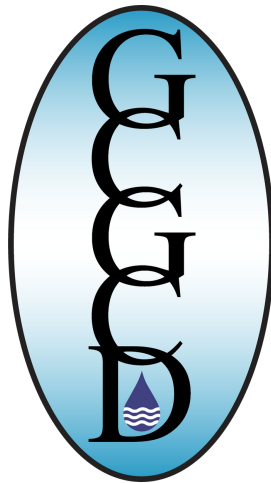


**GUADALUPE COUNTY  
GROUNDWATER CONSERVATION DISTRICT  
WATER LEVEL REPORT  
BY  
WILLIAM B. KLEMT, P.G.  
SEPTEMBER 2023**



**Measurement of Water Level Decline and Achievability of the  
Desired Future Conditions for the Carrizo-Wilcox Aquifer  
within Guadalupe County**

---

*William B. Klemt, P.G.*

WILLIAM B.KLEMT  
CONSULTING GEOLOGIST

-----  
1200 Oak Shadow Circle  
Austin, Texas 78758  
(512) 837-2115

October 12, 2023

Kelley Cochran  
Manager  
Guadalupe County GCD  
P.O. Box 1221  
Seguin, Texas 78156

The District's water-level observation wells in Guadalupe County were measured in September 2023. Twelve (12) of the District's current wells are completed in the Carrizo aquifer and twelve (12) in the Wilcox aquifer. Most of the District's current observation wells were used to provide water level change or elevation information. Also used in this report were two Carrizo wells from Gonzales County.

Comparisons of water-level measurements and water-level decline calculations can be made using the tables. The attached maps show well locations, Carrizo and Wilcox water-level information.

#### **Carrizo Water Levels**

The total GCGCD Carrizo water level change (September 2022 - September 2023) was -20.93 feet for 11 wells. The average change per well, -1.90 feet. These wells are either located in the outcrop or close to the outcrop. Largest water-level change was reported in CRWA's PWS wells, 67-34-505 and 67-34-612 (Gonzales County) of +6 and +28 feet, respectively. The above CRWA wells were not used in the above change calculations.

Carrizo water levels, from September 2022 to September 2023, changed an estimated -3.50 feet in the SSLGC Area (Well 67-34-706, and in the CRWA Area, the average water level changed about +10 feet (Wells 67-34-302, 67-34-505, and 67-34-612).

The Carrizo long-term (2013 - September 2023) water-level declines in the SSLGC and CRWA areas of Guadalupe County are about 29 feet ( about -2.9 feet/year) and 34 feet ( about-3.4 feet/year), respectively.

#### **Wilcox Water Levels**

The September 2022 - September 2023 Wilcox water-level measurements indicate a total change of -3.37 feet for 9 wells ( average-0.37 feet /well). Not included in the water-level change calculation were the following wells:

- 1) Ulrich Well 67-25-910, +11.73 feet;
- 2) Belz Well 68-40-401 was not included for lack of a September 2022 static water level measurement; and
- 3) CRWA, 67-34-5, no September 2023 static water level

#### **Carrizo Monitor Wells**

The total long-term water-level decline (2013 - September 2023) for MWCZ 7 and 8 is on the order of -24 feet for the two wells (about -1.2 feet/year/well) which is the result of pumping in the SWN 67-34 area. The total change for the remaining 4 monitor wells is 11 feet (-0.28 feet/year/well). The total change for the 6 monitor wells, -35 feet (0.58 feet/well/year).

It is anticipated Carrizo water-level declines will increase moderately within the District due to the addition of the proposed SSLGC Carrizo Well Field in the vicinity of Well 67-34-706. This will increase present-day water level declines in monitor wells MWCZ-1A, 1B, 7 and 8. However, the increased rate of decline will slowly decrease with time as water levels approach a new equilibrium.

With regard to the Blumberg #2 well, it is recommended that water-level measurements continue.

