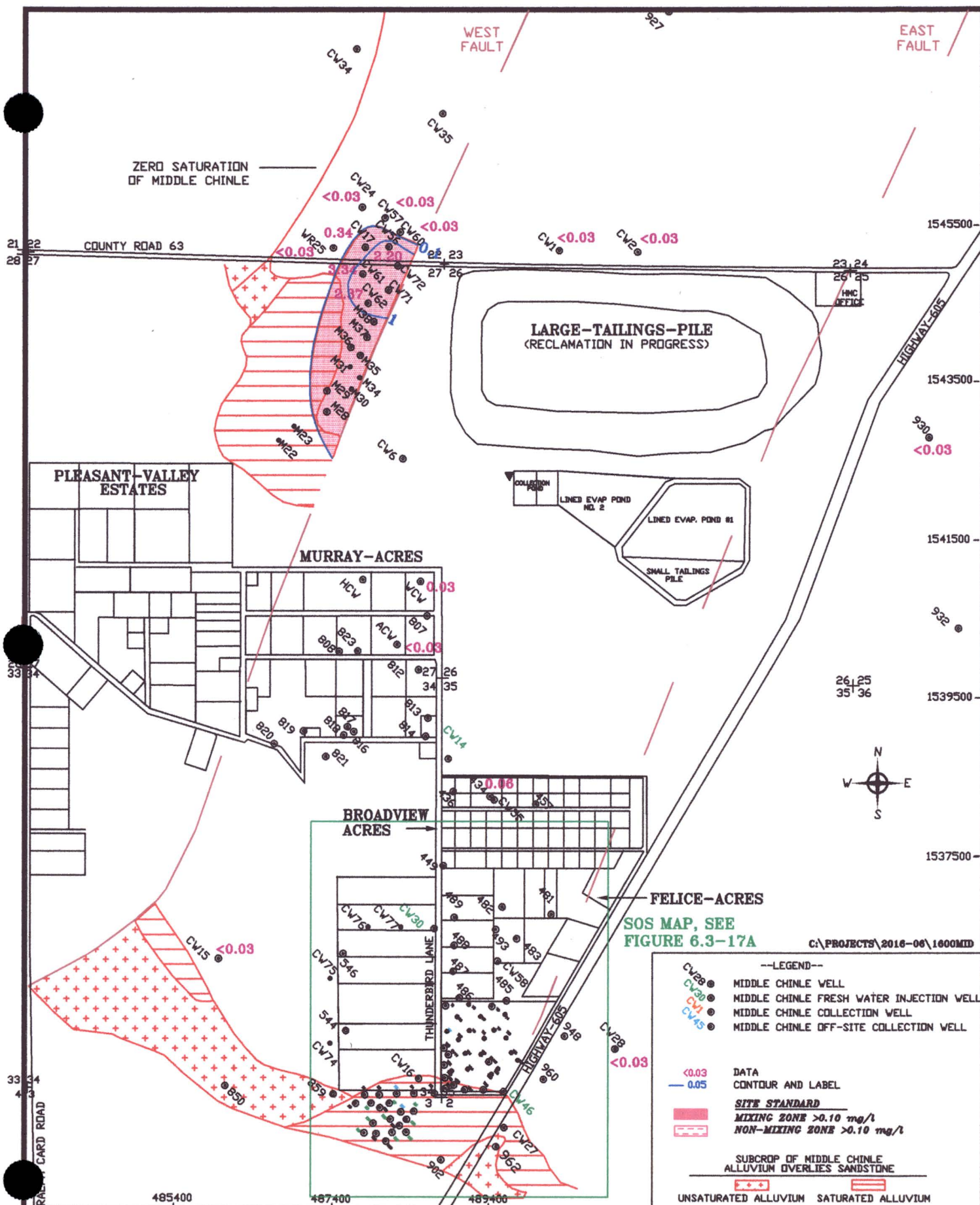
PAGE: 6.3-27



**FIGURE 6.3-15. SELENIUM CONCENTRATIONS FOR MIXING ZONE WELLS
498, CW15, CW17, CW44, CW45, AND CW62**



**FIGURE 6.3-16. SELENIUM CONCENTRATIONS FOR NON-MIXING ZONE WELLS
493, ACW, CW2, CW28, AND CW55**



HOMESTAKE MILL AND ADJACENT PROPERTIES ~ GRANTS, NM ~ TOWNSHIP-11&12N, RANGE-10W

DATE: 2/4/18

FIGURE 6.3-17. MOLYBDENUM CONCENTRATIONS OF THE MIDDLE CHINLE AQUIFER, 2015, mg/l

SCALE: 1"=1600'