**Carrizo/Wilcox Water Chemistry**

Field Parameters were taken with the District's instrument from the Fred Blumberg Wilcox (67-25-709) and Edward Henk Carrizo (67-33-602) wells on September 19, 2023:

Fred Blumberg	Edward Henk
1) Temperature, 25.6 deg. C (79 deg. F)	Temperature, 27.3 deg.C (81 deg. F)
2) pH, 7.4	pH, 6.1
3) Conductivity, 1190 umhos/cm	Conductivity, 810 umhos/cm
4) Estimated TDS 590 mg/L.	Estimated TDS 343 mg/L

**summary**

In Summary: 1) The average one-year (9/2022 - 9/2023) Carrizo water levels from 11 wells declined -1.90 feet/well; 2) At the present day level of Carrizo pumpage, small to moderate water- level declines, for the most part, are continuing within the District; 3) Additional proposed pumpage is expected to increase the rate of Carrizo water-level declines in the District to a more moderate level; 4) However, two of CRWA's wells did report water-level rises for the above time period; 5) Wilcox water levels remain relatively stable; and 6) It is recommended, the District continue monitoring the chemical quality and field parameters in the District's observation wells in order to detect natural changes or contamination of the ground water.

Sincerely,



William B. Klemt, P.G.

10/12/23

GCGCD CARRIZO (Cz)/WILCOX (Wx)  
WATER-LEVEL PROGRAM

Measurements shown are from the measuring point (MP)

<u>Date</u>			<u>WL below MP (ft)</u>
David Baker	67-18-8(7c)	MP 1.0 ft >GL	LSD + 622
WS	Lat/Long: 29.654272/97.831397		Depth 232 ft
9/17/15			120.66
1/13/16			119.99
9/14/22			121.35
1/17/23			120.60
6/28/23			122.65
9/19/23			121.72
Robert Carter(Wx)	67-19-708(7b)	MP 1.9 ft >GL	LSD +416
WS	Lat/Long:29.657673/97.726433		Depth 295 ft
1/20/13, 33feet (+378) <GL		Sat/thick (2013) = 349 ft (Brac) -33 ft = 316 ft	
1/14/15			036.67
9/14/22			037.82
1/17/23			035.45: oil spill, 100 ft west
6/28/23			037 Estimated
9/18/23			038.26
Fred Blumberg (Wx)	67-25-709	MP 1.5 ft >GL	LSD +525
	Lat/Long:29.530255/97.973638		Depth 160 ft
3/20/00			053
1/21/13			053.20
9/14/22			053.38
1/17/23			052.13
6/28/23			053.94
9/19/23			057.11
Dickie Ullrich(Wx)	67-25-910(9a)	MP 0.5 ft >GL	LSD +506
WS	Lat/Long:29.518904/97.887402		Depth (?)
9/02/10			094.60 <MP
1/21/13			099.98 <GL
9/14/22			117.48
1/18/23			103.11
6/28/23			123.14
9/19/23			105.75
Donald Brady(Wx)	67-26-312(7a)	Mp 2.0 ft >GL	LSD +568
WS	Lat/Long:29.616036/97.776164		Depth 410
12/1/99			166
1/21/13			163.33
9/15/22			167.69
1/17/23			166.08
6/28/23			165 Estimated (186 ft pumping)
9/19/23			176.24
SH 466 MWCz-7	67-26-9 (39)	MP 0.4 ft <GL after 1/28/20	LSD +393
	Lat/Long:29.502032/-97.76655	Plugged back from 250 to 132 ft	
		Screen 92 to 132 ft	
		B/Cz 132 ft (+261)	
	Estimated 2002 WL Elev. +376		
	1/2013 WL Elev +373 (20 ft <LSD)	Sat/thick (2013) = 132 - 20 = 112 ft	
	6/12/19	23	
	1/28/20	26.28(WS), 24.75(e-line)	
	9/13/22	30.05	

	1/18/23		29.74	
	6/27/23		30.51	
	9/18/23		32.70	
Chris Ayotte		67-27-110(2b) MP 2.0 ft >GL		LSD +431
WS		Lat/Long:29.58612/97.7211		Depth 360 ft
	2/23/12		063	
	1/21/13		059.12	
	9/14/22		054.45	
	1/17/23		052.58	
	6/28/23		051.87	
	9/19/23		053.00	
Sagebiel MWCz-3		67-27-4(2d) MP 3.3 ft >GL		LSD +452
Nash Creek WS		Lat/Long:29.546739/-97.720243		Plug back from 270 to 170 ft
				Screen 170 up to 130 ft
				B/Cz 170 ft (+288)
Estimated 2002 WL Elev. +373				
1/2013 WL 91 ft <LSD)			Sat/thick (2013) 79 ft	
	2/08/19		091.5 < GL	
	9/14/22		093.61	
	1/17/23		092.81	
	6/28/23		093.76	
	9/18/23		095.27	
Pete Kallies(Wx)		67-27-706(2) MP 1.0 >GL		LSD +433
WS		Lat/Long:29.533748/-97.738436		Depth 520 ft
	9/24/03		053.24	
	1/21/13		055.70	
	9/14/22		056.00	
	1/17/23		055.89	
	6/28/23		053.40	
	9/19/23		056.64	
Edward Henk		67-33-602(3b) MP 1.55 ft >GL		LSD +541
WS		Lat/Long:29.424211/-97.879389		Depth 225 ft
	8/17/08		108.17	
	1/21/13		111.62	
	9/14/22		123.44	
	1/17/23		124.04	
	6/28/23		124.56	
	9/19/23		124.90	
Blumberg MWCZ 1-B		67-33-6 MP 3.5 ft >GL		LSD +620
		Lat/Long:29429658-97.901995		Depth 319 feet, plug back from 355 feet
				Screen 279 - 319 feet
				B/CZ 316 feet
Estimated 2002 WL Elev. +459				
	1/2013		163.06 < GL, 2013 Sat Thick (316 - 163 = 153 ft)	
	7/24/20		169.2 < GL after development	
	9/13/22		167.43	
	1/18/23		167.95	
	6/27/23		170.78	
	9/18/23		171.67	
Sandy Oaks Tavern		67-33-803(8) MP 1.8 ft >GL		LSD +584
(Pole Cat) WS		Lat/Long:29.381048/-97.956268		Depth (?)
	8/1964		125 ft < GL	
	1/21/13		152.59	
	9/14/22		158.30	
	1/17/23		158.36	
	6/28/23		159.36	
	9/19/23		159.48	

Hwy 123 MWCz-2	67-33-8(8a)	MP 3.6 ft >GL	LSD +628
Flying W	Lat/Long: 29.400309/-97.954371		Screen 180 - 220 ft
Estimated 2002 WL Elev. +494			TD 280 ft (+351)
1/20/13 WL 141 ft <GL		B/Cz @ TWCZ-1 (+406 Elev.)	
2/17/18			146.3
2/20/18			146.25 <GL Reported
1/15/19			148.87
9/13/22			147.93
1/18/23			147.98
6/27/23			144.98
9/18/23			146.48
Hwy 123 (Wx)	67-33-8	MP 1.5 ft >GL	LSD +620
Flying W	Lat/Long: 29.409830/-97.954708		Depth 535 ft
6/06/88			140
6/22/21			148.85
9/14/22			162.26
1/18/23			156.95
6/28/23			159.83
9/19/23			164.97
Blumberg MWCz-1A	67-33-9(6d)	MP 3.0 ft >GL	LSD +570
	Lat/Long: 29.413811/-97.887355		Plug back from 477 ft to 420 ft
Estimated 2002 WL Elev. +430			Screen 360 - 420 & 180 -200 ft
1/20/13 WL 144ft <GL)		Sat/thick (2013) 420 -144 = 276 ft	B/Cz 420 ft (+150)
3/12/19			147.5
4/04/19			147.5
4/23/19			147.51
9/13/22			149.91
1/18/23			149.19
6/27/23			145.58
9/18/23			149.87
Wells Ranch (Cz)	67-34-302(3a)	MP 1.5 ft >GL	LSD +491
WS	Lat/Long: 29.4706/-97.7747		Depth 250 ft
2002			106 Estimated
4/29/08			110
1/03/13			118.70
9/06/22			150.22
1/09/23			152.06
6/01/23			152.11
9/8/23			153.33
MWCz-8, FM 1117	67-34-4(4b)	MP 0.3 ft <GL	LSD +610
	Lat/Long: 29.452258/97.845193		Depth 415 ft
Estimated 2002 WL Elev. +443			Screen 325 - 365 ft
1/20/13 WL 170 ft <GL)		B/Cz 365 ft (+245)	
7/25/19		Sat/Thick (2013) = 365 - 170 = 195 ft	
8/09/19			179
9/13/22			178.2
1/17/23			179.08
6/27/23			180.45
9/18/23			180.84
Bexar Met #2 (Cz)	67-34-505(5)	MP 2.2 ft >GL	LSD +474
Deer stand	Lat/Long: 29.450425/-97.796486		Depth 460 ft
8/20/02			084.09
1/03/13			102.18