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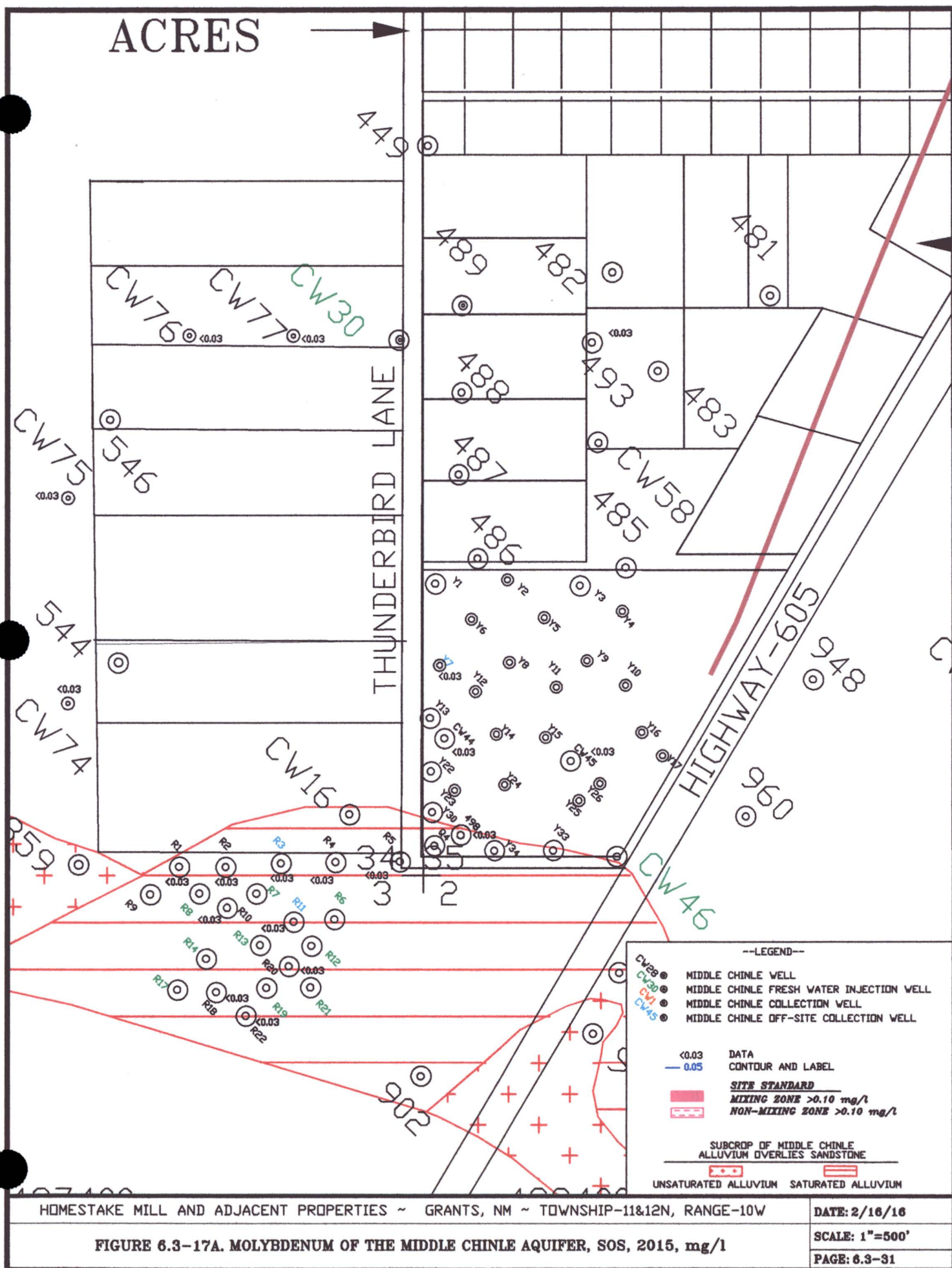
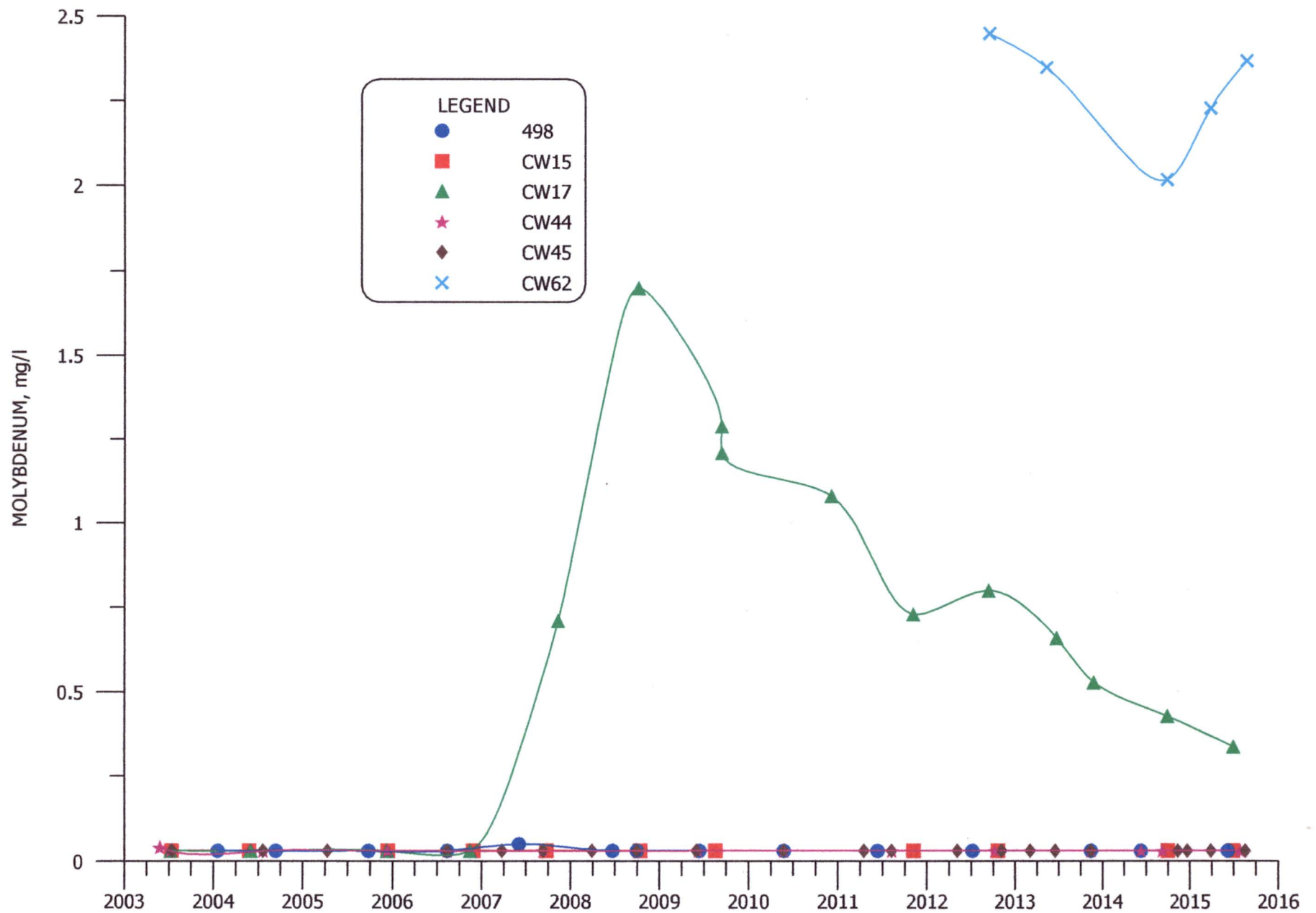
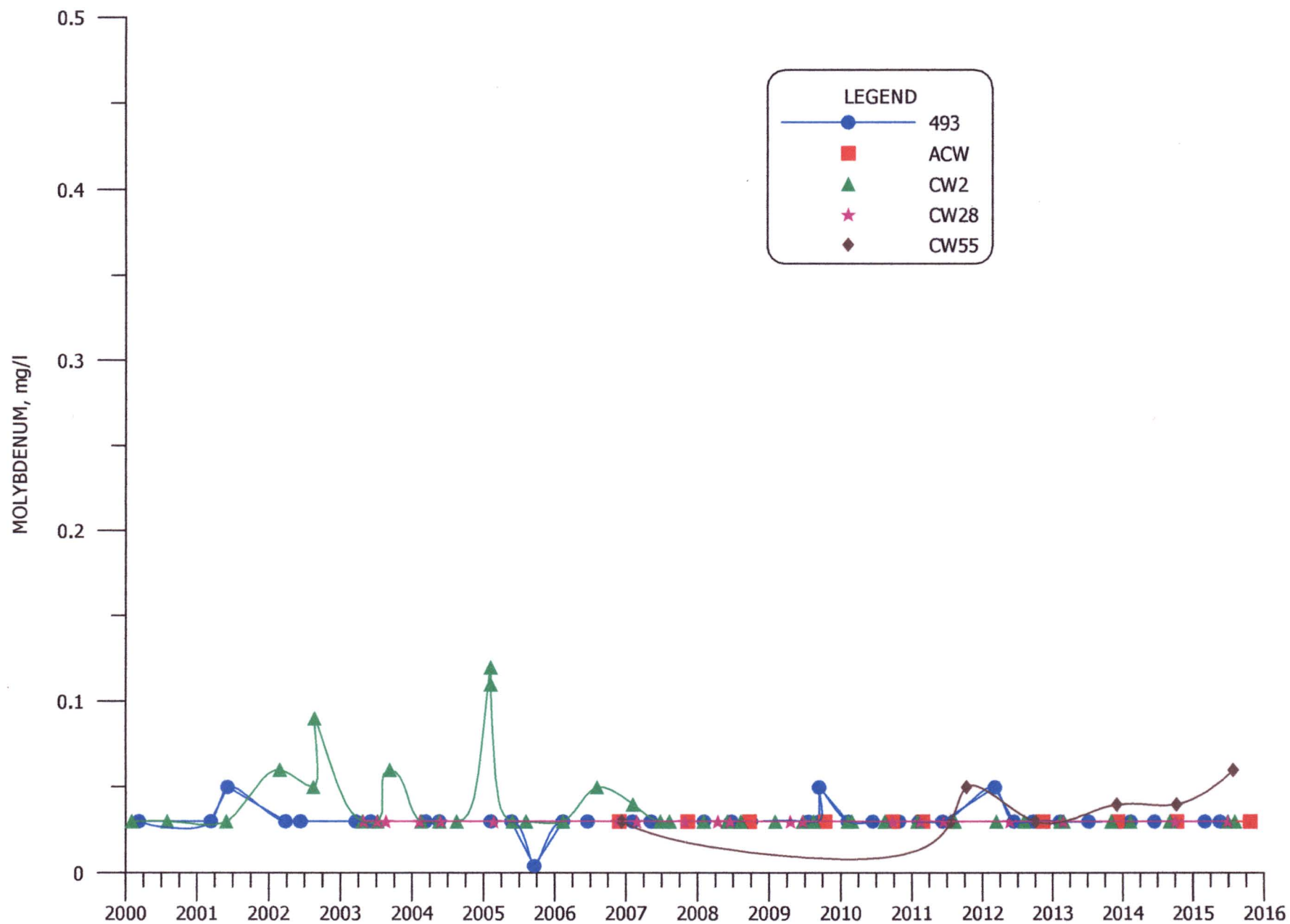


FIGURE 6.3-17A. MOLYBDENUM OF THE MIDDLE CHINLE AQUIFER, SOS, 2015, mg/l

6.3-32



**FIGURE 6.3-18. MOLYBDENUM CONCENTRATIONS FOR MIXING ZONE WELLS
498, CW15, CW17, CW44, CW45, AND CW62**



**FIGURE 6.3-19. MOLYBDENUM CONCENTRATIONS FOR NON-MIXING ZONE WELLS
493, ACW, CW2, CW28, AND CW55**