	9/11/22		141.6	
	1/06/23		135.6	
	6/01/23		134.0	
	9/6/23		135.5	
CRWA (Wx)		67-34-5 MP 2.2 ft >GL		LSD +483
Deer stand #3		Lat/Long: 29.449793/-97.797889		Depth 1602 ft
	09/07/16		092.1	
	10/14/18		149.9	
	01/02/19		178.2	
	06/10/22		136.5	
	09/15/22		172.2	
	06/01/23		175.0	
Blumberg #1 (Cz)		67-34-706(6) MP 2.0 ft >GL		LSD +514
WS		Lat/Long: 29.385406/-97.852584		Depth 770 ft, T/MCz 330 ft(+184)
				Screen 526 - 772 ft
	1/21/04		109.10	<GL
	1/21/13		121.28	
	9/14/22		147.01	
	1/17/23		144.45	
	6/28/23		147.38	
	9/18/23		150.51	
Baethge (Cz)		67-34-710(6c) MP 2.0 ft >GL		LSD +468
(Lakey) WS		Lat/Long: 29.411429/-97.836769		Depth (?)
	8/17/08		069.84	
	1/21/13		074.23	
	9/14/22		101.50	
	1/17/23		100.24	
	6/28/23		099.73	
	9/19/23		104.20	
Mundt (Cz)		67-34-7 MP 1.5 ft >GL		LSD +520
		Lat/Long: 29.391694/-97.840694		Depth 444 ft
	1/19/22		142.68	
Norvin Vogel (Wx)		68-40-204(10a) MP 1.0 ft >GL		LSD +560
WS		Lat/Long: 29.4929/-98.0703		Depth 90 ft
	10/4/85		024	
	1/15/19 (2013)		025.75	
	9/14/22		026.92	
	1/17/23		026.37	
	6/28/23		026.37	
	9/19/23		027.03	
Belz (Wx)		68-40-401 MP 1.0 ft >GL		LSD +537
		Lat/Long: 29.447778/-98.0950556		Depth 64 ft
	1/19/22		027.00	
	6/15/22		027.05	
	1/17/23		026.86	
	6/28/23		026.14 Pumping	
	9/19/23		027.11	
Randy Schween		68-40-7 Mp 1.74 >GL		LSD +540
		Lat/Long: 29.40888/-98.114721		Depth 180 ft
	2/09/02		060	
	4/05/22		068.38	
	9/14/22		080.01	Had been pumping
	1/17/23		063.35	
	6/28/23		072.38	
	9/19/23		070.00	

**GCUWCD WATER LEVELS**

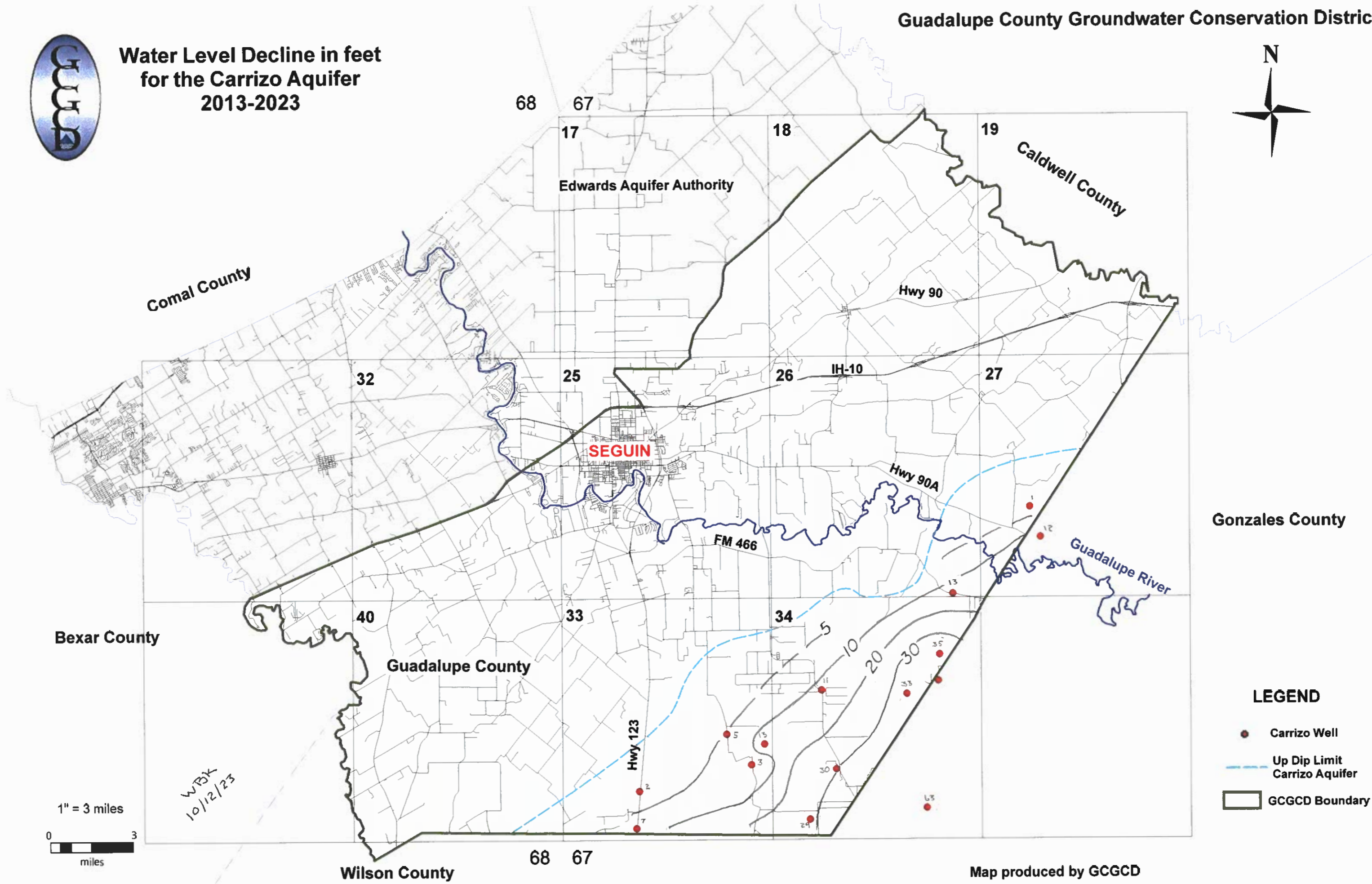
<b>James Miller (Cz)</b>	<b>67-27-705</b>	<b>MP 0.5 ft &gt;GL</b>	<b>LSD +391</b>
	<b>Lat/Long:29.530824/-97.71026</b>		<b>Depth (?)</b>
8/20/02			030.07
1/03/13			036.58
9/06/22			043.68
1/09/23			048.70
6/01/23			046.70
9/08/23			049.02
<b>Bexar Met #3</b>	<b>67-34-612</b>	<b>MP 2.2 ft &gt;GL</b>	<b>LSD +465</b>
<b>Harden #1 Tommy's Well</b>	<b>Lat/Long: 29.457182/-97.775855</b>		<b>Depth 680 ft</b>
8/20/02			075.13 MP 1.5 ft >GL
1/03/13			096.8
9/09/22			134.8
1/06/23			134.9
6/08/23			132.0
9/06/23			107.2
<b>Thyra Harvey(Cz)</b>	<b>67-34-904</b>	<b>MP 1.2 ft &gt;GL</b>	<b>LSD +410</b>
	<b>Lat/Long:29.39102/-97.782671</b>		<b>Depth (?)</b>
10/25/00			032.17 Barry Miller
01/17/12			054.57
9/06/22			106.10
1/09/23			098.02
6/01/23			092.53
9/26/23			096.07





# Water Level Decline in feet for the Carrizo Aquifer 2013-2023

## Guadalupe County Groundwater Conservation District



WBK  
10/12/23

- LEGEND**
- Carrizo Well
  - Up Dip Limit Carrizo Aquifer
  - GCGCD Boundary

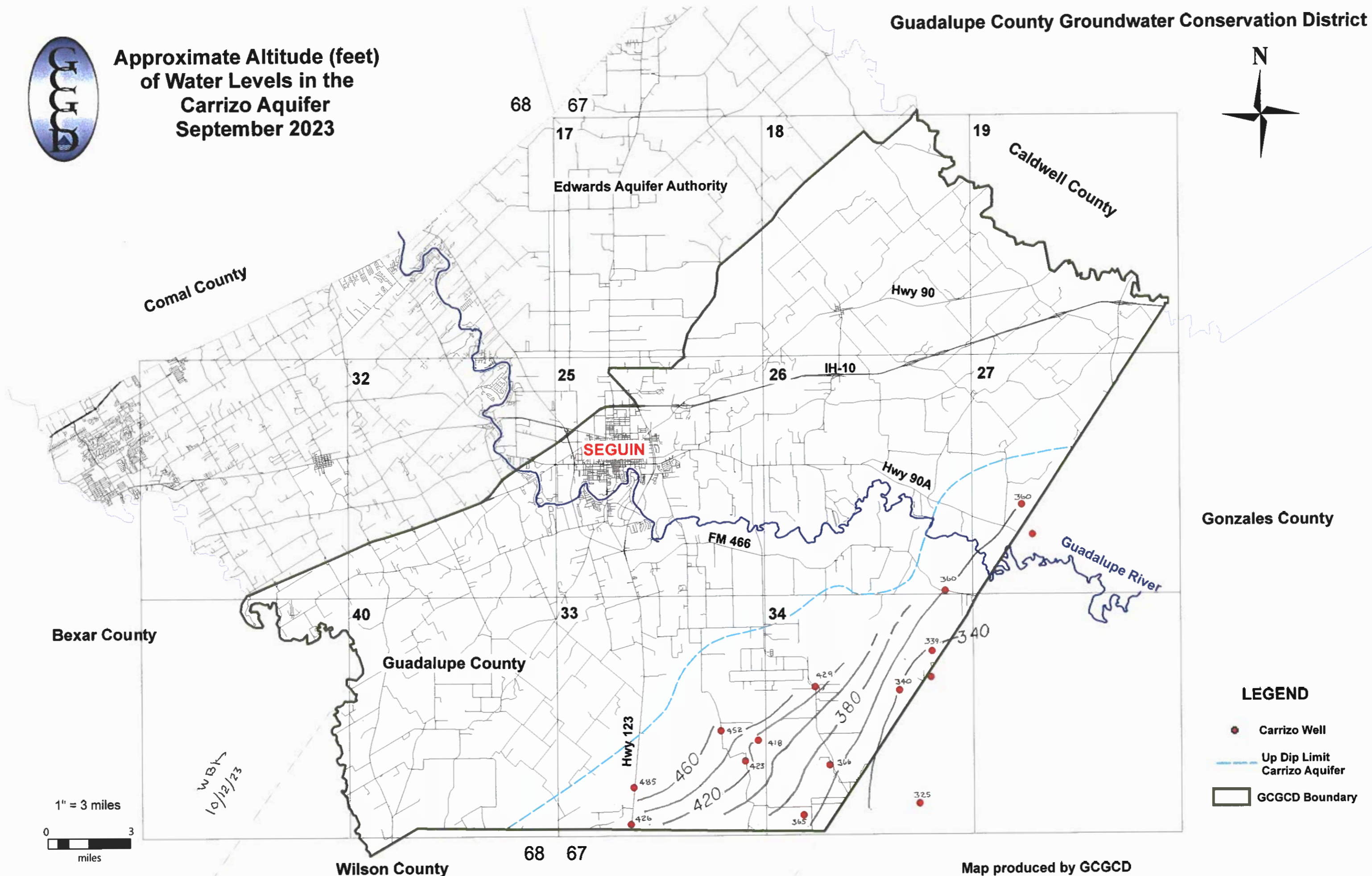
1" = 3 miles  
0 3  
miles

Map produced by GCGCD



**Approximate Altitude (feet)  
of Water Levels in the  
Carrizo Aquifer  
September 2023**

**Guadalupe County Groundwater Conservation District**



1" = 3 miles  
0 3  
miles

WBK  
10/12/23

**LEGEND**

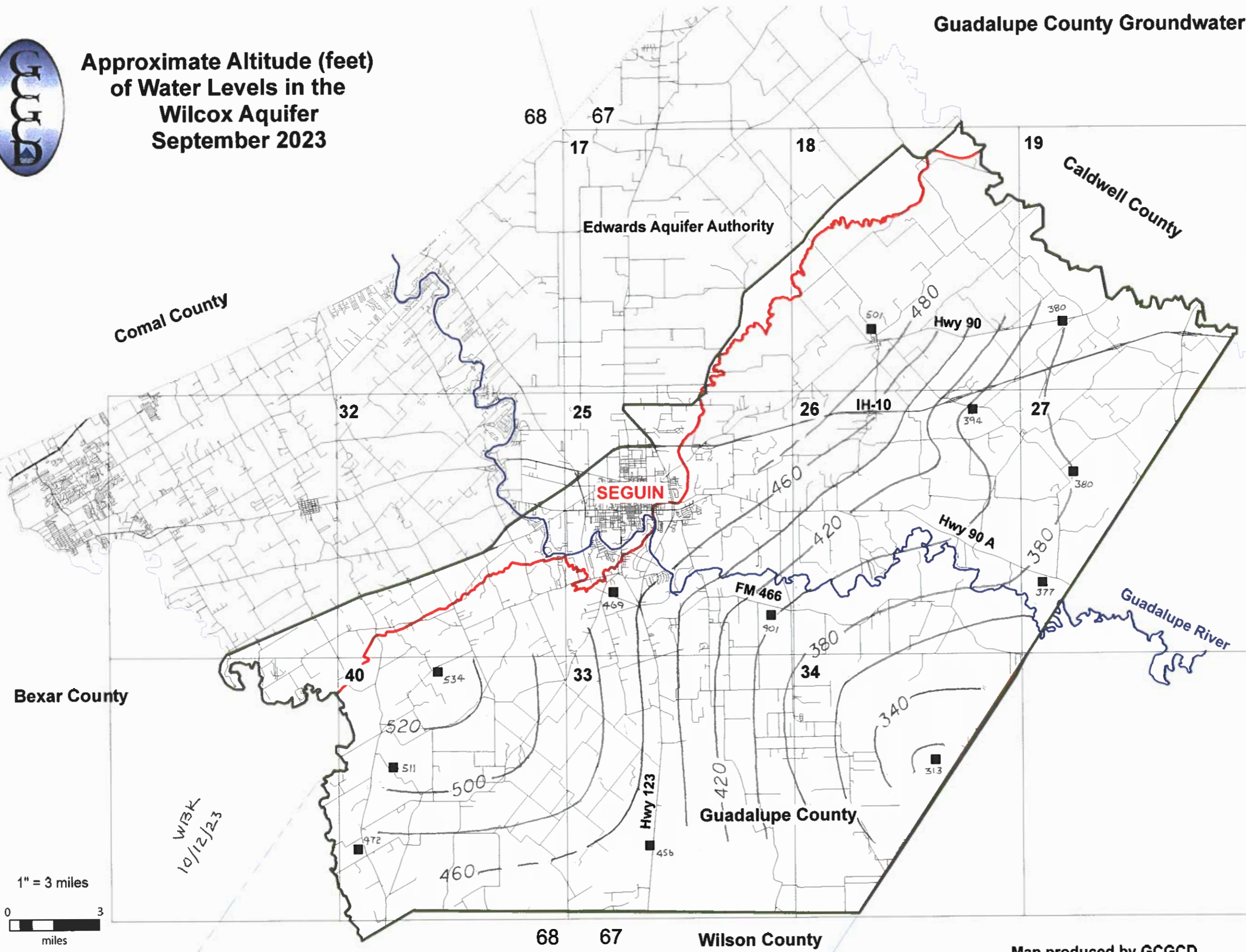
- Carrizo Well
- Up Dip Limit Carrizo Aquifer
- GCGCD Boundary

Map produced by GCGCD



**Approximate Altitude (feet)  
of Water Levels in the  
Wilcox Aquifer  
September 2023**

**Guadalupe County Groundwater Conservation District**



**Gonzales County**

- LEGEND**
- Wilcox Well
  - GCGCD Boundary
  - Wilcox Outcrop

1" = 3 miles  
0 3  
miles

WISK  
10/12/23

Map produced by GCGCD